Appendix K-1

Preliminary Hydrology Study

PRELIMINARY HYDROLOGY STUDY

For:

Cargo Gateway D-1 Parcel Development

Project Site Location/Address:
33°52'36.7"N, 117°14'51.8"W
Riverside County, CA

Prepared For:
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Lead Agency:
March Joint Powers Authority
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February 8, 2022

Project No. 20-522

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Section I Introduction

The following preliminary hydrology study has been prepared for the development of Parcel D-1. Parcel D-1 is approximately 56.0 acres bounded by Heacock Street to the east, an existing industrial warehouse/trucking facility to the south, and March Air Reserve Base to the north and west. The proposed development area will encompass approximately 26.8 acres of Parcel D-1. The project lies within the March Inland Port Authority Jurisdictional Area of Riverside County. The general location of the site is illustrated on the Vicinity Map, (see Figure 1 in Appendix A of this report).

Section II Methodology

For both the existing and proposed conditions, the peak storm discharge for the drainage sub-areas was calculated using the Riverside County Hydrology Manual. The Riverside County Unit Hydrograph Program Package was used to calculate hydrographs for the existing and proposed 2-year and 100-year storms (see calculations in Appendix C & D). A soil type of BC was assigned to the project site based on the Riverside County Flood Control and Water Conservation District Hydrology Manual Hydrologic Soils Group Map Plate C-1.17 (see portion of map in Appendix A). In such cases where a dual soil designation has been assigned, the more conservative value is recommended for use. For calculation purposes, a soil type of C was used for the project site. These soils have a slow rate of water transmission.

There are no hydrologic conditions of concern for the project site (See HCOC Map in Appendix B). In lieu of drainage fees, the site will be self-imposing restrictions on outlet flows to avoid increased demand on drawdown facilities. The proposed condition 100-year runoff volumes and peak flow rates will be mitigated so as not to exceed the existing-condition peak flows. This basis of design was used in determining the on-site detention requirements. Riverside County Synthetic Unit Hydrology Method was used to calculate hydrographs for the existing and proposed 2-year and 100-year storms. Storm runoff in the proposed condition was routed with Hydraflow software (AutoCAD Civil 3D ® 2016) to size the proposed underground detention systems.

Section III Project Description

Existing Site conditions

The project site can be broken into 7 drainage areas:

Drainage Area A encompasses approximately 60.3 acres of infield consisting of open brush and portions of airfield runway and taxiway paving on the March Air Reserve Base to the northwest of the project site. Area A is bounded by Taxiways A & B to the southeast, Runway 14-32 to the southwest, and drainage Area B to the north. Area A drains to an existing 36” culvert, flows southeast under Taxiway A, and discharges to Parcel D-1. There is no proposed site work here.

Drainage Area B encompasses approximately 134.5 acres of infield consisting of open brush and portions of airfield runway and taxiway paving on the March Air Reserve Base to the northwest of the project site. Area B is bounded by Taxiway A to the east, Area A to the south, Runway 14-32 to the southwest, and Taxiway C to the north. Area B drains to an existing 52”

culvert which has infilled with silt approximately 2/3 full, flows southeast under Taxiway A, and discharges to Parcel D-1. There is no proposed site work here.

Drainage Area C encompasses approximately 6.9 acres of open brush and portions of airfield taxiway paving on the March Air Reserve Base to the southwest of the project site. Area C is bounded by Taxiways A & G to the west, Area F to the south, Area D (Parcel D-1) to the east, and Area E to the northeast. Area C drains east to Area D and discharges to the dual 36" RCP storm drain at the south property line of Parcel D-1.

Drainage Area D encompasses 54.1 acres of Parcel D-1 and consists of relatively flat terrain with open brush and portions of paved access road. Area D is bounded by Area C to the west, Area F to the southwest, a private paved access road to the south, Area G to the east, the March Air Reserve Fire Dept to the north, and Area E to the northeast. Area D drains roughly from north to south and discharges to the dual 36" RCP storm drain at the south property line of Parcel D-1.

Drainage Area E encompasses approximately 21.4 acres of open brush and portions of airfield taxiway paving on the March Air Reserve Base to the northwest of the project site. Area E is bounded by Taxiway A to the west, Area C the southwest, Area D (Parcel D-1) to the southeast, and the March Air Reserve Fire Department to the northeast. Area E drains south to Area D and discharges to the dual 36" RCP storm drain at the south property line of Parcel D-1.

Drainage Area F encompasses approximately 1.9 acres of open brush and portions of airfield taxiway paving on the March Air Reserve Base to the southwest of the project site. Area F is bounded by Taxiway G to the west, March ARB Aircraft Parking to the south, Area D (Parcel D-1) to the east, and Area C to the northwest. In the existing condition, Area F drains east to Area D and discharges to the dual 36" RCP storm drain at the south property line of Parcel D-1.

Drainage Area G encompasses approximately 1.9 acres of the project site (Parcel D-1) and consists of open brush and portions of Heacock Street. Area G is bounded by Area D to the west, paved private road to the south, Heacock Street to the east, and the March ARB Fire Dept to the north. Area G drains south along Heacock Street and discharges at the south property line of Parcel D-1.

Refer to the Existing Hydrology Maps in Appendix B for an illustration of the existing drainage patterns.

Parcel D-1 currently receives offsite run-on from Areas A, B, C, E & F. Off-site run-on drains via earthen swales constructed during the site's time as part of March Air Force Base. During transitional development as part of Air Base Realignment, historic on-site drainage was altered to allow development with the site drainage being intercepted by a concrete V-ditch along the South P/L and conveyed to the channel. Subsequent development intercepted the earthen drainage channel and routed the combined flows into an underground dual 36" RCP culvert system which discharges back to historic Heacock Channel approximately 750 LF downstream of the site where it is captured and conveyed to the existing Perris Valley storm drain system. Runoff continues to flow south converging with the San Jacinto River, Canyon Lake, Lake Elsinore and the Santa Ana River. This is part of the Perris Valley Area Drainage Plan.

On-Site Soil Remediation

Parcel D-1 lies on portions of FT007 Operational Unit 1 (Site 7) which has evidence of historical contamination. Approximately 29.5 acres of Site 7 overlap Parcel D-1. Discussions with the environmental consultant and Air Base representatives concerning the remediation requirements are ongoing. Predominately Site 7 will be left in its current un-developed condition and not be disturbed by proposed development.

Proposed Site Conditions

Overall

Approximately 26.8 acres of Parcel D-1 are to be developed into a 180,800 SF warehouse building. The site will also include aircraft loading gates, paved parking areas, drive aisles, utilities, underground storm drain and associated landscaping areas.

The proposed development will be constructed along with improvements to the existing culverts crossing Taxiway A of March ARB. The existing taxiway culverts will be outfitted with new headwall entrance, jet-cleaned, and extended to the south end of Parcel D-1 to allow the tributary off-site run-on to by-pass the site. The existing silted-up 52" culvert receiving runoff from Area B will be jet cleaned and intercepted at the downstream end by a dual 36" RCP defined as 'Line B' and extend to the existing dual 36" RCP culvert at the south end of Parcel D-1. The existing 36" RCP culvert currently intercepting runoff from Area A will be intercepted at the downstream end and extended east via a single 36" RCP to confluence with culvert Line B near the north corner of the proposed cargo building on Parcel D-1. The single 36" RCP culvert is described in this report as 'Line A'. A siphon structure is proposed to allow high flows from the airfield culverts to bypass the site. A duplex storm drain lift station will convey low flows from the airfield culverts to the downstream side of the proposed storm drain siphon structure.

On-site flows will be intercepted by proposed underground detention systems. The detention systems will outlet to diversion structures and are designed and sized to attenuate the 100-year, 6-hour storm event prior to discharge to the proposed underground culvert Line B. The post-detention flow rates were determined by pro-rating the existing condition peak flows of Area D for the 100-year storm events (1-hr, 3-hr, 6-hr & 24-hr) and applying these peak flows to the tributary drainage areas for each detention system.

Onsite Drainage Areas

The existing-condition drainage Area D can be broken into 4 distinct drainage areas in the proposed condition. 3 of these 4 drainage areas are proposed for development and will route stormwater runoff to their own underground detention system as the project site is not allowed to have standing water within airport influence.

Drainage Area D1 will be approximately 15.6 acres in size and will drain to an underground detention basin (Detention A) consisting of 4,290 LF of 54" HDPE pipe connected by a 54" header which provides a total storage volume of 71,670 CF. The detained water will outlet to a diversion structure to mitigate increases in stormwater runoff and limit peak flows to resemble the existing condition prior to discharge to the proposed underground culvert Line B.

Drainage Area D2 will be approximately 4.6 acres in size and will drain to an underground detention basin (Detention B) consisting of 1,232 LF of 54" HDPE pipe connected by a 54" header which provides a total storage volume of 19,598 CF. The detained water will outlet to a diversion structure to mitigate increases in stormwater runoff and limit peak flows to resemble the existing condition prior to discharge to the proposed underground culvert Line B.

Drainage Area D3 will be approximately 2.5 acres in size and will drain to underground Detention A. The detained water will outlet to a diversion structure to mitigate increases in stormwater runoff and limit peak flows to resemble the existing condition prior to discharge to the proposed underground culvert Line B.

Drainage Area D4 will be approximately 2.1 acres in in size and consists of 5' to 18' widening of the existing private road. The existing curb-cut and existing concrete swale will convey runoff from D4 to the south property line of Parcel D-1 and discharge to culvert Line B.

Offsite Drainage Areas

The drainage patterns for areas A & B are to remain unchanged by the proposed development. A ponding analysis was performed to verify the proposed on-site development will not increase the drawdown time of the airfield ponds nor overtop the shoulder of Taxiway A. Refer to the Airfield Ponding Exhibit in Attachment B for an illustration of the airfield ponding limits.

Drainage Areas C & F will be developed into aircraft apron for the proposed developed site to access the March Air Reserve Base. Area C in the proposed condition is reduced from 6.9 acres to 3.7 acres and will flow to a proposed drainage infield and discharge to the proposed culvert Line A. Area F in the proposed condition increased in size from 1.9 acres to 5.2 acres and will flow southwest to the existing storm drain system on the March ARB. The apron area will sheet flow into an existing swale located between Taxiway A and Taxiway G. There is no existing storm drain facility in this swale and based on Taxiway G expansion documents and correspondence with March Inland Airport Authority staff, there are no drainage concerns with the additional flows to the swale. The swale drains northwest approximately 2200 feet to the southwest and provides drainage in accordance with FAA drainage recommendations. At the southeast corner, the swale is tied into storm drain facilities constructed as part of March Air Base and redeveloped in addition by March Inland Airport who converted existing facilities to dual 36" storm drains discharging to a headwall with rip-rap outlet. Flows continue to an earthen channel to lower Heacock Channel near the intersection of Heacock Street and Nandina Avenue.

A small portion Drainage Area E is proposed to be developed into taxiway pavement, taxiway shoulder, and a localized airfield drainage sump. Runoff from Area E will be routed to a V-ditch and conveyed to a localized inlet that discharges to culvert Line B.

Refer to the Proposed Hydrology Map in Appendix B for an illustration of the proposed drainage zones.

Onsite storm flow rates have been prepared based on project build-out of Parcel D-1. Due to increases in impervious area (from existing condition) there is an increase between pre- and post- development peak discharge. Drainage areas D1, D2, and D3 have proposed stormwater detention to mitigate post-construction peak discharge to match existing condition peak discharge. After evaluating the 100-year 1-hour, 3-hour, 6-hour and 24-hour storm events, the largest observed change occurred from pre- to post- 6-hour storm events. Therefore, storm runoff was mitigated to match the existing 6-hour runoff peak discharge (approximately 1.20 cfs/acre).

EXISTING PEAK FLOW RATE AND VOLUME SUMMARY TABLE

Subarea	Area (ac)	2-Year		100-Year							
		24-Hour		1-Hour		3-Hour		6-Hour		24-Hour	
		Q (cfs)	V (cf)	Q (cfs)	V (cf)	Q (cfs)	V (cf)	Q (cfs)	V (cf)	Q (cfs)	V (cf)
C	6.9	0.69	18209.90	22.02	27753.20	11.67	40220.70	10.30	49063.00	3.24	66404.20
D	54.1	1.17	31418.00	114.22	206887.10	76.57	287442.10	64.86	321849.90	22.35	357217.20
E	21.4	1.01	27144.10	47.82	82911.60	30.06	115334.80	25.87	133611.10	9.08	160118.80
F	1.9	0.14	3725.50	5.11	7504.10	3.03	10662.60	2.68	12695.50	0.86	16271.90
G	1.9	0.12	3178.10	4.67	7445.30	2.78	10487.20	2.35	12349.40	0.83	15416.80

EXISTING PRORATED FLOW RATE FOR PROPOSED SUBAREAS

Existing Subarea	Area (ac)	2-Year		100-Year							
		24-Hour		1-Hour		3-Hour		6-Hour		24-Hour	
		Q (cfs)	Prorated Q (cfs/ac)	Q (cfs)	Prorated Q (cfs/ac)	Q (cfs)	Prorated Q (cfs/ac)	Q (cfs)	Prorated Q (cfs/ac)	Q (cfs)	Prorated Q (cfs/ac)
D	54.1	1.17	0.02	114.22	2.11	76.57	1.42	64.86	1.20	22.35	0.41

Proposed Subarea	Area (ac)	2-Year	100-Year			
		24-Hour	1-Hour	3-Hour	6-Hour	24-Hour
		Prorated Existing Q (cfs)	Prorated Existing Q (cfs)	Prorated Existing Q (cfs)	Prorated Existing Q (cfs)	Prorated Existing Q (cfs)
D1	15.6	0.34	32.94	22.08	18.70	6.44
D2	4.6	0.10	9.71	6.51	5.52	1.90
D3	2.5	0.05	5.28	3.54	3.00	1.03
D1+D3	18.1	0.39	38.21	25.62	21.70	7.48

PROPOSED UNMITIGATED PEAK FLOW RATE AND VOLUME SUMMARY TABLE

Subarea	Area (ac)	2-Year		100-Year							
		24-Hour		1-Hour		3-Hour		6-Hour		24-Hour	
		Q (cfs)	V (cf)	Q (cfs)	V (cf)	Q (cfs)	V (cf)	Q (cfs)	V (cf)	Q (cfs)	V (cf)
C	3.7	0.51	13495.40	10.74	15059.70	6.37	22378.60	5.57	27469.60	1.78	39752.10
D1	15.6	2.83	75018.50	38.13	65957.20	25.03	101680.00	21.94	130036.00	8.07	199794.70
D2	4.6	0.88	23190.00	13.60	19596.60	8.16	30416.50	7.16	39185.30	2.42	60817.80
D3	2.5	0.40	10628.60	7.85	10381.40	4.43	15731.80	3.90	19744.70	1.25	29541.60
D4	2.1	0.35	9220.70	5.64	8842.20	3.59	13572.30	3.15	17258.30	1.08	25956.90
E	21.3	1.01	27215.20	44.63	82545.50	30.27	116398.40	25.75	133112.00	9.04	159679.90
F	5.2	1.02	26939.60	15.75	22251.30	9.30	34677.10	8.18	44866.00	2.76	70040.90

PROPOSED MITIGATED PEAK FLOW RATE SUMMARY TABLE

Detention Basin	Tributary Subareas	100-Year							
		1-Hour		3-Hour		6-Hour		24-Hour	
		Ex. Q (cfs)	Mitigated Q (cfs)	Ex. Q (cfs)	Mitigated Q (cfs)	Ex. Q (cfs)	Mitigated Q (cfs)	Ex. Q (cfs)	Mitigated Q (cfs)
A	D1, D3	38.21	12.44	25.62	15.60	21.70	14.95	7.48	8.12
Difference (%)		**67.4% DECREASE**		**39.1% DECREASE**		**31.1% DECREASE**		**8.7% INCREASE**	
B	D2	9.71	3.11	6.51	5.00	5.52	4.84	1.90	2.11
Difference (%)		**68.0% DECREASE**		**23.3% DECREASE**		**12.3% DECREASE**		**11.0% INCREASE**	

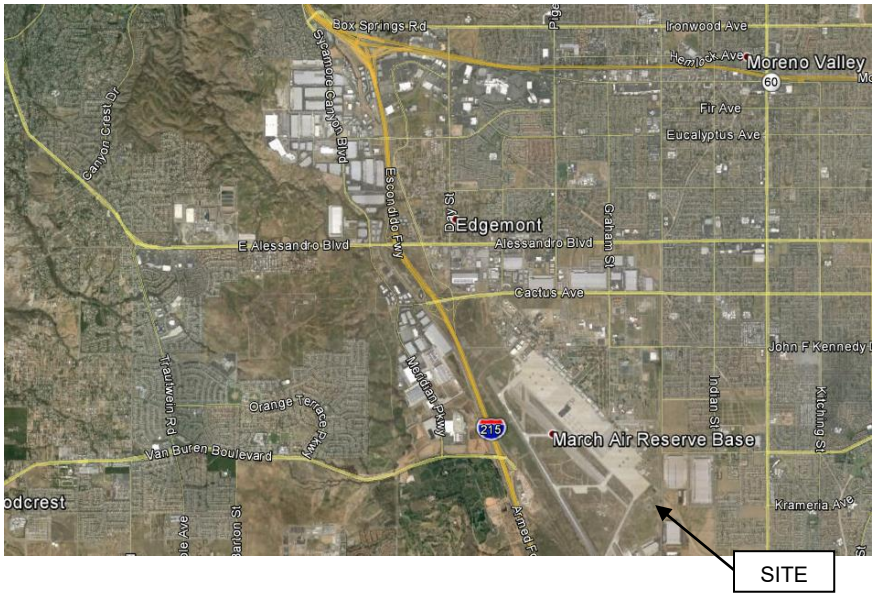
Note: All proposed 2-year flows peak flows are less than mitigated flows.

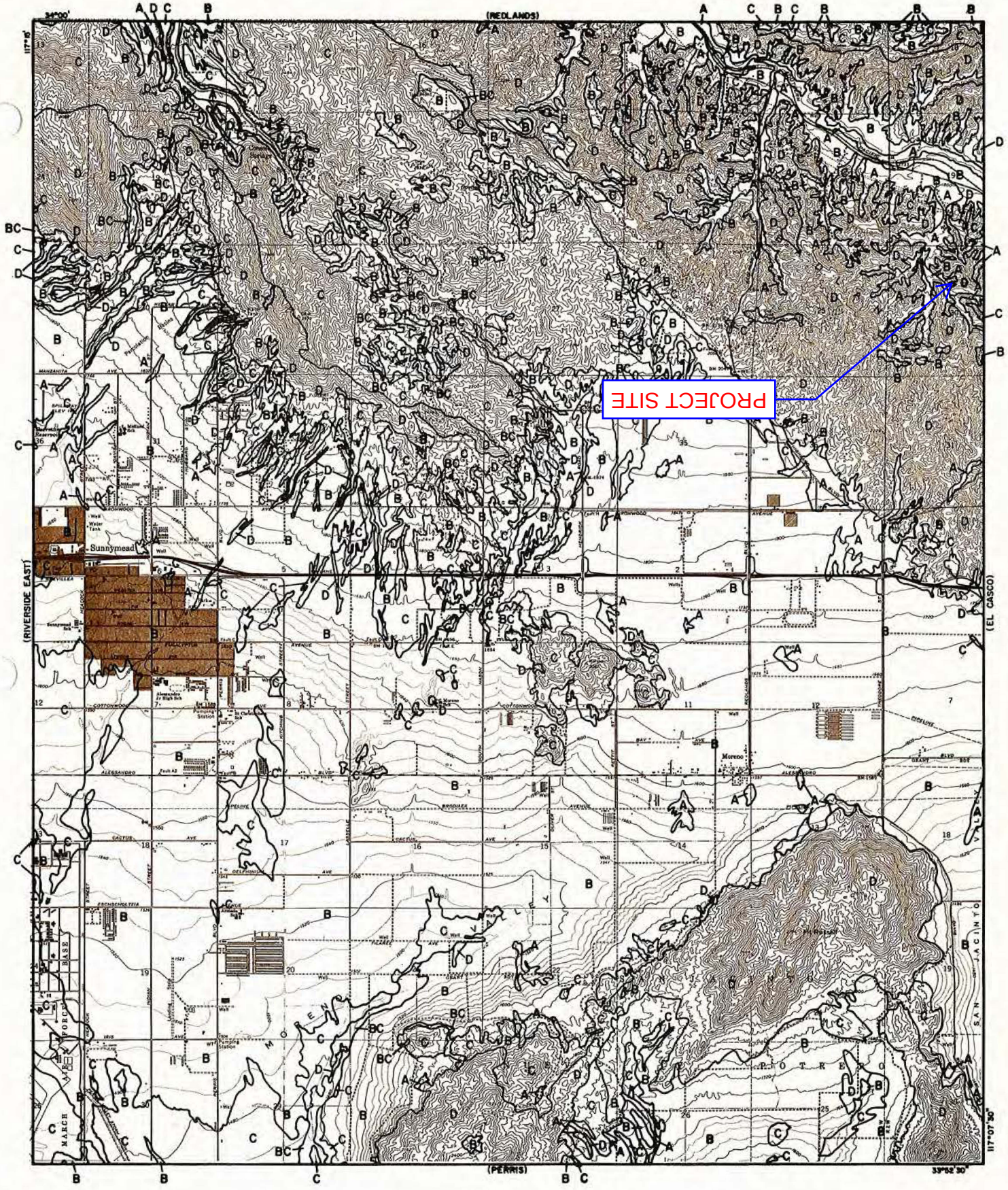
Section IV Conclusion

The 2-year and 100-year storm runoff volumes were calculated using the Riverside County Unit Hydrograph dividing the project site into 7 different drainage areas. Proposed on-site detention systems were designed to resemble the existing drainage as much as possible. With the exception of drainage area F, all runoff will outlet to the same location as the existing condition.

Offsite runoff from the adjacent airfield areas will be conveyed through the D-1 development via underground culverts without negative impacts to their respective drainage patterns. The on-site detention systems are sized to mitigate the 100-year 6-hour to match existing peak discharge. With the exception of the 100-year 24-hour storm, the proposed detention basins mitigate the anticipated peak flow rates from the analyzed storm durations. Anticipated increases to peak flow in the 100-year 24-hour storm increase from existing condition approaching 9% (from pre-development). It should be noted the 100-year 24-hour storm runoff remains below the 100-year 6-hour peak discharge flow.

APPENDIX A
VICINITY MAP





LEGEND

—— SOILS GROUP BOUNDARY

A SOILS GROUP DESIGNATION

RCFC&WCD

HYDROLOGY MANUAL

N

0 FEET 5000

HYDROLOGIC SOILS GROUP MAP FOR SUNNYMEAD

PLATE C-1.17

APPENDIX B

Existing Hydrology Maps
Proposed Hydrology Map
Proposed March ARB Airfield Ponding Exhibit
HCOC Map

Exhibit A

A-1. Legal Description of Property

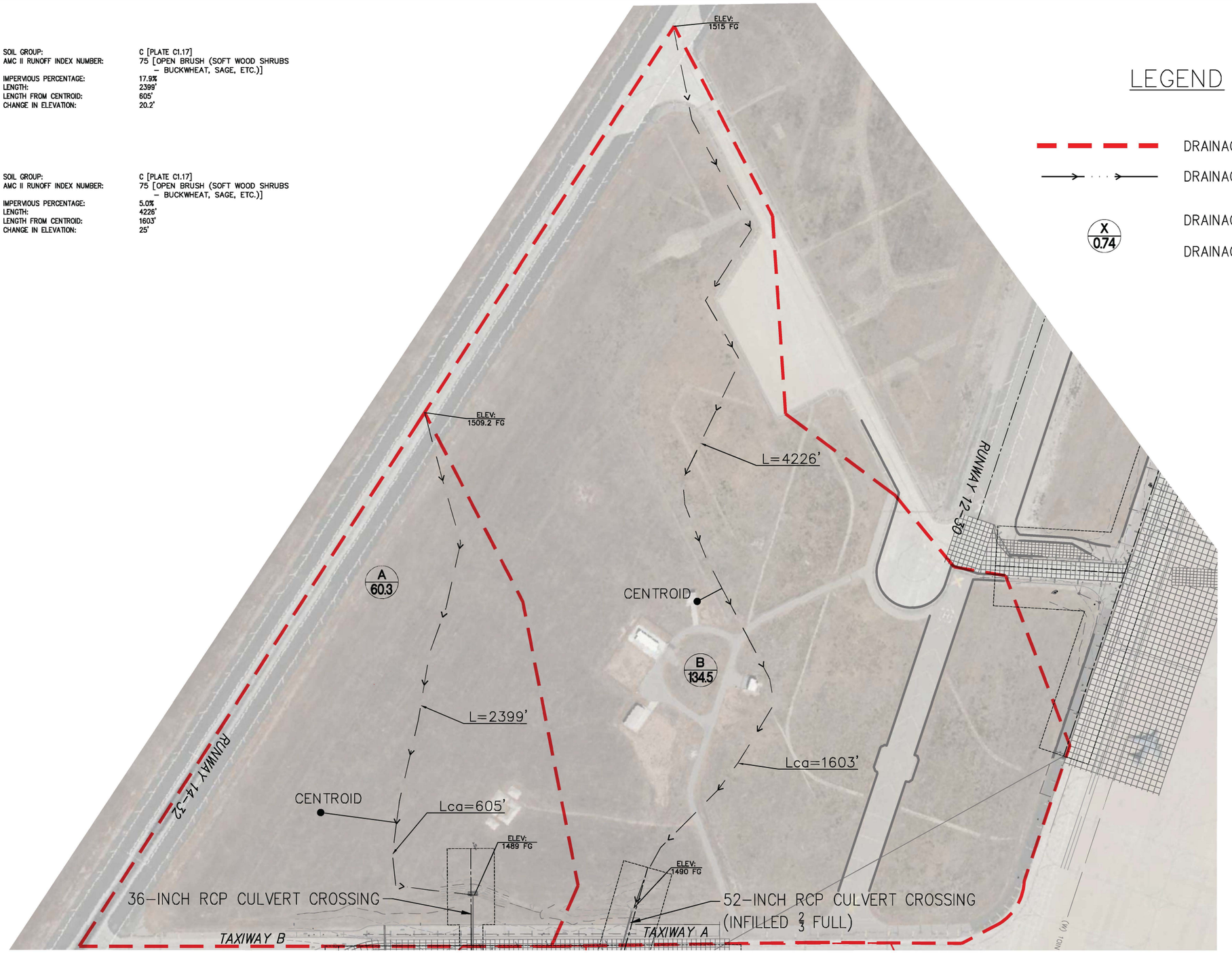
A-2. Engineering Survey Showing Property Boundaries

A

SOIL GROUP:	C [PLATE C1.17]
AMC II RUNOFF INDEX NUMBER:	75 [OPEN BRUSH (SOFT WOOD SHRUBS – BUCKWHEAT, SAGE, ETC.)]
IMPERVIOUS PERCENTAGE:	17.9%
LENGTH:	2399'
LENGTH FROM CENTROID:	605'
CHANGE IN ELEVATION:	20.2'

B

SOIL GROUP:	C [PLATE C1.17]
AMC II RUNOFF INDEX NUMBER:	75 [OPEN BRUSH (SOFT WOOD SHRUBS – BUCKWHEAT, SAGE, ETC.)]
IMPERVIOUS PERCENTAGE:	5.0%
LENGTH:	4226'
LENGTH FROM CENTROID:	1603'
CHANGE IN ELEVATION:	25'



LEGEND

- DRAINAGE SUBAREA BOUNDARY
- DRAINAGE FLOW PATH
- X / 0.74 — DRAINAGE SUBAREA DESIGNATION / DRAINAGE SUBAREA IN ACRES

200' 100' 0' 200' 400'
GRAPHIC SCALE: 1 INCH = 200 FT

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

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

JEPTHA BRANDER — R.C.E. 83987 — DATE

NOT FOR CONSTRUCTION

NO.:	REVISION:	DATE:

PROJECT: **PROPOSED D-1 BUILDING**
MARCH AIR RESERVE BASE
RIVERSIDE, CA

DRAWING NAME: **EX. HYDROLOGY - SUBAREAS A & B**

ISSUE:	EXHIBIT
DATE:	2020-08-21
CHECKED: JB	DRAWN: PP
DRAWING FILE:	522HMEX
PROJECT NO.:	20-522
SHEET NUMBER:	1
OF	2 SHEETS
SCALE:	AS NOTED

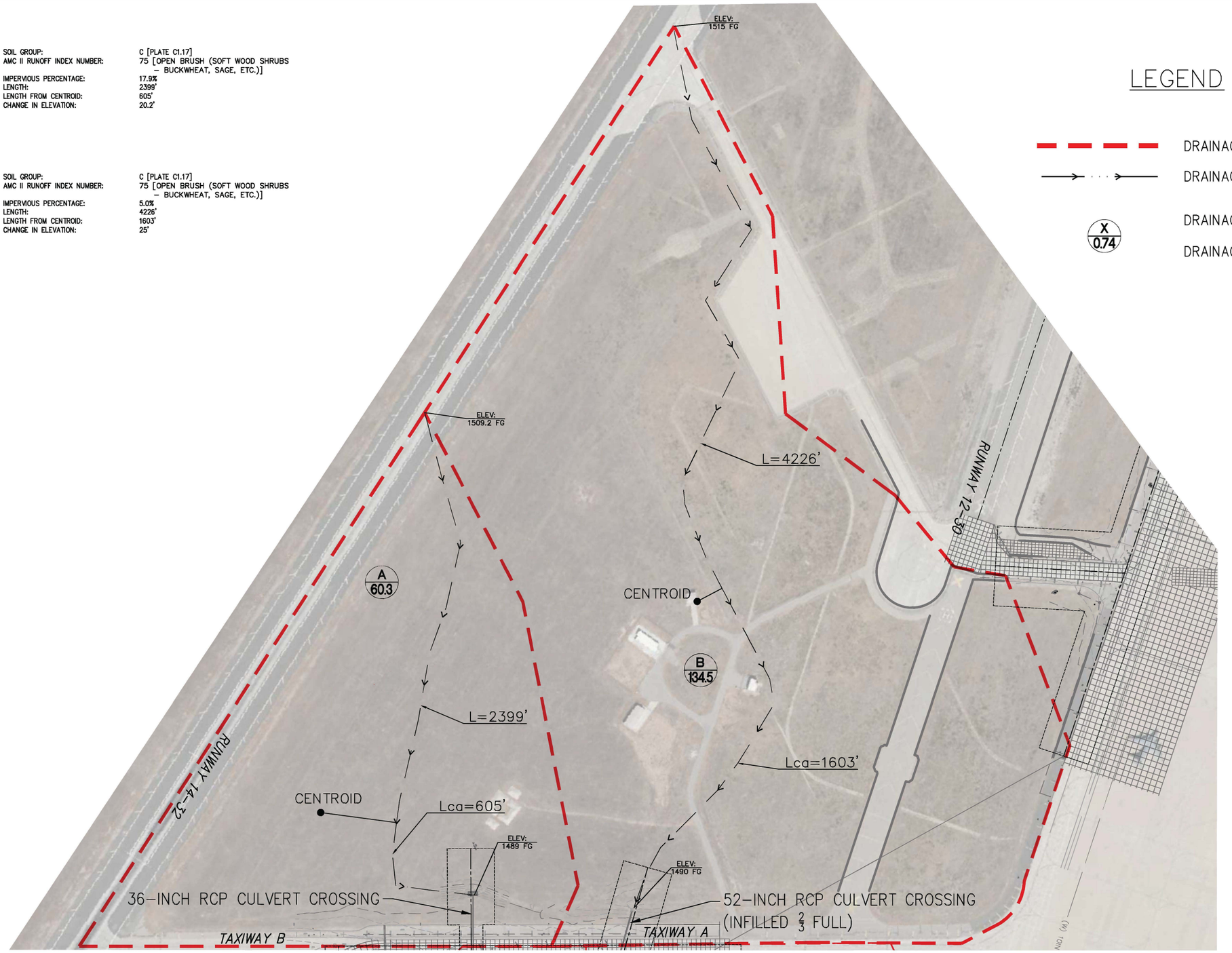
FILENAME: M:\2020\20-522 Riverside Meridian Base D1 Parcel\HM\CAD\20-522_HMEX.dwg, LAST SAVED ON: Dec 13 2021 7:01pm PLOTTED BY: NICHOLAS, ON: Jan 14 2022 3:09pm, CFG:

A

SOIL GROUP:	C [PLATE C1.17]
AMC II RUNOFF INDEX NUMBER:	75 [OPEN BRUSH (SOFT WOOD SHRUBS – BUCKWHEAT, SAGE, ETC.)]
IMPERVIOUS PERCENTAGE:	17.9%
LENGTH:	2399'
LENGTH FROM CENTROID:	605'
CHANGE IN ELEVATION:	20.2'

B

SOIL GROUP:	C [PLATE C1.17]
AMC II RUNOFF INDEX NUMBER:	75 [OPEN BRUSH (SOFT WOOD SHRUBS – BUCKWHEAT, SAGE, ETC.)]
IMPERVIOUS PERCENTAGE:	5.0%
LENGTH:	4226'
LENGTH FROM CENTROID:	1603'
CHANGE IN ELEVATION:	25'



LEGEND

- DRAINAGE SUBAREA BOUNDARY
- DRAINAGE FLOW PATH
- X / 0.74 — DRAINAGE SUBAREA DESIGNATION / DRAINAGE SUBAREA IN ACRES

200' 100' 0' 200' 400'
GRAPHIC SCALE: 1 INCH = 200 FT

160 S. Old Springs Road
Suite 210
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714-685-6860

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

JEPTHA BRANDER — R.C.E. 83987 — DATE

NOT FOR CONSTRUCTION

NO.:	REVISION:	DATE:

PROJECT: **PROPOSED D-1 BUILDING**
MARCH AIR RESERVE BASE
RIVERSIDE, CA

DRAWING NAME: **EX. HYDROLOGY - SUBAREAS A & B**

ISSUE:	EXHIBIT
DATE:	2020-08-21
CHECKED: JB	DRAWN: PP
DRAWING FILE:	522HMEX
PROJECT NO.:	20-522
SHEET NUMBER:	1
OF	2 SHEETS
SCALE:	AS NOTED

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C

SOIL GROUP: C [PLATE C1.17]
AMC II RUNOFF INDEX NUMBER: 75 [OPEN BRUSH (SOFT WOOD SHRUBS – BUCKWHEAT, SAGE, ETC.)]
IMPERVIOUS PERCENTAGE: 44.3%
LENGTH: 647'
LENGTH FROM CENTROID: 110'
CHANGE IN ELEVATION: 7.0'

D

SOIL GROUP: C [PLATE C1.17]
AMC II RUNOFF INDEX NUMBER: 75 [OPEN BRUSH (SOFT WOOD SHRUBS – BUCKWHEAT, SAGE, ETC.)]
IMPERVIOUS PERCENTAGE: 5.0%
LENGTH: 1700'
LENGTH FROM CENTROID: 900'
CHANGE IN ELEVATION: 9.1'

E

SOIL GROUP: C [PLATE C1.17]
AMC II RUNOFF INDEX NUMBER: 75 [OPEN BRUSH (SOFT WOOD SHRUBS – BUCKWHEAT, SAGE, ETC.)]
IMPERVIOUS PERCENTAGE: 14.8%
LENGTH: 1646'
LENGTH FROM CENTROID: 680'
CHANGE IN ELEVATION: 4'

F

SOIL GROUP: C [PLATE C1.17]
AMC II RUNOFF INDEX NUMBER: 75 [OPEN BRUSH (SOFT WOOD SHRUBS – BUCKWHEAT, SAGE, ETC.)]
IMPERVIOUS PERCENTAGE: 29.7%
LENGTH: 385'
LENGTH FROM CENTROID: 205'
CHANGE IN ELEVATION: 2.3'

G

SOIL GROUP: C [PLATE C1.17]
AMC II RUNOFF INDEX NUMBER: 75 [OPEN BRUSH (SOFT WOOD SHRUBS – BUCKWHEAT, SAGE, ETC.)]
IMPERVIOUS PERCENTAGE: 23.5%
LENGTH: 1460'
LENGTH FROM CENTROID: 740'
CHANGE IN ELEVATION: 3.7'

LEGEND
DRAINAGE SUBAREA BOUNDARY
DRAINAGE FLOW PATH
X / 0.74 DRAINAGE SUBAREA DESIGNATION / DRAINAGE SUBAREA IN ACRES

TAXIWAY A
TAXIWAY G
HEACOCK ST
E 21.4
C 6.9
D 54.1
F 1.9
G 1.9
CENTROID
Lca=680'
L=1646'
Lca=110'
L=647'
Lca=205'
L=385'
L=1700'
Lca=900'
L=1460'
Lca=740'
1496.0 FS
1492.0 FG
1494.0 FS
1488.0 FS
1495.0 FS
1491.9 FS
1494.2 FS
1486.9 FS
1490.3 FS
CONTINUES 1800±' SOUTH TO PARKWAY DRIAN
(W) TOIN
(SFM) (G)
(SSMH)
(SDMH)

GRAPHIC SCALE: 1 INCH = 100 FT

DRC Engineering, Inc.
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JEPTHA BRANDER R.C.E. 83987 DATE

NOT FOR CONSTRUCTION

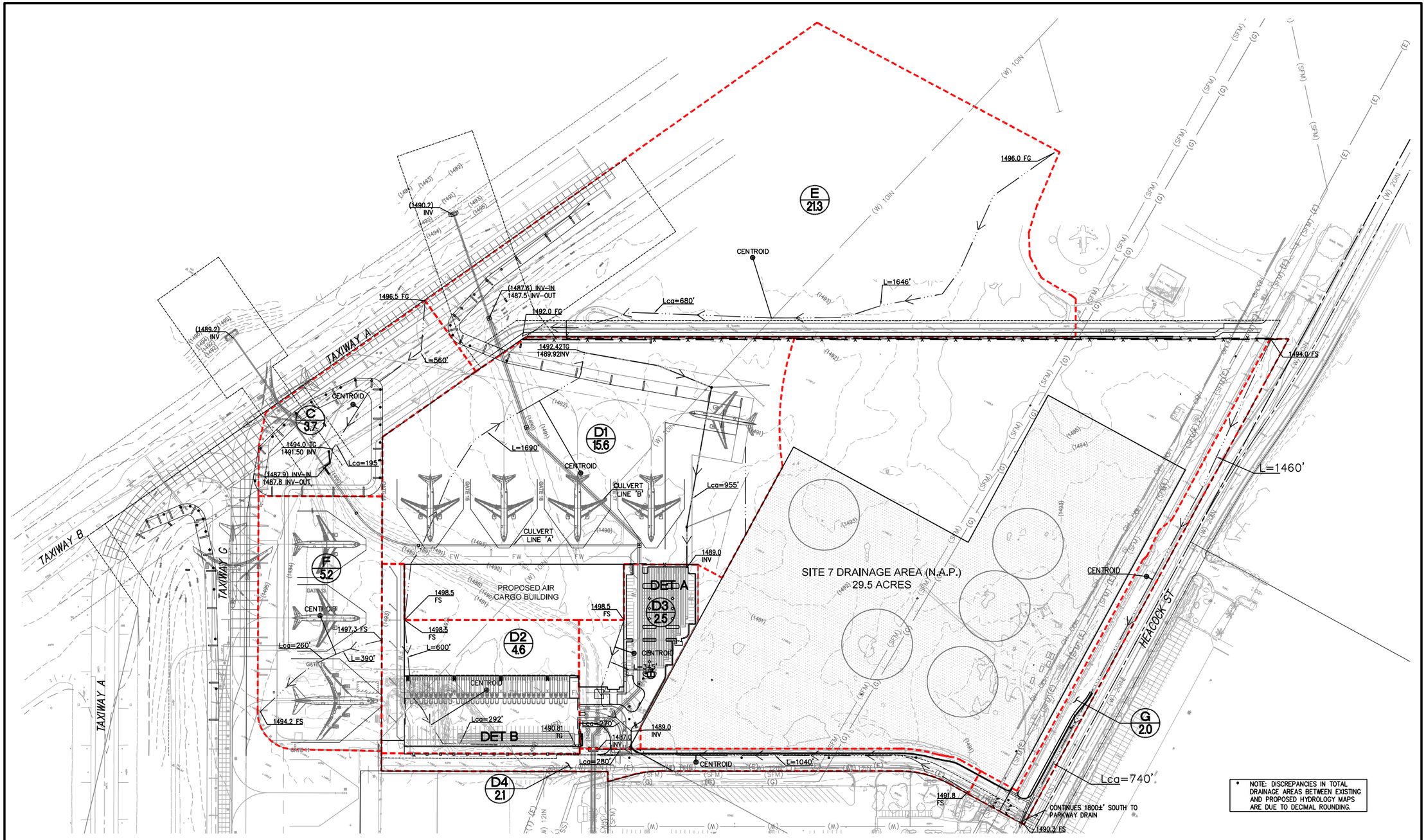
NO.:	REVISION:	DATE:

PROJECT: PROPOSED D-1 BUILDING
MARCH AIR RESERVE BASE
RIVERSIDE, CA

DRAWING NAME: EX. HYDROLOGY - AREAS C THROUGH F

ISSUE:	EXHIBIT
DATE:	2020-08-21
CHECKED: JB	DRAWN: PP
DRAWING FILE: 522HMEX	
PROJECT NO.: 20-522	
SHEET NUMBER:	2
OF 2 SHEETS	
SCALE: AS NOTED	

FILENAME: M:\2020\20-522 Riverside Meridian Base D1 Parcel\HMA\CAD\20-522_HMEX.dwg, LAST SAVED ON: Dec 13 2021 7:01pm PLOTTED BY: NICHOLAS, ON: Jan 14 2022 10:58am, CPC



* NOTE: DISCREPANCIES IN TOTAL DRAINAGE AREAS BETWEEN EXISTING AND PROPOSED HYDROLOGY MAPS ARE DUE TO DECIMAL ROUNDING.

C

SOIL GROUP:	C [PLATE C-1.17]
AMC II RUNOFF INDEX NUMBER:	69 [COMMERCIAL LANDSCAPING (LAWNS, SHRUBS, ETC.)]
IMPERVIOUS PERCENTAGE:	66%
LENGTH:	560'
LENGTH FROM CENTROID:	195'
CHANGE IN ELEVATION:	2.8'

D1

SOIL GROUP:	C [PLATE C-1.17]
AMC II RUNOFF INDEX NUMBER:	69 [COMMERCIAL LANDSCAPING (LAWNS, SHRUBS, ETC.)]
IMPERVIOUS PERCENTAGE:	91%
LENGTH:	1690'
LENGTH FROM CENTROID:	955'
CHANGE IN ELEVATION:	9.5'

D2

SOIL GROUP:	C [PLATE C-1.17]
AMC II RUNOFF INDEX NUMBER:	69 [COMMERCIAL LANDSCAPING (LAWNS, SHRUBS, ETC.)]
IMPERVIOUS PERCENTAGE:	96%
LENGTH:	600'
LENGTH FROM CENTROID:	292'
CHANGE IN ELEVATION:	7.7'

D3

SOIL GROUP:	C [PLATE C-1.17]
AMC II RUNOFF INDEX NUMBER:	69 [COMMERCIAL LANDSCAPING (LAWNS, SHRUBS, ETC.)]
IMPERVIOUS PERCENTAGE:	79%
LENGTH:	345'
LENGTH FROM CENTROID:	270'
CHANGE IN ELEVATION:	9.5'

D4

SOIL GROUP:	C [PLATE C-1.17]
AMC II RUNOFF INDEX NUMBER:	75 [OPEN BRUSH (SOFT WOOD SHRUBS – BUCKWHEAT, SAGE, ETC.)]
IMPERVIOUS PERCENTAGE:	82%
LENGTH:	1040'
LENGTH FROM CENTROID:	280'
CHANGE IN ELEVATION:	4.8'

E

SOIL GROUP:	C [PLATE C1.17]
AMC II RUNOFF INDEX NUMBER:	75 [OPEN BRUSH (SOFT WOOD SHRUBS – BUCKWHEAT, SAGE, ETC.)]
IMPERVIOUS PERCENTAGE:	14.8%
LENGTH:	1646'
LENGTH FROM CENTROID:	680'
CHANGE IN ELEVATION:	4'

F

SOIL GROUP:	C [PLATE C-1.17]
AMC II RUNOFF INDEX NUMBER:	69 [COMMERCIAL LANDSCAPING (LAWNS, SHRUBS, ETC.)]
IMPERVIOUS PERCENTAGE:	99%
LENGTH:	390'
LENGTH FROM CENTROID:	260'
CHANGE IN ELEVATION:	3.1'

G

SOIL GROUP:	C [PLATE C-1.17]
AMC II RUNOFF INDEX NUMBER:	75 [OPEN BRUSH (SOFT WOOD SHRUBS – BUCKWHEAT, SAGE, ETC.)]
IMPERVIOUS PERCENTAGE:	37%
LENGTH:	1460'
LENGTH FROM CENTROID:	740'
CHANGE IN ELEVATION:	3.7'

120' 60' 0' 120' 240'
GRAPHIC SCALE: 1 INCH = 120 FT

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

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

JEPTHA BRANDER
R.C.E. 83987
DATE

NOT FOR CONSTRUCTION

NO.:	REVISION:	DATE:

PROJECT: D-1 PARCEL DEVELOPMENT
MARCH AIR RESERVE BASE
RIVERSIDE, CA

DRAWING NAME: PROPOSED HYDROLOGY MAP

ISSUE:	EXHIBIT
DATE:	2020-10-15
CHECKED: JB	DRAWN: PP
DRAWING FILE: 522HMPR	
PROJECT NO.: 20-522	
SHEET NUMBER:	1
OF 1	SHEETS
SCALE: AS NOTED	

FILENAME: M:\2020\20-522 Riverside Meridian Base D1 Parcel\HM\CAD\20-522_HMPR.dwg, LAST SAVED ON: Jan 20 2022 8:44pm, PLOTTED BY: NICHOLAS, ON: Jan 20 2022 8:43pm

LEGEND

PONDING LIMIT (WSE = 1495')

SUBAREA A PEAK INFLOWS (ft^3/s)				
	1-HR	3-HR	6-HR	24-HR
2-YEAR	36.68	16.18	10.29	3.18
100-YEAR	144.09	86.91	73.97	25.95

SUBAREA A EXISTING-CONDITION POND DRAWDOWN* (HOURS)				
	1-HR	3-HR	6-HR	24-HR
2-YEAR	*0.7*	*0.3*	*0.5*	*0.1*
100-YEAR	*1.4*	*1.2*	*1.3*	*0.1*

*Drawdown = time required to fully discharge pond volume at the end of design storm duration.

SUBAREA A PROPOSED-CONDITION POND DRAWDOWN* (HOURS)				
	1-HR	3-HR	6-HR	24-HR
2-YEAR	*1.1*	*0.9*	*0.7*	*0.1*
100-YEAR	*2.1*	*3.0*	*3.5*	*0.2*

*Drawdown = time required to fully discharge pond volume at the end of design storm duration. Assumes downstream facilities are at full capacity.

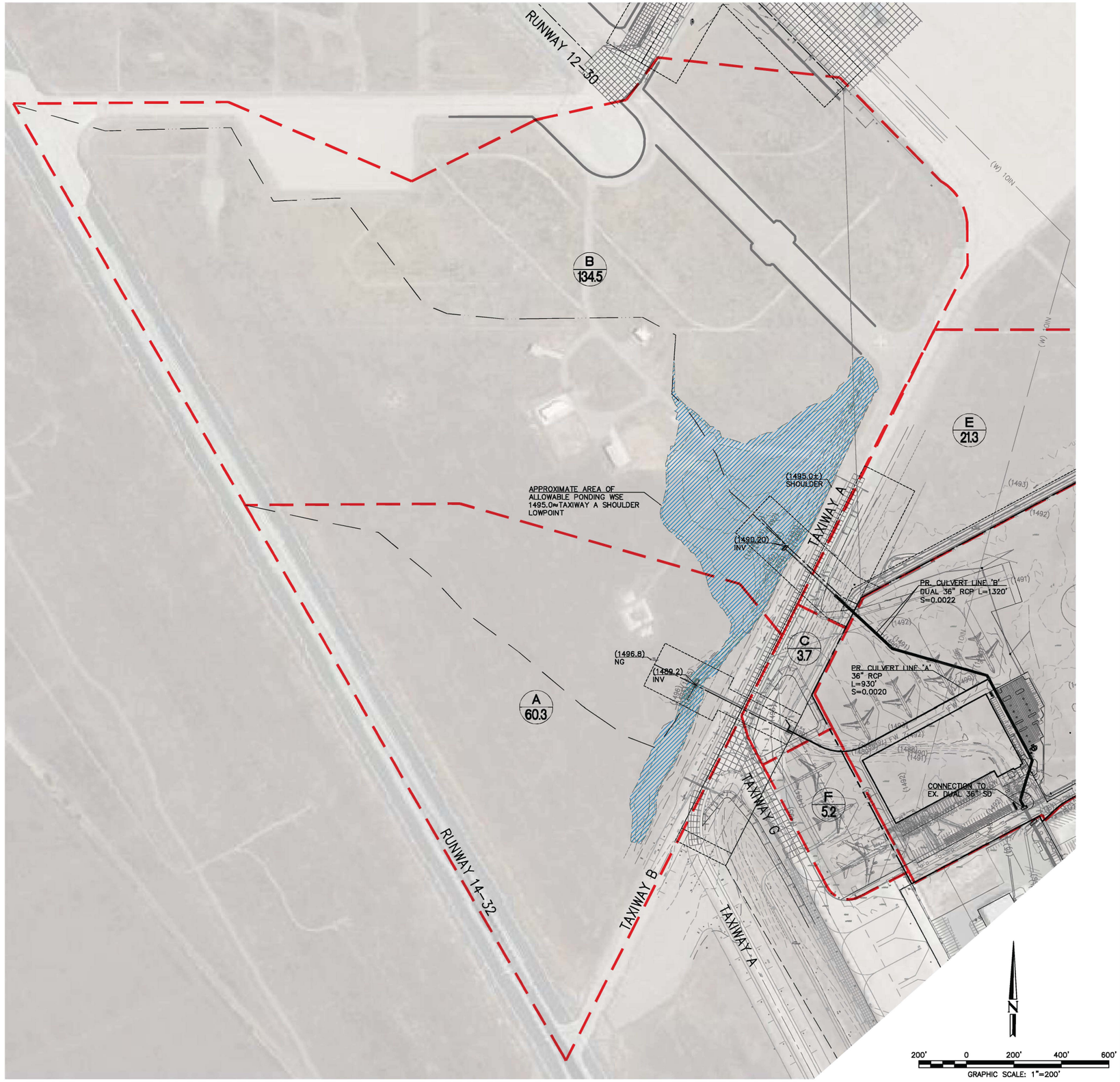
SUBAREA B PEAK INFLOWS (ft^3/s)				
	1-HR	3-HR	6-HR	24-HR
2-YEAR	55.93	29.71	18.9	7.19
100-YEAR	238.06	167.24	147.06	55.74

SUBAREA B EXISTING-CONDITION POND DRAWDOWN* (HOURS)				
	1-HR	3-HR	6-HR	24-HR
2-YEAR	*13.0*	*15.5*	*14.5*	*14.0*
100-YEAR	*15.0*	*17.5*	*16.5*	*15.0*

*Drawdown = time required to fully discharge pond volume at the end of design storm duration. Assumes no downstream facilities.

SUBAREA B PROPOSED-CONDITION POND DRAWDOWN* (HOURS)				
	1-HR	3-HR	6-HR	24-HR
2-YEAR	*7.0*	*7.0*	*7.0*	*4.0*
100-YEAR	*10.0*	*12.0*	*13.5*	*4.0*

*Drawdown = time required to fully discharge pond volume at the end of design storm duration. Assumes downstream facilities are at full capacity.



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

NOT FOR CONSTRUCTION

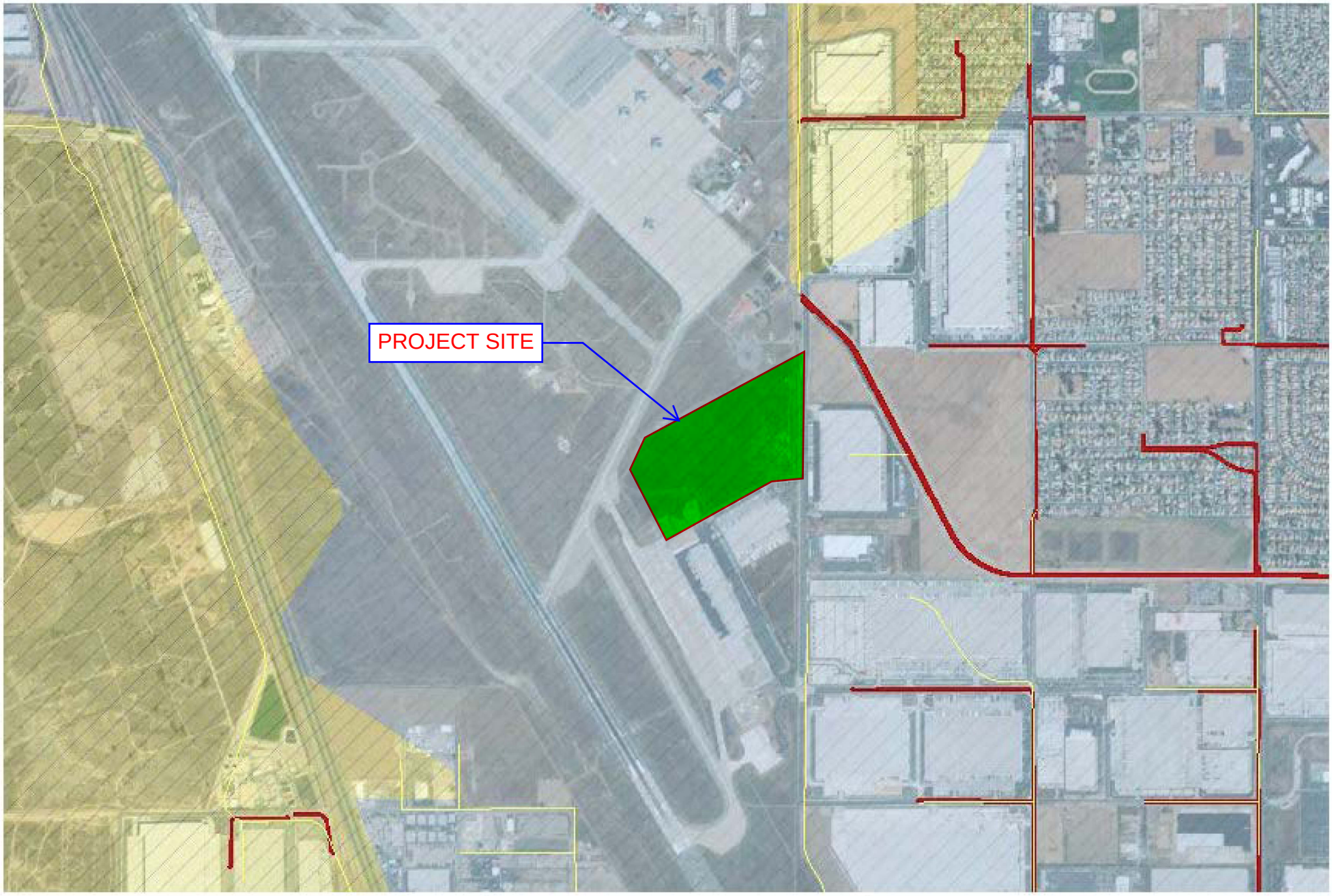
NO.:	REVISION:	DATE:

PROJECT: RIVERSIDE MERIDIAN BASE
D1 PARCEL
RIVERSIDE COUNTY, CA

DRAWING NAME: AIRFIELD PONDING EXHIBIT

ISSUE:	CONCEPTUAL
DATE:	2020-08-31
CHECKED: JB	DRAWN: PP
DRAWING FILE: 20-522 CG	
PROJECT NO.: 20-522	
SHEET NUMBER:	1
OF 1	SHEETS
SCALE: AS SHOWN	

FILENAME: M:\2020\20-522 Riverside Meridian Base D1 Parcel\HM\CAD\20-522_AIRFIELD_PONDING.dwg, LAST SAVED ON: Jan 14 2022 10:51am, PLOTTED BY: NICHOLAS, ON: Jan 14 2022 10:51am, CFG:


PROJECT SITE
Hydromodification Exemption Areas
Potentially Not Exempt
Potentially Exempt

APPENDIX C

Existing Condition 2-year Hydrology Calculation
Existing Condition 100-year Hydrology Calculation

EXISTING 2-YEAR HYDROLOGY CALCULATIONS

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

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Study date 08/27/20 File: 522ex2sac242.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

20-522 D-1 DEVELOPMENT
EXISTING CONDITION
SUBAREA C
2-YEAR 24-HOUR STORM

Drainage Area = 6.90(Ac.) = 0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.90(Ac.) = 0.011 Sq. Mi.
Length along longest watercourse = 647.00(Ft.)
Length along longest watercourse measured to centroid = 110.00(Ft.)
Length along longest watercourse = 0.123 Mi.
Length along longest watercourse measured to centroid = 0.021 Mi.
Difference in elevation = 7.00(Ft.)
Slope along watercourse = 57.1252 Ft./Mi.
Average Manning's 'N' = 0.020
Lag time = 0.023 Hr.
Lag time = 1.38 Min.
25% of lag time = 0.35 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]
6.90	1.60	11.04

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
6.90	4.00	27.60

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 1.600(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.600(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
6.900	75.00	0.443

Total Area Entered = 6.90(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	0.443	0.301	1.000	0.301
					Sum (F) =	0.301

Area averaged mean soil loss (F) (In/Hr) = 0.301
Minimum soil loss rate ((In/Hr)) = 0.151
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.546

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	361.996	62.274	4.330
2	0.167	723.992	33.934	2.360
3	0.250	1085.988	3.792	0.264
			Sum = 100.000	Sum= 6.954

The following loss 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	(0.534)	0.007	0.006
2	0.17	0.07	0.013	(0.532)	0.007	0.006
3	0.25	0.07	0.013	(0.529)	0.007	0.006
4	0.33	0.10	0.019	(0.527)	0.010	0.009
5	0.42	0.10	0.019	(0.525)	0.010	0.009
6	0.50	0.10	0.019	(0.523)	0.010	0.009
7	0.58	0.10	0.019	(0.521)	0.010	0.009
8	0.67	0.10	0.019	(0.519)	0.010	0.009
9	0.75	0.10	0.019	(0.517)	0.010	0.009
10	0.83	0.13	0.026	(0.515)	0.014	0.012
11	0.92	0.13	0.026	(0.513)	0.014	0.012
12	1.00	0.13	0.026	(0.511)	0.014	0.012
13	1.08	0.10	0.019	(0.509)	0.010	0.009
14	1.17	0.10	0.019	(0.507)	0.010	0.009
15	1.25	0.10	0.019	(0.505)	0.010	0.009
16	1.33	0.10	0.019	(0.503)	0.010	0.009
17	1.42	0.10	0.019	(0.501)	0.010	0.009
18	1.50	0.10	0.019	(0.499)	0.010	0.009
19	1.58	0.10	0.019	(0.497)	0.010	0.009
20	1.67	0.10	0.019	(0.495)	0.010	0.009
21	1.75	0.10	0.019	(0.493)	0.010	0.009
22	1.83	0.13	0.026	(0.491)	0.014	0.012

23	1.92	0.13	0.026	(0.489)	0.014	0.012
24	2.00	0.13	0.026	(0.487)	0.014	0.012
25	2.08	0.13	0.026	(0.485)	0.014	0.012
26	2.17	0.13	0.026	(0.483)	0.014	0.012
27	2.25	0.13	0.026	(0.481)	0.014	0.012
28	2.33	0.13	0.026	(0.479)	0.014	0.012
29	2.42	0.13	0.026	(0.477)	0.014	0.012
30	2.50	0.13	0.026	(0.475)	0.014	0.012
31	2.58	0.17	0.032	(0.473)	0.017	0.015
32	2.67	0.17	0.032	(0.472)	0.017	0.015
33	2.75	0.17	0.032	(0.470)	0.017	0.015
34	2.83	0.17	0.032	(0.468)	0.017	0.015
35	2.92	0.17	0.032	(0.466)	0.017	0.015
36	3.00	0.17	0.032	(0.464)	0.017	0.015
37	3.08	0.17	0.032	(0.462)	0.017	0.015
38	3.17	0.17	0.032	(0.460)	0.017	0.015
39	3.25	0.17	0.032	(0.458)	0.017	0.015
40	3.33	0.17	0.032	(0.456)	0.017	0.015
41	3.42	0.17	0.032	(0.454)	0.017	0.015
42	3.50	0.17	0.032	(0.452)	0.017	0.015
43	3.58	0.17	0.032	(0.450)	0.017	0.015
44	3.67	0.17	0.032	(0.449)	0.017	0.015
45	3.75	0.17	0.032	(0.447)	0.017	0.015
46	3.83	0.20	0.038	(0.445)	0.021	0.017
47	3.92	0.20	0.038	(0.443)	0.021	0.017
48	4.00	0.20	0.038	(0.441)	0.021	0.017
49	4.08	0.20	0.038	(0.439)	0.021	0.017
50	4.17	0.20	0.038	(0.437)	0.021	0.017
51	4.25	0.20	0.038	(0.435)	0.021	0.017
52	4.33	0.23	0.045	(0.434)	0.024	0.020
53	4.42	0.23	0.045	(0.432)	0.024	0.020
54	4.50	0.23	0.045	(0.430)	0.024	0.020
55	4.58	0.23	0.045	(0.428)	0.024	0.020
56	4.67	0.23	0.045	(0.426)	0.024	0.020
57	4.75	0.23	0.045	(0.424)	0.024	0.020
58	4.83	0.27	0.051	(0.423)	0.028	0.023
59	4.92	0.27	0.051	(0.421)	0.028	0.023
60	5.00	0.27	0.051	(0.419)	0.028	0.023
61	5.08	0.20	0.038	(0.417)	0.021	0.017
62	5.17	0.20	0.038	(0.415)	0.021	0.017
63	5.25	0.20	0.038	(0.413)	0.021	0.017
64	5.33	0.23	0.045	(0.412)	0.024	0.020
65	5.42	0.23	0.045	(0.410)	0.024	0.020
66	5.50	0.23	0.045	(0.408)	0.024	0.020
67	5.58	0.27	0.051	(0.406)	0.028	0.023
68	5.67	0.27	0.051	(0.404)	0.028	0.023
69	5.75	0.27	0.051	(0.403)	0.028	0.023
70	5.83	0.27	0.051	(0.401)	0.028	0.023
71	5.92	0.27	0.051	(0.399)	0.028	0.023
72	6.00	0.27	0.051	(0.397)	0.028	0.023
73	6.08	0.30	0.058	(0.396)	0.031	0.026
74	6.17	0.30	0.058	(0.394)	0.031	0.026
75	6.25	0.30	0.058	(0.392)	0.031	0.026
76	6.33	0.30	0.058	(0.390)	0.031	0.026
77	6.42	0.30	0.058	(0.389)	0.031	0.026
78	6.50	0.30	0.058	(0.387)	0.031	0.026
79	6.58	0.33	0.064	(0.385)	0.035	0.029
80	6.67	0.33	0.064	(0.383)	0.035	0.029
81	6.75	0.33	0.064	(0.382)	0.035	0.029
82	6.83	0.33	0.064	(0.380)	0.035	0.029
83	6.92	0.33	0.064	(0.378)	0.035	0.029
84	7.00	0.33	0.064	(0.376)	0.035	0.029
85	7.08	0.33	0.064	(0.375)	0.035	0.029

86	7.17	0.33	0.064	(0.373)	0.035	0.029
87	7.25	0.33	0.064	(0.371)	0.035	0.029
88	7.33	0.37	0.070	(0.370)	0.038	0.032
89	7.42	0.37	0.070	(0.368)	0.038	0.032
90	7.50	0.37	0.070	(0.366)	0.038	0.032
91	7.58	0.40	0.077	(0.365)	0.042	0.035
92	7.67	0.40	0.077	(0.363)	0.042	0.035
93	7.75	0.40	0.077	(0.361)	0.042	0.035
94	7.83	0.43	0.083	(0.360)	0.045	0.038
95	7.92	0.43	0.083	(0.358)	0.045	0.038
96	8.00	0.43	0.083	(0.356)	0.045	0.038
97	8.08	0.50	0.096	(0.355)	0.052	0.044
98	8.17	0.50	0.096	(0.353)	0.052	0.044
99	8.25	0.50	0.096	(0.351)	0.052	0.044
100	8.33	0.50	0.096	(0.350)	0.052	0.044
101	8.42	0.50	0.096	(0.348)	0.052	0.044
102	8.50	0.50	0.096	(0.346)	0.052	0.044
103	8.58	0.53	0.102	(0.345)	0.056	0.047
104	8.67	0.53	0.102	(0.343)	0.056	0.047
105	8.75	0.53	0.102	(0.342)	0.056	0.047
106	8.83	0.57	0.109	(0.340)	0.059	0.049
107	8.92	0.57	0.109	(0.338)	0.059	0.049
108	9.00	0.57	0.109	(0.337)	0.059	0.049
109	9.08	0.63	0.122	(0.335)	0.066	0.055
110	9.17	0.63	0.122	(0.334)	0.066	0.055
111	9.25	0.63	0.122	(0.332)	0.066	0.055
112	9.33	0.67	0.128	(0.330)	0.070	0.058
113	9.42	0.67	0.128	(0.329)	0.070	0.058
114	9.50	0.67	0.128	(0.327)	0.070	0.058
115	9.58	0.70	0.134	(0.326)	0.073	0.061
116	9.67	0.70	0.134	(0.324)	0.073	0.061
117	9.75	0.70	0.134	(0.323)	0.073	0.061
118	9.83	0.73	0.141	(0.321)	0.077	0.064
119	9.92	0.73	0.141	(0.319)	0.077	0.064
120	10.00	0.73	0.141	(0.318)	0.077	0.064
121	10.08	0.50	0.096	(0.316)	0.052	0.044
122	10.17	0.50	0.096	(0.315)	0.052	0.044
123	10.25	0.50	0.096	(0.313)	0.052	0.044
124	10.33	0.50	0.096	(0.312)	0.052	0.044
125	10.42	0.50	0.096	(0.310)	0.052	0.044
126	10.50	0.50	0.096	(0.309)	0.052	0.044
127	10.58	0.67	0.128	(0.307)	0.070	0.058
128	10.67	0.67	0.128	(0.306)	0.070	0.058
129	10.75	0.67	0.128	(0.304)	0.070	0.058
130	10.83	0.67	0.128	(0.303)	0.070	0.058
131	10.92	0.67	0.128	(0.301)	0.070	0.058
132	11.00	0.67	0.128	(0.300)	0.070	0.058
133	11.08	0.63	0.122	(0.298)	0.066	0.055
134	11.17	0.63	0.122	(0.297)	0.066	0.055
135	11.25	0.63	0.122	(0.295)	0.066	0.055
136	11.33	0.63	0.122	(0.294)	0.066	0.055
137	11.42	0.63	0.122	(0.292)	0.066	0.055
138	11.50	0.63	0.122	(0.291)	0.066	0.055
139	11.58	0.57	0.109	(0.290)	0.059	0.049
140	11.67	0.57	0.109	(0.288)	0.059	0.049
141	11.75	0.57	0.109	(0.287)	0.059	0.049
142	11.83	0.60	0.115	(0.285)	0.063	0.052
143	11.92	0.60	0.115	(0.284)	0.063	0.052
144	12.00	0.60	0.115	(0.282)	0.063	0.052
145	12.08	0.83	0.160	(0.281)	0.087	0.073
146	12.17	0.83	0.160	(0.280)	0.087	0.073
147	12.25	0.83	0.160	(0.278)	0.087	0.073
148	12.33	0.87	0.166	(0.277)	0.091	0.076

149	12.42	0.87	0.166	(0.275)	0.091	0.076
150	12.50	0.87	0.166	(0.274)	0.091	0.076
151	12.58	0.93	0.179	(0.273)	0.098	0.081
152	12.67	0.93	0.179	(0.271)	0.098	0.081
153	12.75	0.93	0.179	(0.270)	0.098	0.081
154	12.83	0.97	0.186	(0.269)	0.101	0.084
155	12.92	0.97	0.186	(0.267)	0.101	0.084
156	13.00	0.97	0.186	(0.266)	0.101	0.084
157	13.08	1.13	0.218	(0.264)	0.119	0.099
158	13.17	1.13	0.218	(0.263)	0.119	0.099
159	13.25	1.13	0.218	(0.262)	0.119	0.099
160	13.33	1.13	0.218	(0.260)	0.119	0.099
161	13.42	1.13	0.218	(0.259)	0.119	0.099
162	13.50	1.13	0.218	(0.258)	0.119	0.099
163	13.58	0.77	0.147	(0.257)	0.080	0.067
164	13.67	0.77	0.147	(0.255)	0.080	0.067
165	13.75	0.77	0.147	(0.254)	0.080	0.067
166	13.83	0.77	0.147	(0.253)	0.080	0.067
167	13.92	0.77	0.147	(0.251)	0.080	0.067
168	14.00	0.77	0.147	(0.250)	0.080	0.067
169	14.08	0.90	0.173	(0.249)	0.094	0.079
170	14.17	0.90	0.173	(0.247)	0.094	0.079
171	14.25	0.90	0.173	(0.246)	0.094	0.079
172	14.33	0.87	0.166	(0.245)	0.091	0.076
173	14.42	0.87	0.166	(0.244)	0.091	0.076
174	14.50	0.87	0.166	(0.242)	0.091	0.076
175	14.58	0.87	0.166	(0.241)	0.091	0.076
176	14.67	0.87	0.166	(0.240)	0.091	0.076
177	14.75	0.87	0.166	(0.239)	0.091	0.076
178	14.83	0.83	0.160	(0.238)	0.087	0.073
179	14.92	0.83	0.160	(0.236)	0.087	0.073
180	15.00	0.83	0.160	(0.235)	0.087	0.073
181	15.08	0.80	0.154	(0.234)	0.084	0.070
182	15.17	0.80	0.154	(0.233)	0.084	0.070
183	15.25	0.80	0.154	(0.232)	0.084	0.070
184	15.33	0.77	0.147	(0.230)	0.080	0.067
185	15.42	0.77	0.147	(0.229)	0.080	0.067
186	15.50	0.77	0.147	(0.228)	0.080	0.067
187	15.58	0.63	0.122	(0.227)	0.066	0.055
188	15.67	0.63	0.122	(0.226)	0.066	0.055
189	15.75	0.63	0.122	(0.224)	0.066	0.055
190	15.83	0.63	0.122	(0.223)	0.066	0.055
191	15.92	0.63	0.122	(0.222)	0.066	0.055
192	16.00	0.63	0.122	(0.221)	0.066	0.055
193	16.08	0.13	0.026	(0.220)	0.014	0.012
194	16.17	0.13	0.026	(0.219)	0.014	0.012
195	16.25	0.13	0.026	(0.218)	0.014	0.012
196	16.33	0.13	0.026	(0.217)	0.014	0.012
197	16.42	0.13	0.026	(0.215)	0.014	0.012
198	16.50	0.13	0.026	(0.214)	0.014	0.012
199	16.58	0.10	0.019	(0.213)	0.010	0.009
200	16.67	0.10	0.019	(0.212)	0.010	0.009
201	16.75	0.10	0.019	(0.211)	0.010	0.009
202	16.83	0.10	0.019	(0.210)	0.010	0.009
203	16.92	0.10	0.019	(0.209)	0.010	0.009
204	17.00	0.10	0.019	(0.208)	0.010	0.009
205	17.08	0.17	0.032	(0.207)	0.017	0.015
206	17.17	0.17	0.032	(0.206)	0.017	0.015
207	17.25	0.17	0.032	(0.205)	0.017	0.015
208	17.33	0.17	0.032	(0.204)	0.017	0.015
209	17.42	0.17	0.032	(0.203)	0.017	0.015
210	17.50	0.17	0.032	(0.202)	0.017	0.015
211	17.58	0.17	0.032	(0.201)	0.017	0.015

212	17.67	0.17	0.032	(0.200)	0.017	0.015
213	17.75	0.17	0.032	(0.199)	0.017	0.015
214	17.83	0.13	0.026	(0.198)	0.014	0.012
215	17.92	0.13	0.026	(0.197)	0.014	0.012
216	18.00	0.13	0.026	(0.196)	0.014	0.012
217	18.08	0.13	0.026	(0.195)	0.014	0.012
218	18.17	0.13	0.026	(0.194)	0.014	0.012
219	18.25	0.13	0.026	(0.193)	0.014	0.012
220	18.33	0.13	0.026	(0.192)	0.014	0.012
221	18.42	0.13	0.026	(0.191)	0.014	0.012
222	18.50	0.13	0.026	(0.190)	0.014	0.012
223	18.58	0.10	0.019	(0.189)	0.010	0.009
224	18.67	0.10	0.019	(0.188)	0.010	0.009
225	18.75	0.10	0.019	(0.187)	0.010	0.009
226	18.83	0.07	0.013	(0.186)	0.007	0.006
227	18.92	0.07	0.013	(0.186)	0.007	0.006
228	19.00	0.07	0.013	(0.185)	0.007	0.006
229	19.08	0.10	0.019	(0.184)	0.010	0.009
230	19.17	0.10	0.019	(0.183)	0.010	0.009
231	19.25	0.10	0.019	(0.182)	0.010	0.009
232	19.33	0.13	0.026	(0.181)	0.014	0.012
233	19.42	0.13	0.026	(0.180)	0.014	0.012
234	19.50	0.13	0.026	(0.180)	0.014	0.012
235	19.58	0.10	0.019	(0.179)	0.010	0.009
236	19.67	0.10	0.019	(0.178)	0.010	0.009
237	19.75	0.10	0.019	(0.177)	0.010	0.009
238	19.83	0.07	0.013	(0.176)	0.007	0.006
239	19.92	0.07	0.013	(0.176)	0.007	0.006
240	20.00	0.07	0.013	(0.175)	0.007	0.006
241	20.08	0.10	0.019	(0.174)	0.010	0.009
242	20.17	0.10	0.019	(0.173)	0.010	0.009
243	20.25	0.10	0.019	(0.173)	0.010	0.009
244	20.33	0.10	0.019	(0.172)	0.010	0.009
245	20.42	0.10	0.019	(0.171)	0.010	0.009
246	20.50	0.10	0.019	(0.170)	0.010	0.009
247	20.58	0.10	0.019	(0.170)	0.010	0.009
248	20.67	0.10	0.019	(0.169)	0.010	0.009
249	20.75	0.10	0.019	(0.168)	0.010	0.009
250	20.83	0.07	0.013	(0.167)	0.007	0.006
251	20.92	0.07	0.013	(0.167)	0.007	0.006
252	21.00	0.07	0.013	(0.166)	0.007	0.006
253	21.08	0.10	0.019	(0.165)	0.010	0.009
254	21.17	0.10	0.019	(0.165)	0.010	0.009
255	21.25	0.10	0.019	(0.164)	0.010	0.009
256	21.33	0.07	0.013	(0.164)	0.007	0.006
257	21.42	0.07	0.013	(0.163)	0.007	0.006
258	21.50	0.07	0.013	(0.162)	0.007	0.006
259	21.58	0.10	0.019	(0.162)	0.010	0.009
260	21.67	0.10	0.019	(0.161)	0.010	0.009
261	21.75	0.10	0.019	(0.161)	0.010	0.009
262	21.83	0.07	0.013	(0.160)	0.007	0.006
263	21.92	0.07	0.013	(0.159)	0.007	0.006
264	22.00	0.07	0.013	(0.159)	0.007	0.006
265	22.08	0.10	0.019	(0.158)	0.010	0.009
266	22.17	0.10	0.019	(0.158)	0.010	0.009
267	22.25	0.10	0.019	(0.157)	0.010	0.009
268	22.33	0.07	0.013	(0.157)	0.007	0.006
269	22.42	0.07	0.013	(0.156)	0.007	0.006
270	22.50	0.07	0.013	(0.156)	0.007	0.006
271	22.58	0.07	0.013	(0.156)	0.007	0.006
272	22.67	0.07	0.013	(0.155)	0.007	0.006
273	22.75	0.07	0.013	(0.155)	0.007	0.006
274	22.83	0.07	0.013	(0.154)	0.007	0.006

275	22.92	0.07	0.013	(0.154)	0.007	0.006
276	23.00	0.07	0.013	(0.153)	0.007	0.006
277	23.08	0.07	0.013	(0.153)	0.007	0.006
278	23.17	0.07	0.013	(0.153)	0.007	0.006
279	23.25	0.07	0.013	(0.152)	0.007	0.006
280	23.33	0.07	0.013	(0.152)	0.007	0.006
281	23.42	0.07	0.013	(0.152)	0.007	0.006
282	23.50	0.07	0.013	(0.152)	0.007	0.006
283	23.58	0.07	0.013	(0.151)	0.007	0.006
284	23.67	0.07	0.013	(0.151)	0.007	0.006
285	23.75	0.07	0.013	(0.151)	0.007	0.006
286	23.83	0.07	0.013	(0.151)	0.007	0.006
287	23.92	0.07	0.013	(0.151)	0.007	0.006
288	24.00	0.07	0.013	(0.151)	0.007	0.006

(Loss Rate Not Used)

Sum = 100.0 Sum = 8.7

Flood volume = Effective rainfall 0.73(In)
times area 6.9(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 0.87(In)
Total soil loss = 0.502(Ac.Ft)
Total rainfall = 1.60(In)
Flood volume = 18209.9 Cubic Feet
Total soil loss = 21864.7 Cubic Feet

Peak flow rate of this hydrograph = 0.688(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.03	Q				
0+10	0.0004	0.04	Q				
0+15	0.0007	0.04	Q				
0+20	0.0011	0.05	Q				
0+25	0.0015	0.06	Q				
0+30	0.0019	0.06	Q				
0+35	0.0023	0.06	Q				
0+40	0.0028	0.06	Q				
0+45	0.0032	0.06	Q				
0+50	0.0037	0.07	Q				
0+55	0.0042	0.08	Q				
1+ 0	0.0048	0.08	Q				
1+ 5	0.0053	0.07	Q				
1+10	0.0057	0.06	Q				
1+15	0.0061	0.06	Q				
1+20	0.0065	0.06	Q				
1+25	0.0069	0.06	Q				
1+30	0.0074	0.06	Q				
1+35	0.0078	0.06	Q				
1+40	0.0082	0.06	Q				
1+45	0.0086	0.06	Q				
1+50	0.0091	0.07	Q				
1+55	0.0097	0.08	Q				
2+ 0	0.0102	0.08	Q				
2+ 5	0.0108	0.08	QV				
2+10	0.0113	0.08	QV				
2+15	0.0119	0.08	QV				
2+20	0.0124	0.08	QV				

2+25	0.0130	0.08	QV	|	|	|	|
2+30	0.0136	0.08	QV	|	|	|	|
2+35	0.0142	0.09	QV	|	|	|	|
2+40	0.0149	0.10	QV	|	|	|	|
2+45	0.0156	0.10	QV	|	|	|	|
2+50	0.0163	0.10	QV	|	|	|	|
2+55	0.0170	0.10	QV	|	|	|	|
3+ 0	0.0177	0.10	QV	|	|	|	|
3+ 5	0.0184	0.10	QV	|	|	|	|
3+10	0.0191	0.10	QV	|	|	|	|
3+15	0.0198	0.10	QV	|	|	|	|
3+20	0.0205	0.10	QV	|	|	|	|
3+25	0.0212	0.10	Q V	|	|	|	|
3+30	0.0219	0.10	Q V	|	|	|	|
3+35	0.0226	0.10	Q V	|	|	|	|
3+40	0.0233	0.10	Q V	|	|	|	|
3+45	0.0240	0.10	Q V	|	|	|	|
3+50	0.0247	0.11	Q V	|	|	|	|
3+55	0.0256	0.12	Q V	|	|	|	|
4+ 0	0.0264	0.12	Q V	|	|	|	|
4+ 5	0.0272	0.12	Q V	|	|	|	|
4+10	0.0281	0.12	Q V	|	|	|	|
4+15	0.0289	0.12	Q V	|	|	|	|
4+20	0.0298	0.13	Q V	|	|	|	|
4+25	0.0308	0.14	Q V	|	|	|	|
4+30	0.0318	0.14	Q V	|	|	|	|
4+35	0.0328	0.14	Q V	|	|	|	|
4+40	0.0337	0.14	Q V	|	|	|	|
4+45	0.0347	0.14	Q V	|	|	|	|
4+50	0.0358	0.15	Q V	|	|	|	|
4+55	0.0369	0.16	Q V	|	|	|	|
5+ 0	0.0380	0.16	Q V	|	|	|	|
5+ 5	0.0389	0.14	Q V	|	|	|	|
5+10	0.0398	0.12	Q V	|	|	|	|
5+15	0.0406	0.12	Q V	|	|	|	|
5+20	0.0415	0.13	Q V	|	|	|	|
5+25	0.0425	0.14	Q V	|	|	|	|
5+30	0.0435	0.14	Q V	|	|	|	|
5+35	0.0446	0.15	Q V	|	|	|	|
5+40	0.0457	0.16	Q V	|	|	|	|
5+45	0.0468	0.16	Q V	|	|	|	|
5+50	0.0479	0.16	Q V	|	|	|	|
5+55	0.0490	0.16	Q V	|	|	|	|
6+ 0	0.0501	0.16	Q V	|	|	|	|
6+ 5	0.0513	0.17	Q V	|	|	|	|
6+10	0.0526	0.18	Q V	|	|	|	|
6+15	0.0538	0.18	Q V	|	|	|	|
6+20	0.0551	0.18	Q V	|	|	|	|
6+25	0.0563	0.18	Q V	|	|	|	|
6+30	0.0576	0.18	Q V	|	|	|	|
6+35	0.0589	0.19	Q V	|	|	|	|
6+40	0.0603	0.20	Q V	|	|	|	|
6+45	0.0617	0.20	Q V	|	|	|	|
6+50	0.0631	0.20	Q V	|	|	|	|
6+55	0.0645	0.20	Q V	|	|	|	|
7+ 0	0.0659	0.20	Q V	|	|	|	|
7+ 5	0.0673	0.20	Q V	|	|	|	|
7+10	0.0687	0.20	Q V	|	|	|	|
7+15	0.0701	0.20	Q V	|	|	|	|
7+20	0.0716	0.21	Q V	|	|	|	|
7+25	0.0731	0.22	Q V	|	|	|	|
7+30	0.0746	0.22	Q V	|	|	|	|
7+35	0.0762	0.24	Q V	|	|	|	|

7+40	0.0779	0.24	Q	V	|	|	|
7+45	0.0796	0.24	Q	V	|	|	|
7+50	0.0813	0.26	|Q	V	|	|	|
7+55	0.0831	0.26	|Q	V	|	|	|
8+ 0	0.0849	0.26	|Q	V	|	|	|
8+ 5	0.0869	0.29	|Q	V	|	|	|
8+10	0.0890	0.30	|Q	V	|	|	|
8+15	0.0911	0.30	|Q	V	|	|	|
8+20	0.0932	0.30	|Q	V	|	|	|
8+25	0.0953	0.30	|Q	V	|	|	|
8+30	0.0974	0.30	|Q	V	|	|	|
8+35	0.0995	0.32	|Q	V	|	|	|
8+40	0.1018	0.32	|Q	V	|	|	|
8+45	0.1040	0.32	|Q	V	|	|	|
8+50	0.1063	0.34	|Q	V	|	|	|
8+55	0.1087	0.34	|Q	V	|	|	|
9+ 0	0.1111	0.34	|Q	V	|	|	|
9+ 5	0.1136	0.37	|Q	V	|	|	|
9+10	0.1162	0.38	|Q	|V	|	|	|
9+15	0.1189	0.38	|Q	|V	|	|	|
9+20	0.1216	0.40	|Q	|V	|	|	|
9+25	0.1244	0.40	|Q	|V	|	|	|
9+30	0.1272	0.40	|Q	| V	|	|	|
9+35	0.1301	0.42	|Q	| V	|	|	|
9+40	0.1330	0.42	|Q	| V	|	|	|
9+45	0.1359	0.42	|Q	| V	|	|	|
9+50	0.1389	0.44	|Q	| V	|	|	|
9+55	0.1420	0.44	|Q	| V	|	|	|
10+ 0	0.1450	0.45	|Q	| V	|	|	|
10+ 5	0.1475	0.36	|Q	| V	|	|	|
10+10	0.1496	0.31	|Q	| V	|	|	|
10+15	0.1517	0.30	|Q	| V	|	|	|
10+20	0.1538	0.30	|Q	| V	|	|	|
10+25	0.1559	0.30	|Q	| V	|	|	|
10+30	0.1580	0.30	|Q	| V	|	|	|
10+35	0.1605	0.37	|Q	| V	|	|	|
10+40	0.1633	0.40	|Q	| V	|	|	|
10+45	0.1661	0.40	|Q	| V	|	|	|
10+50	0.1688	0.40	|Q	| V	|	|	|
10+55	0.1716	0.40	|Q	| V	|	|	|
11+ 0	0.1744	0.40	|Q	| V	|	|	|
11+ 5	0.1771	0.39	|Q	| V	|	|	|
11+10	0.1798	0.39	|Q	| V	|	|	|
11+15	0.1824	0.38	|Q	| V	|	|	|
11+20	0.1851	0.38	|Q	| V	|	|	|
11+25	0.1877	0.38	|Q	| V	|	|	|
11+30	0.1904	0.38	|Q	| V	|	|	|
11+35	0.1928	0.36	|Q	| V	|	|	|
11+40	0.1952	0.35	|Q	| V	|	|	|
11+45	0.1976	0.34	|Q	| V	|	|	|
11+50	0.2000	0.36	|Q	| V	|	|	|
11+55	0.2025	0.36	|Q	| V	|	|	|
12+ 0	0.2051	0.36	|Q	| V	|	|	|
12+ 5	0.2082	0.45	|Q	| V	|	|	|
12+10	0.2116	0.50	| Q	| V	|	|	|
12+15	0.2151	0.51	| Q	| V	|	|	|
12+20	0.2187	0.52	| Q	| V	|	|	|
12+25	0.2223	0.53	| Q	| V	|	|	|
12+30	0.2259	0.53	| Q	| V	|	|	|
12+35	0.2297	0.55	| Q	| V	|	|	|
12+40	0.2336	0.56	| Q	| V	|	|	|
12+45	0.2375	0.57	| Q	| V	|	|	|
12+50	0.2415	0.58	| Q	| V	|	|	|

12+55	0.2455	0.59	| Q	|	|	V |	|	|
13+ 0	0.2496	0.59	| Q	|	|	V |	|	|
13+ 5	0.2540	0.65	| Q	|	|	V |	|	|
13+10	0.2588	0.68	| Q	|	|	V |	|	|
13+15	0.2635	0.69	| Q	|	|	V |	|	|
13+20	0.2682	0.69	| Q	|	|	V |	|	|
13+25	0.2730	0.69	| Q	|	|	V |	|	|
13+30	0.2777	0.69	| Q	|	|	V |	|	|
13+35	0.2815	0.55	| Q	|	|	V |	|	|
13+40	0.2847	0.47	|Q	|	|	V |	|	|
13+45	0.2880	0.47	|Q	|	|	V |	|	|
13+50	0.2912	0.47	|Q	|	|	V |	|	|
13+55	0.2944	0.47	|Q	|	|	V |	|	|
14+ 0	0.2976	0.47	|Q	|	|	V |	|	|
14+ 5	0.3011	0.52	| Q	|	|	V |	|	|
14+10	0.3049	0.54	| Q	|	|	V|	|	|
14+15	0.3086	0.55	| Q	|	|	V|	|	|
14+20	0.3123	0.53	| Q	|	|	V|	|	|
14+25	0.3159	0.53	| Q	|	|	V	|	|
14+30	0.3196	0.53	| Q	|	|	V	|	|
14+35	0.3232	0.53	| Q	|	|	V	|	|
14+40	0.3268	0.53	| Q	|	|	|V	|	|
14+45	0.3304	0.53	| Q	|	|	|V	|	|
14+50	0.3340	0.51	| Q	|	|	|V	|	|
14+55	0.3374	0.51	| Q	|	|	| V	|	|
15+ 0	0.3409	0.51	| Q	|	|	| V	|	|
15+ 5	0.3443	0.49	|Q	|	|	| V	|	|
15+10	0.3477	0.49	|Q	|	|	| V	|	|
15+15	0.3510	0.49	|Q	|	|	| V	|	|
15+20	0.3543	0.47	|Q	|	|	| V	|	|
15+25	0.3575	0.47	|Q	|	|	| V	|	|
15+30	0.3607	0.47	|Q	|	|	| V	|	|
15+35	0.3636	0.41	|Q	|	|	| V	|	|
15+40	0.3662	0.39	|Q	|	|	| V	|	|
15+45	0.3689	0.38	|Q	|	|	| V	|	|
15+50	0.3715	0.38	|Q	|	|	| V	|	|
15+55	0.3742	0.38	|Q	|	|	| V	|	|
16+ 0	0.3768	0.38	|Q	|	|	| V	|	|
16+ 5	0.3782	0.20	Q	|	|	| V	|	|
16+10	0.3788	0.09	Q	|	|	| V	|	|
16+15	0.3794	0.08	Q	|	|	| V	|	|
16+20	0.3799	0.08	Q	|	|	| V	|	|
16+25	0.3805	0.08	Q	|	|	| V	|	|
16+30	0.3810	0.08	Q	|	|	| V	|	|
16+35	0.3815	0.07	Q	|	|	| V	|	|
16+40	0.3819	0.06	Q	|	|	| V	|	|
16+45	0.3823	0.06	Q	|	|	| V	|	|
16+50	0.3828	0.06	Q	|	|	| V	|	|
16+55	0.3832	0.06	Q	|	|	| V	|	|
17+ 0	0.3836	0.06	Q	|	|	| V	|	|
17+ 5	0.3842	0.09	Q	|	|	| V	|	|
17+10	0.3849	0.10	Q	|	|	| V	|	|
17+15	0.3856	0.10	Q	|	|	| V	|	|
17+20	0.3863	0.10	Q	|	|	| V	|	|
17+25	0.3870	0.10	Q	|	|	| V	|	|
17+30	0.3877	0.10	Q	|	|	| V	|	|
17+35	0.3884	0.10	Q	|	|	| V	|	|
17+40	0.3890	0.10	Q	|	|	| V	|	|
17+45	0.3897	0.10	Q	|	|	| V	|	|
17+50	0.3904	0.09	Q	|	|	| V	|	|
17+55	0.3909	0.08	Q	|	|	| V	|	|
18+ 0	0.3915	0.08	Q	|	|	| V	|	|
18+ 5	0.3920	0.08	Q	|	|	| V	|	|

18+10	0.3926	0.08	Q	|	|	|	V |
18+15	0.3931	0.08	Q	|	|	|	V |
18+20	0.3937	0.08	Q	|	|	|	V |
18+25	0.3943	0.08	Q	|	|	|	V |
18+30	0.3948	0.08	Q	|	|	|	V |
18+35	0.3953	0.07	Q	|	|	|	V |
18+40	0.3957	0.06	Q	|	|	|	V |
18+45	0.3961	0.06	Q	|	|	|	V |
18+50	0.3965	0.05	Q	|	|	|	V |
18+55	0.3967	0.04	Q	|	|	|	V |
19+ 0	0.3970	0.04	Q	|	|	|	V |
19+ 5	0.3974	0.05	Q	|	|	|	V |
19+10	0.3978	0.06	Q	|	|	|	V |
19+15	0.3982	0.06	Q	|	|	|	V |
19+20	0.3987	0.07	Q	|	|	|	V |
19+25	0.3993	0.08	Q	|	|	|	V |
19+30	0.3998	0.08	Q	|	|	|	V |
19+35	0.4003	0.07	Q	|	|	|	V |
19+40	0.4007	0.06	Q	|	|	|	V |
19+45	0.4011	0.06	Q	|	|	|	V |
19+50	0.4015	0.05	Q	|	|	|	V |
19+55	0.4018	0.04	Q	|	|	|	V |
20+ 0	0.4020	0.04	Q	|	|	|	V |
20+ 5	0.4024	0.05	Q	|	|	|	V |
20+10	0.4028	0.06	Q	|	|	|	V |
20+15	0.4032	0.06	Q	|	|	|	V |
20+20	0.4037	0.06	Q	|	|	|	V |
20+25	0.4041	0.06	Q	|	|	|	V |
20+30	0.4045	0.06	Q	|	|	|	V |
20+35	0.4049	0.06	Q	|	|	|	V |
20+40	0.4053	0.06	Q	|	|	|	V |
20+45	0.4057	0.06	Q	|	|	|	V |
20+50	0.4061	0.05	Q	|	|	|	V |
20+55	0.4064	0.04	Q	|	|	|	V |
21+ 0	0.4066	0.04	Q	|	|	|	V |
21+ 5	0.4070	0.05	Q	|	|	|	V |
21+10	0.4074	0.06	Q	|	|	|	V |
21+15	0.4078	0.06	Q	|	|	|	V|
21+20	0.4082	0.05	Q	|	|	|	V|
21+25	0.4085	0.04	Q	|	|	|	V|
21+30	0.4087	0.04	Q	|	|	|	V|
21+35	0.4091	0.05	Q	|	|	|	V|
21+40	0.4095	0.06	Q	|	|	|	V|
21+45	0.4099	0.06	Q	|	|	|	V|
21+50	0.4103	0.05	Q	|	|	|	V|
21+55	0.4105	0.04	Q	|	|	|	V|
22+ 0	0.4108	0.04	Q	|	|	|	V|
22+ 5	0.4112	0.05	Q	|	|	|	V|
22+10	0.4116	0.06	Q	|	|	|	V|
22+15	0.4120	0.06	Q	|	|	|	V|
22+20	0.4123	0.05	Q	|	|	|	V|
22+25	0.4126	0.04	Q	|	|	|	V|
22+30	0.4129	0.04	Q	|	|	|	V|
22+35	0.4132	0.04	Q	|	|	|	V|
22+40	0.4135	0.04	Q	|	|	|	V|
22+45	0.4137	0.04	Q	|	|	|	V|
22+50	0.4140	0.04	Q	|	|	|	V|
22+55	0.4143	0.04	Q	|	|	|	V|
23+ 0	0.4146	0.04	Q	|	|	|	V|
23+ 5	0.4149	0.04	Q	|	|	|	V|
23+10	0.4151	0.04	Q	|	|	|	V|
23+15	0.4154	0.04	Q	|	|	|	V|
23+20	0.4157	0.04	Q	|	|	|	V|

23+25	0.4160	0.04	Q	|	|	|	V|
23+30	0.4163	0.04	Q	|	|	|	V|
23+35	0.4165	0.04	Q	|	|	|	V|
23+40	0.4168	0.04	Q	|	|	|	V|
23+45	0.4171	0.04	Q	|	|	|	V|
23+50	0.4174	0.04	Q	|	|	|	V|
23+55	0.4176	0.04	Q	|	|	|	V|
24+ 0	0.4179	0.04	Q	|	|	|	V|
24+ 5	0.4180	0.02	Q	|	|	|	V|
24+10	0.4180	0.00	Q	|	|	|	V|

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

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Study date 08/26/20 File: 522EX100SAD242.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

20-522 D-1 DEVELOPMENT
EXISTING CONDITION
SUBAREA D
2-YEAR 24-HOUR STORM

Drainage Area = 54.10(Ac.) = 0.085 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 54.10(Ac.) = 0.085 Sq. Mi.
Length along longest watercourse = 1740.00(Ft.)
Length along longest watercourse measured to centroid = 900.00(Ft.)
Length along longest watercourse = 0.330 Mi.
Length along longest watercourse measured to centroid = 0.170 Mi.
Difference in elevation = 9.10(Ft.)
Slope along watercourse = 27.6138 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.128 Hr.
Lag time = 7.70 Min.
25% of lag time = 1.92 Min.
40% of lag time = 3.08 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]
54.10	1.60	86.56

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
54.10	4.00	216.40

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 1.600(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.600(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
54.100	75.00	0.050

Total Area Entered = 54.10(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	0.050	0.478	1.000	0.478
					Sum (F) =	0.478

Area averaged mean soil loss (F) (In/Hr) = 0.478
Minimum soil loss rate ((In/Hr)) = 0.239
(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	64.935	9.369	5.108
2	0.167	129.871	37.233	20.301
3	0.250	194.806	24.893	13.572
4	0.333	259.741	9.577	5.222
5	0.417	324.677	5.782	3.152
6	0.500	389.612	3.881	2.116
7	0.583	454.547	2.661	1.451
8	0.667	519.483	1.991	1.085
9	0.750	584.418	1.519	0.828
10	0.833	649.353	1.122	0.612
11	0.917	714.289	0.789	0.430
12	1.000	779.224	0.649	0.354
13	1.083	844.159	0.532	0.290
		Sum = 100.000	Sum=	54.523

The following loss 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	(0.847)		0.011	0.002
2	0.17	0.07	0.013	(0.844)		0.011	0.002
3	0.25	0.07	0.013	(0.841)		0.011	0.002
4	0.33	0.10	0.019	(0.838)		0.017	0.003
5	0.42	0.10	0.019	(0.834)		0.017	0.003
6	0.50	0.10	0.019	(0.831)		0.017	0.003
7	0.58	0.10	0.019	(0.828)		0.017	0.003
8	0.67	0.10	0.019	(0.825)		0.017	0.003
9	0.75	0.10	0.019	(0.821)		0.017	0.003
10	0.83	0.13	0.026	(0.818)		0.022	0.004
11	0.92	0.13	0.026	(0.815)		0.022	0.004
12	1.00	0.13	0.026	(0.812)		0.022	0.004

13	1.08	0.10	0.019	(0.809)	0.017	0.003
14	1.17	0.10	0.019	(0.805)	0.017	0.003
15	1.25	0.10	0.019	(0.802)	0.017	0.003
16	1.33	0.10	0.019	(0.799)	0.017	0.003
17	1.42	0.10	0.019	(0.796)	0.017	0.003
18	1.50	0.10	0.019	(0.793)	0.017	0.003
19	1.58	0.10	0.019	(0.789)	0.017	0.003
20	1.67	0.10	0.019	(0.786)	0.017	0.003
21	1.75	0.10	0.019	(0.783)	0.017	0.003
22	1.83	0.13	0.026	(0.780)	0.022	0.004
23	1.92	0.13	0.026	(0.777)	0.022	0.004
24	2.00	0.13	0.026	(0.774)	0.022	0.004
25	2.08	0.13	0.026	(0.771)	0.022	0.004
26	2.17	0.13	0.026	(0.767)	0.022	0.004
27	2.25	0.13	0.026	(0.764)	0.022	0.004
28	2.33	0.13	0.026	(0.761)	0.022	0.004
29	2.42	0.13	0.026	(0.758)	0.022	0.004
30	2.50	0.13	0.026	(0.755)	0.022	0.004
31	2.58	0.17	0.032	(0.752)	0.028	0.004
32	2.67	0.17	0.032	(0.749)	0.028	0.004
33	2.75	0.17	0.032	(0.746)	0.028	0.004
34	2.83	0.17	0.032	(0.743)	0.028	0.004
35	2.92	0.17	0.032	(0.740)	0.028	0.004
36	3.00	0.17	0.032	(0.737)	0.028	0.004
37	3.08	0.17	0.032	(0.734)	0.028	0.004
38	3.17	0.17	0.032	(0.731)	0.028	0.004
39	3.25	0.17	0.032	(0.727)	0.028	0.004
40	3.33	0.17	0.032	(0.724)	0.028	0.004
41	3.42	0.17	0.032	(0.721)	0.028	0.004
42	3.50	0.17	0.032	(0.718)	0.028	0.004
43	3.58	0.17	0.032	(0.715)	0.028	0.004
44	3.67	0.17	0.032	(0.712)	0.028	0.004
45	3.75	0.17	0.032	(0.709)	0.028	0.004
46	3.83	0.20	0.038	(0.706)	0.033	0.005
47	3.92	0.20	0.038	(0.703)	0.033	0.005
48	4.00	0.20	0.038	(0.700)	0.033	0.005
49	4.08	0.20	0.038	(0.697)	0.033	0.005
50	4.17	0.20	0.038	(0.694)	0.033	0.005
51	4.25	0.20	0.038	(0.692)	0.033	0.005
52	4.33	0.23	0.045	(0.689)	0.039	0.006
53	4.42	0.23	0.045	(0.686)	0.039	0.006
54	4.50	0.23	0.045	(0.683)	0.039	0.006
55	4.58	0.23	0.045	(0.680)	0.039	0.006
56	4.67	0.23	0.045	(0.677)	0.039	0.006
57	4.75	0.23	0.045	(0.674)	0.039	0.006
58	4.83	0.27	0.051	(0.671)	0.044	0.007
59	4.92	0.27	0.051	(0.668)	0.044	0.007
60	5.00	0.27	0.051	(0.665)	0.044	0.007
61	5.08	0.20	0.038	(0.662)	0.033	0.005
62	5.17	0.20	0.038	(0.659)	0.033	0.005
63	5.25	0.20	0.038	(0.657)	0.033	0.005
64	5.33	0.23	0.045	(0.654)	0.039	0.006
65	5.42	0.23	0.045	(0.651)	0.039	0.006
66	5.50	0.23	0.045	(0.648)	0.039	0.006
67	5.58	0.27	0.051	(0.645)	0.044	0.007
68	5.67	0.27	0.051	(0.642)	0.044	0.007
69	5.75	0.27	0.051	(0.640)	0.044	0.007
70	5.83	0.27	0.051	(0.637)	0.044	0.007
71	5.92	0.27	0.051	(0.634)	0.044	0.007
72	6.00	0.27	0.051	(0.631)	0.044	0.007
73	6.08	0.30	0.058	(0.628)	0.050	0.008
74	6.17	0.30	0.058	(0.625)	0.050	0.008
75	6.25	0.30	0.058	(0.623)	0.050	0.008

76	6.33	0.30	0.058	(0.620)	0.050	0.008
77	6.42	0.30	0.058	(0.617)	0.050	0.008
78	6.50	0.30	0.058	(0.614)	0.050	0.008
79	6.58	0.33	0.064	(0.612)	0.055	0.009
80	6.67	0.33	0.064	(0.609)	0.055	0.009
81	6.75	0.33	0.064	(0.606)	0.055	0.009
82	6.83	0.33	0.064	(0.603)	0.055	0.009
83	6.92	0.33	0.064	(0.601)	0.055	0.009
84	7.00	0.33	0.064	(0.598)	0.055	0.009
85	7.08	0.33	0.064	(0.595)	0.055	0.009
86	7.17	0.33	0.064	(0.592)	0.055	0.009
87	7.25	0.33	0.064	(0.590)	0.055	0.009
88	7.33	0.37	0.070	(0.587)	0.061	0.010
89	7.42	0.37	0.070	(0.584)	0.061	0.010
90	7.50	0.37	0.070	(0.582)	0.061	0.010
91	7.58	0.40	0.077	(0.579)	0.066	0.011
92	7.67	0.40	0.077	(0.576)	0.066	0.011
93	7.75	0.40	0.077	(0.574)	0.066	0.011
94	7.83	0.43	0.083	(0.571)	0.072	0.012
95	7.92	0.43	0.083	(0.568)	0.072	0.012
96	8.00	0.43	0.083	(0.566)	0.072	0.012
97	8.08	0.50	0.096	(0.563)	0.083	0.013
98	8.17	0.50	0.096	(0.561)	0.083	0.013
99	8.25	0.50	0.096	(0.558)	0.083	0.013
100	8.33	0.50	0.096	(0.555)	0.083	0.013
101	8.42	0.50	0.096	(0.553)	0.083	0.013
102	8.50	0.50	0.096	(0.550)	0.083	0.013
103	8.58	0.53	0.102	(0.548)	0.088	0.014
104	8.67	0.53	0.102	(0.545)	0.088	0.014
105	8.75	0.53	0.102	(0.542)	0.088	0.014
106	8.83	0.57	0.109	(0.540)	0.094	0.015
107	8.92	0.57	0.109	(0.537)	0.094	0.015
108	9.00	0.57	0.109	(0.535)	0.094	0.015
109	9.08	0.63	0.122	(0.532)	0.105	0.017
110	9.17	0.63	0.122	(0.530)	0.105	0.017
111	9.25	0.63	0.122	(0.527)	0.105	0.017
112	9.33	0.67	0.128	(0.525)	0.110	0.018
113	9.42	0.67	0.128	(0.522)	0.110	0.018
114	9.50	0.67	0.128	(0.520)	0.110	0.018
115	9.58	0.70	0.134	(0.517)	0.116	0.019
116	9.67	0.70	0.134	(0.515)	0.116	0.019
117	9.75	0.70	0.134	(0.512)	0.116	0.019
118	9.83	0.73	0.141	(0.510)	0.121	0.020
119	9.92	0.73	0.141	(0.507)	0.121	0.020
120	10.00	0.73	0.141	(0.505)	0.121	0.020
121	10.08	0.50	0.096	(0.502)	0.083	0.013
122	10.17	0.50	0.096	(0.500)	0.083	0.013
123	10.25	0.50	0.096	(0.498)	0.083	0.013
124	10.33	0.50	0.096	(0.495)	0.083	0.013
125	10.42	0.50	0.096	(0.493)	0.083	0.013
126	10.50	0.50	0.096	(0.490)	0.083	0.013
127	10.58	0.67	0.128	(0.488)	0.110	0.018
128	10.67	0.67	0.128	(0.486)	0.110	0.018
129	10.75	0.67	0.128	(0.483)	0.110	0.018
130	10.83	0.67	0.128	(0.481)	0.110	0.018
131	10.92	0.67	0.128	(0.478)	0.110	0.018
132	11.00	0.67	0.128	(0.476)	0.110	0.018
133	11.08	0.63	0.122	(0.474)	0.105	0.017
134	11.17	0.63	0.122	(0.471)	0.105	0.017
135	11.25	0.63	0.122	(0.469)	0.105	0.017
136	11.33	0.63	0.122	(0.467)	0.105	0.017
137	11.42	0.63	0.122	(0.464)	0.105	0.017
138	11.50	0.63	0.122	(0.462)	0.105	0.017

139	11.58	0.57	0.109	(0.460)	0.094	0.015
140	11.67	0.57	0.109	(0.458)	0.094	0.015
141	11.75	0.57	0.109	(0.455)	0.094	0.015
142	11.83	0.60	0.115	(0.453)	0.099	0.016
143	11.92	0.60	0.115	(0.451)	0.099	0.016
144	12.00	0.60	0.115	(0.449)	0.099	0.016
145	12.08	0.83	0.160	(0.446)	0.138	0.022
146	12.17	0.83	0.160	(0.444)	0.138	0.022
147	12.25	0.83	0.160	(0.442)	0.138	0.022
148	12.33	0.87	0.166	(0.440)	0.143	0.023
149	12.42	0.87	0.166	(0.437)	0.143	0.023
150	12.50	0.87	0.166	(0.435)	0.143	0.023
151	12.58	0.93	0.179	(0.433)	0.154	0.025
152	12.67	0.93	0.179	(0.431)	0.154	0.025
153	12.75	0.93	0.179	(0.429)	0.154	0.025
154	12.83	0.97	0.186	(0.426)	0.160	0.026
155	12.92	0.97	0.186	(0.424)	0.160	0.026
156	13.00	0.97	0.186	(0.422)	0.160	0.026
157	13.08	1.13	0.218	(0.420)	0.187	0.030
158	13.17	1.13	0.218	(0.418)	0.187	0.030
159	13.25	1.13	0.218	(0.416)	0.187	0.030
160	13.33	1.13	0.218	(0.414)	0.187	0.030
161	13.42	1.13	0.218	(0.412)	0.187	0.030
162	13.50	1.13	0.218	(0.409)	0.187	0.030
163	13.58	0.77	0.147	(0.407)	0.127	0.021
164	13.67	0.77	0.147	(0.405)	0.127	0.021
165	13.75	0.77	0.147	(0.403)	0.127	0.021
166	13.83	0.77	0.147	(0.401)	0.127	0.021
167	13.92	0.77	0.147	(0.399)	0.127	0.021
168	14.00	0.77	0.147	(0.397)	0.127	0.021
169	14.08	0.90	0.173	(0.395)	0.149	0.024
170	14.17	0.90	0.173	(0.393)	0.149	0.024
171	14.25	0.90	0.173	(0.391)	0.149	0.024
172	14.33	0.87	0.166	(0.389)	0.143	0.023
173	14.42	0.87	0.166	(0.387)	0.143	0.023
174	14.50	0.87	0.166	(0.385)	0.143	0.023
175	14.58	0.87	0.166	(0.383)	0.143	0.023
176	14.67	0.87	0.166	(0.381)	0.143	0.023
177	14.75	0.87	0.166	(0.379)	0.143	0.023
178	14.83	0.83	0.160	(0.377)	0.138	0.022
179	14.92	0.83	0.160	(0.375)	0.138	0.022
180	15.00	0.83	0.160	(0.373)	0.138	0.022
181	15.08	0.80	0.154	(0.371)	0.132	0.022
182	15.17	0.80	0.154	(0.370)	0.132	0.022
183	15.25	0.80	0.154	(0.368)	0.132	0.022
184	15.33	0.77	0.147	(0.366)	0.127	0.021
185	15.42	0.77	0.147	(0.364)	0.127	0.021
186	15.50	0.77	0.147	(0.362)	0.127	0.021
187	15.58	0.63	0.122	(0.360)	0.105	0.017
188	15.67	0.63	0.122	(0.358)	0.105	0.017
189	15.75	0.63	0.122	(0.357)	0.105	0.017
190	15.83	0.63	0.122	(0.355)	0.105	0.017
191	15.92	0.63	0.122	(0.353)	0.105	0.017
192	16.00	0.63	0.122	(0.351)	0.105	0.017
193	16.08	0.13	0.026	(0.349)	0.022	0.004
194	16.17	0.13	0.026	(0.347)	0.022	0.004
195	16.25	0.13	0.026	(0.346)	0.022	0.004
196	16.33	0.13	0.026	(0.344)	0.022	0.004
197	16.42	0.13	0.026	(0.342)	0.022	0.004
198	16.50	0.13	0.026	(0.340)	0.022	0.004
199	16.58	0.10	0.019	(0.339)	0.017	0.003
200	16.67	0.10	0.019	(0.337)	0.017	0.003
201	16.75	0.10	0.019	(0.335)	0.017	0.003

202	16.83	0.10	0.019	(0.334)	0.017	0.003
203	16.92	0.10	0.019	(0.332)	0.017	0.003
204	17.00	0.10	0.019	(0.330)	0.017	0.003
205	17.08	0.17	0.032	(0.329)	0.028	0.004
206	17.17	0.17	0.032	(0.327)	0.028	0.004
207	17.25	0.17	0.032	(0.325)	0.028	0.004
208	17.33	0.17	0.032	(0.324)	0.028	0.004
209	17.42	0.17	0.032	(0.322)	0.028	0.004
210	17.50	0.17	0.032	(0.320)	0.028	0.004
211	17.58	0.17	0.032	(0.319)	0.028	0.004
212	17.67	0.17	0.032	(0.317)	0.028	0.004
213	17.75	0.17	0.032	(0.316)	0.028	0.004
214	17.83	0.13	0.026	(0.314)	0.022	0.004
215	17.92	0.13	0.026	(0.313)	0.022	0.004
216	18.00	0.13	0.026	(0.311)	0.022	0.004
217	18.08	0.13	0.026	(0.309)	0.022	0.004
218	18.17	0.13	0.026	(0.308)	0.022	0.004
219	18.25	0.13	0.026	(0.306)	0.022	0.004
220	18.33	0.13	0.026	(0.305)	0.022	0.004
221	18.42	0.13	0.026	(0.303)	0.022	0.004
222	18.50	0.13	0.026	(0.302)	0.022	0.004
223	18.58	0.10	0.019	(0.300)	0.017	0.003
224	18.67	0.10	0.019	(0.299)	0.017	0.003
225	18.75	0.10	0.019	(0.298)	0.017	0.003
226	18.83	0.07	0.013	(0.296)	0.011	0.002
227	18.92	0.07	0.013	(0.295)	0.011	0.002
228	19.00	0.07	0.013	(0.293)	0.011	0.002
229	19.08	0.10	0.019	(0.292)	0.017	0.003
230	19.17	0.10	0.019	(0.291)	0.017	0.003
231	19.25	0.10	0.019	(0.289)	0.017	0.003
232	19.33	0.13	0.026	(0.288)	0.022	0.004
233	19.42	0.13	0.026	(0.287)	0.022	0.004
234	19.50	0.13	0.026	(0.285)	0.022	0.004
235	19.58	0.10	0.019	(0.284)	0.017	0.003
236	19.67	0.10	0.019	(0.283)	0.017	0.003
237	19.75	0.10	0.019	(0.281)	0.017	0.003
238	19.83	0.07	0.013	(0.280)	0.011	0.002
239	19.92	0.07	0.013	(0.279)	0.011	0.002
240	20.00	0.07	0.013	(0.278)	0.011	0.002
241	20.08	0.10	0.019	(0.276)	0.017	0.003
242	20.17	0.10	0.019	(0.275)	0.017	0.003
243	20.25	0.10	0.019	(0.274)	0.017	0.003
244	20.33	0.10	0.019	(0.273)	0.017	0.003
245	20.42	0.10	0.019	(0.272)	0.017	0.003
246	20.50	0.10	0.019	(0.270)	0.017	0.003
247	20.58	0.10	0.019	(0.269)	0.017	0.003
248	20.67	0.10	0.019	(0.268)	0.017	0.003
249	20.75	0.10	0.019	(0.267)	0.017	0.003
250	20.83	0.07	0.013	(0.266)	0.011	0.002
251	20.92	0.07	0.013	(0.265)	0.011	0.002
252	21.00	0.07	0.013	(0.264)	0.011	0.002
253	21.08	0.10	0.019	(0.263)	0.017	0.003
254	21.17	0.10	0.019	(0.262)	0.017	0.003
255	21.25	0.10	0.019	(0.261)	0.017	0.003
256	21.33	0.07	0.013	(0.260)	0.011	0.002
257	21.42	0.07	0.013	(0.259)	0.011	0.002
258	21.50	0.07	0.013	(0.258)	0.011	0.002
259	21.58	0.10	0.019	(0.257)	0.017	0.003
260	21.67	0.10	0.019	(0.256)	0.017	0.003
261	21.75	0.10	0.019	(0.255)	0.017	0.003
262	21.83	0.07	0.013	(0.254)	0.011	0.002
263	21.92	0.07	0.013	(0.253)	0.011	0.002
264	22.00	0.07	0.013	(0.252)	0.011	0.002

265	22.08	0.10	0.019	(0.252)	0.017	0.003
266	22.17	0.10	0.019	(0.251)	0.017	0.003
267	22.25	0.10	0.019	(0.250)	0.017	0.003
268	22.33	0.07	0.013	(0.249)	0.011	0.002
269	22.42	0.07	0.013	(0.248)	0.011	0.002
270	22.50	0.07	0.013	(0.248)	0.011	0.002
271	22.58	0.07	0.013	(0.247)	0.011	0.002
272	22.67	0.07	0.013	(0.246)	0.011	0.002
273	22.75	0.07	0.013	(0.246)	0.011	0.002
274	22.83	0.07	0.013	(0.245)	0.011	0.002
275	22.92	0.07	0.013	(0.244)	0.011	0.002
276	23.00	0.07	0.013	(0.244)	0.011	0.002
277	23.08	0.07	0.013	(0.243)	0.011	0.002
278	23.17	0.07	0.013	(0.243)	0.011	0.002
279	23.25	0.07	0.013	(0.242)	0.011	0.002
280	23.33	0.07	0.013	(0.242)	0.011	0.002
281	23.42	0.07	0.013	(0.241)	0.011	0.002
282	23.50	0.07	0.013	(0.241)	0.011	0.002
283	23.58	0.07	0.013	(0.240)	0.011	0.002
284	23.67	0.07	0.013	(0.240)	0.011	0.002
285	23.75	0.07	0.013	(0.240)	0.011	0.002
286	23.83	0.07	0.013	(0.239)	0.011	0.002
287	23.92	0.07	0.013	(0.239)	0.011	0.002
288	24.00	0.07	0.013	(0.239)	0.011	0.002

(Loss Rate Not Used)

Sum = 100.0 Sum = 2.7

Flood volume = Effective rainfall 0.22(In)
times area 54.1(Ac.)/[(In)/(Ft.)] = 1.0(Ac.Ft)
Total soil loss = 1.38(In)
Total soil loss = 6.203(Ac.Ft)
Total rainfall = 1.60(In)
Flood volume = 43985.1 Cubic Feet
Total soil loss = 270194.5 Cubic Feet

Peak flow rate of this hydrograph = 1.637(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	0.0004	0.05	Q	|	|	|	|
0+15	0.0009	0.07	Q	|	|	|	|
0+20	0.0014	0.08	Q	|	|	|	|
0+25	0.0022	0.11	Q	|	|	|	|
0+30	0.0030	0.12	Q	|	|	|	|
0+35	0.0039	0.13	Q	|	|	|	|
0+40	0.0049	0.14	Q	|	|	|	|
0+45	0.0058	0.14	Q	|	|	|	|
0+50	0.0068	0.15	Q	|	|	|	|
0+55	0.0080	0.17	Q	|	|	|	|
1+ 0	0.0092	0.18	Q	|	|	|	|
1+ 5	0.0105	0.18	Q	|	|	|	|
1+10	0.0116	0.17	Q	|	|	|	|
1+15	0.0127	0.16	Q	|	|	|	|
1+20	0.0137	0.15	Q	|	|	|	|
1+25	0.0148	0.15	Q	|	|	|	|
1+30	0.0158	0.15	Q	|	|	|	|

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1+35      0.0168      0.15  Q         |         |         |         |
1+40      0.0178      0.15  Q         |         |         |         |
1+45      0.0189      0.15  Q         |         |         |         |
1+50      0.0199      0.15  Q         |         |         |         |
1+55      0.0211      0.17  Q         |         |         |         |
2+ 0      0.0223      0.18  Q         |         |         |         |
2+ 5      0.0236      0.19  Q         |         |         |         |
2+10      0.0249      0.19  Q         |         |         |         |
2+15      0.0262      0.19  QV        |         |         |         |
2+20      0.0275      0.19  QV        |         |         |         |
2+25      0.0289      0.19  QV        |         |         |         |
2+30      0.0302      0.19  QV        |         |         |         |
2+35      0.0316      0.20  QV        |         |         |         |
2+40      0.0331      0.22  QV        |         |         |         |
2+45      0.0347      0.23  QV        |         |         |         |
2+50      0.0363      0.24  QV        |         |         |         |
2+55      0.0379      0.24  QV        |         |         |         |
3+ 0      0.0396      0.24  QV        |         |         |         |
3+ 5      0.0412      0.24  QV        |         |         |         |
3+10      0.0429      0.24  QV        |         |         |         |
3+15      0.0446      0.24  QV        |         |         |         |
3+20      0.0463      0.24  QV        |         |         |         |
3+25      0.0479      0.24  QV        |         |         |         |
3+30      0.0496      0.24  QV        |         |         |         |
3+35      0.0513      0.24  Q V       |         |         |         |
3+40      0.0530      0.24  Q V       |         |         |         |
3+45      0.0547      0.24  Q V       |         |         |         |
3+50      0.0564      0.25  Q V       |         |         |         |
3+55      0.0582      0.27  |QV       |         |         |         |
4+ 0      0.0601      0.28  |QV       |         |         |         |
4+ 5      0.0621      0.28  |QV       |         |         |         |
4+10      0.0641      0.29  |QV       |         |         |         |
4+15      0.0661      0.29  |QV       |         |         |         |
4+20      0.0681      0.29  |QV       |         |         |         |
4+25      0.0703      0.31  |QV       |         |         |         |
4+30      0.0725      0.33  |QV       |         |         |         |
4+35      0.0748      0.33  |QV       |         |         |         |
4+40      0.0771      0.34  |Q V      |         |         |         |
4+45      0.0794      0.34  |Q V      |         |         |         |
4+50      0.0818      0.34  |Q V      |         |         |         |
4+55      0.0843      0.36  |Q V      |         |         |         |
5+ 0      0.0869      0.38  |Q V      |         |         |         |
5+ 5      0.0894      0.37  |Q V      |         |         |         |
5+10      0.0918      0.34  |Q V      |         |         |         |
5+15      0.0939      0.32  |Q V      |         |         |         |
5+20      0.0961      0.31  |Q V      |         |         |         |
5+25      0.0983      0.33  |Q V      |         |         |         |
5+30      0.1007      0.34  |Q V      |         |         |         |
5+35      0.1030      0.34  |Q  V     |         |         |         |
5+40      0.1055      0.36  |Q  V     |         |         |         |
5+45      0.1081      0.38  |Q  V     |         |         |         |
5+50      0.1107      0.38  |Q  V     |         |         |         |
5+55      0.1134      0.38  |Q  V     |         |         |         |
6+ 0      0.1160      0.39  |Q  V     |         |         |         |
6+ 5      0.1187      0.39  |Q  V     |         |         |         |
6+10      0.1215      0.41  |Q  V     |         |         |         |
6+15      0.1245      0.42  |Q  V     |         |         |         |
6+20      0.1274      0.43  |Q   V    |         |         |         |
6+25      0.1304      0.43  |Q   V    |         |         |         |
6+30      0.1334      0.44  |Q   V    |         |         |         |
6+35      0.1364      0.44  |Q   V    |         |         |         |
6+40      0.1396      0.46  |Q   V    |         |         |         |
6+45      0.1429      0.47  |Q   V    |         |         |         |
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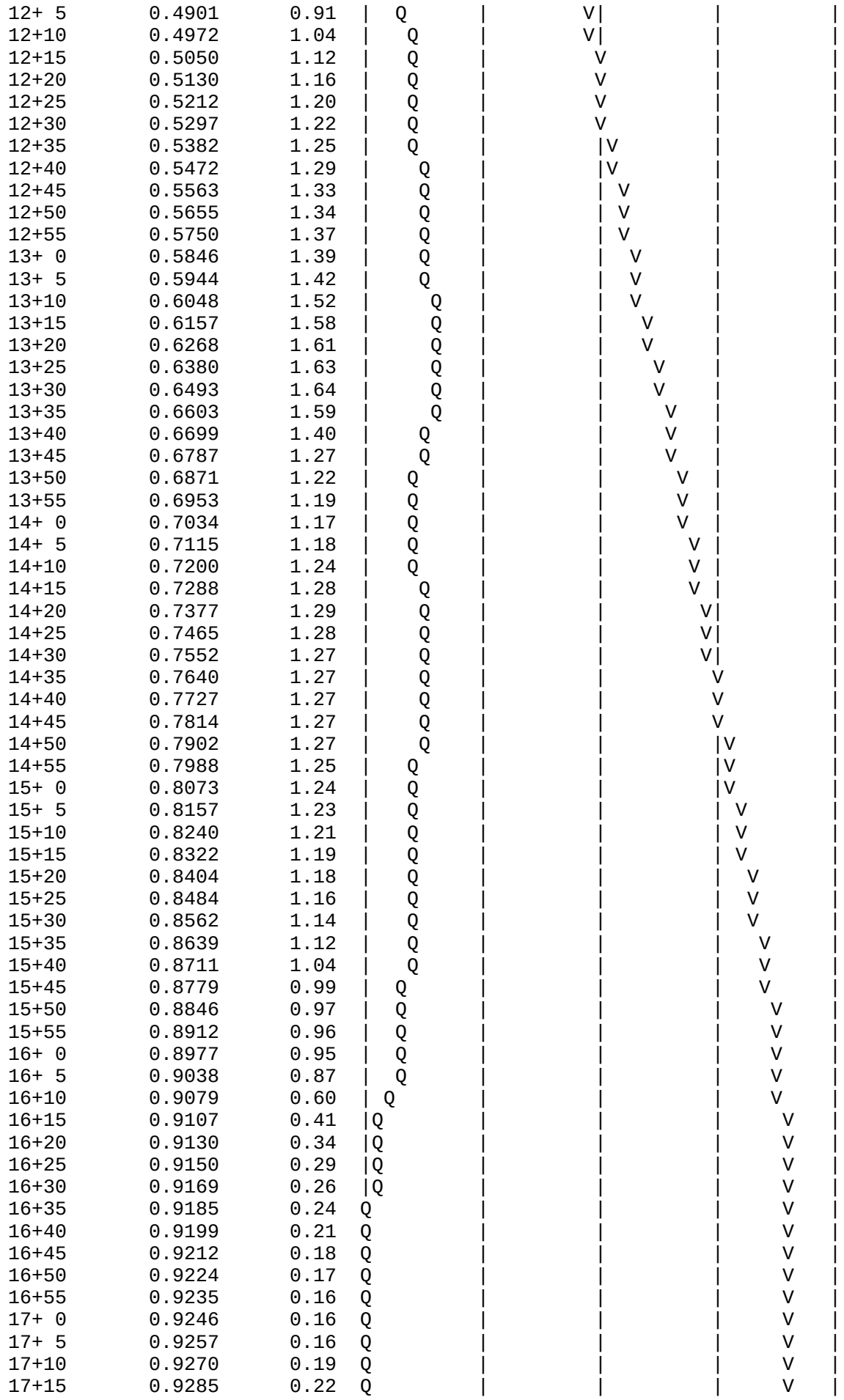
6+50	0.1462	0.48	Q V				
6+55	0.1495	0.48	Q V				
7+ 0	0.1528	0.48	Q V				
7+ 5	0.1562	0.49	Q V				
7+10	0.1595	0.49	Q V				
7+15	0.1629	0.49	Q V				
7+20	0.1662	0.49	Q V				
7+25	0.1698	0.51	Q V				
7+30	0.1734	0.52	Q V				
7+35	0.1770	0.53	Q V				
7+40	0.1809	0.55	Q V				
7+45	0.1848	0.57	Q V				
7+50	0.1888	0.58	Q V				
7+55	0.1929	0.60	Q V				
8+ 0	0.1971	0.62	Q V				
8+ 5	0.2015	0.63	Q V				
8+10	0.2061	0.67	Q V				
8+15	0.2109	0.70	Q V				
8+20	0.2158	0.71	Q V				
8+25	0.2207	0.72	Q V				
8+30	0.2257	0.72	Q V				
8+35	0.2307	0.73	Q V				
8+40	0.2359	0.75	Q V				
8+45	0.2412	0.76	Q V				
8+50	0.2465	0.78	Q V				
8+55	0.2520	0.80	Q V				
9+ 0	0.2576	0.81	Q V				
9+ 5	0.2633	0.83	Q V				
9+10	0.2693	0.87	Q V				
9+15	0.2754	0.89	Q V				
9+20	0.2817	0.91	Q V				
9+25	0.2882	0.94	Q V				
9+30	0.2947	0.95	Q V				
9+35	0.3014	0.97	Q V				
9+40	0.3082	0.99	Q V				
9+45	0.3151	1.00	Q V				
9+50	0.3221	1.02	Q V				
9+55	0.3293	1.04	Q V				
10+ 0	0.3365	1.05	Q V				
10+ 5	0.3436	1.03	Q V				
10+10	0.3499	0.91	Q V				
10+15	0.3555	0.82	Q V				
10+20	0.3610	0.79	Q V				
10+25	0.3663	0.78	Q V				
10+30	0.3716	0.76	Q V				
10+35	0.3769	0.78	Q V				
10+40	0.3829	0.86	Q V				
10+45	0.3892	0.92	Q V				
10+50	0.3957	0.94	Q V				
10+55	0.4022	0.95	Q V				
11+ 0	0.4088	0.96	Q V				
11+ 5	0.4154	0.96	Q V				
11+10	0.4219	0.94	Q V				
11+15	0.4283	0.93	Q V				
11+20	0.4347	0.93	Q V				
11+25	0.4412	0.93	Q V				
11+30	0.4476	0.93	Q V				
11+35	0.4539	0.92	Q V				
11+40	0.4600	0.89	Q V				
11+45	0.4660	0.86	Q V				
11+50	0.4718	0.85	Q V				
11+55	0.4778	0.87	Q V				
12+ 0	0.4838	0.88	Q V				



17+20	0.9301	0.23	Q	|	|	|	V |
17+25	0.9317	0.23	Q	|	|	|	V |
17+30	0.9333	0.24	Q	|	|	|	V |
17+35	0.9349	0.24	Q	|	|	|	V |
17+40	0.9366	0.24	Q	|	|	|	V |
17+45	0.9382	0.24	Q	|	|	|	V |
17+50	0.9399	0.24	Q	|	|	|	V |
17+55	0.9414	0.22	Q	|	|	|	V |
18+ 0	0.9428	0.21	Q	|	|	|	V |
18+ 5	0.9442	0.20	Q	|	|	|	V |
18+10	0.9456	0.20	Q	|	|	|	V |
18+15	0.9470	0.20	Q	|	|	|	V |
18+20	0.9484	0.20	Q	|	|	|	V |
18+25	0.9497	0.20	Q	|	|	|	V |
18+30	0.9511	0.20	Q	|	|	|	V |
18+35	0.9524	0.19	Q	|	|	|	V |
18+40	0.9536	0.17	Q	|	|	|	V |
18+45	0.9547	0.16	Q	|	|	|	V |
18+50	0.9558	0.15	Q	|	|	|	V |
18+55	0.9567	0.13	Q	|	|	|	V |
19+ 0	0.9575	0.12	Q	|	|	|	V |
19+ 5	0.9582	0.11	Q	|	|	|	V |
19+10	0.9591	0.13	Q	|	|	|	V |
19+15	0.9601	0.14	Q	|	|	|	V |
19+20	0.9611	0.15	Q	|	|	|	V |
19+25	0.9622	0.17	Q	|	|	|	V |
19+30	0.9635	0.18	Q	|	|	|	V |
19+35	0.9647	0.18	Q	|	|	|	V |
19+40	0.9658	0.16	Q	|	|	|	V |
19+45	0.9669	0.15	Q	|	|	|	V |
19+50	0.9679	0.15	Q	|	|	|	V |
19+55	0.9688	0.13	Q	|	|	|	V |
20+ 0	0.9696	0.11	Q	|	|	|	V |
20+ 5	0.9704	0.11	Q	|	|	|	V |
20+10	0.9713	0.13	Q	|	|	|	V |
20+15	0.9722	0.14	Q	|	|	|	V |
20+20	0.9732	0.14	Q	|	|	|	V |
20+25	0.9742	0.14	Q	|	|	|	V |
20+30	0.9752	0.14	Q	|	|	|	V |
20+35	0.9761	0.14	Q	|	|	|	V |
20+40	0.9771	0.14	Q	|	|	|	V |
20+45	0.9781	0.15	Q	|	|	|	V |
20+50	0.9791	0.14	Q	|	|	|	V |
20+55	0.9800	0.12	Q	|	|	|	V |
21+ 0	0.9807	0.11	Q	|	|	|	V |
21+ 5	0.9815	0.11	Q	|	|	|	V |
21+10	0.9824	0.13	Q	|	|	|	V |
21+15	0.9833	0.14	Q	|	|	|	V |
21+20	0.9843	0.14	Q	|	|	|	V |
21+25	0.9851	0.12	Q	|	|	|	V|
21+30	0.9858	0.11	Q	|	|	|	V|
21+35	0.9866	0.11	Q	|	|	|	V|
21+40	0.9874	0.13	Q	|	|	|	V|
21+45	0.9884	0.14	Q	|	|	|	V|
21+50	0.9893	0.14	Q	|	|	|	V|
21+55	0.9901	0.12	Q	|	|	|	V|
22+ 0	0.9909	0.11	Q	|	|	|	V|
22+ 5	0.9916	0.11	Q	|	|	|	V|
22+10	0.9925	0.13	Q	|	|	|	V|
22+15	0.9934	0.14	Q	|	|	|	V|
22+20	0.9944	0.14	Q	|	|	|	V|
22+25	0.9952	0.12	Q	|	|	|	V|
22+30	0.9959	0.11	Q	|	|	|	V|

22+35	0.9967	0.10	Q	|	|	|	V|
22+40	0.9974	0.10	Q	|	|	|	V|
22+45	0.9981	0.10	Q	|	|	|	V|
22+50	0.9987	0.10	Q	|	|	|	V|
22+55	0.9994	0.10	Q	|	|	|	V|
23+ 0	1.0001	0.10	Q	|	|	|	V|
23+ 5	1.0008	0.10	Q	|	|	|	V|
23+10	1.0015	0.10	Q	|	|	|	V|
23+15	1.0021	0.10	Q	|	|	|	V|
23+20	1.0028	0.10	Q	|	|	|	V|
23+25	1.0035	0.10	Q	|	|	|	V|
23+30	1.0042	0.10	Q	|	|	|	V|
23+35	1.0048	0.10	Q	|	|	|	V|
23+40	1.0055	0.10	Q	|	|	|	V|
23+45	1.0062	0.10	Q	|	|	|	V|
23+50	1.0069	0.10	Q	|	|	|	V|
23+55	1.0075	0.10	Q	|	|	|	V|
24+ 0	1.0082	0.10	Q	|	|	|	V|
24+ 5	1.0088	0.09	Q	|	|	|	V|
24+10	1.0092	0.05	Q	|	|	|	V|
24+15	1.0094	0.03	Q	|	|	|	V|
24+20	1.0095	0.02	Q	|	|	|	V|
24+25	1.0096	0.01	Q	|	|	|	V|
24+30	1.0096	0.01	Q	|	|	|	V|
24+35	1.0097	0.01	Q	|	|	|	V|
24+40	1.0097	0.00	Q	|	|	|	V|
24+45	1.0097	0.00	Q	|	|	|	V|
24+50	1.0097	0.00	Q	|	|	|	V|
24+55	1.0098	0.00	Q	|	|	|	V|
25+ 0	1.0098	0.00	Q	|	|	|	V

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

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Study date 08/27/20 File: 522EX2SAE242.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

20-522 D-1 DEVELOPMENT
EXISTING CONDITION
SUBAREA E
2-YEAR 24-HOUR STORM

Drainage Area = 21.40(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.40(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1646.00(Ft.)
Length along longest watercourse measured to centroid = 680.00(Ft.)
Length along longest watercourse = 0.312 Mi.
Length along longest watercourse measured to centroid = 0.129 Mi.
Difference in elevation = 4.00(Ft.)
Slope along watercourse = 12.8311 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.131 Hr.
Lag time = 7.84 Min.
25% of lag time = 1.96 Min.
40% of lag time = 3.14 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.40	1.60	34.24

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.40	4.00	85.60

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 1.600(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.600(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
21.400	75.00	0.148

Total Area Entered = 21.40(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	0.148	0.434	1.000	0.434
					Sum (F) =	0.434

Area averaged mean soil loss (F) (In/Hr) = 0.434
Minimum soil loss rate ((In/Hr)) = 0.217
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.782

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	63.777	9.093	1.961
2	0.167	127.553	36.507	7.874
3	0.250	191.330	25.295	5.455
4	0.333	255.106	9.730	2.098
5	0.417	318.883	5.855	1.263
6	0.500	382.660	3.932	0.848
7	0.583	446.436	2.725	0.588
8	0.667	510.213	2.006	0.433
9	0.750	573.990	1.565	0.338
10	0.833	637.766	1.153	0.249
11	0.917	701.543	0.831	0.179
12	1.000	765.319	0.642	0.139
13	1.083	829.096	0.666	0.144
		Sum = 100.000	Sum=	21.567

The following loss 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	(0.769)	0.010	0.003
2	0.17	0.07	0.013	(0.766)	0.010	0.003
3	0.25	0.07	0.013	(0.763)	0.010	0.003
4	0.33	0.10	0.019	(0.760)	0.015	0.004
5	0.42	0.10	0.019	(0.757)	0.015	0.004
6	0.50	0.10	0.019	(0.754)	0.015	0.004
7	0.58	0.10	0.019	(0.751)	0.015	0.004
8	0.67	0.10	0.019	(0.749)	0.015	0.004
9	0.75	0.10	0.019	(0.746)	0.015	0.004
10	0.83	0.13	0.026	(0.743)	0.020	0.006
11	0.92	0.13	0.026	(0.740)	0.020	0.006
12	1.00	0.13	0.026	(0.737)	0.020	0.006

13	1.08	0.10	0.019	(0.734)	0.015	0.004
14	1.17	0.10	0.019	(0.731)	0.015	0.004
15	1.25	0.10	0.019	(0.728)	0.015	0.004
16	1.33	0.10	0.019	(0.725)	0.015	0.004
17	1.42	0.10	0.019	(0.722)	0.015	0.004
18	1.50	0.10	0.019	(0.719)	0.015	0.004
19	1.58	0.10	0.019	(0.717)	0.015	0.004
20	1.67	0.10	0.019	(0.714)	0.015	0.004
21	1.75	0.10	0.019	(0.711)	0.015	0.004
22	1.83	0.13	0.026	(0.708)	0.020	0.006
23	1.92	0.13	0.026	(0.705)	0.020	0.006
24	2.00	0.13	0.026	(0.702)	0.020	0.006
25	2.08	0.13	0.026	(0.699)	0.020	0.006
26	2.17	0.13	0.026	(0.697)	0.020	0.006
27	2.25	0.13	0.026	(0.694)	0.020	0.006
28	2.33	0.13	0.026	(0.691)	0.020	0.006
29	2.42	0.13	0.026	(0.688)	0.020	0.006
30	2.50	0.13	0.026	(0.685)	0.020	0.006
31	2.58	0.17	0.032	(0.683)	0.025	0.007
32	2.67	0.17	0.032	(0.680)	0.025	0.007
33	2.75	0.17	0.032	(0.677)	0.025	0.007
34	2.83	0.17	0.032	(0.674)	0.025	0.007
35	2.92	0.17	0.032	(0.671)	0.025	0.007
36	3.00	0.17	0.032	(0.669)	0.025	0.007
37	3.08	0.17	0.032	(0.666)	0.025	0.007
38	3.17	0.17	0.032	(0.663)	0.025	0.007
39	3.25	0.17	0.032	(0.660)	0.025	0.007
40	3.33	0.17	0.032	(0.658)	0.025	0.007
41	3.42	0.17	0.032	(0.655)	0.025	0.007
42	3.50	0.17	0.032	(0.652)	0.025	0.007
43	3.58	0.17	0.032	(0.649)	0.025	0.007
44	3.67	0.17	0.032	(0.647)	0.025	0.007
45	3.75	0.17	0.032	(0.644)	0.025	0.007
46	3.83	0.20	0.038	(0.641)	0.030	0.008
47	3.92	0.20	0.038	(0.638)	0.030	0.008
48	4.00	0.20	0.038	(0.636)	0.030	0.008
49	4.08	0.20	0.038	(0.633)	0.030	0.008
50	4.17	0.20	0.038	(0.630)	0.030	0.008
51	4.25	0.20	0.038	(0.628)	0.030	0.008
52	4.33	0.23	0.045	(0.625)	0.035	0.010
53	4.42	0.23	0.045	(0.622)	0.035	0.010
54	4.50	0.23	0.045	(0.620)	0.035	0.010
55	4.58	0.23	0.045	(0.617)	0.035	0.010
56	4.67	0.23	0.045	(0.614)	0.035	0.010
57	4.75	0.23	0.045	(0.612)	0.035	0.010
58	4.83	0.27	0.051	(0.609)	0.040	0.011
59	4.92	0.27	0.051	(0.606)	0.040	0.011
60	5.00	0.27	0.051	(0.604)	0.040	0.011
61	5.08	0.20	0.038	(0.601)	0.030	0.008
62	5.17	0.20	0.038	(0.599)	0.030	0.008
63	5.25	0.20	0.038	(0.596)	0.030	0.008
64	5.33	0.23	0.045	(0.593)	0.035	0.010
65	5.42	0.23	0.045	(0.591)	0.035	0.010
66	5.50	0.23	0.045	(0.588)	0.035	0.010
67	5.58	0.27	0.051	(0.586)	0.040	0.011
68	5.67	0.27	0.051	(0.583)	0.040	0.011
69	5.75	0.27	0.051	(0.580)	0.040	0.011
70	5.83	0.27	0.051	(0.578)	0.040	0.011
71	5.92	0.27	0.051	(0.575)	0.040	0.011
72	6.00	0.27	0.051	(0.573)	0.040	0.011
73	6.08	0.30	0.058	(0.570)	0.045	0.013
74	6.17	0.30	0.058	(0.568)	0.045	0.013
75	6.25	0.30	0.058	(0.565)	0.045	0.013

76	6.33	0.30	0.058	(0.563)	0.045	0.013
77	6.42	0.30	0.058	(0.560)	0.045	0.013
78	6.50	0.30	0.058	(0.558)	0.045	0.013
79	6.58	0.33	0.064	(0.555)	0.050	0.014
80	6.67	0.33	0.064	(0.553)	0.050	0.014
81	6.75	0.33	0.064	(0.550)	0.050	0.014
82	6.83	0.33	0.064	(0.548)	0.050	0.014
83	6.92	0.33	0.064	(0.545)	0.050	0.014
84	7.00	0.33	0.064	(0.543)	0.050	0.014
85	7.08	0.33	0.064	(0.540)	0.050	0.014
86	7.17	0.33	0.064	(0.538)	0.050	0.014
87	7.25	0.33	0.064	(0.535)	0.050	0.014
88	7.33	0.37	0.070	(0.533)	0.055	0.015
89	7.42	0.37	0.070	(0.530)	0.055	0.015
90	7.50	0.37	0.070	(0.528)	0.055	0.015
91	7.58	0.40	0.077	(0.526)	0.060	0.017
92	7.67	0.40	0.077	(0.523)	0.060	0.017
93	7.75	0.40	0.077	(0.521)	0.060	0.017
94	7.83	0.43	0.083	(0.518)	0.065	0.018
95	7.92	0.43	0.083	(0.516)	0.065	0.018
96	8.00	0.43	0.083	(0.514)	0.065	0.018
97	8.08	0.50	0.096	(0.511)	0.075	0.021
98	8.17	0.50	0.096	(0.509)	0.075	0.021
99	8.25	0.50	0.096	(0.506)	0.075	0.021
100	8.33	0.50	0.096	(0.504)	0.075	0.021
101	8.42	0.50	0.096	(0.502)	0.075	0.021
102	8.50	0.50	0.096	(0.499)	0.075	0.021
103	8.58	0.53	0.102	(0.497)	0.080	0.022
104	8.67	0.53	0.102	(0.495)	0.080	0.022
105	8.75	0.53	0.102	(0.492)	0.080	0.022
106	8.83	0.57	0.109	(0.490)	0.085	0.024
107	8.92	0.57	0.109	(0.488)	0.085	0.024
108	9.00	0.57	0.109	(0.485)	0.085	0.024
109	9.08	0.63	0.122	(0.483)	0.095	0.027
110	9.17	0.63	0.122	(0.481)	0.095	0.027
111	9.25	0.63	0.122	(0.478)	0.095	0.027
112	9.33	0.67	0.128	(0.476)	0.100	0.028
113	9.42	0.67	0.128	(0.474)	0.100	0.028
114	9.50	0.67	0.128	(0.472)	0.100	0.028
115	9.58	0.70	0.134	(0.469)	0.105	0.029
116	9.67	0.70	0.134	(0.467)	0.105	0.029
117	9.75	0.70	0.134	(0.465)	0.105	0.029
118	9.83	0.73	0.141	(0.463)	0.110	0.031
119	9.92	0.73	0.141	(0.460)	0.110	0.031
120	10.00	0.73	0.141	(0.458)	0.110	0.031
121	10.08	0.50	0.096	(0.456)	0.075	0.021
122	10.17	0.50	0.096	(0.454)	0.075	0.021
123	10.25	0.50	0.096	(0.452)	0.075	0.021
124	10.33	0.50	0.096	(0.449)	0.075	0.021
125	10.42	0.50	0.096	(0.447)	0.075	0.021
126	10.50	0.50	0.096	(0.445)	0.075	0.021
127	10.58	0.67	0.128	(0.443)	0.100	0.028
128	10.67	0.67	0.128	(0.441)	0.100	0.028
129	10.75	0.67	0.128	(0.439)	0.100	0.028
130	10.83	0.67	0.128	(0.436)	0.100	0.028
131	10.92	0.67	0.128	(0.434)	0.100	0.028
132	11.00	0.67	0.128	(0.432)	0.100	0.028
133	11.08	0.63	0.122	(0.430)	0.095	0.027
134	11.17	0.63	0.122	(0.428)	0.095	0.027
135	11.25	0.63	0.122	(0.426)	0.095	0.027
136	11.33	0.63	0.122	(0.424)	0.095	0.027
137	11.42	0.63	0.122	(0.422)	0.095	0.027
138	11.50	0.63	0.122	(0.419)	0.095	0.027

139	11.58	0.57	0.109	(0.417)	0.085	0.024
140	11.67	0.57	0.109	(0.415)	0.085	0.024
141	11.75	0.57	0.109	(0.413)	0.085	0.024
142	11.83	0.60	0.115	(0.411)	0.090	0.025
143	11.92	0.60	0.115	(0.409)	0.090	0.025
144	12.00	0.60	0.115	(0.407)	0.090	0.025
145	12.08	0.83	0.160	(0.405)	0.125	0.035
146	12.17	0.83	0.160	(0.403)	0.125	0.035
147	12.25	0.83	0.160	(0.401)	0.125	0.035
148	12.33	0.87	0.166	(0.399)	0.130	0.036
149	12.42	0.87	0.166	(0.397)	0.130	0.036
150	12.50	0.87	0.166	(0.395)	0.130	0.036
151	12.58	0.93	0.179	(0.393)	0.140	0.039
152	12.67	0.93	0.179	(0.391)	0.140	0.039
153	12.75	0.93	0.179	(0.389)	0.140	0.039
154	12.83	0.97	0.186	(0.387)	0.145	0.041
155	12.92	0.97	0.186	(0.385)	0.145	0.041
156	13.00	0.97	0.186	(0.383)	0.145	0.041
157	13.08	1.13	0.218	(0.381)	0.170	0.048
158	13.17	1.13	0.218	(0.379)	0.170	0.048
159	13.25	1.13	0.218	(0.377)	0.170	0.048
160	13.33	1.13	0.218	(0.375)	0.170	0.048
161	13.42	1.13	0.218	(0.374)	0.170	0.048
162	13.50	1.13	0.218	(0.372)	0.170	0.048
163	13.58	0.77	0.147	(0.370)	0.115	0.032
164	13.67	0.77	0.147	(0.368)	0.115	0.032
165	13.75	0.77	0.147	(0.366)	0.115	0.032
166	13.83	0.77	0.147	(0.364)	0.115	0.032
167	13.92	0.77	0.147	(0.362)	0.115	0.032
168	14.00	0.77	0.147	(0.360)	0.115	0.032
169	14.08	0.90	0.173	(0.359)	0.135	0.038
170	14.17	0.90	0.173	(0.357)	0.135	0.038
171	14.25	0.90	0.173	(0.355)	0.135	0.038
172	14.33	0.87	0.166	(0.353)	0.130	0.036
173	14.42	0.87	0.166	(0.351)	0.130	0.036
174	14.50	0.87	0.166	(0.350)	0.130	0.036
175	14.58	0.87	0.166	(0.348)	0.130	0.036
176	14.67	0.87	0.166	(0.346)	0.130	0.036
177	14.75	0.87	0.166	(0.344)	0.130	0.036
178	14.83	0.83	0.160	(0.342)	0.125	0.035
179	14.92	0.83	0.160	(0.341)	0.125	0.035
180	15.00	0.83	0.160	(0.339)	0.125	0.035
181	15.08	0.80	0.154	(0.337)	0.120	0.034
182	15.17	0.80	0.154	(0.335)	0.120	0.034
183	15.25	0.80	0.154	(0.334)	0.120	0.034
184	15.33	0.77	0.147	(0.332)	0.115	0.032
185	15.42	0.77	0.147	(0.330)	0.115	0.032
186	15.50	0.77	0.147	(0.329)	0.115	0.032
187	15.58	0.63	0.122	(0.327)	0.095	0.027
188	15.67	0.63	0.122	(0.325)	0.095	0.027
189	15.75	0.63	0.122	(0.324)	0.095	0.027
190	15.83	0.63	0.122	(0.322)	0.095	0.027
191	15.92	0.63	0.122	(0.320)	0.095	0.027
192	16.00	0.63	0.122	(0.319)	0.095	0.027
193	16.08	0.13	0.026	(0.317)	0.020	0.006
194	16.17	0.13	0.026	(0.315)	0.020	0.006
195	16.25	0.13	0.026	(0.314)	0.020	0.006
196	16.33	0.13	0.026	(0.312)	0.020	0.006
197	16.42	0.13	0.026	(0.311)	0.020	0.006
198	16.50	0.13	0.026	(0.309)	0.020	0.006
199	16.58	0.10	0.019	(0.307)	0.015	0.004
200	16.67	0.10	0.019	(0.306)	0.015	0.004
201	16.75	0.10	0.019	(0.304)	0.015	0.004

202	16.83	0.10	0.019	(0.303)	0.015	0.004
203	16.92	0.10	0.019	(0.301)	0.015	0.004
204	17.00	0.10	0.019	(0.300)	0.015	0.004
205	17.08	0.17	0.032	(0.298)	0.025	0.007
206	17.17	0.17	0.032	(0.297)	0.025	0.007
207	17.25	0.17	0.032	(0.295)	0.025	0.007
208	17.33	0.17	0.032	(0.294)	0.025	0.007
209	17.42	0.17	0.032	(0.292)	0.025	0.007
210	17.50	0.17	0.032	(0.291)	0.025	0.007
211	17.58	0.17	0.032	(0.289)	0.025	0.007
212	17.67	0.17	0.032	(0.288)	0.025	0.007
213	17.75	0.17	0.032	(0.286)	0.025	0.007
214	17.83	0.13	0.026	(0.285)	0.020	0.006
215	17.92	0.13	0.026	(0.284)	0.020	0.006
216	18.00	0.13	0.026	(0.282)	0.020	0.006
217	18.08	0.13	0.026	(0.281)	0.020	0.006
218	18.17	0.13	0.026	(0.279)	0.020	0.006
219	18.25	0.13	0.026	(0.278)	0.020	0.006
220	18.33	0.13	0.026	(0.277)	0.020	0.006
221	18.42	0.13	0.026	(0.275)	0.020	0.006
222	18.50	0.13	0.026	(0.274)	0.020	0.006
223	18.58	0.10	0.019	(0.273)	0.015	0.004
224	18.67	0.10	0.019	(0.271)	0.015	0.004
225	18.75	0.10	0.019	(0.270)	0.015	0.004
226	18.83	0.07	0.013	(0.269)	0.010	0.003
227	18.92	0.07	0.013	(0.268)	0.010	0.003
228	19.00	0.07	0.013	(0.266)	0.010	0.003
229	19.08	0.10	0.019	(0.265)	0.015	0.004
230	19.17	0.10	0.019	(0.264)	0.015	0.004
231	19.25	0.10	0.019	(0.263)	0.015	0.004
232	19.33	0.13	0.026	(0.261)	0.020	0.006
233	19.42	0.13	0.026	(0.260)	0.020	0.006
234	19.50	0.13	0.026	(0.259)	0.020	0.006
235	19.58	0.10	0.019	(0.258)	0.015	0.004
236	19.67	0.10	0.019	(0.257)	0.015	0.004
237	19.75	0.10	0.019	(0.255)	0.015	0.004
238	19.83	0.07	0.013	(0.254)	0.010	0.003
239	19.92	0.07	0.013	(0.253)	0.010	0.003
240	20.00	0.07	0.013	(0.252)	0.010	0.003
241	20.08	0.10	0.019	(0.251)	0.015	0.004
242	20.17	0.10	0.019	(0.250)	0.015	0.004
243	20.25	0.10	0.019	(0.249)	0.015	0.004
244	20.33	0.10	0.019	(0.248)	0.015	0.004
245	20.42	0.10	0.019	(0.247)	0.015	0.004
246	20.50	0.10	0.019	(0.245)	0.015	0.004
247	20.58	0.10	0.019	(0.244)	0.015	0.004
248	20.67	0.10	0.019	(0.243)	0.015	0.004
249	20.75	0.10	0.019	(0.242)	0.015	0.004
250	20.83	0.07	0.013	(0.241)	0.010	0.003
251	20.92	0.07	0.013	(0.240)	0.010	0.003
252	21.00	0.07	0.013	(0.239)	0.010	0.003
253	21.08	0.10	0.019	(0.239)	0.015	0.004
254	21.17	0.10	0.019	(0.238)	0.015	0.004
255	21.25	0.10	0.019	(0.237)	0.015	0.004
256	21.33	0.07	0.013	(0.236)	0.010	0.003
257	21.42	0.07	0.013	(0.235)	0.010	0.003
258	21.50	0.07	0.013	(0.234)	0.010	0.003
259	21.58	0.10	0.019	(0.233)	0.015	0.004
260	21.67	0.10	0.019	(0.232)	0.015	0.004
261	21.75	0.10	0.019	(0.231)	0.015	0.004
262	21.83	0.07	0.013	(0.231)	0.010	0.003
263	21.92	0.07	0.013	(0.230)	0.010	0.003
264	22.00	0.07	0.013	(0.229)	0.010	0.003

265	22.08	0.10	0.019	(0.228)	0.015	0.004
266	22.17	0.10	0.019	(0.228)	0.015	0.004
267	22.25	0.10	0.019	(0.227)	0.015	0.004
268	22.33	0.07	0.013	(0.226)	0.010	0.003
269	22.42	0.07	0.013	(0.225)	0.010	0.003
270	22.50	0.07	0.013	(0.225)	0.010	0.003
271	22.58	0.07	0.013	(0.224)	0.010	0.003
272	22.67	0.07	0.013	(0.224)	0.010	0.003
273	22.75	0.07	0.013	(0.223)	0.010	0.003
274	22.83	0.07	0.013	(0.222)	0.010	0.003
275	22.92	0.07	0.013	(0.222)	0.010	0.003
276	23.00	0.07	0.013	(0.221)	0.010	0.003
277	23.08	0.07	0.013	(0.221)	0.010	0.003
278	23.17	0.07	0.013	(0.220)	0.010	0.003
279	23.25	0.07	0.013	(0.220)	0.010	0.003
280	23.33	0.07	0.013	(0.219)	0.010	0.003
281	23.42	0.07	0.013	(0.219)	0.010	0.003
282	23.50	0.07	0.013	(0.219)	0.010	0.003
283	23.58	0.07	0.013	(0.218)	0.010	0.003
284	23.67	0.07	0.013	(0.218)	0.010	0.003
285	23.75	0.07	0.013	(0.218)	0.010	0.003
286	23.83	0.07	0.013	(0.217)	0.010	0.003
287	23.92	0.07	0.013	(0.217)	0.010	0.003
288	24.00	0.07	0.013	(0.217)	0.010	0.003

(Loss Rate Not Used)

Sum = 100.0 Sum = 4.2

Flood volume = Effective rainfall 0.35(In)
times area 21.4(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)

Total soil loss = 1.25(In)
Total soil loss = 2.230(Ac.Ft)
Total rainfall = 1.60(In)
Flood volume = 27144.1 Cubic Feet
Total soil loss = 97141.9 Cubic Feet

Peak flow rate of this hydrograph = 1.010(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	0.0002	0.03	Q	|	|	|	|
0+15	0.0005	0.04	Q	|	|	|	|
0+20	0.0009	0.05	Q	|	|	|	|
0+25	0.0013	0.07	Q	|	|	|	|
0+30	0.0019	0.08	Q	|	|	|	|
0+35	0.0024	0.08	Q	|	|	|	|
0+40	0.0030	0.08	Q	|	|	|	|
0+45	0.0036	0.09	Q	|	|	|	|
0+50	0.0042	0.09	Q	|	|	|	|
0+55	0.0049	0.10	Q	|	|	|	|
1+ 0	0.0057	0.11	Q	|	|	|	|
1+ 5	0.0064	0.11	Q	|	|	|	|
1+10	0.0071	0.10	Q	|	|	|	|
1+15	0.0078	0.10	Q	|	|	|	|
1+20	0.0084	0.09	Q	|	|	|	|
1+25	0.0091	0.09	Q	|	|	|	|
1+30	0.0097	0.09	Q	|	|	|	|

1+35	0.0103	0.09	Q	|	|	|	|
1+40	0.0110	0.09	Q	|	|	|	|
1+45	0.0116	0.09	Q	|	|	|	|
1+50	0.0123	0.09	Q	|	|	|	|
1+55	0.0130	0.10	Q	|	|	|	|
2+ 0	0.0137	0.11	Q	|	|	|	|
2+ 5	0.0145	0.11	Q	|	|	|	|
2+10	0.0153	0.12	Q	|	|	|	|
2+15	0.0161	0.12	QV	|	|	|	|
2+20	0.0170	0.12	QV	|	|	|	|
2+25	0.0178	0.12	QV	|	|	|	|
2+30	0.0186	0.12	QV	|	|	|	|
2+35	0.0195	0.12	QV	|	|	|	|
2+40	0.0204	0.13	QV	|	|	|	|
2+45	0.0214	0.14	QV	|	|	|	|
2+50	0.0224	0.14	QV	|	|	|	|
2+55	0.0234	0.15	QV	|	|	|	|
3+ 0	0.0244	0.15	QV	|	|	|	|
3+ 5	0.0254	0.15	QV	|	|	|	|
3+10	0.0264	0.15	QV	|	|	|	|
3+15	0.0275	0.15	QV	|	|	|	|
3+20	0.0285	0.15	QV	|	|	|	|
3+25	0.0295	0.15	QV	|	|	|	|
3+30	0.0306	0.15	QV	|	|	|	|
3+35	0.0316	0.15	Q V	|	|	|	|
3+40	0.0327	0.15	Q V	|	|	|	|
3+45	0.0337	0.15	Q V	|	|	|	|
3+50	0.0347	0.15	Q V	|	|	|	|
3+55	0.0359	0.16	Q V	|	|	|	|
4+ 0	0.0371	0.17	Q V	|	|	|	|
4+ 5	0.0383	0.18	Q V	|	|	|	|
4+10	0.0395	0.18	Q V	|	|	|	|
4+15	0.0407	0.18	Q V	|	|	|	|
4+20	0.0420	0.18	Q V	|	|	|	|
4+25	0.0433	0.19	Q V	|	|	|	|
4+30	0.0447	0.20	Q V	|	|	|	|
4+35	0.0461	0.20	Q V	|	|	|	|
4+40	0.0475	0.21	Q V	|	|	|	|
4+45	0.0490	0.21	Q V	|	|	|	|
4+50	0.0504	0.21	Q V	|	|	|	|
4+55	0.0519	0.22	Q V	|	|	|	|
5+ 0	0.0535	0.23	Q V	|	|	|	|
5+ 5	0.0551	0.23	Q V	|	|	|	|
5+10	0.0566	0.21	Q V	|	|	|	|
5+15	0.0579	0.20	Q V	|	|	|	|
5+20	0.0592	0.19	Q V	|	|	|	|
5+25	0.0606	0.20	Q V	|	|	|	|
5+30	0.0621	0.21	Q V	|	|	|	|
5+35	0.0635	0.21	Q V	|	|	|	|
5+40	0.0651	0.22	Q V	|	|	|	|
5+45	0.0666	0.23	Q V	|	|	|	|
5+50	0.0683	0.23	Q V	|	|	|	|
5+55	0.0699	0.24	Q V	|	|	|	|
6+ 0	0.0715	0.24	Q V	|	|	|	|
6+ 5	0.0732	0.24	Q V	|	|	|	|
6+10	0.0749	0.25	|Q V	|	|	|	|
6+15	0.0767	0.26	|Q V	|	|	|	|
6+20	0.0786	0.26	|Q V	|	|	|	|
6+25	0.0804	0.27	|Q V	|	|	|	|
6+30	0.0822	0.27	|Q V	|	|	|	|
6+35	0.0841	0.27	|Q V	|	|	|	|
6+40	0.0861	0.28	|Q V	|	|	|	|
6+45	0.0881	0.29	|Q V	|	|	|	|

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 6+50       0.0901      0.30  |Q   V    |          |          |          |
 6+55       0.0922      0.30  |Q   V    |          |          |          |
 7+ 0       0.0942      0.30  |Q    V   |          |          |          |
 7+ 5       0.0963      0.30  |Q    V   |          |          |          |
 7+10       0.0983      0.30  |Q    V   |          |          |          |
 7+15       0.1004      0.30  |Q    V   |          |          |          |
 7+20       0.1025      0.30  |Q    V   |          |          |          |
 7+25       0.1047      0.31  |Q    V   |          |          |          |
 7+30       0.1069      0.32  |Q    V   |          |          |          |
 7+35       0.1092      0.33  |Q     V  |          |          |          |
 7+40       0.1115      0.34  |Q     V  |          |          |          |
 7+45       0.1139      0.35  |Q     V  |          |          |          |
 7+50       0.1164      0.36  |Q     V  |          |          |          |
 7+55       0.1189      0.37  |Q     V  |          |          |          |
 8+ 0       0.1215      0.38  |Q     V  |          |          |          |
 8+ 5       0.1242      0.39  |Q     V  |          |          |          |
 8+10       0.1271      0.41  |Q      V |          |          |          |
 8+15       0.1300      0.43  |Q      V |          |          |          |
 8+20       0.1331      0.44  |Q      V |          |          |          |
 8+25       0.1361      0.44  |Q      V |          |          |          |
 8+30       0.1392      0.45  |Q      V |          |          |          |
 8+35       0.1423      0.45  |Q       V|          |          |          |
 8+40       0.1455      0.46  |Q       V|          |          |          |
 8+45       0.1487      0.47  |Q       V|          |          |          |
 8+50       0.1520      0.48  |Q       V|          |          |          |
 8+55       0.1554      0.49  |Q       V|          |          |          |
 9+ 0       0.1588      0.50  | Q       V          |          |          |
 9+ 5       0.1623      0.51  | Q       V          |          |          |
 9+10       0.1660      0.53  | Q       V          |          |          |
 9+15       0.1698      0.55  | Q       V          |          |          |
 9+20       0.1737      0.56  | Q       |V         |          |          |
 9+25       0.1777      0.58  | Q       |V         |          |          |
 9+30       0.1817      0.59  | Q       |V         |          |          |
 9+35       0.1858      0.60  | Q       |V         |          |          |
 9+40       0.1900      0.61  | Q       | V        |          |          |
 9+45       0.1943      0.62  | Q       | V        |          |          |
 9+50       0.1986      0.63  | Q       | V        |          |          |
 9+55       0.2030      0.64  | Q       |  V       |          |          |
10+ 0       0.2075      0.65  | Q       |  V       |          |          |
10+ 5       0.2119      0.64  | Q       |  V       |          |          |
10+10       0.2157      0.56  | Q       |  V       |          |          |
10+15       0.2192      0.51  | Q       |   V      |          |          |
10+20       0.2226      0.49  |Q        |   V      |          |          |
10+25       0.2259      0.48  |Q        |   V      |          |          |
10+30       0.2292      0.47  |Q        |   V      |          |          |
10+35       0.2325      0.48  |Q        |   V      |          |          |
10+40       0.2361      0.53  | Q       |    V     |          |          |
10+45       0.2400      0.57  | Q       |    V     |          |          |
10+50       0.2440      0.58  | Q       |    V     |          |          |
10+55       0.2480      0.59  | Q       |    V     |          |          |
11+ 0       0.2521      0.59  | Q       |     V    |          |          |
11+ 5       0.2562      0.59  | Q       |     V    |          |          |
11+10       0.2602      0.58  | Q       |     V    |          |          |
11+15       0.2642      0.58  | Q       |     V    |          |          |
11+20       0.2681      0.58  | Q       |      V   |          |          |
11+25       0.2721      0.58  | Q       |      V   |          |          |
11+30       0.2760      0.57  | Q       |      V   |          |          |
11+35       0.2800      0.57  | Q       |      V   |          |          |
11+40       0.2837      0.55  | Q       |       V  |          |          |
11+45       0.2874      0.53  | Q       |       V  |          |          |
11+50       0.2910      0.53  | Q       |       V  |          |          |
11+55       0.2947      0.54  | Q       |       V  |          |          |
12+ 0       0.2984      0.54  | Q       |        V |          |          |
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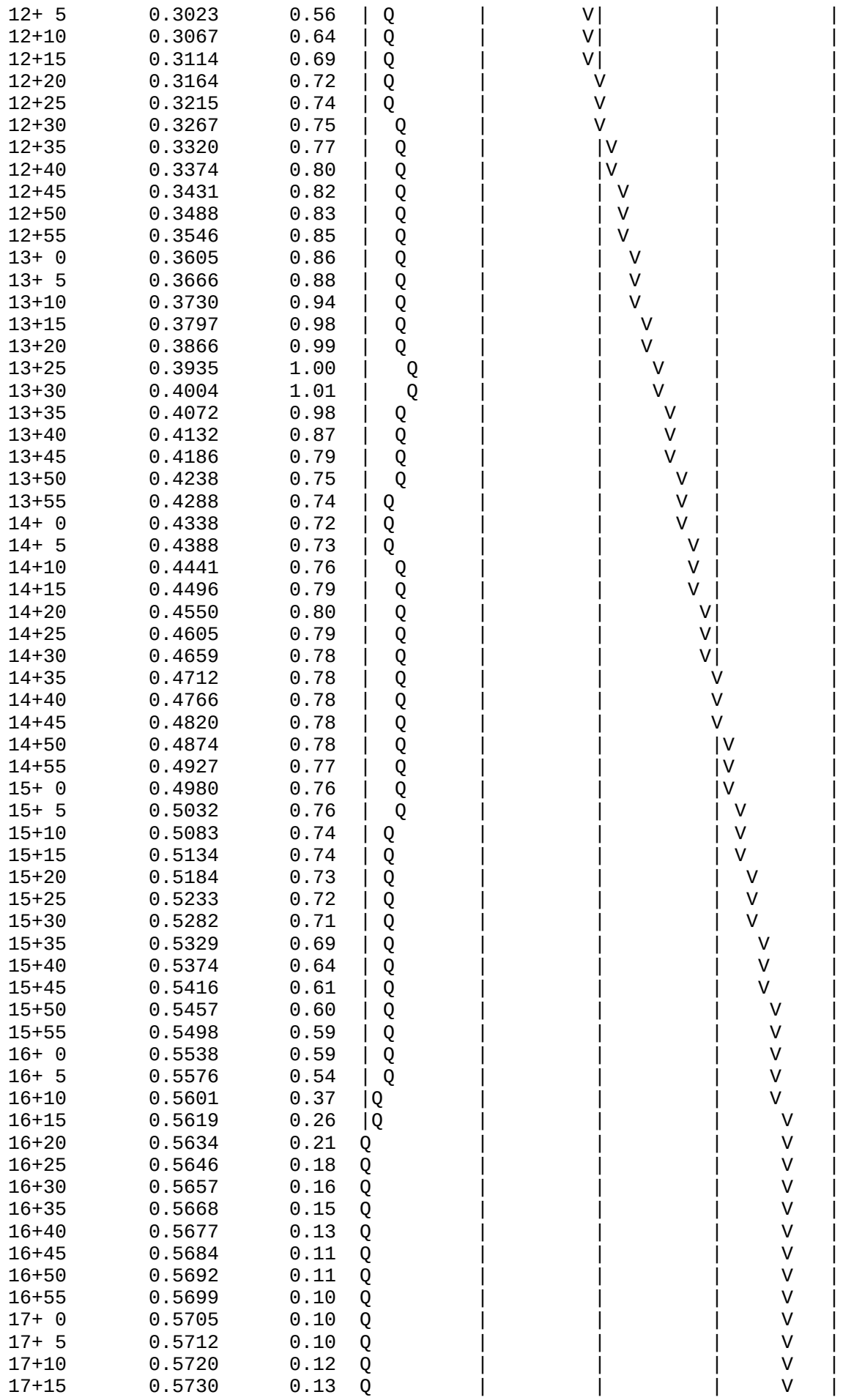

17+20	0.5739	0.14	Q	|	|	|	V |
17+25	0.5749	0.14	Q	|	|	|	V |
17+30	0.5759	0.15	Q	|	|	|	V |
17+35	0.5769	0.15	Q	|	|	|	V |
17+40	0.5779	0.15	Q	|	|	|	V |
17+45	0.5790	0.15	Q	|	|	|	V |
17+50	0.5800	0.15	Q	|	|	|	V |
17+55	0.5809	0.14	Q	|	|	|	V |
18+ 0	0.5818	0.13	Q	|	|	|	V |
18+ 5	0.5827	0.13	Q	|	|	|	V |
18+10	0.5835	0.12	Q	|	|	|	V |
18+15	0.5844	0.12	Q	|	|	|	V |
18+20	0.5852	0.12	Q	|	|	|	V |
18+25	0.5861	0.12	Q	|	|	|	V |
18+30	0.5869	0.12	Q	|	|	|	V |
18+35	0.5877	0.12	Q	|	|	|	V |
18+40	0.5885	0.11	Q	|	|	|	V |
18+45	0.5891	0.10	Q	|	|	|	V |
18+50	0.5898	0.09	Q	|	|	|	V |
18+55	0.5903	0.08	Q	|	|	|	V |
19+ 0	0.5908	0.07	Q	|	|	|	V |
19+ 5	0.5913	0.07	Q	|	|	|	V |
19+10	0.5919	0.08	Q	|	|	|	V |
19+15	0.5925	0.09	Q	|	|	|	V |
19+20	0.5931	0.09	Q	|	|	|	V |
19+25	0.5938	0.10	Q	|	|	|	V |
19+30	0.5945	0.11	Q	|	|	|	V |
19+35	0.5953	0.11	Q	|	|	|	V |
19+40	0.5960	0.10	Q	|	|	|	V |
19+45	0.5967	0.10	Q	|	|	|	V |
19+50	0.5973	0.09	Q	|	|	|	V |
19+55	0.5978	0.08	Q	|	|	|	V |
20+ 0	0.5983	0.07	Q	|	|	|	V |
20+ 5	0.5988	0.07	Q	|	|	|	V |
20+10	0.5994	0.08	Q	|	|	|	V |
20+15	0.5999	0.09	Q	|	|	|	V |
20+20	0.6005	0.09	Q	|	|	|	V |
20+25	0.6012	0.09	Q	|	|	|	V |
20+30	0.6018	0.09	Q	|	|	|	V |
20+35	0.6024	0.09	Q	|	|	|	V |
20+40	0.6030	0.09	Q	|	|	|	V |
20+45	0.6036	0.09	Q	|	|	|	V |
20+50	0.6042	0.09	Q	|	|	|	V |
20+55	0.6047	0.08	Q	|	|	|	V |
21+ 0	0.6052	0.07	Q	|	|	|	V |
21+ 5	0.6057	0.07	Q	|	|	|	V |
21+10	0.6062	0.08	Q	|	|	|	V |
21+15	0.6068	0.08	Q	|	|	|	V |
21+20	0.6074	0.08	Q	|	|	|	V |
21+25	0.6079	0.07	Q	|	|	|	V|
21+30	0.6084	0.07	Q	|	|	|	V|
21+35	0.6088	0.07	Q	|	|	|	V|
21+40	0.6094	0.08	Q	|	|	|	V|
21+45	0.6099	0.08	Q	|	|	|	V|
21+50	0.6105	0.08	Q	|	|	|	V|
21+55	0.6110	0.07	Q	|	|	|	V|
22+ 0	0.6115	0.07	Q	|	|	|	V|
22+ 5	0.6119	0.07	Q	|	|	|	V|
22+10	0.6125	0.08	Q	|	|	|	V|
22+15	0.6130	0.08	Q	|	|	|	V|
22+20	0.6136	0.08	Q	|	|	|	V|
22+25	0.6141	0.07	Q	|	|	|	V|
22+30	0.6146	0.07	Q	|	|	|	V|

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  22+35       0.6150      0.06  Q          |          |          |         V|
  22+40       0.6155      0.06  Q          |          |          |         V|
  22+45       0.6159      0.06  Q          |          |          |         V|
  22+50       0.6163      0.06  Q          |          |          |         V|
  22+55       0.6167      0.06  Q          |          |          |         V|
  23+ 0       0.6172      0.06  Q          |          |          |         V|
  23+ 5       0.6176      0.06  Q          |          |          |         V|
  23+10       0.6180      0.06  Q          |          |          |         V|
  23+15       0.6184      0.06  Q          |          |          |         V|
  23+20       0.6188      0.06  Q          |          |          |         V|
  23+25       0.6193      0.06  Q          |          |          |         V|
  23+30       0.6197      0.06  Q          |          |          |         V|
  23+35       0.6201      0.06  Q          |          |          |         V|
  23+40       0.6205      0.06  Q          |          |          |         V|
  23+45       0.6209      0.06  Q          |          |          |         V|
  23+50       0.6213      0.06  Q          |          |          |         V|
  23+55       0.6217      0.06  Q          |          |          |         V|
  24+ 0       0.6222      0.06  Q          |          |          |         V|
  24+ 5       0.6225      0.05  Q          |          |          |         V|
  24+10       0.6228      0.03  Q          |          |          |         V|
  24+15       0.6229      0.02  Q          |          |          |         V|
  24+20       0.6230      0.01  Q          |          |          |         V|
  24+25       0.6230      0.01  Q          |          |          |         V|
  24+30       0.6231      0.01  Q          |          |          |         V|
  24+35       0.6231      0.00  Q          |          |          |         V|
  24+40       0.6231      0.00  Q          |          |          |         V|
  24+45       0.6231      0.00  Q          |          |          |         V|
  24+50       0.6231      0.00  Q          |          |          |         V|
  24+55       0.6231      0.00  Q          |          |          |         V|
  25+ 0       0.6231      0.00  Q          |          |          |          V
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 08/27/20 File: 522EX100SAF242.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

20-522 D-1 PARCEL
EXISTING CONDITION
SUBAREA F
2-YEAR 24-HOUR STORM

Drainage Area = 1.90(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.90(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 385.00(Ft.)
Length along longest watercourse measured to centroid = 205.00(Ft.)
Length along longest watercourse = 0.073 Mi.
Length along longest watercourse measured to centroid = 0.039 Mi.
Difference in elevation = 2.30(Ft.)
Slope along watercourse = 31.5429 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.040 Hr.
Lag time = 2.41 Min.
25% of lag time = 0.60 Min.
40% of lag time = 0.96 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]
1.90	1.60	3.04

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.90	4.00	7.60

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 1.600(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.600(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.900	75.00	0.297

Total Area Entered = 1.90(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	0.297	0.367	1.000	0.367
					Sum (F) =	0.367

Area averaged mean soil loss (F) (In/Hr) = 0.367
Minimum soil loss rate ((In/Hr)) = 0.183
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.662

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	207.271	44.630	0.855
2	0.167	414.541	42.863	0.821
3	0.250	621.812	8.505	0.163
4	0.333	829.082	4.001	0.077
		Sum =	100.000 Sum=	1.915

The following loss 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	(0.650)	0.008	0.004
2	0.17	0.07	0.013	(0.648)	0.008	0.004
3	0.25	0.07	0.013	(0.645)	0.008	0.004
4	0.33	0.10	0.019	(0.643)	0.013	0.006
5	0.42	0.10	0.019	(0.640)	0.013	0.006
6	0.50	0.10	0.019	(0.638)	0.013	0.006
7	0.58	0.10	0.019	(0.635)	0.013	0.006
8	0.67	0.10	0.019	(0.633)	0.013	0.006
9	0.75	0.10	0.019	(0.630)	0.013	0.006
10	0.83	0.13	0.026	(0.628)	0.017	0.009
11	0.92	0.13	0.026	(0.625)	0.017	0.009
12	1.00	0.13	0.026	(0.623)	0.017	0.009
13	1.08	0.10	0.019	(0.620)	0.013	0.006
14	1.17	0.10	0.019	(0.618)	0.013	0.006
15	1.25	0.10	0.019	(0.615)	0.013	0.006
16	1.33	0.10	0.019	(0.613)	0.013	0.006
17	1.42	0.10	0.019	(0.611)	0.013	0.006
18	1.50	0.10	0.019	(0.608)	0.013	0.006
19	1.58	0.10	0.019	(0.606)	0.013	0.006
20	1.67	0.10	0.019	(0.603)	0.013	0.006
21	1.75	0.10	0.019	(0.601)	0.013	0.006

22	1.83	0.13	0.026	(0.598)	0.017	0.009
23	1.92	0.13	0.026	(0.596)	0.017	0.009
24	2.00	0.13	0.026	(0.594)	0.017	0.009
25	2.08	0.13	0.026	(0.591)	0.017	0.009
26	2.17	0.13	0.026	(0.589)	0.017	0.009
27	2.25	0.13	0.026	(0.586)	0.017	0.009
28	2.33	0.13	0.026	(0.584)	0.017	0.009
29	2.42	0.13	0.026	(0.582)	0.017	0.009
30	2.50	0.13	0.026	(0.579)	0.017	0.009
31	2.58	0.17	0.032	(0.577)	0.021	0.011
32	2.67	0.17	0.032	(0.575)	0.021	0.011
33	2.75	0.17	0.032	(0.572)	0.021	0.011
34	2.83	0.17	0.032	(0.570)	0.021	0.011
35	2.92	0.17	0.032	(0.567)	0.021	0.011
36	3.00	0.17	0.032	(0.565)	0.021	0.011
37	3.08	0.17	0.032	(0.563)	0.021	0.011
38	3.17	0.17	0.032	(0.560)	0.021	0.011
39	3.25	0.17	0.032	(0.558)	0.021	0.011
40	3.33	0.17	0.032	(0.556)	0.021	0.011
41	3.42	0.17	0.032	(0.553)	0.021	0.011
42	3.50	0.17	0.032	(0.551)	0.021	0.011
43	3.58	0.17	0.032	(0.549)	0.021	0.011
44	3.67	0.17	0.032	(0.547)	0.021	0.011
45	3.75	0.17	0.032	(0.544)	0.021	0.011
46	3.83	0.20	0.038	(0.542)	0.025	0.013
47	3.92	0.20	0.038	(0.540)	0.025	0.013
48	4.00	0.20	0.038	(0.537)	0.025	0.013
49	4.08	0.20	0.038	(0.535)	0.025	0.013
50	4.17	0.20	0.038	(0.533)	0.025	0.013
51	4.25	0.20	0.038	(0.531)	0.025	0.013
52	4.33	0.23	0.045	(0.528)	0.030	0.015
53	4.42	0.23	0.045	(0.526)	0.030	0.015
54	4.50	0.23	0.045	(0.524)	0.030	0.015
55	4.58	0.23	0.045	(0.522)	0.030	0.015
56	4.67	0.23	0.045	(0.519)	0.030	0.015
57	4.75	0.23	0.045	(0.517)	0.030	0.015
58	4.83	0.27	0.051	(0.515)	0.034	0.017
59	4.92	0.27	0.051	(0.513)	0.034	0.017
60	5.00	0.27	0.051	(0.510)	0.034	0.017
61	5.08	0.20	0.038	(0.508)	0.025	0.013
62	5.17	0.20	0.038	(0.506)	0.025	0.013
63	5.25	0.20	0.038	(0.504)	0.025	0.013
64	5.33	0.23	0.045	(0.502)	0.030	0.015
65	5.42	0.23	0.045	(0.499)	0.030	0.015
66	5.50	0.23	0.045	(0.497)	0.030	0.015
67	5.58	0.27	0.051	(0.495)	0.034	0.017
68	5.67	0.27	0.051	(0.493)	0.034	0.017
69	5.75	0.27	0.051	(0.491)	0.034	0.017
70	5.83	0.27	0.051	(0.488)	0.034	0.017
71	5.92	0.27	0.051	(0.486)	0.034	0.017
72	6.00	0.27	0.051	(0.484)	0.034	0.017
73	6.08	0.30	0.058	(0.482)	0.038	0.019
74	6.17	0.30	0.058	(0.480)	0.038	0.019
75	6.25	0.30	0.058	(0.478)	0.038	0.019
76	6.33	0.30	0.058	(0.476)	0.038	0.019
77	6.42	0.30	0.058	(0.473)	0.038	0.019
78	6.50	0.30	0.058	(0.471)	0.038	0.019
79	6.58	0.33	0.064	(0.469)	0.042	0.022
80	6.67	0.33	0.064	(0.467)	0.042	0.022
81	6.75	0.33	0.064	(0.465)	0.042	0.022
82	6.83	0.33	0.064	(0.463)	0.042	0.022
83	6.92	0.33	0.064	(0.461)	0.042	0.022
84	7.00	0.33	0.064	(0.459)	0.042	0.022

85	7.08	0.33	0.064	(0.457)	0.042	0.022
86	7.17	0.33	0.064	(0.455)	0.042	0.022
87	7.25	0.33	0.064	(0.452)	0.042	0.022
88	7.33	0.37	0.070	(0.450)	0.047	0.024
89	7.42	0.37	0.070	(0.448)	0.047	0.024
90	7.50	0.37	0.070	(0.446)	0.047	0.024
91	7.58	0.40	0.077	(0.444)	0.051	0.026
92	7.67	0.40	0.077	(0.442)	0.051	0.026
93	7.75	0.40	0.077	(0.440)	0.051	0.026
94	7.83	0.43	0.083	(0.438)	0.055	0.028
95	7.92	0.43	0.083	(0.436)	0.055	0.028
96	8.00	0.43	0.083	(0.434)	0.055	0.028
97	8.08	0.50	0.096	(0.432)	0.064	0.032
98	8.17	0.50	0.096	(0.430)	0.064	0.032
99	8.25	0.50	0.096	(0.428)	0.064	0.032
100	8.33	0.50	0.096	(0.426)	0.064	0.032
101	8.42	0.50	0.096	(0.424)	0.064	0.032
102	8.50	0.50	0.096	(0.422)	0.064	0.032
103	8.58	0.53	0.102	(0.420)	0.068	0.035
104	8.67	0.53	0.102	(0.418)	0.068	0.035
105	8.75	0.53	0.102	(0.416)	0.068	0.035
106	8.83	0.57	0.109	(0.414)	0.072	0.037
107	8.92	0.57	0.109	(0.412)	0.072	0.037
108	9.00	0.57	0.109	(0.410)	0.072	0.037
109	9.08	0.63	0.122	(0.408)	0.081	0.041
110	9.17	0.63	0.122	(0.406)	0.081	0.041
111	9.25	0.63	0.122	(0.404)	0.081	0.041
112	9.33	0.67	0.128	(0.403)	0.085	0.043
113	9.42	0.67	0.128	(0.401)	0.085	0.043
114	9.50	0.67	0.128	(0.399)	0.085	0.043
115	9.58	0.70	0.134	(0.397)	0.089	0.045
116	9.67	0.70	0.134	(0.395)	0.089	0.045
117	9.75	0.70	0.134	(0.393)	0.089	0.045
118	9.83	0.73	0.141	(0.391)	0.093	0.048
119	9.92	0.73	0.141	(0.389)	0.093	0.048
120	10.00	0.73	0.141	(0.387)	0.093	0.048
121	10.08	0.50	0.096	(0.385)	0.064	0.032
122	10.17	0.50	0.096	(0.384)	0.064	0.032
123	10.25	0.50	0.096	(0.382)	0.064	0.032
124	10.33	0.50	0.096	(0.380)	0.064	0.032
125	10.42	0.50	0.096	(0.378)	0.064	0.032
126	10.50	0.50	0.096	(0.376)	0.064	0.032
127	10.58	0.67	0.128	(0.374)	0.085	0.043
128	10.67	0.67	0.128	(0.373)	0.085	0.043
129	10.75	0.67	0.128	(0.371)	0.085	0.043
130	10.83	0.67	0.128	(0.369)	0.085	0.043
131	10.92	0.67	0.128	(0.367)	0.085	0.043
132	11.00	0.67	0.128	(0.365)	0.085	0.043
133	11.08	0.63	0.122	(0.363)	0.081	0.041
134	11.17	0.63	0.122	(0.362)	0.081	0.041
135	11.25	0.63	0.122	(0.360)	0.081	0.041
136	11.33	0.63	0.122	(0.358)	0.081	0.041
137	11.42	0.63	0.122	(0.356)	0.081	0.041
138	11.50	0.63	0.122	(0.355)	0.081	0.041
139	11.58	0.57	0.109	(0.353)	0.072	0.037
140	11.67	0.57	0.109	(0.351)	0.072	0.037
141	11.75	0.57	0.109	(0.349)	0.072	0.037
142	11.83	0.60	0.115	(0.348)	0.076	0.039
143	11.92	0.60	0.115	(0.346)	0.076	0.039
144	12.00	0.60	0.115	(0.344)	0.076	0.039
145	12.08	0.83	0.160	(0.342)	0.106	0.054
146	12.17	0.83	0.160	(0.341)	0.106	0.054
147	12.25	0.83	0.160	(0.339)	0.106	0.054

148	12.33	0.87	0.166	(0.337)	0.110	0.056
149	12.42	0.87	0.166	(0.336)	0.110	0.056
150	12.50	0.87	0.166	(0.334)	0.110	0.056
151	12.58	0.93	0.179	(0.332)	0.119	0.060
152	12.67	0.93	0.179	(0.331)	0.119	0.060
153	12.75	0.93	0.179	(0.329)	0.119	0.060
154	12.83	0.97	0.186	(0.327)	0.123	0.063
155	12.92	0.97	0.186	(0.326)	0.123	0.063
156	13.00	0.97	0.186	(0.324)	0.123	0.063
157	13.08	1.13	0.218	(0.322)	0.144	0.073
158	13.17	1.13	0.218	(0.321)	0.144	0.073
159	13.25	1.13	0.218	(0.319)	0.144	0.073
160	13.33	1.13	0.218	(0.317)	0.144	0.073
161	13.42	1.13	0.218	(0.316)	0.144	0.073
162	13.50	1.13	0.218	(0.314)	0.144	0.073
163	13.58	0.77	0.147	(0.313)	0.098	0.050
164	13.67	0.77	0.147	(0.311)	0.098	0.050
165	13.75	0.77	0.147	(0.309)	0.098	0.050
166	13.83	0.77	0.147	(0.308)	0.098	0.050
167	13.92	0.77	0.147	(0.306)	0.098	0.050
168	14.00	0.77	0.147	(0.305)	0.098	0.050
169	14.08	0.90	0.173	(0.303)	0.114	0.058
170	14.17	0.90	0.173	(0.302)	0.114	0.058
171	14.25	0.90	0.173	(0.300)	0.114	0.058
172	14.33	0.87	0.166	(0.298)	0.110	0.056
173	14.42	0.87	0.166	(0.297)	0.110	0.056
174	14.50	0.87	0.166	(0.295)	0.110	0.056
175	14.58	0.87	0.166	(0.294)	0.110	0.056
176	14.67	0.87	0.166	(0.292)	0.110	0.056
177	14.75	0.87	0.166	(0.291)	0.110	0.056
178	14.83	0.83	0.160	(0.289)	0.106	0.054
179	14.92	0.83	0.160	(0.288)	0.106	0.054
180	15.00	0.83	0.160	(0.286)	0.106	0.054
181	15.08	0.80	0.154	(0.285)	0.102	0.052
182	15.17	0.80	0.154	(0.284)	0.102	0.052
183	15.25	0.80	0.154	(0.282)	0.102	0.052
184	15.33	0.77	0.147	(0.281)	0.098	0.050
185	15.42	0.77	0.147	(0.279)	0.098	0.050
186	15.50	0.77	0.147	(0.278)	0.098	0.050
187	15.58	0.63	0.122	(0.276)	0.081	0.041
188	15.67	0.63	0.122	(0.275)	0.081	0.041
189	15.75	0.63	0.122	(0.274)	0.081	0.041
190	15.83	0.63	0.122	(0.272)	0.081	0.041
191	15.92	0.63	0.122	(0.271)	0.081	0.041
192	16.00	0.63	0.122	(0.269)	0.081	0.041
193	16.08	0.13	0.026	(0.268)	0.017	0.009
194	16.17	0.13	0.026	(0.267)	0.017	0.009
195	16.25	0.13	0.026	(0.265)	0.017	0.009
196	16.33	0.13	0.026	(0.264)	0.017	0.009
197	16.42	0.13	0.026	(0.263)	0.017	0.009
198	16.50	0.13	0.026	(0.261)	0.017	0.009
199	16.58	0.10	0.019	(0.260)	0.013	0.006
200	16.67	0.10	0.019	(0.259)	0.013	0.006
201	16.75	0.10	0.019	(0.257)	0.013	0.006
202	16.83	0.10	0.019	(0.256)	0.013	0.006
203	16.92	0.10	0.019	(0.255)	0.013	0.006
204	17.00	0.10	0.019	(0.253)	0.013	0.006
205	17.08	0.17	0.032	(0.252)	0.021	0.011
206	17.17	0.17	0.032	(0.251)	0.021	0.011
207	17.25	0.17	0.032	(0.250)	0.021	0.011
208	17.33	0.17	0.032	(0.248)	0.021	0.011
209	17.42	0.17	0.032	(0.247)	0.021	0.011
210	17.50	0.17	0.032	(0.246)	0.021	0.011

211	17.58	0.17	0.032	(0.245)	0.021	0.011
212	17.67	0.17	0.032	(0.243)	0.021	0.011
213	17.75	0.17	0.032	(0.242)	0.021	0.011
214	17.83	0.13	0.026	(0.241)	0.017	0.009
215	17.92	0.13	0.026	(0.240)	0.017	0.009
216	18.00	0.13	0.026	(0.239)	0.017	0.009
217	18.08	0.13	0.026	(0.237)	0.017	0.009
218	18.17	0.13	0.026	(0.236)	0.017	0.009
219	18.25	0.13	0.026	(0.235)	0.017	0.009
220	18.33	0.13	0.026	(0.234)	0.017	0.009
221	18.42	0.13	0.026	(0.233)	0.017	0.009
222	18.50	0.13	0.026	(0.232)	0.017	0.009
223	18.58	0.10	0.019	(0.231)	0.013	0.006
224	18.67	0.10	0.019	(0.229)	0.013	0.006
225	18.75	0.10	0.019	(0.228)	0.013	0.006
226	18.83	0.07	0.013	(0.227)	0.008	0.004
227	18.92	0.07	0.013	(0.226)	0.008	0.004
228	19.00	0.07	0.013	(0.225)	0.008	0.004
229	19.08	0.10	0.019	(0.224)	0.013	0.006
230	19.17	0.10	0.019	(0.223)	0.013	0.006
231	19.25	0.10	0.019	(0.222)	0.013	0.006
232	19.33	0.13	0.026	(0.221)	0.017	0.009
233	19.42	0.13	0.026	(0.220)	0.017	0.009
234	19.50	0.13	0.026	(0.219)	0.017	0.009
235	19.58	0.10	0.019	(0.218)	0.013	0.006
236	19.67	0.10	0.019	(0.217)	0.013	0.006
237	19.75	0.10	0.019	(0.216)	0.013	0.006
238	19.83	0.07	0.013	(0.215)	0.008	0.004
239	19.92	0.07	0.013	(0.214)	0.008	0.004
240	20.00	0.07	0.013	(0.213)	0.008	0.004
241	20.08	0.10	0.019	(0.212)	0.013	0.006
242	20.17	0.10	0.019	(0.211)	0.013	0.006
243	20.25	0.10	0.019	(0.210)	0.013	0.006
244	20.33	0.10	0.019	(0.209)	0.013	0.006
245	20.42	0.10	0.019	(0.208)	0.013	0.006
246	20.50	0.10	0.019	(0.208)	0.013	0.006
247	20.58	0.10	0.019	(0.207)	0.013	0.006
248	20.67	0.10	0.019	(0.206)	0.013	0.006
249	20.75	0.10	0.019	(0.205)	0.013	0.006
250	20.83	0.07	0.013	(0.204)	0.008	0.004
251	20.92	0.07	0.013	(0.203)	0.008	0.004
252	21.00	0.07	0.013	(0.202)	0.008	0.004
253	21.08	0.10	0.019	(0.202)	0.013	0.006
254	21.17	0.10	0.019	(0.201)	0.013	0.006
255	21.25	0.10	0.019	(0.200)	0.013	0.006
256	21.33	0.07	0.013	(0.199)	0.008	0.004
257	21.42	0.07	0.013	(0.199)	0.008	0.004
258	21.50	0.07	0.013	(0.198)	0.008	0.004
259	21.58	0.10	0.019	(0.197)	0.013	0.006
260	21.67	0.10	0.019	(0.196)	0.013	0.006
261	21.75	0.10	0.019	(0.196)	0.013	0.006
262	21.83	0.07	0.013	(0.195)	0.008	0.004
263	21.92	0.07	0.013	(0.194)	0.008	0.004
264	22.00	0.07	0.013	(0.194)	0.008	0.004
265	22.08	0.10	0.019	(0.193)	0.013	0.006
266	22.17	0.10	0.019	(0.192)	0.013	0.006
267	22.25	0.10	0.019	(0.192)	0.013	0.006
268	22.33	0.07	0.013	(0.191)	0.008	0.004
269	22.42	0.07	0.013	(0.191)	0.008	0.004
270	22.50	0.07	0.013	(0.190)	0.008	0.004
271	22.58	0.07	0.013	(0.189)	0.008	0.004
272	22.67	0.07	0.013	(0.189)	0.008	0.004
273	22.75	0.07	0.013	(0.188)	0.008	0.004

274	22.83	0.07	0.013	(0.188)	0.008	0.004
275	22.92	0.07	0.013	(0.187)	0.008	0.004
276	23.00	0.07	0.013	(0.187)	0.008	0.004
277	23.08	0.07	0.013	(0.187)	0.008	0.004
278	23.17	0.07	0.013	(0.186)	0.008	0.004
279	23.25	0.07	0.013	(0.186)	0.008	0.004
280	23.33	0.07	0.013	(0.185)	0.008	0.004
281	23.42	0.07	0.013	(0.185)	0.008	0.004
282	23.50	0.07	0.013	(0.185)	0.008	0.004
283	23.58	0.07	0.013	(0.184)	0.008	0.004
284	23.67	0.07	0.013	(0.184)	0.008	0.004
285	23.75	0.07	0.013	(0.184)	0.008	0.004
286	23.83	0.07	0.013	(0.184)	0.008	0.004
287	23.92	0.07	0.013	(0.184)	0.008	0.004
288	24.00	0.07	0.013	(0.183)	0.008	0.004

(Loss Rate Not Used)

Sum = 100.0 Sum = 6.5

Flood volume = Effective rainfall 0.54(In)
times area 1.9(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 1.06(In)
Total soil loss = 0.168(Ac.Ft)
Total rainfall = 1.60(In)
Flood volume = 3725.5 Cubic Feet
Total soil loss = 7309.7 Cubic Feet

Peak flow rate of this hydrograph = 0.141(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	0.0005	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	0.0014	0.01	Q	|	|	|	|
1+30	0.0015	0.01	Q	|	|	|	|
1+35	0.0016	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	0.0021	0.02	Q	|	|	|	|
2+ 5	0.0022	0.02	QV	|	|	|	|
2+10	0.0023	0.02	QV	|	|	|	|
2+15	0.0024	0.02	QV	|	|	|	|

2+20	0.0025	0.02	QV	|	|	|	|
2+25	0.0026	0.02	QV	|	|	|	|
2+30	0.0027	0.02	QV	|	|	|	|
2+35	0.0029	0.02	QV	|	|	|	|
2+40	0.0030	0.02	QV	|	|	|	|
2+45	0.0031	0.02	QV	|	|	|	|
2+50	0.0033	0.02	QV	|	|	|	|
2+55	0.0034	0.02	QV	|	|	|	|
3+ 0	0.0036	0.02	QV	|	|	|	|
3+ 5	0.0037	0.02	QV	|	|	|	|
3+10	0.0039	0.02	QV	|	|	|	|
3+15	0.0040	0.02	QV	|	|	|	|
3+20	0.0041	0.02	QV	|	|	|	|
3+25	0.0043	0.02	Q V	|	|	|	|
3+30	0.0044	0.02	Q V	|	|	|	|
3+35	0.0046	0.02	Q V	|	|	|	|
3+40	0.0047	0.02	Q V	|	|	|	|
3+45	0.0049	0.02	Q V	|	|	|	|
3+50	0.0050	0.02	Q V	|	|	|	|
3+55	0.0052	0.02	Q V	|	|	|	|
4+ 0	0.0054	0.02	Q V	|	|	|	|
4+ 5	0.0055	0.02	Q V	|	|	|	|
4+10	0.0057	0.02	Q V	|	|	|	|
4+15	0.0059	0.02	Q V	|	|	|	|
4+20	0.0060	0.03	Q V	|	|	|	|
4+25	0.0062	0.03	Q V	|	|	|	|
4+30	0.0064	0.03	Q V	|	|	|	|
4+35	0.0066	0.03	Q V	|	|	|	|
4+40	0.0068	0.03	Q V	|	|	|	|
4+45	0.0070	0.03	Q V	|	|	|	|
4+50	0.0073	0.03	Q V	|	|	|	|
4+55	0.0075	0.03	Q V	|	|	|	|
5+ 0	0.0077	0.03	Q V	|	|	|	|
5+ 5	0.0079	0.03	Q V	|	|	|	|
5+10	0.0081	0.03	Q V	|	|	|	|
5+15	0.0083	0.03	Q V	|	|	|	|
5+20	0.0084	0.03	Q V	|	|	|	|
5+25	0.0086	0.03	Q V	|	|	|	|
5+30	0.0088	0.03	Q V	|	|	|	|
5+35	0.0090	0.03	Q V	|	|	|	|
5+40	0.0093	0.03	Q V	|	|	|	|
5+45	0.0095	0.03	Q V	|	|	|	|
5+50	0.0097	0.03	Q V	|	|	|	|
5+55	0.0100	0.03	Q V	|	|	|	|
6+ 0	0.0102	0.03	Q V	|	|	|	|
6+ 5	0.0104	0.03	Q V	|	|	|	|
6+10	0.0107	0.04	Q V	|	|	|	|
6+15	0.0109	0.04	Q V	|	|	|	|
6+20	0.0112	0.04	Q V	|	|	|	|
6+25	0.0114	0.04	Q V	|	|	|	|
6+30	0.0117	0.04	Q V	|	|	|	|
6+35	0.0120	0.04	Q V	|	|	|	|
6+40	0.0123	0.04	Q V	|	|	|	|
6+45	0.0125	0.04	Q V	|	|	|	|
6+50	0.0128	0.04	Q V	|	|	|	|
6+55	0.0131	0.04	Q V	|	|	|	|
7+ 0	0.0134	0.04	Q V	|	|	|	|
7+ 5	0.0137	0.04	Q V	|	|	|	|
7+10	0.0140	0.04	Q V	|	|	|	|
7+15	0.0142	0.04	Q V	|	|	|	|
7+20	0.0145	0.04	Q V	|	|	|	|
7+25	0.0149	0.05	Q V	|	|	|	|
7+30	0.0152	0.05	Q V	|	|	|	|

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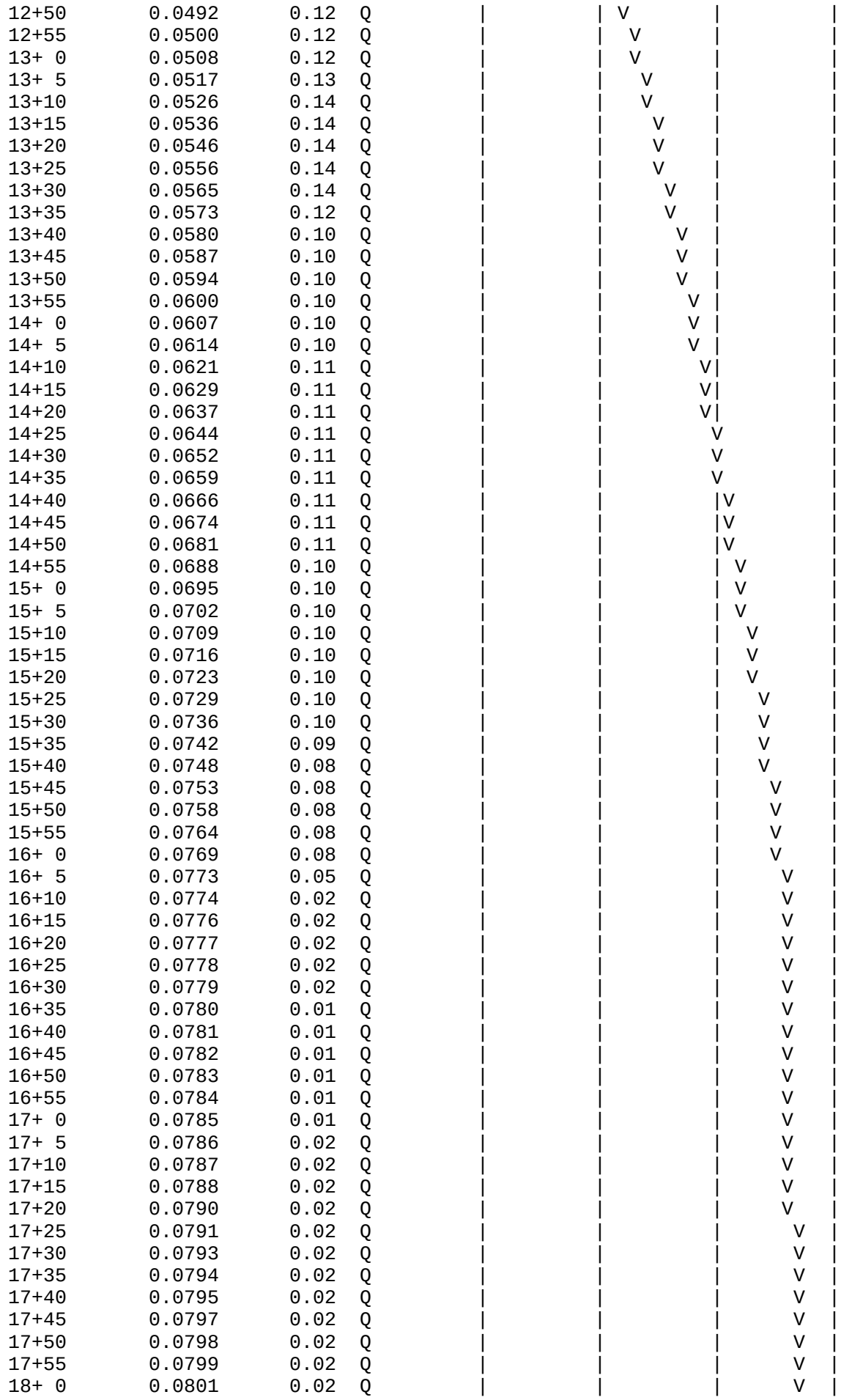
 7+35       0.0155      0.05  Q      V  |          |          |          |
 7+40       0.0158      0.05  Q      V  |          |          |          |
 7+45       0.0162      0.05  Q      V  |          |          |          |
 7+50       0.0165      0.05  Q      V  |          |          |          |
 7+55       0.0169      0.05  Q      V  |          |          |          |
 8+ 0       0.0173      0.05  Q       V |          |          |          |
 8+ 5       0.0177      0.06  Q       V |          |          |          |
 8+10       0.0181      0.06  Q       V |          |          |          |
 8+15       0.0185      0.06  Q       V |          |          |          |
 8+20       0.0189      0.06  Q       V |          |          |          |
 8+25       0.0194      0.06  Q        V|          |          |          |
 8+30       0.0198      0.06  Q        V|          |          |          |
 8+35       0.0202      0.06  Q        V|          |          |          |
 8+40       0.0207      0.07  Q        V|          |          |          |
 8+45       0.0211      0.07  Q        V|          |          |          |
 8+50       0.0216      0.07  Q         V          |          |          |
 8+55       0.0221      0.07  Q         V          |          |          |
 9+ 0       0.0226      0.07  Q         V          |          |          |
 9+ 5       0.0231      0.07  Q         V          |          |          |
 9+10       0.0236      0.08  Q         |V         |          |          |
 9+15       0.0242      0.08  Q         |V         |          |          |
 9+20       0.0247      0.08  Q         |V         |          |          |
 9+25       0.0253      0.08  Q         |V         |          |          |
 9+30       0.0258      0.08  Q         | V        |          |          |
 9+35       0.0264      0.08  Q         | V        |          |          |
 9+40       0.0270      0.09  Q         | V        |          |          |
 9+45       0.0276      0.09  Q         | V        |          |          |
 9+50       0.0282      0.09  Q         |  V       |          |          |
 9+55       0.0289      0.09  Q         |  V       |          |          |
10+ 0       0.0295      0.09  Q         |  V       |          |          |
10+ 5       0.0300      0.08  Q         |   V      |          |          |
10+10       0.0305      0.07  Q         |   V      |          |          |
10+15       0.0309      0.06  Q         |   V      |          |          |
10+20       0.0313      0.06  Q         |   V      |          |          |
10+25       0.0318      0.06  Q         |   V      |          |          |
10+30       0.0322      0.06  Q         |    V     |          |          |
10+35       0.0327      0.07  Q         |    V     |          |          |
10+40       0.0332      0.08  Q         |    V     |          |          |
10+45       0.0338      0.08  Q         |    V     |          |          |
10+50       0.0344      0.08  Q         |     V    |          |          |
10+55       0.0349      0.08  Q         |     V    |          |          |
11+ 0       0.0355      0.08  Q         |     V    |          |          |
11+ 5       0.0361      0.08  Q         |     V    |          |          |
11+10       0.0366      0.08  Q         |      V   |          |          |
11+15       0.0372      0.08  Q         |      V   |          |          |
11+20       0.0377      0.08  Q         |      V   |          |          |
11+25       0.0382      0.08  Q         |      V   |          |          |
11+30       0.0388      0.08  Q         |       V  |          |          |
11+35       0.0393      0.07  Q         |       V  |          |          |
11+40       0.0398      0.07  Q         |       V  |          |          |
11+45       0.0403      0.07  Q         |       V  |          |          |
11+50       0.0408      0.07  Q         |        V |          |          |
11+55       0.0413      0.07  Q         |        V |          |          |
12+ 0       0.0418      0.07  Q         |        V |          |          |
12+ 5       0.0424      0.09  Q         |        V |          |          |
12+10       0.0431      0.10  Q         |         V          |          |
12+15       0.0438      0.10  Q         |         V          |          |
12+20       0.0445      0.11  Q         |         V          |          |
12+25       0.0453      0.11  Q         |         |V         |          |
12+30       0.0460      0.11  Q         |         |V         |          |
12+35       0.0468      0.11  Q         |         |V         |          |
12+40       0.0476      0.11  Q         |         | V        |          |
12+45       0.0483      0.12  Q         |         | V        |          |
```



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18+ 5       0.0802      0.02  Q        |          |          |      V  |
18+10       0.0803      0.02  Q        |          |          |      V  |
18+15       0.0804      0.02  Q        |          |          |      V  |
18+20       0.0805      0.02  Q        |          |          |      V  |
18+25       0.0806      0.02  Q        |          |          |      V  |
18+30       0.0807      0.02  Q        |          |          |      V  |
18+35       0.0808      0.01  Q        |          |          |      V  |
18+40       0.0809      0.01  Q        |          |          |      V  |
18+45       0.0810      0.01  Q        |          |          |      V  |
18+50       0.0811      0.01  Q        |          |          |      V  |
18+55       0.0811      0.01  Q        |          |          |      V  |
19+ 0       0.0812      0.01  Q        |          |          |      V  |
19+ 5       0.0813      0.01  Q        |          |          |       V |
19+10       0.0814      0.01  Q        |          |          |       V |
19+15       0.0814      0.01  Q        |          |          |       V |
19+20       0.0815      0.01  Q        |          |          |       V |
19+25       0.0817      0.02  Q        |          |          |       V |
19+30       0.0818      0.02  Q        |          |          |       V |
19+35       0.0819      0.01  Q        |          |          |       V |
19+40       0.0820      0.01  Q        |          |          |       V |
19+45       0.0820      0.01  Q        |          |          |       V |
19+50       0.0821      0.01  Q        |          |          |       V |
19+55       0.0822      0.01  Q        |          |          |       V |
20+ 0       0.0822      0.01  Q        |          |          |       V |
20+ 5       0.0823      0.01  Q        |          |          |       V |
20+10       0.0824      0.01  Q        |          |          |       V |
20+15       0.0825      0.01  Q        |          |          |       V |
20+20       0.0826      0.01  Q        |          |          |       V |
20+25       0.0826      0.01  Q        |          |          |       V |
20+30       0.0827      0.01  Q        |          |          |       V |
20+35       0.0828      0.01  Q        |          |          |       V |
20+40       0.0829      0.01  Q        |          |          |       V |
20+45       0.0830      0.01  Q        |          |          |       V |
20+50       0.0831      0.01  Q        |          |          |       V |
20+55       0.0831      0.01  Q        |          |          |       V |
21+ 0       0.0832      0.01  Q        |          |          |       V |
21+ 5       0.0832      0.01  Q        |          |          |       V |
21+10       0.0833      0.01  Q        |          |          |       V |
21+15       0.0834      0.01  Q        |          |          |        V|
21+20       0.0835      0.01  Q        |          |          |        V|
21+25       0.0835      0.01  Q        |          |          |        V|
21+30       0.0836      0.01  Q        |          |          |        V|
21+35       0.0837      0.01  Q        |          |          |        V|
21+40       0.0838      0.01  Q        |          |          |        V|
21+45       0.0838      0.01  Q        |          |          |        V|
21+50       0.0839      0.01  Q        |          |          |        V|
21+55       0.0840      0.01  Q        |          |          |        V|
22+ 0       0.0840      0.01  Q        |          |          |        V|
22+ 5       0.0841      0.01  Q        |          |          |        V|
22+10       0.0842      0.01  Q        |          |          |        V|
22+15       0.0843      0.01  Q        |          |          |        V|
22+20       0.0843      0.01  Q        |          |          |        V|
22+25       0.0844      0.01  Q        |          |          |        V|
22+30       0.0845      0.01  Q        |          |          |        V|
22+35       0.0845      0.01  Q        |          |          |        V|
22+40       0.0846      0.01  Q        |          |          |        V|
22+45       0.0846      0.01  Q        |          |          |        V|
22+50       0.0847      0.01  Q        |          |          |        V|
22+55       0.0847      0.01  Q        |          |          |        V|
23+ 0       0.0848      0.01  Q        |          |          |        V|
23+ 5       0.0849      0.01  Q        |          |          |        V|
23+10       0.0849      0.01  Q        |          |          |        V|
23+15       0.0850      0.01  Q        |          |          |        V|
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23+20	0.0850	0.01	Q	|	|	|	V|
23+25	0.0851	0.01	Q	|	|	|	V|
23+30	0.0851	0.01	Q	|	|	|	V|
23+35	0.0852	0.01	Q	|	|	|	V|
23+40	0.0853	0.01	Q	|	|	|	V|
23+45	0.0853	0.01	Q	|	|	|	V|
23+50	0.0854	0.01	Q	|	|	|	V|
23+55	0.0854	0.01	Q	|	|	|	V|
24+ 0	0.0855	0.01	Q	|	|	|	V|
24+ 5	0.0855	0.00	Q	|	|	|	V|
24+10	0.0855	0.00	Q	|	|	|	V|
24+15	0.0855	0.00	Q	|	|	|	V|

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

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Study date 08/27/20 File: 522EX100SAG242.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

20-522 D-1 PARCEL
EXISTING CONDITION
SUBAREA G
2-YEAR 24-HOUR STORM

Drainage Area = 1.90(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.90(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 1460.00(Ft.)
Length along longest watercourse measured to centroid = 740.00(Ft.)
Length along longest watercourse = 0.277 Mi.
Length along longest watercourse measured to centroid = 0.140 Mi.
Difference in elevation = 3.70(Ft.)
Slope along watercourse = 13.3808 Ft./Mi.
Average Manning's 'N' = 0.025
Lag time = 0.107 Hr.
Lag time = 6.39 Min.
25% of lag time = 1.60 Min.
40% of lag time = 2.56 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.90	1.60	3.04

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.90	4.00	7.60

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 1.600(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.600(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.900	75.00	0.235

Total Area Entered = 1.90(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	0.235	0.395	1.000	0.395
					Sum (F) =	0.395

Area averaged mean soil loss (F) (In/Hr) = 0.395
Minimum soil loss rate ((In/Hr)) = 0.197
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.712

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	78.188	12.798	0.245
2	0.167	156.376	43.769	0.838
3	0.250	234.563	20.470	0.392
4	0.333	312.751	8.368	0.160
5	0.417	390.939	5.034	0.096
6	0.500	469.127	3.211	0.061
7	0.583	547.314	2.282	0.044
8	0.667	625.502	1.606	0.031
9	0.750	703.690	1.092	0.021
10	0.833	781.878	0.797	0.015
11	0.917	860.066	0.572	0.011
		Sum = 100.000	Sum=	1.915

The following loss 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	(0.700)		0.009	0.004
2	0.17	0.07	0.013	(0.697)		0.009	0.004
3	0.25	0.07	0.013	(0.694)		0.009	0.004
4	0.33	0.10	0.019	(0.692)		0.014	0.006
5	0.42	0.10	0.019	(0.689)		0.014	0.006
6	0.50	0.10	0.019	(0.686)		0.014	0.006
7	0.58	0.10	0.019	(0.684)		0.014	0.006
8	0.67	0.10	0.019	(0.681)		0.014	0.006
9	0.75	0.10	0.019	(0.678)		0.014	0.006
10	0.83	0.13	0.026	(0.676)		0.018	0.007
11	0.92	0.13	0.026	(0.673)		0.018	0.007
12	1.00	0.13	0.026	(0.670)		0.018	0.007
13	1.08	0.10	0.019	(0.668)		0.014	0.006
14	1.17	0.10	0.019	(0.665)		0.014	0.006

15	1.25	0.10	0.019	(0.662)	0.014	0.006
16	1.33	0.10	0.019	(0.660)	0.014	0.006
17	1.42	0.10	0.019	(0.657)	0.014	0.006
18	1.50	0.10	0.019	(0.654)	0.014	0.006
19	1.58	0.10	0.019	(0.652)	0.014	0.006
20	1.67	0.10	0.019	(0.649)	0.014	0.006
21	1.75	0.10	0.019	(0.647)	0.014	0.006
22	1.83	0.13	0.026	(0.644)	0.018	0.007
23	1.92	0.13	0.026	(0.641)	0.018	0.007
24	2.00	0.13	0.026	(0.639)	0.018	0.007
25	2.08	0.13	0.026	(0.636)	0.018	0.007
26	2.17	0.13	0.026	(0.634)	0.018	0.007
27	2.25	0.13	0.026	(0.631)	0.018	0.007
28	2.33	0.13	0.026	(0.629)	0.018	0.007
29	2.42	0.13	0.026	(0.626)	0.018	0.007
30	2.50	0.13	0.026	(0.623)	0.018	0.007
31	2.58	0.17	0.032	(0.621)	0.023	0.009
32	2.67	0.17	0.032	(0.618)	0.023	0.009
33	2.75	0.17	0.032	(0.616)	0.023	0.009
34	2.83	0.17	0.032	(0.613)	0.023	0.009
35	2.92	0.17	0.032	(0.611)	0.023	0.009
36	3.00	0.17	0.032	(0.608)	0.023	0.009
37	3.08	0.17	0.032	(0.606)	0.023	0.009
38	3.17	0.17	0.032	(0.603)	0.023	0.009
39	3.25	0.17	0.032	(0.601)	0.023	0.009
40	3.33	0.17	0.032	(0.598)	0.023	0.009
41	3.42	0.17	0.032	(0.596)	0.023	0.009
42	3.50	0.17	0.032	(0.593)	0.023	0.009
43	3.58	0.17	0.032	(0.591)	0.023	0.009
44	3.67	0.17	0.032	(0.588)	0.023	0.009
45	3.75	0.17	0.032	(0.586)	0.023	0.009
46	3.83	0.20	0.038	(0.583)	0.027	0.011
47	3.92	0.20	0.038	(0.581)	0.027	0.011
48	4.00	0.20	0.038	(0.578)	0.027	0.011
49	4.08	0.20	0.038	(0.576)	0.027	0.011
50	4.17	0.20	0.038	(0.573)	0.027	0.011
51	4.25	0.20	0.038	(0.571)	0.027	0.011
52	4.33	0.23	0.045	(0.569)	0.032	0.013
53	4.42	0.23	0.045	(0.566)	0.032	0.013
54	4.50	0.23	0.045	(0.564)	0.032	0.013
55	4.58	0.23	0.045	(0.561)	0.032	0.013
56	4.67	0.23	0.045	(0.559)	0.032	0.013
57	4.75	0.23	0.045	(0.556)	0.032	0.013
58	4.83	0.27	0.051	(0.554)	0.036	0.015
59	4.92	0.27	0.051	(0.552)	0.036	0.015
60	5.00	0.27	0.051	(0.549)	0.036	0.015
61	5.08	0.20	0.038	(0.547)	0.027	0.011
62	5.17	0.20	0.038	(0.544)	0.027	0.011
63	5.25	0.20	0.038	(0.542)	0.027	0.011
64	5.33	0.23	0.045	(0.540)	0.032	0.013
65	5.42	0.23	0.045	(0.537)	0.032	0.013
66	5.50	0.23	0.045	(0.535)	0.032	0.013
67	5.58	0.27	0.051	(0.533)	0.036	0.015
68	5.67	0.27	0.051	(0.530)	0.036	0.015
69	5.75	0.27	0.051	(0.528)	0.036	0.015
70	5.83	0.27	0.051	(0.526)	0.036	0.015
71	5.92	0.27	0.051	(0.523)	0.036	0.015
72	6.00	0.27	0.051	(0.521)	0.036	0.015
73	6.08	0.30	0.058	(0.519)	0.041	0.017
74	6.17	0.30	0.058	(0.516)	0.041	0.017
75	6.25	0.30	0.058	(0.514)	0.041	0.017
76	6.33	0.30	0.058	(0.512)	0.041	0.017
77	6.42	0.30	0.058	(0.510)	0.041	0.017

78	6.50	0.30	0.058	(0.507)	0.041	0.017
79	6.58	0.33	0.064	(0.505)	0.046	0.018
80	6.67	0.33	0.064	(0.503)	0.046	0.018
81	6.75	0.33	0.064	(0.500)	0.046	0.018
82	6.83	0.33	0.064	(0.498)	0.046	0.018
83	6.92	0.33	0.064	(0.496)	0.046	0.018
84	7.00	0.33	0.064	(0.494)	0.046	0.018
85	7.08	0.33	0.064	(0.491)	0.046	0.018
86	7.17	0.33	0.064	(0.489)	0.046	0.018
87	7.25	0.33	0.064	(0.487)	0.046	0.018
88	7.33	0.37	0.070	(0.485)	0.050	0.020
89	7.42	0.37	0.070	(0.482)	0.050	0.020
90	7.50	0.37	0.070	(0.480)	0.050	0.020
91	7.58	0.40	0.077	(0.478)	0.055	0.022
92	7.67	0.40	0.077	(0.476)	0.055	0.022
93	7.75	0.40	0.077	(0.474)	0.055	0.022
94	7.83	0.43	0.083	(0.471)	0.059	0.024
95	7.92	0.43	0.083	(0.469)	0.059	0.024
96	8.00	0.43	0.083	(0.467)	0.059	0.024
97	8.08	0.50	0.096	(0.465)	0.068	0.028
98	8.17	0.50	0.096	(0.463)	0.068	0.028
99	8.25	0.50	0.096	(0.461)	0.068	0.028
100	8.33	0.50	0.096	(0.458)	0.068	0.028
101	8.42	0.50	0.096	(0.456)	0.068	0.028
102	8.50	0.50	0.096	(0.454)	0.068	0.028
103	8.58	0.53	0.102	(0.452)	0.073	0.029
104	8.67	0.53	0.102	(0.450)	0.073	0.029
105	8.75	0.53	0.102	(0.448)	0.073	0.029
106	8.83	0.57	0.109	(0.446)	0.077	0.031
107	8.92	0.57	0.109	(0.444)	0.077	0.031
108	9.00	0.57	0.109	(0.442)	0.077	0.031
109	9.08	0.63	0.122	(0.439)	0.087	0.035
110	9.17	0.63	0.122	(0.437)	0.087	0.035
111	9.25	0.63	0.122	(0.435)	0.087	0.035
112	9.33	0.67	0.128	(0.433)	0.091	0.037
113	9.42	0.67	0.128	(0.431)	0.091	0.037
114	9.50	0.67	0.128	(0.429)	0.091	0.037
115	9.58	0.70	0.134	(0.427)	0.096	0.039
116	9.67	0.70	0.134	(0.425)	0.096	0.039
117	9.75	0.70	0.134	(0.423)	0.096	0.039
118	9.83	0.73	0.141	(0.421)	0.100	0.041
119	9.92	0.73	0.141	(0.419)	0.100	0.041
120	10.00	0.73	0.141	(0.417)	0.100	0.041
121	10.08	0.50	0.096	(0.415)	0.068	0.028
122	10.17	0.50	0.096	(0.413)	0.068	0.028
123	10.25	0.50	0.096	(0.411)	0.068	0.028
124	10.33	0.50	0.096	(0.409)	0.068	0.028
125	10.42	0.50	0.096	(0.407)	0.068	0.028
126	10.50	0.50	0.096	(0.405)	0.068	0.028
127	10.58	0.67	0.128	(0.403)	0.091	0.037
128	10.67	0.67	0.128	(0.401)	0.091	0.037
129	10.75	0.67	0.128	(0.399)	0.091	0.037
130	10.83	0.67	0.128	(0.397)	0.091	0.037
131	10.92	0.67	0.128	(0.395)	0.091	0.037
132	11.00	0.67	0.128	(0.393)	0.091	0.037
133	11.08	0.63	0.122	(0.391)	0.087	0.035
134	11.17	0.63	0.122	(0.389)	0.087	0.035
135	11.25	0.63	0.122	(0.387)	0.087	0.035
136	11.33	0.63	0.122	(0.385)	0.087	0.035
137	11.42	0.63	0.122	(0.383)	0.087	0.035
138	11.50	0.63	0.122	(0.382)	0.087	0.035
139	11.58	0.57	0.109	(0.380)	0.077	0.031
140	11.67	0.57	0.109	(0.378)	0.077	0.031

141	11.75	0.57	0.109	(0.376)	0.077	0.031
142	11.83	0.60	0.115	(0.374)	0.082	0.033
143	11.92	0.60	0.115	(0.372)	0.082	0.033
144	12.00	0.60	0.115	(0.370)	0.082	0.033
145	12.08	0.83	0.160	(0.368)	0.114	0.046
146	12.17	0.83	0.160	(0.367)	0.114	0.046
147	12.25	0.83	0.160	(0.365)	0.114	0.046
148	12.33	0.87	0.166	(0.363)	0.118	0.048
149	12.42	0.87	0.166	(0.361)	0.118	0.048
150	12.50	0.87	0.166	(0.359)	0.118	0.048
151	12.58	0.93	0.179	(0.358)	0.128	0.052
152	12.67	0.93	0.179	(0.356)	0.128	0.052
153	12.75	0.93	0.179	(0.354)	0.128	0.052
154	12.83	0.97	0.186	(0.352)	0.132	0.053
155	12.92	0.97	0.186	(0.350)	0.132	0.053
156	13.00	0.97	0.186	(0.349)	0.132	0.053
157	13.08	1.13	0.218	(0.347)	0.155	0.063
158	13.17	1.13	0.218	(0.345)	0.155	0.063
159	13.25	1.13	0.218	(0.343)	0.155	0.063
160	13.33	1.13	0.218	(0.342)	0.155	0.063
161	13.42	1.13	0.218	(0.340)	0.155	0.063
162	13.50	1.13	0.218	(0.338)	0.155	0.063
163	13.58	0.77	0.147	(0.336)	0.105	0.042
164	13.67	0.77	0.147	(0.335)	0.105	0.042
165	13.75	0.77	0.147	(0.333)	0.105	0.042
166	13.83	0.77	0.147	(0.331)	0.105	0.042
167	13.92	0.77	0.147	(0.330)	0.105	0.042
168	14.00	0.77	0.147	(0.328)	0.105	0.042
169	14.08	0.90	0.173	(0.326)	0.123	0.050
170	14.17	0.90	0.173	(0.325)	0.123	0.050
171	14.25	0.90	0.173	(0.323)	0.123	0.050
172	14.33	0.87	0.166	(0.321)	0.118	0.048
173	14.42	0.87	0.166	(0.320)	0.118	0.048
174	14.50	0.87	0.166	(0.318)	0.118	0.048
175	14.58	0.87	0.166	(0.316)	0.118	0.048
176	14.67	0.87	0.166	(0.315)	0.118	0.048
177	14.75	0.87	0.166	(0.313)	0.118	0.048
178	14.83	0.83	0.160	(0.311)	0.114	0.046
179	14.92	0.83	0.160	(0.310)	0.114	0.046
180	15.00	0.83	0.160	(0.308)	0.114	0.046
181	15.08	0.80	0.154	(0.307)	0.109	0.044
182	15.17	0.80	0.154	(0.305)	0.109	0.044
183	15.25	0.80	0.154	(0.304)	0.109	0.044
184	15.33	0.77	0.147	(0.302)	0.105	0.042
185	15.42	0.77	0.147	(0.300)	0.105	0.042
186	15.50	0.77	0.147	(0.299)	0.105	0.042
187	15.58	0.63	0.122	(0.297)	0.087	0.035
188	15.67	0.63	0.122	(0.296)	0.087	0.035
189	15.75	0.63	0.122	(0.294)	0.087	0.035
190	15.83	0.63	0.122	(0.293)	0.087	0.035
191	15.92	0.63	0.122	(0.291)	0.087	0.035
192	16.00	0.63	0.122	(0.290)	0.087	0.035
193	16.08	0.13	0.026	(0.288)	0.018	0.007
194	16.17	0.13	0.026	(0.287)	0.018	0.007
195	16.25	0.13	0.026	(0.285)	0.018	0.007
196	16.33	0.13	0.026	(0.284)	0.018	0.007
197	16.42	0.13	0.026	(0.283)	0.018	0.007
198	16.50	0.13	0.026	(0.281)	0.018	0.007
199	16.58	0.10	0.019	(0.280)	0.014	0.006
200	16.67	0.10	0.019	(0.278)	0.014	0.006
201	16.75	0.10	0.019	(0.277)	0.014	0.006
202	16.83	0.10	0.019	(0.275)	0.014	0.006
203	16.92	0.10	0.019	(0.274)	0.014	0.006

204	17.00	0.10	0.019	(0.273)	0.014	0.006
205	17.08	0.17	0.032	(0.271)	0.023	0.009
206	17.17	0.17	0.032	(0.270)	0.023	0.009
207	17.25	0.17	0.032	(0.269)	0.023	0.009
208	17.33	0.17	0.032	(0.267)	0.023	0.009
209	17.42	0.17	0.032	(0.266)	0.023	0.009
210	17.50	0.17	0.032	(0.265)	0.023	0.009
211	17.58	0.17	0.032	(0.263)	0.023	0.009
212	17.67	0.17	0.032	(0.262)	0.023	0.009
213	17.75	0.17	0.032	(0.261)	0.023	0.009
214	17.83	0.13	0.026	(0.259)	0.018	0.007
215	17.92	0.13	0.026	(0.258)	0.018	0.007
216	18.00	0.13	0.026	(0.257)	0.018	0.007
217	18.08	0.13	0.026	(0.255)	0.018	0.007
218	18.17	0.13	0.026	(0.254)	0.018	0.007
219	18.25	0.13	0.026	(0.253)	0.018	0.007
220	18.33	0.13	0.026	(0.252)	0.018	0.007
221	18.42	0.13	0.026	(0.251)	0.018	0.007
222	18.50	0.13	0.026	(0.249)	0.018	0.007
223	18.58	0.10	0.019	(0.248)	0.014	0.006
224	18.67	0.10	0.019	(0.247)	0.014	0.006
225	18.75	0.10	0.019	(0.246)	0.014	0.006
226	18.83	0.07	0.013	(0.245)	0.009	0.004
227	18.92	0.07	0.013	(0.243)	0.009	0.004
228	19.00	0.07	0.013	(0.242)	0.009	0.004
229	19.08	0.10	0.019	(0.241)	0.014	0.006
230	19.17	0.10	0.019	(0.240)	0.014	0.006
231	19.25	0.10	0.019	(0.239)	0.014	0.006
232	19.33	0.13	0.026	(0.238)	0.018	0.007
233	19.42	0.13	0.026	(0.237)	0.018	0.007
234	19.50	0.13	0.026	(0.236)	0.018	0.007
235	19.58	0.10	0.019	(0.234)	0.014	0.006
236	19.67	0.10	0.019	(0.233)	0.014	0.006
237	19.75	0.10	0.019	(0.232)	0.014	0.006
238	19.83	0.07	0.013	(0.231)	0.009	0.004
239	19.92	0.07	0.013	(0.230)	0.009	0.004
240	20.00	0.07	0.013	(0.229)	0.009	0.004
241	20.08	0.10	0.019	(0.228)	0.014	0.006
242	20.17	0.10	0.019	(0.227)	0.014	0.006
243	20.25	0.10	0.019	(0.226)	0.014	0.006
244	20.33	0.10	0.019	(0.225)	0.014	0.006
245	20.42	0.10	0.019	(0.224)	0.014	0.006
246	20.50	0.10	0.019	(0.223)	0.014	0.006
247	20.58	0.10	0.019	(0.222)	0.014	0.006
248	20.67	0.10	0.019	(0.221)	0.014	0.006
249	20.75	0.10	0.019	(0.221)	0.014	0.006
250	20.83	0.07	0.013	(0.220)	0.009	0.004
251	20.92	0.07	0.013	(0.219)	0.009	0.004
252	21.00	0.07	0.013	(0.218)	0.009	0.004
253	21.08	0.10	0.019	(0.217)	0.014	0.006
254	21.17	0.10	0.019	(0.216)	0.014	0.006
255	21.25	0.10	0.019	(0.215)	0.014	0.006
256	21.33	0.07	0.013	(0.214)	0.009	0.004
257	21.42	0.07	0.013	(0.214)	0.009	0.004
258	21.50	0.07	0.013	(0.213)	0.009	0.004
259	21.58	0.10	0.019	(0.212)	0.014	0.006
260	21.67	0.10	0.019	(0.211)	0.014	0.006
261	21.75	0.10	0.019	(0.211)	0.014	0.006
262	21.83	0.07	0.013	(0.210)	0.009	0.004
263	21.92	0.07	0.013	(0.209)	0.009	0.004
264	22.00	0.07	0.013	(0.208)	0.009	0.004
265	22.08	0.10	0.019	(0.208)	0.014	0.006
266	22.17	0.10	0.019	(0.207)	0.014	0.006

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267  22.25     0.10      0.019       (  0.206)       0.014        0.006
268  22.33     0.07      0.013       (  0.206)       0.009        0.004
269  22.42     0.07      0.013       (  0.205)       0.009        0.004
270  22.50     0.07      0.013       (  0.205)       0.009        0.004
271  22.58     0.07      0.013       (  0.204)       0.009        0.004
272  22.67     0.07      0.013       (  0.203)       0.009        0.004
273  22.75     0.07      0.013       (  0.203)       0.009        0.004
274  22.83     0.07      0.013       (  0.202)       0.009        0.004
275  22.92     0.07      0.013       (  0.202)       0.009        0.004
276  23.00     0.07      0.013       (  0.201)       0.009        0.004
277  23.08     0.07      0.013       (  0.201)       0.009        0.004
278  23.17     0.07      0.013       (  0.200)       0.009        0.004
279  23.25     0.07      0.013       (  0.200)       0.009        0.004
280  23.33     0.07      0.013       (  0.200)       0.009        0.004
281  23.42     0.07      0.013       (  0.199)       0.009        0.004
282  23.50     0.07      0.013       (  0.199)       0.009        0.004
283  23.58     0.07      0.013       (  0.198)       0.009        0.004
284  23.67     0.07      0.013       (  0.198)       0.009        0.004
285  23.75     0.07      0.013       (  0.198)       0.009        0.004
286  23.83     0.07      0.013       (  0.198)       0.009        0.004
287  23.92     0.07      0.013       (  0.198)       0.009        0.004
288  24.00     0.07      0.013       (  0.197)       0.009        0.004
            (Loss Rate Not Used)
    Sum =     100.0                                  Sum =     5.5
     Flood volume = Effective rainfall      0.46(In)
      times area       1.9(Ac.)/[(In)/(Ft.)] =      0.1(Ac.Ft)
     Total soil loss =      1.14(In)
     Total soil loss =     0.180(Ac.Ft)
     Total rainfall =      1.60(In)
     Flood volume =        3178.1 Cubic Feet
     Total soil loss =        7857.0 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      0.00  Q         |         |         |         |
   0+10       0.0000      0.00  Q         |         |         |         |
   0+15       0.0001      0.01  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       0.0004      0.01  Q         |         |         |         |
   0+45       0.0004      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       0.0009      0.01  Q         |         |         |         |
   1+15       0.0009      0.01  Q         |         |         |         |
   1+20       0.0010      0.01  Q         |         |         |         |
   1+25       0.0011      0.01  Q         |         |         |         |
   1+30       0.0012      0.01  Q         |         |         |         |
   1+35       0.0012      0.01  Q         |         |         |         |
   1+40       0.0013      0.01  Q         |         |         |         |
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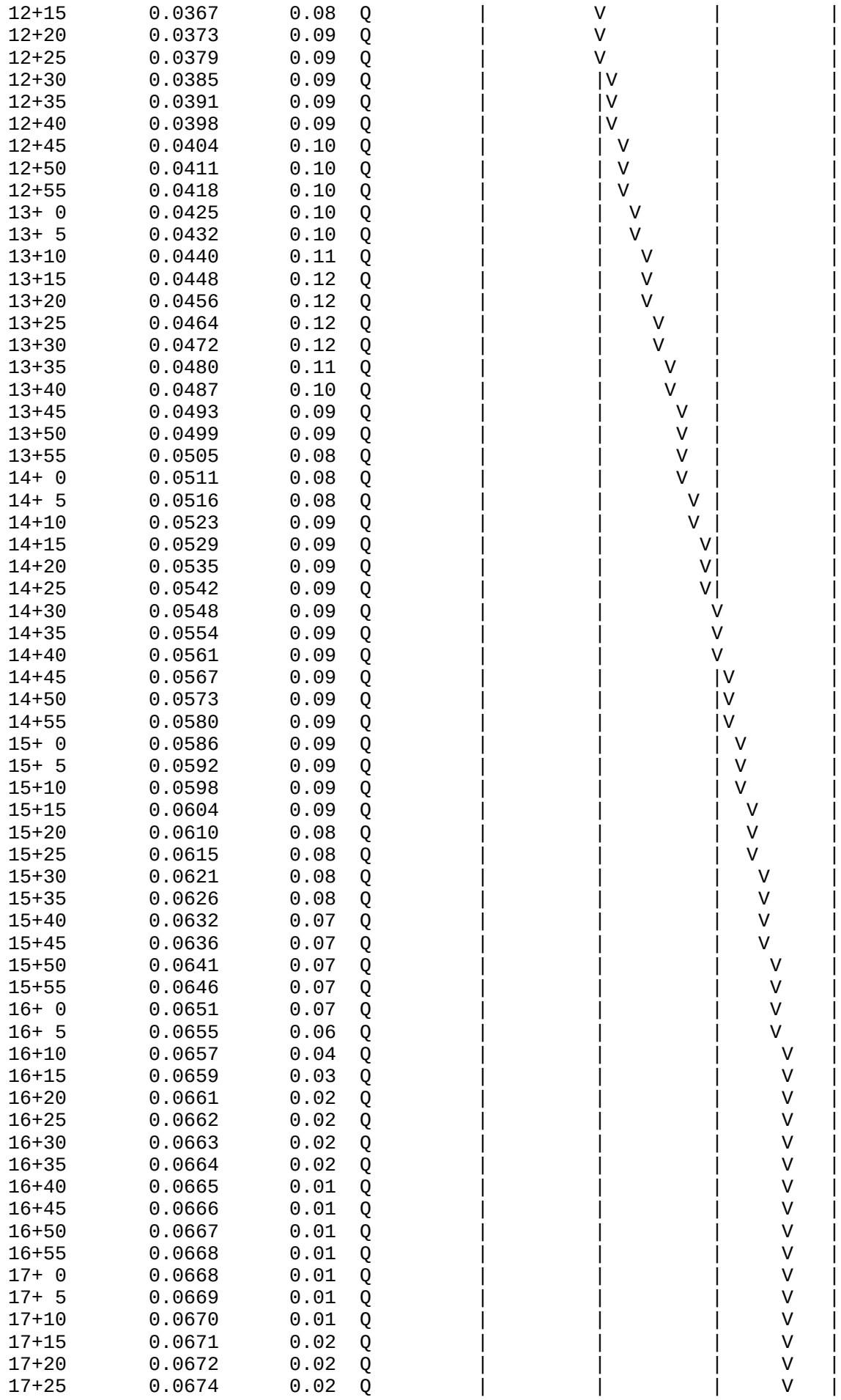
1+45	0.0014	0.01	Q	|	|	|	|
1+50	0.0015	0.01	Q	|	|	|	|
1+55	0.0016	0.01	Q	|	|	|	|
2+ 0	0.0016	0.01	Q	|	|	|	|
2+ 5	0.0017	0.01	Q	|	|	|	|
2+10	0.0018	0.01	QV	|	|	|	|
2+15	0.0019	0.01	QV	|	|	|	|
2+20	0.0020	0.01	QV	|	|	|	|
2+25	0.0021	0.01	QV	|	|	|	|
2+30	0.0022	0.01	QV	|	|	|	|
2+35	0.0023	0.01	QV	|	|	|	|
2+40	0.0024	0.02	QV	|	|	|	|
2+45	0.0025	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	QV	|	|	|	|
3+30	0.0036	0.02	QV	|	|	|	|
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	0.0041	0.02	Q V	|	|	|	|
3+55	0.0043	0.02	Q V	|	|	|	|
4+ 0	0.0044	0.02	Q V	|	|	|	|
4+ 5	0.0045	0.02	Q V	|	|	|	|
4+10	0.0047	0.02	Q V	|	|	|	|
4+15	0.0048	0.02	Q V	|	|	|	|
4+20	0.0050	0.02	Q V	|	|	|	|
4+25	0.0051	0.02	Q V	|	|	|	|
4+30	0.0053	0.02	Q V	|	|	|	|
4+35	0.0055	0.02	Q V	|	|	|	|
4+40	0.0056	0.02	Q V	|	|	|	|
4+45	0.0058	0.02	Q V	|	|	|	|
4+50	0.0060	0.03	Q V	|	|	|	|
4+55	0.0062	0.03	Q V	|	|	|	|
5+ 0	0.0063	0.03	Q V	|	|	|	|
5+ 5	0.0065	0.03	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	0.0073	0.02	Q V	|	|	|	|
5+35	0.0075	0.02	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	0.0099	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	0.0111	0.04	Q	V	|	|	|	|
7+ 5	0.0114	0.04	Q	V	|	|	|	|
7+10	0.0116	0.04	Q	V	|	|	|	|
7+15	0.0119	0.04	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	0.0137	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	0.0150	0.05	Q	V	|	|	|	|
8+15	0.0154	0.05	Q	V	|	|	|	|
8+20	0.0157	0.05	Q	V	|	|	|	|
8+25	0.0161	0.05	Q	V	|	|	|	|
8+30	0.0164	0.05	Q	V	|	|	|	|
8+35	0.0168	0.05	Q	V	|	|	|	|
8+40	0.0172	0.05	Q	V	|	|	|	|
8+45	0.0176	0.06	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	0.0196	0.06	Q	V	|	|	|	|
9+15	0.0201	0.07	Q	|	V	|	|	|
9+20	0.0205	0.07	Q	|	V	|	|	|
9+25	0.0210	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	0.0245	0.08	Q	|	V	|	|	|
10+ 5	0.0250	0.07	Q	|	V	|	|	|
10+10	0.0255	0.06	Q	|	V	|	|	|
10+15	0.0259	0.06	Q	|	V	|	|	|
10+20	0.0263	0.06	Q	|	V	|	|	|
10+25	0.0266	0.06	Q	|	V	|	|	|
10+30	0.0270	0.05	Q	|	V	|	|	|
10+35	0.0274	0.06	Q	|	V	|	|	|
10+40	0.0278	0.06	Q	|	V	|	|	|
10+45	0.0283	0.07	Q	|	V	|	|	|
10+50	0.0288	0.07	Q	|	V	|	|	|
10+55	0.0292	0.07	Q	|	V	|	|	|
11+ 0	0.0297	0.07	Q	|	V	|	|	|
11+ 5	0.0302	0.07	Q	|	V	|	|	|
11+10	0.0307	0.07	Q	|	V	|	|	|
11+15	0.0311	0.07	Q	|	V	|	|	|
11+20	0.0316	0.07	Q	|	V	|	|	|
11+25	0.0321	0.07	Q	|	V	|	|	|
11+30	0.0325	0.07	Q	|	V	|	|	|
11+35	0.0330	0.07	Q	|	V	|	|	|
11+40	0.0334	0.06	Q	|	V	|	|	|
11+45	0.0338	0.06	Q	|	V	|	|	|
11+50	0.0343	0.06	Q	|	V	|	|	|
11+55	0.0347	0.06	Q	|	V	|	|	|
12+ 0	0.0351	0.06	Q	|	V	|	|	|
12+ 5	0.0356	0.07	Q	|	V	|	|	|
12+10	0.0361	0.08	Q	|	V	|	|	|



17+30	0.0675	0.02	Q	|	|	|	V |
17+35	0.0676	0.02	Q	|	|	|	V |
17+40	0.0677	0.02	Q	|	|	|	V |
17+45	0.0678	0.02	Q	|	|	|	V |
17+50	0.0680	0.02	Q	|	|	|	V |
17+55	0.0681	0.02	Q	|	|	|	V |
18+ 0	0.0682	0.01	Q	|	|	|	V |
18+ 5	0.0683	0.01	Q	|	|	|	V |
18+10	0.0684	0.01	Q	|	|	|	V |
18+15	0.0685	0.01	Q	|	|	|	V |
18+20	0.0686	0.01	Q	|	|	|	V |
18+25	0.0687	0.01	Q	|	|	|	V |
18+30	0.0688	0.01	Q	|	|	|	V |
18+35	0.0689	0.01	Q	|	|	|	V |
18+40	0.0689	0.01	Q	|	|	|	V |
18+45	0.0690	0.01	Q	|	|	|	V |
18+50	0.0691	0.01	Q	|	|	|	V |
18+55	0.0692	0.01	Q	|	|	|	V |
19+ 0	0.0692	0.01	Q	|	|	|	V |
19+ 5	0.0693	0.01	Q	|	|	|	V |
19+10	0.0693	0.01	Q	|	|	|	V |
19+15	0.0694	0.01	Q	|	|	|	V |
19+20	0.0695	0.01	Q	|	|	|	V |
19+25	0.0696	0.01	Q	|	|	|	V |
19+30	0.0696	0.01	Q	|	|	|	V |
19+35	0.0697	0.01	Q	|	|	|	V |
19+40	0.0698	0.01	Q	|	|	|	V |
19+45	0.0699	0.01	Q	|	|	|	V |
19+50	0.0700	0.01	Q	|	|	|	V |
19+55	0.0700	0.01	Q	|	|	|	V |
20+ 0	0.0701	0.01	Q	|	|	|	V |
20+ 5	0.0701	0.01	Q	|	|	|	V |
20+10	0.0702	0.01	Q	|	|	|	V |
20+15	0.0703	0.01	Q	|	|	|	V |
20+20	0.0703	0.01	Q	|	|	|	V |
20+25	0.0704	0.01	Q	|	|	|	V |
20+30	0.0705	0.01	Q	|	|	|	V |
20+35	0.0706	0.01	Q	|	|	|	V |
20+40	0.0706	0.01	Q	|	|	|	V |
20+45	0.0707	0.01	Q	|	|	|	V |
20+50	0.0708	0.01	Q	|	|	|	V |
20+55	0.0708	0.01	Q	|	|	|	V |
21+ 0	0.0709	0.01	Q	|	|	|	V |
21+ 5	0.0709	0.01	Q	|	|	|	V |
21+10	0.0710	0.01	Q	|	|	|	V |
21+15	0.0711	0.01	Q	|	|	|	V |
21+20	0.0711	0.01	Q	|	|	|	V|
21+25	0.0712	0.01	Q	|	|	|	V|
21+30	0.0713	0.01	Q	|	|	|	V|
21+35	0.0713	0.01	Q	|	|	|	V|
21+40	0.0714	0.01	Q	|	|	|	V|
21+45	0.0714	0.01	Q	|	|	|	V|
21+50	0.0715	0.01	Q	|	|	|	V|
21+55	0.0716	0.01	Q	|	|	|	V|
22+ 0	0.0716	0.01	Q	|	|	|	V|
22+ 5	0.0717	0.01	Q	|	|	|	V|
22+10	0.0717	0.01	Q	|	|	|	V|
22+15	0.0718	0.01	Q	|	|	|	V|
22+20	0.0719	0.01	Q	|	|	|	V|
22+25	0.0719	0.01	Q	|	|	|	V|
22+30	0.0720	0.01	Q	|	|	|	V|
22+35	0.0720	0.01	Q	|	|	|	V|
22+40	0.0721	0.01	Q	|	|	|	V|

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   22+45       0.0721      0.01  Q          |          |          |         V|
   22+50       0.0722      0.01  Q          |          |          |         V|
   22+55       0.0722      0.01  Q          |          |          |         V|
   23+ 0       0.0723      0.01  Q          |          |          |         V|
   23+ 5       0.0723      0.01  Q          |          |          |         V|
   23+10       0.0724      0.01  Q          |          |          |         V|
   23+15       0.0724      0.01  Q          |          |          |         V|
   23+20       0.0725      0.01  Q          |          |          |         V|
   23+25       0.0725      0.01  Q          |          |          |         V|
   23+30       0.0726      0.01  Q          |          |          |         V|
   23+35       0.0726      0.01  Q          |          |          |         V|
   23+40       0.0727      0.01  Q          |          |          |         V|
   23+45       0.0727      0.01  Q          |          |          |         V|
   23+50       0.0728      0.01  Q          |          |          |         V|
   23+55       0.0728      0.01  Q          |          |          |         V|
   24+ 0       0.0729      0.01  Q          |          |          |         V|
   24+ 5       0.0729      0.01  Q          |          |          |         V|
   24+10       0.0729      0.00  Q          |          |          |         V|
   24+15       0.0729      0.00  Q          |          |          |         V|
   24+20       0.0729      0.00  Q          |          |          |         V|
   24+25       0.0730      0.00  Q          |          |          |         V|
   24+30       0.0730      0.00  Q          |          |          |         V|
   24+35       0.0730      0.00  Q          |          |          |         V|
   24+40       0.0730      0.00  Q          |          |          |         V|
   24+45       0.0730      0.00  Q          |          |          |         V|
   24+50       0.0730      0.00  Q          |          |          |         V|
-------------------------------------------------------------------------
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EXISTING 100-YEAR HYDROLOGY CALCULATIONS

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

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Study date 08/27/20 File: 522EX100SAC1100.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

20-522 D-1 DEVELOPMENT
EXISTING CONDITION
SUBAREA C
100-YEAR 1-HOUR STORM

Drainage Area = 6.90(Ac.) = 0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.90(Ac.) = 0.011 Sq. Mi.
Length along longest watercourse = 647.00(Ft.)
Length along longest watercourse measured to centroid = 110.00(Ft.)
Length along longest watercourse = 0.123 Mi.
Length along longest watercourse measured to centroid = 0.021 Mi.
Difference in elevation = 7.00(Ft.)
Slope along watercourse = 57.1252 Ft./Mi.
Average Manning's 'N' = 0.020
Lag time = 0.023 Hr.
Lag time = 1.38 Min.
25% of lag time = 0.35 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]
6.90	0.47	3.24

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
6.90	1.20	8.28

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.470(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
6.900	75.00	0.443

Total Area Entered = 6.90(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	88.0	0.153	0.443	0.092	1.000	0.092
					Sum (F) =	0.092

Area averaged mean soil loss (F) (In/Hr) = 0.092
Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.546

Slope of intensity-duration curve for a 1 hour storm =0.5000

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	62.274	4.330
2	0.167	33.934	2.360
3	0.250	3.792	0.264
		Sum = 100.000	Sum= 6.954

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	4.20	0.605	0.092	(0.330)	0.513
2	0.17	4.30	0.619	0.092	(0.338)	0.527
3	0.25	5.00	0.720	0.092	(0.393)	0.628
4	0.33	5.00	0.720	0.092	(0.393)	0.628
5	0.42	5.80	0.835	0.092	(0.456)	0.743
6	0.50	6.50	0.936	0.092	(0.511)	0.844
7	0.58	7.40	1.066	0.092	(0.581)	0.974
8	0.67	8.60	1.238	0.092	(0.676)	1.146
9	0.75	12.30	1.771	0.092	(0.966)	1.679
10	0.83	29.10	4.190	0.092	(2.286)	4.098
11	0.92	6.80	0.979	0.092	(0.534)	0.887
12	1.00	5.00	0.720	0.092	(0.393)	0.628
	(Loss Rate Not Used)					
Sum =	100.0				Sum =	13.3

Flood volume = Effective rainfall 1.11(In)
times area 6.9(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)
Total soil loss = 0.09(In)
Total soil loss = 0.053(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 27753.2 Cubic Feet

Total soil loss = 2301.3 Cubic Feet

Peak flow rate of this hydrograph = 22.024(CFS)

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1 - H O U R S T O R M

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0153	2.22	V Q				
0+10	0.0394	3.50	| V Q				
0+15	0.0676	4.10	| VQ				
0+20	0.0975	4.34	| QV				
0+25	0.1311	4.87	| Q V				
0+30	0.1695	5.58	| Q V				
0+35	0.2136	6.41	| Q | V				
0+40	0.2652	7.49	| Q| V				
0+45	0.3357	10.24	| | Q		V		
0+50	0.4874	22.02	| |		| QV		
0+55	0.5835	13.96	| | Q		|	V	
1+ 0	0.6242	5.90	| Q		|		V|
1+ 5	0.6360	1.72	| Q		|		V|
1+10	0.6371	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 08/27/20 File: 522EX100SAC3100.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

20-522 D-1 DEVELOPMENT
EXISTING CONDITION
SUBAREA C
100-YEAR 3-HOUR STORM

Drainage Area = 6.90(Ac.) = 0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.90(Ac.) = 0.011 Sq. Mi.
Length along longest watercourse = 647.00(Ft.)
Length along longest watercourse measured to centroid = 110.00(Ft.)
Length along longest watercourse = 0.123 Mi.
Length along longest watercourse measured to centroid = 0.021 Mi.
Difference in elevation = 7.00(Ft.)
Slope along watercourse = 57.1252 Ft./Mi.
Average Manning's 'N' = 0.020
Lag time = 0.023 Hr.
Lag time = 1.38 Min.
25% of lag time = 0.35 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]
6.90	0.80	5.52

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
6.90	1.88	12.97

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.880(In)

Point rain (area averaged) = 1.880(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.880(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
6.900	75.00	0.443

Total Area Entered = 6.90(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	88.0	0.153	0.443	0.092	1.000	0.092
					Sum (F) =	0.092

Area averaged mean soil loss (F) (In/Hr) = 0.092
Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.546

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	361.996	62.274	4.330
2	0.167	723.992	33.934	2.360
3	0.250	1085.988	3.792	0.264
		Sum =	100.000 Sum=	6.954

The following loss 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	0.293	0.092	(0.160)	0.201
2	0.17	1.30	0.293	0.092	(0.160)	0.201
3	0.25	1.10	0.248	0.092	(0.135)	0.156
4	0.33	1.50	0.338	0.092	(0.185)	0.247
5	0.42	1.50	0.338	0.092	(0.185)	0.247
6	0.50	1.80	0.406	0.092	(0.222)	0.314
7	0.58	1.50	0.338	0.092	(0.185)	0.247
8	0.67	1.80	0.406	0.092	(0.222)	0.314
9	0.75	1.80	0.406	0.092	(0.222)	0.314
10	0.83	1.50	0.338	0.092	(0.185)	0.247
11	0.92	1.60	0.361	0.092	(0.197)	0.269
12	1.00	1.80	0.406	0.092	(0.222)	0.314
13	1.08	2.20	0.496	0.092	(0.271)	0.404
14	1.17	2.20	0.496	0.092	(0.271)	0.404
15	1.25	2.20	0.496	0.092	(0.271)	0.404
16	1.33	2.00	0.451	0.092	(0.246)	0.359
17	1.42	2.60	0.587	0.092	(0.320)	0.495
18	1.50	2.70	0.609	0.092	(0.332)	0.517
19	1.58	2.40	0.541	0.092	(0.295)	0.450
20	1.67	2.70	0.609	0.092	(0.332)	0.517
21	1.75	3.30	0.744	0.092	(0.406)	0.653
22	1.83	3.10	0.699	0.092	(0.382)	0.607

23	1.92	2.90	0.654	0.092	(0.357)	0.562	
24	2.00	3.00	0.677	0.092	(0.369)	0.585	
25	2.08	3.10	0.699	0.092	(0.382)	0.607	
26	2.17	4.20	0.947	0.092	(0.517)	0.856	
27	2.25	5.00	1.128	0.092	(0.615)	1.036	
28	2.33	3.50	0.790	0.092	(0.431)	0.698	
29	2.42	6.80	1.534	0.092	(0.837)	1.442	
30	2.50	7.30	1.647	0.092	(0.899)	1.555	
31	2.58	8.20	1.850	0.092	(1.009)	1.758	
32	2.67	5.90	1.331	0.092	(0.726)	1.239	
33	2.75	2.00	0.451	0.092	(0.246)	0.359	
34	2.83	1.80	0.406	0.092	(0.222)	0.314	
35	2.92	1.80	0.406	0.092	(0.222)	0.314	
36	3.00	0.60	0.135	(0.092)	0.074	0.062	

(Loss Rate Not Used)

Sum = 100.0 Sum = 19.3

Flood volume = Effective rainfall 1.61(In)
times area 6.9(Ac.)/[(In)/(Ft.)] = 0.9(Ac.Ft)
Total soil loss = 0.27(In)
Total soil loss = 0.158(Ac.Ft)
Total rainfall = 1.88(In)
Flood volume = 40220.7 Cubic Feet
Total soil loss = 6866.2 Cubic Feet

Peak flow rate of this hydrograph = 11.668(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	0.0060	0.87	VQ | | | |
0+10	0.0153	1.35	V Q | | | |
0+15	0.0236	1.21	|VQ | | | |
0+20	0.0339	1.49	|VQ | | | |
0+25	0.0455	1.69	|V Q | | | |
0+30	0.0593	2.01	| V Q | | | |
0+35	0.0723	1.87	| Q | | | |
0+40	0.0862	2.03	| VQ | | | |
0+45	0.1011	2.17	| Q | | | |
0+50	0.1142	1.89	| QV | | | |
0+55	0.1268	1.83	| Q V | | | |
1+ 0	0.1410	2.06	| Q V | | | |
1+ 5	0.1586	2.57	| QV | | | |
1+10	0.1779	2.79	| Q V | | | |
1+15	0.1972	2.81	| Q V | | | |
1+20	0.2153	2.62	| Q V| | | |
1+25	0.2366	3.10	| Q V | | |
1+30	0.2607	3.50	| Q |V | | |
1+35	0.2835	3.30	| Q | V | | |
1+40	0.3071	3.44	| Q | V | | |
1+45	0.3358	4.17	| Q | V | | |
1+50	0.3655	4.31	| Q | V | | |
1+55	0.3934	4.04	| Q | V | | |
2+ 0	0.4211	4.02	| Q | V | | |
2+ 5	0.4497	4.16	| Q | V| | |
2+10	0.4862	5.30	| Q |V | |
2+15	0.5321	6.67	| | Q | V | |
2+20	0.5713	5.69	| |Q | V | |

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    2+25       0.6276      8.17  |          |     Q    |      V  |          |
    2+30       0.6987     10.33  |          |          Q         V          |
    2+35       0.7791     11.67  |          |          |  Q       |  V       |
    2+40       0.8475      9.93  |          |         Q|          |     V    |
    2+45       0.8815      4.95  |        Q |          |          |       V  |
    2+50       0.8990      2.54  |    Q     |          |          |       V  |
    2+55       0.9141      2.20  |   Q      |          |          |        V |
    3+ 0       0.9217      1.09  | Q        |          |          |        V |
    3+ 5       0.9232      0.23  Q          |          |          |        V |
    3+10       0.9233      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 08/27/20 File: 522EX100SAC6100.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

20-522 D-1 DEVELOPMENT
EXISTING CONDITION
SUBAREA C
100-YEAR 6-HOUR STORM

Drainage Area = 6.90(Ac.) = 0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.90(Ac.) = 0.011 Sq. Mi.
Length along longest watercourse = 647.00(Ft.)
Length along longest watercourse measured to centroid = 110.00(Ft.)
Length along longest watercourse = 0.123 Mi.
Length along longest watercourse measured to centroid = 0.021 Mi.
Difference in elevation = 7.00(Ft.)
Slope along watercourse = 57.1252 Ft./Mi.
Average Manning's 'N' = 0.020
Lag time = 0.023 Hr.
Lag time = 1.38 Min.
25% of lag time = 0.35 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]
6.90	1.00	6.90

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
6.90	2.50	17.25

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
6.900	75.00	0.443

Total Area Entered = 6.90(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	88.0	0.153	0.443	0.092	1.000	0.092
					Sum (F) =	0.092

Area averaged mean soil loss (F) (In/Hr) = 0.092
Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.546

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	361.996	62.274	4.330
2 0.167	723.992	33.934	2.360
3 0.250	1085.988	3.792	0.264
	Sum =	100.000 Sum=	6.954

The following loss 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	0.150	(0.092)	0.082	0.068
2 0.17	0.60	0.180	0.092	(0.098)	0.088
3 0.25	0.60	0.180	0.092	(0.098)	0.088
4 0.33	0.60	0.180	0.092	(0.098)	0.088
5 0.42	0.60	0.180	0.092	(0.098)	0.088
6 0.50	0.70	0.210	0.092	(0.115)	0.118
7 0.58	0.70	0.210	0.092	(0.115)	0.118
8 0.67	0.70	0.210	0.092	(0.115)	0.118
9 0.75	0.70	0.210	0.092	(0.115)	0.118
10 0.83	0.70	0.210	0.092	(0.115)	0.118
11 0.92	0.70	0.210	0.092	(0.115)	0.118
12 1.00	0.80	0.240	0.092	(0.131)	0.148
13 1.08	0.80	0.240	0.092	(0.131)	0.148
14 1.17	0.80	0.240	0.092	(0.131)	0.148
15 1.25	0.80	0.240	0.092	(0.131)	0.148
16 1.33	0.80	0.240	0.092	(0.131)	0.148
17 1.42	0.80	0.240	0.092	(0.131)	0.148
18 1.50	0.80	0.240	0.092	(0.131)	0.148
19 1.58	0.80	0.240	0.092	(0.131)	0.148
20 1.67	0.80	0.240	0.092	(0.131)	0.148
21 1.75	0.80	0.240	0.092	(0.131)	0.148
22 1.83	0.80	0.240	0.092	(0.131)	0.148

23	1.92	0.80	0.240	0.092	(	0.131)	0.148
24	2.00	0.90	0.270	0.092	(	0.147)	0.178
25	2.08	0.80	0.240	0.092	(	0.131)	0.148
26	2.17	0.90	0.270	0.092	(	0.147)	0.178
27	2.25	0.90	0.270	0.092	(	0.147)	0.178
28	2.33	0.90	0.270	0.092	(	0.147)	0.178
29	2.42	0.90	0.270	0.092	(	0.147)	0.178
30	2.50	0.90	0.270	0.092	(	0.147)	0.178
31	2.58	0.90	0.270	0.092	(	0.147)	0.178
32	2.67	0.90	0.270	0.092	(	0.147)	0.178
33	2.75	1.00	0.300	0.092	(	0.164)	0.208
34	2.83	1.00	0.300	0.092	(	0.164)	0.208
35	2.92	1.00	0.300	0.092	(	0.164)	0.208
36	3.00	1.00	0.300	0.092	(	0.164)	0.208
37	3.08	1.00	0.300	0.092	(	0.164)	0.208
38	3.17	1.10	0.330	0.092	(	0.180)	0.238
39	3.25	1.10	0.330	0.092	(	0.180)	0.238
40	3.33	1.10	0.330	0.092	(	0.180)	0.238
41	3.42	1.20	0.360	0.092	(	0.196)	0.268
42	3.50	1.30	0.390	0.092	(	0.213)	0.298
43	3.58	1.40	0.420	0.092	(	0.229)	0.328
44	3.67	1.40	0.420	0.092	(	0.229)	0.328
45	3.75	1.50	0.450	0.092	(	0.246)	0.358
46	3.83	1.50	0.450	0.092	(	0.246)	0.358
47	3.92	1.60	0.480	0.092	(	0.262)	0.388
48	4.00	1.60	0.480	0.092	(	0.262)	0.388
49	4.08	1.70	0.510	0.092	(	0.278)	0.418
50	4.17	1.80	0.540	0.092	(	0.295)	0.448
51	4.25	1.90	0.570	0.092	(	0.311)	0.478
52	4.33	2.00	0.600	0.092	(	0.327)	0.508
53	4.42	2.10	0.630	0.092	(	0.344)	0.538
54	4.50	2.10	0.630	0.092	(	0.344)	0.538
55	4.58	2.20	0.660	0.092	(	0.360)	0.568
56	4.67	2.30	0.690	0.092	(	0.376)	0.598
57	4.75	2.40	0.720	0.092	(	0.393)	0.628
58	4.83	2.40	0.720	0.092	(	0.393)	0.628
59	4.92	2.50	0.750	0.092	(	0.409)	0.658
60	5.00	2.60	0.780	0.092	(	0.426)	0.688
61	5.08	3.10	0.930	0.092	(	0.507)	0.838
62	5.17	3.60	1.080	0.092	(	0.589)	0.988
63	5.25	3.90	1.170	0.092	(	0.638)	1.078
64	5.33	4.20	1.260	0.092	(	0.687)	1.168
65	5.42	4.70	1.410	0.092	(	0.769)	1.318
66	5.50	5.60	1.680	0.092	(	0.917)	1.588
67	5.58	1.90	0.570	0.092	(	0.311)	0.478
68	5.67	0.90	0.270	0.092	(	0.147)	0.178
69	5.75	0.60	0.180	0.092	(	0.098)	0.088
70	5.83	0.50	0.150	(0.092)		0.082	0.068
71	5.92	0.30	0.090	(0.092)		0.049	0.041
72	6.00	0.20	0.060	(0.092)		0.033	0.027

(Loss Rate Not Used)

Sum = 100.0 Sum = 23.5

Flood volume = Effective rainfall 1.96(In)
times area 6.9(Ac.)/[(In)/(Ft.)] = 1.1(Ac.Ft)
Total soil loss = 0.54(In)
Total soil loss = 0.311(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 49063.0 Cubic Feet
Total soil loss = 13553.1 Cubic Feet

Peak flow rate of this hydrograph = 10.301(CFS)

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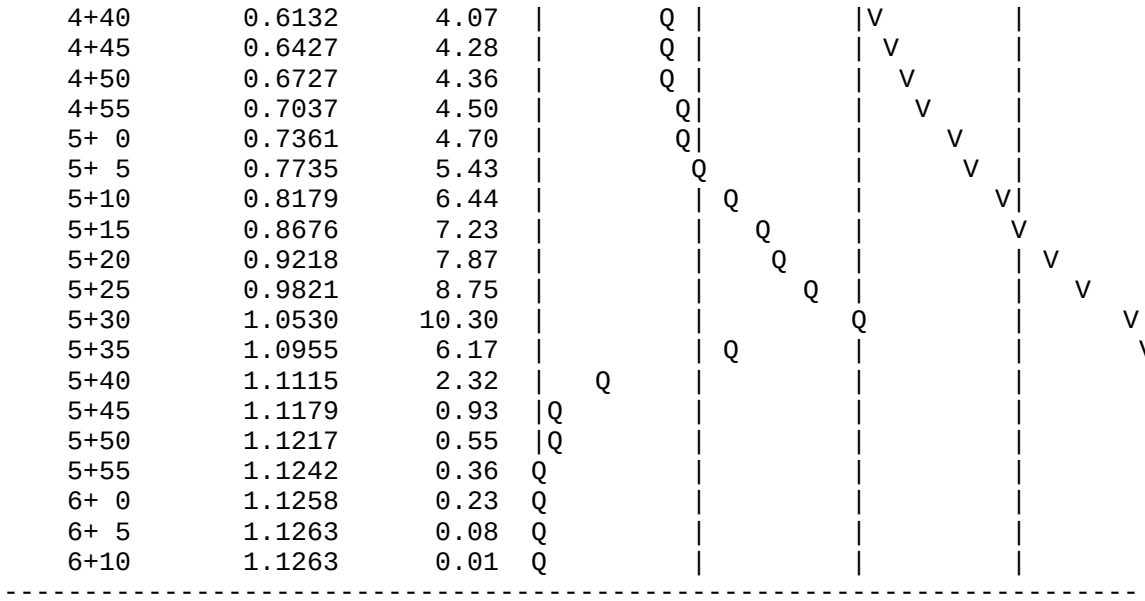
6 - H O U R S T O R M

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0 5.0 10.0 15.0 20.0
0+ 5	0.0020	0.30	Q
0+10	0.0058	0.54	VQ
0+15	0.0100	0.61	VQ
0+20	0.0142	0.61	VQ
0+25	0.0184	0.61	VQ
0+30	0.0235	0.74	VQ
0+35	0.0291	0.81	|Q
0+40	0.0348	0.82	|Q
0+45	0.0404	0.82	|Q
0+50	0.0461	0.82	|Q
0+55	0.0518	0.82	|Q
1+ 0	0.0583	0.95	|QV
1+ 5	0.0654	1.02	| Q
1+10	0.0725	1.03	| Q
1+15	0.0796	1.03	| Q
1+20	0.0867	1.03	| QV
1+25	0.0938	1.03	| QV
1+30	0.1008	1.03	| QV
1+35	0.1079	1.03	| QV
1+40	0.1150	1.03	| Q V
1+45	0.1221	1.03	| Q V
1+50	0.1292	1.03	| Q V
1+55	0.1363	1.03	| Q V
2+ 0	0.1443	1.16	| Q V
2+ 5	0.1519	1.10	| Q V
2+10	0.1600	1.17	| Q V
2+15	0.1684	1.23	| Q V
2+20	0.1770	1.24	| Q V
2+25	0.1855	1.24	| Q V
2+30	0.1940	1.24	| Q V
2+35	0.2026	1.24	| Q V
2+40	0.2111	1.24	| Q V
2+45	0.2205	1.37	| Q V
2+50	0.2305	1.44	| Q V
2+55	0.2404	1.45	| Q V
3+ 0	0.2504	1.45	| Q V
3+ 5	0.2604	1.45	| Q V|
3+10	0.2712	1.58	| Q V|
3+15	0.2826	1.65	| Q V
3+20	0.2940	1.66	| Q V
3+25	0.3063	1.79	| Q V
3+30	0.3200	1.99	| Q |V
3+35	0.3351	2.20	| Q |V
3+40	0.3508	2.27	| Q | V
3+45	0.3674	2.41	| Q | V
3+50	0.3845	2.48	| Q | V
3+55	0.4026	2.62	| Q | V
4+ 0	0.4211	2.69	| Q | V
4+ 5	0.4406	2.83	| Q | V
4+10	0.4615	3.03	| Q | V
4+15	0.4838	3.24	| Q | V
4+20	0.5075	3.45	| Q | V
4+25	0.5327	3.66	| Q | V
4+30	0.5585	3.74	| Q | V|
4+35	0.5851	3.87	| Q | V


4+40 0.6132 4.07
4+45 0.6427 4.28
4+50 0.6727 4.36
4+55 0.7037 4.50
5+ 0 0.7361 4.70
5+ 5 0.7735 5.43
5+10 0.8179 6.44
5+15 0.8676 7.23
5+20 0.9218 7.87
5+25 0.9821 8.75
5+30 1.0530 10.30
5+35 1.0955 6.17
5+40 1.1115 2.32
5+45 1.1179 0.93
5+50 1.1217 0.55
5+55 1.1242 0.36
6+ 0 1.1258 0.23
6+ 5 1.1263 0.08
6+10 1.1263 0.01

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

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Study date 08/27/20 File: 522EX100SAC24100.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

20-522 D-1 DEVELOPMENT
EXISTING CONDITION
SUBAREA C
100-YEAR 24-HOUR STORM

Drainage Area = 6.90(Ac.) = 0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.90(Ac.) = 0.011 Sq. Mi.
Length along longest watercourse = 647.00(Ft.)
Length along longest watercourse measured to centroid = 110.00(Ft.)
Length along longest watercourse = 0.123 Mi.
Length along longest watercourse measured to centroid = 0.021 Mi.
Difference in elevation = 7.00(Ft.)
Slope along watercourse = 57.1252 Ft./Mi.
Average Manning's 'N' = 0.020
Lag time = 0.023 Hr.
Lag time = 1.38 Min.
25% of lag time = 0.35 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]
6.90	1.60	11.04

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
6.90	4.00	27.60

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 4.000(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.000(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
6.900	75.00	0.443

Total Area Entered = 6.90(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	88.0	0.153	0.443	0.092	1.000	0.092
					Sum (F) =	0.092

Area averaged mean soil loss (F) (In/Hr) = 0.092
Minimum soil loss rate ((In/Hr)) = 0.046
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.546

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	361.996	62.274	4.330
2	0.167	723.992	33.934	2.360
3	0.250	1085.988	3.792	0.264
		Sum = 100.000	Sum=	6.954

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.032	(0.163)	0.017	0.015
2	0.17	0.07	0.032	(0.162)	0.017	0.015
3	0.25	0.07	0.032	(0.162)	0.017	0.015
4	0.33	0.10	0.048	(0.161)	0.026	0.022
5	0.42	0.10	0.048	(0.160)	0.026	0.022
6	0.50	0.10	0.048	(0.160)	0.026	0.022
7	0.58	0.10	0.048	(0.159)	0.026	0.022
8	0.67	0.10	0.048	(0.158)	0.026	0.022
9	0.75	0.10	0.048	(0.158)	0.026	0.022
10	0.83	0.13	0.064	(0.157)	0.035	0.029
11	0.92	0.13	0.064	(0.157)	0.035	0.029
12	1.00	0.13	0.064	(0.156)	0.035	0.029
13	1.08	0.10	0.048	(0.155)	0.026	0.022
14	1.17	0.10	0.048	(0.155)	0.026	0.022
15	1.25	0.10	0.048	(0.154)	0.026	0.022
16	1.33	0.10	0.048	(0.154)	0.026	0.022
17	1.42	0.10	0.048	(0.153)	0.026	0.022
18	1.50	0.10	0.048	(0.152)	0.026	0.022
19	1.58	0.10	0.048	(0.152)	0.026	0.022
20	1.67	0.10	0.048	(0.151)	0.026	0.022
21	1.75	0.10	0.048	(0.151)	0.026	0.022
22	1.83	0.13	0.064	(0.150)	0.035	0.029

23	1.92	0.13	0.064	(0.149)	0.035	0.029
24	2.00	0.13	0.064	(0.149)	0.035	0.029
25	2.08	0.13	0.064	(0.148)	0.035	0.029
26	2.17	0.13	0.064	(0.147)	0.035	0.029
27	2.25	0.13	0.064	(0.147)	0.035	0.029
28	2.33	0.13	0.064	(0.146)	0.035	0.029
29	2.42	0.13	0.064	(0.146)	0.035	0.029
30	2.50	0.13	0.064	(0.145)	0.035	0.029
31	2.58	0.17	0.080	(0.145)	0.044	0.036
32	2.67	0.17	0.080	(0.144)	0.044	0.036
33	2.75	0.17	0.080	(0.143)	0.044	0.036
34	2.83	0.17	0.080	(0.143)	0.044	0.036
35	2.92	0.17	0.080	(0.142)	0.044	0.036
36	3.00	0.17	0.080	(0.142)	0.044	0.036
37	3.08	0.17	0.080	(0.141)	0.044	0.036
38	3.17	0.17	0.080	(0.140)	0.044	0.036
39	3.25	0.17	0.080	(0.140)	0.044	0.036
40	3.33	0.17	0.080	(0.139)	0.044	0.036
41	3.42	0.17	0.080	(0.139)	0.044	0.036
42	3.50	0.17	0.080	(0.138)	0.044	0.036
43	3.58	0.17	0.080	(0.137)	0.044	0.036
44	3.67	0.17	0.080	(0.137)	0.044	0.036
45	3.75	0.17	0.080	(0.136)	0.044	0.036
46	3.83	0.20	0.096	(0.136)	0.052	0.044
47	3.92	0.20	0.096	(0.135)	0.052	0.044
48	4.00	0.20	0.096	(0.135)	0.052	0.044
49	4.08	0.20	0.096	(0.134)	0.052	0.044
50	4.17	0.20	0.096	(0.133)	0.052	0.044
51	4.25	0.20	0.096	(0.133)	0.052	0.044
52	4.33	0.23	0.112	(0.132)	0.061	0.051
53	4.42	0.23	0.112	(0.132)	0.061	0.051
54	4.50	0.23	0.112	(0.131)	0.061	0.051
55	4.58	0.23	0.112	(0.131)	0.061	0.051
56	4.67	0.23	0.112	(0.130)	0.061	0.051
57	4.75	0.23	0.112	(0.130)	0.061	0.051
58	4.83	0.27	0.128	(0.129)	0.070	0.058
59	4.92	0.27	0.128	(0.128)	0.070	0.058
60	5.00	0.27	0.128	(0.128)	0.070	0.058
61	5.08	0.20	0.096	(0.127)	0.052	0.044
62	5.17	0.20	0.096	(0.127)	0.052	0.044
63	5.25	0.20	0.096	(0.126)	0.052	0.044
64	5.33	0.23	0.112	(0.126)	0.061	0.051
65	5.42	0.23	0.112	(0.125)	0.061	0.051
66	5.50	0.23	0.112	(0.125)	0.061	0.051
67	5.58	0.27	0.128	(0.124)	0.070	0.058
68	5.67	0.27	0.128	(0.123)	0.070	0.058
69	5.75	0.27	0.128	(0.123)	0.070	0.058
70	5.83	0.27	0.128	(0.122)	0.070	0.058
71	5.92	0.27	0.128	(0.122)	0.070	0.058
72	6.00	0.27	0.128	(0.121)	0.070	0.058
73	6.08	0.30	0.144	(0.121)	0.079	0.065
74	6.17	0.30	0.144	(0.120)	0.079	0.065
75	6.25	0.30	0.144	(0.120)	0.079	0.065
76	6.33	0.30	0.144	(0.119)	0.079	0.065
77	6.42	0.30	0.144	(0.119)	0.079	0.065
78	6.50	0.30	0.144	(0.118)	0.079	0.065
79	6.58	0.33	0.160	(0.118)	0.087	0.073
80	6.67	0.33	0.160	(0.117)	0.087	0.073
81	6.75	0.33	0.160	(0.116)	0.087	0.073
82	6.83	0.33	0.160	(0.116)	0.087	0.073
83	6.92	0.33	0.160	(0.115)	0.087	0.073
84	7.00	0.33	0.160	(0.115)	0.087	0.073
85	7.08	0.33	0.160	(0.114)	0.087	0.073

86	7.17	0.33	0.160	(	0.114)	0.087		0.073
87	7.25	0.33	0.160	(	0.113)	0.087		0.073
88	7.33	0.37	0.176	(	0.113)	0.096		0.080
89	7.42	0.37	0.176	(	0.112)	0.096		0.080
90	7.50	0.37	0.176	(	0.112)	0.096		0.080
91	7.58	0.40	0.192	(	0.111)	0.105		0.087
92	7.67	0.40	0.192	(	0.111)	0.105		0.087
93	7.75	0.40	0.192	(	0.110)	0.105		0.087
94	7.83	0.43	0.208		0.110	(	0.113)	0.098
95	7.92	0.43	0.208		0.109	(	0.113)	0.099
96	8.00	0.43	0.208		0.109	(	0.113)	0.099
97	8.08	0.50	0.240		0.108	(	0.131)	0.132
98	8.17	0.50	0.240		0.108	(	0.131)	0.132
99	8.25	0.50	0.240		0.107	(	0.131)	0.133
100	8.33	0.50	0.240		0.107	(	0.131)	0.133
101	8.42	0.50	0.240		0.106	(	0.131)	0.134
102	8.50	0.50	0.240		0.106	(	0.131)	0.134
103	8.58	0.53	0.256		0.105	(	0.140)	0.151
104	8.67	0.53	0.256		0.105	(	0.140)	0.151
105	8.75	0.53	0.256		0.104	(	0.140)	0.152
106	8.83	0.57	0.272		0.104	(	0.148)	0.168
107	8.92	0.57	0.272		0.103	(	0.148)	0.169
108	9.00	0.57	0.272		0.103	(	0.148)	0.169
109	9.08	0.63	0.304		0.102	(	0.166)	0.202
110	9.17	0.63	0.304		0.102	(	0.166)	0.202
111	9.25	0.63	0.304		0.101	(	0.166)	0.203
112	9.33	0.67	0.320		0.101	(	0.175)	0.219
113	9.42	0.67	0.320		0.100	(	0.175)	0.220
114	9.50	0.67	0.320		0.100	(	0.175)	0.220
115	9.58	0.70	0.336		0.099	(	0.183)	0.237
116	9.67	0.70	0.336		0.099	(	0.183)	0.237
117	9.75	0.70	0.336		0.098	(	0.183)	0.238
118	9.83	0.73	0.352		0.098	(	0.192)	0.254
119	9.92	0.73	0.352		0.097	(	0.192)	0.255
120	10.00	0.73	0.352		0.097	(	0.192)	0.255
121	10.08	0.50	0.240		0.097	(	0.131)	0.143
122	10.17	0.50	0.240		0.096	(	0.131)	0.144
123	10.25	0.50	0.240		0.096	(	0.131)	0.144
124	10.33	0.50	0.240		0.095	(	0.131)	0.145
125	10.42	0.50	0.240		0.095	(	0.131)	0.145
126	10.50	0.50	0.240		0.094	(	0.131)	0.146
127	10.58	0.67	0.320		0.094	(	0.175)	0.226
128	10.67	0.67	0.320		0.093	(	0.175)	0.227
129	10.75	0.67	0.320		0.093	(	0.175)	0.227
130	10.83	0.67	0.320		0.092	(	0.175)	0.228
131	10.92	0.67	0.320		0.092	(	0.175)	0.228
132	11.00	0.67	0.320		0.091	(	0.175)	0.228
133	11.08	0.63	0.304		0.091	(	0.166)	0.213
134	11.17	0.63	0.304		0.091	(	0.166)	0.213
135	11.25	0.63	0.304		0.090	(	0.166)	0.214
136	11.33	0.63	0.304		0.090	(	0.166)	0.214
137	11.42	0.63	0.304		0.089	(	0.166)	0.215
138	11.50	0.63	0.304		0.089	(	0.166)	0.215
139	11.58	0.57	0.272		0.088	(	0.148)	0.184
140	11.67	0.57	0.272		0.088	(	0.148)	0.184
141	11.75	0.57	0.272		0.088	(	0.148)	0.184
142	11.83	0.60	0.288		0.087	(	0.157)	0.201
143	11.92	0.60	0.288		0.087	(	0.157)	0.201
144	12.00	0.60	0.288		0.086	(	0.157)	0.202
145	12.08	0.83	0.400		0.086	(	0.218)	0.314
146	12.17	0.83	0.400		0.085	(	0.218)	0.315
147	12.25	0.83	0.400		0.085	(	0.218)	0.315
148	12.33	0.87	0.416		0.084	(	0.227)	0.332

149	12.42	0.87	0.416	0.084	(0.227)	0.332
150	12.50	0.87	0.416	0.084	(0.227)	0.332
151	12.58	0.93	0.448	0.083	(0.244)	0.365
152	12.67	0.93	0.448	0.083	(0.244)	0.365
153	12.75	0.93	0.448	0.082	(0.244)	0.366
154	12.83	0.97	0.464	0.082	(0.253)	0.382
155	12.92	0.97	0.464	0.082	(0.253)	0.382
156	13.00	0.97	0.464	0.081	(0.253)	0.383
157	13.08	1.13	0.544	0.081	(0.297)	0.463
158	13.17	1.13	0.544	0.080	(0.297)	0.464
159	13.25	1.13	0.544	0.080	(0.297)	0.464
160	13.33	1.13	0.544	0.080	(0.297)	0.464
161	13.42	1.13	0.544	0.079	(0.297)	0.465
162	13.50	1.13	0.544	0.079	(0.297)	0.465
163	13.58	0.77	0.368	0.078	(0.201)	0.290
164	13.67	0.77	0.368	0.078	(0.201)	0.290
165	13.75	0.77	0.368	0.077	(0.201)	0.290
166	13.83	0.77	0.368	0.077	(0.201)	0.291
167	13.92	0.77	0.368	0.077	(0.201)	0.291
168	14.00	0.77	0.368	0.076	(0.201)	0.292
169	14.08	0.90	0.432	0.076	(0.236)	0.356
170	14.17	0.90	0.432	0.076	(0.236)	0.356
171	14.25	0.90	0.432	0.075	(0.236)	0.357
172	14.33	0.87	0.416	0.075	(0.227)	0.341
173	14.42	0.87	0.416	0.074	(0.227)	0.342
174	14.50	0.87	0.416	0.074	(0.227)	0.342
175	14.58	0.87	0.416	0.074	(0.227)	0.342
176	14.67	0.87	0.416	0.073	(0.227)	0.343
177	14.75	0.87	0.416	0.073	(0.227)	0.343
178	14.83	0.83	0.400	0.073	(0.218)	0.327
179	14.92	0.83	0.400	0.072	(0.218)	0.328
180	15.00	0.83	0.400	0.072	(0.218)	0.328
181	15.08	0.80	0.384	0.071	(0.210)	0.313
182	15.17	0.80	0.384	0.071	(0.210)	0.313
183	15.25	0.80	0.384	0.071	(0.210)	0.313
184	15.33	0.77	0.368	0.070	(0.201)	0.298
185	15.42	0.77	0.368	0.070	(0.201)	0.298
186	15.50	0.77	0.368	0.070	(0.201)	0.298
187	15.58	0.63	0.304	0.069	(0.166)	0.235
188	15.67	0.63	0.304	0.069	(0.166)	0.235
189	15.75	0.63	0.304	0.069	(0.166)	0.235
190	15.83	0.63	0.304	0.068	(0.166)	0.236
191	15.92	0.63	0.304	0.068	(0.166)	0.236
192	16.00	0.63	0.304	0.067	(0.166)	0.237
193	16.08	0.13	0.064	(0.067)	0.035	0.029
194	16.17	0.13	0.064	(0.067)	0.035	0.029
195	16.25	0.13	0.064	(0.066)	0.035	0.029
196	16.33	0.13	0.064	(0.066)	0.035	0.029
197	16.42	0.13	0.064	(0.066)	0.035	0.029
198	16.50	0.13	0.064	(0.065)	0.035	0.029
199	16.58	0.10	0.048	(0.065)	0.026	0.022
200	16.67	0.10	0.048	(0.065)	0.026	0.022
201	16.75	0.10	0.048	(0.064)	0.026	0.022
202	16.83	0.10	0.048	(0.064)	0.026	0.022
203	16.92	0.10	0.048	(0.064)	0.026	0.022
204	17.00	0.10	0.048	(0.063)	0.026	0.022
205	17.08	0.17	0.080	(0.063)	0.044	0.036
206	17.17	0.17	0.080	(0.063)	0.044	0.036
207	17.25	0.17	0.080	(0.063)	0.044	0.036
208	17.33	0.17	0.080	(0.062)	0.044	0.036
209	17.42	0.17	0.080	(0.062)	0.044	0.036
210	17.50	0.17	0.080	(0.062)	0.044	0.036
211	17.58	0.17	0.080	(0.061)	0.044	0.036

212	17.67	0.17	0.080	(0.061)	0.044	0.036
213	17.75	0.17	0.080	(0.061)	0.044	0.036
214	17.83	0.13	0.064	(0.060)	0.035	0.029
215	17.92	0.13	0.064	(0.060)	0.035	0.029
216	18.00	0.13	0.064	(0.060)	0.035	0.029
217	18.08	0.13	0.064	(0.059)	0.035	0.029
218	18.17	0.13	0.064	(0.059)	0.035	0.029
219	18.25	0.13	0.064	(0.059)	0.035	0.029
220	18.33	0.13	0.064	(0.059)	0.035	0.029
221	18.42	0.13	0.064	(0.058)	0.035	0.029
222	18.50	0.13	0.064	(0.058)	0.035	0.029
223	18.58	0.10	0.048	(0.058)	0.026	0.022
224	18.67	0.10	0.048	(0.057)	0.026	0.022
225	18.75	0.10	0.048	(0.057)	0.026	0.022
226	18.83	0.07	0.032	(0.057)	0.017	0.015
227	18.92	0.07	0.032	(0.057)	0.017	0.015
228	19.00	0.07	0.032	(0.056)	0.017	0.015
229	19.08	0.10	0.048	(0.056)	0.026	0.022
230	19.17	0.10	0.048	(0.056)	0.026	0.022
231	19.25	0.10	0.048	(0.056)	0.026	0.022
232	19.33	0.13	0.064	(0.055)	0.035	0.029
233	19.42	0.13	0.064	(0.055)	0.035	0.029
234	19.50	0.13	0.064	(0.055)	0.035	0.029
235	19.58	0.10	0.048	(0.055)	0.026	0.022
236	19.67	0.10	0.048	(0.054)	0.026	0.022
237	19.75	0.10	0.048	(0.054)	0.026	0.022
238	19.83	0.07	0.032	(0.054)	0.017	0.015
239	19.92	0.07	0.032	(0.054)	0.017	0.015
240	20.00	0.07	0.032	(0.053)	0.017	0.015
241	20.08	0.10	0.048	(0.053)	0.026	0.022
242	20.17	0.10	0.048	(0.053)	0.026	0.022
243	20.25	0.10	0.048	(0.053)	0.026	0.022
244	20.33	0.10	0.048	(0.052)	0.026	0.022
245	20.42	0.10	0.048	(0.052)	0.026	0.022
246	20.50	0.10	0.048	(0.052)	0.026	0.022
247	20.58	0.10	0.048	(0.052)	0.026	0.022
248	20.67	0.10	0.048	(0.052)	0.026	0.022
249	20.75	0.10	0.048	(0.051)	0.026	0.022
250	20.83	0.07	0.032	(0.051)	0.017	0.015
251	20.92	0.07	0.032	(0.051)	0.017	0.015
252	21.00	0.07	0.032	(0.051)	0.017	0.015
253	21.08	0.10	0.048	(0.051)	0.026	0.022
254	21.17	0.10	0.048	(0.050)	0.026	0.022
255	21.25	0.10	0.048	(0.050)	0.026	0.022
256	21.33	0.07	0.032	(0.050)	0.017	0.015
257	21.42	0.07	0.032	(0.050)	0.017	0.015
258	21.50	0.07	0.032	(0.050)	0.017	0.015
259	21.58	0.10	0.048	(0.049)	0.026	0.022
260	21.67	0.10	0.048	(0.049)	0.026	0.022
261	21.75	0.10	0.048	(0.049)	0.026	0.022
262	21.83	0.07	0.032	(0.049)	0.017	0.015
263	21.92	0.07	0.032	(0.049)	0.017	0.015
264	22.00	0.07	0.032	(0.049)	0.017	0.015
265	22.08	0.10	0.048	(0.048)	0.026	0.022
266	22.17	0.10	0.048	(0.048)	0.026	0.022
267	22.25	0.10	0.048	(0.048)	0.026	0.022
268	22.33	0.07	0.032	(0.048)	0.017	0.015
269	22.42	0.07	0.032	(0.048)	0.017	0.015
270	22.50	0.07	0.032	(0.048)	0.017	0.015
271	22.58	0.07	0.032	(0.047)	0.017	0.015
272	22.67	0.07	0.032	(0.047)	0.017	0.015
273	22.75	0.07	0.032	(0.047)	0.017	0.015
274	22.83	0.07	0.032	(0.047)	0.017	0.015

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275  22.92     0.07      0.032       (  0.047)       0.017        0.015
276  23.00     0.07      0.032       (  0.047)       0.017        0.015
277  23.08     0.07      0.032       (  0.047)       0.017        0.015
278  23.17     0.07      0.032       (  0.047)       0.017        0.015
279  23.25     0.07      0.032       (  0.047)       0.017        0.015
280  23.33     0.07      0.032       (  0.046)       0.017        0.015
281  23.42     0.07      0.032       (  0.046)       0.017        0.015
282  23.50     0.07      0.032       (  0.046)       0.017        0.015
283  23.58     0.07      0.032       (  0.046)       0.017        0.015
284  23.67     0.07      0.032       (  0.046)       0.017        0.015
285  23.75     0.07      0.032       (  0.046)       0.017        0.015
286  23.83     0.07      0.032       (  0.046)       0.017        0.015
287  23.92     0.07      0.032       (  0.046)       0.017        0.015
288  24.00     0.07      0.032       (  0.046)       0.017        0.015
           (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    31.8
     Flood volume = Effective rainfall      2.65(In)
      times area       6.9(Ac.)/[(In)/(Ft.)] =       1.5(Ac.Ft)
     Total soil loss =      1.35(In)
     Total soil loss =     0.776(Ac.Ft)
     Total rainfall =      4.00(In)
     Flood volume =       66404.2 Cubic Feet
     Total soil loss =       33782.5 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =     3.236(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       0.0011      0.10  Q         |         |         |         |
   0+15       0.0018      0.10  Q         |         |         |         |
   0+20       0.0027      0.13  Q         |         |         |         |
   0+25       0.0037      0.15  Q         |         |         |         |
   0+30       0.0048      0.15  Q         |         |         |         |
   0+35       0.0058      0.15  Q         |         |         |         |
   0+40       0.0069      0.15  Q         |         |         |         |
   0+45       0.0079      0.15  Q         |         |         |         |
   0+50       0.0092      0.18  Q         |         |         |         |
   0+55       0.0106      0.20  Q         |         |         |         |
   1+ 0       0.0120      0.20  Q         |         |         |         |
   1+ 5       0.0131      0.17  Q         |         |         |         |
   1+10       0.0142      0.15  Q         |         |         |         |
   1+15       0.0152      0.15  Q         |         |         |         |
   1+20       0.0163      0.15  Q         |         |         |         |
   1+25       0.0173      0.15  Q         |         |         |         |
   1+30       0.0184      0.15  Q         |         |         |         |
   1+35       0.0194      0.15  Q         |         |         |         |
   1+40       0.0205      0.15  Q         |         |         |         |
   1+45       0.0215      0.15  Q         |         |         |         |
   1+50       0.0228      0.18  Q         |         |         |         |
   1+55       0.0242      0.20  Q         |         |         |         |
   2+ 0       0.0255      0.20  Q         |         |         |         |
   2+ 5       0.0269      0.20  Q         |         |         |         |
   2+10       0.0283      0.20  Q         |         |         |         |
   2+15       0.0297      0.20  Q         |         |         |         |
   2+20       0.0311      0.20  Q         |         |         |         |
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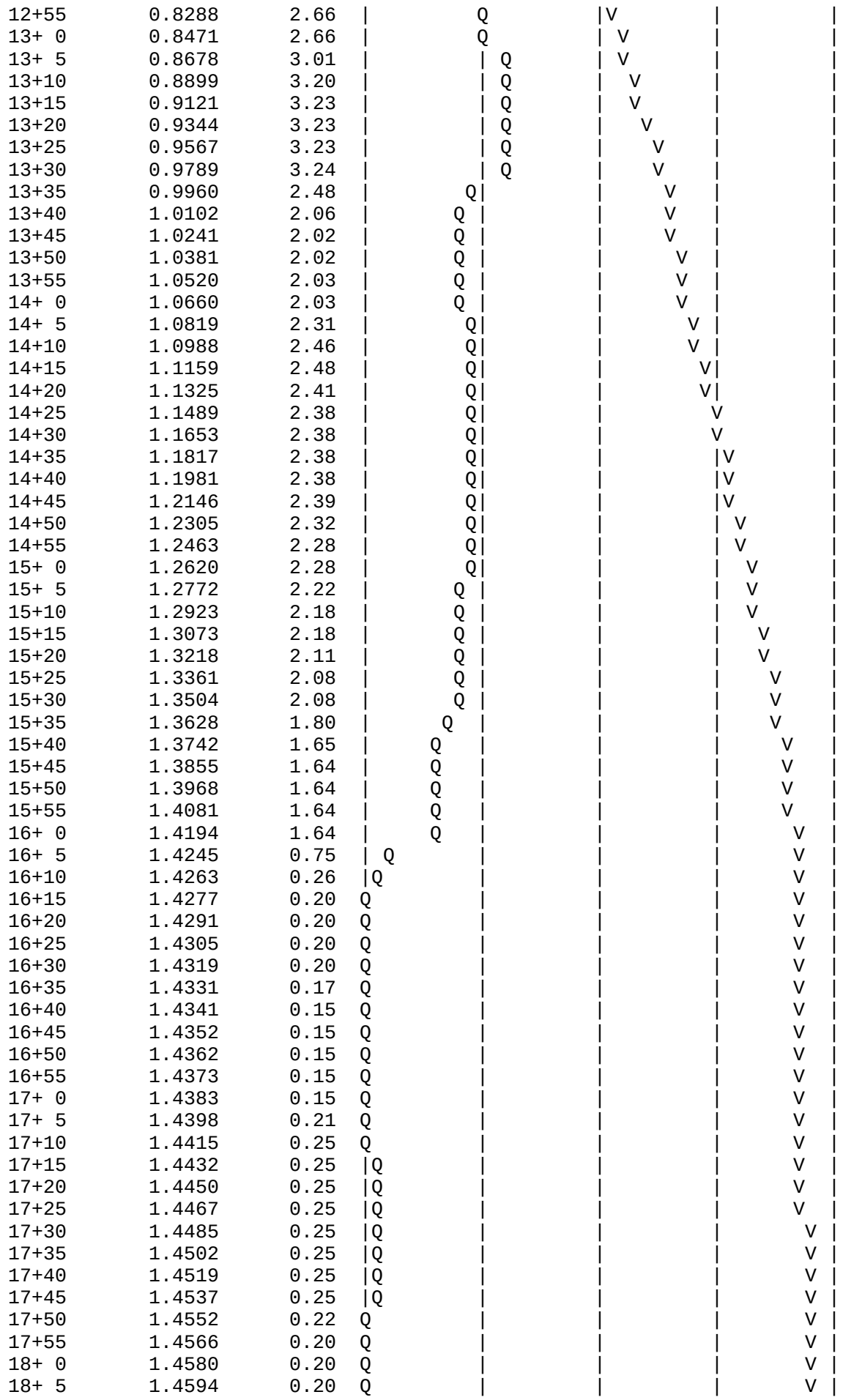
2+25	0.0325	0.20	Q	|	|	|	|
2+30	0.0339	0.20	Q	|	|	|	|
2+35	0.0355	0.23	Q	|	|	|	|
2+40	0.0372	0.25	VQ	|	|	|	|
2+45	0.0390	0.25	|Q	|	|	|	|
2+50	0.0407	0.25	|Q	|	|	|	|
2+55	0.0425	0.25	|Q	|	|	|	|
3+ 0	0.0442	0.25	|Q	|	|	|	|
3+ 5	0.0460	0.25	|Q	|	|	|	|
3+10	0.0477	0.25	|Q	|	|	|	|
3+15	0.0494	0.25	|Q	|	|	|	|
3+20	0.0512	0.25	|Q	|	|	|	|
3+25	0.0529	0.25	|Q	|	|	|	|
3+30	0.0547	0.25	|Q	|	|	|	|
3+35	0.0564	0.25	|Q	|	|	|	|
3+40	0.0582	0.25	|Q	|	|	|	|
3+45	0.0599	0.25	|Q	|	|	|	|
3+50	0.0619	0.28	|Q	|	|	|	|
3+55	0.0639	0.30	|Q	|	|	|	|
4+ 0	0.0660	0.30	|Q	|	|	|	|
4+ 5	0.0681	0.30	|Q	|	|	|	|
4+10	0.0702	0.30	|Q	|	|	|	|
4+15	0.0723	0.30	|Q	|	|	|	|
4+20	0.0746	0.33	|Q	|	|	|	|
4+25	0.0770	0.35	|QV	|	|	|	|
4+30	0.0795	0.35	|QV	|	|	|	|
4+35	0.0819	0.35	|QV	|	|	|	|
4+40	0.0843	0.35	|QV	|	|	|	|
4+45	0.0868	0.35	|QV	|	|	|	|
4+50	0.0894	0.39	|QV	|	|	|	|
4+55	0.0922	0.40	|QV	|	|	|	|
5+ 0	0.0950	0.40	|QV	|	|	|	|
5+ 5	0.0973	0.34	|QV	|	|	|	|
5+10	0.0995	0.31	|QV	|	|	|	|
5+15	0.1016	0.30	|QV	|	|	|	|
5+20	0.1039	0.33	|QV	|	|	|	|
5+25	0.1063	0.35	|QV	|	|	|	|
5+30	0.1087	0.35	|QV	|	|	|	|
5+35	0.1114	0.39	|QV	|	|	|	|
5+40	0.1142	0.40	|QV	|	|	|	|
5+45	0.1169	0.40	|Q V	|	|	|	|
5+50	0.1197	0.40	|Q V	|	|	|	|
5+55	0.1225	0.40	|Q V	|	|	|	|
6+ 0	0.1253	0.40	|Q V	|	|	|	|
6+ 5	0.1283	0.44	|Q V	|	|	|	|
6+10	0.1314	0.45	|Q V	|	|	|	|
6+15	0.1346	0.46	|Q V	|	|	|	|
6+20	0.1377	0.46	|Q V	|	|	|	|
6+25	0.1408	0.46	|Q V	|	|	|	|
6+30	0.1440	0.46	|Q V	|	|	|	|
6+35	0.1473	0.49	|Q V	|	|	|	|
6+40	0.1508	0.50	| QV	|	|	|	|
6+45	0.1543	0.51	| Q V	|	|	|	|
6+50	0.1578	0.51	| Q V	|	|	|	|
6+55	0.1612	0.51	| Q V	|	|	|	|
7+ 0	0.1647	0.51	| Q V	|	|	|	|
7+ 5	0.1682	0.51	| Q V	|	|	|	|
7+10	0.1717	0.51	| Q V	|	|	|	|
7+15	0.1752	0.51	| Q V	|	|	|	|
7+20	0.1789	0.54	| Q V	|	|	|	|
7+25	0.1827	0.55	| Q V	|	|	|	|
7+30	0.1865	0.56	| Q V	|	|	|	|
7+35	0.1906	0.59	| Q V	|	|	|	|

7+40	0.1947	0.61	Q V				
7+45	0.1989	0.61	Q V				
7+50	0.2034	0.65	Q V				
7+55	0.2081	0.68	Q V				
8+ 0	0.2129	0.69	Q V				
8+ 5	0.2186	0.83	Q V				
8+10	0.2249	0.91	Q V				
8+15	0.2312	0.92	Q V				
8+20	0.2376	0.93	Q V				
8+25	0.2440	0.93	Q V				
8+30	0.2504	0.93	Q V				
8+35	0.2574	1.01	Q V				
8+40	0.2646	1.05	Q V				
8+45	0.2718	1.05	Q V				
8+50	0.2796	1.13	Q V				
8+55	0.2876	1.17	Q V				
9+ 0	0.2957	1.18	Q V				
9+ 5	0.3048	1.32	Q V				
9+10	0.3144	1.40	Q V				
9+15	0.3241	1.41	Q V				
9+20	0.3343	1.48	Q V				
9+25	0.3448	1.52	Q V				
9+30	0.3554	1.53	Q V				
9+35	0.3664	1.60	Q V				
9+40	0.3777	1.64	Q V				
9+45	0.3891	1.65	Q V				
9+50	0.4010	1.72	Q V				
9+55	0.4131	1.77	Q V				
10+ 0	0.4253	1.77	Q V				
10+ 5	0.4342	1.29	Q V				
10+10	0.4413	1.03	Q V				
10+15	0.4482	1.00	Q V				
10+20	0.4551	1.01	Q V				
10+25	0.4621	1.01	Q V				
10+30	0.4691	1.01	Q V				
10+35	0.4785	1.36	Q V				
10+40	0.4892	1.55	Q V				
10+45	0.5000	1.58	Q V				
10+50	0.5109	1.58	Q V				
10+55	0.5219	1.59	Q V				
11+ 0	0.5328	1.59	Q V				
11+ 5	0.5433	1.52	Q V				
11+10	0.5535	1.49	Q V				
11+15	0.5638	1.49	Q V				
11+20	0.5740	1.49	Q V				
11+25	0.5843	1.49	Q V				
11+30	0.5946	1.50	Q V				
11+35	0.6040	1.36	Q V				
11+40	0.6128	1.29	Q V				
11+45	0.6217	1.28	Q V				
11+50	0.6310	1.35	Q V				
11+55	0.6406	1.40	Q V				
12+ 0	0.6503	1.40	Q V				
12+ 5	0.6633	1.89	Q V				
12+10	0.6782	2.16	Q V				
12+15	0.6933	2.19	Q V				
12+20	0.7088	2.26	Q V				
12+25	0.7247	2.30	Q V				
12+30	0.7406	2.31	Q V				
12+35	0.7575	2.45	Q V				
12+40	0.7750	2.53	Q V				
12+45	0.7925	2.54	Q V				
12+50	0.8105	2.61	Q V				



18+10	1.4608	0.20	Q	|	|	|	V |
18+15	1.4622	0.20	Q	|	|	|	V |
18+20	1.4636	0.20	Q	|	|	|	V |
18+25	1.4650	0.20	Q	|	|	|	V |
18+30	1.4664	0.20	Q	|	|	|	V |
18+35	1.4675	0.17	Q	|	|	|	V |
18+40	1.4686	0.15	Q	|	|	|	V |
18+45	1.4697	0.15	Q	|	|	|	V |
18+50	1.4705	0.12	Q	|	|	|	V |
18+55	1.4712	0.10	Q	|	|	|	V |
19+ 0	1.4719	0.10	Q	|	|	|	V |
19+ 5	1.4728	0.13	Q	|	|	|	V |
19+10	1.4738	0.15	Q	|	|	|	V |
19+15	1.4749	0.15	Q	|	|	|	V |
19+20	1.4761	0.18	Q	|	|	|	V |
19+25	1.4775	0.20	Q	|	|	|	V |
19+30	1.4789	0.20	Q	|	|	|	V |
19+35	1.4801	0.17	Q	|	|	|	V |
19+40	1.4811	0.15	Q	|	|	|	V |
19+45	1.4822	0.15	Q	|	|	|	V |
19+50	1.4830	0.12	Q	|	|	|	V |
19+55	1.4837	0.10	Q	|	|	|	V |
20+ 0	1.4844	0.10	Q	|	|	|	V |
20+ 5	1.4853	0.13	Q	|	|	|	V |
20+10	1.4864	0.15	Q	|	|	|	V|
20+15	1.4874	0.15	Q	|	|	|	V|
20+20	1.4885	0.15	Q	|	|	|	V|
20+25	1.4895	0.15	Q	|	|	|	V|
20+30	1.4906	0.15	Q	|	|	|	V|
20+35	1.4916	0.15	Q	|	|	|	V|
20+40	1.4926	0.15	Q	|	|	|	V|
20+45	1.4937	0.15	Q	|	|	|	V|
20+50	1.4945	0.12	Q	|	|	|	V|
20+55	1.4952	0.10	Q	|	|	|	V|
21+ 0	1.4959	0.10	Q	|	|	|	V|
21+ 5	1.4968	0.13	Q	|	|	|	V|
21+10	1.4979	0.15	Q	|	|	|	V|
21+15	1.4989	0.15	Q	|	|	|	V|
21+20	1.4997	0.12	Q	|	|	|	V|
21+25	1.5005	0.10	Q	|	|	|	V|
21+30	1.5011	0.10	Q	|	|	|	V|
21+35	1.5021	0.13	Q	|	|	|	V|
21+40	1.5031	0.15	Q	|	|	|	V|
21+45	1.5041	0.15	Q	|	|	|	V|
21+50	1.5050	0.12	Q	|	|	|	V|
21+55	1.5057	0.10	Q	|	|	|	V|
22+ 0	1.5064	0.10	Q	|	|	|	V|
22+ 5	1.5073	0.13	Q	|	|	|	V|
22+10	1.5083	0.15	Q	|	|	|	V|
22+15	1.5094	0.15	Q	|	|	|	V|
22+20	1.5102	0.12	Q	|	|	|	V|
22+25	1.5109	0.10	Q	|	|	|	V|
22+30	1.5116	0.10	Q	|	|	|	V|
22+35	1.5123	0.10	Q	|	|	|	V|
22+40	1.5130	0.10	Q	|	|	|	V|
22+45	1.5137	0.10	Q	|	|	|	V|
22+50	1.5144	0.10	Q	|	|	|	V|
22+55	1.5151	0.10	Q	|	|	|	V|
23+ 0	1.5158	0.10	Q	|	|	|	V|
23+ 5	1.5165	0.10	Q	|	|	|	V|
23+10	1.5172	0.10	Q	|	|	|	V|
23+15	1.5179	0.10	Q	|	|	|	V|
23+20	1.5186	0.10	Q	|	|	|	V|

```
   23+25       1.5193      0.10  Q         |         |         |        V|
   23+30       1.5200      0.10  Q         |         |         |        V|
   23+35       1.5207      0.10  Q         |         |         |        V|
   23+40       1.5214      0.10  Q         |         |         |        V|
   23+45       1.5221      0.10  Q         |         |         |        V|
   23+50       1.5227      0.10  Q         |         |         |        V|
   23+55       1.5234      0.10  Q         |         |         |        V|
   24+ 0       1.5241      0.10  Q         |         |         |        V|
   24+ 5       1.5244      0.04  Q         |         |         |        V|
   24+10       1.5244      0.00  Q         |         |         |         V
---------------------------------------------------------------------------
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 08/26/20 File: 522ex100sad1100.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

20-522 D-1 DEVELOPMENT
EXISTING CONDITION
SUBAREA D
100-YEAR 1-HOUR STORM

Drainage Area = 54.10(Ac.) = 0.085 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 54.10(Ac.) = 0.085 Sq. Mi.
Length along longest watercourse = 1740.00(Ft.)
Length along longest watercourse measured to centroid = 900.00(Ft.)
Length along longest watercourse = 0.330 Mi.
Length along longest watercourse measured to centroid = 0.170 Mi.
Difference in elevation = 9.10(Ft.)
Slope along watercourse = 27.6138 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.128 Hr.
Lag time = 7.70 Min.
25% of lag time = 1.92 Min.
40% of lag time = 3.08 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]
54.10	0.47	25.43

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
54.10	1.20	64.92

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.470(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.95 %
Adjusted average point rain = 1.199(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
54.100	75.00	0.050

Total Area Entered = 54.10(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	88.0	0.153	0.050	0.146	1.000	0.146
					Sum (F) =	0.146

Area averaged mean soil loss (F) (In/Hr) = 0.146
Minimum soil loss rate ((In/Hr)) = 0.073
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.860

Slope of intensity-duration curve for a 1 hour storm =0.5000

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	64.935	9.369	5.108
2	0.167	129.871	37.233	20.301
3	0.250	194.806	24.893	13.572
4	0.333	259.741	9.577	5.222
5	0.417	324.677	5.782	3.152
6	0.500	389.612	3.881	2.116
7	0.583	454.547	2.661	1.451
8	0.667	519.483	1.991	1.085
9	0.750	584.418	1.519	0.828
10	0.833	649.353	1.122	0.612
11	0.917	714.289	0.789	0.430
12	1.000	779.224	0.649	0.354
13	1.083	844.159	0.532	0.290
		Sum = 100.000	Sum=	54.523

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	4.20	0.605	0.146	(0.520)	0.459
2	0.17	4.30	0.619	0.146	(0.532)	0.473
3	0.25	5.00	0.720	0.146	(0.619)	0.574
4	0.33	5.00	0.720	0.146	(0.619)	0.574
5	0.42	5.80	0.835	0.146	(0.718)	0.689
6	0.50	6.50	0.936	0.146	(0.805)	0.790
7	0.58	7.40	1.065	0.146	(0.916)	0.919
8	0.67	8.60	1.238	0.146	(1.065)	1.092
9	0.75	12.30	1.770	0.146	(1.522)	1.624
10	0.83	29.10	4.188	0.146	(3.602)	4.042

```
 11   0.92     6.80      0.979          0.146    (  0.842)        0.833
 12   1.00     5.00      0.720          0.146    (  0.619)        0.574
            (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    12.6
     Flood volume = Effective rainfall      1.05(In)
      times area      54.1(Ac.)/[(In)/(Ft.)] =       4.7(Ac.Ft)
     Total soil loss =      0.15(In)
     Total soil loss =     0.658(Ac.Ft)
     Total rainfall =      1.20(In)
     Flood volume =      206887.1 Cubic Feet
     Total soil loss =       28657.0 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =    121.281(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       50.0     100.0     150.0     200.0
  ---------------------------------------------------------------------------
    0+ 5       0.0161      2.34  Q         |          |          |          |
    0+10       0.0969     11.73  V Q       |          |          |          |
    0+15       0.2262     18.77  |V Q      |          |          |          |
    0+20       0.3874     23.40  |  VQ     |          |          |          |
    0+25       0.5725     26.88  |   VQ    |          |          |          |
    0+30       0.7879     31.28  |     Q   |          |          |          |
    0+35       1.0397     36.56  |      QV |          |          |          |
    0+40       1.3344     42.78  |       Q |V         |          |          |
    0+45       1.6939     52.20  |         Q   V      |          |          |
    0+50       2.2404     79.36  |           |    Q  V |          |          |
    0+55       3.0757    121.28  |           |         |   QV     |          |
    1+ 0       3.7073     91.70  |           |       Q |          |V         |
    1+ 5       4.0873     55.18  |           |Q        |          |   V      |
    1+10       4.3116     32.58  |     Q     |         |          |     V    |
    1+15       4.4469     19.64  |  Q        |         |          |      V   |
    1+20       4.5393     13.42  | Q         |         |          |       V  |
    1+25       4.6062      9.70  |Q          |         |          |       V  |
    1+30       4.6551      7.11  |Q          |         |          |        V |
    1+35       4.6905      5.14  |Q          |         |          |        V |
    1+40       4.7154      3.62  Q           |         |          |        V |
    1+45       4.7334      2.61  Q           |         |          |        V |
    1+50       4.7453      1.72  Q           |         |          |        V |
    1+55       4.7483      0.45  Q           |         |          |        V |
    2+ 0       4.7495      0.17  Q           |         |          |        V |
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 08/26/20 File: 522ex100sad3100.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

20-522 D-1 DEVELOPMENT
EXISTING CONDITION
SUBAREA D
100-YEAR 3-HOUR STORM

Drainage Area = 54.10(Ac.) = 0.085 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 54.10(Ac.) = 0.085 Sq. Mi.
Length along longest watercourse = 1740.00(Ft.)
Length along longest watercourse measured to centroid = 900.00(Ft.)
Length along longest watercourse = 0.330 Mi.
Length along longest watercourse measured to centroid = 0.170 Mi.
Difference in elevation = 9.10(Ft.)
Slope along watercourse = 27.6138 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.128 Hr.
Lag time = 7.70 Min.
25% of lag time = 1.92 Min.
40% of lag time = 3.08 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]
54.10	0.80	43.28

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
54.10	1.88	101.71

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.880(In)

Point rain (area averaged) = 1.880(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 1.880(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
54.100	75.00	0.050

Total Area Entered = 54.10(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	88.0	0.153	0.050	0.146	1.000	0.146
					Sum (F) =	0.146

Area averaged mean soil loss (F) (In/Hr) = 0.146
Minimum soil loss rate ((In/Hr)) = 0.073
(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	64.935	9.369	5.108
2	0.167	129.871	37.233	20.301
3	0.250	194.806	24.893	13.572
4	0.333	259.741	9.577	5.222
5	0.417	324.677	5.782	3.152
6	0.500	389.612	3.881	2.116
7	0.583	454.547	2.661	1.451
8	0.667	519.483	1.991	1.085
9	0.750	584.418	1.519	0.828
10	0.833	649.353	1.122	0.612
11	0.917	714.289	0.789	0.430
12	1.000	779.224	0.649	0.354
13	1.083	844.159	0.532	0.290
		Sum = 100.000	Sum=	54.523

The following loss 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	0.293	0.146	(0.252)	0.147
2	0.17	1.30	0.293	0.146	(0.252)	0.147
3	0.25	1.10	0.248	0.146	(0.213)	0.102
4	0.33	1.50	0.338	0.146	(0.291)	0.192
5	0.42	1.50	0.338	0.146	(0.291)	0.192
6	0.50	1.80	0.406	0.146	(0.349)	0.260
7	0.58	1.50	0.338	0.146	(0.291)	0.192
8	0.67	1.80	0.406	0.146	(0.349)	0.260
9	0.75	1.80	0.406	0.146	(0.349)	0.260
10	0.83	1.50	0.338	0.146	(0.291)	0.192
11	0.92	1.60	0.361	0.146	(0.310)	0.215
12	1.00	1.80	0.406	0.146	(0.349)	0.260

13	1.08	2.20	0.496	0.146	(	0.427)	0.350
14	1.17	2.20	0.496	0.146	(	0.427)	0.350
15	1.25	2.20	0.496	0.146	(	0.427)	0.350
16	1.33	2.00	0.451	0.146	(	0.388)	0.305
17	1.42	2.60	0.586	0.146	(	0.504)	0.440
18	1.50	2.70	0.609	0.146	(	0.524)	0.463
19	1.58	2.40	0.541	0.146	(	0.466)	0.395
20	1.67	2.70	0.609	0.146	(	0.524)	0.463
21	1.75	3.30	0.744	0.146	(	0.640)	0.598
22	1.83	3.10	0.699	0.146	(	0.601)	0.553
23	1.92	2.90	0.654	0.146	(	0.563)	0.508
24	2.00	3.00	0.677	0.146	(	0.582)	0.531
25	2.08	3.10	0.699	0.146	(	0.601)	0.553
26	2.17	4.20	0.947	0.146	(	0.815)	0.801
27	2.25	5.00	1.128	0.146	(	0.970)	0.982
28	2.33	3.50	0.789	0.146	(	0.679)	0.643
29	2.42	6.80	1.534	0.146	(	1.319)	1.388
30	2.50	7.30	1.646	0.146	(	1.416)	1.501
31	2.58	8.20	1.849	0.146	(	1.591)	1.704
32	2.67	5.90	1.331	0.146	(	1.144)	1.185
33	2.75	2.00	0.451	0.146	(	0.388)	0.305
34	2.83	1.80	0.406	0.146	(	0.349)	0.260
35	2.92	1.80	0.406	0.146	(	0.349)	0.260
36	3.00	0.60	0.135	(0.146)		0.116	0.019

(Loss Rate Not Used)

Sum = 100.0 Sum = 17.3

Flood volume = Effective rainfall 1.44(In)
times area 54.1(Ac.)/[(In)/(Ft.)] = 6.5(Ac.Ft)
Total soil loss = 0.44(In)
Total soil loss = 1.963(Ac.Ft)
Total rainfall = 1.88(In)
Flood volume = 283625.1 Cubic Feet
Total soil loss = 85487.5 Cubic Feet

Peak flow rate of this hydrograph = 75.492(CFS)

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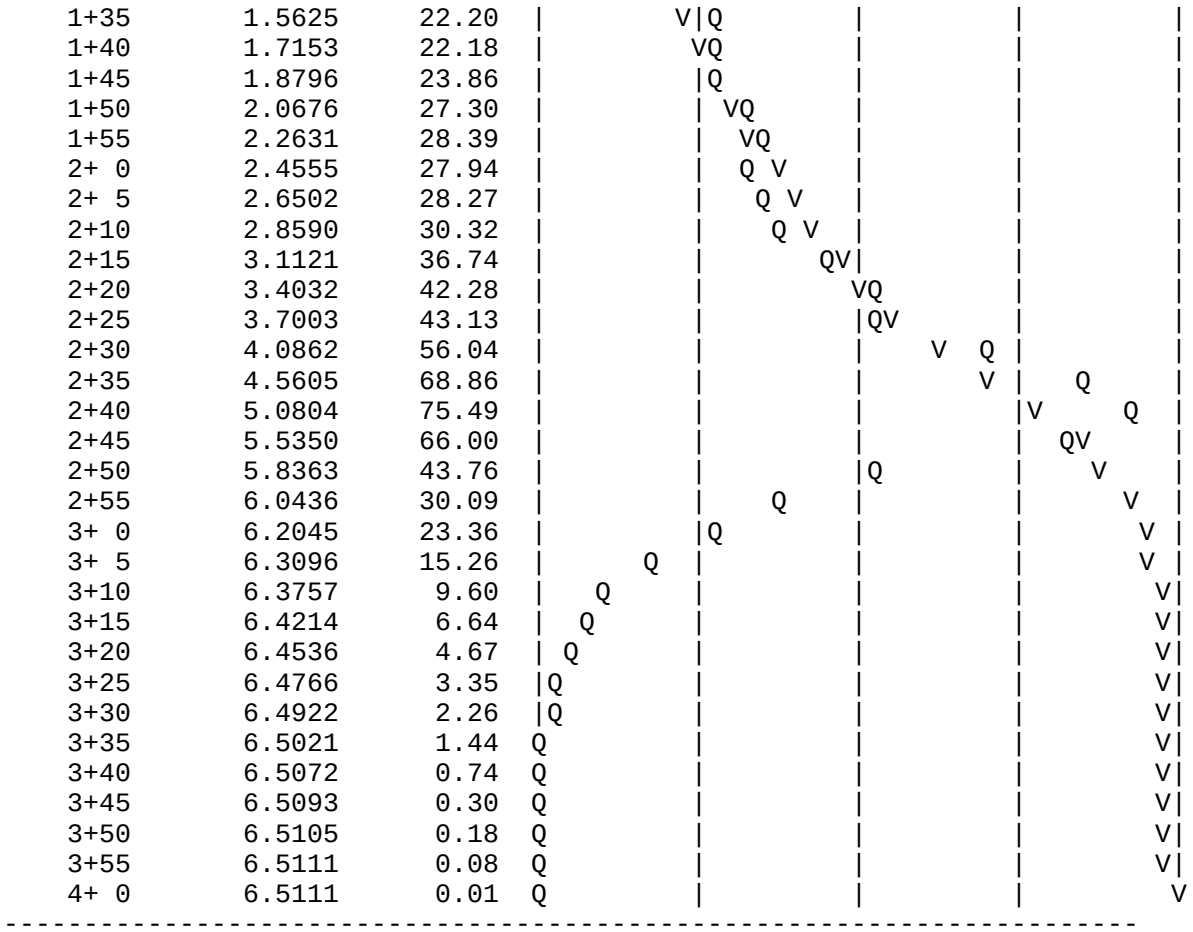
3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	20.0	40.0	60.0	80.0
0+ 5	0.0052	0.75	Q	|	|	|	|
0+10	0.0310	3.74	VQ	|	|	|	|
0+15	0.0689	5.51	V Q	|	|	|	|
0+20	0.1091	5.83	V Q	|	|	|	|
0+25	0.1608	7.51	V Q	|	|	|	|
0+30	0.2239	9.16	|V Q	|	|	|	|
0+35	0.2978	10.73	|V Q	|	|	|	|
0+40	0.3734	10.97	| V Q	|	|	|	|
0+45	0.4562	12.03	| V Q	|	|	|	|
0+50	0.5432	12.63	| V Q	|	|	|	|
0+55	0.6243	11.78	| V Q	|	|	|	|
1+ 0	0.7057	11.82	| VQ	|	|	|	|
1+ 5	0.7976	13.35	| V Q	|	|	|	|
1+10	0.9064	15.80	| V Q	|	|	|	|
1+15	1.0253	17.26	| V Q |	|	|	|
1+20	1.1470	17.67	| VQ |	|	|	|
1+25	1.2697	17.82	| VQ |	|	|	|
1+30	1.4097	20.32	| V 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 08/26/20 File: 522EX100SAD6100.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

20-522 D-1 DEVELOPMENT
EXISTING CONDITION
SUBAREA D
100-YEAR 6-HOUR STORM

Drainage Area = 54.10(Ac.) = 0.085 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 54.10(Ac.) = 0.085 Sq. Mi.
Length along longest watercourse = 1740.00(Ft.)
Length along longest watercourse measured to centroid = 900.00(Ft.)
Length along longest watercourse = 0.330 Mi.
Length along longest watercourse measured to centroid = 0.170 Mi.
Difference in elevation = 9.10(Ft.)
Slope along watercourse = 27.6138 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.128 Hr.
Lag time = 7.70 Min.
25% of lag time = 1.92 Min.
40% of lag time = 3.08 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]
54.10	1.00	54.10

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
54.10	2.50	135.25

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
54.100	75.00	0.050

Total Area Entered = 54.10(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	88.0	0.153	0.050	0.146	1.000	0.146
					Sum (F) =	0.146

Area averaged mean soil loss (F) (In/Hr) = 0.146
Minimum soil loss rate ((In/Hr)) = 0.073
(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	64.935	9.369	5.108
2	0.167	129.871	37.233	20.301
3	0.250	194.806	24.893	13.572
4	0.333	259.741	9.577	5.222
5	0.417	324.677	5.782	3.152
6	0.500	389.612	3.881	2.116
7	0.583	454.547	2.661	1.451
8	0.667	519.483	1.991	1.085
9	0.750	584.418	1.519	0.828
10	0.833	649.353	1.122	0.612
11	0.917	714.289	0.789	0.430
12	1.000	779.224	0.649	0.354
13	1.083	844.159	0.532	0.290
		Sum = 100.000	Sum=	54.523

The following loss 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	0.150	(0.146)	0.129	0.021
2	0.17	0.60	0.180	0.146	(0.155)	0.034
3	0.25	0.60	0.180	0.146	(0.155)	0.034
4	0.33	0.60	0.180	0.146	(0.155)	0.034
5	0.42	0.60	0.180	0.146	(0.155)	0.034
6	0.50	0.70	0.210	0.146	(0.181)	0.064
7	0.58	0.70	0.210	0.146	(0.181)	0.064
8	0.67	0.70	0.210	0.146	(0.181)	0.064
9	0.75	0.70	0.210	0.146	(0.181)	0.064
10	0.83	0.70	0.210	0.146	(0.181)	0.064
11	0.92	0.70	0.210	0.146	(0.181)	0.064
12	1.00	0.80	0.240	0.146	(0.206)	0.094

13	1.08	0.80	0.240	0.146	(0.206)	0.094
14	1.17	0.80	0.240	0.146	(0.206)	0.094
15	1.25	0.80	0.240	0.146	(0.206)	0.094
16	1.33	0.80	0.240	0.146	(0.206)	0.094
17	1.42	0.80	0.240	0.146	(0.206)	0.094
18	1.50	0.80	0.240	0.146	(0.206)	0.094
19	1.58	0.80	0.240	0.146	(0.206)	0.094
20	1.67	0.80	0.240	0.146	(0.206)	0.094
21	1.75	0.80	0.240	0.146	(0.206)	0.094
22	1.83	0.80	0.240	0.146	(0.206)	0.094
23	1.92	0.80	0.240	0.146	(0.206)	0.094
24	2.00	0.90	0.270	0.146	(0.232)	0.124
25	2.08	0.80	0.240	0.146	(0.206)	0.094
26	2.17	0.90	0.270	0.146	(0.232)	0.124
27	2.25	0.90	0.270	0.146	(0.232)	0.124
28	2.33	0.90	0.270	0.146	(0.232)	0.124
29	2.42	0.90	0.270	0.146	(0.232)	0.124
30	2.50	0.90	0.270	0.146	(0.232)	0.124
31	2.58	0.90	0.270	0.146	(0.232)	0.124
32	2.67	0.90	0.270	0.146	(0.232)	0.124
33	2.75	1.00	0.300	0.146	(0.258)	0.154
34	2.83	1.00	0.300	0.146	(0.258)	0.154
35	2.92	1.00	0.300	0.146	(0.258)	0.154
36	3.00	1.00	0.300	0.146	(0.258)	0.154
37	3.08	1.00	0.300	0.146	(0.258)	0.154
38	3.17	1.10	0.330	0.146	(0.284)	0.184
39	3.25	1.10	0.330	0.146	(0.284)	0.184
40	3.33	1.10	0.330	0.146	(0.284)	0.184
41	3.42	1.20	0.360	0.146	(0.310)	0.214
42	3.50	1.30	0.390	0.146	(0.335)	0.244
43	3.58	1.40	0.420	0.146	(0.361)	0.274
44	3.67	1.40	0.420	0.146	(0.361)	0.274
45	3.75	1.50	0.450	0.146	(0.387)	0.304
46	3.83	1.50	0.450	0.146	(0.387)	0.304
47	3.92	1.60	0.480	0.146	(0.413)	0.334
48	4.00	1.60	0.480	0.146	(0.413)	0.334
49	4.08	1.70	0.510	0.146	(0.439)	0.364
50	4.17	1.80	0.540	0.146	(0.464)	0.394
51	4.25	1.90	0.570	0.146	(0.490)	0.424
52	4.33	2.00	0.600	0.146	(0.516)	0.454
53	4.42	2.10	0.630	0.146	(0.542)	0.484
54	4.50	2.10	0.630	0.146	(0.542)	0.484
55	4.58	2.20	0.660	0.146	(0.567)	0.514
56	4.67	2.30	0.690	0.146	(0.593)	0.544
57	4.75	2.40	0.720	0.146	(0.619)	0.574
58	4.83	2.40	0.720	0.146	(0.619)	0.574
59	4.92	2.50	0.750	0.146	(0.645)	0.604
60	5.00	2.60	0.780	0.146	(0.671)	0.634
61	5.08	3.10	0.930	0.146	(0.800)	0.784
62	5.17	3.60	1.080	0.146	(0.929)	0.934
63	5.25	3.90	1.170	0.146	(1.006)	1.024
64	5.33	4.20	1.260	0.146	(1.083)	1.114
65	5.42	4.70	1.410	0.146	(1.212)	1.264
66	5.50	5.60	1.680	0.146	(1.445)	1.534
67	5.58	1.90	0.570	0.146	(0.490)	0.424
68	5.67	0.90	0.270	0.146	(0.232)	0.124
69	5.75	0.60	0.180	0.146	(0.155)	0.034
70	5.83	0.50	0.150	(0.146)	0.129	0.021
71	5.92	0.30	0.090	(0.146)	0.077	0.013
72	6.00	0.20	0.060	(0.146)	0.052	0.008

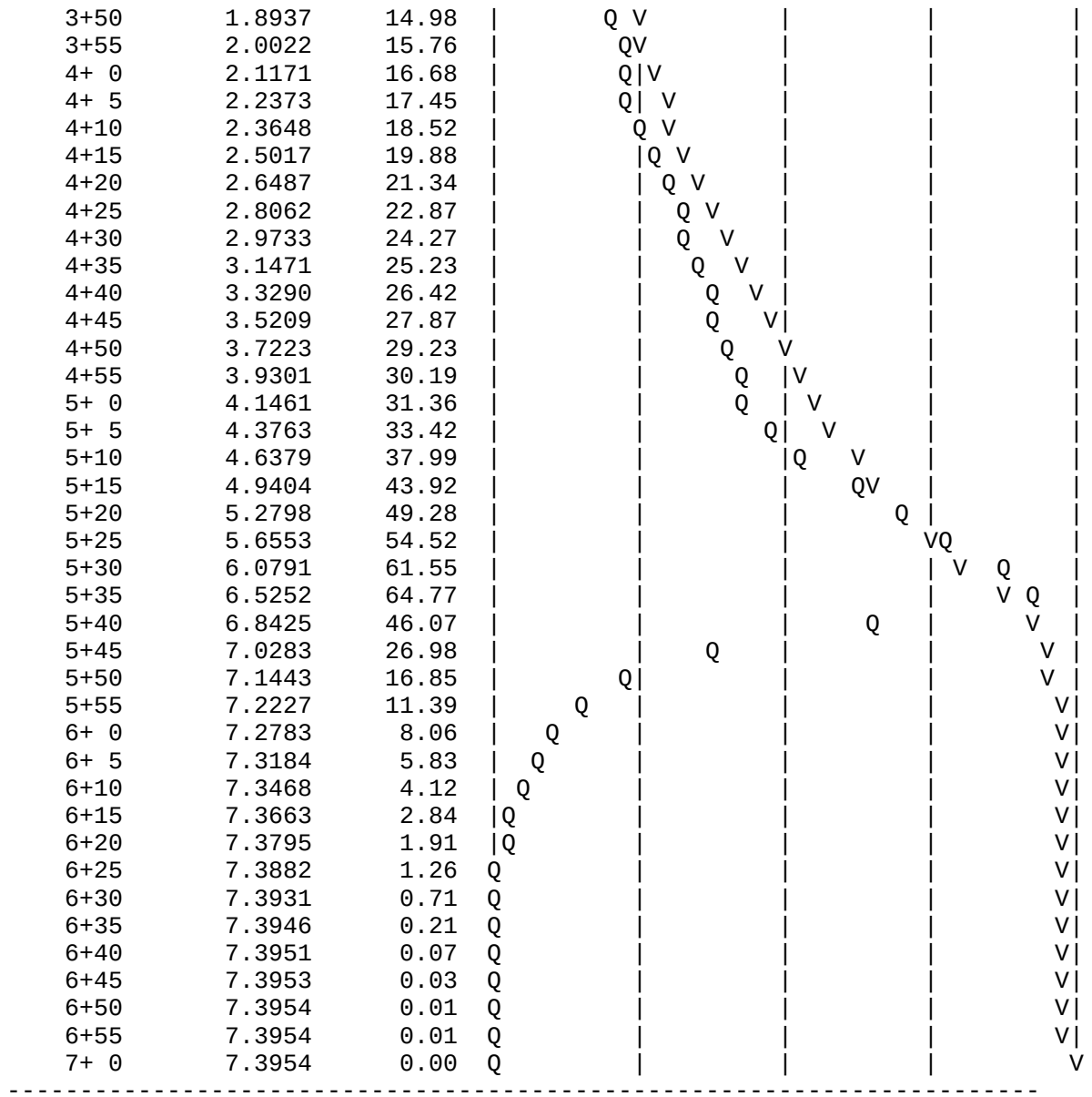
(Loss Rate Not Used)

Sum = 100.0 Sum = 19.7

Flood volume = Effective rainfall 1.64(In)

```
 times area      54.1(Ac.)/[(In)/(Ft.)] =       7.4(Ac.Ft)
Total soil loss =      0.86(In)
Total soil loss =     3.873(Ac.Ft)
Total rainfall =      2.50(In)
Flood volume =      322144.4 Cubic Feet
Total soil loss =      168721.8 Cubic Feet
---------------------------------------------------------------------
 Peak flow rate of this hydrograph =     64.774(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       17.5      35.0      52.5      70.0
---------------------------------------------------------------------
  0+ 5       0.0007      0.11  Q         |         |         |         |
  0+10       0.0049      0.60  Q         |         |         |         |
  0+15       0.0128      1.15  Q         |         |         |         |
  0+20       0.0227      1.44  Q         |         |         |         |
  0+25       0.0335      1.57  Q         |         |         |         |
  0+30       0.0460      1.81  VQ        |         |         |         |
  0+35       0.0631      2.48  VQ        |         |         |         |
  0+40       0.0832      2.93  VQ        |         |         |         |
  0+45       0.1047      3.12  VQ        |         |         |         |
  0+50       0.1269      3.23  VQ        |         |         |         |
  0+55       0.1498      3.31  VQ        |         |         |         |
  1+ 0       0.1740      3.52  V Q       |         |         |         |
  1+ 5       0.2028      4.18  |VQ       |         |         |         |
  1+10       0.2346      4.61  |VQ       |         |         |         |
  1+15       0.2675      4.79  |VQ       |         |         |         |
  1+20       0.3013      4.90  |VQ       |         |         |         |
  1+25       0.3355      4.97  |VQ       |         |         |         |
  1+30       0.3701      5.02  | Q       |         |         |         |
  1+35       0.4049      5.05  | Q       |         |         |         |
  1+40       0.4398      5.08  | Q       |         |         |         |
  1+45       0.4749      5.10  | Q       |         |         |         |
  1+50       0.5101      5.11  | Q       |         |         |         |
  1+55       0.5454      5.12  | Q       |         |         |         |
  2+ 0       0.5818      5.28  |  Q      |         |         |         |
  2+ 5       0.6213      5.74  |  Q      |         |         |         |
  2+10       0.6605      5.69  |  Q      |         |         |         |
  2+15       0.7022      6.05  |  Q      |         |         |         |
  2+20       0.7462      6.39  |  QV     |         |         |         |
  2+25       0.7911      6.52  |  QV     |         |         |         |
  2+30       0.8365      6.59  |  QV     |         |         |         |
  2+35       0.8823      6.65  |  QV     |         |         |         |
  2+40       0.9283      6.68  |  Q V    |         |         |         |
  2+45       0.9756      6.86  |  Q V    |         |         |         |
  2+50       1.0272      7.49  |   QV    |         |         |         |
  2+55       1.0817      7.91  |   QV    |         |         |         |
  3+ 0       1.1373      8.08  |   Q V   |         |         |         |
  3+ 5       1.1936      8.18  |   Q V   |         |         |         |
  3+10       1.2515      8.40  |   Q V   |         |         |         |
  3+15       1.3139      9.06  |    Q V  |         |         |         |
  3+20       1.3793      9.50  |    Q V  |         |         |         |
  3+25       1.4470      9.83  |    Q V  |         |         |         |
  3+30       1.5207     10.71  |     Q V |         |         |         |
  3+35       1.6031     11.95  |     Q V |         |         |         |
  3+40       1.6938     13.18  |      Q V|         |         |         |
  3+45       1.7905     14.03  |       QV|         |         |         |
```



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

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Study date 08/26/20 File: 522EX100SAD24100.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

20-522 D-1 DEVELOPMENT
EXISTING CONDITION
SUBAREA D
100-YEAR 24-HOUR STORM

Drainage Area = 54.10(Ac.) = 0.085 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 54.10(Ac.) = 0.085 Sq. Mi.
Length along longest watercourse = 1740.00(Ft.)
Length along longest watercourse measured to centroid = 900.00(Ft.)
Length along longest watercourse = 0.330 Mi.
Length along longest watercourse measured to centroid = 0.170 Mi.
Difference in elevation = 9.10(Ft.)
Slope along watercourse = 27.6138 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.128 Hr.
Lag time = 7.70 Min.
25% of lag time = 1.92 Min.
40% of lag time = 3.08 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]
54.10	1.60	86.56

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
54.10	4.00	216.40

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 4.000(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 4.000(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
54.100	75.00	0.050

Total Area Entered = 54.10(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	88.0	0.153	0.050	0.146	1.000	0.146
					Sum (F) =	0.146

Area averaged mean soil loss (F) (In/Hr) = 0.146
Minimum soil loss rate ((In/Hr)) = 0.073
(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	64.935	9.369	5.108
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4	0.333	259.741	9.577	5.222
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6	0.500	389.612	3.881	2.116
7	0.583	454.547	2.661	1.451
8	0.667	519.483	1.991	1.085
9	0.750	584.418	1.519	0.828
10	0.833	649.353	1.122	0.612
11	0.917	714.289	0.789	0.430
12	1.000	779.224	0.649	0.354
13	1.083	844.159	0.532	0.290
		Sum = 100.000	Sum=	54.523

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.07	0.032	(0.259)		0.028	0.004
2	0.17	0.07	0.032	(0.258)		0.028	0.004
3	0.25	0.07	0.032	(0.257)		0.028	0.004
4	0.33	0.10	0.048	(0.256)		0.041	0.007
5	0.42	0.10	0.048	(0.255)		0.041	0.007
6	0.50	0.10	0.048	(0.254)		0.041	0.007
7	0.58	0.10	0.048	(0.253)		0.041	0.007
8	0.67	0.10	0.048	(0.252)		0.041	0.007
9	0.75	0.10	0.048	(0.251)		0.041	0.007
10	0.83	0.13	0.064	(0.250)		0.055	0.009
11	0.92	0.13	0.064	(0.249)		0.055	0.009
12	1.00	0.13	0.064	(0.248)		0.055	0.009

13	1.08	0.10	0.048	(0.247)	0.041	0.007
14	1.17	0.10	0.048	(0.246)	0.041	0.007
15	1.25	0.10	0.048	(0.245)	0.041	0.007
16	1.33	0.10	0.048	(0.244)	0.041	0.007
17	1.42	0.10	0.048	(0.243)	0.041	0.007
18	1.50	0.10	0.048	(0.242)	0.041	0.007
19	1.58	0.10	0.048	(0.241)	0.041	0.007
20	1.67	0.10	0.048	(0.240)	0.041	0.007
21	1.75	0.10	0.048	(0.239)	0.041	0.007
22	1.83	0.13	0.064	(0.238)	0.055	0.009
23	1.92	0.13	0.064	(0.237)	0.055	0.009
24	2.00	0.13	0.064	(0.236)	0.055	0.009
25	2.08	0.13	0.064	(0.235)	0.055	0.009
26	2.17	0.13	0.064	(0.234)	0.055	0.009
27	2.25	0.13	0.064	(0.233)	0.055	0.009
28	2.33	0.13	0.064	(0.232)	0.055	0.009
29	2.42	0.13	0.064	(0.231)	0.055	0.009
30	2.50	0.13	0.064	(0.230)	0.055	0.009
31	2.58	0.17	0.080	(0.230)	0.069	0.011
32	2.67	0.17	0.080	(0.229)	0.069	0.011
33	2.75	0.17	0.080	(0.228)	0.069	0.011
34	2.83	0.17	0.080	(0.227)	0.069	0.011
35	2.92	0.17	0.080	(0.226)	0.069	0.011
36	3.00	0.17	0.080	(0.225)	0.069	0.011
37	3.08	0.17	0.080	(0.224)	0.069	0.011
38	3.17	0.17	0.080	(0.223)	0.069	0.011
39	3.25	0.17	0.080	(0.222)	0.069	0.011
40	3.33	0.17	0.080	(0.221)	0.069	0.011
41	3.42	0.17	0.080	(0.220)	0.069	0.011
42	3.50	0.17	0.080	(0.219)	0.069	0.011
43	3.58	0.17	0.080	(0.218)	0.069	0.011
44	3.67	0.17	0.080	(0.217)	0.069	0.011
45	3.75	0.17	0.080	(0.217)	0.069	0.011
46	3.83	0.20	0.096	(0.216)	0.083	0.013
47	3.92	0.20	0.096	(0.215)	0.083	0.013
48	4.00	0.20	0.096	(0.214)	0.083	0.013
49	4.08	0.20	0.096	(0.213)	0.083	0.013
50	4.17	0.20	0.096	(0.212)	0.083	0.013
51	4.25	0.20	0.096	(0.211)	0.083	0.013
52	4.33	0.23	0.112	(0.210)	0.096	0.016
53	4.42	0.23	0.112	(0.209)	0.096	0.016
54	4.50	0.23	0.112	(0.208)	0.096	0.016
55	4.58	0.23	0.112	(0.207)	0.096	0.016
56	4.67	0.23	0.112	(0.207)	0.096	0.016
57	4.75	0.23	0.112	(0.206)	0.096	0.016
58	4.83	0.27	0.128	(0.205)	0.110	0.018
59	4.92	0.27	0.128	(0.204)	0.110	0.018
60	5.00	0.27	0.128	(0.203)	0.110	0.018
61	5.08	0.20	0.096	(0.202)	0.083	0.013
62	5.17	0.20	0.096	(0.201)	0.083	0.013
63	5.25	0.20	0.096	(0.200)	0.083	0.013
64	5.33	0.23	0.112	(0.200)	0.096	0.016
65	5.42	0.23	0.112	(0.199)	0.096	0.016
66	5.50	0.23	0.112	(0.198)	0.096	0.016
67	5.58	0.27	0.128	(0.197)	0.110	0.018
68	5.67	0.27	0.128	(0.196)	0.110	0.018
69	5.75	0.27	0.128	(0.195)	0.110	0.018
70	5.83	0.27	0.128	(0.194)	0.110	0.018
71	5.92	0.27	0.128	(0.193)	0.110	0.018
72	6.00	0.27	0.128	(0.193)	0.110	0.018
73	6.08	0.30	0.144	(0.192)	0.124	0.020
74	6.17	0.30	0.144	(0.191)	0.124	0.020
75	6.25	0.30	0.144	(0.190)	0.124	0.020

76	6.33	0.30	0.144	(	0.189)	0.124		0.020
77	6.42	0.30	0.144	(	0.188)	0.124		0.020
78	6.50	0.30	0.144	(	0.188)	0.124		0.020
79	6.58	0.33	0.160	(	0.187)	0.138		0.022
80	6.67	0.33	0.160	(	0.186)	0.138		0.022
81	6.75	0.33	0.160	(	0.185)	0.138		0.022
82	6.83	0.33	0.160	(	0.184)	0.138		0.022
83	6.92	0.33	0.160	(	0.183)	0.138		0.022
84	7.00	0.33	0.160	(	0.182)	0.138		0.022
85	7.08	0.33	0.160	(	0.182)	0.138		0.022
86	7.17	0.33	0.160	(	0.181)	0.138		0.022
87	7.25	0.33	0.160	(	0.180)	0.138		0.022
88	7.33	0.37	0.176	(	0.179)	0.151		0.025
89	7.42	0.37	0.176	(	0.178)	0.151		0.025
90	7.50	0.37	0.176	(	0.178)	0.151		0.025
91	7.58	0.40	0.192	(	0.177)	0.165		0.027
92	7.67	0.40	0.192	(	0.176)	0.165		0.027
93	7.75	0.40	0.192	(	0.175)	0.165		0.027
94	7.83	0.43	0.208		0.174	(	0.179)	0.034
95	7.92	0.43	0.208		0.173	(	0.179)	0.034
96	8.00	0.43	0.208		0.173	(	0.179)	0.035
97	8.08	0.50	0.240		0.172	(	0.206)	0.068
98	8.17	0.50	0.240		0.171	(	0.206)	0.069
99	8.25	0.50	0.240		0.170	(	0.206)	0.070
100	8.33	0.50	0.240		0.170	(	0.206)	0.070
101	8.42	0.50	0.240		0.169	(	0.206)	0.071
102	8.50	0.50	0.240		0.168	(	0.206)	0.072
103	8.58	0.53	0.256		0.167	(	0.220)	0.089
104	8.67	0.53	0.256		0.166	(	0.220)	0.090
105	8.75	0.53	0.256		0.166	(	0.220)	0.090
106	8.83	0.57	0.272		0.165	(	0.234)	0.107
107	8.92	0.57	0.272		0.164	(	0.234)	0.108
108	9.00	0.57	0.272		0.163	(	0.234)	0.109
109	9.08	0.63	0.304		0.162	(	0.261)	0.142
110	9.17	0.63	0.304		0.162	(	0.261)	0.142
111	9.25	0.63	0.304		0.161	(	0.261)	0.143
112	9.33	0.67	0.320		0.160	(	0.275)	0.160
113	9.42	0.67	0.320		0.159	(	0.275)	0.161
114	9.50	0.67	0.320		0.159	(	0.275)	0.161
115	9.58	0.70	0.336		0.158	(	0.289)	0.178
116	9.67	0.70	0.336		0.157	(	0.289)	0.179
117	9.75	0.70	0.336		0.156	(	0.289)	0.180
118	9.83	0.73	0.352		0.156	(	0.303)	0.196
119	9.92	0.73	0.352		0.155	(	0.303)	0.197
120	10.00	0.73	0.352		0.154	(	0.303)	0.198
121	10.08	0.50	0.240		0.153	(	0.206)	0.087
122	10.17	0.50	0.240		0.153	(	0.206)	0.087
123	10.25	0.50	0.240		0.152	(	0.206)	0.088
124	10.33	0.50	0.240		0.151	(	0.206)	0.089
125	10.42	0.50	0.240		0.150	(	0.206)	0.090
126	10.50	0.50	0.240		0.150	(	0.206)	0.090
127	10.58	0.67	0.320		0.149	(	0.275)	0.171
128	10.67	0.67	0.320		0.148	(	0.275)	0.172
129	10.75	0.67	0.320		0.147	(	0.275)	0.172
130	10.83	0.67	0.320		0.147	(	0.275)	0.173
131	10.92	0.67	0.320		0.146	(	0.275)	0.174
132	11.00	0.67	0.320		0.145	(	0.275)	0.175
133	11.08	0.63	0.304		0.145	(	0.261)	0.159
134	11.17	0.63	0.304		0.144	(	0.261)	0.160
135	11.25	0.63	0.304		0.143	(	0.261)	0.161
136	11.33	0.63	0.304		0.142	(	0.261)	0.161
137	11.42	0.63	0.304		0.142	(	0.261)	0.162
138	11.50	0.63	0.304		0.141	(	0.261)	0.163

139	11.58	0.57	0.272	0.140	(0.234)	0.132
140	11.67	0.57	0.272	0.140	(0.234)	0.132
141	11.75	0.57	0.272	0.139	(0.234)	0.133
142	11.83	0.60	0.288	0.138	(0.248)	0.150
143	11.92	0.60	0.288	0.138	(0.248)	0.150
144	12.00	0.60	0.288	0.137	(0.248)	0.151
145	12.08	0.83	0.400	0.136	(0.344)	0.264
146	12.17	0.83	0.400	0.136	(0.344)	0.264
147	12.25	0.83	0.400	0.135	(0.344)	0.265
148	12.33	0.87	0.416	0.134	(0.358)	0.282
149	12.42	0.87	0.416	0.134	(0.358)	0.282
150	12.50	0.87	0.416	0.133	(0.358)	0.283
151	12.58	0.93	0.448	0.132	(0.385)	0.316
152	12.67	0.93	0.448	0.131	(0.385)	0.316
153	12.75	0.93	0.448	0.131	(0.385)	0.317
154	12.83	0.97	0.464	0.130	(0.399)	0.334
155	12.92	0.97	0.464	0.130	(0.399)	0.334
156	13.00	0.97	0.464	0.129	(0.399)	0.335
157	13.08	1.13	0.544	0.128	(0.468)	0.416
158	13.17	1.13	0.544	0.128	(0.468)	0.416
159	13.25	1.13	0.544	0.127	(0.468)	0.417
160	13.33	1.13	0.544	0.126	(0.468)	0.418
161	13.42	1.13	0.544	0.126	(0.468)	0.418
162	13.50	1.13	0.544	0.125	(0.468)	0.419
163	13.58	0.77	0.368	0.124	(0.316)	0.244
164	13.67	0.77	0.368	0.124	(0.316)	0.244
165	13.75	0.77	0.368	0.123	(0.316)	0.245
166	13.83	0.77	0.368	0.122	(0.316)	0.246
167	13.92	0.77	0.368	0.122	(0.316)	0.246
168	14.00	0.77	0.368	0.121	(0.316)	0.247
169	14.08	0.90	0.432	0.121	(0.371)	0.311
170	14.17	0.90	0.432	0.120	(0.371)	0.312
171	14.25	0.90	0.432	0.119	(0.371)	0.313
172	14.33	0.87	0.416	0.119	(0.358)	0.297
173	14.42	0.87	0.416	0.118	(0.358)	0.298
174	14.50	0.87	0.416	0.118	(0.358)	0.298
175	14.58	0.87	0.416	0.117	(0.358)	0.299
176	14.67	0.87	0.416	0.116	(0.358)	0.300
177	14.75	0.87	0.416	0.116	(0.358)	0.300
178	14.83	0.83	0.400	0.115	(0.344)	0.285
179	14.92	0.83	0.400	0.115	(0.344)	0.285
180	15.00	0.83	0.400	0.114	(0.344)	0.286
181	15.08	0.80	0.384	0.113	(0.330)	0.271
182	15.17	0.80	0.384	0.113	(0.330)	0.271
183	15.25	0.80	0.384	0.112	(0.330)	0.272
184	15.33	0.77	0.368	0.112	(0.316)	0.256
185	15.42	0.77	0.368	0.111	(0.316)	0.257
186	15.50	0.77	0.368	0.111	(0.316)	0.257
187	15.58	0.63	0.304	0.110	(0.261)	0.194
188	15.67	0.63	0.304	0.109	(0.261)	0.195
189	15.75	0.63	0.304	0.109	(0.261)	0.195
190	15.83	0.63	0.304	0.108	(0.261)	0.196
191	15.92	0.63	0.304	0.108	(0.261)	0.196
192	16.00	0.63	0.304	0.107	(0.261)	0.197
193	16.08	0.13	0.064	(0.107)	0.055	0.009
194	16.17	0.13	0.064	(0.106)	0.055	0.009
195	16.25	0.13	0.064	(0.106)	0.055	0.009
196	16.33	0.13	0.064	(0.105)	0.055	0.009
197	16.42	0.13	0.064	(0.104)	0.055	0.009
198	16.50	0.13	0.064	(0.104)	0.055	0.009
199	16.58	0.10	0.048	(0.103)	0.041	0.007
200	16.67	0.10	0.048	(0.103)	0.041	0.007
201	16.75	0.10	0.048	(0.102)	0.041	0.007

202	16.83	0.10	0.048	(0.102)	0.041	0.007
203	16.92	0.10	0.048	(0.101)	0.041	0.007
204	17.00	0.10	0.048	(0.101)	0.041	0.007
205	17.08	0.17	0.080	(0.100)	0.069	0.011
206	17.17	0.17	0.080	(0.100)	0.069	0.011
207	17.25	0.17	0.080	(0.099)	0.069	0.011
208	17.33	0.17	0.080	(0.099)	0.069	0.011
209	17.42	0.17	0.080	(0.098)	0.069	0.011
210	17.50	0.17	0.080	(0.098)	0.069	0.011
211	17.58	0.17	0.080	(0.097)	0.069	0.011
212	17.67	0.17	0.080	(0.097)	0.069	0.011
213	17.75	0.17	0.080	(0.096)	0.069	0.011
214	17.83	0.13	0.064	(0.096)	0.055	0.009
215	17.92	0.13	0.064	(0.095)	0.055	0.009
216	18.00	0.13	0.064	(0.095)	0.055	0.009
217	18.08	0.13	0.064	(0.094)	0.055	0.009
218	18.17	0.13	0.064	(0.094)	0.055	0.009
219	18.25	0.13	0.064	(0.094)	0.055	0.009
220	18.33	0.13	0.064	(0.093)	0.055	0.009
221	18.42	0.13	0.064	(0.093)	0.055	0.009
222	18.50	0.13	0.064	(0.092)	0.055	0.009
223	18.58	0.10	0.048	(0.092)	0.041	0.007
224	18.67	0.10	0.048	(0.091)	0.041	0.007
225	18.75	0.10	0.048	(0.091)	0.041	0.007
226	18.83	0.07	0.032	(0.090)	0.028	0.004
227	18.92	0.07	0.032	(0.090)	0.028	0.004
228	19.00	0.07	0.032	(0.090)	0.028	0.004
229	19.08	0.10	0.048	(0.089)	0.041	0.007
230	19.17	0.10	0.048	(0.089)	0.041	0.007
231	19.25	0.10	0.048	(0.088)	0.041	0.007
232	19.33	0.13	0.064	(0.088)	0.055	0.009
233	19.42	0.13	0.064	(0.087)	0.055	0.009
234	19.50	0.13	0.064	(0.087)	0.055	0.009
235	19.58	0.10	0.048	(0.087)	0.041	0.007
236	19.67	0.10	0.048	(0.086)	0.041	0.007
237	19.75	0.10	0.048	(0.086)	0.041	0.007
238	19.83	0.07	0.032	(0.085)	0.028	0.004
239	19.92	0.07	0.032	(0.085)	0.028	0.004
240	20.00	0.07	0.032	(0.085)	0.028	0.004
241	20.08	0.10	0.048	(0.084)	0.041	0.007
242	20.17	0.10	0.048	(0.084)	0.041	0.007
243	20.25	0.10	0.048	(0.084)	0.041	0.007
244	20.33	0.10	0.048	(0.083)	0.041	0.007
245	20.42	0.10	0.048	(0.083)	0.041	0.007
246	20.50	0.10	0.048	(0.083)	0.041	0.007
247	20.58	0.10	0.048	(0.082)	0.041	0.007
248	20.67	0.10	0.048	(0.082)	0.041	0.007
249	20.75	0.10	0.048	(0.082)	0.041	0.007
250	20.83	0.07	0.032	(0.081)	0.028	0.004
251	20.92	0.07	0.032	(0.081)	0.028	0.004
252	21.00	0.07	0.032	(0.081)	0.028	0.004
253	21.08	0.10	0.048	(0.080)	0.041	0.007
254	21.17	0.10	0.048	(0.080)	0.041	0.007
255	21.25	0.10	0.048	(0.080)	0.041	0.007
256	21.33	0.07	0.032	(0.079)	0.028	0.004
257	21.42	0.07	0.032	(0.079)	0.028	0.004
258	21.50	0.07	0.032	(0.079)	0.028	0.004
259	21.58	0.10	0.048	(0.078)	0.041	0.007
260	21.67	0.10	0.048	(0.078)	0.041	0.007
261	21.75	0.10	0.048	(0.078)	0.041	0.007
262	21.83	0.07	0.032	(0.078)	0.028	0.004
263	21.92	0.07	0.032	(0.077)	0.028	0.004
264	22.00	0.07	0.032	(0.077)	0.028	0.004

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265  22.08     0.10      0.048       (  0.077)       0.041        0.007
266  22.17     0.10      0.048       (  0.077)       0.041        0.007
267  22.25     0.10      0.048       (  0.076)       0.041        0.007
268  22.33     0.07      0.032       (  0.076)       0.028        0.004
269  22.42     0.07      0.032       (  0.076)       0.028        0.004
270  22.50     0.07      0.032       (  0.076)       0.028        0.004
271  22.58     0.07      0.032       (  0.075)       0.028        0.004
272  22.67     0.07      0.032       (  0.075)       0.028        0.004
273  22.75     0.07      0.032       (  0.075)       0.028        0.004
274  22.83     0.07      0.032       (  0.075)       0.028        0.004
275  22.92     0.07      0.032       (  0.075)       0.028        0.004
276  23.00     0.07      0.032       (  0.074)       0.028        0.004
277  23.08     0.07      0.032       (  0.074)       0.028        0.004
278  23.17     0.07      0.032       (  0.074)       0.028        0.004
279  23.25     0.07      0.032       (  0.074)       0.028        0.004
280  23.33     0.07      0.032       (  0.074)       0.028        0.004
281  23.42     0.07      0.032       (  0.074)       0.028        0.004
282  23.50     0.07      0.032       (  0.073)       0.028        0.004
283  23.58     0.07      0.032       (  0.073)       0.028        0.004
284  23.67     0.07      0.032       (  0.073)       0.028        0.004
285  23.75     0.07      0.032       (  0.073)       0.028        0.004
286  23.83     0.07      0.032       (  0.073)       0.028        0.004
287  23.92     0.07      0.032       (  0.073)       0.028        0.004
288  24.00     0.07      0.032       (  0.073)       0.028        0.004
            (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    22.4
     Flood volume = Effective rainfall      1.87(In)
      times area      54.1(Ac.)/[(In)/(Ft.)] =       8.4(Ac.Ft)
     Total soil loss =      2.13(In)
     Total soil loss =     9.623(Ac.Ft)
     Total rainfall =      4.00(In)
     Flood volume =      366265.5 Cubic Feet
     Total soil loss =      419183.5 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =     22.332(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        7.5      15.0      22.5      30.0
 ---------------------------------------------------------------------------
   0+ 5       0.0002      0.02  Q         |         |         |         |
   0+10       0.0009      0.11  Q         |         |         |         |
   0+15       0.0021      0.17  Q         |         |         |         |
   0+20       0.0036      0.21  Q         |         |         |         |
   0+25       0.0054      0.27  Q         |         |         |         |
   0+30       0.0076      0.31  Q         |         |         |         |
   0+35       0.0098      0.33  Q         |         |         |         |
   0+40       0.0122      0.34  Q         |         |         |         |
   0+45       0.0146      0.35  Q         |         |         |         |
   0+50       0.0171      0.37  Q         |         |         |         |
   0+55       0.0199      0.41  Q         |         |         |         |
   1+ 0       0.0230      0.45  Q         |         |         |         |
   1+ 5       0.0261      0.45  Q         |         |         |         |
   1+10       0.0290      0.41  Q         |         |         |         |
   1+15       0.0317      0.39  Q         |         |         |         |
   1+20       0.0343      0.38  Q         |         |         |         |
   1+25       0.0369      0.38  Q         |         |         |         |
   1+30       0.0395      0.37  Q         |         |         |         |
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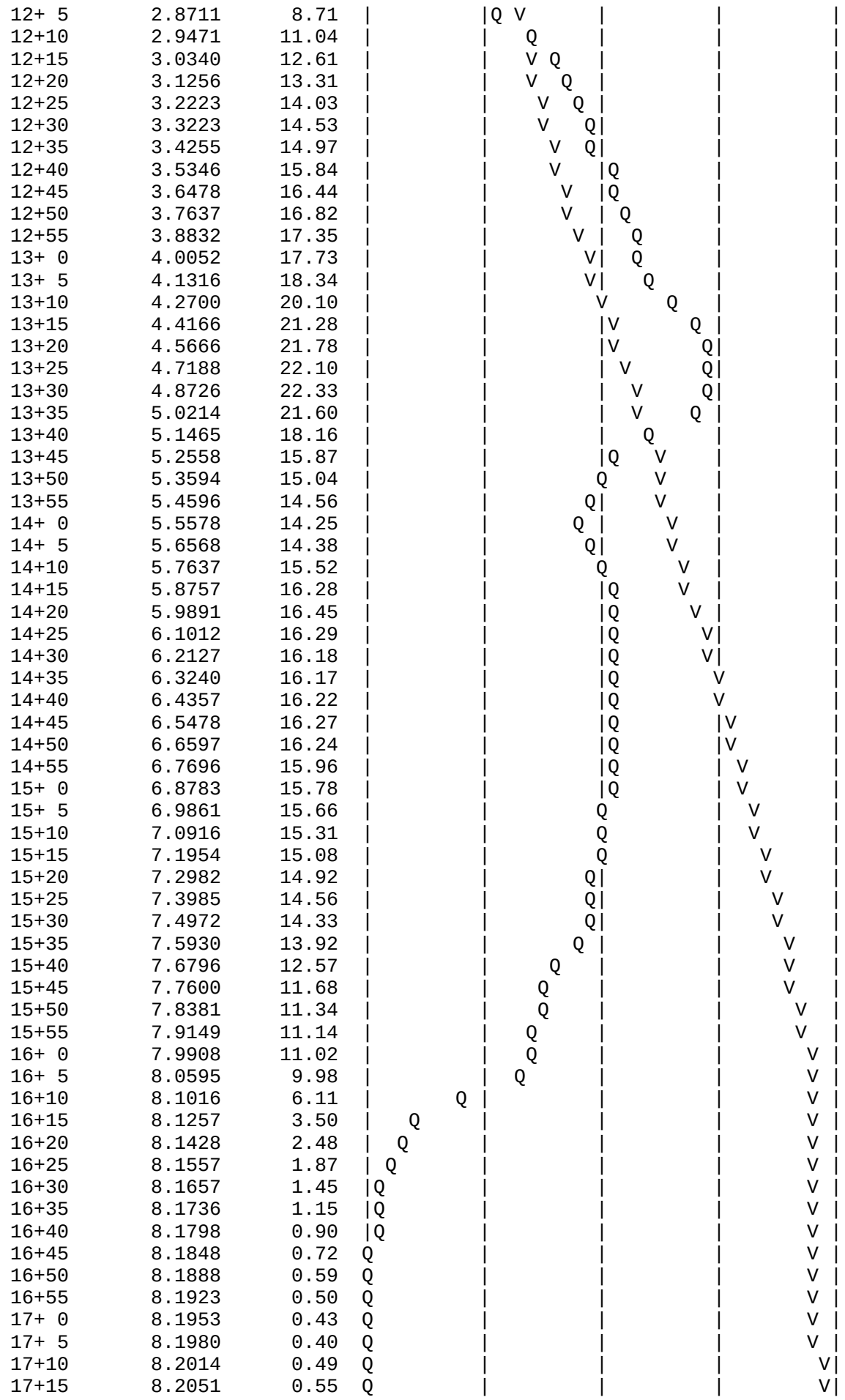
1+35	0.0420	0.37	Q				
1+40	0.0446	0.37	Q				
1+45	0.0471	0.37	Q				
1+50	0.0497	0.38	Q				
1+55	0.0527	0.42	Q				
2+ 0	0.0558	0.45	Q				
2+ 5	0.0590	0.47	Q				
2+10	0.0623	0.47	Q				
2+15	0.0656	0.48	Q				
2+20	0.0689	0.48	Q				
2+25	0.0722	0.48	Q				
2+30	0.0755	0.48	Q				
2+35	0.0790	0.50	Q				
2+40	0.0827	0.54	Q				
2+45	0.0867	0.58	Q				
2+50	0.0907	0.59	Q				
2+55	0.0948	0.59	Q				
3+ 0	0.0989	0.60	Q				
3+ 5	0.1031	0.60	Q				
3+10	0.1073	0.61	Q				
3+15	0.1114	0.61	Q				
3+20	0.1156	0.61	Q				
3+25	0.1198	0.61	Q				
3+30	0.1240	0.61	Q				
3+35	0.1282	0.61	Q				
3+40	0.1325	0.61	Q				
3+45	0.1367	0.61	Q				
3+50	0.1409	0.62	Q				
3+55	0.1455	0.67	Q				
4+ 0	0.1504	0.70	Q				
4+ 5	0.1552	0.71	Q				
4+10	0.1602	0.72	Q				
4+15	0.1652	0.72	Q				
4+20	0.1702	0.74	Q				
4+25	0.1756	0.78	VQ				
4+30	0.1813	0.82	VQ				
4+35	0.1870	0.83	VQ				
4+40	0.1927	0.84	VQ				
4+45	0.1985	0.84	VQ				
4+50	0.2045	0.86	VQ				
4+55	0.2107	0.91	|Q				
5+ 0	0.2172	0.94	|Q				
5+ 5	0.2236	0.93	|Q				
5+10	0.2294	0.85	|Q				
5+15	0.2348	0.79	|Q				
5+20	0.2402	0.78	|Q				
5+25	0.2459	0.82	|Q				
5+30	0.2516	0.84	|Q				
5+35	0.2575	0.86	|Q				
5+40	0.2638	0.91	|Q				
5+45	0.2702	0.94	|Q				
5+50	0.2768	0.95	|Q				
5+55	0.2834	0.96	|Q				
6+ 0	0.2900	0.96	|Q				
6+ 5	0.2968	0.98	|Q				
6+10	0.3038	1.03	|Q				
6+15	0.3111	1.06	|Q				
6+20	0.3185	1.07	|Q				
6+25	0.3260	1.08	|Q				
6+30	0.3335	1.09	|Q				
6+35	0.3411	1.10	|Q				
6+40	0.3490	1.15	|Q				
6+45	0.3572	1.18	|Q				

6+50	0.3654	1.20	Q				
6+55	0.3737	1.20	Q				
7+ 0	0.3820	1.21	Q				
7+ 5	0.3904	1.21	Q				
7+10	0.3988	1.22	Q				
7+15	0.4071	1.22	Q				
7+20	0.4156	1.23	Q				
7+25	0.4244	1.28	QV				
7+30	0.4334	1.31	QV				
7+35	0.4426	1.33	QV				
7+40	0.4521	1.38	QV				
7+45	0.4619	1.42	QV				
7+50	0.4720	1.47	QV				
7+55	0.4832	1.62	Q				
8+ 0	0.4952	1.74	Q				
8+ 5	0.5088	1.98	Q				
8+10	0.5273	2.69	VQ				
8+15	0.5492	3.18	V Q				
8+20	0.5725	3.39	V Q				
8+25	0.5970	3.54	V Q				
8+30	0.6222	3.66	V Q				
8+35	0.6486	3.83	V Q				
8+40	0.6778	4.24	V Q				
8+45	0.7089	4.53	V Q				
8+50	0.7417	4.76	V Q				
8+55	0.7775	5.19	V Q				
9+ 0	0.8153	5.49	V Q				
9+ 5	0.8554	5.82	V Q				
9+10	0.9006	6.58	V Q				
9+15	0.9496	7.10	V Q				
9+20	1.0007	7.42	V Q				
9+25	1.0552	7.92	V Q				
9+30	1.1121	8.26	V Q				
9+35	1.1709	8.53	V Q				
9+40	1.2328	8.99	V Q				
9+45	1.2969	9.31	V Q				
9+50	1.3628	9.57	V Q				
9+55	1.4318	10.02	V Q				
10+ 0	1.5030	10.33	V Q				
10+ 5	1.5713	9.93	V Q				
10+10	1.6248	7.77	V Q				
10+15	1.6685	6.34	VQ				
10+20	1.7087	5.83	QV				
10+25	1.7469	5.55	QV				
10+30	1.7838	5.37	QV				
10+35	1.8229	5.67	QV				
10+40	1.8726	7.22	VQ				
10+45	1.9295	8.26	V Q				
10+50	1.9891	8.65	V Q				
10+55	2.0503	8.89	V Q				
11+ 0	2.1127	9.06	V Q				
11+ 5	2.1754	9.11	V Q				
11+10	2.2368	8.91	VQ				
11+15	2.2974	8.79	VQ				
11+20	2.3580	8.80	Q				
11+25	2.4187	8.82	Q				
11+30	2.4797	8.85	Q				
11+35	2.5398	8.73	QV				
11+40	2.5956	8.10	Q V				
11+45	2.6486	7.69	Q V				
11+50	2.7012	7.63	Q V				
11+55	2.7555	7.89	Q V				
12+ 0	2.8111	8.07	Q V				



17+20	8.2090	0.57	Q	|	|	|	V|
17+25	8.2130	0.58	Q	|	|	|	V|
17+30	8.2171	0.59	Q	|	|	|	V|
17+35	8.2212	0.59	Q	|	|	|	V|
17+40	8.2253	0.60	Q	|	|	|	V|
17+45	8.2295	0.60	Q	|	|	|	V|
17+50	8.2336	0.59	Q	|	|	|	V|
17+55	8.2374	0.55	Q	|	|	|	V|
18+ 0	8.2410	0.52	Q	|	|	|	V|
18+ 5	8.2445	0.51	Q	|	|	|	V|
18+10	8.2480	0.50	Q	|	|	|	V|
18+15	8.2514	0.50	Q	|	|	|	V|
18+20	8.2548	0.50	Q	|	|	|	V|
18+25	8.2582	0.49	Q	|	|	|	V|
18+30	8.2616	0.49	Q	|	|	|	V|
18+35	8.2649	0.48	Q	|	|	|	V|
18+40	8.2679	0.43	Q	|	|	|	V|
18+45	8.2707	0.40	Q	|	|	|	V|
18+50	8.2733	0.38	Q	|	|	|	V|
18+55	8.2755	0.33	Q	|	|	|	V|
19+ 0	8.2775	0.29	Q	|	|	|	V|
19+ 5	8.2795	0.29	Q	|	|	|	V|
19+10	8.2817	0.32	Q	|	|	|	V|
19+15	8.2841	0.35	Q	|	|	|	V|
19+20	8.2866	0.37	Q	|	|	|	V|
19+25	8.2895	0.41	Q	|	|	|	V|
19+30	8.2926	0.45	Q	|	|	|	V|
19+35	8.2957	0.45	Q	|	|	|	V|
19+40	8.2985	0.41	Q	|	|	|	V|
19+45	8.3012	0.39	Q	|	|	|	V|
19+50	8.3037	0.37	Q	|	|	|	V|
19+55	8.3059	0.32	Q	|	|	|	V|
20+ 0	8.3079	0.29	Q	|	|	|	V|
20+ 5	8.3098	0.28	Q	|	|	|	V|
20+10	8.3120	0.32	Q	|	|	|	V|
20+15	8.3144	0.35	Q	|	|	|	V|
20+20	8.3168	0.35	Q	|	|	|	V|
20+25	8.3193	0.36	Q	|	|	|	V|
20+30	8.3218	0.36	Q	|	|	|	V|
20+35	8.3243	0.36	Q	|	|	|	V|
20+40	8.3268	0.36	Q	|	|	|	V|
20+45	8.3293	0.36	Q	|	|	|	V|
20+50	8.3317	0.35	Q	|	|	|	V|
20+55	8.3338	0.31	Q	|	|	|	V|
21+ 0	8.3357	0.28	Q	|	|	|	V|
21+ 5	8.3377	0.28	Q	|	|	|	V|
21+10	8.3398	0.32	Q	|	|	|	V|
21+15	8.3422	0.34	Q	|	|	|	V|
21+20	8.3446	0.34	Q	|	|	|	V|
21+25	8.3466	0.30	Q	|	|	|	V|
21+30	8.3485	0.27	Q	|	|	|	V|
21+35	8.3504	0.27	Q	|	|	|	V|
21+40	8.3525	0.31	Q	|	|	|	V|
21+45	8.3549	0.34	Q	|	|	|	V|
21+50	8.3572	0.34	Q	|	|	|	V|
21+55	8.3592	0.30	Q	|	|	|	V|
22+ 0	8.3611	0.27	Q	|	|	|	V|
22+ 5	8.3630	0.27	Q	|	|	|	V|
22+10	8.3651	0.31	Q	|	|	|	V|
22+15	8.3675	0.34	Q	|	|	|	V|
22+20	8.3698	0.34	Q	|	|	|	V|
22+25	8.3719	0.30	Q	|	|	|	V|
22+30	8.3737	0.27	Q	|	|	|	V|

22+35	8.3755	0.26	Q	|	|	|	V|
22+40	8.3773	0.26	Q	|	|	|	V|
22+45	8.3790	0.25	Q	|	|	|	V|
22+50	8.3808	0.25	Q	|	|	|	V|
22+55	8.3825	0.25	Q	|	|	|	V|
23+ 0	8.3842	0.25	Q	|	|	|	V|
23+ 5	8.3859	0.25	Q	|	|	|	V|
23+10	8.3876	0.25	Q	|	|	|	V|
23+15	8.3893	0.25	Q	|	|	|	V|
23+20	8.3909	0.24	Q	|	|	|	V|
23+25	8.3926	0.24	Q	|	|	|	V|
23+30	8.3943	0.24	Q	|	|	|	V|
23+35	8.3960	0.24	Q	|	|	|	V|
23+40	8.3977	0.24	Q	|	|	|	V|
23+45	8.3993	0.24	Q	|	|	|	V|
23+50	8.4010	0.24	Q	|	|	|	V|
23+55	8.4027	0.24	Q	|	|	|	V|
24+ 0	8.4044	0.24	Q	|	|	|	V|
24+ 5	8.4059	0.22	Q	|	|	|	V|
24+10	8.4068	0.13	Q	|	|	|	V|
24+15	8.4073	0.07	Q	|	|	|	V|
24+20	8.4076	0.05	Q	|	|	|	V|
24+25	8.4078	0.03	Q	|	|	|	V|
24+30	8.4080	0.02	Q	|	|	|	V|
24+35	8.4081	0.02	Q	|	|	|	V|
24+40	8.4082	0.01	Q	|	|	|	V|
24+45	8.4082	0.01	Q	|	|	|	V|
24+50	8.4083	0.00	Q	|	|	|	V|
24+55	8.4083	0.00	Q	|	|	|	V|
25+ 0	8.4083	0.00	Q	|	|	|	V|

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

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Study date 08/27/20 File: 522EX100SAE1100.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

20-522 D-1 DEVELOPMENT
EXISTING CONDITION
SUBAREA E
100-YEAR 1-HOUR STORM

Drainage Area = 21.40(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.40(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1646.00(Ft.)
Length along longest watercourse measured to centroid = 680.00(Ft.)
Length along longest watercourse = 0.312 Mi.
Length along longest watercourse measured to centroid = 0.129 Mi.
Difference in elevation = 4.00(Ft.)
Slope along watercourse = 12.8311 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.131 Hr.
Lag time = 7.84 Min.
25% of lag time = 1.96 Min.
40% of lag time = 3.14 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.40	0.47	10.06

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.40	1.20	25.68

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.470(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
21.400	75.00	0.148

Total Area Entered = 21.40(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	88.0	0.153	0.148	0.132	1.000	0.132
					Sum (F) =	0.132

Area averaged mean soil loss (F) (In/Hr) = 0.132
Minimum soil loss rate ((In/Hr)) = 0.066
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.782

Slope of intensity-duration curve for a 1 hour storm =0.5000

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	63.777	9.093	1.961
2	0.167	127.553	36.507	7.874
3	0.250	191.330	25.295	5.455
4	0.333	255.106	9.730	2.098
5	0.417	318.883	5.855	1.263
6	0.500	382.660	3.932	0.848
7	0.583	446.436	2.725	0.588
8	0.667	510.213	2.006	0.433
9	0.750	573.990	1.565	0.338
10	0.833	637.766	1.153	0.249
11	0.917	701.543	0.831	0.179
12	1.000	765.319	0.642	0.139
13	1.083	829.096	0.666	0.144
		Sum = 100.000	Sum=	21.567

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	4.20	0.605	0.132	(	0.473)	0.472
2	0.17	4.30	0.619	0.132	(	0.484)	0.487
3	0.25	5.00	0.720	0.132	(	0.563)	0.587
4	0.33	5.00	0.720	0.132	(	0.563)	0.587
5	0.42	5.80	0.835	0.132	(	0.653)	0.703
6	0.50	6.50	0.936	0.132	(	0.731)	0.803
7	0.58	7.40	1.065	0.132	(	0.833)	0.933
8	0.67	8.60	1.238	0.132	(	0.968)	1.106
9	0.75	12.30	1.771	0.132	(	1.384)	1.638
10	0.83	29.10	4.190	0.132	(	3.275)	4.057

```
 11   0.92     6.80      0.979          0.132    (  0.765)        0.847
 12   1.00     5.00      0.720          0.132    (  0.563)        0.587
            (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    12.8
     Flood volume = Effective rainfall      1.07(In)
      times area      21.4(Ac.)/[(In)/(Ft.)] =       1.9(Ac.Ft)
     Total soil loss =      0.13(In)
     Total soil loss =     0.236(Ac.Ft)
     Total rainfall =      1.20(In)
     Flood volume =       82911.6 Cubic Feet
     Total soil loss =       10288.8 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =     47.818(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       12.5      25.0      37.5      50.0
  ------------------------------------------------------------------------
    0+ 5       0.0064      0.93  Q         |         |         |         |
    0+10       0.0386      4.67  V  Q      |         |         |         |
    0+15       0.0907      7.56  |V    Q   |         |         |         |
    0+20       0.1556      9.43  |  V   Q  |         |         |         |
    0+25       0.2302     10.83  |   V   Q |         |         |         |
    0+30       0.3167     12.57  |     V   Q         |         |         |
    0+35       0.4177     14.66  |       V |Q        |         |         |
    0+40       0.5355     17.11  |         |V Q      |         |         |
    0+45       0.6788     20.81  |         |   V Q   |         |         |
    0+50       0.8948     31.35  |         |       V |    Q    |         |
    0+55       1.2241     47.82  |         |         |    V    |       Q |
    1+ 0       1.4780     36.87  |         |         |        Q|V        |
    1+ 5       1.6315     22.30  |         |      Q  |         |   V     |
    1+10       1.7228     13.26  |         Q         |         |     V   |
    1+15       1.7779      7.99  |     Q   |         |         |      V  |
    1+20       1.8157      5.49  |   Q     |         |         |       V |
    1+25       1.8430      3.96  |  Q      |         |         |       V |
    1+30       1.8632      2.93  | Q       |         |         |        V|
    1+35       1.8778      2.13  |Q        |         |         |        V|
    1+40       1.8883      1.52  |Q        |         |         |        V|
    1+45       1.8959      1.10  Q         |         |         |        V|
    1+50       1.9014      0.81  Q         |         |         |        V|
    1+55       1.9028      0.20  Q         |         |         |        V|
    2+ 0       1.9034      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 08/27/20 File: 522EX100SAE3100.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

20-522 D-1 DEVELOPMENT
EXISTING CONDITION
SUBAREA E
100-YEAR 3-HOUR STORM

Drainage Area = 21.40(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.40(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1646.00(Ft.)
Length along longest watercourse measured to centroid = 680.00(Ft.)
Length along longest watercourse = 0.312 Mi.
Length along longest watercourse measured to centroid = 0.129 Mi.
Difference in elevation = 4.00(Ft.)
Slope along watercourse = 12.8311 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.131 Hr.
Lag time = 7.84 Min.
25% of lag time = 1.96 Min.
40% of lag time = 3.14 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.40	0.80	17.12

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.40	1.88	40.23

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.880(In)

Point rain (area averaged) = 1.880(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.880(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
21.400	75.00	0.148

Total Area Entered = 21.40(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	88.0	0.153	0.148	0.132	1.000	0.132
					Sum (F) =	0.132

Area averaged mean soil loss (F) (In/Hr) = 0.132
Minimum soil loss rate ((In/Hr)) = 0.066
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.782

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	63.777	9.093	1.961
2	0.167	127.553	36.507	7.874
3	0.250	191.330	25.295	5.455
4	0.333	255.106	9.730	2.098
5	0.417	318.883	5.855	1.263
6	0.500	382.660	3.932	0.848
7	0.583	446.436	2.725	0.588
8	0.667	510.213	2.006	0.433
9	0.750	573.990	1.565	0.338
10	0.833	637.766	1.153	0.249
11	0.917	701.543	0.831	0.179
12	1.000	765.319	0.642	0.139
13	1.083	829.096	0.666	0.144
		Sum = 100.000	Sum=	21.567

The following loss 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	0.293	0.132	(0.229)	0.161
2	0.17	1.30	0.293	0.132	(0.229)	0.161
3	0.25	1.10	0.248	0.132	(0.194)	0.116
4	0.33	1.50	0.338	0.132	(0.264)	0.206
5	0.42	1.50	0.338	0.132	(0.264)	0.206
6	0.50	1.80	0.406	0.132	(0.317)	0.274
7	0.58	1.50	0.338	0.132	(0.264)	0.206
8	0.67	1.80	0.406	0.132	(0.317)	0.274
9	0.75	1.80	0.406	0.132	(0.317)	0.274
10	0.83	1.50	0.338	0.132	(0.264)	0.206
11	0.92	1.60	0.361	0.132	(0.282)	0.228
12	1.00	1.80	0.406	0.132	(0.317)	0.274

13	1.08	2.20	0.496	0.132	(	0.388)	0.364
14	1.17	2.20	0.496	0.132	(	0.388)	0.364
15	1.25	2.20	0.496	0.132	(	0.388)	0.364
16	1.33	2.00	0.451	0.132	(	0.353)	0.319
17	1.42	2.60	0.587	0.132	(	0.458)	0.454
18	1.50	2.70	0.609	0.132	(	0.476)	0.477
19	1.58	2.40	0.541	0.132	(	0.423)	0.409
20	1.67	2.70	0.609	0.132	(	0.476)	0.477
21	1.75	3.30	0.744	0.132	(	0.582)	0.612
22	1.83	3.10	0.699	0.132	(	0.547)	0.567
23	1.92	2.90	0.654	0.132	(	0.511)	0.522
24	2.00	3.00	0.677	0.132	(	0.529)	0.544
25	2.08	3.10	0.699	0.132	(	0.547)	0.567
26	2.17	4.20	0.947	0.132	(	0.741)	0.815
27	2.25	5.00	1.128	0.132	(	0.882)	0.995
28	2.33	3.50	0.790	0.132	(	0.617)	0.657
29	2.42	6.80	1.534	0.132	(	1.199)	1.401
30	2.50	7.30	1.647	0.132	(	1.287)	1.514
31	2.58	8.20	1.850	0.132	(	1.446)	1.717
32	2.67	5.90	1.331	0.132	(	1.040)	1.198
33	2.75	2.00	0.451	0.132	(	0.353)	0.319
34	2.83	1.80	0.406	0.132	(	0.317)	0.274
35	2.92	1.80	0.406	0.132	(	0.317)	0.274
36	3.00	0.60	0.135	(0.132)		0.106	0.030

(Loss Rate Not Used)

Sum = 100.0 Sum = 17.8

Flood volume = Effective rainfall 1.48(In)
times area 21.4(Ac.)/[(In)/(Ft.)] = 2.6(Ac.Ft)
Total soil loss = 0.40(In)
Total soil loss = 0.705(Ac.Ft)
Total rainfall = 1.88(In)
Flood volume = 115334.8 Cubic Feet
Total soil loss = 30693.7 Cubic Feet

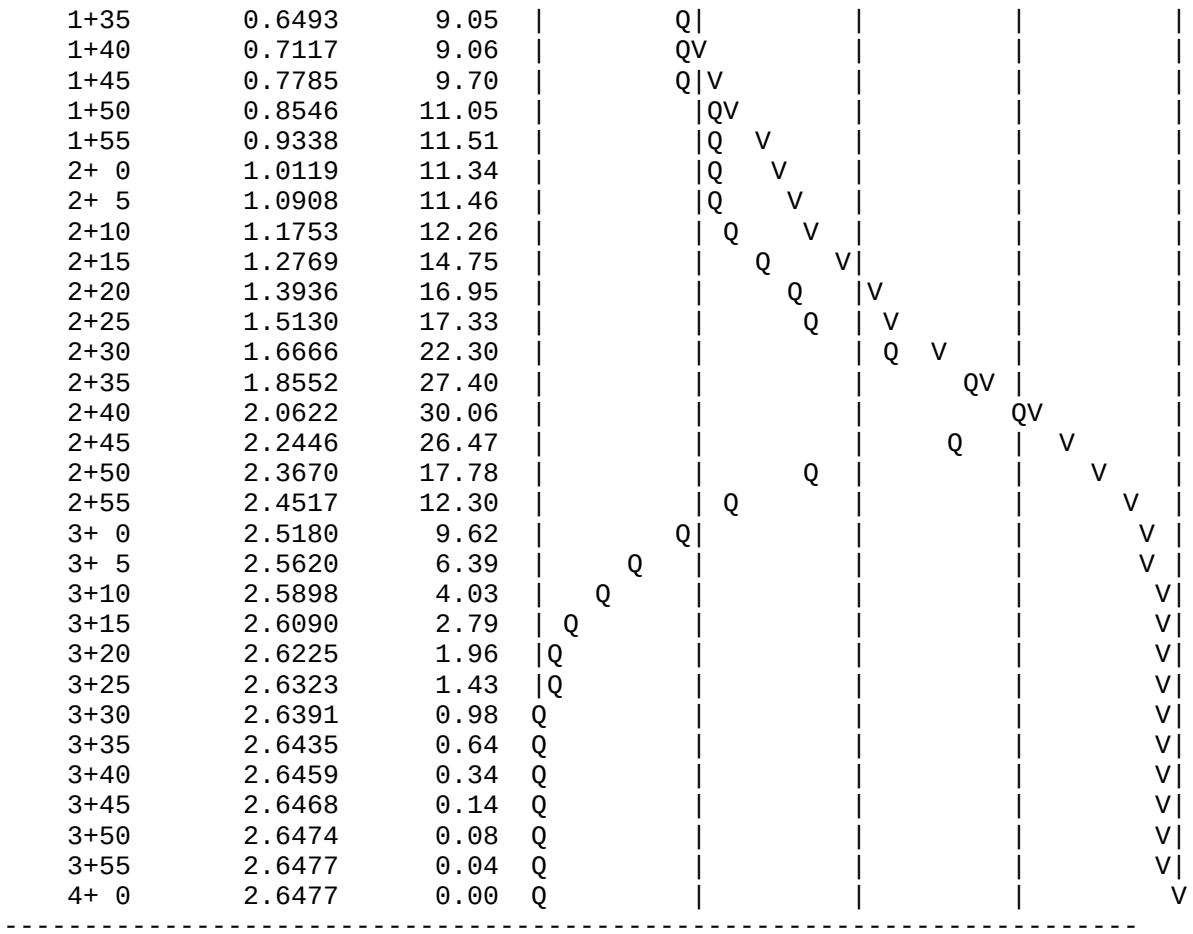
Peak flow rate of this hydrograph = 30.056(CFS)

++

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	10.0	20.0	30.0	40.0
0+ 5	0.0022	0.32	Q	|	|	|	|
0+10	0.0131	1.58	VQ	|	|	|	|
0+15	0.0294	2.37	V Q	|	|	|	|
0+20	0.0468	2.53	V Q	|	|	|	|
0+25	0.0689	3.20	|V Q	|	|	|	|
0+30	0.0955	3.87	|V Q	|	|	|	|
0+35	0.1264	4.49	|V Q	|	|	|	|
0+40	0.1582	4.61	| V Q	|	|	|	|
0+45	0.1927	5.02	| V Q	|	|	|	|
0+50	0.2290	5.27	| V Q	|	|	|	|
0+55	0.2631	4.95	| VQ	|	|	|	|
1+ 0	0.2972	4.95	| Q	|	|	|	|
1+ 5	0.3355	5.55	| Q	|	|	|	|
1+10	0.3803	6.51	| VQ	|	|	|	|
1+15	0.4292	7.10	| VQ	|	|	|	|
1+20	0.4793	7.27	| Q	|	|	|	|
1+25	0.5298	7.33	| QV	|	|	|	|
1+30	0.5870	8.30	| Q	|	|	|	|



1+35	0.6493	9.05	
1+40	0.7117	9.06	
1+45	0.7785	9.70	
1+50	0.8546	11.05	
1+55	0.9338	11.51	
2+ 0	1.0119	11.34	
2+ 5	1.0908	11.46	
2+10	1.1753	12.26	
2+15	1.2769	14.75	
2+20	1.3936	16.95	
2+25	1.5130	17.33	
2+30	1.6666	22.30	
2+35	1.8552	27.40	
2+40	2.0622	30.06	
2+45	2.2446	26.47	
2+50	2.3670	17.78	
2+55	2.4517	12.30	
3+ 0	2.5180	9.62	
3+ 5	2.5620	6.39	
3+10	2.5898	4.03	
3+15	2.6090	2.79	
3+20	2.6225	1.96	
3+25	2.6323	1.43	
3+30	2.6391	0.98	
3+35	2.6435	0.64	
3+40	2.6459	0.34	
3+45	2.6468	0.14	
3+50	2.6474	0.08	
3+55	2.6477	0.04	
4+ 0	2.6477	0.00	

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

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Study date 08/27/20 File: 522EX100SAE6100.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

20-522 D-1 DEVELOPMENT
EXISTING CONDITION
SUBAREA E
100-YEAR 6-HOUR STORM

Drainage Area = 21.40(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.40(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1646.00(Ft.)
Length along longest watercourse measured to centroid = 680.00(Ft.)
Length along longest watercourse = 0.312 Mi.
Length along longest watercourse measured to centroid = 0.129 Mi.
Difference in elevation = 4.00(Ft.)
Slope along watercourse = 12.8311 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.131 Hr.
Lag time = 7.84 Min.
25% of lag time = 1.96 Min.
40% of lag time = 3.14 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.40	1.00	21.40

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.40	2.50	53.50

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
21.400	75.00	0.148

Total Area Entered = 21.40(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	88.0	0.153	0.148	0.132	1.000	0.132
					Sum (F) =	0.132

Area averaged mean soil loss (F) (In/Hr) = 0.132
Minimum soil loss rate ((In/Hr)) = 0.066
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.782

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	63.777	9.093	1.961
2	0.167	127.553	36.507	7.874
3	0.250	191.330	25.295	5.455
4	0.333	255.106	9.730	2.098
5	0.417	318.883	5.855	1.263
6	0.500	382.660	3.932	0.848
7	0.583	446.436	2.725	0.588
8	0.667	510.213	2.006	0.433
9	0.750	573.990	1.565	0.338
10	0.833	637.766	1.153	0.249
11	0.917	701.543	0.831	0.179
12	1.000	765.319	0.642	0.139
13	1.083	829.096	0.666	0.144
		Sum = 100.000	Sum=	21.567

The following loss 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	0.150	(0.132)	0.117	0.033
2	0.17	0.60	0.180	0.132	(0.141)	0.048
3	0.25	0.60	0.180	0.132	(0.141)	0.048
4	0.33	0.60	0.180	0.132	(0.141)	0.048
5	0.42	0.60	0.180	0.132	(0.141)	0.048
6	0.50	0.70	0.210	0.132	(0.164)	0.078
7	0.58	0.70	0.210	0.132	(0.164)	0.078
8	0.67	0.70	0.210	0.132	(0.164)	0.078
9	0.75	0.70	0.210	0.132	(0.164)	0.078
10	0.83	0.70	0.210	0.132	(0.164)	0.078
11	0.92	0.70	0.210	0.132	(0.164)	0.078
12	1.00	0.80	0.240	0.132	(0.188)	0.108

13	1.08	0.80	0.240	0.132	(0.188)	0.108
14	1.17	0.80	0.240	0.132	(0.188)	0.108
15	1.25	0.80	0.240	0.132	(0.188)	0.108
16	1.33	0.80	0.240	0.132	(0.188)	0.108
17	1.42	0.80	0.240	0.132	(0.188)	0.108
18	1.50	0.80	0.240	0.132	(0.188)	0.108
19	1.58	0.80	0.240	0.132	(0.188)	0.108
20	1.67	0.80	0.240	0.132	(0.188)	0.108
21	1.75	0.80	0.240	0.132	(0.188)	0.108
22	1.83	0.80	0.240	0.132	(0.188)	0.108
23	1.92	0.80	0.240	0.132	(0.188)	0.108
24	2.00	0.90	0.270	0.132	(0.211)	0.138
25	2.08	0.80	0.240	0.132	(0.188)	0.108
26	2.17	0.90	0.270	0.132	(0.211)	0.138
27	2.25	0.90	0.270	0.132	(0.211)	0.138
28	2.33	0.90	0.270	0.132	(0.211)	0.138
29	2.42	0.90	0.270	0.132	(0.211)	0.138
30	2.50	0.90	0.270	0.132	(0.211)	0.138
31	2.58	0.90	0.270	0.132	(0.211)	0.138
32	2.67	0.90	0.270	0.132	(0.211)	0.138
33	2.75	1.00	0.300	0.132	(0.234)	0.168
34	2.83	1.00	0.300	0.132	(0.234)	0.168
35	2.92	1.00	0.300	0.132	(0.234)	0.168
36	3.00	1.00	0.300	0.132	(0.234)	0.168
37	3.08	1.00	0.300	0.132	(0.234)	0.168
38	3.17	1.10	0.330	0.132	(0.258)	0.198
39	3.25	1.10	0.330	0.132	(0.258)	0.198
40	3.33	1.10	0.330	0.132	(0.258)	0.198
41	3.42	1.20	0.360	0.132	(0.281)	0.228
42	3.50	1.30	0.390	0.132	(0.305)	0.258
43	3.58	1.40	0.420	0.132	(0.328)	0.288
44	3.67	1.40	0.420	0.132	(0.328)	0.288
45	3.75	1.50	0.450	0.132	(0.352)	0.318
46	3.83	1.50	0.450	0.132	(0.352)	0.318
47	3.92	1.60	0.480	0.132	(0.375)	0.348
48	4.00	1.60	0.480	0.132	(0.375)	0.348
49	4.08	1.70	0.510	0.132	(0.399)	0.378
50	4.17	1.80	0.540	0.132	(0.422)	0.408
51	4.25	1.90	0.570	0.132	(0.445)	0.438
52	4.33	2.00	0.600	0.132	(0.469)	0.468
53	4.42	2.10	0.630	0.132	(0.492)	0.498
54	4.50	2.10	0.630	0.132	(0.492)	0.498
55	4.58	2.20	0.660	0.132	(0.516)	0.528
56	4.67	2.30	0.690	0.132	(0.539)	0.558
57	4.75	2.40	0.720	0.132	(0.563)	0.587
58	4.83	2.40	0.720	0.132	(0.563)	0.587
59	4.92	2.50	0.750	0.132	(0.586)	0.617
60	5.00	2.60	0.780	0.132	(0.610)	0.647
61	5.08	3.10	0.930	0.132	(0.727)	0.797
62	5.17	3.60	1.080	0.132	(0.844)	0.947
63	5.25	3.90	1.170	0.132	(0.914)	1.037
64	5.33	4.20	1.260	0.132	(0.985)	1.127
65	5.42	4.70	1.410	0.132	(1.102)	1.277
66	5.50	5.60	1.680	0.132	(1.313)	1.547
67	5.58	1.90	0.570	0.132	(0.445)	0.438
68	5.67	0.90	0.270	0.132	(0.211)	0.138
69	5.75	0.60	0.180	0.132	(0.141)	0.048
70	5.83	0.50	0.150	(0.132)	0.117	0.033
71	5.92	0.30	0.090	(0.132)	0.070	0.020
72	6.00	0.20	0.060	(0.132)	0.047	0.013

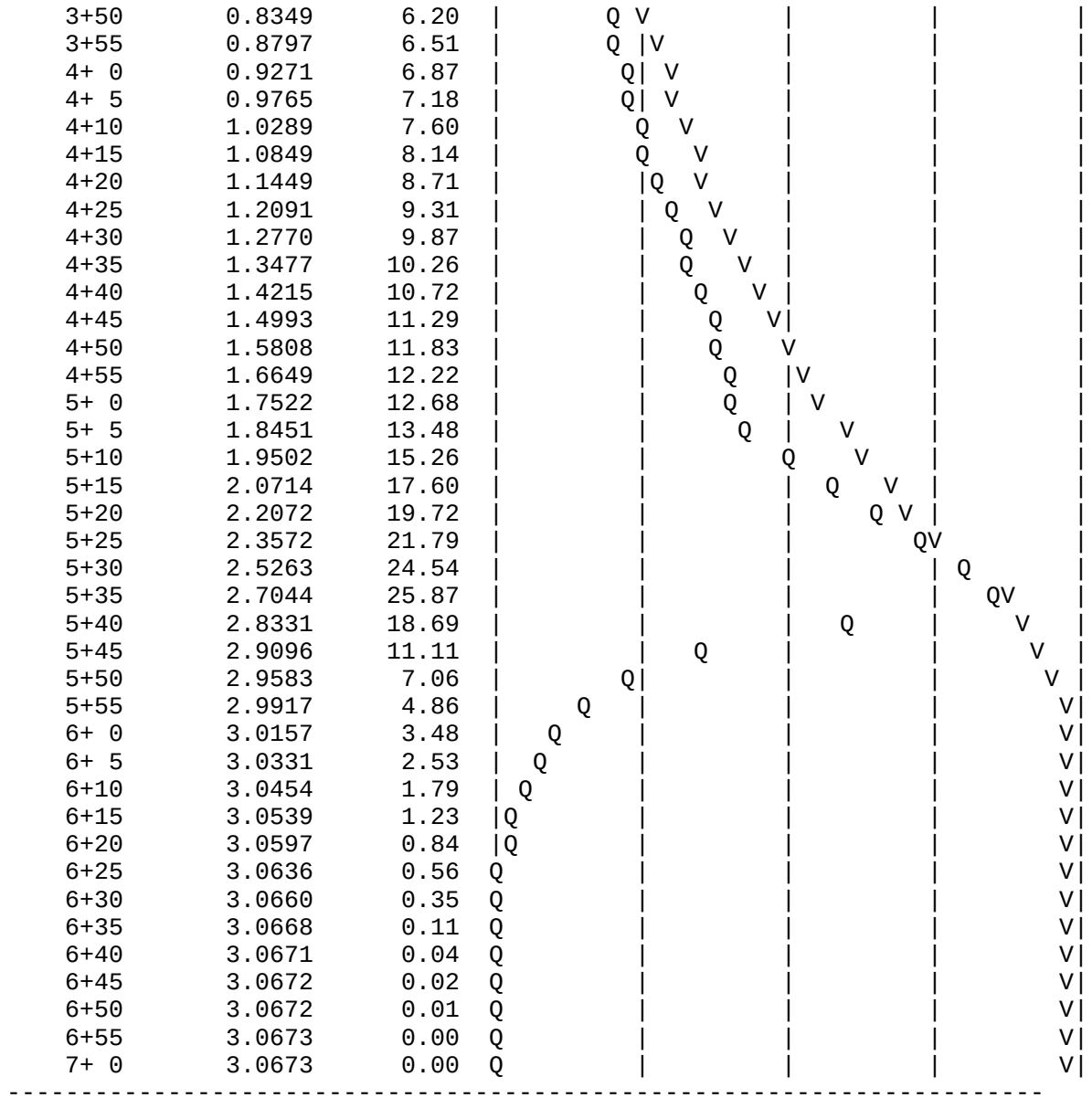
(Loss Rate Not Used)

Sum = 100.0 Sum = 20.6

Flood volume = Effective rainfall 1.72(In)

```
 times area      21.4(Ac.)/[(In)/(Ft.)] =      3.1(Ac.Ft)
Total soil loss =      0.78(In)
Total soil loss =     1.391(Ac.Ft)
Total rainfall =      2.50(In)
Flood volume =      133611.1 Cubic Feet
Total soil loss =       60579.6 Cubic Feet
---------------------------------------------------------------------
 Peak flow rate of this hydrograph =     25.865(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        7.5      15.0      22.5      30.0
---------------------------------------------------------------------
  0+ 5       0.0004      0.06  Q         |          |          |          |
  0+10       0.0029      0.35  Q         |          |          |          |
  0+15       0.0073      0.65  Q         |          |          |          |
  0+20       0.0128      0.80  VQ        |          |          |          |
  0+25       0.0188      0.87  VQ        |          |          |          |
  0+30       0.0255      0.97  VQ        |          |          |          |
  0+35       0.0340      1.24  VQ        |          |          |          |
  0+40       0.0439      1.43  VQ        |          |          |          |
  0+45       0.0543      1.51  V Q       |          |          |          |
  0+50       0.0650      1.56  V Q       |          |          |          |
  0+55       0.0760      1.60  V Q       |          |          |          |
  1+ 0       0.0876      1.68  |VQ       |          |          |          |
  1+ 5       0.1009      1.93  |VQ       |          |          |          |
  1+10       0.1154      2.11  |VQ       |          |          |          |
  1+15       0.1304      2.18  |VQ       |          |          |          |
  1+20       0.1458      2.22  |VQ       |          |          |          |
  1+25       0.1613      2.25  | VQ      |          |          |          |
  1+30       0.1770      2.28  | VQ      |          |          |          |
  1+35       0.1927      2.29  | VQ      |          |          |          |
  1+40       0.2086      2.30  | VQ      |          |          |          |
  1+45       0.2244      2.31  | VQ      |          |          |          |
  1+50       0.2404      2.31  |  Q      |          |          |          |
  1+55       0.2563      2.32  |  Q      |          |          |          |
  2+ 0       0.2727      2.38  |  Q      |          |          |          |
  2+ 5       0.2903      2.56  |  Q      |          |          |          |
  2+10       0.3078      2.54  |  QV     |          |          |          |
  2+15       0.3263      2.68  |  QV     |          |          |          |
  2+20       0.3457      2.82  |  QV     |          |          |          |
  2+25       0.3654      2.87  |  QV     |          |          |          |
  2+30       0.3854      2.90  |  Q V    |          |          |          |
  2+35       0.4055      2.92  |  Q V    |          |          |          |
  2+40       0.4257      2.93  |  Q V    |          |          |          |
  2+45       0.4464      3.00  |   QV    |          |          |          |
  2+50       0.4687      3.25  |   Q V   |          |          |          |
  2+55       0.4923      3.42  |   Q V   |          |          |          |
  3+ 0       0.5163      3.49  |   Q V   |          |          |          |
  3+ 5       0.5405      3.52  |   Q  V  |          |          |          |
  3+10       0.5654      3.61  |   Q  V  |          |          |          |
  3+15       0.5920      3.87  |    Q V  |          |          |          |
  3+20       0.6199      4.04  |    Q  V |          |          |          |
  3+25       0.6486      4.17  |    Q  V |          |          |          |
  3+30       0.6797      4.52  |     Q V |          |          |          |
  3+35       0.7142      5.00  |     Q  V|          |          |          |
  3+40       0.7520      5.49  |      Q V|          |          |          |
  3+45       0.7921      5.83  |      Q  V          |          |          |
```



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

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Study date 08/27/20 File: 522EX100SAE24100.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

20-522 D-1 DEVELOPMENT
EXISTING CONDITION
SUBAREA E
100-YEAR 24-HOUR STORM

Drainage Area = 21.40(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.40(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1646.00(Ft.)
Length along longest watercourse measured to centroid = 680.00(Ft.)
Length along longest watercourse = 0.312 Mi.
Length along longest watercourse measured to centroid = 0.129 Mi.
Difference in elevation = 4.00(Ft.)
Slope along watercourse = 12.8311 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.131 Hr.
Lag time = 7.84 Min.
25% of lag time = 1.96 Min.
40% of lag time = 3.14 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.40	1.60	34.24

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.40	4.00	85.60

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 4.000(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.000(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
21.400	75.00	0.148

Total Area Entered = 21.40(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	88.0	0.153	0.148	0.132	1.000	0.132
					Sum (F) =	0.132

Area averaged mean soil loss (F) (In/Hr) = 0.132
Minimum soil loss rate ((In/Hr)) = 0.066
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.782

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	63.777	9.093	1.961
2	0.167	127.553	36.507	7.874
3	0.250	191.330	25.295	5.455
4	0.333	255.106	9.730	2.098
5	0.417	318.883	5.855	1.263
6	0.500	382.660	3.932	0.848
7	0.583	446.436	2.725	0.588
8	0.667	510.213	2.006	0.433
9	0.750	573.990	1.565	0.338
10	0.833	637.766	1.153	0.249
11	0.917	701.543	0.831	0.179
12	1.000	765.319	0.642	0.139
13	1.083	829.096	0.666	0.144
		Sum = 100.000	Sum=	21.567

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.07	0.032	(0.235)		0.025	0.007
2	0.17	0.07	0.032	(0.234)		0.025	0.007
3	0.25	0.07	0.032	(0.233)		0.025	0.007
4	0.33	0.10	0.048	(0.232)		0.038	0.010
5	0.42	0.10	0.048	(0.231)		0.038	0.010
6	0.50	0.10	0.048	(0.230)		0.038	0.010
7	0.58	0.10	0.048	(0.229)		0.038	0.010
8	0.67	0.10	0.048	(0.228)		0.038	0.010
9	0.75	0.10	0.048	(0.228)		0.038	0.010
10	0.83	0.13	0.064	(0.227)		0.050	0.014
11	0.92	0.13	0.064	(0.226)		0.050	0.014
12	1.00	0.13	0.064	(0.225)		0.050	0.014

13	1.08	0.10	0.048	(0.224)	0.038	0.010
14	1.17	0.10	0.048	(0.223)	0.038	0.010
15	1.25	0.10	0.048	(0.222)	0.038	0.010
16	1.33	0.10	0.048	(0.221)	0.038	0.010
17	1.42	0.10	0.048	(0.220)	0.038	0.010
18	1.50	0.10	0.048	(0.220)	0.038	0.010
19	1.58	0.10	0.048	(0.219)	0.038	0.010
20	1.67	0.10	0.048	(0.218)	0.038	0.010
21	1.75	0.10	0.048	(0.217)	0.038	0.010
22	1.83	0.13	0.064	(0.216)	0.050	0.014
23	1.92	0.13	0.064	(0.215)	0.050	0.014
24	2.00	0.13	0.064	(0.214)	0.050	0.014
25	2.08	0.13	0.064	(0.213)	0.050	0.014
26	2.17	0.13	0.064	(0.213)	0.050	0.014
27	2.25	0.13	0.064	(0.212)	0.050	0.014
28	2.33	0.13	0.064	(0.211)	0.050	0.014
29	2.42	0.13	0.064	(0.210)	0.050	0.014
30	2.50	0.13	0.064	(0.209)	0.050	0.014
31	2.58	0.17	0.080	(0.208)	0.063	0.017
32	2.67	0.17	0.080	(0.207)	0.063	0.017
33	2.75	0.17	0.080	(0.207)	0.063	0.017
34	2.83	0.17	0.080	(0.206)	0.063	0.017
35	2.92	0.17	0.080	(0.205)	0.063	0.017
36	3.00	0.17	0.080	(0.204)	0.063	0.017
37	3.08	0.17	0.080	(0.203)	0.063	0.017
38	3.17	0.17	0.080	(0.202)	0.063	0.017
39	3.25	0.17	0.080	(0.202)	0.063	0.017
40	3.33	0.17	0.080	(0.201)	0.063	0.017
41	3.42	0.17	0.080	(0.200)	0.063	0.017
42	3.50	0.17	0.080	(0.199)	0.063	0.017
43	3.58	0.17	0.080	(0.198)	0.063	0.017
44	3.67	0.17	0.080	(0.197)	0.063	0.017
45	3.75	0.17	0.080	(0.197)	0.063	0.017
46	3.83	0.20	0.096	(0.196)	0.075	0.021
47	3.92	0.20	0.096	(0.195)	0.075	0.021
48	4.00	0.20	0.096	(0.194)	0.075	0.021
49	4.08	0.20	0.096	(0.193)	0.075	0.021
50	4.17	0.20	0.096	(0.192)	0.075	0.021
51	4.25	0.20	0.096	(0.192)	0.075	0.021
52	4.33	0.23	0.112	(0.191)	0.088	0.024
53	4.42	0.23	0.112	(0.190)	0.088	0.024
54	4.50	0.23	0.112	(0.189)	0.088	0.024
55	4.58	0.23	0.112	(0.188)	0.088	0.024
56	4.67	0.23	0.112	(0.188)	0.088	0.024
57	4.75	0.23	0.112	(0.187)	0.088	0.024
58	4.83	0.27	0.128	(0.186)	0.100	0.028
59	4.92	0.27	0.128	(0.185)	0.100	0.028
60	5.00	0.27	0.128	(0.184)	0.100	0.028
61	5.08	0.20	0.096	(0.183)	0.075	0.021
62	5.17	0.20	0.096	(0.183)	0.075	0.021
63	5.25	0.20	0.096	(0.182)	0.075	0.021
64	5.33	0.23	0.112	(0.181)	0.088	0.024
65	5.42	0.23	0.112	(0.180)	0.088	0.024
66	5.50	0.23	0.112	(0.180)	0.088	0.024
67	5.58	0.27	0.128	(0.179)	0.100	0.028
68	5.67	0.27	0.128	(0.178)	0.100	0.028
69	5.75	0.27	0.128	(0.177)	0.100	0.028
70	5.83	0.27	0.128	(0.176)	0.100	0.028
71	5.92	0.27	0.128	(0.176)	0.100	0.028
72	6.00	0.27	0.128	(0.175)	0.100	0.028
73	6.08	0.30	0.144	(0.174)	0.113	0.031
74	6.17	0.30	0.144	(0.173)	0.113	0.031
75	6.25	0.30	0.144	(0.173)	0.113	0.031

76	6.33	0.30	0.144	(0.172)	0.113	0.031
77	6.42	0.30	0.144	(0.171)	0.113	0.031
78	6.50	0.30	0.144	(0.170)	0.113	0.031
79	6.58	0.33	0.160	(0.169)	0.125	0.035
80	6.67	0.33	0.160	(0.169)	0.125	0.035
81	6.75	0.33	0.160	(0.168)	0.125	0.035
82	6.83	0.33	0.160	(0.167)	0.125	0.035
83	6.92	0.33	0.160	(0.166)	0.125	0.035
84	7.00	0.33	0.160	(0.166)	0.125	0.035
85	7.08	0.33	0.160	(0.165)	0.125	0.035
86	7.17	0.33	0.160	(0.164)	0.125	0.035
87	7.25	0.33	0.160	(0.163)	0.125	0.035
88	7.33	0.37	0.176	(0.163)	0.138	0.038
89	7.42	0.37	0.176	(0.162)	0.138	0.038
90	7.50	0.37	0.176	(0.161)	0.138	0.038
91	7.58	0.40	0.192	(0.160)	0.150	0.042
92	7.67	0.40	0.192	(0.160)	0.150	0.042
93	7.75	0.40	0.192	(0.159)	0.150	0.042
94	7.83	0.43	0.208	0.158	(0.163)	0.050
95	7.92	0.43	0.208	0.157	(0.163)	0.051
96	8.00	0.43	0.208	0.157	(0.163)	0.051
97	8.08	0.50	0.240	0.156	(0.188)	0.084
98	8.17	0.50	0.240	0.155	(0.188)	0.085
99	8.25	0.50	0.240	0.155	(0.188)	0.085
100	8.33	0.50	0.240	0.154	(0.188)	0.086
101	8.42	0.50	0.240	0.153	(0.188)	0.087
102	8.50	0.50	0.240	0.152	(0.188)	0.088
103	8.58	0.53	0.256	0.152	(0.200)	0.104
104	8.67	0.53	0.256	0.151	(0.200)	0.105
105	8.75	0.53	0.256	0.150	(0.200)	0.106
106	8.83	0.57	0.272	0.150	(0.213)	0.122
107	8.92	0.57	0.272	0.149	(0.213)	0.123
108	9.00	0.57	0.272	0.148	(0.213)	0.124
109	9.08	0.63	0.304	0.147	(0.238)	0.157
110	9.17	0.63	0.304	0.147	(0.238)	0.157
111	9.25	0.63	0.304	0.146	(0.238)	0.158
112	9.33	0.67	0.320	0.145	(0.250)	0.175
113	9.42	0.67	0.320	0.145	(0.250)	0.175
114	9.50	0.67	0.320	0.144	(0.250)	0.176
115	9.58	0.70	0.336	0.143	(0.263)	0.193
116	9.67	0.70	0.336	0.143	(0.263)	0.193
117	9.75	0.70	0.336	0.142	(0.263)	0.194
118	9.83	0.73	0.352	0.141	(0.275)	0.211
119	9.92	0.73	0.352	0.141	(0.275)	0.211
120	10.00	0.73	0.352	0.140	(0.275)	0.212
121	10.08	0.50	0.240	0.139	(0.188)	0.101
122	10.17	0.50	0.240	0.139	(0.188)	0.101
123	10.25	0.50	0.240	0.138	(0.188)	0.102
124	10.33	0.50	0.240	0.137	(0.188)	0.103
125	10.42	0.50	0.240	0.137	(0.188)	0.103
126	10.50	0.50	0.240	0.136	(0.188)	0.104
127	10.58	0.67	0.320	0.135	(0.250)	0.185
128	10.67	0.67	0.320	0.135	(0.250)	0.185
129	10.75	0.67	0.320	0.134	(0.250)	0.186
130	10.83	0.67	0.320	0.133	(0.250)	0.187
131	10.92	0.67	0.320	0.133	(0.250)	0.187
132	11.00	0.67	0.320	0.132	(0.250)	0.188
133	11.08	0.63	0.304	0.131	(0.238)	0.173
134	11.17	0.63	0.304	0.131	(0.238)	0.173
135	11.25	0.63	0.304	0.130	(0.238)	0.174
136	11.33	0.63	0.304	0.129	(0.238)	0.175
137	11.42	0.63	0.304	0.129	(0.238)	0.175
138	11.50	0.63	0.304	0.128	(0.238)	0.176

139	11.58	0.57	0.272	0.127	(0.213)	0.145
140	11.67	0.57	0.272	0.127	(0.213)	0.145
141	11.75	0.57	0.272	0.126	(0.213)	0.146
142	11.83	0.60	0.288	0.126	(0.225)	0.162
143	11.92	0.60	0.288	0.125	(0.225)	0.163
144	12.00	0.60	0.288	0.124	(0.225)	0.164
145	12.08	0.83	0.400	0.124	(0.313)	0.276
146	12.17	0.83	0.400	0.123	(0.313)	0.277
147	12.25	0.83	0.400	0.122	(0.313)	0.278
148	12.33	0.87	0.416	0.122	(0.325)	0.294
149	12.42	0.87	0.416	0.121	(0.325)	0.295
150	12.50	0.87	0.416	0.121	(0.325)	0.295
151	12.58	0.93	0.448	0.120	(0.350)	0.328
152	12.67	0.93	0.448	0.119	(0.350)	0.329
153	12.75	0.93	0.448	0.119	(0.350)	0.329
154	12.83	0.97	0.464	0.118	(0.363)	0.346
155	12.92	0.97	0.464	0.118	(0.363)	0.346
156	13.00	0.97	0.464	0.117	(0.363)	0.347
157	13.08	1.13	0.544	0.116	(0.425)	0.428
158	13.17	1.13	0.544	0.116	(0.425)	0.428
159	13.25	1.13	0.544	0.115	(0.425)	0.429
160	13.33	1.13	0.544	0.115	(0.425)	0.429
161	13.42	1.13	0.544	0.114	(0.425)	0.430
162	13.50	1.13	0.544	0.113	(0.425)	0.431
163	13.58	0.77	0.368	0.113	(0.288)	0.255
164	13.67	0.77	0.368	0.112	(0.288)	0.256
165	13.75	0.77	0.368	0.112	(0.288)	0.256
166	13.83	0.77	0.368	0.111	(0.288)	0.257
167	13.92	0.77	0.368	0.111	(0.288)	0.257
168	14.00	0.77	0.368	0.110	(0.288)	0.258
169	14.08	0.90	0.432	0.109	(0.338)	0.323
170	14.17	0.90	0.432	0.109	(0.338)	0.323
171	14.25	0.90	0.432	0.108	(0.338)	0.324
172	14.33	0.87	0.416	0.108	(0.325)	0.308
173	14.42	0.87	0.416	0.107	(0.325)	0.309
174	14.50	0.87	0.416	0.107	(0.325)	0.309
175	14.58	0.87	0.416	0.106	(0.325)	0.310
176	14.67	0.87	0.416	0.106	(0.325)	0.310
177	14.75	0.87	0.416	0.105	(0.325)	0.311
178	14.83	0.83	0.400	0.105	(0.313)	0.295
179	14.92	0.83	0.400	0.104	(0.313)	0.296
180	15.00	0.83	0.400	0.103	(0.313)	0.297
181	15.08	0.80	0.384	0.103	(0.300)	0.281
182	15.17	0.80	0.384	0.102	(0.300)	0.282
183	15.25	0.80	0.384	0.102	(0.300)	0.282
184	15.33	0.77	0.368	0.101	(0.288)	0.267
185	15.42	0.77	0.368	0.101	(0.288)	0.267
186	15.50	0.77	0.368	0.100	(0.288)	0.268
187	15.58	0.63	0.304	0.100	(0.238)	0.204
188	15.67	0.63	0.304	0.099	(0.238)	0.205
189	15.75	0.63	0.304	0.099	(0.238)	0.205
190	15.83	0.63	0.304	0.098	(0.238)	0.206
191	15.92	0.63	0.304	0.098	(0.238)	0.206
192	16.00	0.63	0.304	0.097	(0.238)	0.207
193	16.08	0.13	0.064	(0.097)	0.050	0.014
194	16.17	0.13	0.064	(0.096)	0.050	0.014
195	16.25	0.13	0.064	(0.096)	0.050	0.014
196	16.33	0.13	0.064	(0.095)	0.050	0.014
197	16.42	0.13	0.064	(0.095)	0.050	0.014
198	16.50	0.13	0.064	(0.094)	0.050	0.014
199	16.58	0.10	0.048	(0.094)	0.038	0.010
200	16.67	0.10	0.048	(0.093)	0.038	0.010
201	16.75	0.10	0.048	(0.093)	0.038	0.010

202	16.83	0.10	0.048	(0.092)	0.038	0.010
203	16.92	0.10	0.048	(0.092)	0.038	0.010
204	17.00	0.10	0.048	(0.091)	0.038	0.010
205	17.08	0.17	0.080	(0.091)	0.063	0.017
206	17.17	0.17	0.080	(0.091)	0.063	0.017
207	17.25	0.17	0.080	(0.090)	0.063	0.017
208	17.33	0.17	0.080	(0.090)	0.063	0.017
209	17.42	0.17	0.080	(0.089)	0.063	0.017
210	17.50	0.17	0.080	(0.089)	0.063	0.017
211	17.58	0.17	0.080	(0.088)	0.063	0.017
212	17.67	0.17	0.080	(0.088)	0.063	0.017
213	17.75	0.17	0.080	(0.087)	0.063	0.017
214	17.83	0.13	0.064	(0.087)	0.050	0.014
215	17.92	0.13	0.064	(0.087)	0.050	0.014
216	18.00	0.13	0.064	(0.086)	0.050	0.014
217	18.08	0.13	0.064	(0.086)	0.050	0.014
218	18.17	0.13	0.064	(0.085)	0.050	0.014
219	18.25	0.13	0.064	(0.085)	0.050	0.014
220	18.33	0.13	0.064	(0.084)	0.050	0.014
221	18.42	0.13	0.064	(0.084)	0.050	0.014
222	18.50	0.13	0.064	(0.084)	0.050	0.014
223	18.58	0.10	0.048	(0.083)	0.038	0.010
224	18.67	0.10	0.048	(0.083)	0.038	0.010
225	18.75	0.10	0.048	(0.082)	0.038	0.010
226	18.83	0.07	0.032	(0.082)	0.025	0.007
227	18.92	0.07	0.032	(0.082)	0.025	0.007
228	19.00	0.07	0.032	(0.081)	0.025	0.007
229	19.08	0.10	0.048	(0.081)	0.038	0.010
230	19.17	0.10	0.048	(0.081)	0.038	0.010
231	19.25	0.10	0.048	(0.080)	0.038	0.010
232	19.33	0.13	0.064	(0.080)	0.050	0.014
233	19.42	0.13	0.064	(0.079)	0.050	0.014
234	19.50	0.13	0.064	(0.079)	0.050	0.014
235	19.58	0.10	0.048	(0.079)	0.038	0.010
236	19.67	0.10	0.048	(0.078)	0.038	0.010
237	19.75	0.10	0.048	(0.078)	0.038	0.010
238	19.83	0.07	0.032	(0.078)	0.025	0.007
239	19.92	0.07	0.032	(0.077)	0.025	0.007
240	20.00	0.07	0.032	(0.077)	0.025	0.007
241	20.08	0.10	0.048	(0.077)	0.038	0.010
242	20.17	0.10	0.048	(0.076)	0.038	0.010
243	20.25	0.10	0.048	(0.076)	0.038	0.010
244	20.33	0.10	0.048	(0.076)	0.038	0.010
245	20.42	0.10	0.048	(0.075)	0.038	0.010
246	20.50	0.10	0.048	(0.075)	0.038	0.010
247	20.58	0.10	0.048	(0.075)	0.038	0.010
248	20.67	0.10	0.048	(0.074)	0.038	0.010
249	20.75	0.10	0.048	(0.074)	0.038	0.010
250	20.83	0.07	0.032	(0.074)	0.025	0.007
251	20.92	0.07	0.032	(0.073)	0.025	0.007
252	21.00	0.07	0.032	(0.073)	0.025	0.007
253	21.08	0.10	0.048	(0.073)	0.038	0.010
254	21.17	0.10	0.048	(0.073)	0.038	0.010
255	21.25	0.10	0.048	(0.072)	0.038	0.010
256	21.33	0.07	0.032	(0.072)	0.025	0.007
257	21.42	0.07	0.032	(0.072)	0.025	0.007
258	21.50	0.07	0.032	(0.071)	0.025	0.007
259	21.58	0.10	0.048	(0.071)	0.038	0.010
260	21.67	0.10	0.048	(0.071)	0.038	0.010
261	21.75	0.10	0.048	(0.071)	0.038	0.010
262	21.83	0.07	0.032	(0.070)	0.025	0.007
263	21.92	0.07	0.032	(0.070)	0.025	0.007
264	22.00	0.07	0.032	(0.070)	0.025	0.007

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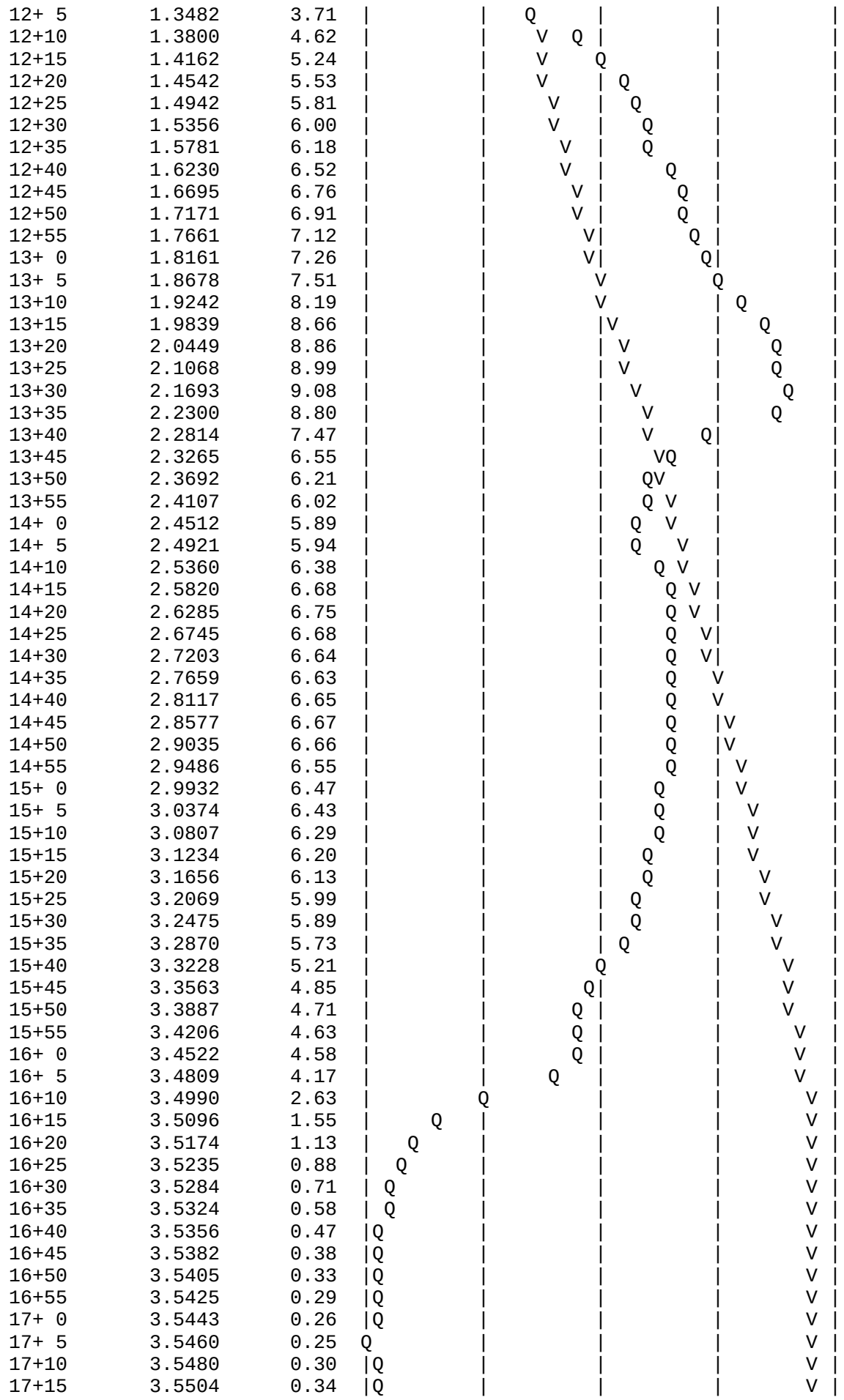
265  22.08     0.10      0.048       (  0.070)       0.038        0.010
266  22.17     0.10      0.048       (  0.069)       0.038        0.010
267  22.25     0.10      0.048       (  0.069)       0.038        0.010
268  22.33     0.07      0.032       (  0.069)       0.025        0.007
269  22.42     0.07      0.032       (  0.069)       0.025        0.007
270  22.50     0.07      0.032       (  0.069)       0.025        0.007
271  22.58     0.07      0.032       (  0.068)       0.025        0.007
272  22.67     0.07      0.032       (  0.068)       0.025        0.007
273  22.75     0.07      0.032       (  0.068)       0.025        0.007
274  22.83     0.07      0.032       (  0.068)       0.025        0.007
275  22.92     0.07      0.032       (  0.068)       0.025        0.007
276  23.00     0.07      0.032       (  0.068)       0.025        0.007
277  23.08     0.07      0.032       (  0.067)       0.025        0.007
278  23.17     0.07      0.032       (  0.067)       0.025        0.007
279  23.25     0.07      0.032       (  0.067)       0.025        0.007
280  23.33     0.07      0.032       (  0.067)       0.025        0.007
281  23.42     0.07      0.032       (  0.067)       0.025        0.007
282  23.50     0.07      0.032       (  0.067)       0.025        0.007
283  23.58     0.07      0.032       (  0.067)       0.025        0.007
284  23.67     0.07      0.032       (  0.066)       0.025        0.007
285  23.75     0.07      0.032       (  0.066)       0.025        0.007
286  23.83     0.07      0.032       (  0.066)       0.025        0.007
287  23.92     0.07      0.032       (  0.066)       0.025        0.007
288  24.00     0.07      0.032       (  0.066)       0.025        0.007
            (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    24.7
     Flood volume = Effective rainfall      2.06(In)
      times area      21.4(Ac.)/[(In)/(Ft.)] =       3.7(Ac.Ft)
     Total soil loss =      1.94(In)
     Total soil loss =     3.457(Ac.Ft)
     Total rainfall =      4.00(In)
     Flood volume =      160118.8 Cubic Feet
     Total soil loss =      150596.2 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =      9.079(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       0.0006      0.07  Q         |         |         |         |
   0+15       0.0013      0.11  Q         |         |         |         |
   0+20       0.0022      0.13  Q         |         |         |         |
   0+25       0.0033      0.16  Q         |         |         |         |
   0+30       0.0046      0.19  Q         |         |         |         |
   0+35       0.0060      0.20  Q         |         |         |         |
   0+40       0.0075      0.21  Q         |         |         |         |
   0+45       0.0089      0.21  Q         |         |         |         |
   0+50       0.0105      0.22  Q         |         |         |         |
   0+55       0.0122      0.25  VQ        |         |         |         |
   1+ 0       0.0141      0.28  VQ        |         |         |         |
   1+ 5       0.0161      0.28  VQ        |         |         |         |
   1+10       0.0178      0.26  VQ        |         |         |         |
   1+15       0.0195      0.24  Q         |         |         |         |
   1+20       0.0211      0.24  Q         |         |         |         |
   1+25       0.0227      0.23  Q         |         |         |         |
   1+30       0.0243      0.23  Q         |         |         |         |
```

1+35	0.0259	0.23	Q				
1+40	0.0274	0.23	Q				
1+45	0.0290	0.23	Q				
1+50	0.0306	0.23	Q				
1+55	0.0324	0.26	VQ				
2+ 0	0.0344	0.28	VQ				
2+ 5	0.0363	0.29	VQ				
2+10	0.0383	0.29	VQ				
2+15	0.0404	0.29	VQ				
2+20	0.0424	0.30	VQ				
2+25	0.0445	0.30	VQ				
2+30	0.0465	0.30	VQ				
2+35	0.0486	0.31	VQ				
2+40	0.0509	0.33	VQ				
2+45	0.0534	0.35	VQ				
2+50	0.0559	0.36	VQ				
2+55	0.0584	0.37	VQ				
3+ 0	0.0610	0.37	VQ				
3+ 5	0.0635	0.37	VQ				
3+10	0.0661	0.37	VQ				
3+15	0.0687	0.37	VQ				
3+20	0.0713	0.38	VQ				
3+25	0.0738	0.38	VQ				
3+30	0.0764	0.38	VQ				
3+35	0.0790	0.38	VQ				
3+40	0.0816	0.38	VQ				
3+45	0.0842	0.38	VQ				
3+50	0.0869	0.38	VQ				
3+55	0.0897	0.41	VQ				
4+ 0	0.0927	0.43	|Q				
4+ 5	0.0957	0.44	|Q				
4+10	0.0987	0.44	|Q				
4+15	0.1018	0.45	|Q				
4+20	0.1049	0.45	|Q				
4+25	0.1083	0.48	|Q				
4+30	0.1117	0.50	|VQ				
4+35	0.1152	0.51	|VQ				
4+40	0.1188	0.52	|VQ				
4+45	0.1224	0.52	|VQ				
4+50	0.1260	0.53	|VQ				
4+55	0.1299	0.56	|VQ				
5+ 0	0.1339	0.58	|VQ				
5+ 5	0.1378	0.57	|VQ				
5+10	0.1414	0.52	|VQ				
5+15	0.1448	0.49	|Q				
5+20	0.1481	0.48	|Q				
5+25	0.1516	0.50	|VQ				
5+30	0.1551	0.52	|VQ				
5+35	0.1588	0.53	|VQ				
5+40	0.1626	0.56	|VQ				
5+45	0.1666	0.58	|VQ				
5+50	0.1706	0.59	|VQ				
5+55	0.1747	0.59	|VQ				
6+ 0	0.1788	0.59	|VQ				
6+ 5	0.1830	0.60	|VQ				
6+10	0.1873	0.63	| Q				
6+15	0.1918	0.65	| Q				
6+20	0.1964	0.66	| Q				
6+25	0.2010	0.67	| Q				
6+30	0.2056	0.67	| Q				
6+35	0.2103	0.68	| Q				
6+40	0.2152	0.71	| Q				
6+45	0.2202	0.73	| Q				

6+50	0.2253	0.74	Q				
6+55	0.2304	0.74	Q				
7+ 0	0.2355	0.75	Q				
7+ 5	0.2407	0.75	Q				
7+10	0.2459	0.75	VQ				
7+15	0.2510	0.75	VQ				
7+20	0.2563	0.76	VQ				
7+25	0.2617	0.79	VQ				
7+30	0.2673	0.81	VQ				
7+35	0.2729	0.82	VQ				
7+40	0.2788	0.85	Q				
7+45	0.2848	0.88	Q				
7+50	0.2910	0.90	Q				
7+55	0.2977	0.97	Q				
8+ 0	0.3048	1.02	VQ				
8+ 5	0.3124	1.12	VQ				
8+10	0.3220	1.39	V Q				
8+15	0.3330	1.59	V Q				
8+20	0.3446	1.68	V Q				
8+25	0.3565	1.74	V Q				
8+30	0.3688	1.78	V Q				
8+35	0.3815	1.85	V Q				
8+40	0.3953	2.01	V Q				
8+45	0.4100	2.12	V Q				
8+50	0.4252	2.21	V Q				
8+55	0.4415	2.38	V Q				
9+ 0	0.4587	2.50	V Q				
9+ 5	0.4768	2.62	V Q				
9+10	0.4969	2.92	V Q				
9+15	0.5184	3.13	V Q				
9+20	0.5409	3.25	V Q				
9+25	0.5646	3.45	V Q				
9+30	0.5893	3.58	V Q				
9+35	0.6147	3.69	V Q				
9+40	0.6413	3.87	V Q				
9+45	0.6688	3.99	V Q				
9+50	0.6970	4.09	V Q				
9+55	0.7264	4.27	V Q				
10+ 0	0.7566	4.39	V Q				
10+ 5	0.7858	4.24	V Q				
10+10	0.8092	3.40	V Q				
10+15	0.8287	2.83	V Q				
10+20	0.8468	2.62	VQ				
10+25	0.8640	2.50	VQ				
10+30	0.8808	2.43	Q				
10+35	0.8983	2.54	VQ				
10+40	0.9199	3.14	V Q				
10+45	0.9444	3.56	V Q				
10+50	0.9700	3.71	V Q				
10+55	0.9962	3.81	V Q				
11+ 0	1.0229	3.88	V Q				
11+ 5	1.0497	3.89	V Q				
11+10	1.0760	3.81	V Q				
11+15	1.1019	3.77	V Q				
11+20	1.1278	3.77	V Q				
11+25	1.1538	3.77	V Q				
11+30	1.1799	3.79	V Q				
11+35	1.2057	3.74	VQ				
11+40	1.2297	3.49	Q				
11+45	1.2526	3.33	Q				
11+50	1.2754	3.30	Q				
11+55	1.2988	3.40	QV				
12+ 0	1.3227	3.47	QV				



17+20	3.5528	0.35	|Q	|	|	|	V |
17+25	3.5552	0.36	|Q	|	|	|	V |
17+30	3.5577	0.36	|Q	|	|	|	V |
17+35	3.5603	0.37	|Q	|	|	|	V |
17+40	3.5628	0.37	|Q	|	|	|	V |
17+45	3.5654	0.37	|Q	|	|	|	V |
17+50	3.5679	0.37	|Q	|	|	|	V |
17+55	3.5702	0.34	|Q	|	|	|	V |
18+ 0	3.5725	0.32	|Q	|	|	|	V |
18+ 5	3.5746	0.32	|Q	|	|	|	V |
18+10	3.5768	0.31	|Q	|	|	|	V |
18+15	3.5789	0.31	|Q	|	|	|	V |
18+20	3.5810	0.31	|Q	|	|	|	V |
18+25	3.5831	0.31	|Q	|	|	|	V |
18+30	3.5852	0.30	|Q	|	|	|	V|
18+35	3.5873	0.30	|Q	|	|	|	V|
18+40	3.5891	0.27	|Q	|	|	|	V|
18+45	3.5908	0.25	Q	|	|	|	V|
18+50	3.5924	0.23	Q	|	|	|	V|
18+55	3.5938	0.20	Q	|	|	|	V|
19+ 0	3.5951	0.18	Q	|	|	|	V|
19+ 5	3.5963	0.18	Q	|	|	|	V|
19+10	3.5977	0.20	Q	|	|	|	V|
19+15	3.5991	0.21	Q	|	|	|	V|
19+20	3.6007	0.23	Q	|	|	|	V|
19+25	3.6024	0.26	|Q	|	|	|	V|
19+30	3.6043	0.28	|Q	|	|	|	V|
19+35	3.6062	0.28	|Q	|	|	|	V|
19+40	3.6080	0.25	|Q	|	|	|	V|
19+45	3.6096	0.24	Q	|	|	|	V|
19+50	3.6112	0.23	Q	|	|	|	V|
19+55	3.6126	0.20	Q	|	|	|	V|
20+ 0	3.6138	0.18	Q	|	|	|	V|
20+ 5	3.6150	0.18	Q	|	|	|	V|
20+10	3.6164	0.20	Q	|	|	|	V|
20+15	3.6178	0.21	Q	|	|	|	V|
20+20	3.6193	0.22	Q	|	|	|	V|
20+25	3.6208	0.22	Q	|	|	|	V|
20+30	3.6224	0.22	Q	|	|	|	V|
20+35	3.6239	0.22	Q	|	|	|	V|
20+40	3.6254	0.22	Q	|	|	|	V|
20+45	3.6270	0.22	Q	|	|	|	V|
20+50	3.6285	0.22	Q	|	|	|	V|
20+55	3.6298	0.19	Q	|	|	|	V|
21+ 0	3.6310	0.17	Q	|	|	|	V|
21+ 5	3.6322	0.17	Q	|	|	|	V|
21+10	3.6335	0.20	Q	|	|	|	V|
21+15	3.6350	0.21	Q	|	|	|	V|
21+20	3.6364	0.21	Q	|	|	|	V|
21+25	3.6377	0.19	Q	|	|	|	V|
21+30	3.6389	0.17	Q	|	|	|	V|
21+35	3.6400	0.17	Q	|	|	|	V|
21+40	3.6413	0.19	Q	|	|	|	V|
21+45	3.6428	0.21	Q	|	|	|	V|
21+50	3.6442	0.21	Q	|	|	|	V|
21+55	3.6455	0.18	Q	|	|	|	V|
22+ 0	3.6466	0.17	Q	|	|	|	V|
22+ 5	3.6478	0.17	Q	|	|	|	V|
22+10	3.6491	0.19	Q	|	|	|	V|
22+15	3.6506	0.21	Q	|	|	|	V|
22+20	3.6520	0.21	Q	|	|	|	V|
22+25	3.6533	0.18	Q	|	|	|	V|
22+30	3.6544	0.17	Q	|	|	|	V|

22+35	3.6555	0.16	Q	|	|	|	V|
22+40	3.6566	0.16	Q	|	|	|	V|
22+45	3.6577	0.16	Q	|	|	|	V|
22+50	3.6588	0.15	Q	|	|	|	V|
22+55	3.6598	0.15	Q	|	|	|	V|
23+ 0	3.6609	0.15	Q	|	|	|	V|
23+ 5	3.6619	0.15	Q	|	|	|	V|
23+10	3.6630	0.15	Q	|	|	|	V|
23+15	3.6640	0.15	Q	|	|	|	V|
23+20	3.6651	0.15	Q	|	|	|	V|
23+25	3.6661	0.15	Q	|	|	|	V|
23+30	3.6671	0.15	Q	|	|	|	V|
23+35	3.6682	0.15	Q	|	|	|	V|
23+40	3.6692	0.15	Q	|	|	|	V|
23+45	3.6703	0.15	Q	|	|	|	V|
23+50	3.6713	0.15	Q	|	|	|	V|
23+55	3.6723	0.15	Q	|	|	|	V|
24+ 0	3.6734	0.15	Q	|	|	|	V|
24+ 5	3.6743	0.14	Q	|	|	|	V|
24+10	3.6749	0.08	Q	|	|	|	V|
24+15	3.6752	0.04	Q	|	|	|	V|
24+20	3.6754	0.03	Q	|	|	|	V|
24+25	3.6755	0.02	Q	|	|	|	V|
24+30	3.6756	0.01	Q	|	|	|	V|
24+35	3.6757	0.01	Q	|	|	|	V|
24+40	3.6757	0.01	Q	|	|	|	V|
24+45	3.6758	0.00	Q	|	|	|	V|
24+50	3.6758	0.00	Q	|	|	|	V|
24+55	3.6758	0.00	Q	|	|	|	V|
25+ 0	3.6758	0.00	Q	|	|	|	V|

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

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Study date 08/27/20 File: 522EX100SAF1100.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

20-522 D-1 PARCEL
EXISTING CONDITION
SUBAREA F
100-YEAR 1-HOUR STORM

Drainage Area = 1.90(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.90(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 385.00(Ft.)
Length along longest watercourse measured to centroid = 205.00(Ft.)
Length along longest watercourse = 0.073 Mi.
Length along longest watercourse measured to centroid = 0.039 Mi.
Difference in elevation = 2.30(Ft.)
Slope along watercourse = 31.5429 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.040 Hr.
Lag time = 2.41 Min.
25% of lag time = 0.60 Min.
40% of lag time = 0.96 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]
1.90	0.47	0.89

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.90	1.20	2.28

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.470(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.900	75.00	0.297

Total Area Entered = 1.90(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	88.0	0.153	0.297	0.112	1.000	0.112
					Sum (F) =	0.112

Area averaged mean soil loss (F) (In/Hr) = 0.112
Minimum soil loss rate ((In/Hr)) = 0.056
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.662

Slope of intensity-duration curve for a 1 hour storm =0.5000

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	207.271	44.630	0.855
2	0.167	414.541	42.863	0.821
3	0.250	621.812	8.505	0.163
4	0.333	829.082	4.001	0.077
		Sum = 100.000	Sum=	1.915

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	4.20	0.605	0.112	(0.401)	0.493
2	0.17	4.30	0.619	0.112	(0.410)	0.507
3	0.25	5.00	0.720	0.112	(0.477)	0.608
4	0.33	5.00	0.720	0.112	(0.477)	0.608
5	0.42	5.80	0.835	0.112	(0.553)	0.723
6	0.50	6.50	0.936	0.112	(0.620)	0.824
7	0.58	7.40	1.066	0.112	(0.706)	0.954
8	0.67	8.60	1.238	0.112	(0.820)	1.126
9	0.75	12.30	1.771	0.112	(1.173)	1.659
10	0.83	29.10	4.190	0.112	(2.776)	4.078
11	0.92	6.80	0.979	0.112	(0.649)	0.867
12	1.00	5.00	0.720	0.112	(0.477)	0.608
	(Loss Rate Not Used)					
Sum =	100.0				Sum =	13.1

Flood volume = Effective rainfall 1.09(In)
times area 1.9(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.11(In)
Total soil loss = 0.018(Ac.Ft)
Total rainfall = 1.20(In)

```
     Flood volume =        7504.1 Cubic Feet
     Total soil loss =         772.2 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =      5.106(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       0.0029      0.42  VQ        |         |         |         |
    0+10       0.0087      0.84  | VQ      |         |         |         |
    0+15       0.0157      1.02  |  VQ     |         |         |         |
    0+20       0.0235      1.14  |   QV    |         |         |         |
    0+25       0.0322      1.26  |    Q V  |         |         |         |
    0+30       0.0421      1.44  |    Q   V|         |         |         |
    0+35       0.0535      1.66  |     Q   | V       |         |         |
    0+40       0.0669      1.94  |      Q  |    V    |         |         |
    0+45       0.0845      2.56  |         Q        V|         |         |
    0+50       0.1197      5.11  |          |         Q      V  |         |
    0+55       0.1503      4.45  |          |      Q  |         |   V     |
    1+ 0       0.1642      2.02  |       Q  |         |         |       V |
    1+ 5       0.1708      0.95  |  Q       |         |         |        V|
    1+10       0.1719      0.17  Q          |         |         |        V|
    1+15       0.1723      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 08/27/20 File: 522ex100saf3100.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

20-522 D-1 PARCEL
EXISTING CONDITION
SUBAREA F
100-YEAR 3-HOUR STORM

Drainage Area = 1.90(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.90(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 385.00(Ft.)
Length along longest watercourse measured to centroid = 205.00(Ft.)
Length along longest watercourse = 0.073 Mi.
Length along longest watercourse measured to centroid = 0.039 Mi.
Difference in elevation = 2.30(Ft.)
Slope along watercourse = 31.5429 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.040 Hr.
Lag time = 2.41 Min.
25% of lag time = 0.60 Min.
40% of lag time = 0.96 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]
1.90	0.80	1.52

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.90	1.88	3.57

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.880(In)

Point rain (area averaged) = 1.880(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.880(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.900	75.00	0.297

Total Area Entered = 1.90(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	88.0	0.153	0.297	0.112	1.000	0.112
					Sum (F) =	0.112

Area averaged mean soil loss (F) (In/Hr) = 0.112
Minimum soil loss rate ((In/Hr)) = 0.056
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.662

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

Unit Hydrograph Data

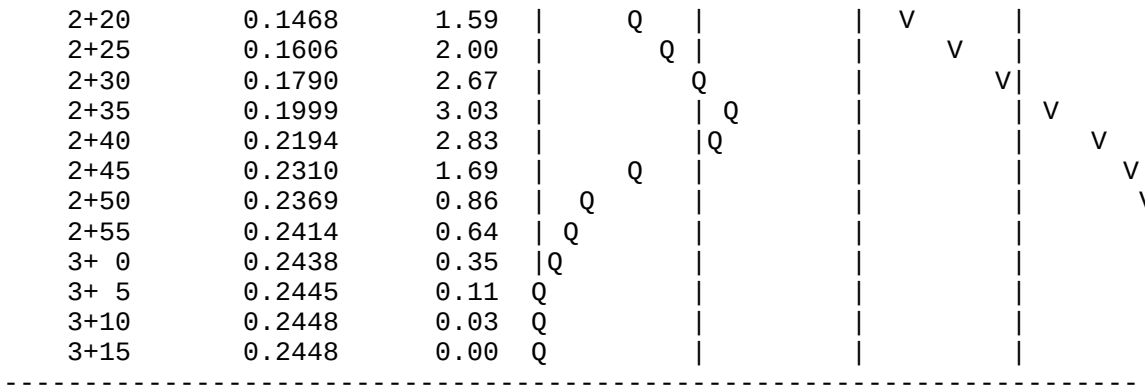
Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	207.271	44.630	0.855
2	0.167	414.541	42.863	0.821
3	0.250	621.812	8.505	0.163
4	0.333	829.082	4.001	0.077
		Sum =	100.000 Sum=	1.915

The following loss 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	0.293	0.112	(0.194)	0.181
2	0.17	1.30	0.293	0.112	(0.194)	0.181
3	0.25	1.10	0.248	0.112	(0.164)	0.136
4	0.33	1.50	0.338	0.112	(0.224)	0.226
5	0.42	1.50	0.338	0.112	(0.224)	0.226
6	0.50	1.80	0.406	0.112	(0.269)	0.294
7	0.58	1.50	0.338	0.112	(0.224)	0.226
8	0.67	1.80	0.406	0.112	(0.269)	0.294
9	0.75	1.80	0.406	0.112	(0.269)	0.294
10	0.83	1.50	0.338	0.112	(0.224)	0.226
11	0.92	1.60	0.361	0.112	(0.239)	0.249
12	1.00	1.80	0.406	0.112	(0.269)	0.294
13	1.08	2.20	0.496	0.112	(0.329)	0.384
14	1.17	2.20	0.496	0.112	(0.329)	0.384
15	1.25	2.20	0.496	0.112	(0.329)	0.384
16	1.33	2.00	0.451	0.112	(0.299)	0.339
17	1.42	2.60	0.587	0.112	(0.389)	0.475
18	1.50	2.70	0.609	0.112	(0.403)	0.497
19	1.58	2.40	0.541	0.112	(0.359)	0.429
20	1.67	2.70	0.609	0.112	(0.403)	0.497
21	1.75	3.30	0.744	0.112	(0.493)	0.633

```
22   1.83     3.10      0.699          0.112    (  0.463)        0.587
23   1.92     2.90      0.654          0.112    (  0.433)        0.542
24   2.00     3.00      0.677          0.112    (  0.448)        0.565
25   2.08     3.10      0.699          0.112    (  0.463)        0.587
26   2.17     4.20      0.948          0.112    (  0.628)        0.836
27   2.25     5.00      1.128          0.112    (  0.747)        1.016
28   2.33     3.50      0.790          0.112    (  0.523)        0.678
29   2.42     6.80      1.534          0.112    (  1.016)        1.422
30   2.50     7.30      1.647          0.112    (  1.091)        1.535
31   2.58     8.20      1.850          0.112    (  1.225)        1.738
32   2.67     5.90      1.331          0.112    (  0.882)        1.219
33   2.75     2.00      0.451          0.112    (  0.299)        0.339
34   2.83     1.80      0.406          0.112    (  0.269)        0.294
35   2.92     1.80      0.406          0.112    (  0.269)        0.294
36   3.00     0.60      0.135       (  0.112)       0.090        0.046
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    18.6
    Flood volume = Effective rainfall      1.55(In)
     times area       1.9(Ac.)/[(In)/(Ft.)] =       0.2(Ac.Ft)
    Total soil loss =      0.33(In)
    Total soil loss =     0.053(Ac.Ft)
    Total rainfall =      1.88(In)
    Flood volume =       10662.6 Cubic Feet
    Total soil loss =        2303.7 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      3.030(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       0.0011      0.16  Q         |         |         |         |
  0+10       0.0032      0.30  VQ        |         |         |         |
  0+15       0.0052      0.29  VQ        |         |         |         |
  0+20       0.0076      0.35  |Q        |         |         |         |
  0+25       0.0105      0.42  |Q        |         |         |         |
  0+30       0.0138      0.48  |QV       |         |         |         |
  0+35       0.0172      0.49  |QV       |         |         |         |
  0+40       0.0206      0.50  | QV      |         |         |         |
  0+45       0.0244      0.55  | QV      |         |         |         |
  0+50       0.0279      0.50  | Q V     |         |         |         |
  0+55       0.0311      0.47  |Q   V    |         |         |         |
  1+ 0       0.0347      0.52  | Q  V    |         |         |         |
  1+ 5       0.0390      0.63  | Q   V   |         |         |         |
  1+10       0.0439      0.71  | Q    V  |         |         |         |
  1+15       0.0489      0.73  | Q    V  |         |         |         |
  1+20       0.0537      0.70  | Q     V |         |         |         |
  1+25       0.0591      0.78  |  Q     V|         |         |         |
  1+30       0.0653      0.90  |  Q      V         |         |         |
  1+35       0.0713      0.88  |  Q      |V        |         |         |
  1+40       0.0775      0.90  |  Q      | V       |         |         |
  1+45       0.0848      1.06  |   Q     |  V      |         |         |
  1+50       0.0926      1.14  |   Q     |    V    |         |         |
  1+55       0.1001      1.09  |   Q     |     V   |         |         |
  2+ 0       0.1075      1.07  |   Q     |      V  |         |         |
  2+ 5       0.1150      1.10  |   Q     |       V |         |         |
  2+10       0.1242      1.33  |    Q    |         V         |         |
  2+15       0.1359      1.69  |     Q   |         | V       |         |
```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2+50 0.2369 0.86
2+55 0.2414 0.64
3+ 0 0.2438 0.35
3+ 5 0.2445 0.11
3+10 0.2448 0.03
3+15 0.2448 0.00

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

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Study date 08/27/20 File: 522EX100SAF6100.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

20-522 D-1 PARCEL
EXISTING CONDITION
SUBAREA F
100-YEAR 6-HOUR STORM

Drainage Area = 1.90(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.90(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 385.00(Ft.)
Length along longest watercourse measured to centroid = 205.00(Ft.)
Length along longest watercourse = 0.073 Mi.
Length along longest watercourse measured to centroid = 0.039 Mi.
Difference in elevation = 2.30(Ft.)
Slope along watercourse = 31.5429 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.040 Hr.
Lag time = 2.41 Min.
25% of lag time = 0.60 Min.
40% of lag time = 0.96 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]
1.90	1.00	1.90

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.90	2.50	4.75

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.900	75.00	0.297

Total Area Entered = 1.90(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	88.0	0.153	0.297	0.112	1.000	0.112
					Sum (F) =	0.112

Area averaged mean soil loss (F) (In/Hr) = 0.112
Minimum soil loss rate ((In/Hr)) = 0.056
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.662

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	207.271	44.630	0.855
2	0.167	414.541	42.863	0.821
3	0.250	621.812	8.505	0.163
4	0.333	829.082	4.001	0.077
		Sum =	100.000 Sum=	1.915

The following loss 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	0.150	(0.112)	0.099	0.051
2	0.17	0.60	0.180	0.112	(0.119)	0.068
3	0.25	0.60	0.180	0.112	(0.119)	0.068
4	0.33	0.60	0.180	0.112	(0.119)	0.068
5	0.42	0.60	0.180	0.112	(0.119)	0.068
6	0.50	0.70	0.210	0.112	(0.139)	0.098
7	0.58	0.70	0.210	0.112	(0.139)	0.098
8	0.67	0.70	0.210	0.112	(0.139)	0.098
9	0.75	0.70	0.210	0.112	(0.139)	0.098
10	0.83	0.70	0.210	0.112	(0.139)	0.098
11	0.92	0.70	0.210	0.112	(0.139)	0.098
12	1.00	0.80	0.240	0.112	(0.159)	0.128
13	1.08	0.80	0.240	0.112	(0.159)	0.128
14	1.17	0.80	0.240	0.112	(0.159)	0.128
15	1.25	0.80	0.240	0.112	(0.159)	0.128
16	1.33	0.80	0.240	0.112	(0.159)	0.128
17	1.42	0.80	0.240	0.112	(0.159)	0.128
18	1.50	0.80	0.240	0.112	(0.159)	0.128
19	1.58	0.80	0.240	0.112	(0.159)	0.128
20	1.67	0.80	0.240	0.112	(0.159)	0.128
21	1.75	0.80	0.240	0.112	(0.159)	0.128

22	1.83	0.80	0.240	0.112	(0.159)	0.128
23	1.92	0.80	0.240	0.112	(0.159)	0.128
24	2.00	0.90	0.270	0.112	(0.179)	0.158
25	2.08	0.80	0.240	0.112	(0.159)	0.128
26	2.17	0.90	0.270	0.112	(0.179)	0.158
27	2.25	0.90	0.270	0.112	(0.179)	0.158
28	2.33	0.90	0.270	0.112	(0.179)	0.158
29	2.42	0.90	0.270	0.112	(0.179)	0.158
30	2.50	0.90	0.270	0.112	(0.179)	0.158
31	2.58	0.90	0.270	0.112	(0.179)	0.158
32	2.67	0.90	0.270	0.112	(0.179)	0.158
33	2.75	1.00	0.300	0.112	(0.199)	0.188
34	2.83	1.00	0.300	0.112	(0.199)	0.188
35	2.92	1.00	0.300	0.112	(0.199)	0.188
36	3.00	1.00	0.300	0.112	(0.199)	0.188
37	3.08	1.00	0.300	0.112	(0.199)	0.188
38	3.17	1.10	0.330	0.112	(0.219)	0.218
39	3.25	1.10	0.330	0.112	(0.219)	0.218
40	3.33	1.10	0.330	0.112	(0.219)	0.218
41	3.42	1.20	0.360	0.112	(0.238)	0.248
42	3.50	1.30	0.390	0.112	(0.258)	0.278
43	3.58	1.40	0.420	0.112	(0.278)	0.308
44	3.67	1.40	0.420	0.112	(0.278)	0.308
45	3.75	1.50	0.450	0.112	(0.298)	0.338
46	3.83	1.50	0.450	0.112	(0.298)	0.338
47	3.92	1.60	0.480	0.112	(0.318)	0.368
48	4.00	1.60	0.480	0.112	(0.318)	0.368
49	4.08	1.70	0.510	0.112	(0.338)	0.398
50	4.17	1.80	0.540	0.112	(0.358)	0.428
51	4.25	1.90	0.570	0.112	(0.378)	0.458
52	4.33	2.00	0.600	0.112	(0.397)	0.488
53	4.42	2.10	0.630	0.112	(0.417)	0.518
54	4.50	2.10	0.630	0.112	(0.417)	0.518
55	4.58	2.20	0.660	0.112	(0.437)	0.548
56	4.67	2.30	0.690	0.112	(0.457)	0.578
57	4.75	2.40	0.720	0.112	(0.477)	0.608
58	4.83	2.40	0.720	0.112	(0.477)	0.608
59	4.92	2.50	0.750	0.112	(0.497)	0.638
60	5.00	2.60	0.780	0.112	(0.517)	0.668
61	5.08	3.10	0.930	0.112	(0.616)	0.818
62	5.17	3.60	1.080	0.112	(0.715)	0.968
63	5.25	3.90	1.170	0.112	(0.775)	1.058
64	5.33	4.20	1.260	0.112	(0.835)	1.148
65	5.42	4.70	1.410	0.112	(0.934)	1.298
66	5.50	5.60	1.680	0.112	(1.113)	1.568
67	5.58	1.90	0.570	0.112	(0.378)	0.458
68	5.67	0.90	0.270	0.112	(0.179)	0.158
69	5.75	0.60	0.180	0.112	(0.119)	0.068
70	5.83	0.50	0.150	(0.112)	0.099	0.051
71	5.92	0.30	0.090	(0.112)	0.060	0.030
72	6.00	0.20	0.060	(0.112)	0.040	0.020

(Loss Rate Not Used)

Sum = 100.0 Sum = 22.1

Flood volume = Effective rainfall 1.84(In)
times area 1.9(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.66(In)
Total soil loss = 0.104(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 12695.5 Cubic Feet
Total soil loss = 4546.9 Cubic Feet

Peak flow rate of this hydrograph = 2.675(CFS)

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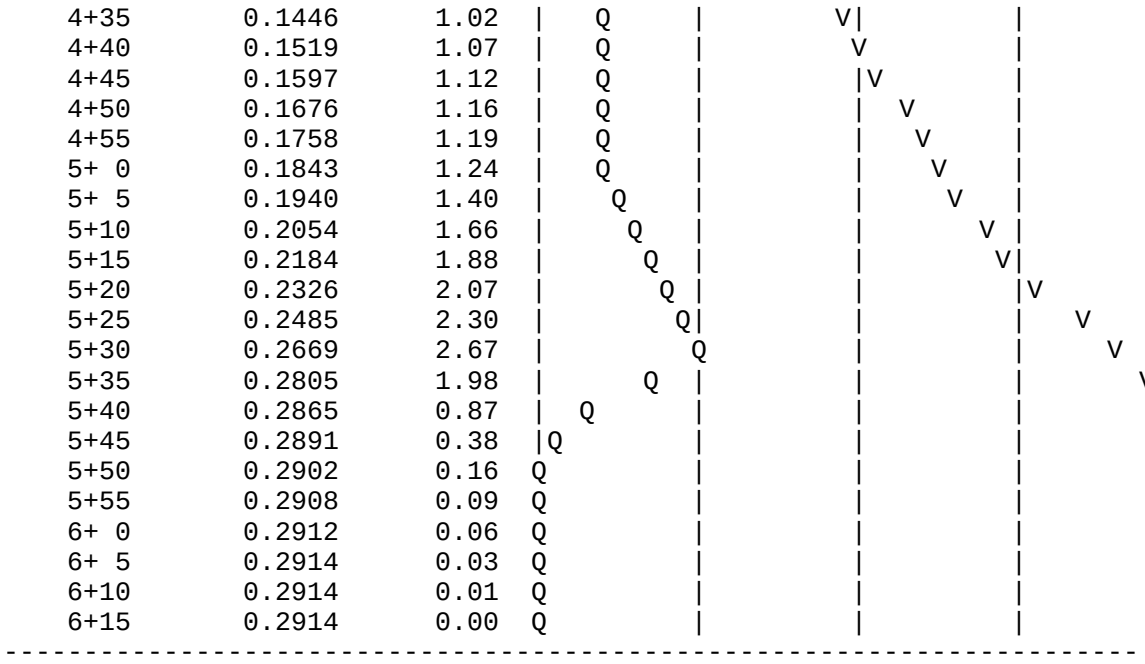
6 - H O U R S T O R M

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	0.0010	0.10	Q				
0+15	0.0018	0.12	Q				
0+20	0.0027	0.13	Q				
0+25	0.0036	0.13	Q				
0+30	0.0047	0.16	Q				
0+35	0.0059	0.18	Q				
0+40	0.0072	0.19	Q				
0+45	0.0085	0.19	QV				
0+50	0.0098	0.19	QV				
0+55	0.0111	0.19	QV				
1+ 0	0.0126	0.21	QV				
1+ 5	0.0142	0.24	QV				
1+10	0.0159	0.24	Q V				
1+15	0.0176	0.25	Q V				
1+20	0.0193	0.25	Q V				
1+25	0.0209	0.25	Q V				
1+30	0.0226	0.25	Q V				
1+35	0.0243	0.25	Q V				
1+40	0.0260	0.25	Q V				
1+45	0.0277	0.25	Q V				
1+50	0.0294	0.25	Q V				
1+55	0.0311	0.25	Q V				
2+ 0	0.0329	0.27	|Q V				
2+ 5	0.0348	0.27	|Q V				
2+10	0.0367	0.28	|Q V				
2+15	0.0388	0.30	|Q V				
2+20	0.0408	0.30	|Q V				
2+25	0.0429	0.30	|Q V				
2+30	0.0450	0.30	|Q V				
2+35	0.0471	0.30	|Q V				
2+40	0.0492	0.30	|Q V				
2+45	0.0514	0.33	|Q V				
2+50	0.0539	0.35	|Q V				
2+55	0.0563	0.36	|Q V				
3+ 0	0.0588	0.36	|Q V				
3+ 5	0.0613	0.36	|Q V				
3+10	0.0639	0.39	|Q V				
3+15	0.0668	0.41	|Q V				
3+20	0.0696	0.42	|Q V				
3+25	0.0727	0.44	|Q V				
3+30	0.0761	0.49	|Q V				
3+35	0.0799	0.55	| Q V				
3+40	0.0839	0.58	| Q |V				
3+45	0.0881	0.61	| Q | V				
3+50	0.0925	0.64	| Q | V				
3+55	0.0971	0.67	| Q | V				
4+ 0	0.1019	0.70	| Q | V				
4+ 5	0.1069	0.73	| Q | V				
4+10	0.1123	0.78	| Q | V				
4+15	0.1181	0.84	| Q | V				
4+20	0.1242	0.89	| Q | V				
4+25	0.1308	0.95	| Q | V				
4+30	0.1376	0.98	| Q | V				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4+40 0.1519 1.07
4+45 0.1597 1.12
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4+55 0.1758 1.19
5+ 0 0.1843 1.24
5+ 5 0.1940 1.40
5+10 0.2054 1.66
5+15 0.2184 1.88
5+20 0.2326 2.07
5+25 0.2485 2.30
5+30 0.2669 2.67
5+35 0.2805 1.98
5+40 0.2865 0.87
5+45 0.2891 0.38
5+50 0.2902 0.16
5+55 0.2908 0.09
6+ 0 0.2912 0.06
6+ 5 0.2914 0.03
6+10 0.2914 0.01
6+15 0.2914 0.00

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

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Study date 08/27/20 File: 522EX100SAF24100.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

20-522 D-1 PARCEL
EXISTING CONDITION
SUBAREA F
100-YEAR 24-HOUR STORM

Drainage Area = 1.90(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.90(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 385.00(Ft.)
Length along longest watercourse measured to centroid = 205.00(Ft.)
Length along longest watercourse = 0.073 Mi.
Length along longest watercourse measured to centroid = 0.039 Mi.
Difference in elevation = 2.30(Ft.)
Slope along watercourse = 31.5429 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.040 Hr.
Lag time = 2.41 Min.
25% of lag time = 0.60 Min.
40% of lag time = 0.96 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]
1.90	1.60	3.04

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.90	4.00	7.60

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 4.000(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.000(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.900	75.00	0.297

Total Area Entered = 1.90(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	88.0	0.153	0.297	0.112	1.000	0.112
					Sum (F) =	0.112

Area averaged mean soil loss (F) (In/Hr) = 0.112
Minimum soil loss rate ((In/Hr)) = 0.056
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.662

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	207.271	44.630	0.855
2	0.167	414.541	42.863	0.821
3	0.250	621.812	8.505	0.163
4	0.333	829.082	4.001	0.077
		Sum =	100.000 Sum=	1.915

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.032	(0.198)	0.021	0.011
2	0.17	0.07	0.032	(0.198)	0.021	0.011
3	0.25	0.07	0.032	(0.197)	0.021	0.011
4	0.33	0.10	0.048	(0.196)	0.032	0.016
5	0.42	0.10	0.048	(0.195)	0.032	0.016
6	0.50	0.10	0.048	(0.195)	0.032	0.016
7	0.58	0.10	0.048	(0.194)	0.032	0.016
8	0.67	0.10	0.048	(0.193)	0.032	0.016
9	0.75	0.10	0.048	(0.192)	0.032	0.016
10	0.83	0.13	0.064	(0.192)	0.042	0.022
11	0.92	0.13	0.064	(0.191)	0.042	0.022
12	1.00	0.13	0.064	(0.190)	0.042	0.022
13	1.08	0.10	0.048	(0.189)	0.032	0.016
14	1.17	0.10	0.048	(0.189)	0.032	0.016
15	1.25	0.10	0.048	(0.188)	0.032	0.016
16	1.33	0.10	0.048	(0.187)	0.032	0.016
17	1.42	0.10	0.048	(0.186)	0.032	0.016
18	1.50	0.10	0.048	(0.186)	0.032	0.016
19	1.58	0.10	0.048	(0.185)	0.032	0.016
20	1.67	0.10	0.048	(0.184)	0.032	0.016
21	1.75	0.10	0.048	(0.183)	0.032	0.016

22	1.83	0.13	0.064	(0.183)	0.042	0.022
23	1.92	0.13	0.064	(0.182)	0.042	0.022
24	2.00	0.13	0.064	(0.181)	0.042	0.022
25	2.08	0.13	0.064	(0.180)	0.042	0.022
26	2.17	0.13	0.064	(0.180)	0.042	0.022
27	2.25	0.13	0.064	(0.179)	0.042	0.022
28	2.33	0.13	0.064	(0.178)	0.042	0.022
29	2.42	0.13	0.064	(0.178)	0.042	0.022
30	2.50	0.13	0.064	(0.177)	0.042	0.022
31	2.58	0.17	0.080	(0.176)	0.053	0.027
32	2.67	0.17	0.080	(0.175)	0.053	0.027
33	2.75	0.17	0.080	(0.175)	0.053	0.027
34	2.83	0.17	0.080	(0.174)	0.053	0.027
35	2.92	0.17	0.080	(0.173)	0.053	0.027
36	3.00	0.17	0.080	(0.172)	0.053	0.027
37	3.08	0.17	0.080	(0.172)	0.053	0.027
38	3.17	0.17	0.080	(0.171)	0.053	0.027
39	3.25	0.17	0.080	(0.170)	0.053	0.027
40	3.33	0.17	0.080	(0.170)	0.053	0.027
41	3.42	0.17	0.080	(0.169)	0.053	0.027
42	3.50	0.17	0.080	(0.168)	0.053	0.027
43	3.58	0.17	0.080	(0.168)	0.053	0.027
44	3.67	0.17	0.080	(0.167)	0.053	0.027
45	3.75	0.17	0.080	(0.166)	0.053	0.027
46	3.83	0.20	0.096	(0.165)	0.064	0.032
47	3.92	0.20	0.096	(0.165)	0.064	0.032
48	4.00	0.20	0.096	(0.164)	0.064	0.032
49	4.08	0.20	0.096	(0.163)	0.064	0.032
50	4.17	0.20	0.096	(0.163)	0.064	0.032
51	4.25	0.20	0.096	(0.162)	0.064	0.032
52	4.33	0.23	0.112	(0.161)	0.074	0.038
53	4.42	0.23	0.112	(0.161)	0.074	0.038
54	4.50	0.23	0.112	(0.160)	0.074	0.038
55	4.58	0.23	0.112	(0.159)	0.074	0.038
56	4.67	0.23	0.112	(0.159)	0.074	0.038
57	4.75	0.23	0.112	(0.158)	0.074	0.038
58	4.83	0.27	0.128	(0.157)	0.085	0.043
59	4.92	0.27	0.128	(0.156)	0.085	0.043
60	5.00	0.27	0.128	(0.156)	0.085	0.043
61	5.08	0.20	0.096	(0.155)	0.064	0.032
62	5.17	0.20	0.096	(0.154)	0.064	0.032
63	5.25	0.20	0.096	(0.154)	0.064	0.032
64	5.33	0.23	0.112	(0.153)	0.074	0.038
65	5.42	0.23	0.112	(0.152)	0.074	0.038
66	5.50	0.23	0.112	(0.152)	0.074	0.038
67	5.58	0.27	0.128	(0.151)	0.085	0.043
68	5.67	0.27	0.128	(0.150)	0.085	0.043
69	5.75	0.27	0.128	(0.150)	0.085	0.043
70	5.83	0.27	0.128	(0.149)	0.085	0.043
71	5.92	0.27	0.128	(0.148)	0.085	0.043
72	6.00	0.27	0.128	(0.148)	0.085	0.043
73	6.08	0.30	0.144	(0.147)	0.095	0.049
74	6.17	0.30	0.144	(0.146)	0.095	0.049
75	6.25	0.30	0.144	(0.146)	0.095	0.049
76	6.33	0.30	0.144	(0.145)	0.095	0.049
77	6.42	0.30	0.144	(0.145)	0.095	0.049
78	6.50	0.30	0.144	(0.144)	0.095	0.049
79	6.58	0.33	0.160	(0.143)	0.106	0.054
80	6.67	0.33	0.160	(0.143)	0.106	0.054
81	6.75	0.33	0.160	(0.142)	0.106	0.054
82	6.83	0.33	0.160	(0.141)	0.106	0.054
83	6.92	0.33	0.160	(0.141)	0.106	0.054
84	7.00	0.33	0.160	(0.140)	0.106	0.054

85	7.08	0.33	0.160	(	0.139)	0.106		0.054
86	7.17	0.33	0.160	(	0.139)	0.106		0.054
87	7.25	0.33	0.160	(	0.138)	0.106		0.054
88	7.33	0.37	0.176	(	0.137)	0.117		0.059
89	7.42	0.37	0.176	(	0.137)	0.117		0.059
90	7.50	0.37	0.176	(	0.136)	0.117		0.059
91	7.58	0.40	0.192	(	0.136)	0.127		0.065
92	7.67	0.40	0.192	(	0.135)	0.127		0.065
93	7.75	0.40	0.192	(	0.134)	0.127		0.065
94	7.83	0.43	0.208		0.134	(0.138)		0.074
95	7.92	0.43	0.208		0.133	(0.138)		0.075
96	8.00	0.43	0.208		0.132	(0.138)		0.076
97	8.08	0.50	0.240		0.132	(0.159)		0.108
98	8.17	0.50	0.240		0.131	(0.159)		0.109
99	8.25	0.50	0.240		0.131	(0.159)		0.109
100	8.33	0.50	0.240		0.130	(0.159)		0.110
101	8.42	0.50	0.240		0.129	(0.159)		0.111
102	8.50	0.50	0.240		0.129	(0.159)		0.111
103	8.58	0.53	0.256		0.128	(0.170)		0.128
104	8.67	0.53	0.256		0.128	(0.170)		0.128
105	8.75	0.53	0.256		0.127	(0.170)		0.129
106	8.83	0.57	0.272		0.126	(0.180)		0.146
107	8.92	0.57	0.272		0.126	(0.180)		0.146
108	9.00	0.57	0.272		0.125	(0.180)		0.147
109	9.08	0.63	0.304		0.125	(0.201)		0.179
110	9.17	0.63	0.304		0.124	(0.201)		0.180
111	9.25	0.63	0.304		0.123	(0.201)		0.181
112	9.33	0.67	0.320		0.123	(0.212)		0.197
113	9.42	0.67	0.320		0.122	(0.212)		0.198
114	9.50	0.67	0.320		0.122	(0.212)		0.198
115	9.58	0.70	0.336		0.121	(0.223)		0.215
116	9.67	0.70	0.336		0.121	(0.223)		0.215
117	9.75	0.70	0.336		0.120	(0.223)		0.216
118	9.83	0.73	0.352		0.119	(0.233)		0.233
119	9.92	0.73	0.352		0.119	(0.233)		0.233
120	10.00	0.73	0.352		0.118	(0.233)		0.234
121	10.08	0.50	0.240		0.118	(0.159)		0.122
122	10.17	0.50	0.240		0.117	(0.159)		0.123
123	10.25	0.50	0.240		0.117	(0.159)		0.123
124	10.33	0.50	0.240		0.116	(0.159)		0.124
125	10.42	0.50	0.240		0.115	(0.159)		0.125
126	10.50	0.50	0.240		0.115	(0.159)		0.125
127	10.58	0.67	0.320		0.114	(0.212)		0.206
128	10.67	0.67	0.320		0.114	(0.212)		0.206
129	10.75	0.67	0.320		0.113	(0.212)		0.207
130	10.83	0.67	0.320		0.113	(0.212)		0.207
131	10.92	0.67	0.320		0.112	(0.212)		0.208
132	11.00	0.67	0.320		0.111	(0.212)		0.209
133	11.08	0.63	0.304		0.111	(0.201)		0.193
134	11.17	0.63	0.304		0.110	(0.201)		0.194
135	11.25	0.63	0.304		0.110	(0.201)		0.194
136	11.33	0.63	0.304		0.109	(0.201)		0.195
137	11.42	0.63	0.304		0.109	(0.201)		0.195
138	11.50	0.63	0.304		0.108	(0.201)		0.196
139	11.58	0.57	0.272		0.108	(0.180)		0.164
140	11.67	0.57	0.272		0.107	(0.180)		0.165
141	11.75	0.57	0.272		0.107	(0.180)		0.165
142	11.83	0.60	0.288		0.106	(0.191)		0.182
143	11.92	0.60	0.288		0.106	(0.191)		0.182
144	12.00	0.60	0.288		0.105	(0.191)		0.183
145	12.08	0.83	0.400		0.105	(0.265)		0.295
146	12.17	0.83	0.400		0.104	(0.265)		0.296
147	12.25	0.83	0.400		0.103	(0.265)		0.297

148	12.33	0.87	0.416	0.103	(0.276)	0.313
149	12.42	0.87	0.416	0.102	(0.276)	0.314
150	12.50	0.87	0.416	0.102	(0.276)	0.314
151	12.58	0.93	0.448	0.101	(0.297)	0.347
152	12.67	0.93	0.448	0.101	(0.297)	0.347
153	12.75	0.93	0.448	0.100	(0.297)	0.348
154	12.83	0.97	0.464	0.100	(0.307)	0.364
155	12.92	0.97	0.464	0.099	(0.307)	0.365
156	13.00	0.97	0.464	0.099	(0.307)	0.365
157	13.08	1.13	0.544	0.098	(0.360)	0.446
158	13.17	1.13	0.544	0.098	(0.360)	0.446
159	13.25	1.13	0.544	0.097	(0.360)	0.447
160	13.33	1.13	0.544	0.097	(0.360)	0.447
161	13.42	1.13	0.544	0.096	(0.360)	0.448
162	13.50	1.13	0.544	0.096	(0.360)	0.448
163	13.58	0.77	0.368	0.095	(0.244)	0.273
164	13.67	0.77	0.368	0.095	(0.244)	0.273
165	13.75	0.77	0.368	0.094	(0.244)	0.274
166	13.83	0.77	0.368	0.094	(0.244)	0.274
167	13.92	0.77	0.368	0.093	(0.244)	0.275
168	14.00	0.77	0.368	0.093	(0.244)	0.275
169	14.08	0.90	0.432	0.093	(0.286)	0.339
170	14.17	0.90	0.432	0.092	(0.286)	0.340
171	14.25	0.90	0.432	0.092	(0.286)	0.340
172	14.33	0.87	0.416	0.091	(0.276)	0.325
173	14.42	0.87	0.416	0.091	(0.276)	0.325
174	14.50	0.87	0.416	0.090	(0.276)	0.326
175	14.58	0.87	0.416	0.090	(0.276)	0.326
176	14.67	0.87	0.416	0.089	(0.276)	0.327
177	14.75	0.87	0.416	0.089	(0.276)	0.327
178	14.83	0.83	0.400	0.088	(0.265)	0.312
179	14.92	0.83	0.400	0.088	(0.265)	0.312
180	15.00	0.83	0.400	0.087	(0.265)	0.313
181	15.08	0.80	0.384	0.087	(0.254)	0.297
182	15.17	0.80	0.384	0.087	(0.254)	0.297
183	15.25	0.80	0.384	0.086	(0.254)	0.298
184	15.33	0.77	0.368	0.086	(0.244)	0.282
185	15.42	0.77	0.368	0.085	(0.244)	0.283
186	15.50	0.77	0.368	0.085	(0.244)	0.283
187	15.58	0.63	0.304	0.084	(0.201)	0.220
188	15.67	0.63	0.304	0.084	(0.201)	0.220
189	15.75	0.63	0.304	0.083	(0.201)	0.221
190	15.83	0.63	0.304	0.083	(0.201)	0.221
191	15.92	0.63	0.304	0.083	(0.201)	0.221
192	16.00	0.63	0.304	0.082	(0.201)	0.222
193	16.08	0.13	0.064	(0.082)	0.042	0.022
194	16.17	0.13	0.064	(0.081)	0.042	0.022
195	16.25	0.13	0.064	(0.081)	0.042	0.022
196	16.33	0.13	0.064	(0.081)	0.042	0.022
197	16.42	0.13	0.064	(0.080)	0.042	0.022
198	16.50	0.13	0.064	(0.080)	0.042	0.022
199	16.58	0.10	0.048	(0.079)	0.032	0.016
200	16.67	0.10	0.048	(0.079)	0.032	0.016
201	16.75	0.10	0.048	(0.079)	0.032	0.016
202	16.83	0.10	0.048	(0.078)	0.032	0.016
203	16.92	0.10	0.048	(0.078)	0.032	0.016
204	17.00	0.10	0.048	(0.077)	0.032	0.016
205	17.08	0.17	0.080	(0.077)	0.053	0.027
206	17.17	0.17	0.080	(0.077)	0.053	0.027
207	17.25	0.17	0.080	(0.076)	0.053	0.027
208	17.33	0.17	0.080	(0.076)	0.053	0.027
209	17.42	0.17	0.080	(0.075)	0.053	0.027
210	17.50	0.17	0.080	(0.075)	0.053	0.027

211	17.58	0.17	0.080	(0.075)	0.053	0.027
212	17.67	0.17	0.080	(0.074)	0.053	0.027
213	17.75	0.17	0.080	(0.074)	0.053	0.027
214	17.83	0.13	0.064	(0.074)	0.042	0.022
215	17.92	0.13	0.064	(0.073)	0.042	0.022
216	18.00	0.13	0.064	(0.073)	0.042	0.022
217	18.08	0.13	0.064	(0.072)	0.042	0.022
218	18.17	0.13	0.064	(0.072)	0.042	0.022
219	18.25	0.13	0.064	(0.072)	0.042	0.022
220	18.33	0.13	0.064	(0.071)	0.042	0.022
221	18.42	0.13	0.064	(0.071)	0.042	0.022
222	18.50	0.13	0.064	(0.071)	0.042	0.022
223	18.58	0.10	0.048	(0.070)	0.032	0.016
224	18.67	0.10	0.048	(0.070)	0.032	0.016
225	18.75	0.10	0.048	(0.070)	0.032	0.016
226	18.83	0.07	0.032	(0.069)	0.021	0.011
227	18.92	0.07	0.032	(0.069)	0.021	0.011
228	19.00	0.07	0.032	(0.069)	0.021	0.011
229	19.08	0.10	0.048	(0.068)	0.032	0.016
230	19.17	0.10	0.048	(0.068)	0.032	0.016
231	19.25	0.10	0.048	(0.068)	0.032	0.016
232	19.33	0.13	0.064	(0.067)	0.042	0.022
233	19.42	0.13	0.064	(0.067)	0.042	0.022
234	19.50	0.13	0.064	(0.067)	0.042	0.022
235	19.58	0.10	0.048	(0.066)	0.032	0.016
236	19.67	0.10	0.048	(0.066)	0.032	0.016
237	19.75	0.10	0.048	(0.066)	0.032	0.016
238	19.83	0.07	0.032	(0.066)	0.021	0.011
239	19.92	0.07	0.032	(0.065)	0.021	0.011
240	20.00	0.07	0.032	(0.065)	0.021	0.011
241	20.08	0.10	0.048	(0.065)	0.032	0.016
242	20.17	0.10	0.048	(0.064)	0.032	0.016
243	20.25	0.10	0.048	(0.064)	0.032	0.016
244	20.33	0.10	0.048	(0.064)	0.032	0.016
245	20.42	0.10	0.048	(0.064)	0.032	0.016
246	20.50	0.10	0.048	(0.063)	0.032	0.016
247	20.58	0.10	0.048	(0.063)	0.032	0.016
248	20.67	0.10	0.048	(0.063)	0.032	0.016
249	20.75	0.10	0.048	(0.063)	0.032	0.016
250	20.83	0.07	0.032	(0.062)	0.021	0.011
251	20.92	0.07	0.032	(0.062)	0.021	0.011
252	21.00	0.07	0.032	(0.062)	0.021	0.011
253	21.08	0.10	0.048	(0.062)	0.032	0.016
254	21.17	0.10	0.048	(0.061)	0.032	0.016
255	21.25	0.10	0.048	(0.061)	0.032	0.016
256	21.33	0.07	0.032	(0.061)	0.021	0.011
257	21.42	0.07	0.032	(0.061)	0.021	0.011
258	21.50	0.07	0.032	(0.060)	0.021	0.011
259	21.58	0.10	0.048	(0.060)	0.032	0.016
260	21.67	0.10	0.048	(0.060)	0.032	0.016
261	21.75	0.10	0.048	(0.060)	0.032	0.016
262	21.83	0.07	0.032	(0.060)	0.021	0.011
263	21.92	0.07	0.032	(0.059)	0.021	0.011
264	22.00	0.07	0.032	(0.059)	0.021	0.011
265	22.08	0.10	0.048	(0.059)	0.032	0.016
266	22.17	0.10	0.048	(0.059)	0.032	0.016
267	22.25	0.10	0.048	(0.059)	0.032	0.016
268	22.33	0.07	0.032	(0.058)	0.021	0.011
269	22.42	0.07	0.032	(0.058)	0.021	0.011
270	22.50	0.07	0.032	(0.058)	0.021	0.011
271	22.58	0.07	0.032	(0.058)	0.021	0.011
272	22.67	0.07	0.032	(0.058)	0.021	0.011
273	22.75	0.07	0.032	(0.058)	0.021	0.011

274	22.83	0.07	0.032	(0.057)	0.021	0.011
275	22.92	0.07	0.032	(0.057)	0.021	0.011
276	23.00	0.07	0.032	(0.057)	0.021	0.011
277	23.08	0.07	0.032	(0.057)	0.021	0.011
278	23.17	0.07	0.032	(0.057)	0.021	0.011
279	23.25	0.07	0.032	(0.057)	0.021	0.011
280	23.33	0.07	0.032	(0.057)	0.021	0.011
281	23.42	0.07	0.032	(0.056)	0.021	0.011
282	23.50	0.07	0.032	(0.056)	0.021	0.011
283	23.58	0.07	0.032	(0.056)	0.021	0.011
284	23.67	0.07	0.032	(0.056)	0.021	0.011
285	23.75	0.07	0.032	(0.056)	0.021	0.011
286	23.83	0.07	0.032	(0.056)	0.021	0.011
287	23.92	0.07	0.032	(0.056)	0.021	0.011
288	24.00	0.07	0.032	(0.056)	0.021	0.011

(Loss Rate Not Used)

Sum = 100.0 Sum = 28.3

Flood volume = Effective rainfall 2.36(In)
times area 1.9(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 1.64(In)
Total soil loss = 0.260(Ac.Ft)
Total rainfall = 4.00(In)
Flood volume = 16271.9 Cubic Feet
Total soil loss = 11316.0 Cubic Feet

Peak flow rate of this hydrograph = 0.858(CFS)

++

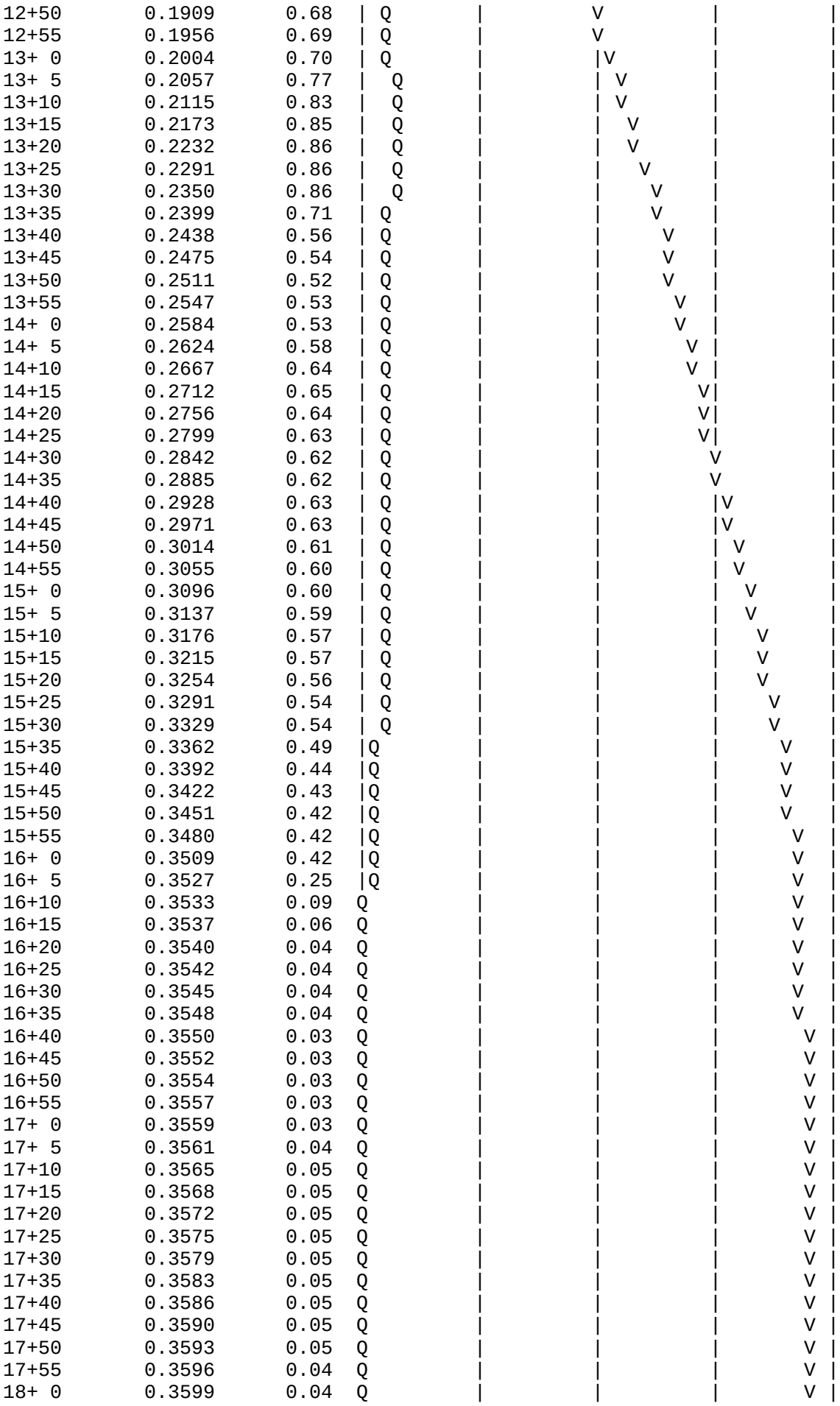
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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	0.02	Q	|	|	|	|
0+15	0.0003	0.02	Q	|	|	|	|
0+20	0.0005	0.03	Q	|	|	|	|
0+25	0.0007	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	0.0016	0.03	Q	|	|	|	|
0+50	0.0018	0.04	Q	|	|	|	|
0+55	0.0021	0.04	Q	|	|	|	|
1+ 0	0.0024	0.04	Q	|	|	|	|
1+ 5	0.0026	0.04	Q	|	|	|	|
1+10	0.0028	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	0.0051	0.04	Q	|	|	|	|
2+ 5	0.0054	0.04	Q	|	|	|	|
2+10	0.0057	0.04	Q	|	|	|	|
2+15	0.0060	0.04	Q	|	|	|	|

2+20	0.0063	0.04	Q	|	|	|	|
2+25	0.0066	0.04	Q	|	|	|	|
2+30	0.0069	0.04	Q	|	|	|	|
2+35	0.0072	0.05	Q	|	|	|	|
2+40	0.0075	0.05	Q	|	|	|	|
2+45	0.0079	0.05	Q	|	|	|	|
2+50	0.0082	0.05	Q	|	|	|	|
2+55	0.0086	0.05	Q	|	|	|	|
3+ 0	0.0089	0.05	Q	|	|	|	|
3+ 5	0.0093	0.05	Q	|	|	|	|
3+10	0.0097	0.05	QV	|	|	|	|
3+15	0.0100	0.05	QV	|	|	|	|
3+20	0.0104	0.05	QV	|	|	|	|
3+25	0.0107	0.05	QV	|	|	|	|
3+30	0.0111	0.05	QV	|	|	|	|
3+35	0.0114	0.05	QV	|	|	|	|
3+40	0.0118	0.05	QV	|	|	|	|
3+45	0.0121	0.05	QV	|	|	|	|
3+50	0.0125	0.06	QV	|	|	|	|
3+55	0.0130	0.06	QV	|	|	|	|
4+ 0	0.0134	0.06	QV	|	|	|	|
4+ 5	0.0138	0.06	QV	|	|	|	|
4+10	0.0142	0.06	QV	|	|	|	|
4+15	0.0147	0.06	QV	|	|	|	|
4+20	0.0151	0.07	QV	|	|	|	|
4+25	0.0156	0.07	QV	|	|	|	|
4+30	0.0161	0.07	QV	|	|	|	|
4+35	0.0166	0.07	QV	|	|	|	|
4+40	0.0171	0.07	QV	|	|	|	|
4+45	0.0176	0.07	QV	|	|	|	|
4+50	0.0181	0.08	QV	|	|	|	|
4+55	0.0187	0.08	Q V	|	|	|	|
5+ 0	0.0193	0.08	Q V	|	|	|	|
5+ 5	0.0198	0.07	Q V	|	|	|	|
5+10	0.0202	0.06	Q V	|	|	|	|
5+15	0.0206	0.06	Q V	|	|	|	|
5+20	0.0211	0.07	Q V	|	|	|	|
5+25	0.0216	0.07	Q V	|	|	|	|
5+30	0.0221	0.07	Q V	|	|	|	|
5+35	0.0226	0.08	Q V	|	|	|	|
5+40	0.0232	0.08	Q V	|	|	|	|
5+45	0.0238	0.08	Q V	|	|	|	|
5+50	0.0243	0.08	Q V	|	|	|	|
5+55	0.0249	0.08	Q V	|	|	|	|
6+ 0	0.0255	0.08	Q V	|	|	|	|
6+ 5	0.0261	0.09	Q V	|	|	|	|
6+10	0.0267	0.09	Q V	|	|	|	|
6+15	0.0273	0.09	Q V	|	|	|	|
6+20	0.0280	0.09	Q V	|	|	|	|
6+25	0.0286	0.09	Q V	|	|	|	|
6+30	0.0293	0.09	Q V	|	|	|	|
6+35	0.0299	0.10	Q V	|	|	|	|
6+40	0.0306	0.10	Q V	|	|	|	|
6+45	0.0313	0.10	Q V	|	|	|	|
6+50	0.0321	0.10	Q V	|	|	|	|
6+55	0.0328	0.10	Q V	|	|	|	|
7+ 0	0.0335	0.10	Q V	|	|	|	|
7+ 5	0.0342	0.10	Q V	|	|	|	|
7+10	0.0349	0.10	Q V	|	|	|	|
7+15	0.0356	0.10	Q V	|	|	|	|
7+20	0.0364	0.11	Q V	|	|	|	|
7+25	0.0371	0.11	Q V	|	|	|	|
7+30	0.0379	0.11	Q V	|	|	|	|

```
 7+35       0.0387      0.12  Q   V     |         |         |         |
 7+40       0.0396      0.12  Q   V     |         |         |         |
 7+45       0.0404      0.12  Q   V     |         |         |         |
 7+50       0.0413      0.13  Q   V     |         |         |         |
 7+55       0.0423      0.14  Q   V     |         |         |         |
 8+ 0       0.0433      0.14  Q   V     |         |         |         |
 8+ 5       0.0445      0.17  Q   V     |         |         |         |
 8+10       0.0459      0.20  Q   V     |         |         |         |
 8+15       0.0473      0.21  Q    V    |         |         |         |
 8+20       0.0487      0.21  Q    V    |         |         |         |
 8+25       0.0502      0.21  Q    V    |         |         |         |
 8+30       0.0516      0.21  Q    V    |         |         |         |
 8+35       0.0532      0.23  Q    V    |         |         |         |
 8+40       0.0549      0.24  Q    V    |         |         |         |
 8+45       0.0566      0.25  Q     V   |         |         |         |
 8+50       0.0584      0.26  |Q    V   |         |         |         |
 8+55       0.0603      0.28  |Q    V   |         |         |         |
 9+ 0       0.0622      0.28  |Q    V   |         |         |         |
 9+ 5       0.0643      0.31  |Q    V   |         |         |         |
 9+10       0.0666      0.34  |Q     V  |         |         |         |
 9+15       0.0690      0.34  |Q     V  |         |         |         |
 9+20       0.0715      0.36  |Q     V  |         |         |         |
 9+25       0.0740      0.37  |Q     V  |         |         |         |
 9+30       0.0766      0.38  |Q      V |         |         |         |
 9+35       0.0793      0.39  |Q      V |         |         |         |
 9+40       0.0822      0.41  |Q      V |         |         |         |
 9+45       0.0850      0.41  |Q       V|         |         |         |
 9+50       0.0879      0.43  |Q       V|         |         |         |
 9+55       0.0910      0.44  |Q       V|         |         |         |
10+ 0       0.0941      0.45  |Q        V         |         |         |
10+ 5       0.0965      0.35  |Q        V         |         |         |
10+10       0.0983      0.26  |Q        V         |         |         |
10+15       0.1000      0.24  Q         V         |         |         |
10+20       0.1016      0.24  Q         V         |         |         |
10+25       0.1032      0.24  Q         |V        |         |         |
10+30       0.1049      0.24  Q         |V        |         |         |
10+35       0.1070      0.31  |Q        |V        |         |         |
10+40       0.1096      0.38  |Q        |V        |         |         |
10+45       0.1123      0.39  |Q        | V       |         |         |
10+50       0.1150      0.40  |Q        | V       |         |         |
10+55       0.1177      0.40  |Q        | V       |         |         |
11+ 0       0.1205      0.40  |Q        | V       |         |         |
11+ 5       0.1232      0.39  |Q        |  V      |         |         |
11+10       0.1257      0.37  |Q        |  V      |         |         |
11+15       0.1283      0.37  |Q        |  V      |         |         |
11+20       0.1309      0.37  |Q        |   V     |         |         |
11+25       0.1334      0.37  |Q        |   V     |         |         |
11+30       0.1360      0.37  |Q        |   V     |         |         |
11+35       0.1384      0.35  |Q        |   V     |         |         |
11+40       0.1406      0.32  |Q        |    V    |         |         |
11+45       0.1428      0.32  |Q        |    V    |         |         |
11+50       0.1451      0.33  |Q        |    V    |         |         |
11+55       0.1475      0.34  |Q        |    V    |         |         |
12+ 0       0.1499      0.35  |Q        |     V   |         |         |
12+ 5       0.1529      0.45  |Q        |     V   |         |         |
12+10       0.1567      0.54  | Q       |     V   |         |         |
12+15       0.1605      0.56  | Q       |      V  |         |         |
12+20       0.1645      0.58  | Q       |      V  |         |         |
12+25       0.1686      0.60  | Q       |       V |         |         |
12+30       0.1728      0.60  | Q       |       V |         |         |
12+35       0.1771      0.63  | Q       |       V |         |         |
12+40       0.1816      0.66  | Q       |        V|         |         |
12+45       0.1862      0.66  | Q       |        V|         |         |
```



18+ 5	0.3602	0.04	Q	|	|	|	V |
18+10	0.3604	0.04	Q	|	|	|	V |
18+15	0.3607	0.04	Q	|	|	|	V |
18+20	0.3610	0.04	Q	|	|	|	V |
18+25	0.3613	0.04	Q	|	|	|	V |
18+30	0.3616	0.04	Q	|	|	|	V |
18+35	0.3618	0.04	Q	|	|	|	V |
18+40	0.3621	0.03	Q	|	|	|	V |
18+45	0.3623	0.03	Q	|	|	|	V |
18+50	0.3625	0.03	Q	|	|	|	V |
18+55	0.3626	0.02	Q	|	|	|	V |
19+ 0	0.3628	0.02	Q	|	|	|	V |
19+ 5	0.3629	0.03	Q	|	|	|	V |
19+10	0.3631	0.03	Q	|	|	|	V |
19+15	0.3633	0.03	Q	|	|	|	V |
19+20	0.3636	0.04	Q	|	|	|	V |
19+25	0.3639	0.04	Q	|	|	|	V |
19+30	0.3642	0.04	Q	|	|	|	V |
19+35	0.3644	0.04	Q	|	|	|	V|
19+40	0.3646	0.03	Q	|	|	|	V|
19+45	0.3648	0.03	Q	|	|	|	V|
19+50	0.3650	0.03	Q	|	|	|	V|
19+55	0.3652	0.02	Q	|	|	|	V|
20+ 0	0.3653	0.02	Q	|	|	|	V|
20+ 5	0.3655	0.03	Q	|	|	|	V|
20+10	0.3657	0.03	Q	|	|	|	V|
20+15	0.3659	0.03	Q	|	|	|	V|
20+20	0.3661	0.03	Q	|	|	|	V|
20+25	0.3663	0.03	Q	|	|	|	V|
20+30	0.3666	0.03	Q	|	|	|	V|
20+35	0.3668	0.03	Q	|	|	|	V|
20+40	0.3670	0.03	Q	|	|	|	V|
20+45	0.3672	0.03	Q	|	|	|	V|
20+50	0.3674	0.03	Q	|	|	|	V|
20+55	0.3675	0.02	Q	|	|	|	V|
21+ 0	0.3677	0.02	Q	|	|	|	V|
21+ 5	0.3679	0.03	Q	|	|	|	V|
21+10	0.3681	0.03	Q	|	|	|	V|
21+15	0.3683	0.03	Q	|	|	|	V|
21+20	0.3684	0.03	Q	|	|	|	V|
21+25	0.3686	0.02	Q	|	|	|	V|
21+30	0.3687	0.02	Q	|	|	|	V|
21+35	0.3689	0.03	Q	|	|	|	V|
21+40	0.3691	0.03	Q	|	|	|	V|
21+45	0.3693	0.03	Q	|	|	|	V|
21+50	0.3695	0.03	Q	|	|	|	V|
21+55	0.3697	0.02	Q	|	|	|	V|
22+ 0	0.3698	0.02	Q	|	|	|	V|
22+ 5	0.3700	0.03	Q	|	|	|	V|
22+10	0.3702	0.03	Q	|	|	|	V|
22+15	0.3704	0.03	Q	|	|	|	V|
22+20	0.3706	0.03	Q	|	|	|	V|
22+25	0.3707	0.02	Q	|	|	|	V|
22+30	0.3709	0.02	Q	|	|	|	V|
22+35	0.3710	0.02	Q	|	|	|	V|
22+40	0.3712	0.02	Q	|	|	|	V|
22+45	0.3713	0.02	Q	|	|	|	V|
22+50	0.3715	0.02	Q	|	|	|	V|
22+55	0.3716	0.02	Q	|	|	|	V|
23+ 0	0.3717	0.02	Q	|	|	|	V|
23+ 5	0.3719	0.02	Q	|	|	|	V|
23+10	0.3720	0.02	Q	|	|	|	V|
23+15	0.3722	0.02	Q	|	|	|	V|

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   23+20       0.3723      0.02  Q          |          |          |         V|
   23+25       0.3725      0.02  Q          |          |          |         V|
   23+30       0.3726      0.02  Q          |          |          |         V|
   23+35       0.3727      0.02  Q          |          |          |         V|
   23+40       0.3729      0.02  Q          |          |          |         V|
   23+45       0.3730      0.02  Q          |          |          |         V|
   23+50       0.3732      0.02  Q          |          |          |         V|
   23+55       0.3733      0.02  Q          |          |          |         V|
   24+ 0       0.3734      0.02  Q          |          |          |         V|
   24+ 5       0.3735      0.01  Q          |          |          |         V|
   24+10       0.3735      0.00  Q          |          |          |         V|
   24+15       0.3736      0.00  Q          |          |          |         V|
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U n i t H y d r o g r a p h A n a l y s i s

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Study date 08/27/20 File: 522ex100sag24100.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

20-522 D-1 PARCEL
EXISTING CONDITION
SUBAREA G
100-YEAR 24-HOUR STORM

Drainage Area = 1.90(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.90(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 1460.00(Ft.)
Length along longest watercourse measured to centroid = 740.00(Ft.)
Length along longest watercourse = 0.277 Mi.
Length along longest watercourse measured to centroid = 0.140 Mi.
Difference in elevation = 3.70(Ft.)
Slope along watercourse = 13.3808 Ft./Mi.
Average Manning's 'N' = 0.025
Lag time = 0.107 Hr.
Lag time = 6.39 Min.
25% of lag time = 1.60 Min.
40% of lag time = 2.56 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.90	1.60	3.04

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.90	4.00	7.60

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 4.000(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.000(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.900	75.00	0.235

Total Area Entered = 1.90(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	88.0	0.153	0.235	0.120	1.000	0.120
					Sum (F) =	0.120

Area averaged mean soil loss (F) (In/Hr) = 0.120
Minimum soil loss rate ((In/Hr)) = 0.060
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.712

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	78.188	12.798	0.245
2	0.167	156.376	43.769	0.838
3	0.250	234.563	20.470	0.392
4	0.333	312.751	8.368	0.160
5	0.417	390.939	5.034	0.096
6	0.500	469.127	3.211	0.061
7	0.583	547.314	2.282	0.044
8	0.667	625.502	1.606	0.031
9	0.750	703.690	1.092	0.021
10	0.833	781.878	0.797	0.015
11	0.917	860.066	0.572	0.011
		Sum = 100.000	Sum=	1.915

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.07	0.032	(0.214)		0.023	0.009
2	0.17	0.07	0.032	(0.213)		0.023	0.009
3	0.25	0.07	0.032	(0.212)		0.023	0.009
4	0.33	0.10	0.048	(0.211)		0.034	0.014
5	0.42	0.10	0.048	(0.210)		0.034	0.014
6	0.50	0.10	0.048	(0.209)		0.034	0.014
7	0.58	0.10	0.048	(0.209)		0.034	0.014
8	0.67	0.10	0.048	(0.208)		0.034	0.014
9	0.75	0.10	0.048	(0.207)		0.034	0.014
10	0.83	0.13	0.064	(0.206)		0.046	0.018
11	0.92	0.13	0.064	(0.205)		0.046	0.018
12	1.00	0.13	0.064	(0.205)		0.046	0.018
13	1.08	0.10	0.048	(0.204)		0.034	0.014
14	1.17	0.10	0.048	(0.203)		0.034	0.014

15	1.25	0.10	0.048	(0.202)	0.034	0.014
16	1.33	0.10	0.048	(0.201)	0.034	0.014
17	1.42	0.10	0.048	(0.201)	0.034	0.014
18	1.50	0.10	0.048	(0.200)	0.034	0.014
19	1.58	0.10	0.048	(0.199)	0.034	0.014
20	1.67	0.10	0.048	(0.198)	0.034	0.014
21	1.75	0.10	0.048	(0.197)	0.034	0.014
22	1.83	0.13	0.064	(0.197)	0.046	0.018
23	1.92	0.13	0.064	(0.196)	0.046	0.018
24	2.00	0.13	0.064	(0.195)	0.046	0.018
25	2.08	0.13	0.064	(0.194)	0.046	0.018
26	2.17	0.13	0.064	(0.193)	0.046	0.018
27	2.25	0.13	0.064	(0.193)	0.046	0.018
28	2.33	0.13	0.064	(0.192)	0.046	0.018
29	2.42	0.13	0.064	(0.191)	0.046	0.018
30	2.50	0.13	0.064	(0.190)	0.046	0.018
31	2.58	0.17	0.080	(0.190)	0.057	0.023
32	2.67	0.17	0.080	(0.189)	0.057	0.023
33	2.75	0.17	0.080	(0.188)	0.057	0.023
34	2.83	0.17	0.080	(0.187)	0.057	0.023
35	2.92	0.17	0.080	(0.186)	0.057	0.023
36	3.00	0.17	0.080	(0.186)	0.057	0.023
37	3.08	0.17	0.080	(0.185)	0.057	0.023
38	3.17	0.17	0.080	(0.184)	0.057	0.023
39	3.25	0.17	0.080	(0.183)	0.057	0.023
40	3.33	0.17	0.080	(0.183)	0.057	0.023
41	3.42	0.17	0.080	(0.182)	0.057	0.023
42	3.50	0.17	0.080	(0.181)	0.057	0.023
43	3.58	0.17	0.080	(0.180)	0.057	0.023
44	3.67	0.17	0.080	(0.180)	0.057	0.023
45	3.75	0.17	0.080	(0.179)	0.057	0.023
46	3.83	0.20	0.096	(0.178)	0.068	0.028
47	3.92	0.20	0.096	(0.177)	0.068	0.028
48	4.00	0.20	0.096	(0.177)	0.068	0.028
49	4.08	0.20	0.096	(0.176)	0.068	0.028
50	4.17	0.20	0.096	(0.175)	0.068	0.028
51	4.25	0.20	0.096	(0.174)	0.068	0.028
52	4.33	0.23	0.112	(0.174)	0.080	0.032
53	4.42	0.23	0.112	(0.173)	0.080	0.032
54	4.50	0.23	0.112	(0.172)	0.080	0.032
55	4.58	0.23	0.112	(0.171)	0.080	0.032
56	4.67	0.23	0.112	(0.171)	0.080	0.032
57	4.75	0.23	0.112	(0.170)	0.080	0.032
58	4.83	0.27	0.128	(0.169)	0.091	0.037
59	4.92	0.27	0.128	(0.168)	0.091	0.037
60	5.00	0.27	0.128	(0.168)	0.091	0.037
61	5.08	0.20	0.096	(0.167)	0.068	0.028
62	5.17	0.20	0.096	(0.166)	0.068	0.028
63	5.25	0.20	0.096	(0.165)	0.068	0.028
64	5.33	0.23	0.112	(0.165)	0.080	0.032
65	5.42	0.23	0.112	(0.164)	0.080	0.032
66	5.50	0.23	0.112	(0.163)	0.080	0.032
67	5.58	0.27	0.128	(0.163)	0.091	0.037
68	5.67	0.27	0.128	(0.162)	0.091	0.037
69	5.75	0.27	0.128	(0.161)	0.091	0.037
70	5.83	0.27	0.128	(0.160)	0.091	0.037
71	5.92	0.27	0.128	(0.160)	0.091	0.037
72	6.00	0.27	0.128	(0.159)	0.091	0.037
73	6.08	0.30	0.144	(0.158)	0.103	0.041
74	6.17	0.30	0.144	(0.158)	0.103	0.041
75	6.25	0.30	0.144	(0.157)	0.103	0.041
76	6.33	0.30	0.144	(0.156)	0.103	0.041
77	6.42	0.30	0.144	(0.156)	0.103	0.041

78	6.50	0.30	0.144	(	0.155)	0.103		0.041
79	6.58	0.33	0.160	(	0.154)	0.114		0.046
80	6.67	0.33	0.160	(	0.153)	0.114		0.046
81	6.75	0.33	0.160	(	0.153)	0.114		0.046
82	6.83	0.33	0.160	(	0.152)	0.114		0.046
83	6.92	0.33	0.160	(	0.151)	0.114		0.046
84	7.00	0.33	0.160	(	0.151)	0.114		0.046
85	7.08	0.33	0.160	(	0.150)	0.114		0.046
86	7.17	0.33	0.160	(	0.149)	0.114		0.046
87	7.25	0.33	0.160	(	0.149)	0.114		0.046
88	7.33	0.37	0.176	(	0.148)	0.125		0.051
89	7.42	0.37	0.176	(	0.147)	0.125		0.051
90	7.50	0.37	0.176	(	0.147)	0.125		0.051
91	7.58	0.40	0.192	(	0.146)	0.137		0.055
92	7.67	0.40	0.192	(	0.145)	0.137		0.055
93	7.75	0.40	0.192	(	0.145)	0.137		0.055
94	7.83	0.43	0.208		0.144	(	0.148)	0.064
95	7.92	0.43	0.208		0.143	(	0.148)	0.065
96	8.00	0.43	0.208		0.143	(	0.148)	0.065
97	8.08	0.50	0.240		0.142	(	0.171)	0.098
98	8.17	0.50	0.240		0.141	(	0.171)	0.099
99	8.25	0.50	0.240		0.141	(	0.171)	0.099
100	8.33	0.50	0.240		0.140	(	0.171)	0.100
101	8.42	0.50	0.240		0.139	(	0.171)	0.101
102	8.50	0.50	0.240		0.139	(	0.171)	0.101
103	8.58	0.53	0.256		0.138	(	0.182)	0.118
104	8.67	0.53	0.256		0.137	(	0.182)	0.119
105	8.75	0.53	0.256		0.137	(	0.182)	0.119
106	8.83	0.57	0.272		0.136	(	0.194)	0.136
107	8.92	0.57	0.272		0.135	(	0.194)	0.137
108	9.00	0.57	0.272		0.135	(	0.194)	0.137
109	9.08	0.63	0.304		0.134	(	0.216)	0.170
110	9.17	0.63	0.304		0.133	(	0.216)	0.171
111	9.25	0.63	0.304		0.133	(	0.216)	0.171
112	9.33	0.67	0.320		0.132	(	0.228)	0.188
113	9.42	0.67	0.320		0.132	(	0.228)	0.188
114	9.50	0.67	0.320		0.131	(	0.228)	0.189
115	9.58	0.70	0.336		0.130	(	0.239)	0.206
116	9.67	0.70	0.336		0.130	(	0.239)	0.206
117	9.75	0.70	0.336		0.129	(	0.239)	0.207
118	9.83	0.73	0.352		0.128	(	0.251)	0.224
119	9.92	0.73	0.352		0.128	(	0.251)	0.224
120	10.00	0.73	0.352		0.127	(	0.251)	0.225
121	10.08	0.50	0.240		0.127	(	0.171)	0.113
122	10.17	0.50	0.240		0.126	(	0.171)	0.114
123	10.25	0.50	0.240		0.125	(	0.171)	0.115
124	10.33	0.50	0.240		0.125	(	0.171)	0.115
125	10.42	0.50	0.240		0.124	(	0.171)	0.116
126	10.50	0.50	0.240		0.124	(	0.171)	0.116
127	10.58	0.67	0.320		0.123	(	0.228)	0.197
128	10.67	0.67	0.320		0.122	(	0.228)	0.198
129	10.75	0.67	0.320		0.122	(	0.228)	0.198
130	10.83	0.67	0.320		0.121	(	0.228)	0.199
131	10.92	0.67	0.320		0.121	(	0.228)	0.199
132	11.00	0.67	0.320		0.120	(	0.228)	0.200
133	11.08	0.63	0.304		0.119	(	0.216)	0.185
134	11.17	0.63	0.304		0.119	(	0.216)	0.185
135	11.25	0.63	0.304		0.118	(	0.216)	0.186
136	11.33	0.63	0.304		0.118	(	0.216)	0.186
137	11.42	0.63	0.304		0.117	(	0.216)	0.187
138	11.50	0.63	0.304		0.116	(	0.216)	0.188
139	11.58	0.57	0.272		0.116	(	0.194)	0.156
140	11.67	0.57	0.272		0.115	(	0.194)	0.157

141	11.75	0.57	0.272	0.115	(0.194)	0.157
142	11.83	0.60	0.288	0.114	(0.205)	0.174
143	11.92	0.60	0.288	0.114	(0.205)	0.174
144	12.00	0.60	0.288	0.113	(0.205)	0.175
145	12.08	0.83	0.400	0.112	(0.285)	0.288
146	12.17	0.83	0.400	0.112	(0.285)	0.288
147	12.25	0.83	0.400	0.111	(0.285)	0.289
148	12.33	0.87	0.416	0.111	(0.296)	0.305
149	12.42	0.87	0.416	0.110	(0.296)	0.306
150	12.50	0.87	0.416	0.110	(0.296)	0.306
151	12.58	0.93	0.448	0.109	(0.319)	0.339
152	12.67	0.93	0.448	0.109	(0.319)	0.339
153	12.75	0.93	0.448	0.108	(0.319)	0.340
154	12.83	0.97	0.464	0.107	(0.330)	0.357
155	12.92	0.97	0.464	0.107	(0.330)	0.357
156	13.00	0.97	0.464	0.106	(0.330)	0.358
157	13.08	1.13	0.544	0.106	(0.387)	0.438
158	13.17	1.13	0.544	0.105	(0.387)	0.439
159	13.25	1.13	0.544	0.105	(0.387)	0.439
160	13.33	1.13	0.544	0.104	(0.387)	0.440
161	13.42	1.13	0.544	0.104	(0.387)	0.440
162	13.50	1.13	0.544	0.103	(0.387)	0.441
163	13.58	0.77	0.368	0.103	(0.262)	0.265
164	13.67	0.77	0.368	0.102	(0.262)	0.266
165	13.75	0.77	0.368	0.102	(0.262)	0.266
166	13.83	0.77	0.368	0.101	(0.262)	0.267
167	13.92	0.77	0.368	0.101	(0.262)	0.267
168	14.00	0.77	0.368	0.100	(0.262)	0.268
169	14.08	0.90	0.432	0.100	(0.308)	0.332
170	14.17	0.90	0.432	0.099	(0.308)	0.333
171	14.25	0.90	0.432	0.099	(0.308)	0.333
172	14.33	0.87	0.416	0.098	(0.296)	0.318
173	14.42	0.87	0.416	0.098	(0.296)	0.318
174	14.50	0.87	0.416	0.097	(0.296)	0.319
175	14.58	0.87	0.416	0.097	(0.296)	0.319
176	14.67	0.87	0.416	0.096	(0.296)	0.320
177	14.75	0.87	0.416	0.096	(0.296)	0.320
178	14.83	0.83	0.400	0.095	(0.285)	0.305
179	14.92	0.83	0.400	0.095	(0.285)	0.305
180	15.00	0.83	0.400	0.094	(0.285)	0.306
181	15.08	0.80	0.384	0.094	(0.273)	0.290
182	15.17	0.80	0.384	0.093	(0.273)	0.291
183	15.25	0.80	0.384	0.093	(0.273)	0.291
184	15.33	0.77	0.368	0.092	(0.262)	0.276
185	15.42	0.77	0.368	0.092	(0.262)	0.276
186	15.50	0.77	0.368	0.091	(0.262)	0.277
187	15.58	0.63	0.304	0.091	(0.216)	0.213
188	15.67	0.63	0.304	0.090	(0.216)	0.214
189	15.75	0.63	0.304	0.090	(0.216)	0.214
190	15.83	0.63	0.304	0.089	(0.216)	0.215
191	15.92	0.63	0.304	0.089	(0.216)	0.215
192	16.00	0.63	0.304	0.088	(0.216)	0.216
193	16.08	0.13	0.064	(0.088)	0.046	0.018
194	16.17	0.13	0.064	(0.088)	0.046	0.018
195	16.25	0.13	0.064	(0.087)	0.046	0.018
196	16.33	0.13	0.064	(0.087)	0.046	0.018
197	16.42	0.13	0.064	(0.086)	0.046	0.018
198	16.50	0.13	0.064	(0.086)	0.046	0.018
199	16.58	0.10	0.048	(0.085)	0.034	0.014
200	16.67	0.10	0.048	(0.085)	0.034	0.014
201	16.75	0.10	0.048	(0.085)	0.034	0.014
202	16.83	0.10	0.048	(0.084)	0.034	0.014
203	16.92	0.10	0.048	(0.084)	0.034	0.014

204	17.00	0.10	0.048	(0.083)	0.034	0.014
205	17.08	0.17	0.080	(0.083)	0.057	0.023
206	17.17	0.17	0.080	(0.082)	0.057	0.023
207	17.25	0.17	0.080	(0.082)	0.057	0.023
208	17.33	0.17	0.080	(0.082)	0.057	0.023
209	17.42	0.17	0.080	(0.081)	0.057	0.023
210	17.50	0.17	0.080	(0.081)	0.057	0.023
211	17.58	0.17	0.080	(0.080)	0.057	0.023
212	17.67	0.17	0.080	(0.080)	0.057	0.023
213	17.75	0.17	0.080	(0.080)	0.057	0.023
214	17.83	0.13	0.064	(0.079)	0.046	0.018
215	17.92	0.13	0.064	(0.079)	0.046	0.018
216	18.00	0.13	0.064	(0.078)	0.046	0.018
217	18.08	0.13	0.064	(0.078)	0.046	0.018
218	18.17	0.13	0.064	(0.078)	0.046	0.018
219	18.25	0.13	0.064	(0.077)	0.046	0.018
220	18.33	0.13	0.064	(0.077)	0.046	0.018
221	18.42	0.13	0.064	(0.076)	0.046	0.018
222	18.50	0.13	0.064	(0.076)	0.046	0.018
223	18.58	0.10	0.048	(0.076)	0.034	0.014
224	18.67	0.10	0.048	(0.075)	0.034	0.014
225	18.75	0.10	0.048	(0.075)	0.034	0.014
226	18.83	0.07	0.032	(0.075)	0.023	0.009
227	18.92	0.07	0.032	(0.074)	0.023	0.009
228	19.00	0.07	0.032	(0.074)	0.023	0.009
229	19.08	0.10	0.048	(0.074)	0.034	0.014
230	19.17	0.10	0.048	(0.073)	0.034	0.014
231	19.25	0.10	0.048	(0.073)	0.034	0.014
232	19.33	0.13	0.064	(0.073)	0.046	0.018
233	19.42	0.13	0.064	(0.072)	0.046	0.018
234	19.50	0.13	0.064	(0.072)	0.046	0.018
235	19.58	0.10	0.048	(0.072)	0.034	0.014
236	19.67	0.10	0.048	(0.071)	0.034	0.014
237	19.75	0.10	0.048	(0.071)	0.034	0.014
238	19.83	0.07	0.032	(0.071)	0.023	0.009
239	19.92	0.07	0.032	(0.070)	0.023	0.009
240	20.00	0.07	0.032	(0.070)	0.023	0.009
241	20.08	0.10	0.048	(0.070)	0.034	0.014
242	20.17	0.10	0.048	(0.069)	0.034	0.014
243	20.25	0.10	0.048	(0.069)	0.034	0.014
244	20.33	0.10	0.048	(0.069)	0.034	0.014
245	20.42	0.10	0.048	(0.068)	0.034	0.014
246	20.50	0.10	0.048	(0.068)	0.034	0.014
247	20.58	0.10	0.048	(0.068)	0.034	0.014
248	20.67	0.10	0.048	(0.068)	0.034	0.014
249	20.75	0.10	0.048	(0.067)	0.034	0.014
250	20.83	0.07	0.032	(0.067)	0.023	0.009
251	20.92	0.07	0.032	(0.067)	0.023	0.009
252	21.00	0.07	0.032	(0.066)	0.023	0.009
253	21.08	0.10	0.048	(0.066)	0.034	0.014
254	21.17	0.10	0.048	(0.066)	0.034	0.014
255	21.25	0.10	0.048	(0.066)	0.034	0.014
256	21.33	0.07	0.032	(0.065)	0.023	0.009
257	21.42	0.07	0.032	(0.065)	0.023	0.009
258	21.50	0.07	0.032	(0.065)	0.023	0.009
259	21.58	0.10	0.048	(0.065)	0.034	0.014
260	21.67	0.10	0.048	(0.065)	0.034	0.014
261	21.75	0.10	0.048	(0.064)	0.034	0.014
262	21.83	0.07	0.032	(0.064)	0.023	0.009
263	21.92	0.07	0.032	(0.064)	0.023	0.009
264	22.00	0.07	0.032	(0.064)	0.023	0.009
265	22.08	0.10	0.048	(0.063)	0.034	0.014
266	22.17	0.10	0.048	(0.063)	0.034	0.014

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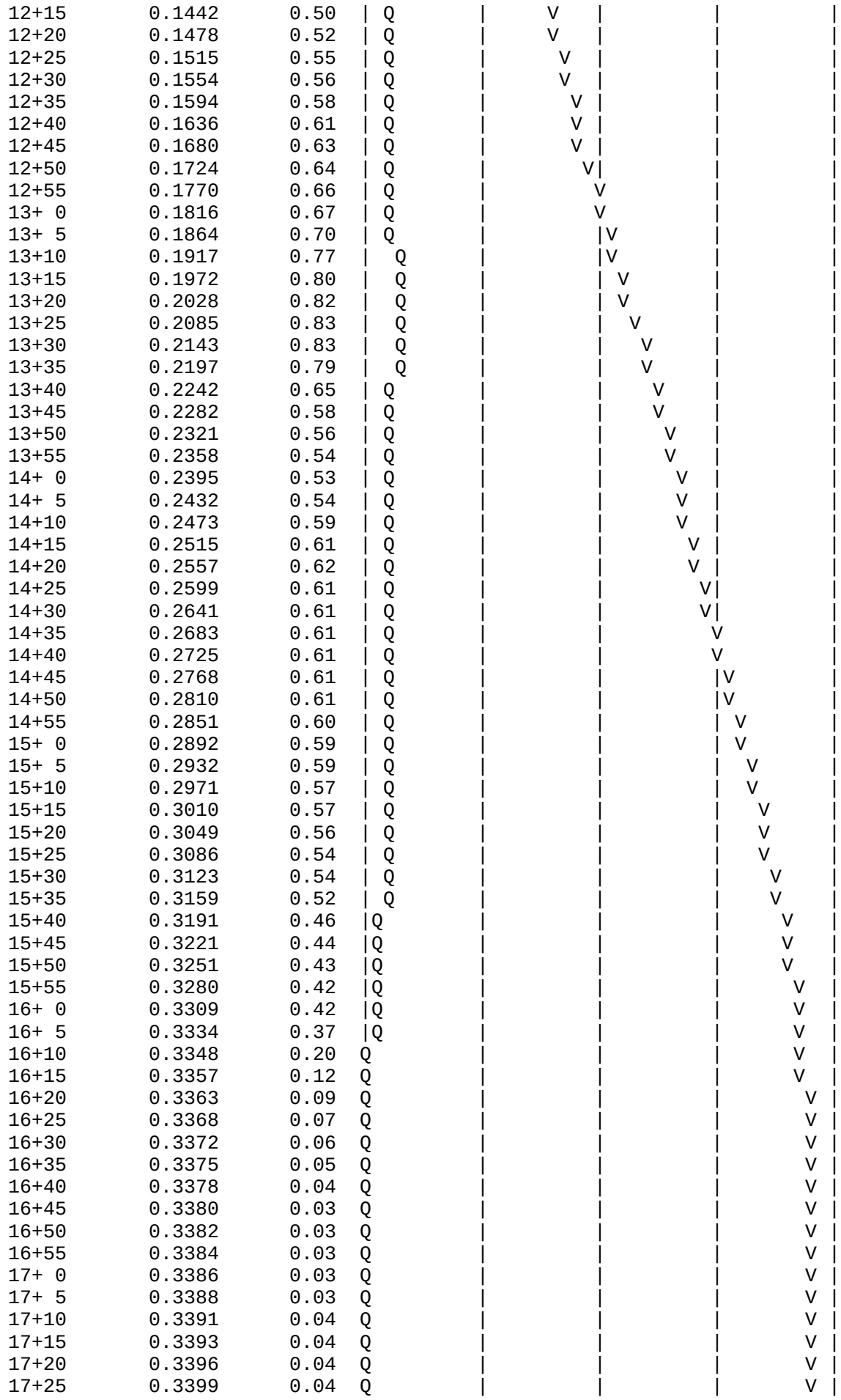
267  22.25     0.10      0.048       (  0.063)       0.034        0.014
268  22.33     0.07      0.032       (  0.063)       0.023        0.009
269  22.42     0.07      0.032       (  0.063)       0.023        0.009
270  22.50     0.07      0.032       (  0.062)       0.023        0.009
271  22.58     0.07      0.032       (  0.062)       0.023        0.009
272  22.67     0.07      0.032       (  0.062)       0.023        0.009
273  22.75     0.07      0.032       (  0.062)       0.023        0.009
274  22.83     0.07      0.032       (  0.062)       0.023        0.009
275  22.92     0.07      0.032       (  0.062)       0.023        0.009
276  23.00     0.07      0.032       (  0.061)       0.023        0.009
277  23.08     0.07      0.032       (  0.061)       0.023        0.009
278  23.17     0.07      0.032       (  0.061)       0.023        0.009
279  23.25     0.07      0.032       (  0.061)       0.023        0.009
280  23.33     0.07      0.032       (  0.061)       0.023        0.009
281  23.42     0.07      0.032       (  0.061)       0.023        0.009
282  23.50     0.07      0.032       (  0.061)       0.023        0.009
283  23.58     0.07      0.032       (  0.061)       0.023        0.009
284  23.67     0.07      0.032       (  0.060)       0.023        0.009
285  23.75     0.07      0.032       (  0.060)       0.023        0.009
286  23.83     0.07      0.032       (  0.060)       0.023        0.009
287  23.92     0.07      0.032       (  0.060)       0.023        0.009
288  24.00     0.07      0.032       (  0.060)       0.023        0.009
            (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    26.8
     Flood volume = Effective rainfall      2.24(In)
      times area       1.9(Ac.)/[(In)/(Ft.)] =      0.4(Ac.Ft)
     Total soil loss =      1.76(In)
     Total soil loss =     0.279(Ac.Ft)
     Total rainfall =      4.00(In)
     Flood volume =       15416.8 Cubic Feet
     Total soil loss =       12171.1 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =      0.832(CFS)
     ---------------------------------------------------------------------
     +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        24 - H O U R    S T O R M
                   R u n o f f      H y d r o g r a p h
     ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

     ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ---------------------------------------------------------------------------
   0+ 5       0.0000      0.00  Q         |         |         |         |
   0+10       0.0001      0.01  Q         |         |         |         |
   0+15       0.0002      0.01  Q         |         |         |         |
   0+20       0.0003      0.02  Q         |         |         |         |
   0+25       0.0004      0.02  Q         |         |         |         |
   0+30       0.0006      0.02  Q         |         |         |         |
   0+35       0.0008      0.02  Q         |         |         |         |
   0+40       0.0009      0.03  Q         |         |         |         |
   0+45       0.0011      0.03  Q         |         |         |         |
   0+50       0.0013      0.03  Q         |         |         |         |
   0+55       0.0015      0.03  Q         |         |         |         |
   1+ 0       0.0017      0.03  Q         |         |         |         |
   1+ 5       0.0020      0.03  Q         |         |         |         |
   1+10       0.0022      0.03  Q         |         |         |         |
   1+15       0.0024      0.03  Q         |         |         |         |
   1+20       0.0026      0.03  Q         |         |         |         |
   1+25       0.0027      0.03  Q         |         |         |         |
   1+30       0.0029      0.03  Q         |         |         |         |
   1+35       0.0031      0.03  Q         |         |         |         |
   1+40       0.0033      0.03  Q         |         |         |         |
```

1+45	0.0035	0.03	Q	|	|	|	|
1+50	0.0037	0.03	Q	|	|	|	|
1+55	0.0039	0.03	Q	|	|	|	|
2+ 0	0.0041	0.03	Q	|	|	|	|
2+ 5	0.0043	0.03	Q	|	|	|	|
2+10	0.0046	0.03	Q	|	|	|	|
2+15	0.0048	0.03	Q	|	|	|	|
2+20	0.0051	0.03	Q	|	|	|	|
2+25	0.0053	0.04	Q	|	|	|	|
2+30	0.0056	0.04	Q	|	|	|	|
2+35	0.0058	0.04	Q	|	|	|	|
2+40	0.0061	0.04	Q	|	|	|	|
2+45	0.0064	0.04	Q	|	|	|	|
2+50	0.0067	0.04	Q	|	|	|	|
2+55	0.0070	0.04	Q	|	|	|	|
3+ 0	0.0073	0.04	Q	|	|	|	|
3+ 5	0.0076	0.04	Q	|	|	|	|
3+10	0.0079	0.04	Q	|	|	|	|
3+15	0.0082	0.04	Q	|	|	|	|
3+20	0.0085	0.04	Q	|	|	|	|
3+25	0.0088	0.04	Q	|	|	|	|
3+30	0.0091	0.04	QV	|	|	|	|
3+35	0.0094	0.04	QV	|	|	|	|
3+40	0.0097	0.04	QV	|	|	|	|
3+45	0.0100	0.04	QV	|	|	|	|
3+50	0.0103	0.05	QV	|	|	|	|
3+55	0.0106	0.05	QV	|	|	|	|
4+ 0	0.0110	0.05	QV	|	|	|	|
4+ 5	0.0114	0.05	QV	|	|	|	|
4+10	0.0117	0.05	QV	|	|	|	|
4+15	0.0121	0.05	QV	|	|	|	|
4+20	0.0124	0.05	QV	|	|	|	|
4+25	0.0128	0.06	QV	|	|	|	|
4+30	0.0132	0.06	QV	|	|	|	|
4+35	0.0137	0.06	QV	|	|	|	|
4+40	0.0141	0.06	QV	|	|	|	|
4+45	0.0145	0.06	QV	|	|	|	|
4+50	0.0149	0.06	QV	|	|	|	|
4+55	0.0154	0.07	QV	|	|	|	|
5+ 0	0.0159	0.07	QV	|	|	|	|
5+ 5	0.0163	0.07	QV	|	|	|	|
5+10	0.0167	0.06	QV	|	|	|	|
5+15	0.0171	0.06	QV	|	|	|	|
5+20	0.0175	0.06	QV	|	|	|	|
5+25	0.0179	0.06	Q V	|	|	|	|
5+30	0.0183	0.06	Q V	|	|	|	|
5+35	0.0188	0.06	Q V	|	|	|	|
5+40	0.0192	0.07	Q V	|	|	|	|
5+45	0.0197	0.07	Q V	|	|	|	|
5+50	0.0202	0.07	Q V	|	|	|	|
5+55	0.0207	0.07	Q V	|	|	|	|
6+ 0	0.0211	0.07	Q V	|	|	|	|
6+ 5	0.0216	0.07	Q V	|	|	|	|
6+10	0.0221	0.08	Q V	|	|	|	|
6+15	0.0227	0.08	Q V	|	|	|	|
6+20	0.0232	0.08	Q V	|	|	|	|
6+25	0.0238	0.08	Q V	|	|	|	|
6+30	0.0243	0.08	Q V	|	|	|	|
6+35	0.0249	0.08	Q V	|	|	|	|
6+40	0.0254	0.08	Q V	|	|	|	|
6+45	0.0260	0.09	Q V	|	|	|	|
6+50	0.0266	0.09	Q V	|	|	|	|
6+55	0.0272	0.09	Q V	|	|	|	|

```
 7+ 0       0.0278      0.09  Q  V      |          |          |          |
 7+ 5       0.0284      0.09  Q  V      |          |          |          |
 7+10       0.0290      0.09  Q  V      |          |          |          |
 7+15       0.0297      0.09  Q  V      |          |          |          |
 7+20       0.0303      0.09  Q  V      |          |          |          |
 7+25       0.0309      0.09  Q  V      |          |          |          |
 7+30       0.0316      0.10  Q  V      |          |          |          |
 7+35       0.0322      0.10  Q  V      |          |          |          |
 7+40       0.0329      0.10  Q  V      |          |          |          |
 7+45       0.0336      0.10  Q  V      |          |          |          |
 7+50       0.0344      0.11  Q  V      |          |          |          |
 7+55       0.0352      0.11  Q  V      |          |          |          |
 8+ 0       0.0360      0.12  Q   V     |          |          |          |
 8+ 5       0.0369      0.13  Q   V     |          |          |          |
 8+10       0.0380      0.16  Q   V     |          |          |          |
 8+15       0.0392      0.17  Q   V     |          |          |          |
 8+20       0.0404      0.18  Q   V     |          |          |          |
 8+25       0.0417      0.18  Q   V     |          |          |          |
 8+30       0.0430      0.19  Q   V     |          |          |          |
 8+35       0.0443      0.19  Q    V    |          |          |          |
 8+40       0.0457      0.21  Q    V    |          |          |          |
 8+45       0.0473      0.22  Q    V    |          |          |          |
 8+50       0.0488      0.23  Q    V    |          |          |          |
 8+55       0.0505      0.24  Q    V    |          |          |          |
 9+ 0       0.0522      0.25  |Q   V    |          |          |          |
 9+ 5       0.0540      0.26  |Q    V   |          |          |          |
 9+10       0.0561      0.29  |Q    V   |          |          |          |
 9+15       0.0582      0.31  |Q    V   |          |          |          |
 9+20       0.0604      0.32  |Q    V   |          |          |          |
 9+25       0.0627      0.34  |Q     V  |          |          |          |
 9+30       0.0651      0.35  |Q     V  |          |          |          |
 9+35       0.0676      0.36  |Q     V  |          |          |          |
 9+40       0.0702      0.38  |Q     V  |          |          |          |
 9+45       0.0728      0.38  |Q      V |          |          |          |
 9+50       0.0755      0.39  |Q      V |          |          |          |
 9+55       0.0784      0.41  |Q      V |          |          |          |
10+ 0       0.0812      0.42  |Q       V|          |          |          |
10+ 5       0.0840      0.40  |Q       V|          |          |          |
10+10       0.0861      0.31  |Q       V|          |          |          |
10+15       0.0879      0.26  |Q       V|          |          |          |
10+20       0.0896      0.25  Q         V          |          |          |
10+25       0.0913      0.24  Q         V          |          |          |
10+30       0.0929      0.23  Q         V          |          |          |
10+35       0.0946      0.25  |Q        V          |          |          |
10+40       0.0968      0.32  |Q        V          |          |          |
10+45       0.0991      0.35  |Q        |V         |          |          |
10+50       0.1016      0.36  |Q        |V         |          |          |
10+55       0.1041      0.37  |Q        |V         |          |          |
11+ 0       0.1067      0.37  |Q        | V        |          |          |
11+ 5       0.1092      0.37  |Q        | V        |          |          |
11+10       0.1117      0.36  |Q        | V        |          |          |
11+15       0.1142      0.36  |Q        | V        |          |          |
11+20       0.1167      0.36  |Q        |  V       |          |          |
11+25       0.1191      0.36  |Q        |  V       |          |          |
11+30       0.1216      0.36  |Q        |  V       |          |          |
11+35       0.1240      0.35  |Q        |   V      |          |          |
11+40       0.1263      0.33  |Q        |   V      |          |          |
11+45       0.1284      0.31  |Q        |   V      |          |          |
11+50       0.1306      0.31  |Q        |   V      |          |          |
11+55       0.1328      0.32  |Q        |    V     |          |          |
12+ 0       0.1351      0.33  |Q        |    V     |          |          |
12+ 5       0.1376      0.36  |Q        |    V     |          |          |
12+10       0.1407      0.46  |Q        |    V     |          |          |
```



17+30	0.3402	0.04	Q	|	|	|	V |
17+35	0.3405	0.04	Q	|	|	|	V |
17+40	0.3408	0.04	Q	|	|	|	V |
17+45	0.3411	0.04	Q	|	|	|	V |
17+50	0.3414	0.04	Q	|	|	|	V |
17+55	0.3417	0.04	Q	|	|	|	V |
18+ 0	0.3419	0.04	Q	|	|	|	V |
18+ 5	0.3422	0.04	Q	|	|	|	V |
18+10	0.3424	0.04	Q	|	|	|	V |
18+15	0.3427	0.04	Q	|	|	|	V |
18+20	0.3429	0.04	Q	|	|	|	V |
18+25	0.3432	0.04	Q	|	|	|	V |
18+30	0.3434	0.04	Q	|	|	|	V |
18+35	0.3437	0.03	Q	|	|	|	V |
18+40	0.3439	0.03	Q	|	|	|	V |
18+45	0.3441	0.03	Q	|	|	|	V |
18+50	0.3442	0.03	Q	|	|	|	V |
18+55	0.3444	0.02	Q	|	|	|	V |
19+ 0	0.3445	0.02	Q	|	|	|	V |
19+ 5	0.3447	0.02	Q	|	|	|	V |
19+10	0.3448	0.02	Q	|	|	|	V |
19+15	0.3450	0.03	Q	|	|	|	V |
19+20	0.3452	0.03	Q	|	|	|	V|
19+25	0.3454	0.03	Q	|	|	|	V|
19+30	0.3456	0.03	Q	|	|	|	V|
19+35	0.3459	0.03	Q	|	|	|	V|
19+40	0.3461	0.03	Q	|	|	|	V|
19+45	0.3463	0.03	Q	|	|	|	V|
19+50	0.3464	0.03	Q	|	|	|	V|
19+55	0.3466	0.02	Q	|	|	|	V|
20+ 0	0.3467	0.02	Q	|	|	|	V|
20+ 5	0.3469	0.02	Q	|	|	|	V|
20+10	0.3470	0.02	Q	|	|	|	V|
20+15	0.3472	0.03	Q	|	|	|	V|
20+20	0.3474	0.03	Q	|	|	|	V|
20+25	0.3476	0.03	Q	|	|	|	V|
20+30	0.3477	0.03	Q	|	|	|	V|
20+35	0.3479	0.03	Q	|	|	|	V|
20+40	0.3481	0.03	Q	|	|	|	V|
20+45	0.3483	0.03	Q	|	|	|	V|
20+50	0.3485	0.03	Q	|	|	|	V|
20+55	0.3486	0.02	Q	|	|	|	V|
21+ 0	0.3487	0.02	Q	|	|	|	V|
21+ 5	0.3489	0.02	Q	|	|	|	V|
21+10	0.3490	0.02	Q	|	|	|	V|
21+15	0.3492	0.03	Q	|	|	|	V|
21+20	0.3494	0.02	Q	|	|	|	V|
21+25	0.3495	0.02	Q	|	|	|	V|
21+30	0.3497	0.02	Q	|	|	|	V|
21+35	0.3498	0.02	Q	|	|	|	V|
21+40	0.3500	0.02	Q	|	|	|	V|
21+45	0.3501	0.02	Q	|	|	|	V|
21+50	0.3503	0.02	Q	|	|	|	V|
21+55	0.3504	0.02	Q	|	|	|	V|
22+ 0	0.3506	0.02	Q	|	|	|	V|
22+ 5	0.3507	0.02	Q	|	|	|	V|
22+10	0.3509	0.02	Q	|	|	|	V|
22+15	0.3510	0.02	Q	|	|	|	V|
22+20	0.3512	0.02	Q	|	|	|	V|
22+25	0.3513	0.02	Q	|	|	|	V|
22+30	0.3515	0.02	Q	|	|	|	V|
22+35	0.3516	0.02	Q	|	|	|	V|
22+40	0.3517	0.02	Q	|	|	|	V|

22+45	0.3519	0.02	Q	|	|	|	V|
22+50	0.3520	0.02	Q	|	|	|	V|
22+55	0.3521	0.02	Q	|	|	|	V|
23+ 0	0.3522	0.02	Q	|	|	|	V|
23+ 5	0.3523	0.02	Q	|	|	|	V|
23+10	0.3525	0.02	Q	|	|	|	V|
23+15	0.3526	0.02	Q	|	|	|	V|
23+20	0.3527	0.02	Q	|	|	|	V|
23+25	0.3528	0.02	Q	|	|	|	V|
23+30	0.3530	0.02	Q	|	|	|	V|
23+35	0.3531	0.02	Q	|	|	|	V|
23+40	0.3532	0.02	Q	|	|	|	V|
23+45	0.3533	0.02	Q	|	|	|	V|
23+50	0.3534	0.02	Q	|	|	|	V|
23+55	0.3536	0.02	Q	|	|	|	V|
24+ 0	0.3537	0.02	Q	|	|	|	V|
24+ 5	0.3538	0.02	Q	|	|	|	V|
24+10	0.3538	0.01	Q	|	|	|	V|
24+15	0.3539	0.00	Q	|	|	|	V|
24+20	0.3539	0.00	Q	|	|	|	V|
24+25	0.3539	0.00	Q	|	|	|	V|
24+30	0.3539	0.00	Q	|	|	|	V|
24+35	0.3539	0.00	Q	|	|	|	V|
24+40	0.3539	0.00	Q	|	|	|	V|
24+45	0.3539	0.00	Q	|	|	|	V|
24+50	0.3539	0.00	Q	|	|	|	V|

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

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Study date 08/27/20 File: 522EX100SAG1100.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

20-522 D-1 PARCEL
EXISTING CONDITION
SUBAREA G
100-YEAR 1-HOUR STORM

Drainage Area = 1.90(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.90(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 1460.00(Ft.)
Length along longest watercourse measured to centroid = 740.00(Ft.)
Length along longest watercourse = 0.277 Mi.
Length along longest watercourse measured to centroid = 0.140 Mi.
Difference in elevation = 3.70(Ft.)
Slope along watercourse = 13.3808 Ft./Mi.
Average Manning's 'N' = 0.025
Lag time = 0.107 Hr.
Lag time = 6.39 Min.
25% of lag time = 1.60 Min.
40% of lag time = 2.56 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.90	0.47	0.89

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.90	1.20	2.28

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.470(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.900	75.00	0.235

Total Area Entered = 1.90(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	88.0	0.153	0.235	0.120	1.000	0.120
					Sum (F) =	0.120

Area averaged mean soil loss (F) (In/Hr) = 0.120
Minimum soil loss rate ((In/Hr)) = 0.060
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.712

Slope of intensity-duration curve for a 1 hour storm =0.5000

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	78.188	12.798	0.245
2	0.167	156.376	43.769	0.838
3	0.250	234.563	20.470	0.392
4	0.333	312.751	8.368	0.160
5	0.417	390.939	5.034	0.096
6	0.500	469.127	3.211	0.061
7	0.583	547.314	2.282	0.044
8	0.667	625.502	1.606	0.031
9	0.750	703.690	1.092	0.021
10	0.833	781.878	0.797	0.015
11	0.917	860.066	0.572	0.011
		Sum = 100.000	Sum=	1.915

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	4.20	0.605	0.120	(	0.431)	0.484
2	0.17	4.30	0.619	0.120	(	0.441)	0.499
3	0.25	5.00	0.720	0.120	(	0.513)	0.600
4	0.33	5.00	0.720	0.120	(	0.513)	0.600
5	0.42	5.80	0.835	0.120	(	0.595)	0.715
6	0.50	6.50	0.936	0.120	(	0.666)	0.816
7	0.58	7.40	1.066	0.120	(	0.759)	0.945
8	0.67	8.60	1.238	0.120	(	0.882)	1.118
9	0.75	12.30	1.771	0.120	(	1.261)	1.651
10	0.83	29.10	4.190	0.120	(	2.984)	4.070
11	0.92	6.80	0.979	0.120	(	0.697)	0.859
12	1.00	5.00	0.720	0.120	(	0.513)	0.600

```
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    13.0
    Flood volume = Effective rainfall      1.08(In)
     times area       1.9(Ac.)/[(In)/(Ft.)] =       0.2(Ac.Ft)
    Total soil loss =      0.12(In)
    Total soil loss =     0.019(Ac.Ft)
    Total rainfall =      1.20(In)
    Flood volume =        7445.3 Cubic Feet
    Total soil loss =         831.0 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      4.666(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       0.0045      0.53  |VQ       |         |         |         |
   0+15       0.0097      0.76  | VQ      |         |         |         |
   0+20       0.0160      0.92  |  Q      |         |         |         |
   0+25       0.0232      1.04  |   QV    |         |         |         |
   0+30       0.0315      1.21  |   Q  V  |         |         |         |
   0+35       0.0411      1.40  |    Q   V|         |         |         |
   0+40       0.0524      1.63  |     Q   | V       |         |         |
   0+45       0.0662      2.00  |       Q |    V    |         |         |
   0+50       0.0879      3.16  |         | Q       V         |         |
   0+55       0.1201      4.67  |         |       Q |       V |         |
   1+ 0       0.1406      2.98  |         |Q        |         | V       |
   1+ 5       0.1531      1.82  |      Q  |         |         |    V    |
   1+10       0.1598      0.98  |  Q      |         |         |      V  |
   1+15       0.1638      0.58  | Q       |         |         |       V |
   1+20       0.1665      0.39  |Q        |         |         |       V |
   1+25       0.1683      0.26  |Q        |         |         |        V|
   1+30       0.1695      0.18  Q         |         |         |        V|
   1+35       0.1703      0.12  Q         |         |         |        V|
   1+40       0.1707      0.07  Q         |         |         |        V|
   1+45       0.1709      0.02  Q         |         |         |        V|
   1+50       0.1709      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 08/27/20 File: 522EX100SAG3100.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

20-522 D-1 PARCEL
EXISTING CONDITION
SUBAREA G
100-YEAR 3-HOUR STORM

Drainage Area = 1.90(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.90(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 1460.00(Ft.)
Length along longest watercourse measured to centroid = 740.00(Ft.)
Length along longest watercourse = 0.277 Mi.
Length along longest watercourse measured to centroid = 0.140 Mi.
Difference in elevation = 3.70(Ft.)
Slope along watercourse = 13.3808 Ft./Mi.
Average Manning's 'N' = 0.025
Lag time = 0.107 Hr.
Lag time = 6.39 Min.
25% of lag time = 1.60 Min.
40% of lag time = 2.56 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]
1.90	0.80	1.52

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.90	1.88	3.57

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.880(In)

Point rain (area averaged) = 1.880(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.880(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.900	75.00	0.235

Total Area Entered = 1.90(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	88.0	0.153	0.235	0.120	1.000	0.120
					Sum (F) =	0.120

Area averaged mean soil loss (F) (In/Hr) = 0.120
Minimum soil loss rate ((In/Hr)) = 0.060
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.712

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	78.188	12.798	0.245
2	0.167	156.376	43.769	0.838
3	0.250	234.563	20.470	0.392
4	0.333	312.751	8.368	0.160
5	0.417	390.939	5.034	0.096
6	0.500	469.127	3.211	0.061
7	0.583	547.314	2.282	0.044
8	0.667	625.502	1.606	0.031
9	0.750	703.690	1.092	0.021
10	0.833	781.878	0.797	0.015
11	0.917	860.066	0.572	0.011
		Sum = 100.000	Sum=	1.915

The following loss 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	0.293	0.120	(0.209)	0.173
2	0.17	1.30	0.293	0.120	(0.209)	0.173
3	0.25	1.10	0.248	0.120	(0.177)	0.128
4	0.33	1.50	0.338	0.120	(0.241)	0.218
5	0.42	1.50	0.338	0.120	(0.241)	0.218
6	0.50	1.80	0.406	0.120	(0.289)	0.286
7	0.58	1.50	0.338	0.120	(0.241)	0.218
8	0.67	1.80	0.406	0.120	(0.289)	0.286
9	0.75	1.80	0.406	0.120	(0.289)	0.286
10	0.83	1.50	0.338	0.120	(0.241)	0.218
11	0.92	1.60	0.361	0.120	(0.257)	0.240
12	1.00	1.80	0.406	0.120	(0.289)	0.286
13	1.08	2.20	0.496	0.120	(0.353)	0.376
14	1.17	2.20	0.496	0.120	(0.353)	0.376

15	1.25	2.20	0.496	0.120	(0.353)	0.376
16	1.33	2.00	0.451	0.120	(0.321)	0.331
17	1.42	2.60	0.587	0.120	(0.418)	0.466
18	1.50	2.70	0.609	0.120	(0.434)	0.489
19	1.58	2.40	0.541	0.120	(0.386)	0.421
20	1.67	2.70	0.609	0.120	(0.434)	0.489
21	1.75	3.30	0.744	0.120	(0.530)	0.624
22	1.83	3.10	0.699	0.120	(0.498)	0.579
23	1.92	2.90	0.654	0.120	(0.466)	0.534
24	2.00	3.00	0.677	0.120	(0.482)	0.556
25	2.08	3.10	0.699	0.120	(0.498)	0.579
26	2.17	4.20	0.948	0.120	(0.675)	0.827
27	2.25	5.00	1.128	0.120	(0.803)	1.008
28	2.33	3.50	0.790	0.120	(0.562)	0.669
29	2.42	6.80	1.534	0.120	(1.092)	1.414
30	2.50	7.30	1.647	0.120	(1.173)	1.526
31	2.58	8.20	1.850	0.120	(1.317)	1.729
32	2.67	5.90	1.331	0.120	(0.948)	1.211
33	2.75	2.00	0.451	0.120	(0.321)	0.331
34	2.83	1.80	0.406	0.120	(0.289)	0.286
35	2.92	1.80	0.406	0.120	(0.289)	0.286
36	3.00	0.60	0.135	(0.120)	0.096	0.039

(Loss Rate Not Used)

Sum = 100.0 Sum = 18.2

Flood volume = Effective rainfall 1.52(In)
times area 1.9(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.36(In)
Total soil loss = 0.057(Ac.Ft)
Total rainfall = 1.88(In)
Flood volume = 10487.2 Cubic Feet
Total soil loss = 2479.1 Cubic Feet

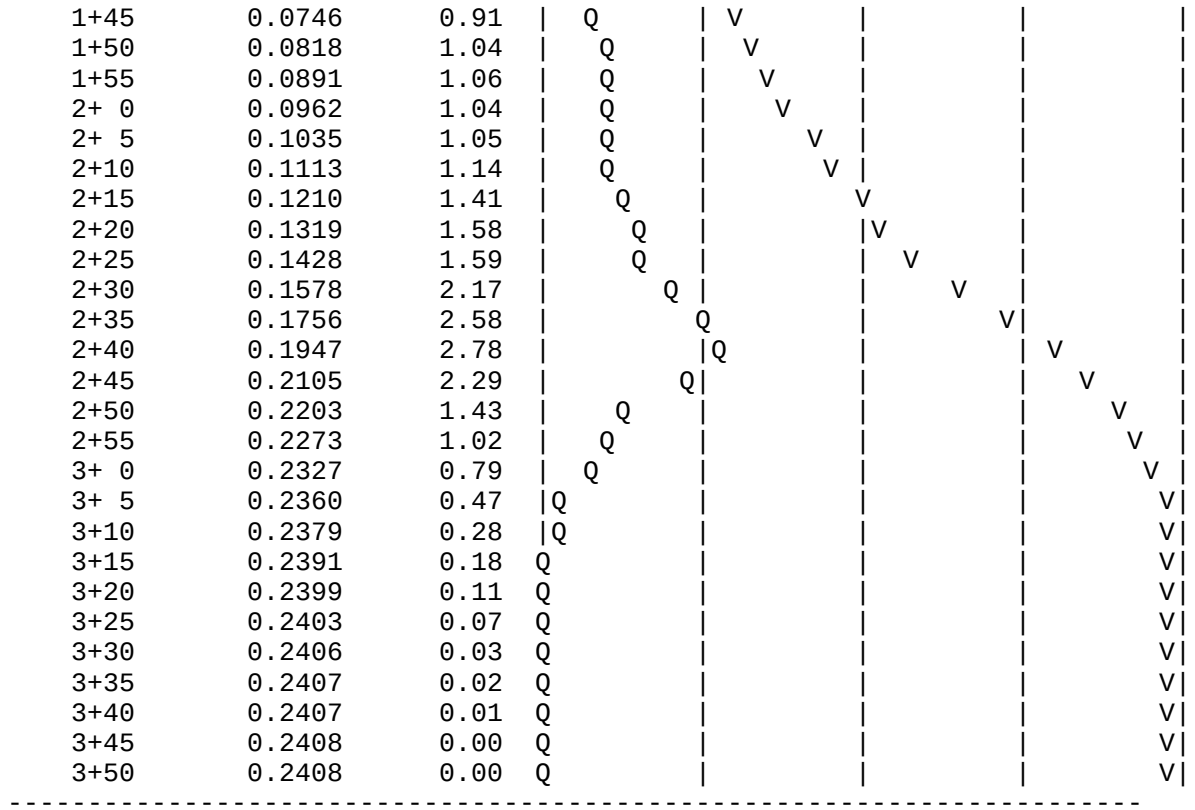
Peak flow rate of this hydrograph = 2.779(CFS)

++

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	0.0003	0.04	Q	|	|	|	|
0+10	0.0016	0.19	Q	|	|	|	|
0+15	0.0033	0.24	Q	|	|	|	|
0+20	0.0050	0.26	VQ	|	|	|	|
0+25	0.0073	0.33	|Q	|	|	|	|
0+30	0.0100	0.39	|Q	|	|	|	|
0+35	0.0130	0.44	|QV	|	|	|	|
0+40	0.0161	0.44	|QV	|	|	|	|
0+45	0.0194	0.49	|Q V	|	|	|	|
0+50	0.0229	0.50	| QV	|	|	|	|
0+55	0.0261	0.46	|Q V	|	|	|	|
1+ 0	0.0293	0.47	|Q V	|	|	|	|
1+ 5	0.0330	0.53	| Q V	|	|	|	|
1+10	0.0373	0.63	| Q V	|	|	|	|
1+15	0.0419	0.67	| Q V	|	|	|	|
1+20	0.0466	0.68	| Q V |	|	|	|
1+25	0.0513	0.68	| Q V |	|	|	|
1+30	0.0567	0.79	| Q V|	|	|	|
1+35	0.0625	0.84	| Q V	|	|	|
1+40	0.0683	0.83	| Q |V	|	|	|



1+45	0.0746	0.91	Q	V			
1+50	0.0818	1.04	Q	V			
1+55	0.0891	1.06	Q	V			
2+ 0	0.0962	1.04	Q	V			
2+ 5	0.1035	1.05	Q	V			
2+10	0.1113	1.14	Q	V			
2+15	0.1210	1.41	Q	V			
2+20	0.1319	1.58	Q	V			
2+25	0.1428	1.59	Q	V			
2+30	0.1578	2.17	Q	V			
2+35	0.1756	2.58	Q	V			
2+40	0.1947	2.78	Q	V			
2+45	0.2105	2.29	Q	V			
2+50	0.2203	1.43	Q	V			
2+55	0.2273	1.02	Q	V			
3+ 0	0.2327	0.79	Q	V			
3+ 5	0.2360	0.47	Q	V			
3+10	0.2379	0.28	Q	V			
3+15	0.2391	0.18	Q	V			
3+20	0.2399	0.11	Q	V			
3+25	0.2403	0.07	Q	V			
3+30	0.2406	0.03	Q	V			
3+35	0.2407	0.02	Q	V			
3+40	0.2407	0.01	Q	V			
3+45	0.2408	0.00	Q	V			
3+50	0.2408	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

20-522 D-1 PARCEL
EXISTING CONDITION
SUBAREA G
100-YEAR 6-HOUR STORM

Drainage Area = 1.90(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 1.90(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 1460.00(Ft.)
Length along longest watercourse measured to centroid = 740.00(Ft.)
Length along longest watercourse = 0.277 Mi.
Length along longest watercourse measured to centroid = 0.140 Mi.
Difference in elevation = 3.70(Ft.)
Slope along watercourse = 13.3808 Ft./Mi.
Average Manning's 'N' = 0.025
Lag time = 0.107 Hr.
Lag time = 6.39 Min.
25% of lag time = 1.60 Min.
40% of lag time = 2.56 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]
1.90	1.00	1.90

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
1.90	2.50	4.75

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
1.900	75.00	0.235

Total Area Entered = 1.90(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	88.0	0.153	0.235	0.120	1.000	0.120
					Sum (F) =	0.120

Area averaged mean soil loss (F) (In/Hr) = 0.120
Minimum soil loss rate ((In/Hr)) = 0.060
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.712

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	78.188	12.798	0.245
2	0.167	156.376	43.769	0.838
3	0.250	234.563	20.470	0.392
4	0.333	312.751	8.368	0.160
5	0.417	390.939	5.034	0.096
6	0.500	469.127	3.211	0.061
7	0.583	547.314	2.282	0.044
8	0.667	625.502	1.606	0.031
9	0.750	703.690	1.092	0.021
10	0.833	781.878	0.797	0.015
11	0.917	860.066	0.572	0.011
		Sum = 100.000	Sum=	1.915

The following loss 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	0.150	(0.120)	0.107	0.043
2	0.17	0.60	0.180	0.120	(0.128)	0.060
3	0.25	0.60	0.180	0.120	(0.128)	0.060
4	0.33	0.60	0.180	0.120	(0.128)	0.060
5	0.42	0.60	0.180	0.120	(0.128)	0.060
6	0.50	0.70	0.210	0.120	(0.150)	0.090
7	0.58	0.70	0.210	0.120	(0.150)	0.090
8	0.67	0.70	0.210	0.120	(0.150)	0.090
9	0.75	0.70	0.210	0.120	(0.150)	0.090
10	0.83	0.70	0.210	0.120	(0.150)	0.090
11	0.92	0.70	0.210	0.120	(0.150)	0.090
12	1.00	0.80	0.240	0.120	(0.171)	0.120
13	1.08	0.80	0.240	0.120	(0.171)	0.120
14	1.17	0.80	0.240	0.120	(0.171)	0.120

15	1.25	0.80	0.240	0.120	(0.171)	0.120
16	1.33	0.80	0.240	0.120	(0.171)	0.120
17	1.42	0.80	0.240	0.120	(0.171)	0.120
18	1.50	0.80	0.240	0.120	(0.171)	0.120
19	1.58	0.80	0.240	0.120	(0.171)	0.120
20	1.67	0.80	0.240	0.120	(0.171)	0.120
21	1.75	0.80	0.240	0.120	(0.171)	0.120
22	1.83	0.80	0.240	0.120	(0.171)	0.120
23	1.92	0.80	0.240	0.120	(0.171)	0.120
24	2.00	0.90	0.270	0.120	(0.192)	0.150
25	2.08	0.80	0.240	0.120	(0.171)	0.120
26	2.17	0.90	0.270	0.120	(0.192)	0.150
27	2.25	0.90	0.270	0.120	(0.192)	0.150
28	2.33	0.90	0.270	0.120	(0.192)	0.150
29	2.42	0.90	0.270	0.120	(0.192)	0.150
30	2.50	0.90	0.270	0.120	(0.192)	0.150
31	2.58	0.90	0.270	0.120	(0.192)	0.150
32	2.67	0.90	0.270	0.120	(0.192)	0.150
33	2.75	1.00	0.300	0.120	(0.214)	0.180
34	2.83	1.00	0.300	0.120	(0.214)	0.180
35	2.92	1.00	0.300	0.120	(0.214)	0.180
36	3.00	1.00	0.300	0.120	(0.214)	0.180
37	3.08	1.00	0.300	0.120	(0.214)	0.180
38	3.17	1.10	0.330	0.120	(0.235)	0.210
39	3.25	1.10	0.330	0.120	(0.235)	0.210
40	3.33	1.10	0.330	0.120	(0.235)	0.210
41	3.42	1.20	0.360	0.120	(0.256)	0.240
42	3.50	1.30	0.390	0.120	(0.278)	0.270
43	3.58	1.40	0.420	0.120	(0.299)	0.300
44	3.67	1.40	0.420	0.120	(0.299)	0.300
45	3.75	1.50	0.450	0.120	(0.320)	0.330
46	3.83	1.50	0.450	0.120	(0.320)	0.330
47	3.92	1.60	0.480	0.120	(0.342)	0.360
48	4.00	1.60	0.480	0.120	(0.342)	0.360
49	4.08	1.70	0.510	0.120	(0.363)	0.390
50	4.17	1.80	0.540	0.120	(0.384)	0.420
51	4.25	1.90	0.570	0.120	(0.406)	0.450
52	4.33	2.00	0.600	0.120	(0.427)	0.480
53	4.42	2.10	0.630	0.120	(0.449)	0.510
54	4.50	2.10	0.630	0.120	(0.449)	0.510
55	4.58	2.20	0.660	0.120	(0.470)	0.540
56	4.67	2.30	0.690	0.120	(0.491)	0.570
57	4.75	2.40	0.720	0.120	(0.513)	0.600
58	4.83	2.40	0.720	0.120	(0.513)	0.600
59	4.92	2.50	0.750	0.120	(0.534)	0.630
60	5.00	2.60	0.780	0.120	(0.555)	0.660
61	5.08	3.10	0.930	0.120	(0.662)	0.810
62	5.17	3.60	1.080	0.120	(0.769)	0.960
63	5.25	3.90	1.170	0.120	(0.833)	1.050
64	5.33	4.20	1.260	0.120	(0.897)	1.140
65	5.42	4.70	1.410	0.120	(1.004)	1.290
66	5.50	5.60	1.680	0.120	(1.196)	1.560
67	5.58	1.90	0.570	0.120	(0.406)	0.450
68	5.67	0.90	0.270	0.120	(0.192)	0.150
69	5.75	0.60	0.180	0.120	(0.128)	0.060
70	5.83	0.50	0.150	(0.120)	0.107	0.043
71	5.92	0.30	0.090	(0.120)	0.064	0.026
72	6.00	0.20	0.060	(0.120)	0.043	0.017

(Loss Rate Not Used)

Sum = 100.0 Sum = 21.5

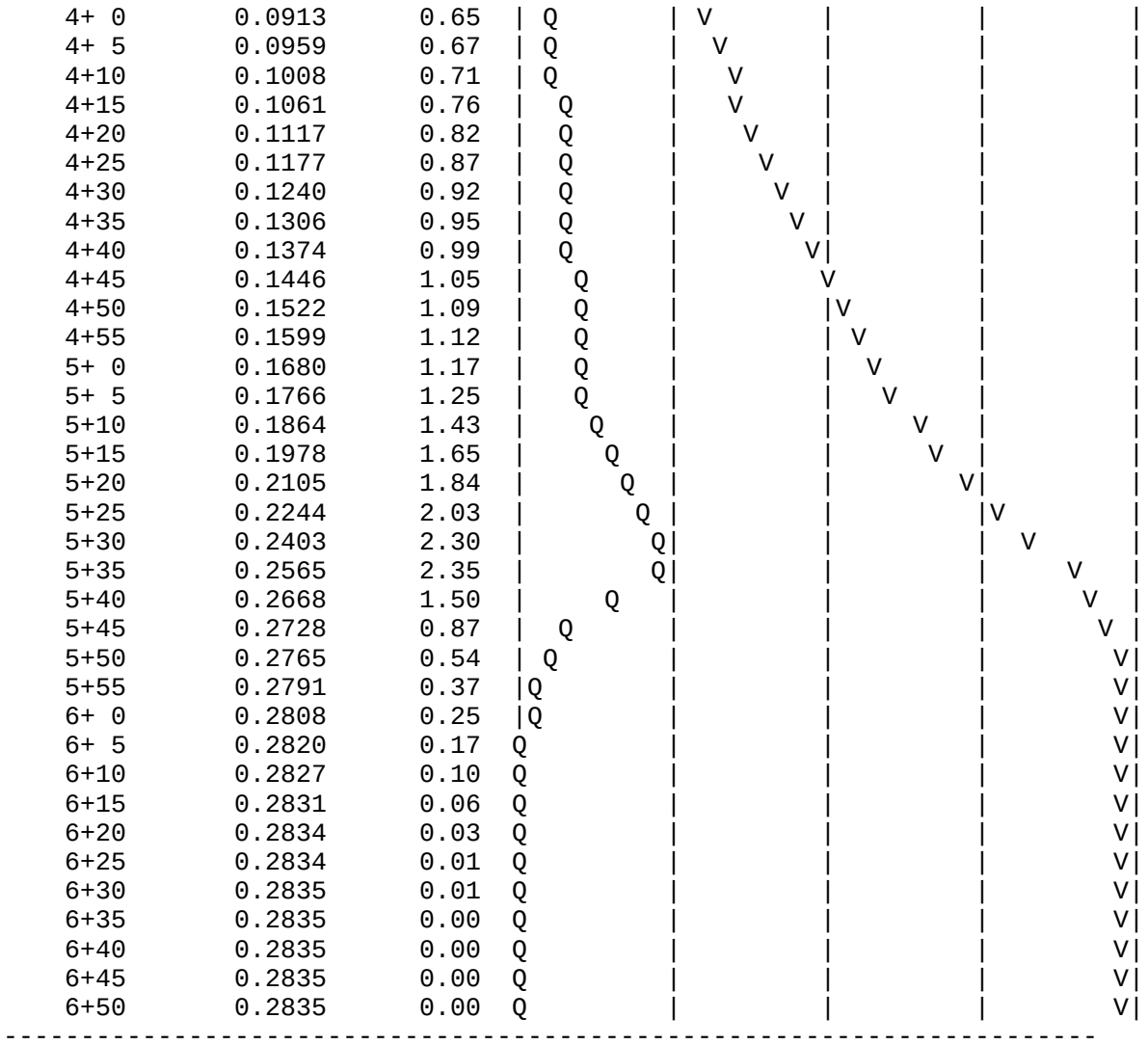
Flood volume = Effective rainfall 1.79(In)

times area 1.9(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)

Total soil loss = 0.71(In)

```
    Total soil loss =     0.112(Ac.Ft)
    Total rainfall =      2.50(In)
    Flood volume =       12349.4 Cubic Feet
    Total soil loss =        4893.0 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      2.351(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       0.0004      0.05  Q         |         |         |         |
  0+15       0.0010      0.08  Q         |         |         |         |
  0+20       0.0016      0.09  Q         |         |         |         |
  0+25       0.0023      0.10  Q         |         |         |         |
  0+30       0.0031      0.11  Q         |         |         |         |
  0+35       0.0041      0.14  Q         |         |         |         |
  0+40       0.0052      0.15  Q         |         |         |         |
  0+45       0.0063      0.16  Q         |         |         |         |
  0+50       0.0074      0.17  QV        |         |         |         |
  0+55       0.0086      0.17  QV        |         |         |         |
  1+ 0       0.0098      0.18  QV        |         |         |         |
  1+ 5       0.0112      0.20  QV        |         |         |         |
  1+10       0.0126      0.21  QV        |         |         |         |
  1+15       0.0142      0.22  QV        |         |         |         |
  1+20       0.0157      0.22  Q V       |         |         |         |
  1+25       0.0173      0.23  Q V       |         |         |         |
  1+30       0.0188      0.23  Q V       |         |         |         |
  1+35       0.0204      0.23  Q V       |         |         |         |
  1+40       0.0220      0.23  Q  V      |         |         |         |
  1+45       0.0235      0.23  Q  V      |         |         |         |
  1+50       0.0251      0.23  Q  V      |         |         |         |
  1+55       0.0267      0.23  Q  V      |         |         |         |
  2+ 0       0.0283      0.24  Q  V      |         |         |         |
  2+ 5       0.0301      0.25  |Q  V      |         |         |         |
  2+10       0.0318      0.25  Q   V      |         |         |         |
  2+15       0.0336      0.27  |Q  V      |         |         |         |
  2+20       0.0355      0.28  |Q   V     |         |         |         |
  2+25       0.0374      0.28  |Q   V     |         |         |         |
  2+30       0.0394      0.28  |Q   V     |         |         |         |
  2+35       0.0413      0.28  |Q   V     |         |         |         |
  2+40       0.0433      0.28  |Q    V    |         |         |         |
  2+45       0.0453      0.29  |Q    V    |         |         |         |
  2+50       0.0475      0.32  |Q    V    |         |         |         |
  2+55       0.0498      0.33  |Q     V   |         |         |         |
  3+ 0       0.0521      0.34  |Q     V   |         |         |         |
  3+ 5       0.0544      0.34  |Q     V   |         |         |         |
  3+10       0.0568      0.35  |Q      V  |         |         |         |
  3+15       0.0594      0.37  |Q      V  |         |         |         |
  3+20       0.0621      0.39  |Q      V  |         |         |         |
  3+25       0.0648      0.40  |Q       V|         |         |         |
  3+30       0.0678      0.44  |Q       V|         |         |         |
  3+35       0.0711      0.48  |Q        V         |         |         |
  3+40       0.0747      0.52  | Q       V         |         |         |
  3+45       0.0785      0.55  | Q       |V        |         |         |
  3+50       0.0826      0.59  | Q       |V        |         |         |
  3+55       0.0868      0.61  | Q       | V       |         |         |
```



4+ 0	0.0913	0.65	Q	V			
4+ 5	0.0959	0.67	Q	V			
4+10	0.1008	0.71	Q	V			
4+15	0.1061	0.76	Q	V			
4+20	0.1117	0.82	Q	V			
4+25	0.1177	0.87	Q	V			
4+30	0.1240	0.92	Q	V			
4+35	0.1306	0.95	Q	V			
4+40	0.1374	0.99	Q	V			
4+45	0.1446	1.05	Q	V			
4+50	0.1522	1.09	Q	V			
4+55	0.1599	1.12	Q	V			
5+ 0	0.1680	1.17	Q	V			
5+ 5	0.1766	1.25	Q	V			
5+10	0.1864	1.43	Q	V			
5+15	0.1978	1.65	Q	V			
5+20	0.2105	1.84	Q	V			
5+25	0.2244	2.03	Q	V			
5+30	0.2403	2.30	Q	V			
5+35	0.2565	2.35	Q	V			
5+40	0.2668	1.50	Q	V			
5+45	0.2728	0.87	Q	V			
5+50	0.2765	0.54	Q	V			
5+55	0.2791	0.37	Q	V			
6+ 0	0.2808	0.25	Q	V			
6+ 5	0.2820	0.17	Q	V			
6+10	0.2827	0.10	Q	V			
6+15	0.2831	0.06	Q	V			
6+20	0.2834	0.03	Q	V			
6+25	0.2834	0.01	Q	V			
6+30	0.2835	0.01	Q	V			
6+35	0.2835	0.00	Q	V			
6+40	0.2835	0.00	Q	V			
6+45	0.2835	0.00	Q	V			
6+50	0.2835	0.00	Q	V			

APPENDIX D

Proposed Condition 2-year Hydrograph
Proposed Condition 100-year Hydrograph

PROPOSED 2-YEAR HYDROLOGY CALCULATIONS

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 12/13/21 File: 20522PRC242.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA C
2-YEAR 24-HOUR STORM

Drainage Area = 3.70(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.70(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 560.00(Ft.)
Length along longest watercourse measured to centroid = 195.00(Ft.)
Length along longest watercourse = 0.106 Mi.
Length along longest watercourse measured to centroid = 0.037 Mi.
Difference in elevation = 2.80(Ft.)
Slope along watercourse = 26.4000 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.024 Hr.
Lag time = 1.41 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.56 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
3.70	1.60	5.92

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
3.70	4.00	14.80

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 1.600(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.600(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
3.700	69.00	0.660

Total Area Entered = 3.70(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
69.0	49.8	0.574	0.660	0.233	1.000	0.233
					Sum (F) =	0.233

Area averaged mean soil loss (F) (In/Hr) = 0.233
Minimum soil loss rate ((In/Hr)) = 0.117
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.372

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	354.240	61.648	2.299
2	0.167	708.481	34.313	1.280
3	0.250	1062.721	4.039	0.151
			Sum = 100.000 Sum=	3.729

The following loss 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	(0.413)	0.005	0.008
2	0.17	0.07	0.013	(0.411)	0.005	0.008
3	0.25	0.07	0.013	(0.410)	0.005	0.008
4	0.33	0.10	0.019	(0.408)	0.007	0.012
5	0.42	0.10	0.019	(0.407)	0.007	0.012
6	0.50	0.10	0.019	(0.405)	0.007	0.012
7	0.58	0.10	0.019	(0.404)	0.007	0.012
8	0.67	0.10	0.019	(0.402)	0.007	0.012
9	0.75	0.10	0.019	(0.400)	0.007	0.012
10	0.83	0.13	0.026	(0.399)	0.010	0.016
11	0.92	0.13	0.026	(0.397)	0.010	0.016
12	1.00	0.13	0.026	(0.396)	0.010	0.016
13	1.08	0.10	0.019	(0.394)	0.007	0.012
14	1.17	0.10	0.019	(0.393)	0.007	0.012
15	1.25	0.10	0.019	(0.391)	0.007	0.012
16	1.33	0.10	0.019	(0.389)	0.007	0.012

17	1.42	0.10	0.019	(0.388)	0.007	0.012
18	1.50	0.10	0.019	(0.386)	0.007	0.012
19	1.58	0.10	0.019	(0.385)	0.007	0.012
20	1.67	0.10	0.019	(0.383)	0.007	0.012
21	1.75	0.10	0.019	(0.382)	0.007	0.012
22	1.83	0.13	0.026	(0.380)	0.010	0.016
23	1.92	0.13	0.026	(0.379)	0.010	0.016
24	2.00	0.13	0.026	(0.377)	0.010	0.016
25	2.08	0.13	0.026	(0.376)	0.010	0.016
26	2.17	0.13	0.026	(0.374)	0.010	0.016
27	2.25	0.13	0.026	(0.373)	0.010	0.016
28	2.33	0.13	0.026	(0.371)	0.010	0.016
29	2.42	0.13	0.026	(0.370)	0.010	0.016
30	2.50	0.13	0.026	(0.368)	0.010	0.016
31	2.58	0.17	0.032	(0.367)	0.012	0.020
32	2.67	0.17	0.032	(0.365)	0.012	0.020
33	2.75	0.17	0.032	(0.364)	0.012	0.020
34	2.83	0.17	0.032	(0.362)	0.012	0.020
35	2.92	0.17	0.032	(0.361)	0.012	0.020
36	3.00	0.17	0.032	(0.359)	0.012	0.020
37	3.08	0.17	0.032	(0.358)	0.012	0.020
38	3.17	0.17	0.032	(0.356)	0.012	0.020
39	3.25	0.17	0.032	(0.355)	0.012	0.020
40	3.33	0.17	0.032	(0.353)	0.012	0.020
41	3.42	0.17	0.032	(0.352)	0.012	0.020
42	3.50	0.17	0.032	(0.350)	0.012	0.020
43	3.58	0.17	0.032	(0.349)	0.012	0.020
44	3.67	0.17	0.032	(0.347)	0.012	0.020
45	3.75	0.17	0.032	(0.346)	0.012	0.020
46	3.83	0.20	0.038	(0.344)	0.014	0.024
47	3.92	0.20	0.038	(0.343)	0.014	0.024
48	4.00	0.20	0.038	(0.341)	0.014	0.024
49	4.08	0.20	0.038	(0.340)	0.014	0.024
50	4.17	0.20	0.038	(0.339)	0.014	0.024
51	4.25	0.20	0.038	(0.337)	0.014	0.024
52	4.33	0.23	0.045	(0.336)	0.017	0.028
53	4.42	0.23	0.045	(0.334)	0.017	0.028
54	4.50	0.23	0.045	(0.333)	0.017	0.028
55	4.58	0.23	0.045	(0.331)	0.017	0.028
56	4.67	0.23	0.045	(0.330)	0.017	0.028
57	4.75	0.23	0.045	(0.328)	0.017	0.028
58	4.83	0.27	0.051	(0.327)	0.019	0.032
59	4.92	0.27	0.051	(0.326)	0.019	0.032
60	5.00	0.27	0.051	(0.324)	0.019	0.032
61	5.08	0.20	0.038	(0.323)	0.014	0.024
62	5.17	0.20	0.038	(0.321)	0.014	0.024
63	5.25	0.20	0.038	(0.320)	0.014	0.024
64	5.33	0.23	0.045	(0.319)	0.017	0.028
65	5.42	0.23	0.045	(0.317)	0.017	0.028
66	5.50	0.23	0.045	(0.316)	0.017	0.028
67	5.58	0.27	0.051	(0.314)	0.019	0.032
68	5.67	0.27	0.051	(0.313)	0.019	0.032
69	5.75	0.27	0.051	(0.312)	0.019	0.032
70	5.83	0.27	0.051	(0.310)	0.019	0.032
71	5.92	0.27	0.051	(0.309)	0.019	0.032
72	6.00	0.27	0.051	(0.308)	0.019	0.032
73	6.08	0.30	0.058	(0.306)	0.021	0.036
74	6.17	0.30	0.058	(0.305)	0.021	0.036
75	6.25	0.30	0.058	(0.304)	0.021	0.036
76	6.33	0.30	0.058	(0.302)	0.021	0.036

77	6.42	0.30	0.058	(0.301)	0.021	0.036
78	6.50	0.30	0.058	(0.299)	0.021	0.036
79	6.58	0.33	0.064	(0.298)	0.024	0.040
80	6.67	0.33	0.064	(0.297)	0.024	0.040
81	6.75	0.33	0.064	(0.295)	0.024	0.040
82	6.83	0.33	0.064	(0.294)	0.024	0.040
83	6.92	0.33	0.064	(0.293)	0.024	0.040
84	7.00	0.33	0.064	(0.291)	0.024	0.040
85	7.08	0.33	0.064	(0.290)	0.024	0.040
86	7.17	0.33	0.064	(0.289)	0.024	0.040
87	7.25	0.33	0.064	(0.287)	0.024	0.040
88	7.33	0.37	0.070	(0.286)	0.026	0.044
89	7.42	0.37	0.070	(0.285)	0.026	0.044
90	7.50	0.37	0.070	(0.284)	0.026	0.044
91	7.58	0.40	0.077	(0.282)	0.029	0.048
92	7.67	0.40	0.077	(0.281)	0.029	0.048
93	7.75	0.40	0.077	(0.280)	0.029	0.048
94	7.83	0.43	0.083	(0.278)	0.031	0.052
95	7.92	0.43	0.083	(0.277)	0.031	0.052
96	8.00	0.43	0.083	(0.276)	0.031	0.052
97	8.08	0.50	0.096	(0.274)	0.036	0.060
98	8.17	0.50	0.096	(0.273)	0.036	0.060
99	8.25	0.50	0.096	(0.272)	0.036	0.060
100	8.33	0.50	0.096	(0.271)	0.036	0.060
101	8.42	0.50	0.096	(0.269)	0.036	0.060
102	8.50	0.50	0.096	(0.268)	0.036	0.060
103	8.58	0.53	0.102	(0.267)	0.038	0.064
104	8.67	0.53	0.102	(0.266)	0.038	0.064
105	8.75	0.53	0.102	(0.264)	0.038	0.064
106	8.83	0.57	0.109	(0.263)	0.040	0.068
107	8.92	0.57	0.109	(0.262)	0.040	0.068
108	9.00	0.57	0.109	(0.261)	0.040	0.068
109	9.08	0.63	0.122	(0.259)	0.045	0.076
110	9.17	0.63	0.122	(0.258)	0.045	0.076
111	9.25	0.63	0.122	(0.257)	0.045	0.076
112	9.33	0.67	0.128	(0.256)	0.048	0.080
113	9.42	0.67	0.128	(0.255)	0.048	0.080
114	9.50	0.67	0.128	(0.253)	0.048	0.080
115	9.58	0.70	0.134	(0.252)	0.050	0.084
116	9.67	0.70	0.134	(0.251)	0.050	0.084
117	9.75	0.70	0.134	(0.250)	0.050	0.084
118	9.83	0.73	0.141	(0.248)	0.052	0.088
119	9.92	0.73	0.141	(0.247)	0.052	0.088
120	10.00	0.73	0.141	(0.246)	0.052	0.088
121	10.08	0.50	0.096	(0.245)	0.036	0.060
122	10.17	0.50	0.096	(0.244)	0.036	0.060
123	10.25	0.50	0.096	(0.243)	0.036	0.060
124	10.33	0.50	0.096	(0.241)	0.036	0.060
125	10.42	0.50	0.096	(0.240)	0.036	0.060
126	10.50	0.50	0.096	(0.239)	0.036	0.060
127	10.58	0.67	0.128	(0.238)	0.048	0.080
128	10.67	0.67	0.128	(0.237)	0.048	0.080
129	10.75	0.67	0.128	(0.236)	0.048	0.080
130	10.83	0.67	0.128	(0.234)	0.048	0.080
131	10.92	0.67	0.128	(0.233)	0.048	0.080
132	11.00	0.67	0.128	(0.232)	0.048	0.080
133	11.08	0.63	0.122	(0.231)	0.045	0.076
134	11.17	0.63	0.122	(0.230)	0.045	0.076
135	11.25	0.63	0.122	(0.229)	0.045	0.076
136	11.33	0.63	0.122	(0.228)	0.045	0.076

137	11.42	0.63	0.122	(0.226)	0.045	0.076
138	11.50	0.63	0.122	(0.225)	0.045	0.076
139	11.58	0.57	0.109	(0.224)	0.040	0.068
140	11.67	0.57	0.109	(0.223)	0.040	0.068
141	11.75	0.57	0.109	(0.222)	0.040	0.068
142	11.83	0.60	0.115	(0.221)	0.043	0.072
143	11.92	0.60	0.115	(0.220)	0.043	0.072
144	12.00	0.60	0.115	(0.219)	0.043	0.072
145	12.08	0.83	0.160	(0.218)	0.060	0.100
146	12.17	0.83	0.160	(0.216)	0.060	0.100
147	12.25	0.83	0.160	(0.215)	0.060	0.100
148	12.33	0.87	0.166	(0.214)	0.062	0.104
149	12.42	0.87	0.166	(0.213)	0.062	0.104
150	12.50	0.87	0.166	(0.212)	0.062	0.104
151	12.58	0.93	0.179	(0.211)	0.067	0.113
152	12.67	0.93	0.179	(0.210)	0.067	0.113
153	12.75	0.93	0.179	(0.209)	0.067	0.113
154	12.83	0.97	0.186	(0.208)	0.069	0.117
155	12.92	0.97	0.186	(0.207)	0.069	0.117
156	13.00	0.97	0.186	(0.206)	0.069	0.117
157	13.08	1.13	0.218	(0.205)	0.081	0.137
158	13.17	1.13	0.218	(0.204)	0.081	0.137
159	13.25	1.13	0.218	(0.203)	0.081	0.137
160	13.33	1.13	0.218	(0.202)	0.081	0.137
161	13.42	1.13	0.218	(0.201)	0.081	0.137
162	13.50	1.13	0.218	(0.200)	0.081	0.137
163	13.58	0.77	0.147	(0.199)	0.055	0.092
164	13.67	0.77	0.147	(0.198)	0.055	0.092
165	13.75	0.77	0.147	(0.197)	0.055	0.092
166	13.83	0.77	0.147	(0.196)	0.055	0.092
167	13.92	0.77	0.147	(0.195)	0.055	0.092
168	14.00	0.77	0.147	(0.194)	0.055	0.092
169	14.08	0.90	0.173	(0.193)	0.064	0.109
170	14.17	0.90	0.173	(0.192)	0.064	0.109
171	14.25	0.90	0.173	(0.191)	0.064	0.109
172	14.33	0.87	0.166	(0.190)	0.062	0.104
173	14.42	0.87	0.166	(0.189)	0.062	0.104
174	14.50	0.87	0.166	(0.188)	0.062	0.104
175	14.58	0.87	0.166	(0.187)	0.062	0.104
176	14.67	0.87	0.166	(0.186)	0.062	0.104
177	14.75	0.87	0.166	(0.185)	0.062	0.104
178	14.83	0.83	0.160	(0.184)	0.060	0.100
179	14.92	0.83	0.160	(0.183)	0.060	0.100
180	15.00	0.83	0.160	(0.182)	0.060	0.100
181	15.08	0.80	0.154	(0.181)	0.057	0.096
182	15.17	0.80	0.154	(0.180)	0.057	0.096
183	15.25	0.80	0.154	(0.179)	0.057	0.096
184	15.33	0.77	0.147	(0.178)	0.055	0.092
185	15.42	0.77	0.147	(0.177)	0.055	0.092
186	15.50	0.77	0.147	(0.176)	0.055	0.092
187	15.58	0.63	0.122	(0.176)	0.045	0.076
188	15.67	0.63	0.122	(0.175)	0.045	0.076
189	15.75	0.63	0.122	(0.174)	0.045	0.076
190	15.83	0.63	0.122	(0.173)	0.045	0.076
191	15.92	0.63	0.122	(0.172)	0.045	0.076
192	16.00	0.63	0.122	(0.171)	0.045	0.076
193	16.08	0.13	0.026	(0.170)	0.010	0.016
194	16.17	0.13	0.026	(0.169)	0.010	0.016
195	16.25	0.13	0.026	(0.169)	0.010	0.016
196	16.33	0.13	0.026	(0.168)	0.010	0.016

197	16.42	0.13	0.026	(0.167)	0.010	0.016
198	16.50	0.13	0.026	(0.166)	0.010	0.016
199	16.58	0.10	0.019	(0.165)	0.007	0.012
200	16.67	0.10	0.019	(0.164)	0.007	0.012
201	16.75	0.10	0.019	(0.163)	0.007	0.012
202	16.83	0.10	0.019	(0.163)	0.007	0.012
203	16.92	0.10	0.019	(0.162)	0.007	0.012
204	17.00	0.10	0.019	(0.161)	0.007	0.012
205	17.08	0.17	0.032	(0.160)	0.012	0.020
206	17.17	0.17	0.032	(0.159)	0.012	0.020
207	17.25	0.17	0.032	(0.159)	0.012	0.020
208	17.33	0.17	0.032	(0.158)	0.012	0.020
209	17.42	0.17	0.032	(0.157)	0.012	0.020
210	17.50	0.17	0.032	(0.156)	0.012	0.020
211	17.58	0.17	0.032	(0.155)	0.012	0.020
212	17.67	0.17	0.032	(0.155)	0.012	0.020
213	17.75	0.17	0.032	(0.154)	0.012	0.020
214	17.83	0.13	0.026	(0.153)	0.010	0.016
215	17.92	0.13	0.026	(0.152)	0.010	0.016
216	18.00	0.13	0.026	(0.152)	0.010	0.016
217	18.08	0.13	0.026	(0.151)	0.010	0.016
218	18.17	0.13	0.026	(0.150)	0.010	0.016
219	18.25	0.13	0.026	(0.149)	0.010	0.016
220	18.33	0.13	0.026	(0.149)	0.010	0.016
221	18.42	0.13	0.026	(0.148)	0.010	0.016
222	18.50	0.13	0.026	(0.147)	0.010	0.016
223	18.58	0.10	0.019	(0.146)	0.007	0.012
224	18.67	0.10	0.019	(0.146)	0.007	0.012
225	18.75	0.10	0.019	(0.145)	0.007	0.012
226	18.83	0.07	0.013	(0.144)	0.005	0.008
227	18.92	0.07	0.013	(0.144)	0.005	0.008
228	19.00	0.07	0.013	(0.143)	0.005	0.008
229	19.08	0.10	0.019	(0.142)	0.007	0.012
230	19.17	0.10	0.019	(0.142)	0.007	0.012
231	19.25	0.10	0.019	(0.141)	0.007	0.012
232	19.33	0.13	0.026	(0.140)	0.010	0.016
233	19.42	0.13	0.026	(0.140)	0.010	0.016
234	19.50	0.13	0.026	(0.139)	0.010	0.016
235	19.58	0.10	0.019	(0.138)	0.007	0.012
236	19.67	0.10	0.019	(0.138)	0.007	0.012
237	19.75	0.10	0.019	(0.137)	0.007	0.012
238	19.83	0.07	0.013	(0.137)	0.005	0.008
239	19.92	0.07	0.013	(0.136)	0.005	0.008
240	20.00	0.07	0.013	(0.135)	0.005	0.008
241	20.08	0.10	0.019	(0.135)	0.007	0.012
242	20.17	0.10	0.019	(0.134)	0.007	0.012
243	20.25	0.10	0.019	(0.134)	0.007	0.012
244	20.33	0.10	0.019	(0.133)	0.007	0.012
245	20.42	0.10	0.019	(0.132)	0.007	0.012
246	20.50	0.10	0.019	(0.132)	0.007	0.012
247	20.58	0.10	0.019	(0.131)	0.007	0.012
248	20.67	0.10	0.019	(0.131)	0.007	0.012
249	20.75	0.10	0.019	(0.130)	0.007	0.012
250	20.83	0.07	0.013	(0.130)	0.005	0.008
251	20.92	0.07	0.013	(0.129)	0.005	0.008
252	21.00	0.07	0.013	(0.129)	0.005	0.008
253	21.08	0.10	0.019	(0.128)	0.007	0.012
254	21.17	0.10	0.019	(0.128)	0.007	0.012
255	21.25	0.10	0.019	(0.127)	0.007	0.012
256	21.33	0.07	0.013	(0.127)	0.005	0.008

257	21.42	0.07	0.013	(0.126)	0.005	0.008
258	21.50	0.07	0.013	(0.126)	0.005	0.008
259	21.58	0.10	0.019	(0.125)	0.007	0.012
260	21.67	0.10	0.019	(0.125)	0.007	0.012
261	21.75	0.10	0.019	(0.124)	0.007	0.012
262	21.83	0.07	0.013	(0.124)	0.005	0.008
263	21.92	0.07	0.013	(0.123)	0.005	0.008
264	22.00	0.07	0.013	(0.123)	0.005	0.008
265	22.08	0.10	0.019	(0.123)	0.007	0.012
266	22.17	0.10	0.019	(0.122)	0.007	0.012
267	22.25	0.10	0.019	(0.122)	0.007	0.012
268	22.33	0.07	0.013	(0.121)	0.005	0.008
269	22.42	0.07	0.013	(0.121)	0.005	0.008
270	22.50	0.07	0.013	(0.121)	0.005	0.008
271	22.58	0.07	0.013	(0.120)	0.005	0.008
272	22.67	0.07	0.013	(0.120)	0.005	0.008
273	22.75	0.07	0.013	(0.120)	0.005	0.008
274	22.83	0.07	0.013	(0.119)	0.005	0.008
275	22.92	0.07	0.013	(0.119)	0.005	0.008
276	23.00	0.07	0.013	(0.119)	0.005	0.008
277	23.08	0.07	0.013	(0.119)	0.005	0.008
278	23.17	0.07	0.013	(0.118)	0.005	0.008
279	23.25	0.07	0.013	(0.118)	0.005	0.008
280	23.33	0.07	0.013	(0.118)	0.005	0.008
281	23.42	0.07	0.013	(0.118)	0.005	0.008
282	23.50	0.07	0.013	(0.117)	0.005	0.008
283	23.58	0.07	0.013	(0.117)	0.005	0.008
284	23.67	0.07	0.013	(0.117)	0.005	0.008
285	23.75	0.07	0.013	(0.117)	0.005	0.008
286	23.83	0.07	0.013	(0.117)	0.005	0.008
287	23.92	0.07	0.013	(0.117)	0.005	0.008
288	24.00	0.07	0.013	(0.117)	0.005	0.008

(Loss Rate Not Used)

Sum = 100.0 Sum = 12.1

Flood volume = Effective rainfall 1.00(In)
times area 3.7(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.60(In)
Total soil loss = 0.184(Ac.Ft)
Total rainfall = 1.60(In)
Flood volume = 13495.4 Cubic Feet
Total soil loss = 7994.1 Cubic Feet

Peak flow rate of this hydrograph = 0.510(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	0.0008	0.04	Q	|	|	|	|
0+25	0.0011	0.04	Q	|	|	|	|
0+30	0.0014	0.04	Q	|	|	|	|
0+35	0.0017	0.04	Q	|	|	|	|

0+40	0.0020	0.04	Q	|	|	|	|
0+45	0.0023	0.04	Q	|	|	|	|
0+50	0.0027	0.05	Q	|	|	|	|
0+55	0.0031	0.06	Q	|	|	|	|
1+ 0	0.0035	0.06	Q	|	|	|	|
1+ 5	0.0039	0.05	Q	|	|	|	|
1+10	0.0042	0.05	Q	|	|	|	|
1+15	0.0045	0.04	Q	|	|	|	|
1+20	0.0048	0.04	Q	|	|	|	|
1+25	0.0051	0.04	Q	|	|	|	|
1+30	0.0054	0.04	Q	|	|	|	|
1+35	0.0058	0.04	Q	|	|	|	|
1+40	0.0061	0.04	Q	|	|	|	|
1+45	0.0064	0.04	Q	|	|	|	|
1+50	0.0067	0.05	Q	|	|	|	|
1+55	0.0072	0.06	Q	|	|	|	|
2+ 0	0.0076	0.06	Q	|	|	|	|
2+ 5	0.0080	0.06	QV	|	|	|	|
2+10	0.0084	0.06	QV	|	|	|	|
2+15	0.0088	0.06	QV	|	|	|	|
2+20	0.0092	0.06	QV	|	|	|	|
2+25	0.0096	0.06	QV	|	|	|	|
2+30	0.0100	0.06	QV	|	|	|	|
2+35	0.0105	0.07	QV	|	|	|	|
2+40	0.0110	0.07	QV	|	|	|	|
2+45	0.0116	0.07	QV	|	|	|	|
2+50	0.0121	0.07	QV	|	|	|	|
2+55	0.0126	0.07	QV	|	|	|	|
3+ 0	0.0131	0.07	QV	|	|	|	|
3+ 5	0.0136	0.07	QV	|	|	|	|
3+10	0.0141	0.07	QV	|	|	|	|
3+15	0.0147	0.07	QV	|	|	|	|
3+20	0.0152	0.07	QV	|	|	|	|
3+25	0.0157	0.07	Q V	|	|	|	|
3+30	0.0162	0.07	Q V	|	|	|	|
3+35	0.0167	0.07	Q V	|	|	|	|
3+40	0.0172	0.07	Q V	|	|	|	|
3+45	0.0178	0.07	Q V	|	|	|	|
3+50	0.0183	0.08	Q V	|	|	|	|
3+55	0.0189	0.09	Q V	|	|	|	|
4+ 0	0.0196	0.09	Q V	|	|	|	|
4+ 5	0.0202	0.09	Q V	|	|	|	|
4+10	0.0208	0.09	Q V	|	|	|	|
4+15	0.0214	0.09	Q V	|	|	|	|
4+20	0.0221	0.10	Q V	|	|	|	|
4+25	0.0228	0.10	Q V	|	|	|	|
4+30	0.0235	0.10	Q V	|	|	|	|
4+35	0.0243	0.10	Q V	|	|	|	|
4+40	0.0250	0.10	Q V	|	|	|	|
4+45	0.0257	0.10	Q V	|	|	|	|
4+50	0.0265	0.11	Q V	|	|	|	|
4+55	0.0273	0.12	Q V	|	|	|	|
5+ 0	0.0282	0.12	Q V	|	|	|	|
5+ 5	0.0289	0.10	Q V	|	|	|	|
5+10	0.0295	0.09	Q V	|	|	|	|
5+15	0.0301	0.09	Q V	|	|	|	|
5+20	0.0308	0.10	Q V	|	|	|	|
5+25	0.0315	0.10	Q V	|	|	|	|
5+30	0.0322	0.10	Q V	|	|	|	|
5+35	0.0330	0.11	Q V	|	|	|	|

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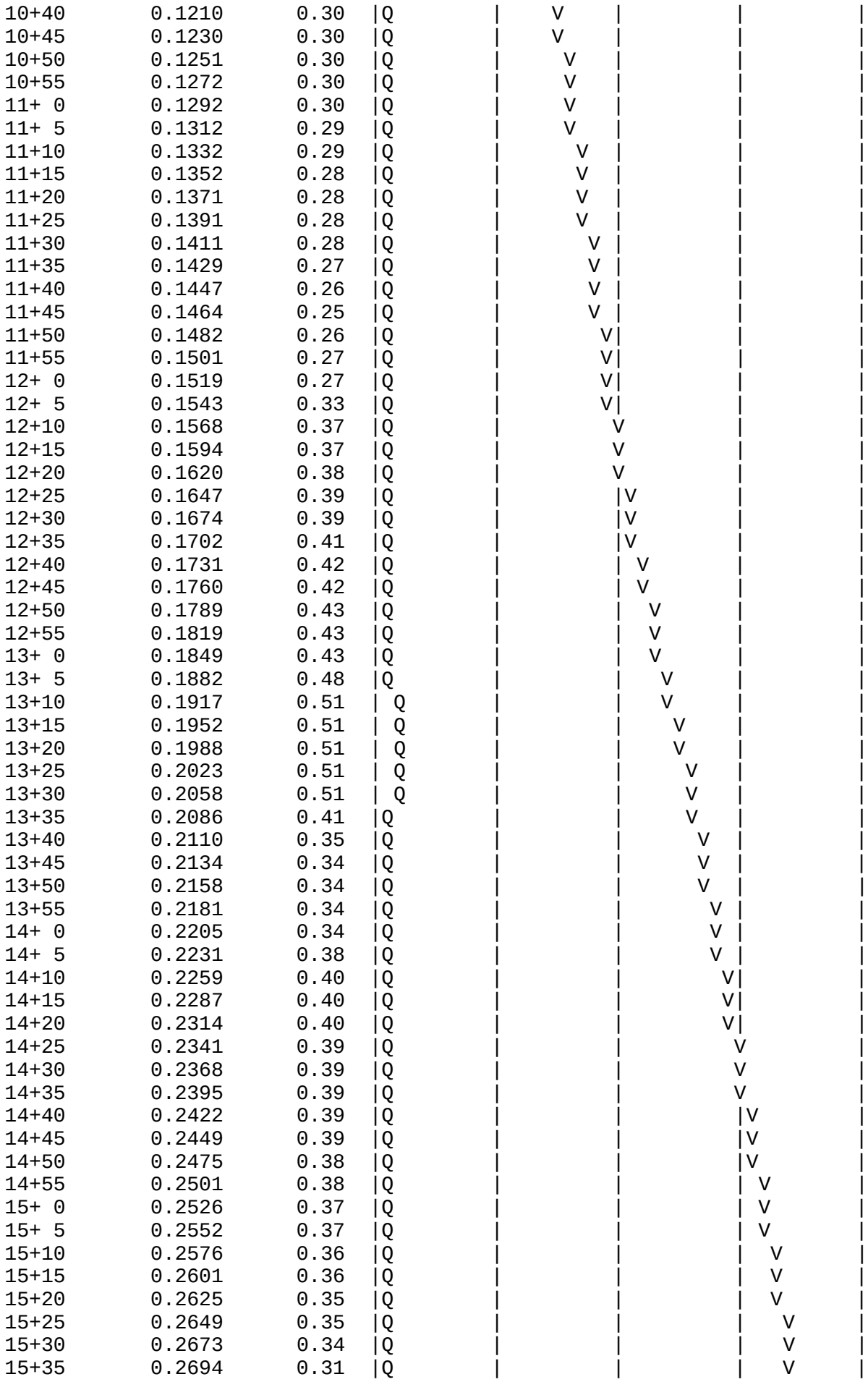
 5+40       0.0338      0.12  Q   V     |         |         |         |
 5+45       0.0347      0.12  Q   V     |         |         |         |
 5+50       0.0355      0.12  Q   V     |         |         |         |
 5+55       0.0363      0.12  Q   V     |         |         |         |
 6+ 0       0.0371      0.12  Q   V     |         |         |         |
 6+ 5       0.0380      0.13  Q   V     |         |         |         |
 6+10       0.0390      0.13  Q    V    |         |         |         |
 6+15       0.0399      0.13  Q    V    |         |         |         |
 6+20       0.0408      0.13  Q    V    |         |         |         |
 6+25       0.0417      0.13  Q    V    |         |         |         |
 6+30       0.0427      0.13  Q    V    |         |         |         |
 6+35       0.0437      0.14  Q    V    |         |         |         |
 6+40       0.0447      0.15  Q    V    |         |         |         |
 6+45       0.0457      0.15  Q    V    |         |         |         |
 6+50       0.0468      0.15  Q     V   |         |         |         |
 6+55       0.0478      0.15  Q     V   |         |         |         |
 7+ 0       0.0488      0.15  Q     V   |         |         |         |
 7+ 5       0.0499      0.15  Q     V   |         |         |         |
 7+10       0.0509      0.15  Q     V   |         |         |         |
 7+15       0.0519      0.15  Q     V   |         |         |         |
 7+20       0.0530      0.16  Q     V   |         |         |         |
 7+25       0.0541      0.16  Q     V   |         |         |         |
 7+30       0.0553      0.16  Q      V  |         |         |         |
 7+35       0.0565      0.17  Q      V  |         |         |         |
 7+40       0.0577      0.18  Q      V  |         |         |         |
 7+45       0.0590      0.18  Q      V  |         |         |         |
 7+50       0.0603      0.19  Q      V  |         |         |         |
 7+55       0.0616      0.19  Q      V  |         |         |         |
 8+ 0       0.0629      0.19  Q       V |         |         |         |
 8+ 5       0.0644      0.21  Q       V |         |         |         |
 8+10       0.0660      0.22  Q       V |         |         |         |
 8+15       0.0675      0.22  Q       V |         |         |         |
 8+20       0.0691      0.22  Q       V |         |         |         |
 8+25       0.0706      0.22  Q        V|         |         |         |
 8+30       0.0721      0.22  Q        V|         |         |         |
 8+35       0.0738      0.23  Q        V|         |         |         |
 8+40       0.0754      0.24  Q        V|         |         |         |
 8+45       0.0771      0.24  Q        V|         |         |         |
 8+50       0.0788      0.25  Q         V         |         |         |
 8+55       0.0805      0.25  |Q        V         |         |         |
 9+ 0       0.0823      0.25  |Q        V         |         |         |
 9+ 5       0.0842      0.27  |Q        V         |         |         |
 9+10       0.0861      0.28  |Q        |V        |         |         |
 9+15       0.0881      0.28  |Q        |V        |         |         |
 9+20       0.0901      0.29  |Q        |V        |         |         |
 9+25       0.0922      0.30  |Q        |V        |         |         |
 9+30       0.0942      0.30  |Q        | V       |         |         |
 9+35       0.0964      0.31  |Q        | V       |         |         |
 9+40       0.0985      0.31  |Q        | V       |         |         |
 9+45       0.1007      0.31  |Q        |  V      |         |         |
 9+50       0.1029      0.32  |Q        |  V      |         |         |
 9+55       0.1052      0.33  |Q        |  V      |         |         |
10+ 0       0.1075      0.33  |Q        |  V      |         |         |
10+ 5       0.1093      0.27  |Q        |   V     |         |         |
10+10       0.1109      0.23  Q         |   V     |         |         |
10+15       0.1124      0.22  Q         |   V     |         |         |
10+20       0.1140      0.22  Q         |   V     |         |         |
10+25       0.1155      0.22  Q         |   V     |         |         |
10+30       0.1171      0.22  Q         |    V    |         |         |
10+35       0.1189      0.27  |Q        |    V    |         |         |
```



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15+40       0.2714      0.29  |Q        |          |          |    V    |
15+45       0.2734      0.28  |Q        |          |          |    V    |
15+50       0.2753      0.28  |Q        |          |          |    V    |
15+55       0.2773      0.28  |Q        |          |          |    V    |
16+ 0       0.2792      0.28  |Q        |          |          |     V   |
16+ 5       0.2802      0.15  Q         |          |          |     V   |
16+10       0.2807      0.07  Q         |          |          |     V   |
16+15       0.2811      0.06  Q         |          |          |     V   |
16+20       0.2815      0.06  Q         |          |          |     V   |
16+25       0.2820      0.06  Q         |          |          |     V   |
16+30       0.2824      0.06  Q         |          |          |     V   |
16+35       0.2827      0.05  Q         |          |          |     V   |
16+40       0.2830      0.05  Q         |          |          |     V   |
16+45       0.2833      0.04  Q         |          |          |     V   |
16+50       0.2837      0.04  Q         |          |          |     V   |
16+55       0.2840      0.04  Q         |          |          |     V   |
17+ 0       0.2843      0.04  Q         |          |          |     V   |
17+ 5       0.2847      0.06  Q         |          |          |     V   |
17+10       0.2852      0.07  Q         |          |          |     V   |
17+15       0.2857      0.07  Q         |          |          |     V   |
17+20       0.2863      0.07  Q         |          |          |     V   |
17+25       0.2868      0.07  Q         |          |          |      V  |
17+30       0.2873      0.07  Q         |          |          |      V  |
17+35       0.2878      0.07  Q         |          |          |      V  |
17+40       0.2883      0.07  Q         |          |          |      V  |
17+45       0.2888      0.07  Q         |          |          |      V  |
17+50       0.2893      0.07  Q         |          |          |      V  |
17+55       0.2897      0.06  Q         |          |          |      V  |
18+ 0       0.2901      0.06  Q         |          |          |      V  |
18+ 5       0.2905      0.06  Q         |          |          |      V  |
18+10       0.2909      0.06  Q         |          |          |      V  |
18+15       0.2914      0.06  Q         |          |          |      V  |
18+20       0.2918      0.06  Q         |          |          |      V  |
18+25       0.2922      0.06  Q         |          |          |      V  |
18+30       0.2926      0.06  Q         |          |          |      V  |
18+35       0.2929      0.05  Q         |          |          |      V  |
18+40       0.2933      0.05  Q         |          |          |      V  |
18+45       0.2936      0.04  Q         |          |          |      V  |
18+50       0.2938      0.04  Q         |          |          |      V  |
18+55       0.2940      0.03  Q         |          |          |      V  |
19+ 0       0.2942      0.03  Q         |          |          |      V  |
19+ 5       0.2945      0.04  Q         |          |          |       V |
19+10       0.2948      0.04  Q         |          |          |       V |
19+15       0.2951      0.04  Q         |          |          |       V |
19+20       0.2955      0.05  Q         |          |          |       V |
19+25       0.2959      0.06  Q         |          |          |       V |
19+30       0.2963      0.06  Q         |          |          |       V |
19+35       0.2967      0.05  Q         |          |          |       V |
19+40       0.2970      0.05  Q         |          |          |       V |
19+45       0.2973      0.04  Q         |          |          |       V |
19+50       0.2975      0.04  Q         |          |          |       V |
19+55       0.2977      0.03  Q         |          |          |       V |
20+ 0       0.2980      0.03  Q         |          |          |       V |
20+ 5       0.2982      0.04  Q         |          |          |       V |
20+10       0.2985      0.04  Q         |          |          |       V |
20+15       0.2988      0.04  Q         |          |          |       V |
20+20       0.2991      0.04  Q         |          |          |       V |
20+25       0.2995      0.04  Q         |          |          |       V |
20+30       0.2998      0.04  Q         |          |          |       V |
20+35       0.3001      0.04  Q         |          |          |       V |
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  20+40       0.3004      0.04  Q          |           |           |        V |
  20+45       0.3007      0.04  Q          |           |           |        V |
  20+50       0.3009      0.04  Q          |           |           |        V |
  20+55       0.3012      0.03  Q          |           |           |        V |
  21+ 0       0.3014      0.03  Q          |           |           |        V |
  21+ 5       0.3016      0.04  Q          |           |           |        V |
  21+10       0.3019      0.04  Q          |           |           |        V |
  21+15       0.3022      0.04  Q          |           |           |         V|
  21+20       0.3025      0.04  Q          |           |           |         V|
  21+25       0.3027      0.03  Q          |           |           |         V|
  21+30       0.3029      0.03  Q          |           |           |         V|
  21+35       0.3032      0.04  Q          |           |           |         V|
  21+40       0.3035      0.04  Q          |           |           |         V|
  21+45       0.3038      0.04  Q          |           |           |         V|
  21+50       0.3040      0.04  Q          |           |           |         V|
  21+55       0.3043      0.03  Q          |           |           |         V|
  22+ 0       0.3045      0.03  Q          |           |           |         V|
  22+ 5       0.3047      0.04  Q          |           |           |         V|
  22+10       0.3050      0.04  Q          |           |           |         V|
  22+15       0.3053      0.04  Q          |           |           |         V|
  22+20       0.3056      0.04  Q          |           |           |         V|
  22+25       0.3058      0.03  Q          |           |           |         V|
  22+30       0.3060      0.03  Q          |           |           |         V|
  22+35       0.3062      0.03  Q          |           |           |         V|
  22+40       0.3064      0.03  Q          |           |           |         V|
  22+45       0.3066      0.03  Q          |           |           |         V|
  22+50       0.3068      0.03  Q          |           |           |         V|
  22+55       0.3070      0.03  Q          |           |           |         V|
  23+ 0       0.3072      0.03  Q          |           |           |         V|
  23+ 5       0.3075      0.03  Q          |           |           |         V|
  23+10       0.3077      0.03  Q          |           |           |         V|
  23+15       0.3079      0.03  Q          |           |           |         V|
  23+20       0.3081      0.03  Q          |           |           |         V|
  23+25       0.3083      0.03  Q          |           |           |         V|
  23+30       0.3085      0.03  Q          |           |           |         V|
  23+35       0.3087      0.03  Q          |           |           |         V|
  23+40       0.3089      0.03  Q          |           |           |         V|
  23+45       0.3091      0.03  Q          |           |           |         V|
  23+50       0.3093      0.03  Q          |           |           |         V|
  23+55       0.3095      0.03  Q          |           |           |         V|
  24+ 0       0.3097      0.03  Q          |           |           |         V|
  24+ 5       0.3098      0.01  Q          |           |           |         V|
  24+10       0.3098      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 12/13/21 File: 20522PRE242.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA E
2-YEAR 24-HOUR STORM

Drainage Area = 21.30(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.30(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1646.00(Ft.)
Length along longest watercourse measured to centroid = 680.00(Ft.)
Length along longest watercourse = 0.312 Mi.
Length along longest watercourse measured to centroid = 0.129 Mi.
Difference in elevation = 4.00(Ft.)
Slope along watercourse = 12.8311 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.131 Hr.
Lag time = 7.84 Min.
25% of lag time = 1.96 Min.
40% of lag time = 3.14 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.30	1.60	34.08

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.30	4.00	85.20

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 1.600(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.600(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
21.300	75.00	0.150

Total Area Entered = 21.30(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	0.150	0.433	1.000	0.433
					Sum (F) =	0.433

Area averaged mean soil loss (F) (In/Hr) = 0.433
Minimum soil loss rate ((In/Hr)) = 0.217
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.780

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	63.777	9.093	1.952
2	0.167	127.553	36.507	7.837
3	0.250	191.330	25.295	5.430
4	0.333	255.106	9.730	2.089
5	0.417	318.883	5.855	1.257
6	0.500	382.660	3.932	0.844
7	0.583	446.436	2.725	0.585
8	0.667	510.213	2.006	0.431
9	0.750	573.990	1.565	0.336
10	0.833	637.766	1.153	0.247
11	0.917	701.543	0.831	0.178
12	1.000	765.319	0.642	0.138
13	1.083	829.096	0.666	0.143
		Sum = 100.000	Sum=	21.466

The following loss 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	(0.768)	0.010	0.003
2	0.17	0.07	0.013	(0.765)	0.010	0.003
3	0.25	0.07	0.013	(0.762)	0.010	0.003
4	0.33	0.10	0.019	(0.759)	0.015	0.004
5	0.42	0.10	0.019	(0.756)	0.015	0.004
6	0.50	0.10	0.019	(0.753)	0.015	0.004

7	0.58	0.10	0.019	(0.750)	0.015	0.004
8	0.67	0.10	0.019	(0.747)	0.015	0.004
9	0.75	0.10	0.019	(0.744)	0.015	0.004
10	0.83	0.13	0.026	(0.741)	0.020	0.006
11	0.92	0.13	0.026	(0.738)	0.020	0.006
12	1.00	0.13	0.026	(0.735)	0.020	0.006
13	1.08	0.10	0.019	(0.732)	0.015	0.004
14	1.17	0.10	0.019	(0.729)	0.015	0.004
15	1.25	0.10	0.019	(0.727)	0.015	0.004
16	1.33	0.10	0.019	(0.724)	0.015	0.004
17	1.42	0.10	0.019	(0.721)	0.015	0.004
18	1.50	0.10	0.019	(0.718)	0.015	0.004
19	1.58	0.10	0.019	(0.715)	0.015	0.004
20	1.67	0.10	0.019	(0.712)	0.015	0.004
21	1.75	0.10	0.019	(0.709)	0.015	0.004
22	1.83	0.13	0.026	(0.706)	0.020	0.006
23	1.92	0.13	0.026	(0.704)	0.020	0.006
24	2.00	0.13	0.026	(0.701)	0.020	0.006
25	2.08	0.13	0.026	(0.698)	0.020	0.006
26	2.17	0.13	0.026	(0.695)	0.020	0.006
27	2.25	0.13	0.026	(0.692)	0.020	0.006
28	2.33	0.13	0.026	(0.690)	0.020	0.006
29	2.42	0.13	0.026	(0.687)	0.020	0.006
30	2.50	0.13	0.026	(0.684)	0.020	0.006
31	2.58	0.17	0.032	(0.681)	0.025	0.007
32	2.67	0.17	0.032	(0.678)	0.025	0.007
33	2.75	0.17	0.032	(0.676)	0.025	0.007
34	2.83	0.17	0.032	(0.673)	0.025	0.007
35	2.92	0.17	0.032	(0.670)	0.025	0.007
36	3.00	0.17	0.032	(0.667)	0.025	0.007
37	3.08	0.17	0.032	(0.664)	0.025	0.007
38	3.17	0.17	0.032	(0.662)	0.025	0.007
39	3.25	0.17	0.032	(0.659)	0.025	0.007
40	3.33	0.17	0.032	(0.656)	0.025	0.007
41	3.42	0.17	0.032	(0.653)	0.025	0.007
42	3.50	0.17	0.032	(0.651)	0.025	0.007
43	3.58	0.17	0.032	(0.648)	0.025	0.007
44	3.67	0.17	0.032	(0.645)	0.025	0.007
45	3.75	0.17	0.032	(0.643)	0.025	0.007
46	3.83	0.20	0.038	(0.640)	0.030	0.008
47	3.92	0.20	0.038	(0.637)	0.030	0.008
48	4.00	0.20	0.038	(0.634)	0.030	0.008
49	4.08	0.20	0.038	(0.632)	0.030	0.008
50	4.17	0.20	0.038	(0.629)	0.030	0.008
51	4.25	0.20	0.038	(0.626)	0.030	0.008
52	4.33	0.23	0.045	(0.624)	0.035	0.010
53	4.42	0.23	0.045	(0.621)	0.035	0.010
54	4.50	0.23	0.045	(0.618)	0.035	0.010
55	4.58	0.23	0.045	(0.616)	0.035	0.010
56	4.67	0.23	0.045	(0.613)	0.035	0.010
57	4.75	0.23	0.045	(0.610)	0.035	0.010
58	4.83	0.27	0.051	(0.608)	0.040	0.011
59	4.92	0.27	0.051	(0.605)	0.040	0.011
60	5.00	0.27	0.051	(0.603)	0.040	0.011
61	5.08	0.20	0.038	(0.600)	0.030	0.008
62	5.17	0.20	0.038	(0.597)	0.030	0.008
63	5.25	0.20	0.038	(0.595)	0.030	0.008
64	5.33	0.23	0.045	(0.592)	0.035	0.010
65	5.42	0.23	0.045	(0.590)	0.035	0.010
66	5.50	0.23	0.045	(0.587)	0.035	0.010

67	5.58	0.27	0.051	(0.584)	0.040	0.011
68	5.67	0.27	0.051	(0.582)	0.040	0.011
69	5.75	0.27	0.051	(0.579)	0.040	0.011
70	5.83	0.27	0.051	(0.577)	0.040	0.011
71	5.92	0.27	0.051	(0.574)	0.040	0.011
72	6.00	0.27	0.051	(0.572)	0.040	0.011
73	6.08	0.30	0.058	(0.569)	0.045	0.013
74	6.17	0.30	0.058	(0.567)	0.045	0.013
75	6.25	0.30	0.058	(0.564)	0.045	0.013
76	6.33	0.30	0.058	(0.561)	0.045	0.013
77	6.42	0.30	0.058	(0.559)	0.045	0.013
78	6.50	0.30	0.058	(0.556)	0.045	0.013
79	6.58	0.33	0.064	(0.554)	0.050	0.014
80	6.67	0.33	0.064	(0.551)	0.050	0.014
81	6.75	0.33	0.064	(0.549)	0.050	0.014
82	6.83	0.33	0.064	(0.546)	0.050	0.014
83	6.92	0.33	0.064	(0.544)	0.050	0.014
84	7.00	0.33	0.064	(0.542)	0.050	0.014
85	7.08	0.33	0.064	(0.539)	0.050	0.014
86	7.17	0.33	0.064	(0.537)	0.050	0.014
87	7.25	0.33	0.064	(0.534)	0.050	0.014
88	7.33	0.37	0.070	(0.532)	0.055	0.015
89	7.42	0.37	0.070	(0.529)	0.055	0.015
90	7.50	0.37	0.070	(0.527)	0.055	0.015
91	7.58	0.40	0.077	(0.524)	0.060	0.017
92	7.67	0.40	0.077	(0.522)	0.060	0.017
93	7.75	0.40	0.077	(0.520)	0.060	0.017
94	7.83	0.43	0.083	(0.517)	0.065	0.018
95	7.92	0.43	0.083	(0.515)	0.065	0.018
96	8.00	0.43	0.083	(0.512)	0.065	0.018
97	8.08	0.50	0.096	(0.510)	0.075	0.021
98	8.17	0.50	0.096	(0.508)	0.075	0.021
99	8.25	0.50	0.096	(0.505)	0.075	0.021
100	8.33	0.50	0.096	(0.503)	0.075	0.021
101	8.42	0.50	0.096	(0.501)	0.075	0.021
102	8.50	0.50	0.096	(0.498)	0.075	0.021
103	8.58	0.53	0.102	(0.496)	0.080	0.023
104	8.67	0.53	0.102	(0.494)	0.080	0.023
105	8.75	0.53	0.102	(0.491)	0.080	0.023
106	8.83	0.57	0.109	(0.489)	0.085	0.024
107	8.92	0.57	0.109	(0.487)	0.085	0.024
108	9.00	0.57	0.109	(0.484)	0.085	0.024
109	9.08	0.63	0.122	(0.482)	0.095	0.027
110	9.17	0.63	0.122	(0.480)	0.095	0.027
111	9.25	0.63	0.122	(0.477)	0.095	0.027
112	9.33	0.67	0.128	(0.475)	0.100	0.028
113	9.42	0.67	0.128	(0.473)	0.100	0.028
114	9.50	0.67	0.128	(0.471)	0.100	0.028
115	9.58	0.70	0.134	(0.468)	0.105	0.030
116	9.67	0.70	0.134	(0.466)	0.105	0.030
117	9.75	0.70	0.134	(0.464)	0.105	0.030
118	9.83	0.73	0.141	(0.462)	0.110	0.031
119	9.92	0.73	0.141	(0.459)	0.110	0.031
120	10.00	0.73	0.141	(0.457)	0.110	0.031
121	10.08	0.50	0.096	(0.455)	0.075	0.021
122	10.17	0.50	0.096	(0.453)	0.075	0.021
123	10.25	0.50	0.096	(0.451)	0.075	0.021
124	10.33	0.50	0.096	(0.448)	0.075	0.021
125	10.42	0.50	0.096	(0.446)	0.075	0.021
126	10.50	0.50	0.096	(0.444)	0.075	0.021

127	10.58	0.67	0.128	(0.442)	0.100	0.028
128	10.67	0.67	0.128	(0.440)	0.100	0.028
129	10.75	0.67	0.128	(0.438)	0.100	0.028
130	10.83	0.67	0.128	(0.435)	0.100	0.028
131	10.92	0.67	0.128	(0.433)	0.100	0.028
132	11.00	0.67	0.128	(0.431)	0.100	0.028
133	11.08	0.63	0.122	(0.429)	0.095	0.027
134	11.17	0.63	0.122	(0.427)	0.095	0.027
135	11.25	0.63	0.122	(0.425)	0.095	0.027
136	11.33	0.63	0.122	(0.423)	0.095	0.027
137	11.42	0.63	0.122	(0.421)	0.095	0.027
138	11.50	0.63	0.122	(0.419)	0.095	0.027
139	11.58	0.57	0.109	(0.417)	0.085	0.024
140	11.67	0.57	0.109	(0.414)	0.085	0.024
141	11.75	0.57	0.109	(0.412)	0.085	0.024
142	11.83	0.60	0.115	(0.410)	0.090	0.025
143	11.92	0.60	0.115	(0.408)	0.090	0.025
144	12.00	0.60	0.115	(0.406)	0.090	0.025
145	12.08	0.83	0.160	(0.404)	0.125	0.035
146	12.17	0.83	0.160	(0.402)	0.125	0.035
147	12.25	0.83	0.160	(0.400)	0.125	0.035
148	12.33	0.87	0.166	(0.398)	0.130	0.037
149	12.42	0.87	0.166	(0.396)	0.130	0.037
150	12.50	0.87	0.166	(0.394)	0.130	0.037
151	12.58	0.93	0.179	(0.392)	0.140	0.039
152	12.67	0.93	0.179	(0.390)	0.140	0.039
153	12.75	0.93	0.179	(0.388)	0.140	0.039
154	12.83	0.97	0.186	(0.386)	0.145	0.041
155	12.92	0.97	0.186	(0.384)	0.145	0.041
156	13.00	0.97	0.186	(0.382)	0.145	0.041
157	13.08	1.13	0.218	(0.380)	0.170	0.048
158	13.17	1.13	0.218	(0.379)	0.170	0.048
159	13.25	1.13	0.218	(0.377)	0.170	0.048
160	13.33	1.13	0.218	(0.375)	0.170	0.048
161	13.42	1.13	0.218	(0.373)	0.170	0.048
162	13.50	1.13	0.218	(0.371)	0.170	0.048
163	13.58	0.77	0.147	(0.369)	0.115	0.032
164	13.67	0.77	0.147	(0.367)	0.115	0.032
165	13.75	0.77	0.147	(0.365)	0.115	0.032
166	13.83	0.77	0.147	(0.363)	0.115	0.032
167	13.92	0.77	0.147	(0.362)	0.115	0.032
168	14.00	0.77	0.147	(0.360)	0.115	0.032
169	14.08	0.90	0.173	(0.358)	0.135	0.038
170	14.17	0.90	0.173	(0.356)	0.135	0.038
171	14.25	0.90	0.173	(0.354)	0.135	0.038
172	14.33	0.87	0.166	(0.352)	0.130	0.037
173	14.42	0.87	0.166	(0.351)	0.130	0.037
174	14.50	0.87	0.166	(0.349)	0.130	0.037
175	14.58	0.87	0.166	(0.347)	0.130	0.037
176	14.67	0.87	0.166	(0.345)	0.130	0.037
177	14.75	0.87	0.166	(0.343)	0.130	0.037
178	14.83	0.83	0.160	(0.342)	0.125	0.035
179	14.92	0.83	0.160	(0.340)	0.125	0.035
180	15.00	0.83	0.160	(0.338)	0.125	0.035
181	15.08	0.80	0.154	(0.336)	0.120	0.034
182	15.17	0.80	0.154	(0.335)	0.120	0.034
183	15.25	0.80	0.154	(0.333)	0.120	0.034
184	15.33	0.77	0.147	(0.331)	0.115	0.032
185	15.42	0.77	0.147	(0.330)	0.115	0.032
186	15.50	0.77	0.147	(0.328)	0.115	0.032

187	15.58	0.63	0.122	(0.326)	0.095	0.027
188	15.67	0.63	0.122	(0.325)	0.095	0.027
189	15.75	0.63	0.122	(0.323)	0.095	0.027
190	15.83	0.63	0.122	(0.321)	0.095	0.027
191	15.92	0.63	0.122	(0.320)	0.095	0.027
192	16.00	0.63	0.122	(0.318)	0.095	0.027
193	16.08	0.13	0.026	(0.316)	0.020	0.006
194	16.17	0.13	0.026	(0.315)	0.020	0.006
195	16.25	0.13	0.026	(0.313)	0.020	0.006
196	16.33	0.13	0.026	(0.312)	0.020	0.006
197	16.42	0.13	0.026	(0.310)	0.020	0.006
198	16.50	0.13	0.026	(0.308)	0.020	0.006
199	16.58	0.10	0.019	(0.307)	0.015	0.004
200	16.67	0.10	0.019	(0.305)	0.015	0.004
201	16.75	0.10	0.019	(0.304)	0.015	0.004
202	16.83	0.10	0.019	(0.302)	0.015	0.004
203	16.92	0.10	0.019	(0.301)	0.015	0.004
204	17.00	0.10	0.019	(0.299)	0.015	0.004
205	17.08	0.17	0.032	(0.298)	0.025	0.007
206	17.17	0.17	0.032	(0.296)	0.025	0.007
207	17.25	0.17	0.032	(0.295)	0.025	0.007
208	17.33	0.17	0.032	(0.293)	0.025	0.007
209	17.42	0.17	0.032	(0.292)	0.025	0.007
210	17.50	0.17	0.032	(0.290)	0.025	0.007
211	17.58	0.17	0.032	(0.289)	0.025	0.007
212	17.67	0.17	0.032	(0.287)	0.025	0.007
213	17.75	0.17	0.032	(0.286)	0.025	0.007
214	17.83	0.13	0.026	(0.284)	0.020	0.006
215	17.92	0.13	0.026	(0.283)	0.020	0.006
216	18.00	0.13	0.026	(0.282)	0.020	0.006
217	18.08	0.13	0.026	(0.280)	0.020	0.006
218	18.17	0.13	0.026	(0.279)	0.020	0.006
219	18.25	0.13	0.026	(0.278)	0.020	0.006
220	18.33	0.13	0.026	(0.276)	0.020	0.006
221	18.42	0.13	0.026	(0.275)	0.020	0.006
222	18.50	0.13	0.026	(0.273)	0.020	0.006
223	18.58	0.10	0.019	(0.272)	0.015	0.004
224	18.67	0.10	0.019	(0.271)	0.015	0.004
225	18.75	0.10	0.019	(0.270)	0.015	0.004
226	18.83	0.07	0.013	(0.268)	0.010	0.003
227	18.92	0.07	0.013	(0.267)	0.010	0.003
228	19.00	0.07	0.013	(0.266)	0.010	0.003
229	19.08	0.10	0.019	(0.264)	0.015	0.004
230	19.17	0.10	0.019	(0.263)	0.015	0.004
231	19.25	0.10	0.019	(0.262)	0.015	0.004
232	19.33	0.13	0.026	(0.261)	0.020	0.006
233	19.42	0.13	0.026	(0.260)	0.020	0.006
234	19.50	0.13	0.026	(0.258)	0.020	0.006
235	19.58	0.10	0.019	(0.257)	0.015	0.004
236	19.67	0.10	0.019	(0.256)	0.015	0.004
237	19.75	0.10	0.019	(0.255)	0.015	0.004
238	19.83	0.07	0.013	(0.254)	0.010	0.003
239	19.92	0.07	0.013	(0.253)	0.010	0.003
240	20.00	0.07	0.013	(0.251)	0.010	0.003
241	20.08	0.10	0.019	(0.250)	0.015	0.004
242	20.17	0.10	0.019	(0.249)	0.015	0.004
243	20.25	0.10	0.019	(0.248)	0.015	0.004
244	20.33	0.10	0.019	(0.247)	0.015	0.004
245	20.42	0.10	0.019	(0.246)	0.015	0.004
246	20.50	0.10	0.019	(0.245)	0.015	0.004

247	20.58	0.10	0.019	(0.244)	0.015	0.004
248	20.67	0.10	0.019	(0.243)	0.015	0.004
249	20.75	0.10	0.019	(0.242)	0.015	0.004
250	20.83	0.07	0.013	(0.241)	0.010	0.003
251	20.92	0.07	0.013	(0.240)	0.010	0.003
252	21.00	0.07	0.013	(0.239)	0.010	0.003
253	21.08	0.10	0.019	(0.238)	0.015	0.004
254	21.17	0.10	0.019	(0.237)	0.015	0.004
255	21.25	0.10	0.019	(0.236)	0.015	0.004
256	21.33	0.07	0.013	(0.235)	0.010	0.003
257	21.42	0.07	0.013	(0.234)	0.010	0.003
258	21.50	0.07	0.013	(0.234)	0.010	0.003
259	21.58	0.10	0.019	(0.233)	0.015	0.004
260	21.67	0.10	0.019	(0.232)	0.015	0.004
261	21.75	0.10	0.019	(0.231)	0.015	0.004
262	21.83	0.07	0.013	(0.230)	0.010	0.003
263	21.92	0.07	0.013	(0.229)	0.010	0.003
264	22.00	0.07	0.013	(0.229)	0.010	0.003
265	22.08	0.10	0.019	(0.228)	0.015	0.004
266	22.17	0.10	0.019	(0.227)	0.015	0.004
267	22.25	0.10	0.019	(0.226)	0.015	0.004
268	22.33	0.07	0.013	(0.226)	0.010	0.003
269	22.42	0.07	0.013	(0.225)	0.010	0.003
270	22.50	0.07	0.013	(0.224)	0.010	0.003
271	22.58	0.07	0.013	(0.224)	0.010	0.003
272	22.67	0.07	0.013	(0.223)	0.010	0.003
273	22.75	0.07	0.013	(0.222)	0.010	0.003
274	22.83	0.07	0.013	(0.222)	0.010	0.003
275	22.92	0.07	0.013	(0.221)	0.010	0.003
276	23.00	0.07	0.013	(0.221)	0.010	0.003
277	23.08	0.07	0.013	(0.220)	0.010	0.003
278	23.17	0.07	0.013	(0.220)	0.010	0.003
279	23.25	0.07	0.013	(0.219)	0.010	0.003
280	23.33	0.07	0.013	(0.219)	0.010	0.003
281	23.42	0.07	0.013	(0.218)	0.010	0.003
282	23.50	0.07	0.013	(0.218)	0.010	0.003
283	23.58	0.07	0.013	(0.218)	0.010	0.003
284	23.67	0.07	0.013	(0.217)	0.010	0.003
285	23.75	0.07	0.013	(0.217)	0.010	0.003
286	23.83	0.07	0.013	(0.217)	0.010	0.003
287	23.92	0.07	0.013	(0.217)	0.010	0.003
288	24.00	0.07	0.013	(0.217)	0.010	0.003

(Loss Rate Not Used)

Sum = 100.0 Sum = 4.2

Flood volume = Effective rainfall 0.35(In)
times area 21.3(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)

Total soil loss = 1.25(In)

Total soil loss = 2.215(Ac.Ft)

Total rainfall = 1.60(In)

Flood volume = 27215.2 Cubic Feet

Total soil loss = 96490.1 Cubic Feet

Peak flow rate of this hydrograph = 1.012(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	0.0002	0.03	Q				
0+15	0.0005	0.04	Q				
0+20	0.0009	0.05	Q				
0+25	0.0013	0.07	Q				
0+30	0.0019	0.08	Q				
0+35	0.0024	0.08	Q				
0+40	0.0030	0.08	Q				
0+45	0.0036	0.09	Q				
0+50	0.0042	0.09	Q				
0+55	0.0049	0.10	Q				
1+ 0	0.0057	0.11	Q				
1+ 5	0.0064	0.11	Q				
1+10	0.0071	0.10	Q				
1+15	0.0078	0.10	Q				
1+20	0.0085	0.09	Q				
1+25	0.0091	0.09	Q				
1+30	0.0097	0.09	Q				
1+35	0.0104	0.09	Q				
1+40	0.0110	0.09	Q				
1+45	0.0116	0.09	Q				
1+50	0.0123	0.09	Q				
1+55	0.0130	0.10	Q				
2+ 0	0.0138	0.11	Q				
2+ 5	0.0146	0.12	Q				
2+10	0.0154	0.12	Q				
2+15	0.0162	0.12	QV				
2+20	0.0170	0.12	QV				
2+25	0.0178	0.12	QV				
2+30	0.0187	0.12	QV				
2+35	0.0195	0.12	QV				
2+40	0.0204	0.13	QV				
2+45	0.0214	0.14	QV				
2+50	0.0224	0.15	QV				
2+55	0.0234	0.15	QV				
3+ 0	0.0244	0.15	QV				
3+ 5	0.0255	0.15	QV				
3+10	0.0265	0.15	QV				
3+15	0.0275	0.15	QV				
3+20	0.0286	0.15	QV				
3+25	0.0296	0.15	QV				
3+30	0.0307	0.15	QV				
3+35	0.0317	0.15	Q V				
3+40	0.0327	0.15	Q V				
3+45	0.0338	0.15	Q V				
3+50	0.0348	0.15	Q V				
3+55	0.0360	0.16	Q V				
4+ 0	0.0372	0.17	Q V				
4+ 5	0.0384	0.18	Q V				
4+10	0.0396	0.18	Q V				
4+15	0.0408	0.18	Q V				
4+20	0.0421	0.18	Q V				
4+25	0.0434	0.19	Q V				
4+30	0.0448	0.20	Q V				
4+35	0.0462	0.21	Q V				
4+40	0.0476	0.21	Q V				
4+45	0.0491	0.21	Q V				

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4+50       0.0505      0.21  Q  V      |          |          |          |
4+55       0.0521      0.22  Q  V      |          |          |          |
5+ 0       0.0537      0.23  Q  V      |          |          |          |
5+ 5       0.0553      0.23  Q  V      |          |          |          |
5+10       0.0567      0.21  Q  V      |          |          |          |
5+15       0.0581      0.20  Q  V      |          |          |          |
5+20       0.0594      0.19  Q  V      |          |          |          |
5+25       0.0608      0.20  Q  V      |          |          |          |
5+30       0.0622      0.21  Q  V      |          |          |          |
5+35       0.0637      0.21  Q   V     |          |          |          |
5+40       0.0652      0.22  Q   V     |          |          |          |
5+45       0.0668      0.23  Q   V     |          |          |          |
5+50       0.0684      0.24  Q   V     |          |          |          |
5+55       0.0701      0.24  Q   V     |          |          |          |
6+ 0       0.0717      0.24  Q   V     |          |          |          |
6+ 5       0.0734      0.24  Q   V     |          |          |          |
6+10       0.0751      0.25  |Q  V     |          |          |          |
6+15       0.0769      0.26  |Q  V     |          |          |          |
6+20       0.0788      0.27  |Q   V    |          |          |          |
6+25       0.0806      0.27  |Q   V    |          |          |          |
6+30       0.0825      0.27  |Q   V    |          |          |          |
6+35       0.0843      0.27  |Q   V    |          |          |          |
6+40       0.0863      0.28  |Q   V    |          |          |          |
6+45       0.0883      0.29  |Q   V    |          |          |          |
6+50       0.0904      0.30  |Q   V    |          |          |          |
6+55       0.0924      0.30  |Q   V    |          |          |          |
7+ 0       0.0945      0.30  |Q    V   |          |          |          |
7+ 5       0.0965      0.30  |Q    V   |          |          |          |
7+10       0.0986      0.30  |Q    V   |          |          |          |
7+15       0.1007      0.30  |Q    V   |          |          |          |
7+20       0.1028      0.30  |Q    V   |          |          |          |
7+25       0.1050      0.32  |Q    V   |          |          |          |
7+30       0.1072      0.32  |Q    V   |          |          |          |
7+35       0.1095      0.33  |Q     V  |          |          |          |
7+40       0.1118      0.34  |Q     V  |          |          |          |
7+45       0.1142      0.35  |Q     V  |          |          |          |
7+50       0.1167      0.36  |Q     V  |          |          |          |
7+55       0.1192      0.37  |Q     V  |          |          |          |
8+ 0       0.1219      0.38  |Q     V  |          |          |          |
8+ 5       0.1246      0.39  |Q     V  |          |          |          |
8+10       0.1274      0.41  |Q      V |          |          |          |
8+15       0.1304      0.43  |Q      V |          |          |          |
8+20       0.1334      0.44  |Q      V |          |          |          |
8+25       0.1365      0.44  |Q      V |          |          |          |
8+30       0.1395      0.45  |Q      V |          |          |          |
8+35       0.1426      0.45  |Q       V|          |          |          |
8+40       0.1458      0.46  |Q       V|          |          |          |
8+45       0.1491      0.47  |Q       V|          |          |          |
8+50       0.1524      0.48  |Q       V|          |          |          |
8+55       0.1558      0.49  |Q       V|          |          |          |
9+ 0       0.1593      0.50  | Q       V          |          |          |
9+ 5       0.1628      0.51  | Q       V          |          |          |
9+10       0.1665      0.54  | Q       V          |          |          |
9+15       0.1703      0.55  | Q       V          |          |          |
9+20       0.1742      0.56  | Q       |V         |          |          |
9+25       0.1781      0.58  | Q       |V         |          |          |
9+30       0.1822      0.59  | Q       |V         |          |          |
9+35       0.1863      0.60  | Q       |V         |          |          |
9+40       0.1905      0.61  | Q       | V        |          |          |
9+45       0.1948      0.62  | Q       | V        |          |          |
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9+50	0.1991	0.63	Q	V			
9+55	0.2035	0.64	Q	V			
10+ 0	0.2080	0.65	Q	V			
10+ 5	0.2124	0.64	Q	V			
10+10	0.2163	0.56	Q	V			
10+15	0.2198	0.51	Q	V			
10+20	0.2232	0.49	Q	V			
10+25	0.2265	0.48	Q	V			
10+30	0.2298	0.47	Q	V			
10+35	0.2331	0.48	Q	V			
10+40	0.2368	0.53	Q	V			
10+45	0.2407	0.57	Q	V			
10+50	0.2447	0.58	Q	V			
10+55	0.2487	0.59	Q	V			
11+ 0	0.2528	0.59	Q	V			
11+ 5	0.2568	0.59	Q	V			
11+10	0.2609	0.58	Q	V			
11+15	0.2649	0.58	Q	V			
11+20	0.2688	0.58	Q	V			
11+25	0.2728	0.58	Q	V			
11+30	0.2768	0.58	Q	V			
11+35	0.2807	0.57	Q	V			
11+40	0.2845	0.55	Q	V			
11+45	0.2881	0.53	Q	V			
11+50	0.2918	0.53	Q	V			
11+55	0.2955	0.54	Q	V			
12+ 0	0.2992	0.54	Q	V			
12+ 5	0.3031	0.56	Q	V			
12+10	0.3075	0.64	Q	V			
12+15	0.3123	0.69	Q	V			
12+20	0.3172	0.72	Q	V			
12+25	0.3223	0.74	Q	V			
12+30	0.3275	0.76	Q	V			
12+35	0.3328	0.77	Q	V			
12+40	0.3383	0.80	Q	V			
12+45	0.3440	0.82	Q	V			
12+50	0.3497	0.83	Q	V			
12+55	0.3555	0.85	Q	V			
13+ 0	0.3615	0.86	Q	V			
13+ 5	0.3675	0.88	Q	V			
13+10	0.3740	0.94	Q	V			
13+15	0.3807	0.98	Q	V			
13+20	0.3876	1.00	Q	V			
13+25	0.3945	1.01	Q	V			
13+30	0.4015	1.01	Q	V			
13+35	0.4083	0.99	Q	V			
13+40	0.4142	0.87	Q	V			
13+45	0.4197	0.79	Q	V			
13+50	0.4249	0.76	Q	V			
13+55	0.4300	0.74	Q	V			
14+ 0	0.4350	0.73	Q	V			
14+ 5	0.4400	0.73	Q	V			
14+10	0.4453	0.77	Q	V			
14+15	0.4507	0.79	Q	V			
14+20	0.4562	0.80	Q	V			
14+25	0.4617	0.79	Q	V			
14+30	0.4671	0.79	Q	V			
14+35	0.4725	0.78	Q	V			
14+40	0.4779	0.78	Q	V			
14+45	0.4833	0.79	Q	V			

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14+50       0.4887      0.78  |  Q      |         |         |V        |
14+55       0.4940      0.77  |  Q      |         |         |V        |
15+ 0       0.4993      0.76  |  Q      |         |         |V        |
15+ 5       0.5045      0.76  |  Q      |         |         | V       |
15+10       0.5096      0.75  | Q       |         |         | V       |
15+15       0.5147      0.74  | Q       |         |         | V       |
15+20       0.5198      0.73  | Q       |         |         |  V      |
15+25       0.5247      0.72  | Q       |         |         |  V      |
15+30       0.5296      0.71  | Q       |         |         |  V      |
15+35       0.5343      0.69  | Q       |         |         |   V     |
15+40       0.5388      0.65  | Q       |         |         |   V     |
15+45       0.5430      0.61  | Q       |         |         |   V     |
15+50       0.5472      0.60  | Q       |         |         |    V    |
15+55       0.5512      0.59  | Q       |         |         |    V    |
16+ 0       0.5553      0.59  | Q       |         |         |    V    |
16+ 5       0.5590      0.54  | Q       |         |         |    V    |
16+10       0.5616      0.37  |Q        |         |         |    V    |
16+15       0.5634      0.26  |Q        |         |         |     V   |
16+20       0.5648      0.21  Q         |         |         |     V   |
16+25       0.5661      0.18  Q         |         |         |     V   |
16+30       0.5672      0.17  Q         |         |         |     V   |
16+35       0.5683      0.15  Q         |         |         |     V   |
16+40       0.5691      0.13  Q         |         |         |     V   |
16+45       0.5699      0.11  Q         |         |         |     V   |
16+50       0.5707      0.11  Q         |         |         |     V   |
16+55       0.5714      0.10  Q         |         |         |     V   |
17+ 0       0.5720      0.10  Q         |         |         |     V   |
17+ 5       0.5727      0.10  Q         |         |         |     V   |
17+10       0.5735      0.12  Q         |         |         |     V   |
17+15       0.5745      0.13  Q         |         |         |     V   |
17+20       0.5754      0.14  Q         |         |         |     V   |
17+25       0.5764      0.14  Q         |         |         |     V   |
17+30       0.5774      0.15  Q         |         |         |     V   |
17+35       0.5784      0.15  Q         |         |         |      V  |
17+40       0.5794      0.15  Q         |         |         |      V  |
17+45       0.5805      0.15  Q         |         |         |      V  |
17+50       0.5815      0.15  Q         |         |         |      V  |
17+55       0.5824      0.14  Q         |         |         |      V  |
18+ 0       0.5833      0.13  Q         |         |         |      V  |
18+ 5       0.5842      0.13  Q         |         |         |      V  |
18+10       0.5851      0.13  Q         |         |         |      V  |
18+15       0.5859      0.12  Q         |         |         |      V  |
18+20       0.5868      0.12  Q         |         |         |      V  |
18+25       0.5876      0.12  Q         |         |         |      V  |
18+30       0.5884      0.12  Q         |         |         |      V  |
18+35       0.5893      0.12  Q         |         |         |      V  |
18+40       0.5900      0.11  Q         |         |         |      V  |
18+45       0.5907      0.10  Q         |         |         |      V  |
18+50       0.5913      0.09  Q         |         |         |      V  |
18+55       0.5919      0.08  Q         |         |         |      V  |
19+ 0       0.5924      0.07  Q         |         |         |      V  |
19+ 5       0.5929      0.07  Q         |         |         |      V  |
19+10       0.5934      0.08  Q         |         |         |      V  |
19+15       0.5940      0.09  Q         |         |         |       V |
19+20       0.5946      0.09  Q         |         |         |       V |
19+25       0.5953      0.10  Q         |         |         |       V |
19+30       0.5961      0.11  Q         |         |         |       V |
19+35       0.5969      0.11  Q         |         |         |       V |
19+40       0.5976      0.10  Q         |         |         |       V |
19+45       0.5982      0.10  Q         |         |         |       V |
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19+50       0.5989      0.09  Q        |          |          |        V |
19+55       0.5994      0.08  Q        |          |          |        V |
20+ 0       0.5999      0.07  Q        |          |          |        V |
20+ 5       0.6004      0.07  Q        |          |          |        V |
20+10       0.6009      0.08  Q        |          |          |        V |
20+15       0.6015      0.09  Q        |          |          |        V |
20+20       0.6021      0.09  Q        |          |          |        V |
20+25       0.6027      0.09  Q        |          |          |        V |
20+30       0.6033      0.09  Q        |          |          |        V |
20+35       0.6040      0.09  Q        |          |          |        V |
20+40       0.6046      0.09  Q        |          |          |        V |
20+45       0.6052      0.09  Q        |          |          |        V |
20+50       0.6058      0.09  Q        |          |          |        V |
20+55       0.6063      0.08  Q        |          |          |        V |
21+ 0       0.6068      0.07  Q        |          |          |        V |
21+ 5       0.6073      0.07  Q        |          |          |        V |
21+10       0.6078      0.08  Q        |          |          |        V |
21+15       0.6084      0.08  Q        |          |          |        V |
21+20       0.6090      0.08  Q        |          |          |        V |
21+25       0.6095      0.07  Q        |          |          |         V|
21+30       0.6099      0.07  Q        |          |          |         V|
21+35       0.6104      0.07  Q        |          |          |         V|
21+40       0.6109      0.08  Q        |          |          |         V|
21+45       0.6115      0.08  Q        |          |          |         V|
21+50       0.6121      0.08  Q        |          |          |         V|
21+55       0.6126      0.07  Q        |          |          |         V|
22+ 0       0.6131      0.07  Q        |          |          |         V|
22+ 5       0.6135      0.07  Q        |          |          |         V|
22+10       0.6141      0.08  Q        |          |          |         V|
22+15       0.6146      0.08  Q        |          |          |         V|
22+20       0.6152      0.08  Q        |          |          |         V|
22+25       0.6157      0.07  Q        |          |          |         V|
22+30       0.6162      0.07  Q        |          |          |         V|
22+35       0.6166      0.06  Q        |          |          |         V|
22+40       0.6171      0.06  Q        |          |          |         V|
22+45       0.6175      0.06  Q        |          |          |         V|
22+50       0.6179      0.06  Q        |          |          |         V|
22+55       0.6184      0.06  Q        |          |          |         V|
23+ 0       0.6188      0.06  Q        |          |          |         V|
23+ 5       0.6192      0.06  Q        |          |          |         V|
23+10       0.6196      0.06  Q        |          |          |         V|
23+15       0.6200      0.06  Q        |          |          |         V|
23+20       0.6205      0.06  Q        |          |          |         V|
23+25       0.6209      0.06  Q        |          |          |         V|
23+30       0.6213      0.06  Q        |          |          |         V|
23+35       0.6217      0.06  Q        |          |          |         V|
23+40       0.6221      0.06  Q        |          |          |         V|
23+45       0.6225      0.06  Q        |          |          |         V|
23+50       0.6230      0.06  Q        |          |          |         V|
23+55       0.6234      0.06  Q        |          |          |         V|
24+ 0       0.6238      0.06  Q        |          |          |         V|
24+ 5       0.6242      0.05  Q        |          |          |         V|
24+10       0.6244      0.03  Q        |          |          |         V|
24+15       0.6245      0.02  Q        |          |          |         V|
24+20       0.6246      0.01  Q        |          |          |         V|
24+25       0.6247      0.01  Q        |          |          |         V|
24+30       0.6247      0.01  Q        |          |          |         V|
24+35       0.6247      0.00  Q        |          |          |         V|
24+40       0.6247      0.00  Q        |          |          |         V|
24+45       0.6248      0.00  Q        |          |          |         V|
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   24+50       0.6248      0.00  Q         |         |         |        V|
   24+55       0.6248      0.00  Q         |         |         |        V|
   25+ 0       0.6248      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 12/13/21 File: 20522PRF242.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA F
2-YEAR 24-HOUR STORM

Drainage Area = 5.20(Ac.) = 0.008 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.20(Ac.) = 0.008 Sq. Mi.
Length along longest watercourse = 390.00(Ft.)
Length along longest watercourse measured to centroid = 260.00(Ft.)
Length along longest watercourse = 0.074 Mi.
Length along longest watercourse measured to centroid = 0.049 Mi.
Difference in elevation = 3.10(Ft.)
Slope along watercourse = 41.9692 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.021 Hr.
Lag time = 1.26 Min.
25% of lag time = 0.31 Min.
40% of lag time = 0.50 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]
5.20	1.60	8.32

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
5.20	4.00	20.80

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 1.600(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.600(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
5.200	69.00	0.990

Total Area Entered = 5.20(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
69.0	49.8	0.574	0.990	0.063	1.000	0.063
					Sum (F) =	0.063

Area averaged mean soil loss (F) (In/Hr) = 0.063
Minimum soil loss rate ((In/Hr)) = 0.031
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.108

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	397.906	64.940	3.403
2	0.167	795.812	32.276	1.691
3	0.250	1193.718	2.784	0.146
			Sum = 100.000 Sum=	5.241

The following loss 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	(0.111)	0.001	0.011
2	0.17	0.07	0.013	(0.110)	0.001	0.011
3	0.25	0.07	0.013	(0.110)	0.001	0.011
4	0.33	0.10	0.019	(0.110)	0.002	0.017
5	0.42	0.10	0.019	(0.109)	0.002	0.017
6	0.50	0.10	0.019	(0.109)	0.002	0.017
7	0.58	0.10	0.019	(0.108)	0.002	0.017
8	0.67	0.10	0.019	(0.108)	0.002	0.017
9	0.75	0.10	0.019	(0.107)	0.002	0.017
10	0.83	0.13	0.026	(0.107)	0.003	0.023
11	0.92	0.13	0.026	(0.107)	0.003	0.023
12	1.00	0.13	0.026	(0.106)	0.003	0.023
13	1.08	0.10	0.019	(0.106)	0.002	0.017
14	1.17	0.10	0.019	(0.105)	0.002	0.017
15	1.25	0.10	0.019	(0.105)	0.002	0.017
16	1.33	0.10	0.019	(0.105)	0.002	0.017

17	1.42	0.10	0.019	(0.104)	0.002	0.017
18	1.50	0.10	0.019	(0.104)	0.002	0.017
19	1.58	0.10	0.019	(0.103)	0.002	0.017
20	1.67	0.10	0.019	(0.103)	0.002	0.017
21	1.75	0.10	0.019	(0.102)	0.002	0.017
22	1.83	0.13	0.026	(0.102)	0.003	0.023
23	1.92	0.13	0.026	(0.102)	0.003	0.023
24	2.00	0.13	0.026	(0.101)	0.003	0.023
25	2.08	0.13	0.026	(0.101)	0.003	0.023
26	2.17	0.13	0.026	(0.100)	0.003	0.023
27	2.25	0.13	0.026	(0.100)	0.003	0.023
28	2.33	0.13	0.026	(0.100)	0.003	0.023
29	2.42	0.13	0.026	(0.099)	0.003	0.023
30	2.50	0.13	0.026	(0.099)	0.003	0.023
31	2.58	0.17	0.032	(0.098)	0.003	0.029
32	2.67	0.17	0.032	(0.098)	0.003	0.029
33	2.75	0.17	0.032	(0.098)	0.003	0.029
34	2.83	0.17	0.032	(0.097)	0.003	0.029
35	2.92	0.17	0.032	(0.097)	0.003	0.029
36	3.00	0.17	0.032	(0.096)	0.003	0.029
37	3.08	0.17	0.032	(0.096)	0.003	0.029
38	3.17	0.17	0.032	(0.096)	0.003	0.029
39	3.25	0.17	0.032	(0.095)	0.003	0.029
40	3.33	0.17	0.032	(0.095)	0.003	0.029
41	3.42	0.17	0.032	(0.094)	0.003	0.029
42	3.50	0.17	0.032	(0.094)	0.003	0.029
43	3.58	0.17	0.032	(0.094)	0.003	0.029
44	3.67	0.17	0.032	(0.093)	0.003	0.029
45	3.75	0.17	0.032	(0.093)	0.003	0.029
46	3.83	0.20	0.038	(0.092)	0.004	0.034
47	3.92	0.20	0.038	(0.092)	0.004	0.034
48	4.00	0.20	0.038	(0.092)	0.004	0.034
49	4.08	0.20	0.038	(0.091)	0.004	0.034
50	4.17	0.20	0.038	(0.091)	0.004	0.034
51	4.25	0.20	0.038	(0.090)	0.004	0.034
52	4.33	0.23	0.045	(0.090)	0.005	0.040
53	4.42	0.23	0.045	(0.090)	0.005	0.040
54	4.50	0.23	0.045	(0.089)	0.005	0.040
55	4.58	0.23	0.045	(0.089)	0.005	0.040
56	4.67	0.23	0.045	(0.089)	0.005	0.040
57	4.75	0.23	0.045	(0.088)	0.005	0.040
58	4.83	0.27	0.051	(0.088)	0.006	0.046
59	4.92	0.27	0.051	(0.087)	0.006	0.046
60	5.00	0.27	0.051	(0.087)	0.006	0.046
61	5.08	0.20	0.038	(0.087)	0.004	0.034
62	5.17	0.20	0.038	(0.086)	0.004	0.034
63	5.25	0.20	0.038	(0.086)	0.004	0.034
64	5.33	0.23	0.045	(0.086)	0.005	0.040
65	5.42	0.23	0.045	(0.085)	0.005	0.040
66	5.50	0.23	0.045	(0.085)	0.005	0.040
67	5.58	0.27	0.051	(0.084)	0.006	0.046
68	5.67	0.27	0.051	(0.084)	0.006	0.046
69	5.75	0.27	0.051	(0.084)	0.006	0.046
70	5.83	0.27	0.051	(0.083)	0.006	0.046
71	5.92	0.27	0.051	(0.083)	0.006	0.046
72	6.00	0.27	0.051	(0.083)	0.006	0.046
73	6.08	0.30	0.058	(0.082)	0.006	0.051
74	6.17	0.30	0.058	(0.082)	0.006	0.051
75	6.25	0.30	0.058	(0.081)	0.006	0.051
76	6.33	0.30	0.058	(0.081)	0.006	0.051

77	6.42	0.30	0.058	(0.081)	0.006	0.051
78	6.50	0.30	0.058	(0.080)	0.006	0.051
79	6.58	0.33	0.064	(0.080)	0.007	0.057
80	6.67	0.33	0.064	(0.080)	0.007	0.057
81	6.75	0.33	0.064	(0.079)	0.007	0.057
82	6.83	0.33	0.064	(0.079)	0.007	0.057
83	6.92	0.33	0.064	(0.079)	0.007	0.057
84	7.00	0.33	0.064	(0.078)	0.007	0.057
85	7.08	0.33	0.064	(0.078)	0.007	0.057
86	7.17	0.33	0.064	(0.078)	0.007	0.057
87	7.25	0.33	0.064	(0.077)	0.007	0.057
88	7.33	0.37	0.070	(0.077)	0.008	0.063
89	7.42	0.37	0.070	(0.076)	0.008	0.063
90	7.50	0.37	0.070	(0.076)	0.008	0.063
91	7.58	0.40	0.077	(0.076)	0.008	0.069
92	7.67	0.40	0.077	(0.075)	0.008	0.069
93	7.75	0.40	0.077	(0.075)	0.008	0.069
94	7.83	0.43	0.083	(0.075)	0.009	0.074
95	7.92	0.43	0.083	(0.074)	0.009	0.074
96	8.00	0.43	0.083	(0.074)	0.009	0.074
97	8.08	0.50	0.096	(0.074)	0.010	0.086
98	8.17	0.50	0.096	(0.073)	0.010	0.086
99	8.25	0.50	0.096	(0.073)	0.010	0.086
100	8.33	0.50	0.096	(0.073)	0.010	0.086
101	8.42	0.50	0.096	(0.072)	0.010	0.086
102	8.50	0.50	0.096	(0.072)	0.010	0.086
103	8.58	0.53	0.102	(0.072)	0.011	0.091
104	8.67	0.53	0.102	(0.071)	0.011	0.091
105	8.75	0.53	0.102	(0.071)	0.011	0.091
106	8.83	0.57	0.109	(0.071)	0.012	0.097
107	8.92	0.57	0.109	(0.070)	0.012	0.097
108	9.00	0.57	0.109	(0.070)	0.012	0.097
109	9.08	0.63	0.122	(0.070)	0.013	0.108
110	9.17	0.63	0.122	(0.069)	0.013	0.108
111	9.25	0.63	0.122	(0.069)	0.013	0.108
112	9.33	0.67	0.128	(0.069)	0.014	0.114
113	9.42	0.67	0.128	(0.068)	0.014	0.114
114	9.50	0.67	0.128	(0.068)	0.014	0.114
115	9.58	0.70	0.134	(0.068)	0.015	0.120
116	9.67	0.70	0.134	(0.067)	0.015	0.120
117	9.75	0.70	0.134	(0.067)	0.015	0.120
118	9.83	0.73	0.141	(0.067)	0.015	0.126
119	9.92	0.73	0.141	(0.066)	0.015	0.126
120	10.00	0.73	0.141	(0.066)	0.015	0.126
121	10.08	0.50	0.096	(0.066)	0.010	0.086
122	10.17	0.50	0.096	(0.065)	0.010	0.086
123	10.25	0.50	0.096	(0.065)	0.010	0.086
124	10.33	0.50	0.096	(0.065)	0.010	0.086
125	10.42	0.50	0.096	(0.064)	0.010	0.086
126	10.50	0.50	0.096	(0.064)	0.010	0.086
127	10.58	0.67	0.128	(0.064)	0.014	0.114
128	10.67	0.67	0.128	(0.064)	0.014	0.114
129	10.75	0.67	0.128	(0.063)	0.014	0.114
130	10.83	0.67	0.128	(0.063)	0.014	0.114
131	10.92	0.67	0.128	(0.063)	0.014	0.114
132	11.00	0.67	0.128	(0.062)	0.014	0.114
133	11.08	0.63	0.122	(0.062)	0.013	0.108
134	11.17	0.63	0.122	(0.062)	0.013	0.108
135	11.25	0.63	0.122	(0.061)	0.013	0.108
136	11.33	0.63	0.122	(0.061)	0.013	0.108

137	11.42	0.63	0.122	(0.061)	0.013	0.108
138	11.50	0.63	0.122	(0.060)	0.013	0.108
139	11.58	0.57	0.109	(0.060)	0.012	0.097
140	11.67	0.57	0.109	(0.060)	0.012	0.097
141	11.75	0.57	0.109	(0.060)	0.012	0.097
142	11.83	0.60	0.115	(0.059)	0.012	0.103
143	11.92	0.60	0.115	(0.059)	0.012	0.103
144	12.00	0.60	0.115	(0.059)	0.012	0.103
145	12.08	0.83	0.160	(0.058)	0.017	0.143
146	12.17	0.83	0.160	(0.058)	0.017	0.143
147	12.25	0.83	0.160	(0.058)	0.017	0.143
148	12.33	0.87	0.166	(0.058)	0.018	0.148
149	12.42	0.87	0.166	(0.057)	0.018	0.148
150	12.50	0.87	0.166	(0.057)	0.018	0.148
151	12.58	0.93	0.179	(0.057)	0.019	0.160
152	12.67	0.93	0.179	(0.056)	0.019	0.160
153	12.75	0.93	0.179	(0.056)	0.019	0.160
154	12.83	0.97	0.186	(0.056)	0.020	0.166
155	12.92	0.97	0.186	(0.056)	0.020	0.166
156	13.00	0.97	0.186	(0.055)	0.020	0.166
157	13.08	1.13	0.218	(0.055)	0.024	0.194
158	13.17	1.13	0.218	(0.055)	0.024	0.194
159	13.25	1.13	0.218	(0.054)	0.024	0.194
160	13.33	1.13	0.218	(0.054)	0.024	0.194
161	13.42	1.13	0.218	(0.054)	0.024	0.194
162	13.50	1.13	0.218	(0.054)	0.024	0.194
163	13.58	0.77	0.147	(0.053)	0.016	0.131
164	13.67	0.77	0.147	(0.053)	0.016	0.131
165	13.75	0.77	0.147	(0.053)	0.016	0.131
166	13.83	0.77	0.147	(0.053)	0.016	0.131
167	13.92	0.77	0.147	(0.052)	0.016	0.131
168	14.00	0.77	0.147	(0.052)	0.016	0.131
169	14.08	0.90	0.173	(0.052)	0.019	0.154
170	14.17	0.90	0.173	(0.051)	0.019	0.154
171	14.25	0.90	0.173	(0.051)	0.019	0.154
172	14.33	0.87	0.166	(0.051)	0.018	0.148
173	14.42	0.87	0.166	(0.051)	0.018	0.148
174	14.50	0.87	0.166	(0.050)	0.018	0.148
175	14.58	0.87	0.166	(0.050)	0.018	0.148
176	14.67	0.87	0.166	(0.050)	0.018	0.148
177	14.75	0.87	0.166	(0.050)	0.018	0.148
178	14.83	0.83	0.160	(0.049)	0.017	0.143
179	14.92	0.83	0.160	(0.049)	0.017	0.143
180	15.00	0.83	0.160	(0.049)	0.017	0.143
181	15.08	0.80	0.154	(0.049)	0.017	0.137
182	15.17	0.80	0.154	(0.048)	0.017	0.137
183	15.25	0.80	0.154	(0.048)	0.017	0.137
184	15.33	0.77	0.147	(0.048)	0.016	0.131
185	15.42	0.77	0.147	(0.048)	0.016	0.131
186	15.50	0.77	0.147	(0.047)	0.016	0.131
187	15.58	0.63	0.122	(0.047)	0.013	0.108
188	15.67	0.63	0.122	(0.047)	0.013	0.108
189	15.75	0.63	0.122	(0.047)	0.013	0.108
190	15.83	0.63	0.122	(0.046)	0.013	0.108
191	15.92	0.63	0.122	(0.046)	0.013	0.108
192	16.00	0.63	0.122	(0.046)	0.013	0.108
193	16.08	0.13	0.026	(0.046)	0.003	0.023
194	16.17	0.13	0.026	(0.045)	0.003	0.023
195	16.25	0.13	0.026	(0.045)	0.003	0.023
196	16.33	0.13	0.026	(0.045)	0.003	0.023

197	16.42	0.13	0.026	(0.045)	0.003	0.023
198	16.50	0.13	0.026	(0.045)	0.003	0.023
199	16.58	0.10	0.019	(0.044)	0.002	0.017
200	16.67	0.10	0.019	(0.044)	0.002	0.017
201	16.75	0.10	0.019	(0.044)	0.002	0.017
202	16.83	0.10	0.019	(0.044)	0.002	0.017
203	16.92	0.10	0.019	(0.043)	0.002	0.017
204	17.00	0.10	0.019	(0.043)	0.002	0.017
205	17.08	0.17	0.032	(0.043)	0.003	0.029
206	17.17	0.17	0.032	(0.043)	0.003	0.029
207	17.25	0.17	0.032	(0.043)	0.003	0.029
208	17.33	0.17	0.032	(0.042)	0.003	0.029
209	17.42	0.17	0.032	(0.042)	0.003	0.029
210	17.50	0.17	0.032	(0.042)	0.003	0.029
211	17.58	0.17	0.032	(0.042)	0.003	0.029
212	17.67	0.17	0.032	(0.042)	0.003	0.029
213	17.75	0.17	0.032	(0.041)	0.003	0.029
214	17.83	0.13	0.026	(0.041)	0.003	0.023
215	17.92	0.13	0.026	(0.041)	0.003	0.023
216	18.00	0.13	0.026	(0.041)	0.003	0.023
217	18.08	0.13	0.026	(0.040)	0.003	0.023
218	18.17	0.13	0.026	(0.040)	0.003	0.023
219	18.25	0.13	0.026	(0.040)	0.003	0.023
220	18.33	0.13	0.026	(0.040)	0.003	0.023
221	18.42	0.13	0.026	(0.040)	0.003	0.023
222	18.50	0.13	0.026	(0.040)	0.003	0.023
223	18.58	0.10	0.019	(0.039)	0.002	0.017
224	18.67	0.10	0.019	(0.039)	0.002	0.017
225	18.75	0.10	0.019	(0.039)	0.002	0.017
226	18.83	0.07	0.013	(0.039)	0.001	0.011
227	18.92	0.07	0.013	(0.039)	0.001	0.011
228	19.00	0.07	0.013	(0.038)	0.001	0.011
229	19.08	0.10	0.019	(0.038)	0.002	0.017
230	19.17	0.10	0.019	(0.038)	0.002	0.017
231	19.25	0.10	0.019	(0.038)	0.002	0.017
232	19.33	0.13	0.026	(0.038)	0.003	0.023
233	19.42	0.13	0.026	(0.038)	0.003	0.023
234	19.50	0.13	0.026	(0.037)	0.003	0.023
235	19.58	0.10	0.019	(0.037)	0.002	0.017
236	19.67	0.10	0.019	(0.037)	0.002	0.017
237	19.75	0.10	0.019	(0.037)	0.002	0.017
238	19.83	0.07	0.013	(0.037)	0.001	0.011
239	19.92	0.07	0.013	(0.036)	0.001	0.011
240	20.00	0.07	0.013	(0.036)	0.001	0.011
241	20.08	0.10	0.019	(0.036)	0.002	0.017
242	20.17	0.10	0.019	(0.036)	0.002	0.017
243	20.25	0.10	0.019	(0.036)	0.002	0.017
244	20.33	0.10	0.019	(0.036)	0.002	0.017
245	20.42	0.10	0.019	(0.036)	0.002	0.017
246	20.50	0.10	0.019	(0.035)	0.002	0.017
247	20.58	0.10	0.019	(0.035)	0.002	0.017
248	20.67	0.10	0.019	(0.035)	0.002	0.017
249	20.75	0.10	0.019	(0.035)	0.002	0.017
250	20.83	0.07	0.013	(0.035)	0.001	0.011
251	20.92	0.07	0.013	(0.035)	0.001	0.011
252	21.00	0.07	0.013	(0.035)	0.001	0.011
253	21.08	0.10	0.019	(0.034)	0.002	0.017
254	21.17	0.10	0.019	(0.034)	0.002	0.017
255	21.25	0.10	0.019	(0.034)	0.002	0.017
256	21.33	0.07	0.013	(0.034)	0.001	0.011

257	21.42	0.07	0.013	(0.034)	0.001	0.011
258	21.50	0.07	0.013	(0.034)	0.001	0.011
259	21.58	0.10	0.019	(0.034)	0.002	0.017
260	21.67	0.10	0.019	(0.033)	0.002	0.017
261	21.75	0.10	0.019	(0.033)	0.002	0.017
262	21.83	0.07	0.013	(0.033)	0.001	0.011
263	21.92	0.07	0.013	(0.033)	0.001	0.011
264	22.00	0.07	0.013	(0.033)	0.001	0.011
265	22.08	0.10	0.019	(0.033)	0.002	0.017
266	22.17	0.10	0.019	(0.033)	0.002	0.017
267	22.25	0.10	0.019	(0.033)	0.002	0.017
268	22.33	0.07	0.013	(0.033)	0.001	0.011
269	22.42	0.07	0.013	(0.033)	0.001	0.011
270	22.50	0.07	0.013	(0.032)	0.001	0.011
271	22.58	0.07	0.013	(0.032)	0.001	0.011
272	22.67	0.07	0.013	(0.032)	0.001	0.011
273	22.75	0.07	0.013	(0.032)	0.001	0.011
274	22.83	0.07	0.013	(0.032)	0.001	0.011
275	22.92	0.07	0.013	(0.032)	0.001	0.011
276	23.00	0.07	0.013	(0.032)	0.001	0.011
277	23.08	0.07	0.013	(0.032)	0.001	0.011
278	23.17	0.07	0.013	(0.032)	0.001	0.011
279	23.25	0.07	0.013	(0.032)	0.001	0.011
280	23.33	0.07	0.013	(0.032)	0.001	0.011
281	23.42	0.07	0.013	(0.032)	0.001	0.011
282	23.50	0.07	0.013	(0.032)	0.001	0.011
283	23.58	0.07	0.013	(0.031)	0.001	0.011
284	23.67	0.07	0.013	(0.031)	0.001	0.011
285	23.75	0.07	0.013	(0.031)	0.001	0.011
286	23.83	0.07	0.013	(0.031)	0.001	0.011
287	23.92	0.07	0.013	(0.031)	0.001	0.011
288	24.00	0.07	0.013	(0.031)	0.001	0.011

(Loss Rate Not Used)

Sum = 100.0 Sum = 17.1

Flood volume = Effective rainfall 1.43(In)
times area 5.2(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)
Total soil loss = 0.17(In)
Total soil loss = 0.075(Ac.Ft)
Total rainfall = 1.60(In)
Flood volume = 26939.6 Cubic Feet
Total soil loss = 3261.7 Cubic Feet

Peak flow rate of this hydrograph = 1.018(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	0.0003	0.04	Q	|	|	|	|
0+10	0.0007	0.06	Q	|	|	|	|
0+15	0.0011	0.06	Q	|	|	|	|
0+20	0.0016	0.08	Q	|	|	|	|
0+25	0.0022	0.09	Q	|	|	|	|
0+30	0.0029	0.09	Q	|	|	|	|
0+35	0.0035	0.09	Q	|	|	|	|

0+40	0.0041	0.09	Q	|	|	|	|
0+45	0.0047	0.09	Q	|	|	|	|
0+50	0.0055	0.11	Q	|	|	|	|
0+55	0.0063	0.12	Q	|	|	|	|
1+ 0	0.0071	0.12	Q	|	|	|	|
1+ 5	0.0078	0.10	Q	|	|	|	|
1+10	0.0084	0.09	Q	|	|	|	|
1+15	0.0090	0.09	Q	|	|	|	|
1+20	0.0097	0.09	Q	|	|	|	|
1+25	0.0103	0.09	Q	|	|	|	|
1+30	0.0109	0.09	Q	|	|	|	|
1+35	0.0115	0.09	Q	|	|	|	|
1+40	0.0121	0.09	Q	|	|	|	|
1+45	0.0128	0.09	Q	|	|	|	|
1+50	0.0135	0.11	Q	|	|	|	|
1+55	0.0143	0.12	Q	|	|	|	|
2+ 0	0.0151	0.12	Q	|	|	|	|
2+ 5	0.0160	0.12	QV	|	|	|	|
2+10	0.0168	0.12	QV	|	|	|	|
2+15	0.0176	0.12	QV	|	|	|	|
2+20	0.0184	0.12	QV	|	|	|	|
2+25	0.0193	0.12	QV	|	|	|	|
2+30	0.0201	0.12	QV	|	|	|	|
2+35	0.0211	0.14	QV	|	|	|	|
2+40	0.0221	0.15	QV	|	|	|	|
2+45	0.0231	0.15	QV	|	|	|	|
2+50	0.0241	0.15	QV	|	|	|	|
2+55	0.0252	0.15	QV	|	|	|	|
3+ 0	0.0262	0.15	QV	|	|	|	|
3+ 5	0.0272	0.15	QV	|	|	|	|
3+10	0.0283	0.15	QV	|	|	|	|
3+15	0.0293	0.15	QV	|	|	|	|
3+20	0.0303	0.15	QV	|	|	|	|
3+25	0.0314	0.15	Q V	|	|	|	|
3+30	0.0324	0.15	Q V	|	|	|	|
3+35	0.0334	0.15	Q V	|	|	|	|
3+40	0.0344	0.15	Q V	|	|	|	|
3+45	0.0355	0.15	Q V	|	|	|	|
3+50	0.0366	0.17	Q V	|	|	|	|
3+55	0.0379	0.18	Q V	|	|	|	|
4+ 0	0.0391	0.18	Q V	|	|	|	|
4+ 5	0.0403	0.18	Q V	|	|	|	|
4+10	0.0416	0.18	Q V	|	|	|	|
4+15	0.0428	0.18	Q V	|	|	|	|
4+20	0.0442	0.20	Q V	|	|	|	|
4+25	0.0456	0.21	Q V	|	|	|	|
4+30	0.0471	0.21	Q V	|	|	|	|
4+35	0.0485	0.21	Q V	|	|	|	|
4+40	0.0500	0.21	Q V	|	|	|	|
4+45	0.0514	0.21	Q V	|	|	|	|
4+50	0.0530	0.23	Q V	|	|	|	|
4+55	0.0546	0.24	Q V	|	|	|	|
5+ 0	0.0563	0.24	Q V	|	|	|	|
5+ 5	0.0577	0.20	Q V	|	|	|	|
5+10	0.0589	0.18	Q V	|	|	|	|
5+15	0.0601	0.18	Q V	|	|	|	|
5+20	0.0615	0.20	Q V	|	|	|	|
5+25	0.0629	0.21	Q V	|	|	|	|
5+30	0.0644	0.21	Q V	|	|	|	|
5+35	0.0660	0.23	Q V	|	|	|	|

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 5+40       0.0676      0.24  Q   V     |          |          |          |
 5+45       0.0693      0.24  Q   V     |          |          |          |
 5+50       0.0709      0.24  Q   V     |          |          |          |
 5+55       0.0726      0.24  Q   V     |          |          |          |
 6+ 0       0.0742      0.24  Q   V     |          |          |          |
 6+ 5       0.0760      0.26  |Q  V     |          |          |          |
 6+10       0.0778      0.27  |Q   V    |          |          |          |
 6+15       0.0797      0.27  |Q   V    |          |          |          |
 6+20       0.0816      0.27  |Q   V    |          |          |          |
 6+25       0.0834      0.27  |Q   V    |          |          |          |
 6+30       0.0853      0.27  |Q   V    |          |          |          |
 6+35       0.0873      0.29  |Q   V    |          |          |          |
 6+40       0.0893      0.30  |Q   V    |          |          |          |
 6+45       0.0914      0.30  |Q   V    |          |          |          |
 6+50       0.0934      0.30  |Q    V   |          |          |          |
 6+55       0.0955      0.30  |Q    V   |          |          |          |
 7+ 0       0.0976      0.30  |Q    V   |          |          |          |
 7+ 5       0.0996      0.30  |Q    V   |          |          |          |
 7+10       0.1017      0.30  |Q    V   |          |          |          |
 7+15       0.1037      0.30  |Q    V   |          |          |          |
 7+20       0.1059      0.32  |Q    V   |          |          |          |
 7+25       0.1082      0.33  |Q    V   |          |          |          |
 7+30       0.1105      0.33  |Q     V  |          |          |          |
 7+35       0.1129      0.35  |Q     V  |          |          |          |
 7+40       0.1153      0.36  |Q     V  |          |          |          |
 7+45       0.1178      0.36  |Q     V  |          |          |          |
 7+50       0.1204      0.38  |Q     V  |          |          |          |
 7+55       0.1231      0.39  |Q     V  |          |          |          |
 8+ 0       0.1258      0.39  |Q      V |          |          |          |
 8+ 5       0.1287      0.43  |Q      V |          |          |          |
 8+10       0.1318      0.45  |Q      V |          |          |          |
 8+15       0.1349      0.45  |Q      V |          |          |          |
 8+20       0.1380      0.45  |Q      V |          |          |          |
 8+25       0.1411      0.45  |Q       V|          |          |          |
 8+30       0.1442      0.45  |Q       V|          |          |          |
 8+35       0.1474      0.47  |Q       V|          |          |          |
 8+40       0.1507      0.48  |Q       V|          |          |          |
 8+45       0.1540      0.48  |Q       V|          |          |          |
 8+50       0.1574      0.50  |Q        V          |          |          |
 8+55       0.1609      0.51  | Q       V          |          |          |
 9+ 0       0.1644      0.51  | Q       V          |          |          |
 9+ 5       0.1682      0.55  | Q       V          |          |          |
 9+10       0.1721      0.57  | Q       |V         |          |          |
 9+15       0.1760      0.57  | Q       |V         |          |          |
 9+20       0.1801      0.59  | Q       |V         |          |          |
 9+25       0.1842      0.60  | Q       |V         |          |          |
 9+30       0.1883      0.60  | Q       | V        |          |          |
 9+35       0.1926      0.62  | Q       | V        |          |          |
 9+40       0.1969      0.63  | Q       | V        |          |          |
 9+45       0.2012      0.63  | Q       |  V       |          |          |
 9+50       0.2057      0.65  | Q       |  V       |          |          |
 9+55       0.2102      0.66  | Q       |  V       |          |          |
10+ 0       0.2147      0.66  | Q       |  V       |          |          |
10+ 5       0.2183      0.52  | Q       |   V      |          |          |
10+10       0.2215      0.45  |Q        |   V      |          |          |
10+15       0.2246      0.45  |Q        |   V      |          |          |
10+20       0.2277      0.45  |Q        |   V      |          |          |
10+25       0.2307      0.45  |Q        |   V      |          |          |
10+30       0.2338      0.45  |Q        |    V     |          |          |
10+35       0.2376      0.55  | Q       |    V     |          |          |
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10+40	0.2417	0.59	Q		V			
10+45	0.2458	0.60	Q		V			
10+50	0.2499	0.60	Q		V			
10+55	0.2541	0.60	Q		V			
11+ 0	0.2582	0.60	Q		V			
11+ 5	0.2622	0.58	Q		V			
11+10	0.2661	0.57	Q		V			
11+15	0.2700	0.57	Q		V			
11+20	0.2739	0.57	Q		V			
11+25	0.2778	0.57	Q		V			
11+30	0.2818	0.57	Q		V			
11+35	0.2854	0.53	Q		V			
11+40	0.2889	0.51	Q		V			
11+45	0.2924	0.51	Q		V			
11+50	0.2961	0.53	Q		V			
11+55	0.2998	0.54	Q		V			
12+ 0	0.3035	0.54	Q		V			
12+ 5	0.3081	0.67	Q		V			
12+10	0.3133	0.74	Q		V			
12+15	0.3184	0.75	Q		V			
12+20	0.3237	0.77	Q		V			
12+25	0.3290	0.78	Q		V			
12+30	0.3344	0.78	Q		V			
12+35	0.3400	0.82	Q		V			
12+40	0.3458	0.84	Q		V			
12+45	0.3516	0.84	Q		V			
12+50	0.3575	0.86	Q		V			
12+55	0.3634	0.87	Q		V			
13+ 0	0.3694	0.87	Q		V			
13+ 5	0.3761	0.97	Q		V			
13+10	0.3831	1.01	Q		V			
13+15	0.3901	1.02	Q		V			
13+20	0.3971	1.02	Q		V			
13+25	0.4041	1.02	Q		V			
13+30	0.4111	1.02	Q		V			
13+35	0.4166	0.80	Q		V			
13+40	0.4214	0.70	Q		V			
13+45	0.4262	0.69	Q		V			
13+50	0.4309	0.69	Q		V			
13+55	0.4357	0.69	Q		V			
14+ 0	0.4404	0.69	Q		V			
14+ 5	0.4457	0.77	Q		V			
14+10	0.4512	0.80	Q		V			
14+15	0.4568	0.81	Q		V			
14+20	0.4622	0.79	Q		V			
14+25	0.4676	0.78	Q		V			
14+30	0.4729	0.78	Q		V			
14+35	0.4783	0.78	Q		V			
14+40	0.4837	0.78	Q		V			
14+45	0.4890	0.78	Q		V			
14+50	0.4942	0.76	Q		V			
14+55	0.4994	0.75	Q		V			
15+ 0	0.5046	0.75	Q		V			
15+ 5	0.5096	0.73	Q		V			
15+10	0.5145	0.72	Q		V			
15+15	0.5195	0.72	Q		V			
15+20	0.5243	0.70	Q		V			
15+25	0.5290	0.69	Q		V			
15+30	0.5338	0.69	Q		V			
15+35	0.5380	0.61	Q		V			

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15+40       0.5419      0.57  | Q       |         |         |    V    |
15+45       0.5458      0.57  | Q       |         |         |    V    |
15+50       0.5498      0.57  | Q       |         |         |    V    |
15+55       0.5537      0.57  | Q       |         |         |    V    |
16+ 0       0.5576      0.57  | Q       |         |         |     V   |
16+ 5       0.5595      0.28  |Q        |         |         |     V   |
16+10       0.5604      0.13  Q         |         |         |     V   |
16+15       0.5612      0.12  Q         |         |         |     V   |
16+20       0.5621      0.12  Q         |         |         |     V   |
16+25       0.5629      0.12  Q         |         |         |     V   |
16+30       0.5637      0.12  Q         |         |         |     V   |
16+35       0.5644      0.10  Q         |         |         |     V   |
16+40       0.5650      0.09  Q         |         |         |     V   |
16+45       0.5656      0.09  Q         |         |         |     V   |
16+50       0.5663      0.09  Q         |         |         |     V   |
16+55       0.5669      0.09  Q         |         |         |     V   |
17+ 0       0.5675      0.09  Q         |         |         |     V   |
17+ 5       0.5684      0.13  Q         |         |         |     V   |
17+10       0.5694      0.15  Q         |         |         |     V   |
17+15       0.5704      0.15  Q         |         |         |     V   |
17+20       0.5715      0.15  Q         |         |         |     V   |
17+25       0.5725      0.15  Q         |         |         |      V  |
17+30       0.5735      0.15  Q         |         |         |      V  |
17+35       0.5746      0.15  Q         |         |         |      V  |
17+40       0.5756      0.15  Q         |         |         |      V  |
17+45       0.5766      0.15  Q         |         |         |      V  |
17+50       0.5775      0.13  Q         |         |         |      V  |
17+55       0.5783      0.12  Q         |         |         |      V  |
18+ 0       0.5792      0.12  Q         |         |         |      V  |
18+ 5       0.5800      0.12  Q         |         |         |      V  |
18+10       0.5808      0.12  Q         |         |         |      V  |
18+15       0.5816      0.12  Q         |         |         |      V  |
18+20       0.5825      0.12  Q         |         |         |      V  |
18+25       0.5833      0.12  Q         |         |         |      V  |
18+30       0.5841      0.12  Q         |         |         |      V  |
18+35       0.5848      0.10  Q         |         |         |      V  |
18+40       0.5854      0.09  Q         |         |         |      V  |
18+45       0.5861      0.09  Q         |         |         |      V  |
18+50       0.5865      0.07  Q         |         |         |      V  |
18+55       0.5870      0.06  Q         |         |         |      V  |
19+ 0       0.5874      0.06  Q         |         |         |      V  |
19+ 5       0.5879      0.08  Q         |         |         |       V |
19+10       0.5885      0.09  Q         |         |         |       V |
19+15       0.5891      0.09  Q         |         |         |       V |
19+20       0.5899      0.11  Q         |         |         |       V |
19+25       0.5907      0.12  Q         |         |         |       V |
19+30       0.5915      0.12  Q         |         |         |       V |
19+35       0.5922      0.10  Q         |         |         |       V |
19+40       0.5929      0.09  Q         |         |         |       V |
19+45       0.5935      0.09  Q         |         |         |       V |
19+50       0.5940      0.07  Q         |         |         |       V |
19+55       0.5944      0.06  Q         |         |         |       V |
20+ 0       0.5948      0.06  Q         |         |         |       V |
20+ 5       0.5953      0.08  Q         |         |         |       V |
20+10       0.5959      0.09  Q         |         |         |       V |
20+15       0.5966      0.09  Q         |         |         |       V |
20+20       0.5972      0.09  Q         |         |         |       V |
20+25       0.5978      0.09  Q         |         |         |       V |
20+30       0.5984      0.09  Q         |         |         |       V |
20+35       0.5990      0.09  Q         |         |         |       V |
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  20+40       0.5997      0.09  Q         |          |          |        V |
  20+45       0.6003      0.09  Q         |          |          |        V |
  20+50       0.6008      0.07  Q         |          |          |        V |
  20+55       0.6012      0.06  Q         |          |          |        V |
  21+ 0       0.6016      0.06  Q         |          |          |        V |
  21+ 5       0.6021      0.08  Q         |          |          |        V |
  21+10       0.6028      0.09  Q         |          |          |        V |
  21+15       0.6034      0.09  Q         |          |          |         V|
  21+20       0.6039      0.07  Q         |          |          |         V|
  21+25       0.6043      0.06  Q         |          |          |         V|
  21+30       0.6047      0.06  Q         |          |          |         V|
  21+35       0.6052      0.08  Q         |          |          |         V|
  21+40       0.6058      0.09  Q         |          |          |         V|
  21+45       0.6065      0.09  Q         |          |          |         V|
  21+50       0.6069      0.07  Q         |          |          |         V|
  21+55       0.6074      0.06  Q         |          |          |         V|
  22+ 0       0.6078      0.06  Q         |          |          |         V|
  22+ 5       0.6083      0.08  Q         |          |          |         V|
  22+10       0.6089      0.09  Q         |          |          |         V|
  22+15       0.6096      0.09  Q         |          |          |         V|
  22+20       0.6100      0.07  Q         |          |          |         V|
  22+25       0.6105      0.06  Q         |          |          |         V|
  22+30       0.6109      0.06  Q         |          |          |         V|
  22+35       0.6113      0.06  Q         |          |          |         V|
  22+40       0.6117      0.06  Q         |          |          |         V|
  22+45       0.6121      0.06  Q         |          |          |         V|
  22+50       0.6125      0.06  Q         |          |          |         V|
  22+55       0.6129      0.06  Q         |          |          |         V|
  23+ 0       0.6133      0.06  Q         |          |          |         V|
  23+ 5       0.6138      0.06  Q         |          |          |         V|
  23+10       0.6142      0.06  Q         |          |          |         V|
  23+15       0.6146      0.06  Q         |          |          |         V|
  23+20       0.6150      0.06  Q         |          |          |         V|
  23+25       0.6154      0.06  Q         |          |          |         V|
  23+30       0.6158      0.06  Q         |          |          |         V|
  23+35       0.6162      0.06  Q         |          |          |         V|
  23+40       0.6166      0.06  Q         |          |          |         V|
  23+45       0.6171      0.06  Q         |          |          |         V|
  23+50       0.6175      0.06  Q         |          |          |         V|
  23+55       0.6179      0.06  Q         |          |          |         V|
  24+ 0       0.6183      0.06  Q         |          |          |         V|
  24+ 5       0.6184      0.02  Q         |          |          |         V|
  24+10       0.6184      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 01/03/22 File: 20522PRD1242.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA D1
2-YEAR 24-HOUR STORM

Drainage Area = 15.60(Ac.) = 0.024 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 15.60(Ac.) = 0.024 Sq. Mi.
Length along longest watercourse = 1690.00(Ft.)
Length along longest watercourse measured to centroid = 955.00(Ft.)
Length along longest watercourse = 0.320 Mi.
Length along longest watercourse measured to centroid = 0.181 Mi.
Difference in elevation = 9.50(Ft.)
Slope along watercourse = 29.6805 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.064 Hr.
Lag time = 3.84 Min.
25% of lag time = 0.96 Min.
40% of lag time = 1.54 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]
15.60	1.60	24.96

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
15.60	4.00	62.40

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 1.600(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.600(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
15.600	69.00	0.910

Total Area Entered = 15.60(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
69.0	49.8	0.574	0.910	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) = 0.172

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	130.164	28.066	4.412
2	0.167	260.327	48.283	7.591
3	0.250	390.491	12.489	1.964
4	0.333	520.654	5.585	0.878
5	0.417	650.818	3.068	0.482
6	0.500	780.981	1.669	0.262
7	0.583	911.145	0.841	0.132
		Sum = 100.000	Sum=	15.722

The following loss 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	(0.184)	0.002	0.011
2	0.17	0.07	0.013	(0.183)	0.002	0.011
3	0.25	0.07	0.013	(0.183)	0.002	0.011
4	0.33	0.10	0.019	(0.182)	0.003	0.016
5	0.42	0.10	0.019	(0.181)	0.003	0.016
6	0.50	0.10	0.019	(0.181)	0.003	0.016
7	0.58	0.10	0.019	(0.180)	0.003	0.016
8	0.67	0.10	0.019	(0.179)	0.003	0.016
9	0.75	0.10	0.019	(0.179)	0.003	0.016
10	0.83	0.13	0.026	(0.178)	0.004	0.021
11	0.92	0.13	0.026	(0.177)	0.004	0.021
12	1.00	0.13	0.026	(0.176)	0.004	0.021

13	1.08	0.10	0.019	(0.176)	0.003	0.016
14	1.17	0.10	0.019	(0.175)	0.003	0.016
15	1.25	0.10	0.019	(0.174)	0.003	0.016
16	1.33	0.10	0.019	(0.174)	0.003	0.016
17	1.42	0.10	0.019	(0.173)	0.003	0.016
18	1.50	0.10	0.019	(0.172)	0.003	0.016
19	1.58	0.10	0.019	(0.172)	0.003	0.016
20	1.67	0.10	0.019	(0.171)	0.003	0.016
21	1.75	0.10	0.019	(0.170)	0.003	0.016
22	1.83	0.13	0.026	(0.169)	0.004	0.021
23	1.92	0.13	0.026	(0.169)	0.004	0.021
24	2.00	0.13	0.026	(0.168)	0.004	0.021
25	2.08	0.13	0.026	(0.167)	0.004	0.021
26	2.17	0.13	0.026	(0.167)	0.004	0.021
27	2.25	0.13	0.026	(0.166)	0.004	0.021
28	2.33	0.13	0.026	(0.165)	0.004	0.021
29	2.42	0.13	0.026	(0.165)	0.004	0.021
30	2.50	0.13	0.026	(0.164)	0.004	0.021
31	2.58	0.17	0.032	(0.163)	0.006	0.026
32	2.67	0.17	0.032	(0.163)	0.006	0.026
33	2.75	0.17	0.032	(0.162)	0.006	0.026
34	2.83	0.17	0.032	(0.161)	0.006	0.026
35	2.92	0.17	0.032	(0.161)	0.006	0.026
36	3.00	0.17	0.032	(0.160)	0.006	0.026
37	3.08	0.17	0.032	(0.159)	0.006	0.026
38	3.17	0.17	0.032	(0.159)	0.006	0.026
39	3.25	0.17	0.032	(0.158)	0.006	0.026
40	3.33	0.17	0.032	(0.157)	0.006	0.026
41	3.42	0.17	0.032	(0.157)	0.006	0.026
42	3.50	0.17	0.032	(0.156)	0.006	0.026
43	3.58	0.17	0.032	(0.155)	0.006	0.026
44	3.67	0.17	0.032	(0.155)	0.006	0.026
45	3.75	0.17	0.032	(0.154)	0.006	0.026
46	3.83	0.20	0.038	(0.154)	0.007	0.032
47	3.92	0.20	0.038	(0.153)	0.007	0.032
48	4.00	0.20	0.038	(0.152)	0.007	0.032
49	4.08	0.20	0.038	(0.152)	0.007	0.032
50	4.17	0.20	0.038	(0.151)	0.007	0.032
51	4.25	0.20	0.038	(0.150)	0.007	0.032
52	4.33	0.23	0.045	(0.150)	0.008	0.037
53	4.42	0.23	0.045	(0.149)	0.008	0.037
54	4.50	0.23	0.045	(0.148)	0.008	0.037
55	4.58	0.23	0.045	(0.148)	0.008	0.037
56	4.67	0.23	0.045	(0.147)	0.008	0.037
57	4.75	0.23	0.045	(0.146)	0.008	0.037
58	4.83	0.27	0.051	(0.146)	0.009	0.042
59	4.92	0.27	0.051	(0.145)	0.009	0.042
60	5.00	0.27	0.051	(0.145)	0.009	0.042
61	5.08	0.20	0.038	(0.144)	0.007	0.032
62	5.17	0.20	0.038	(0.143)	0.007	0.032
63	5.25	0.20	0.038	(0.143)	0.007	0.032
64	5.33	0.23	0.045	(0.142)	0.008	0.037
65	5.42	0.23	0.045	(0.141)	0.008	0.037
66	5.50	0.23	0.045	(0.141)	0.008	0.037
67	5.58	0.27	0.051	(0.140)	0.009	0.042
68	5.67	0.27	0.051	(0.140)	0.009	0.042
69	5.75	0.27	0.051	(0.139)	0.009	0.042
70	5.83	0.27	0.051	(0.138)	0.009	0.042
71	5.92	0.27	0.051	(0.138)	0.009	0.042
72	6.00	0.27	0.051	(0.137)	0.009	0.042

73	6.08	0.30	0.058	(0.137)	0.010	0.048
74	6.17	0.30	0.058	(0.136)	0.010	0.048
75	6.25	0.30	0.058	(0.135)	0.010	0.048
76	6.33	0.30	0.058	(0.135)	0.010	0.048
77	6.42	0.30	0.058	(0.134)	0.010	0.048
78	6.50	0.30	0.058	(0.133)	0.010	0.048
79	6.58	0.33	0.064	(0.133)	0.011	0.053
80	6.67	0.33	0.064	(0.132)	0.011	0.053
81	6.75	0.33	0.064	(0.132)	0.011	0.053
82	6.83	0.33	0.064	(0.131)	0.011	0.053
83	6.92	0.33	0.064	(0.131)	0.011	0.053
84	7.00	0.33	0.064	(0.130)	0.011	0.053
85	7.08	0.33	0.064	(0.129)	0.011	0.053
86	7.17	0.33	0.064	(0.129)	0.011	0.053
87	7.25	0.33	0.064	(0.128)	0.011	0.053
88	7.33	0.37	0.070	(0.128)	0.012	0.058
89	7.42	0.37	0.070	(0.127)	0.012	0.058
90	7.50	0.37	0.070	(0.126)	0.012	0.058
91	7.58	0.40	0.077	(0.126)	0.013	0.064
92	7.67	0.40	0.077	(0.125)	0.013	0.064
93	7.75	0.40	0.077	(0.125)	0.013	0.064
94	7.83	0.43	0.083	(0.124)	0.014	0.069
95	7.92	0.43	0.083	(0.124)	0.014	0.069
96	8.00	0.43	0.083	(0.123)	0.014	0.069
97	8.08	0.50	0.096	(0.122)	0.017	0.079
98	8.17	0.50	0.096	(0.122)	0.017	0.079
99	8.25	0.50	0.096	(0.121)	0.017	0.079
100	8.33	0.50	0.096	(0.121)	0.017	0.079
101	8.42	0.50	0.096	(0.120)	0.017	0.079
102	8.50	0.50	0.096	(0.120)	0.017	0.079
103	8.58	0.53	0.102	(0.119)	0.018	0.085
104	8.67	0.53	0.102	(0.118)	0.018	0.085
105	8.75	0.53	0.102	(0.118)	0.018	0.085
106	8.83	0.57	0.109	(0.117)	0.019	0.090
107	8.92	0.57	0.109	(0.117)	0.019	0.090
108	9.00	0.57	0.109	(0.116)	0.019	0.090
109	9.08	0.63	0.122	(0.116)	0.021	0.101
110	9.17	0.63	0.122	(0.115)	0.021	0.101
111	9.25	0.63	0.122	(0.115)	0.021	0.101
112	9.33	0.67	0.128	(0.114)	0.022	0.106
113	9.42	0.67	0.128	(0.113)	0.022	0.106
114	9.50	0.67	0.128	(0.113)	0.022	0.106
115	9.58	0.70	0.134	(0.112)	0.023	0.111
116	9.67	0.70	0.134	(0.112)	0.023	0.111
117	9.75	0.70	0.134	(0.111)	0.023	0.111
118	9.83	0.73	0.141	(0.111)	0.024	0.117
119	9.92	0.73	0.141	(0.110)	0.024	0.117
120	10.00	0.73	0.141	(0.110)	0.024	0.117
121	10.08	0.50	0.096	(0.109)	0.017	0.079
122	10.17	0.50	0.096	(0.109)	0.017	0.079
123	10.25	0.50	0.096	(0.108)	0.017	0.079
124	10.33	0.50	0.096	(0.108)	0.017	0.079
125	10.42	0.50	0.096	(0.107)	0.017	0.079
126	10.50	0.50	0.096	(0.107)	0.017	0.079
127	10.58	0.67	0.128	(0.106)	0.022	0.106
128	10.67	0.67	0.128	(0.106)	0.022	0.106
129	10.75	0.67	0.128	(0.105)	0.022	0.106
130	10.83	0.67	0.128	(0.104)	0.022	0.106
131	10.92	0.67	0.128	(0.104)	0.022	0.106
132	11.00	0.67	0.128	(0.103)	0.022	0.106

133	11.08	0.63	0.122	(0.103)	0.021	0.101
134	11.17	0.63	0.122	(0.102)	0.021	0.101
135	11.25	0.63	0.122	(0.102)	0.021	0.101
136	11.33	0.63	0.122	(0.101)	0.021	0.101
137	11.42	0.63	0.122	(0.101)	0.021	0.101
138	11.50	0.63	0.122	(0.100)	0.021	0.101
139	11.58	0.57	0.109	(0.100)	0.019	0.090
140	11.67	0.57	0.109	(0.099)	0.019	0.090
141	11.75	0.57	0.109	(0.099)	0.019	0.090
142	11.83	0.60	0.115	(0.098)	0.020	0.095
143	11.92	0.60	0.115	(0.098)	0.020	0.095
144	12.00	0.60	0.115	(0.097)	0.020	0.095
145	12.08	0.83	0.160	(0.097)	0.028	0.132
146	12.17	0.83	0.160	(0.096)	0.028	0.132
147	12.25	0.83	0.160	(0.096)	0.028	0.132
148	12.33	0.87	0.166	(0.096)	0.029	0.138
149	12.42	0.87	0.166	(0.095)	0.029	0.138
150	12.50	0.87	0.166	(0.095)	0.029	0.138
151	12.58	0.93	0.179	(0.094)	0.031	0.148
152	12.67	0.93	0.179	(0.094)	0.031	0.148
153	12.75	0.93	0.179	(0.093)	0.031	0.148
154	12.83	0.97	0.186	(0.093)	0.032	0.154
155	12.92	0.97	0.186	(0.092)	0.032	0.154
156	13.00	0.97	0.186	(0.092)	0.032	0.154
157	13.08	1.13	0.218	(0.091)	0.037	0.180
158	13.17	1.13	0.218	(0.091)	0.037	0.180
159	13.25	1.13	0.218	(0.090)	0.037	0.180
160	13.33	1.13	0.218	(0.090)	0.037	0.180
161	13.42	1.13	0.218	(0.089)	0.037	0.180
162	13.50	1.13	0.218	(0.089)	0.037	0.180
163	13.58	0.77	0.147	(0.089)	0.025	0.122
164	13.67	0.77	0.147	(0.088)	0.025	0.122
165	13.75	0.77	0.147	(0.088)	0.025	0.122
166	13.83	0.77	0.147	(0.087)	0.025	0.122
167	13.92	0.77	0.147	(0.087)	0.025	0.122
168	14.00	0.77	0.147	(0.086)	0.025	0.122
169	14.08	0.90	0.173	(0.086)	0.030	0.143
170	14.17	0.90	0.173	(0.085)	0.030	0.143
171	14.25	0.90	0.173	(0.085)	0.030	0.143
172	14.33	0.87	0.166	(0.085)	0.029	0.138
173	14.42	0.87	0.166	(0.084)	0.029	0.138
174	14.50	0.87	0.166	(0.084)	0.029	0.138
175	14.58	0.87	0.166	(0.083)	0.029	0.138
176	14.67	0.87	0.166	(0.083)	0.029	0.138
177	14.75	0.87	0.166	(0.082)	0.029	0.138
178	14.83	0.83	0.160	(0.082)	0.028	0.132
179	14.92	0.83	0.160	(0.082)	0.028	0.132
180	15.00	0.83	0.160	(0.081)	0.028	0.132
181	15.08	0.80	0.154	(0.081)	0.026	0.127
182	15.17	0.80	0.154	(0.080)	0.026	0.127
183	15.25	0.80	0.154	(0.080)	0.026	0.127
184	15.33	0.77	0.147	(0.079)	0.025	0.122
185	15.42	0.77	0.147	(0.079)	0.025	0.122
186	15.50	0.77	0.147	(0.079)	0.025	0.122
187	15.58	0.63	0.122	(0.078)	0.021	0.101
188	15.67	0.63	0.122	(0.078)	0.021	0.101
189	15.75	0.63	0.122	(0.077)	0.021	0.101
190	15.83	0.63	0.122	(0.077)	0.021	0.101
191	15.92	0.63	0.122	(0.077)	0.021	0.101
192	16.00	0.63	0.122	(0.076)	0.021	0.101

193	16.08	0.13	0.026	(0.076)	0.004	0.021
194	16.17	0.13	0.026	(0.076)	0.004	0.021
195	16.25	0.13	0.026	(0.075)	0.004	0.021
196	16.33	0.13	0.026	(0.075)	0.004	0.021
197	16.42	0.13	0.026	(0.074)	0.004	0.021
198	16.50	0.13	0.026	(0.074)	0.004	0.021
199	16.58	0.10	0.019	(0.074)	0.003	0.016
200	16.67	0.10	0.019	(0.073)	0.003	0.016
201	16.75	0.10	0.019	(0.073)	0.003	0.016
202	16.83	0.10	0.019	(0.072)	0.003	0.016
203	16.92	0.10	0.019	(0.072)	0.003	0.016
204	17.00	0.10	0.019	(0.072)	0.003	0.016
205	17.08	0.17	0.032	(0.071)	0.006	0.026
206	17.17	0.17	0.032	(0.071)	0.006	0.026
207	17.25	0.17	0.032	(0.071)	0.006	0.026
208	17.33	0.17	0.032	(0.070)	0.006	0.026
209	17.42	0.17	0.032	(0.070)	0.006	0.026
210	17.50	0.17	0.032	(0.070)	0.006	0.026
211	17.58	0.17	0.032	(0.069)	0.006	0.026
212	17.67	0.17	0.032	(0.069)	0.006	0.026
213	17.75	0.17	0.032	(0.069)	0.006	0.026
214	17.83	0.13	0.026	(0.068)	0.004	0.021
215	17.92	0.13	0.026	(0.068)	0.004	0.021
216	18.00	0.13	0.026	(0.068)	0.004	0.021
217	18.08	0.13	0.026	(0.067)	0.004	0.021
218	18.17	0.13	0.026	(0.067)	0.004	0.021
219	18.25	0.13	0.026	(0.067)	0.004	0.021
220	18.33	0.13	0.026	(0.066)	0.004	0.021
221	18.42	0.13	0.026	(0.066)	0.004	0.021
222	18.50	0.13	0.026	(0.066)	0.004	0.021
223	18.58	0.10	0.019	(0.065)	0.003	0.016
224	18.67	0.10	0.019	(0.065)	0.003	0.016
225	18.75	0.10	0.019	(0.065)	0.003	0.016
226	18.83	0.07	0.013	(0.064)	0.002	0.011
227	18.92	0.07	0.013	(0.064)	0.002	0.011
228	19.00	0.07	0.013	(0.064)	0.002	0.011
229	19.08	0.10	0.019	(0.063)	0.003	0.016
230	19.17	0.10	0.019	(0.063)	0.003	0.016
231	19.25	0.10	0.019	(0.063)	0.003	0.016
232	19.33	0.13	0.026	(0.063)	0.004	0.021
233	19.42	0.13	0.026	(0.062)	0.004	0.021
234	19.50	0.13	0.026	(0.062)	0.004	0.021
235	19.58	0.10	0.019	(0.062)	0.003	0.016
236	19.67	0.10	0.019	(0.061)	0.003	0.016
237	19.75	0.10	0.019	(0.061)	0.003	0.016
238	19.83	0.07	0.013	(0.061)	0.002	0.011
239	19.92	0.07	0.013	(0.061)	0.002	0.011
240	20.00	0.07	0.013	(0.060)	0.002	0.011
241	20.08	0.10	0.019	(0.060)	0.003	0.016
242	20.17	0.10	0.019	(0.060)	0.003	0.016
243	20.25	0.10	0.019	(0.060)	0.003	0.016
244	20.33	0.10	0.019	(0.059)	0.003	0.016
245	20.42	0.10	0.019	(0.059)	0.003	0.016
246	20.50	0.10	0.019	(0.059)	0.003	0.016
247	20.58	0.10	0.019	(0.059)	0.003	0.016
248	20.67	0.10	0.019	(0.058)	0.003	0.016
249	20.75	0.10	0.019	(0.058)	0.003	0.016
250	20.83	0.07	0.013	(0.058)	0.002	0.011
251	20.92	0.07	0.013	(0.058)	0.002	0.011
252	21.00	0.07	0.013	(0.057)	0.002	0.011

253	21.08	0.10	0.019	(0.057)	0.003	0.016
254	21.17	0.10	0.019	(0.057)	0.003	0.016
255	21.25	0.10	0.019	(0.057)	0.003	0.016
256	21.33	0.07	0.013	(0.056)	0.002	0.011
257	21.42	0.07	0.013	(0.056)	0.002	0.011
258	21.50	0.07	0.013	(0.056)	0.002	0.011
259	21.58	0.10	0.019	(0.056)	0.003	0.016
260	21.67	0.10	0.019	(0.056)	0.003	0.016
261	21.75	0.10	0.019	(0.055)	0.003	0.016
262	21.83	0.07	0.013	(0.055)	0.002	0.011
263	21.92	0.07	0.013	(0.055)	0.002	0.011
264	22.00	0.07	0.013	(0.055)	0.002	0.011
265	22.08	0.10	0.019	(0.055)	0.003	0.016
266	22.17	0.10	0.019	(0.054)	0.003	0.016
267	22.25	0.10	0.019	(0.054)	0.003	0.016
268	22.33	0.07	0.013	(0.054)	0.002	0.011
269	22.42	0.07	0.013	(0.054)	0.002	0.011
270	22.50	0.07	0.013	(0.054)	0.002	0.011
271	22.58	0.07	0.013	(0.054)	0.002	0.011
272	22.67	0.07	0.013	(0.054)	0.002	0.011
273	22.75	0.07	0.013	(0.053)	0.002	0.011
274	22.83	0.07	0.013	(0.053)	0.002	0.011
275	22.92	0.07	0.013	(0.053)	0.002	0.011
276	23.00	0.07	0.013	(0.053)	0.002	0.011
277	23.08	0.07	0.013	(0.053)	0.002	0.011
278	23.17	0.07	0.013	(0.053)	0.002	0.011
279	23.25	0.07	0.013	(0.053)	0.002	0.011
280	23.33	0.07	0.013	(0.053)	0.002	0.011
281	23.42	0.07	0.013	(0.052)	0.002	0.011
282	23.50	0.07	0.013	(0.052)	0.002	0.011
283	23.58	0.07	0.013	(0.052)	0.002	0.011
284	23.67	0.07	0.013	(0.052)	0.002	0.011
285	23.75	0.07	0.013	(0.052)	0.002	0.011
286	23.83	0.07	0.013	(0.052)	0.002	0.011
287	23.92	0.07	0.013	(0.052)	0.002	0.011
288	24.00	0.07	0.013	(0.052)	0.002	0.011

(Loss Rate Not Used)

Sum = 100.0 Sum = 15.9

Flood volume = Effective rainfall 1.32(In)
times area 15.6(Ac.)/[(In)/(Ft.)] = 1.7(Ac.Ft)

Total soil loss = 0.28(In)

Total soil loss = 0.358(Ac.Ft)

Total rainfall = 1.60(In)

Flood volume = 75018.5 Cubic Feet

Total soil loss = 15583.6 Cubic Feet

Peak flow rate of this hydrograph = 2.831(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	0.0003	0.05	Q	|	|	|	|
0+10	0.0012	0.13	Q	|	|	|	|
0+15	0.0022	0.15	Q	|	|	|	|

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0+20       0.0035      0.18  Q        |          |          |          |
0+25       0.0050      0.23  Q        |          |          |          |
0+30       0.0067      0.24  Q        |          |          |          |
0+35       0.0084      0.25  Q        |          |          |          |
0+40       0.0101      0.25  Q        |          |          |          |
0+45       0.0118      0.25  Q        |          |          |          |
0+50       0.0137      0.27  VQ       |          |          |          |
0+55       0.0158      0.31  VQ       |          |          |          |
1+ 0       0.0181      0.32  VQ       |          |          |          |
1+ 5       0.0202      0.31  VQ       |          |          |          |
1+10       0.0220      0.27  VQ       |          |          |          |
1+15       0.0238      0.26  VQ       |          |          |          |
1+20       0.0255      0.25  VQ       |          |          |          |
1+25       0.0273      0.25  VQ       |          |          |          |
1+30       0.0290      0.25  VQ       |          |          |          |
1+35       0.0307      0.25  VQ       |          |          |          |
1+40       0.0325      0.25  VQ       |          |          |          |
1+45       0.0342      0.25  VQ       |          |          |          |
1+50       0.0361      0.27  VQ       |          |          |          |
1+55       0.0382      0.31  VQ       |          |          |          |
2+ 0       0.0404      0.32  VQ       |          |          |          |
2+ 5       0.0427      0.33  VQ       |          |          |          |
2+10       0.0450      0.33  |Q       |          |          |          |
2+15       0.0473      0.33  |Q       |          |          |          |
2+20       0.0496      0.33  |Q       |          |          |          |
2+25       0.0519      0.33  |Q       |          |          |          |
2+30       0.0542      0.33  |Q       |          |          |          |
2+35       0.0566      0.36  |Q       |          |          |          |
2+40       0.0594      0.40  |Q       |          |          |          |
2+45       0.0622      0.41  |Q       |          |          |          |
2+50       0.0650      0.41  |Q       |          |          |          |
2+55       0.0679      0.41  |Q       |          |          |          |
3+ 0       0.0707      0.42  |Q       |          |          |          |
3+ 5       0.0736      0.42  |Q       |          |          |          |
3+10       0.0765      0.42  |Q       |          |          |          |
3+15       0.0793      0.42  |Q       |          |          |          |
3+20       0.0822      0.42  |Q       |          |          |          |
3+25       0.0851      0.42  |Q       |          |          |          |
3+30       0.0880      0.42  |QV      |          |          |          |
3+35       0.0908      0.42  |QV      |          |          |          |
3+40       0.0937      0.42  |QV      |          |          |          |
3+45       0.0966      0.42  |QV      |          |          |          |
3+50       0.0996      0.44  |QV      |          |          |          |
3+55       0.1029      0.48  |QV      |          |          |          |
4+ 0       0.1063      0.49  |QV      |          |          |          |
4+ 5       0.1097      0.50  |QV      |          |          |          |
4+10       0.1131      0.50  |QV      |          |          |          |
4+15       0.1166      0.50  |QV      |          |          |          |
4+20       0.1202      0.52  | Q      |          |          |          |
4+25       0.1241      0.56  | Q      |          |          |          |
4+30       0.1280      0.57  | Q      |          |          |          |
4+35       0.1320      0.58  | QV     |          |          |          |
4+40       0.1360      0.58  | QV     |          |          |          |
4+45       0.1400      0.58  | QV     |          |          |          |
4+50       0.1442      0.61  | QV     |          |          |          |
4+55       0.1487      0.65  | QV     |          |          |          |
5+ 0       0.1532      0.66  | QV     |          |          |          |
5+ 5       0.1574      0.62  | QV     |          |          |          |
5+10       0.1611      0.54  | QV     |          |          |          |
5+15       0.1647      0.52  | QV     |          |          |          |
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5+20	0.1684	0.53	QV				
5+25	0.1723	0.57	Q V				
5+30	0.1762	0.58	Q V				
5+35	0.1804	0.60	Q V				
5+40	0.1848	0.65	Q V				
5+45	0.1893	0.66	Q V				
5+50	0.1939	0.66	Q V				
5+55	0.1985	0.66	Q V				
6+ 0	0.2031	0.67	Q V				
6+ 5	0.2078	0.69	Q V				
6+10	0.2129	0.73	Q V				
6+15	0.2180	0.74	Q V				
6+20	0.2231	0.75	Q V				
6+25	0.2282	0.75	Q V				
6+30	0.2334	0.75	Q V				
6+35	0.2387	0.77	Q V				
6+40	0.2443	0.81	Q V				
6+45	0.2500	0.82	Q V				
6+50	0.2557	0.83	Q V				
6+55	0.2615	0.83	Q V				
7+ 0	0.2672	0.83	Q V				
7+ 5	0.2729	0.83	Q V				
7+10	0.2787	0.83	Q V				
7+15	0.2844	0.83	Q V				
7+20	0.2903	0.86	Q V				
7+25	0.2965	0.90	Q V				
7+30	0.3027	0.91	Q V				
7+35	0.3092	0.94	Q V				
7+40	0.3159	0.98	Q V				
7+45	0.3227	0.99	Q V				
7+50	0.3298	1.02	Q V				
7+55	0.3371	1.06	Q V				
8+ 0	0.3445	1.07	Q V				
8+ 5	0.3522	1.13	Q V				
8+10	0.3605	1.21	Q V				
8+15	0.3690	1.23	Q V				
8+20	0.3776	1.24	Q V				
8+25	0.3862	1.25	Q V				
8+30	0.3948	1.25	Q V				
8+35	0.4035	1.27	Q V				
8+40	0.4126	1.31	Q V				
8+45	0.4217	1.32	Q V				
8+50	0.4310	1.35	Q V				
8+55	0.4406	1.40	Q V				
9+ 0	0.4503	1.41	Q V				
9+ 5	0.4604	1.46	Q V				
9+10	0.4710	1.54	Q V				
9+15	0.4818	1.56	Q V				
9+20	0.4928	1.60	Q V				
9+25	0.5041	1.64	Q V				
9+30	0.5155	1.66	Q V				
9+35	0.5271	1.69	Q V				
9+40	0.5390	1.73	Q V				
9+45	0.5510	1.74	Q V				
9+50	0.5632	1.77	Q V				
9+55	0.5756	1.81	Q V				
10+ 0	0.5882	1.82	Q V				
10+ 5	0.5997	1.67	Q V				
10+10	0.6092	1.39	Q V				
10+15	0.6183	1.31	Q V				

10+20	0.6271	1.28	Q	V			
10+25	0.6358	1.26	Q	V			
10+30	0.6445	1.26	Q	V			
10+35	0.6539	1.37	Q	V			
10+40	0.6647	1.57	Q	V			
10+45	0.6759	1.62	Q	V			
10+50	0.6872	1.64	Q	V			
10+55	0.6986	1.66	Q	V			
11+ 0	0.7100	1.66	Q	V			
11+ 5	0.7214	1.64	Q	V			
11+10	0.7324	1.60	Q	V			
11+15	0.7434	1.59	Q	V			
11+20	0.7543	1.59	Q	V			
11+25	0.7652	1.59	Q	V			
11+30	0.7761	1.58	Q	V			
11+35	0.7867	1.54	Q	V			
11+40	0.7968	1.46	Q	V			
11+45	0.8066	1.44	Q	V			
11+50	0.8166	1.45	Q	V			
11+55	0.8269	1.48	Q	V			
12+ 0	0.8371	1.49	Q	V			
12+ 5	0.8486	1.66	Q	V			
12+10	0.8620	1.94	Q	V			
12+15	0.8759	2.02	Q	V			
12+20	0.8901	2.07	Q	V			
12+25	0.9048	2.13	Q	V			
12+30	0.9197	2.15	Q	V			
12+35	0.9349	2.21	Q	V			
12+40	0.9507	2.29	Q	V			
12+45	0.9666	2.31	Q	V			
12+50	0.9828	2.35	Q	V			
12+55	0.9993	2.39	Q	V			
13+ 0	1.0158	2.41	Q	V			
13+ 5	1.0332	2.53	Q	V			
13+10	1.0521	2.73	Q	V			
13+15	1.0713	2.79	Q	V			
13+20	1.0906	2.81	Q	V			
13+25	1.1101	2.82	Q	V			
13+30	1.1296	2.83	Q	V			
13+35	1.1473	2.58	Q	V			
13+40	1.1620	2.13	Q	V			
13+45	1.1759	2.02	Q	V			
13+50	1.1895	1.97	Q	V			
13+55	1.2028	1.94	Q	V			
14+ 0	1.2161	1.92	Q	V			
14+ 5	1.2299	2.01	Q	V			
14+10	1.2449	2.17	Q	V			
14+15	1.2601	2.21	Q	V			
14+20	1.2753	2.21	Q	V			
14+25	1.2904	2.18	Q	V			
14+30	1.3053	2.17	Q	V			
14+35	1.3203	2.17	Q	V			
14+40	1.3352	2.17	Q	V			
14+45	1.3502	2.17	Q	V			
14+50	1.3649	2.14	Q	V			
14+55	1.3794	2.10	Q	V			
15+ 0	1.3938	2.09	Q	V			
15+ 5	1.4080	2.07	Q	V			
15+10	1.4220	2.02	Q	V			
15+15	1.4358	2.01	Q	V			

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15+20       1.4495      1.98  |      Q  |         |         |  V      |
15+25       1.4628      1.94  |      Q  |         |         |  V      |
15+30       1.4761      1.93  |      Q  |         |         |   V     |
15+35       1.4887      1.83  |      Q  |         |         |   V     |
15+40       1.5001      1.66  |     Q   |         |         |   V     |
15+45       1.5113      1.62  |     Q   |         |         |    V    |
15+50       1.5223      1.60  |     Q   |         |         |    V    |
15+55       1.5333      1.59  |     Q   |         |         |    V    |
16+ 0       1.5442      1.59  |     Q   |         |         |    V    |
16+ 5       1.5527      1.23  |   Q     |         |         |     V   |
16+10       1.5571      0.63  | Q       |         |         |     V   |
16+15       1.5603      0.47  |Q        |         |         |     V   |
16+20       1.5631      0.40  |Q        |         |         |     V   |
16+25       1.5656      0.36  |Q        |         |         |     V   |
16+30       1.5680      0.34  |Q        |         |         |     V   |
16+35       1.5701      0.31  |Q        |         |         |     V   |
16+40       1.5720      0.27  |Q        |         |         |     V   |
16+45       1.5738      0.26  |Q        |         |         |     V   |
16+50       1.5755      0.25  |Q        |         |         |     V   |
16+55       1.5772      0.25  |Q        |         |         |     V   |
17+ 0       1.5790      0.25  |Q        |         |         |     V   |
17+ 5       1.5810      0.30  |Q        |         |         |     V   |
17+10       1.5836      0.38  |Q        |         |         |     V   |
17+15       1.5864      0.40  |Q        |         |         |     V   |
17+20       1.5892      0.41  |Q        |         |         |     V   |
17+25       1.5920      0.41  |Q        |         |         |     V   |
17+30       1.5949      0.42  |Q        |         |         |      V  |
17+35       1.5977      0.42  |Q        |         |         |      V  |
17+40       1.6006      0.42  |Q        |         |         |      V  |
17+45       1.6035      0.42  |Q        |         |         |      V  |
17+50       1.6062      0.39  |Q        |         |         |      V  |
17+55       1.6086      0.35  |Q        |         |         |      V  |
18+ 0       1.6110      0.34  |Q        |         |         |      V  |
18+ 5       1.6133      0.34  |Q        |         |         |      V  |
18+10       1.6156      0.34  |Q        |         |         |      V  |
18+15       1.6179      0.33  |Q        |         |         |      V  |
18+20       1.6202      0.33  |Q        |         |         |      V  |
18+25       1.6225      0.33  |Q        |         |         |      V  |
18+30       1.6248      0.33  |Q        |         |         |      V  |
18+35       1.6269      0.31  |Q        |         |         |      V  |
18+40       1.6288      0.27  |Q        |         |         |      V  |
18+45       1.6306      0.26  |Q        |         |         |      V  |
18+50       1.6322      0.23  Q         |         |         |      V  |
18+55       1.6335      0.19  Q         |         |         |      V  |
19+ 0       1.6347      0.18  Q         |         |         |      V  |
19+ 5       1.6360      0.19  Q         |         |         |      V  |
19+10       1.6376      0.23  Q         |         |         |       V |
19+15       1.6393      0.24  Q         |         |         |       V |
19+20       1.6412      0.27  |Q        |         |         |       V |
19+25       1.6433      0.31  |Q        |         |         |       V |
19+30       1.6455      0.32  |Q        |         |         |       V |
19+35       1.6476      0.31  |Q        |         |         |       V |
19+40       1.6495      0.27  |Q        |         |         |       V |
19+45       1.6513      0.26  |Q        |         |         |       V |
19+50       1.6528      0.23  Q         |         |         |       V |
19+55       1.6541      0.19  Q         |         |         |       V |
20+ 0       1.6554      0.18  Q         |         |         |       V |
20+ 5       1.6567      0.19  Q         |         |         |       V |
20+10       1.6583      0.23  Q         |         |         |       V |
20+15       1.6600      0.24  Q         |         |         |       V |
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  20+20       1.6617      0.25  Q          |          |          |        V |
  20+25       1.6634      0.25  Q          |          |          |        V |
  20+30       1.6651      0.25  Q          |          |          |        V |
  20+35       1.6668      0.25  |Q         |          |          |        V |
  20+40       1.6685      0.25  |Q         |          |          |        V |
  20+45       1.6703      0.25  |Q         |          |          |        V |
  20+50       1.6718      0.23  Q          |          |          |        V |
  20+55       1.6731      0.19  Q          |          |          |        V |
  21+ 0       1.6743      0.18  Q          |          |          |        V |
  21+ 5       1.6757      0.19  Q          |          |          |        V |
  21+10       1.6773      0.23  Q          |          |          |        V |
  21+15       1.6789      0.24  Q          |          |          |        V |
  21+20       1.6804      0.22  Q          |          |          |         V|
  21+25       1.6817      0.18  Q          |          |          |         V|
  21+30       1.6829      0.18  Q          |          |          |         V|
  21+35       1.6843      0.19  Q          |          |          |         V|
  21+40       1.6859      0.23  Q          |          |          |         V|
  21+45       1.6875      0.24  Q          |          |          |         V|
  21+50       1.6891      0.22  Q          |          |          |         V|
  21+55       1.6903      0.18  Q          |          |          |         V|
  22+ 0       1.6915      0.18  Q          |          |          |         V|
  22+ 5       1.6929      0.19  Q          |          |          |         V|
  22+10       1.6945      0.23  Q          |          |          |         V|
  22+15       1.6961      0.24  Q          |          |          |         V|
  22+20       1.6977      0.22  Q          |          |          |         V|
  22+25       1.6989      0.18  Q          |          |          |         V|
  22+30       1.7001      0.18  Q          |          |          |         V|
  22+35       1.7013      0.17  Q          |          |          |         V|
  22+40       1.7025      0.17  Q          |          |          |         V|
  22+45       1.7036      0.17  Q          |          |          |         V|
  22+50       1.7048      0.17  Q          |          |          |         V|
  22+55       1.7059      0.17  Q          |          |          |         V|
  23+ 0       1.7071      0.17  Q          |          |          |         V|
  23+ 5       1.7082      0.17  Q          |          |          |         V|
  23+10       1.7094      0.17  Q          |          |          |         V|
  23+15       1.7105      0.17  Q          |          |          |         V|
  23+20       1.7117      0.17  Q          |          |          |         V|
  23+25       1.7128      0.17  Q          |          |          |         V|
  23+30       1.7140      0.17  Q          |          |          |         V|
  23+35       1.7151      0.17  Q          |          |          |         V|
  23+40       1.7163      0.17  Q          |          |          |         V|
  23+45       1.7174      0.17  Q          |          |          |         V|
  23+50       1.7186      0.17  Q          |          |          |         V|
  23+55       1.7197      0.17  Q          |          |          |         V|
  24+ 0       1.7209      0.17  Q          |          |          |         V|
  24+ 5       1.7217      0.12  Q          |          |          |         V|
  24+10       1.7220      0.04  Q          |          |          |         V|
  24+15       1.7221      0.02  Q          |          |          |         V|
  24+20       1.7221      0.01  Q          |          |          |         V|
  24+25       1.7222      0.00  Q          |          |          |         V|
  24+30       1.7222      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 01/03/22 File: 20522PRD2242.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA D2
2-YEAR 24-HOUR STORM

Drainage Area = 4.60(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.60(Ac.) = 0.007 Sq. Mi.
Length along longest watercourse = 600.00(Ft.)
Length along longest watercourse measured to centroid = 292.00(Ft.)
Length along longest watercourse = 0.114 Mi.
Length along longest watercourse measured to centroid = 0.055 Mi.
Difference in elevation = 7.70(Ft.)
Slope along watercourse = 67.7600 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.024 Hr.
Lag time = 1.41 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.56 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.60	1.60	7.36

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.60	4.00	18.40

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 1.600(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.600(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
4.600	69.00	0.960

Total Area Entered = 4.60(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
69.0	49.8	0.574	0.960	0.078	1.000	0.078
					Sum (F) =	0.078

Area averaged mean soil loss (F) (In/Hr) = 0.078
Minimum soil loss rate ((In/Hr)) = 0.039
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.132

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	354.046	61.632	2.857
2	0.167	708.093	34.323	1.591
3	0.250	1062.139	4.045	0.188
		Sum = 100.000	Sum=	4.636

The following loss 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	(0.138)		0.002	0.011
2	0.17	0.07	0.013	(0.138)		0.002	0.011
3	0.25	0.07	0.013	(0.137)		0.002	0.011
4	0.33	0.10	0.019	(0.137)		0.003	0.017
5	0.42	0.10	0.019	(0.136)		0.003	0.017
6	0.50	0.10	0.019	(0.136)		0.003	0.017
7	0.58	0.10	0.019	(0.135)		0.003	0.017
8	0.67	0.10	0.019	(0.135)		0.003	0.017
9	0.75	0.10	0.019	(0.134)		0.003	0.017
10	0.83	0.13	0.026	(0.134)		0.003	0.022
11	0.92	0.13	0.026	(0.133)		0.003	0.022
12	1.00	0.13	0.026	(0.133)		0.003	0.022
13	1.08	0.10	0.019	(0.132)		0.003	0.017
14	1.17	0.10	0.019	(0.132)		0.003	0.017
15	1.25	0.10	0.019	(0.131)		0.003	0.017
16	1.33	0.10	0.019	(0.130)		0.003	0.017

17	1.42	0.10	0.019	(0.130)	0.003	0.017
18	1.50	0.10	0.019	(0.129)	0.003	0.017
19	1.58	0.10	0.019	(0.129)	0.003	0.017
20	1.67	0.10	0.019	(0.128)	0.003	0.017
21	1.75	0.10	0.019	(0.128)	0.003	0.017
22	1.83	0.13	0.026	(0.127)	0.003	0.022
23	1.92	0.13	0.026	(0.127)	0.003	0.022
24	2.00	0.13	0.026	(0.126)	0.003	0.022
25	2.08	0.13	0.026	(0.126)	0.003	0.022
26	2.17	0.13	0.026	(0.125)	0.003	0.022
27	2.25	0.13	0.026	(0.125)	0.003	0.022
28	2.33	0.13	0.026	(0.124)	0.003	0.022
29	2.42	0.13	0.026	(0.124)	0.003	0.022
30	2.50	0.13	0.026	(0.123)	0.003	0.022
31	2.58	0.17	0.032	(0.123)	0.004	0.028
32	2.67	0.17	0.032	(0.122)	0.004	0.028
33	2.75	0.17	0.032	(0.122)	0.004	0.028
34	2.83	0.17	0.032	(0.121)	0.004	0.028
35	2.92	0.17	0.032	(0.121)	0.004	0.028
36	3.00	0.17	0.032	(0.120)	0.004	0.028
37	3.08	0.17	0.032	(0.120)	0.004	0.028
38	3.17	0.17	0.032	(0.119)	0.004	0.028
39	3.25	0.17	0.032	(0.119)	0.004	0.028
40	3.33	0.17	0.032	(0.118)	0.004	0.028
41	3.42	0.17	0.032	(0.118)	0.004	0.028
42	3.50	0.17	0.032	(0.117)	0.004	0.028
43	3.58	0.17	0.032	(0.117)	0.004	0.028
44	3.67	0.17	0.032	(0.116)	0.004	0.028
45	3.75	0.17	0.032	(0.116)	0.004	0.028
46	3.83	0.20	0.038	(0.115)	0.005	0.033
47	3.92	0.20	0.038	(0.115)	0.005	0.033
48	4.00	0.20	0.038	(0.114)	0.005	0.033
49	4.08	0.20	0.038	(0.114)	0.005	0.033
50	4.17	0.20	0.038	(0.113)	0.005	0.033
51	4.25	0.20	0.038	(0.113)	0.005	0.033
52	4.33	0.23	0.045	(0.112)	0.006	0.039
53	4.42	0.23	0.045	(0.112)	0.006	0.039
54	4.50	0.23	0.045	(0.111)	0.006	0.039
55	4.58	0.23	0.045	(0.111)	0.006	0.039
56	4.67	0.23	0.045	(0.111)	0.006	0.039
57	4.75	0.23	0.045	(0.110)	0.006	0.039
58	4.83	0.27	0.051	(0.110)	0.007	0.044
59	4.92	0.27	0.051	(0.109)	0.007	0.044
60	5.00	0.27	0.051	(0.109)	0.007	0.044
61	5.08	0.20	0.038	(0.108)	0.005	0.033
62	5.17	0.20	0.038	(0.108)	0.005	0.033
63	5.25	0.20	0.038	(0.107)	0.005	0.033
64	5.33	0.23	0.045	(0.107)	0.006	0.039
65	5.42	0.23	0.045	(0.106)	0.006	0.039
66	5.50	0.23	0.045	(0.106)	0.006	0.039
67	5.58	0.27	0.051	(0.105)	0.007	0.044
68	5.67	0.27	0.051	(0.105)	0.007	0.044
69	5.75	0.27	0.051	(0.104)	0.007	0.044
70	5.83	0.27	0.051	(0.104)	0.007	0.044
71	5.92	0.27	0.051	(0.103)	0.007	0.044
72	6.00	0.27	0.051	(0.103)	0.007	0.044
73	6.08	0.30	0.058	(0.103)	0.008	0.050
74	6.17	0.30	0.058	(0.102)	0.008	0.050
75	6.25	0.30	0.058	(0.102)	0.008	0.050
76	6.33	0.30	0.058	(0.101)	0.008	0.050

77	6.42	0.30	0.058	(0.101)	0.008	0.050
78	6.50	0.30	0.058	(0.100)	0.008	0.050
79	6.58	0.33	0.064	(0.100)	0.008	0.056
80	6.67	0.33	0.064	(0.099)	0.008	0.056
81	6.75	0.33	0.064	(0.099)	0.008	0.056
82	6.83	0.33	0.064	(0.099)	0.008	0.056
83	6.92	0.33	0.064	(0.098)	0.008	0.056
84	7.00	0.33	0.064	(0.098)	0.008	0.056
85	7.08	0.33	0.064	(0.097)	0.008	0.056
86	7.17	0.33	0.064	(0.097)	0.008	0.056
87	7.25	0.33	0.064	(0.096)	0.008	0.056
88	7.33	0.37	0.070	(0.096)	0.009	0.061
89	7.42	0.37	0.070	(0.095)	0.009	0.061
90	7.50	0.37	0.070	(0.095)	0.009	0.061
91	7.58	0.40	0.077	(0.095)	0.010	0.067
92	7.67	0.40	0.077	(0.094)	0.010	0.067
93	7.75	0.40	0.077	(0.094)	0.010	0.067
94	7.83	0.43	0.083	(0.093)	0.011	0.072
95	7.92	0.43	0.083	(0.093)	0.011	0.072
96	8.00	0.43	0.083	(0.092)	0.011	0.072
97	8.08	0.50	0.096	(0.092)	0.013	0.083
98	8.17	0.50	0.096	(0.092)	0.013	0.083
99	8.25	0.50	0.096	(0.091)	0.013	0.083
100	8.33	0.50	0.096	(0.091)	0.013	0.083
101	8.42	0.50	0.096	(0.090)	0.013	0.083
102	8.50	0.50	0.096	(0.090)	0.013	0.083
103	8.58	0.53	0.102	(0.089)	0.014	0.089
104	8.67	0.53	0.102	(0.089)	0.014	0.089
105	8.75	0.53	0.102	(0.089)	0.014	0.089
106	8.83	0.57	0.109	(0.088)	0.014	0.094
107	8.92	0.57	0.109	(0.088)	0.014	0.094
108	9.00	0.57	0.109	(0.087)	0.014	0.094
109	9.08	0.63	0.122	(0.087)	0.016	0.106
110	9.17	0.63	0.122	(0.086)	0.016	0.106
111	9.25	0.63	0.122	(0.086)	0.016	0.106
112	9.33	0.67	0.128	(0.086)	0.017	0.111
113	9.42	0.67	0.128	(0.085)	0.017	0.111
114	9.50	0.67	0.128	(0.085)	0.017	0.111
115	9.58	0.70	0.134	(0.084)	0.018	0.117
116	9.67	0.70	0.134	(0.084)	0.018	0.117
117	9.75	0.70	0.134	(0.084)	0.018	0.117
118	9.83	0.73	0.141	(0.083)	0.019	0.122
119	9.92	0.73	0.141	(0.083)	0.019	0.122
120	10.00	0.73	0.141	(0.082)	0.019	0.122
121	10.08	0.50	0.096	(0.082)	0.013	0.083
122	10.17	0.50	0.096	(0.082)	0.013	0.083
123	10.25	0.50	0.096	(0.081)	0.013	0.083
124	10.33	0.50	0.096	(0.081)	0.013	0.083
125	10.42	0.50	0.096	(0.080)	0.013	0.083
126	10.50	0.50	0.096	(0.080)	0.013	0.083
127	10.58	0.67	0.128	(0.080)	0.017	0.111
128	10.67	0.67	0.128	(0.079)	0.017	0.111
129	10.75	0.67	0.128	(0.079)	0.017	0.111
130	10.83	0.67	0.128	(0.079)	0.017	0.111
131	10.92	0.67	0.128	(0.078)	0.017	0.111
132	11.00	0.67	0.128	(0.078)	0.017	0.111
133	11.08	0.63	0.122	(0.077)	0.016	0.106
134	11.17	0.63	0.122	(0.077)	0.016	0.106
135	11.25	0.63	0.122	(0.077)	0.016	0.106
136	11.33	0.63	0.122	(0.076)	0.016	0.106

137	11.42	0.63	0.122	(0.076)	0.016	0.106
138	11.50	0.63	0.122	(0.075)	0.016	0.106
139	11.58	0.57	0.109	(0.075)	0.014	0.094
140	11.67	0.57	0.109	(0.075)	0.014	0.094
141	11.75	0.57	0.109	(0.074)	0.014	0.094
142	11.83	0.60	0.115	(0.074)	0.015	0.100
143	11.92	0.60	0.115	(0.074)	0.015	0.100
144	12.00	0.60	0.115	(0.073)	0.015	0.100
145	12.08	0.83	0.160	(0.073)	0.021	0.139
146	12.17	0.83	0.160	(0.073)	0.021	0.139
147	12.25	0.83	0.160	(0.072)	0.021	0.139
148	12.33	0.87	0.166	(0.072)	0.022	0.144
149	12.42	0.87	0.166	(0.071)	0.022	0.144
150	12.50	0.87	0.166	(0.071)	0.022	0.144
151	12.58	0.93	0.179	(0.071)	0.024	0.156
152	12.67	0.93	0.179	(0.070)	0.024	0.156
153	12.75	0.93	0.179	(0.070)	0.024	0.156
154	12.83	0.97	0.186	(0.070)	0.024	0.161
155	12.92	0.97	0.186	(0.069)	0.024	0.161
156	13.00	0.97	0.186	(0.069)	0.024	0.161
157	13.08	1.13	0.218	(0.069)	0.029	0.189
158	13.17	1.13	0.218	(0.068)	0.029	0.189
159	13.25	1.13	0.218	(0.068)	0.029	0.189
160	13.33	1.13	0.218	(0.068)	0.029	0.189
161	13.42	1.13	0.218	(0.067)	0.029	0.189
162	13.50	1.13	0.218	(0.067)	0.029	0.189
163	13.58	0.77	0.147	(0.067)	0.019	0.128
164	13.67	0.77	0.147	(0.066)	0.019	0.128
165	13.75	0.77	0.147	(0.066)	0.019	0.128
166	13.83	0.77	0.147	(0.066)	0.019	0.128
167	13.92	0.77	0.147	(0.065)	0.019	0.128
168	14.00	0.77	0.147	(0.065)	0.019	0.128
169	14.08	0.90	0.173	(0.065)	0.023	0.150
170	14.17	0.90	0.173	(0.064)	0.023	0.150
171	14.25	0.90	0.173	(0.064)	0.023	0.150
172	14.33	0.87	0.166	(0.064)	0.022	0.144
173	14.42	0.87	0.166	(0.063)	0.022	0.144
174	14.50	0.87	0.166	(0.063)	0.022	0.144
175	14.58	0.87	0.166	(0.063)	0.022	0.144
176	14.67	0.87	0.166	(0.062)	0.022	0.144
177	14.75	0.87	0.166	(0.062)	0.022	0.144
178	14.83	0.83	0.160	(0.062)	0.021	0.139
179	14.92	0.83	0.160	(0.061)	0.021	0.139
180	15.00	0.83	0.160	(0.061)	0.021	0.139
181	15.08	0.80	0.154	(0.061)	0.020	0.133
182	15.17	0.80	0.154	(0.060)	0.020	0.133
183	15.25	0.80	0.154	(0.060)	0.020	0.133
184	15.33	0.77	0.147	(0.060)	0.019	0.128
185	15.42	0.77	0.147	(0.059)	0.019	0.128
186	15.50	0.77	0.147	(0.059)	0.019	0.128
187	15.58	0.63	0.122	(0.059)	0.016	0.106
188	15.67	0.63	0.122	(0.059)	0.016	0.106
189	15.75	0.63	0.122	(0.058)	0.016	0.106
190	15.83	0.63	0.122	(0.058)	0.016	0.106
191	15.92	0.63	0.122	(0.058)	0.016	0.106
192	16.00	0.63	0.122	(0.057)	0.016	0.106
193	16.08	0.13	0.026	(0.057)	0.003	0.022
194	16.17	0.13	0.026	(0.057)	0.003	0.022
195	16.25	0.13	0.026	(0.056)	0.003	0.022
196	16.33	0.13	0.026	(0.056)	0.003	0.022

197	16.42	0.13	0.026	(0.056)	0.003	0.022
198	16.50	0.13	0.026	(0.056)	0.003	0.022
199	16.58	0.10	0.019	(0.055)	0.003	0.017
200	16.67	0.10	0.019	(0.055)	0.003	0.017
201	16.75	0.10	0.019	(0.055)	0.003	0.017
202	16.83	0.10	0.019	(0.054)	0.003	0.017
203	16.92	0.10	0.019	(0.054)	0.003	0.017
204	17.00	0.10	0.019	(0.054)	0.003	0.017
205	17.08	0.17	0.032	(0.054)	0.004	0.028
206	17.17	0.17	0.032	(0.053)	0.004	0.028
207	17.25	0.17	0.032	(0.053)	0.004	0.028
208	17.33	0.17	0.032	(0.053)	0.004	0.028
209	17.42	0.17	0.032	(0.053)	0.004	0.028
210	17.50	0.17	0.032	(0.052)	0.004	0.028
211	17.58	0.17	0.032	(0.052)	0.004	0.028
212	17.67	0.17	0.032	(0.052)	0.004	0.028
213	17.75	0.17	0.032	(0.052)	0.004	0.028
214	17.83	0.13	0.026	(0.051)	0.003	0.022
215	17.92	0.13	0.026	(0.051)	0.003	0.022
216	18.00	0.13	0.026	(0.051)	0.003	0.022
217	18.08	0.13	0.026	(0.051)	0.003	0.022
218	18.17	0.13	0.026	(0.050)	0.003	0.022
219	18.25	0.13	0.026	(0.050)	0.003	0.022
220	18.33	0.13	0.026	(0.050)	0.003	0.022
221	18.42	0.13	0.026	(0.050)	0.003	0.022
222	18.50	0.13	0.026	(0.049)	0.003	0.022
223	18.58	0.10	0.019	(0.049)	0.003	0.017
224	18.67	0.10	0.019	(0.049)	0.003	0.017
225	18.75	0.10	0.019	(0.049)	0.003	0.017
226	18.83	0.07	0.013	(0.048)	0.002	0.011
227	18.92	0.07	0.013	(0.048)	0.002	0.011
228	19.00	0.07	0.013	(0.048)	0.002	0.011
229	19.08	0.10	0.019	(0.048)	0.003	0.017
230	19.17	0.10	0.019	(0.047)	0.003	0.017
231	19.25	0.10	0.019	(0.047)	0.003	0.017
232	19.33	0.13	0.026	(0.047)	0.003	0.022
233	19.42	0.13	0.026	(0.047)	0.003	0.022
234	19.50	0.13	0.026	(0.047)	0.003	0.022
235	19.58	0.10	0.019	(0.046)	0.003	0.017
236	19.67	0.10	0.019	(0.046)	0.003	0.017
237	19.75	0.10	0.019	(0.046)	0.003	0.017
238	19.83	0.07	0.013	(0.046)	0.002	0.011
239	19.92	0.07	0.013	(0.046)	0.002	0.011
240	20.00	0.07	0.013	(0.045)	0.002	0.011
241	20.08	0.10	0.019	(0.045)	0.003	0.017
242	20.17	0.10	0.019	(0.045)	0.003	0.017
243	20.25	0.10	0.019	(0.045)	0.003	0.017
244	20.33	0.10	0.019	(0.045)	0.003	0.017
245	20.42	0.10	0.019	(0.044)	0.003	0.017
246	20.50	0.10	0.019	(0.044)	0.003	0.017
247	20.58	0.10	0.019	(0.044)	0.003	0.017
248	20.67	0.10	0.019	(0.044)	0.003	0.017
249	20.75	0.10	0.019	(0.044)	0.003	0.017
250	20.83	0.07	0.013	(0.043)	0.002	0.011
251	20.92	0.07	0.013	(0.043)	0.002	0.011
252	21.00	0.07	0.013	(0.043)	0.002	0.011
253	21.08	0.10	0.019	(0.043)	0.003	0.017
254	21.17	0.10	0.019	(0.043)	0.003	0.017
255	21.25	0.10	0.019	(0.043)	0.003	0.017
256	21.33	0.07	0.013	(0.042)	0.002	0.011

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257  21.42     0.07      0.013       (  0.042)       0.002        0.011
258  21.50     0.07      0.013       (  0.042)       0.002        0.011
259  21.58     0.10      0.019       (  0.042)       0.003        0.017
260  21.67     0.10      0.019       (  0.042)       0.003        0.017
261  21.75     0.10      0.019       (  0.042)       0.003        0.017
262  21.83     0.07      0.013       (  0.041)       0.002        0.011
263  21.92     0.07      0.013       (  0.041)       0.002        0.011
264  22.00     0.07      0.013       (  0.041)       0.002        0.011
265  22.08     0.10      0.019       (  0.041)       0.003        0.017
266  22.17     0.10      0.019       (  0.041)       0.003        0.017
267  22.25     0.10      0.019       (  0.041)       0.003        0.017
268  22.33     0.07      0.013       (  0.041)       0.002        0.011
269  22.42     0.07      0.013       (  0.041)       0.002        0.011
270  22.50     0.07      0.013       (  0.040)       0.002        0.011
271  22.58     0.07      0.013       (  0.040)       0.002        0.011
272  22.67     0.07      0.013       (  0.040)       0.002        0.011
273  22.75     0.07      0.013       (  0.040)       0.002        0.011
274  22.83     0.07      0.013       (  0.040)       0.002        0.011
275  22.92     0.07      0.013       (  0.040)       0.002        0.011
276  23.00     0.07      0.013       (  0.040)       0.002        0.011
277  23.08     0.07      0.013       (  0.040)       0.002        0.011
278  23.17     0.07      0.013       (  0.040)       0.002        0.011
279  23.25     0.07      0.013       (  0.040)       0.002        0.011
280  23.33     0.07      0.013       (  0.039)       0.002        0.011
281  23.42     0.07      0.013       (  0.039)       0.002        0.011
282  23.50     0.07      0.013       (  0.039)       0.002        0.011
283  23.58     0.07      0.013       (  0.039)       0.002        0.011
284  23.67     0.07      0.013       (  0.039)       0.002        0.011
285  23.75     0.07      0.013       (  0.039)       0.002        0.011
286  23.83     0.07      0.013       (  0.039)       0.002        0.011
287  23.92     0.07      0.013       (  0.039)       0.002        0.011
288  24.00     0.07      0.013       (  0.039)       0.002        0.011
          (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    16.7
     Flood volume = Effective rainfall      1.39(In)
      times area       4.6(Ac.)/[(In)/(Ft.)] =       0.5(Ac.Ft)
     Total soil loss =      0.21(In)
     Total soil loss =     0.081(Ac.Ft)
     Total rainfall =      1.60(In)
     Flood volume =       23190.0 Cubic Feet
     Total soil loss =        3526.6 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =      0.876(CFS)
     ---------------------------------------------------------------------
     +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                         24 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
     ---------------------------------------------------------------------
                 Hydrograph in   5   Minute intervals ((CFS))

     ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ---------------------------------------------------------------------
   0+ 5       0.0002      0.03  Q         |         |         |         |
   0+10       0.0006      0.05  Q         |         |         |         |
   0+15       0.0009      0.05  Q         |         |         |         |
   0+20       0.0014      0.07  Q         |         |         |         |
   0+25       0.0019      0.08  Q         |         |         |         |
   0+30       0.0024      0.08  Q         |         |         |         |
   0+35       0.0030      0.08  Q         |         |         |         |
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0+40       0.0035      0.08  Q          |          |          |          |
0+45       0.0040      0.08  Q          |          |          |          |
0+50       0.0047      0.09  Q          |          |          |          |
0+55       0.0054      0.10  Q          |          |          |          |
1+ 0       0.0061      0.10  Q          |          |          |          |
1+ 5       0.0067      0.09  Q          |          |          |          |
1+10       0.0072      0.08  Q          |          |          |          |
1+15       0.0078      0.08  Q          |          |          |          |
1+20       0.0083      0.08  Q          |          |          |          |
1+25       0.0088      0.08  Q          |          |          |          |
1+30       0.0094      0.08  Q          |          |          |          |
1+35       0.0099      0.08  Q          |          |          |          |
1+40       0.0104      0.08  Q          |          |          |          |
1+45       0.0110      0.08  Q          |          |          |          |
1+50       0.0116      0.09  Q          |          |          |          |
1+55       0.0123      0.10  Q          |          |          |          |
2+ 0       0.0130      0.10  Q          |          |          |          |
2+ 5       0.0137      0.10  QV         |          |          |          |
2+10       0.0144      0.10  QV         |          |          |          |
2+15       0.0151      0.10  QV         |          |          |          |
2+20       0.0158      0.10  QV         |          |          |          |
2+25       0.0166      0.10  QV         |          |          |          |
2+30       0.0173      0.10  QV         |          |          |          |
2+35       0.0181      0.12  QV         |          |          |          |
2+40       0.0190      0.13  QV         |          |          |          |
2+45       0.0199      0.13  QV         |          |          |          |
2+50       0.0207      0.13  QV         |          |          |          |
2+55       0.0216      0.13  QV         |          |          |          |
3+ 0       0.0225      0.13  QV         |          |          |          |
3+ 5       0.0234      0.13  QV         |          |          |          |
3+10       0.0243      0.13  QV         |          |          |          |
3+15       0.0252      0.13  QV         |          |          |          |
3+20       0.0261      0.13  QV         |          |          |          |
3+25       0.0270      0.13  Q V        |          |          |          |
3+30       0.0278      0.13  Q V        |          |          |          |
3+35       0.0287      0.13  Q V        |          |          |          |
3+40       0.0296      0.13  Q V        |          |          |          |
3+45       0.0305      0.13  Q V        |          |          |          |
3+50       0.0315      0.14  Q V        |          |          |          |
3+55       0.0326      0.15  Q V        |          |          |          |
4+ 0       0.0336      0.15  Q V        |          |          |          |
4+ 5       0.0347      0.15  Q V        |          |          |          |
4+10       0.0357      0.15  Q V        |          |          |          |
4+15       0.0368      0.15  Q V        |          |          |          |
4+20       0.0380      0.17  Q V        |          |          |          |
4+25       0.0392      0.18  Q V        |          |          |          |
4+30       0.0405      0.18  Q  V       |          |          |          |
4+35       0.0417      0.18  Q  V       |          |          |          |
4+40       0.0429      0.18  Q  V       |          |          |          |
4+45       0.0442      0.18  Q  V       |          |          |          |
4+50       0.0455      0.20  Q  V       |          |          |          |
4+55       0.0470      0.21  Q  V       |          |          |          |
5+ 0       0.0484      0.21  Q  V       |          |          |          |
5+ 5       0.0496      0.17  Q  V       |          |          |          |
5+10       0.0507      0.16  Q  V       |          |          |          |
5+15       0.0517      0.15  Q  V       |          |          |          |
5+20       0.0529      0.17  Q  V       |          |          |          |
5+25       0.0541      0.18  Q   V      |          |          |          |
5+30       0.0554      0.18  Q   V      |          |          |          |
5+35       0.0567      0.20  Q   V      |          |          |          |
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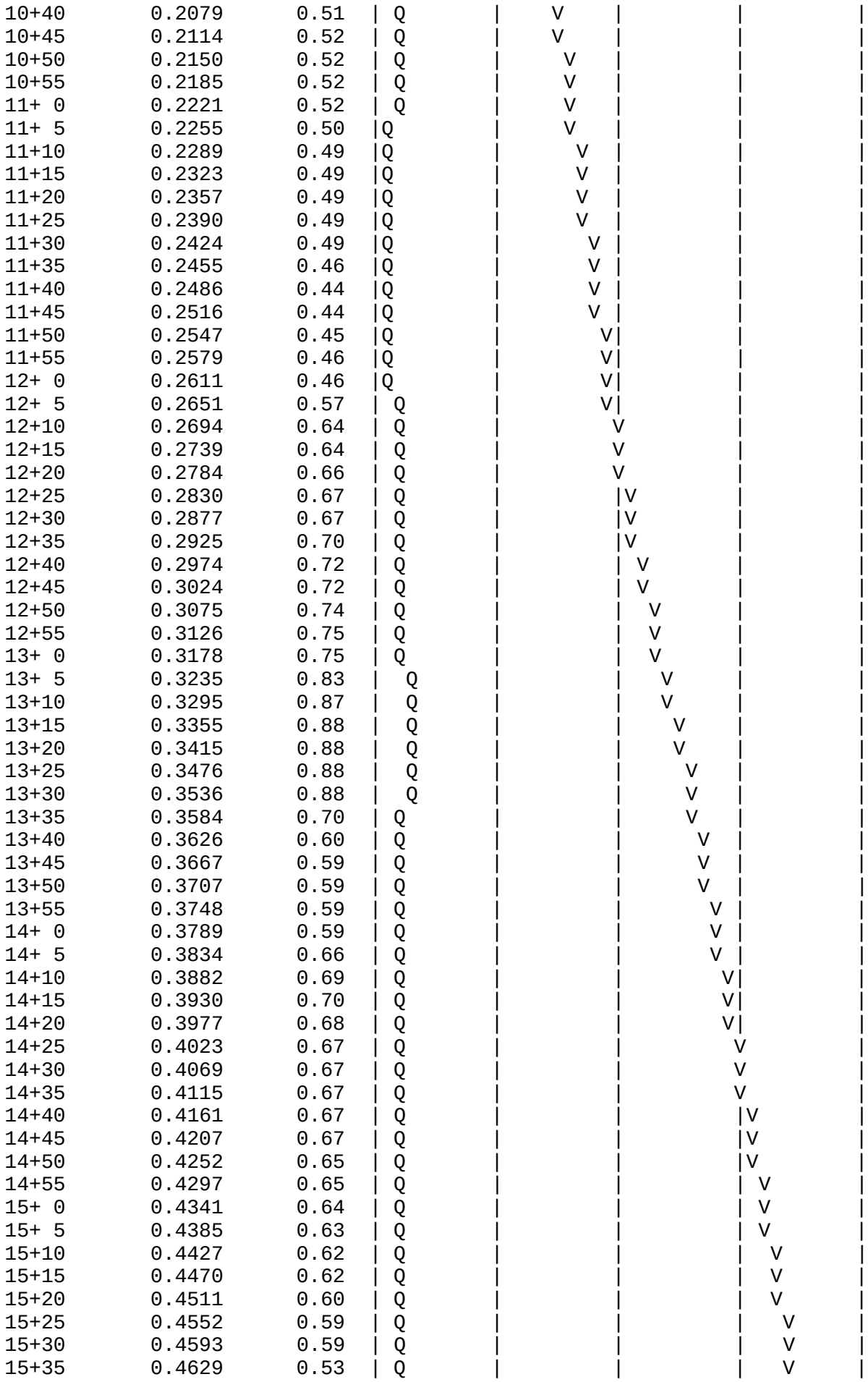
 5+40       0.0581      0.21  Q   V     |          |          |          |
 5+45       0.0596      0.21  Q   V     |          |          |          |
 5+50       0.0610      0.21  Q   V     |          |          |          |
 5+55       0.0624      0.21  Q   V     |          |          |          |
 6+ 0       0.0638      0.21  Q   V     |          |          |          |
 6+ 5       0.0653      0.22  Q   V     |          |          |          |
 6+10       0.0669      0.23  Q    V    |          |          |          |
 6+15       0.0685      0.23  Q    V    |          |          |          |
 6+20       0.0701      0.23  Q    V    |          |          |          |
 6+25       0.0717      0.23  Q    V    |          |          |          |
 6+30       0.0733      0.23  Q    V    |          |          |          |
 6+35       0.0750      0.25  Q    V    |          |          |          |
 6+40       0.0768      0.26  |Q   V    |          |          |          |
 6+45       0.0786      0.26  |Q   V    |          |          |          |
 6+50       0.0803      0.26  |Q    V   |          |          |          |
 6+55       0.0821      0.26  |Q    V   |          |          |          |
 7+ 0       0.0839      0.26  |Q    V   |          |          |          |
 7+ 5       0.0857      0.26  |Q    V   |          |          |          |
 7+10       0.0874      0.26  |Q    V   |          |          |          |
 7+15       0.0892      0.26  |Q    V   |          |          |          |
 7+20       0.0911      0.27  |Q    V   |          |          |          |
 7+25       0.0930      0.28  |Q    V   |          |          |          |
 7+30       0.0950      0.28  |Q     V  |          |          |          |
 7+35       0.0971      0.30  |Q     V  |          |          |          |
 7+40       0.0992      0.31  |Q     V  |          |          |          |
 7+45       0.1013      0.31  |Q     V  |          |          |          |
 7+50       0.1036      0.33  |Q     V  |          |          |          |
 7+55       0.1059      0.33  |Q     V  |          |          |          |
 8+ 0       0.1082      0.33  |Q      V |          |          |          |
 8+ 5       0.1107      0.37  |Q      V |          |          |          |
 8+10       0.1133      0.38  |Q      V |          |          |          |
 8+15       0.1160      0.39  |Q      V |          |          |          |
 8+20       0.1187      0.39  |Q      V |          |          |          |
 8+25       0.1213      0.39  |Q       V|          |          |          |
 8+30       0.1240      0.39  |Q       V|          |          |          |
 8+35       0.1267      0.40  |Q       V|          |          |          |
 8+40       0.1296      0.41  |Q       V|          |          |          |
 8+45       0.1324      0.41  |Q       V|          |          |          |
 8+50       0.1354      0.43  |Q        V          |          |          |
 8+55       0.1384      0.44  |Q        V          |          |          |
 9+ 0       0.1414      0.44  |Q        V          |          |          |
 9+ 5       0.1446      0.47  |Q        V          |          |          |
 9+10       0.1480      0.49  |Q        |V         |          |          |
 9+15       0.1514      0.49  |Q        |V         |          |          |
 9+20       0.1548      0.51  | Q       |V         |          |          |
 9+25       0.1584      0.51  | Q       |V         |          |          |
 9+30       0.1619      0.52  | Q       | V        |          |          |
 9+35       0.1656      0.53  | Q       | V        |          |          |
 9+40       0.1693      0.54  | Q       | V        |          |          |
 9+45       0.1730      0.54  | Q       |  V       |          |          |
 9+50       0.1769      0.56  | Q       |  V       |          |          |
 9+55       0.1808      0.57  | Q       |  V       |          |          |
10+ 0       0.1847      0.57  | Q       |  V       |          |          |
10+ 5       0.1878      0.46  |Q        |   V      |          |          |
10+10       0.1905      0.39  |Q        |   V      |          |          |
10+15       0.1932      0.39  |Q        |   V      |          |          |
10+20       0.1958      0.39  |Q        |   V      |          |          |
10+25       0.1985      0.39  |Q        |   V      |          |          |
10+30       0.2012      0.39  |Q        |    V     |          |          |
10+35       0.2044      0.47  |Q        |    V     |          |          |
```



15+40	0.4663	0.49	|Q	|	|	|	V |
15+45	0.4697	0.49	|Q	|	|	|	V |
15+50	0.4731	0.49	|Q	|	|	|	V |
15+55	0.4765	0.49	|Q	|	|	|	V |
16+ 0	0.4798	0.49	|Q	|	|	|	V |
16+ 5	0.4816	0.25	|Q	|	|	|	V |
16+10	0.4824	0.12	Q	|	|	|	V |
16+15	0.4831	0.10	Q	|	|	|	V |
16+20	0.4838	0.10	Q	|	|	|	V |
16+25	0.4845	0.10	Q	|	|	|	V |
16+30	0.4852	0.10	Q	|	|	|	V |
16+35	0.4858	0.09	Q	|	|	|	V |
16+40	0.4864	0.08	Q	|	|	|	V |
16+45	0.4869	0.08	Q	|	|	|	V |
16+50	0.4874	0.08	Q	|	|	|	V |
16+55	0.4880	0.08	Q	|	|	|	V |
17+ 0	0.4885	0.08	Q	|	|	|	V |
17+ 5	0.4892	0.11	Q	|	|	|	V |
17+10	0.4901	0.13	Q	|	|	|	V |
17+15	0.4910	0.13	Q	|	|	|	V |
17+20	0.4919	0.13	Q	|	|	|	V |
17+25	0.4928	0.13	Q	|	|	|	V |
17+30	0.4937	0.13	Q	|	|	|	V |
17+35	0.4945	0.13	Q	|	|	|	V |
17+40	0.4954	0.13	Q	|	|	|	V |
17+45	0.4963	0.13	Q	|	|	|	V |
17+50	0.4971	0.11	Q	|	|	|	V |
17+55	0.4978	0.10	Q	|	|	|	V |
18+ 0	0.4985	0.10	Q	|	|	|	V |
18+ 5	0.4992	0.10	Q	|	|	|	V |
18+10	0.4999	0.10	Q	|	|	|	V |
18+15	0.5007	0.10	Q	|	|	|	V |
18+20	0.5014	0.10	Q	|	|	|	V |
18+25	0.5021	0.10	Q	|	|	|	V |
18+30	0.5028	0.10	Q	|	|	|	V |
18+35	0.5034	0.09	Q	|	|	|	V |
18+40	0.5039	0.08	Q	|	|	|	V |
18+45	0.5045	0.08	Q	|	|	|	V |
18+50	0.5049	0.06	Q	|	|	|	V |
18+55	0.5052	0.05	Q	|	|	|	V |
19+ 0	0.5056	0.05	Q	|	|	|	V |
19+ 5	0.5061	0.07	Q	|	|	|	V |
19+10	0.5066	0.08	Q	|	|	|	V |
19+15	0.5071	0.08	Q	|	|	|	V |
19+20	0.5078	0.09	Q	|	|	|	V |
19+25	0.5085	0.10	Q	|	|	|	V |
19+30	0.5092	0.10	Q	|	|	|	V |
19+35	0.5098	0.09	Q	|	|	|	V |
19+40	0.5103	0.08	Q	|	|	|	V |
19+45	0.5108	0.08	Q	|	|	|	V |
19+50	0.5113	0.06	Q	|	|	|	V |
19+55	0.5116	0.05	Q	|	|	|	V |
20+ 0	0.5120	0.05	Q	|	|	|	V |
20+ 5	0.5125	0.07	Q	|	|	|	V |
20+10	0.5130	0.08	Q	|	|	|	V |
20+15	0.5135	0.08	Q	|	|	|	V |
20+20	0.5140	0.08	Q	|	|	|	V |
20+25	0.5146	0.08	Q	|	|	|	V |
20+30	0.5151	0.08	Q	|	|	|	V |
20+35	0.5156	0.08	Q	|	|	|	V |

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  20+40       0.5162      0.08  Q          |          |          |        V |
  20+45       0.5167      0.08  Q          |          |          |        V |
  20+50       0.5171      0.06  Q          |          |          |        V |
  20+55       0.5175      0.05  Q          |          |          |        V |
  21+ 0       0.5178      0.05  Q          |          |          |        V |
  21+ 5       0.5183      0.07  Q          |          |          |        V |
  21+10       0.5188      0.08  Q          |          |          |        V |
  21+15       0.5194      0.08  Q          |          |          |         V|
  21+20       0.5198      0.06  Q          |          |          |         V|
  21+25       0.5202      0.05  Q          |          |          |         V|
  21+30       0.5205      0.05  Q          |          |          |         V|
  21+35       0.5210      0.07  Q          |          |          |         V|
  21+40       0.5215      0.08  Q          |          |          |         V|
  21+45       0.5220      0.08  Q          |          |          |         V|
  21+50       0.5225      0.06  Q          |          |          |         V|
  21+55       0.5228      0.05  Q          |          |          |         V|
  22+ 0       0.5232      0.05  Q          |          |          |         V|
  22+ 5       0.5236      0.07  Q          |          |          |         V|
  22+10       0.5242      0.08  Q          |          |          |         V|
  22+15       0.5247      0.08  Q          |          |          |         V|
  22+20       0.5251      0.06  Q          |          |          |         V|
  22+25       0.5255      0.05  Q          |          |          |         V|
  22+30       0.5258      0.05  Q          |          |          |         V|
  22+35       0.5262      0.05  Q          |          |          |         V|
  22+40       0.5265      0.05  Q          |          |          |         V|
  22+45       0.5269      0.05  Q          |          |          |         V|
  22+50       0.5272      0.05  Q          |          |          |         V|
  22+55       0.5276      0.05  Q          |          |          |         V|
  23+ 0       0.5280      0.05  Q          |          |          |         V|
  23+ 5       0.5283      0.05  Q          |          |          |         V|
  23+10       0.5287      0.05  Q          |          |          |         V|
  23+15       0.5290      0.05  Q          |          |          |         V|
  23+20       0.5294      0.05  Q          |          |          |         V|
  23+25       0.5297      0.05  Q          |          |          |         V|
  23+30       0.5301      0.05  Q          |          |          |         V|
  23+35       0.5304      0.05  Q          |          |          |         V|
  23+40       0.5308      0.05  Q          |          |          |         V|
  23+45       0.5312      0.05  Q          |          |          |         V|
  23+50       0.5315      0.05  Q          |          |          |         V|
  23+55       0.5319      0.05  Q          |          |          |         V|
  24+ 0       0.5322      0.05  Q          |          |          |         V|
  24+ 5       0.5324      0.02  Q          |          |          |         V|
  24+10       0.5324      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 01/03/22 File: 20522PRD3242.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA D3
2-YEAR 24-HOUR STORM

Drainage Area = 2.50(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.50(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 345.00(Ft.)
Length along longest watercourse measured to centroid = 270.00(Ft.)
Length along longest watercourse = 0.065 Mi.
Length along longest watercourse measured to centroid = 0.051 Mi.
Difference in elevation = 9.50(Ft.)
Slope along watercourse = 145.3913 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.016 Hr.
Lag time = 0.96 Min.
25% of lag time = 0.24 Min.
40% of lag time = 0.38 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.50	1.60	4.00

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.50	4.00	10.00

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 1.600(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.600(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
2.500	69.00	0.790

Total Area Entered = 2.50(Ac.)

RI AMC2	RI AMC-1	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
69.0	49.8	0.574	0.790	0.166	1.000	0.166
					Sum (F) =	0.166

Area averaged mean soil loss (F) (In/Hr) = 0.166
Minimum soil loss rate ((In/Hr)) = 0.083
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.268

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	520.368	71.906	1.812
2	0.167	1040.737	28.094	0.708
		Sum = 100.000	Sum=	2.520

The following loss 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	(0.294)	0.003	0.009
2	0.17	0.07	0.013	(0.293)	0.003	0.009
3	0.25	0.07	0.013	(0.292)	0.003	0.009
4	0.33	0.10	0.019	(0.291)	0.005	0.014
5	0.42	0.10	0.019	(0.290)	0.005	0.014
6	0.50	0.10	0.019	(0.288)	0.005	0.014
7	0.58	0.10	0.019	(0.287)	0.005	0.014
8	0.67	0.10	0.019	(0.286)	0.005	0.014
9	0.75	0.10	0.019	(0.285)	0.005	0.014
10	0.83	0.13	0.026	(0.284)	0.007	0.019
11	0.92	0.13	0.026	(0.283)	0.007	0.019
12	1.00	0.13	0.026	(0.282)	0.007	0.019
13	1.08	0.10	0.019	(0.281)	0.005	0.014
14	1.17	0.10	0.019	(0.279)	0.005	0.014
15	1.25	0.10	0.019	(0.278)	0.005	0.014
16	1.33	0.10	0.019	(0.277)	0.005	0.014
17	1.42	0.10	0.019	(0.276)	0.005	0.014

18	1.50	0.10	0.019	(0.275)	0.005	0.014
19	1.58	0.10	0.019	(0.274)	0.005	0.014
20	1.67	0.10	0.019	(0.273)	0.005	0.014
21	1.75	0.10	0.019	(0.272)	0.005	0.014
22	1.83	0.13	0.026	(0.271)	0.007	0.019
23	1.92	0.13	0.026	(0.270)	0.007	0.019
24	2.00	0.13	0.026	(0.268)	0.007	0.019
25	2.08	0.13	0.026	(0.267)	0.007	0.019
26	2.17	0.13	0.026	(0.266)	0.007	0.019
27	2.25	0.13	0.026	(0.265)	0.007	0.019
28	2.33	0.13	0.026	(0.264)	0.007	0.019
29	2.42	0.13	0.026	(0.263)	0.007	0.019
30	2.50	0.13	0.026	(0.262)	0.007	0.019
31	2.58	0.17	0.032	(0.261)	0.009	0.023
32	2.67	0.17	0.032	(0.260)	0.009	0.023
33	2.75	0.17	0.032	(0.259)	0.009	0.023
34	2.83	0.17	0.032	(0.258)	0.009	0.023
35	2.92	0.17	0.032	(0.257)	0.009	0.023
36	3.00	0.17	0.032	(0.256)	0.009	0.023
37	3.08	0.17	0.032	(0.255)	0.009	0.023
38	3.17	0.17	0.032	(0.253)	0.009	0.023
39	3.25	0.17	0.032	(0.252)	0.009	0.023
40	3.33	0.17	0.032	(0.251)	0.009	0.023
41	3.42	0.17	0.032	(0.250)	0.009	0.023
42	3.50	0.17	0.032	(0.249)	0.009	0.023
43	3.58	0.17	0.032	(0.248)	0.009	0.023
44	3.67	0.17	0.032	(0.247)	0.009	0.023
45	3.75	0.17	0.032	(0.246)	0.009	0.023
46	3.83	0.20	0.038	(0.245)	0.010	0.028
47	3.92	0.20	0.038	(0.244)	0.010	0.028
48	4.00	0.20	0.038	(0.243)	0.010	0.028
49	4.08	0.20	0.038	(0.242)	0.010	0.028
50	4.17	0.20	0.038	(0.241)	0.010	0.028
51	4.25	0.20	0.038	(0.240)	0.010	0.028
52	4.33	0.23	0.045	(0.239)	0.012	0.033
53	4.42	0.23	0.045	(0.238)	0.012	0.033
54	4.50	0.23	0.045	(0.237)	0.012	0.033
55	4.58	0.23	0.045	(0.236)	0.012	0.033
56	4.67	0.23	0.045	(0.235)	0.012	0.033
57	4.75	0.23	0.045	(0.234)	0.012	0.033
58	4.83	0.27	0.051	(0.233)	0.014	0.037
59	4.92	0.27	0.051	(0.232)	0.014	0.037
60	5.00	0.27	0.051	(0.231)	0.014	0.037
61	5.08	0.20	0.038	(0.230)	0.010	0.028
62	5.17	0.20	0.038	(0.229)	0.010	0.028
63	5.25	0.20	0.038	(0.228)	0.010	0.028
64	5.33	0.23	0.045	(0.227)	0.012	0.033
65	5.42	0.23	0.045	(0.226)	0.012	0.033
66	5.50	0.23	0.045	(0.225)	0.012	0.033
67	5.58	0.27	0.051	(0.224)	0.014	0.037
68	5.67	0.27	0.051	(0.223)	0.014	0.037
69	5.75	0.27	0.051	(0.222)	0.014	0.037
70	5.83	0.27	0.051	(0.221)	0.014	0.037
71	5.92	0.27	0.051	(0.220)	0.014	0.037
72	6.00	0.27	0.051	(0.219)	0.014	0.037
73	6.08	0.30	0.058	(0.218)	0.015	0.042
74	6.17	0.30	0.058	(0.217)	0.015	0.042
75	6.25	0.30	0.058	(0.216)	0.015	0.042
76	6.33	0.30	0.058	(0.215)	0.015	0.042
77	6.42	0.30	0.058	(0.214)	0.015	0.042

78	6.50	0.30	0.058	(0.213)	0.015	0.042
79	6.58	0.33	0.064	(0.212)	0.017	0.047
80	6.67	0.33	0.064	(0.211)	0.017	0.047
81	6.75	0.33	0.064	(0.210)	0.017	0.047
82	6.83	0.33	0.064	(0.209)	0.017	0.047
83	6.92	0.33	0.064	(0.208)	0.017	0.047
84	7.00	0.33	0.064	(0.207)	0.017	0.047
85	7.08	0.33	0.064	(0.207)	0.017	0.047
86	7.17	0.33	0.064	(0.206)	0.017	0.047
87	7.25	0.33	0.064	(0.205)	0.017	0.047
88	7.33	0.37	0.070	(0.204)	0.019	0.052
89	7.42	0.37	0.070	(0.203)	0.019	0.052
90	7.50	0.37	0.070	(0.202)	0.019	0.052
91	7.58	0.40	0.077	(0.201)	0.021	0.056
92	7.67	0.40	0.077	(0.200)	0.021	0.056
93	7.75	0.40	0.077	(0.199)	0.021	0.056
94	7.83	0.43	0.083	(0.198)	0.022	0.061
95	7.92	0.43	0.083	(0.197)	0.022	0.061
96	8.00	0.43	0.083	(0.196)	0.022	0.061
97	8.08	0.50	0.096	(0.195)	0.026	0.070
98	8.17	0.50	0.096	(0.194)	0.026	0.070
99	8.25	0.50	0.096	(0.194)	0.026	0.070
100	8.33	0.50	0.096	(0.193)	0.026	0.070
101	8.42	0.50	0.096	(0.192)	0.026	0.070
102	8.50	0.50	0.096	(0.191)	0.026	0.070
103	8.58	0.53	0.102	(0.190)	0.027	0.075
104	8.67	0.53	0.102	(0.189)	0.027	0.075
105	8.75	0.53	0.102	(0.188)	0.027	0.075
106	8.83	0.57	0.109	(0.187)	0.029	0.080
107	8.92	0.57	0.109	(0.186)	0.029	0.080
108	9.00	0.57	0.109	(0.186)	0.029	0.080
109	9.08	0.63	0.122	(0.185)	0.033	0.089
110	9.17	0.63	0.122	(0.184)	0.033	0.089
111	9.25	0.63	0.122	(0.183)	0.033	0.089
112	9.33	0.67	0.128	(0.182)	0.034	0.094
113	9.42	0.67	0.128	(0.181)	0.034	0.094
114	9.50	0.67	0.128	(0.180)	0.034	0.094
115	9.58	0.70	0.134	(0.179)	0.036	0.098
116	9.67	0.70	0.134	(0.179)	0.036	0.098
117	9.75	0.70	0.134	(0.178)	0.036	0.098
118	9.83	0.73	0.141	(0.177)	0.038	0.103
119	9.92	0.73	0.141	(0.176)	0.038	0.103
120	10.00	0.73	0.141	(0.175)	0.038	0.103
121	10.08	0.50	0.096	(0.174)	0.026	0.070
122	10.17	0.50	0.096	(0.173)	0.026	0.070
123	10.25	0.50	0.096	(0.173)	0.026	0.070
124	10.33	0.50	0.096	(0.172)	0.026	0.070
125	10.42	0.50	0.096	(0.171)	0.026	0.070
126	10.50	0.50	0.096	(0.170)	0.026	0.070
127	10.58	0.67	0.128	(0.169)	0.034	0.094
128	10.67	0.67	0.128	(0.168)	0.034	0.094
129	10.75	0.67	0.128	(0.168)	0.034	0.094
130	10.83	0.67	0.128	(0.167)	0.034	0.094
131	10.92	0.67	0.128	(0.166)	0.034	0.094
132	11.00	0.67	0.128	(0.165)	0.034	0.094
133	11.08	0.63	0.122	(0.164)	0.033	0.089
134	11.17	0.63	0.122	(0.164)	0.033	0.089
135	11.25	0.63	0.122	(0.163)	0.033	0.089
136	11.33	0.63	0.122	(0.162)	0.033	0.089
137	11.42	0.63	0.122	(0.161)	0.033	0.089

138	11.50	0.63	0.122	(0.160)	0.033	0.089
139	11.58	0.57	0.109	(0.160)	0.029	0.080
140	11.67	0.57	0.109	(0.159)	0.029	0.080
141	11.75	0.57	0.109	(0.158)	0.029	0.080
142	11.83	0.60	0.115	(0.157)	0.031	0.084
143	11.92	0.60	0.115	(0.156)	0.031	0.084
144	12.00	0.60	0.115	(0.156)	0.031	0.084
145	12.08	0.83	0.160	(0.155)	0.043	0.117
146	12.17	0.83	0.160	(0.154)	0.043	0.117
147	12.25	0.83	0.160	(0.153)	0.043	0.117
148	12.33	0.87	0.166	(0.153)	0.045	0.122
149	12.42	0.87	0.166	(0.152)	0.045	0.122
150	12.50	0.87	0.166	(0.151)	0.045	0.122
151	12.58	0.93	0.179	(0.150)	0.048	0.131
152	12.67	0.93	0.179	(0.149)	0.048	0.131
153	12.75	0.93	0.179	(0.149)	0.048	0.131
154	12.83	0.97	0.186	(0.148)	0.050	0.136
155	12.92	0.97	0.186	(0.147)	0.050	0.136
156	13.00	0.97	0.186	(0.146)	0.050	0.136
157	13.08	1.13	0.218	(0.146)	0.058	0.159
158	13.17	1.13	0.218	(0.145)	0.058	0.159
159	13.25	1.13	0.218	(0.144)	0.058	0.159
160	13.33	1.13	0.218	(0.144)	0.058	0.159
161	13.42	1.13	0.218	(0.143)	0.058	0.159
162	13.50	1.13	0.218	(0.142)	0.058	0.159
163	13.58	0.77	0.147	(0.141)	0.039	0.108
164	13.67	0.77	0.147	(0.141)	0.039	0.108
165	13.75	0.77	0.147	(0.140)	0.039	0.108
166	13.83	0.77	0.147	(0.139)	0.039	0.108
167	13.92	0.77	0.147	(0.138)	0.039	0.108
168	14.00	0.77	0.147	(0.138)	0.039	0.108
169	14.08	0.90	0.173	(0.137)	0.046	0.126
170	14.17	0.90	0.173	(0.136)	0.046	0.126
171	14.25	0.90	0.173	(0.136)	0.046	0.126
172	14.33	0.87	0.166	(0.135)	0.045	0.122
173	14.42	0.87	0.166	(0.134)	0.045	0.122
174	14.50	0.87	0.166	(0.134)	0.045	0.122
175	14.58	0.87	0.166	(0.133)	0.045	0.122
176	14.67	0.87	0.166	(0.132)	0.045	0.122
177	14.75	0.87	0.166	(0.132)	0.045	0.122
178	14.83	0.83	0.160	(0.131)	0.043	0.117
179	14.92	0.83	0.160	(0.130)	0.043	0.117
180	15.00	0.83	0.160	(0.130)	0.043	0.117
181	15.08	0.80	0.154	(0.129)	0.041	0.112
182	15.17	0.80	0.154	(0.128)	0.041	0.112
183	15.25	0.80	0.154	(0.128)	0.041	0.112
184	15.33	0.77	0.147	(0.127)	0.039	0.108
185	15.42	0.77	0.147	(0.126)	0.039	0.108
186	15.50	0.77	0.147	(0.126)	0.039	0.108
187	15.58	0.63	0.122	(0.125)	0.033	0.089
188	15.67	0.63	0.122	(0.124)	0.033	0.089
189	15.75	0.63	0.122	(0.124)	0.033	0.089
190	15.83	0.63	0.122	(0.123)	0.033	0.089
191	15.92	0.63	0.122	(0.122)	0.033	0.089
192	16.00	0.63	0.122	(0.122)	0.033	0.089
193	16.08	0.13	0.026	(0.121)	0.007	0.019
194	16.17	0.13	0.026	(0.121)	0.007	0.019
195	16.25	0.13	0.026	(0.120)	0.007	0.019
196	16.33	0.13	0.026	(0.119)	0.007	0.019
197	16.42	0.13	0.026	(0.119)	0.007	0.019

198	16.50	0.13	0.026	(0.118)	0.007	0.019
199	16.58	0.10	0.019	(0.118)	0.005	0.014
200	16.67	0.10	0.019	(0.117)	0.005	0.014
201	16.75	0.10	0.019	(0.116)	0.005	0.014
202	16.83	0.10	0.019	(0.116)	0.005	0.014
203	16.92	0.10	0.019	(0.115)	0.005	0.014
204	17.00	0.10	0.019	(0.115)	0.005	0.014
205	17.08	0.17	0.032	(0.114)	0.009	0.023
206	17.17	0.17	0.032	(0.113)	0.009	0.023
207	17.25	0.17	0.032	(0.113)	0.009	0.023
208	17.33	0.17	0.032	(0.112)	0.009	0.023
209	17.42	0.17	0.032	(0.112)	0.009	0.023
210	17.50	0.17	0.032	(0.111)	0.009	0.023
211	17.58	0.17	0.032	(0.111)	0.009	0.023
212	17.67	0.17	0.032	(0.110)	0.009	0.023
213	17.75	0.17	0.032	(0.110)	0.009	0.023
214	17.83	0.13	0.026	(0.109)	0.007	0.019
215	17.92	0.13	0.026	(0.108)	0.007	0.019
216	18.00	0.13	0.026	(0.108)	0.007	0.019
217	18.08	0.13	0.026	(0.107)	0.007	0.019
218	18.17	0.13	0.026	(0.107)	0.007	0.019
219	18.25	0.13	0.026	(0.106)	0.007	0.019
220	18.33	0.13	0.026	(0.106)	0.007	0.019
221	18.42	0.13	0.026	(0.105)	0.007	0.019
222	18.50	0.13	0.026	(0.105)	0.007	0.019
223	18.58	0.10	0.019	(0.104)	0.005	0.014
224	18.67	0.10	0.019	(0.104)	0.005	0.014
225	18.75	0.10	0.019	(0.103)	0.005	0.014
226	18.83	0.07	0.013	(0.103)	0.003	0.009
227	18.92	0.07	0.013	(0.102)	0.003	0.009
228	19.00	0.07	0.013	(0.102)	0.003	0.009
229	19.08	0.10	0.019	(0.101)	0.005	0.014
230	19.17	0.10	0.019	(0.101)	0.005	0.014
231	19.25	0.10	0.019	(0.100)	0.005	0.014
232	19.33	0.13	0.026	(0.100)	0.007	0.019
233	19.42	0.13	0.026	(0.099)	0.007	0.019
234	19.50	0.13	0.026	(0.099)	0.007	0.019
235	19.58	0.10	0.019	(0.099)	0.005	0.014
236	19.67	0.10	0.019	(0.098)	0.005	0.014
237	19.75	0.10	0.019	(0.098)	0.005	0.014
238	19.83	0.07	0.013	(0.097)	0.003	0.009
239	19.92	0.07	0.013	(0.097)	0.003	0.009
240	20.00	0.07	0.013	(0.096)	0.003	0.009
241	20.08	0.10	0.019	(0.096)	0.005	0.014
242	20.17	0.10	0.019	(0.095)	0.005	0.014
243	20.25	0.10	0.019	(0.095)	0.005	0.014
244	20.33	0.10	0.019	(0.095)	0.005	0.014
245	20.42	0.10	0.019	(0.094)	0.005	0.014
246	20.50	0.10	0.019	(0.094)	0.005	0.014
247	20.58	0.10	0.019	(0.093)	0.005	0.014
248	20.67	0.10	0.019	(0.093)	0.005	0.014
249	20.75	0.10	0.019	(0.093)	0.005	0.014
250	20.83	0.07	0.013	(0.092)	0.003	0.009
251	20.92	0.07	0.013	(0.092)	0.003	0.009
252	21.00	0.07	0.013	(0.092)	0.003	0.009
253	21.08	0.10	0.019	(0.091)	0.005	0.014
254	21.17	0.10	0.019	(0.091)	0.005	0.014
255	21.25	0.10	0.019	(0.090)	0.005	0.014
256	21.33	0.07	0.013	(0.090)	0.003	0.009
257	21.42	0.07	0.013	(0.090)	0.003	0.009

258	21.50	0.07	0.013	(0.089)	0.003	0.009
259	21.58	0.10	0.019	(0.089)	0.005	0.014
260	21.67	0.10	0.019	(0.089)	0.005	0.014
261	21.75	0.10	0.019	(0.088)	0.005	0.014
262	21.83	0.07	0.013	(0.088)	0.003	0.009
263	21.92	0.07	0.013	(0.088)	0.003	0.009
264	22.00	0.07	0.013	(0.088)	0.003	0.009
265	22.08	0.10	0.019	(0.087)	0.005	0.014
266	22.17	0.10	0.019	(0.087)	0.005	0.014
267	22.25	0.10	0.019	(0.087)	0.005	0.014
268	22.33	0.07	0.013	(0.086)	0.003	0.009
269	22.42	0.07	0.013	(0.086)	0.003	0.009
270	22.50	0.07	0.013	(0.086)	0.003	0.009
271	22.58	0.07	0.013	(0.086)	0.003	0.009
272	22.67	0.07	0.013	(0.085)	0.003	0.009
273	22.75	0.07	0.013	(0.085)	0.003	0.009
274	22.83	0.07	0.013	(0.085)	0.003	0.009
275	22.92	0.07	0.013	(0.085)	0.003	0.009
276	23.00	0.07	0.013	(0.085)	0.003	0.009
277	23.08	0.07	0.013	(0.084)	0.003	0.009
278	23.17	0.07	0.013	(0.084)	0.003	0.009
279	23.25	0.07	0.013	(0.084)	0.003	0.009
280	23.33	0.07	0.013	(0.084)	0.003	0.009
281	23.42	0.07	0.013	(0.084)	0.003	0.009
282	23.50	0.07	0.013	(0.084)	0.003	0.009
283	23.58	0.07	0.013	(0.083)	0.003	0.009
284	23.67	0.07	0.013	(0.083)	0.003	0.009
285	23.75	0.07	0.013	(0.083)	0.003	0.009
286	23.83	0.07	0.013	(0.083)	0.003	0.009
287	23.92	0.07	0.013	(0.083)	0.003	0.009
288	24.00	0.07	0.013	(0.083)	0.003	0.009

(Loss Rate Not Used)

Sum = 100.0 Sum = 14.1

Flood volume = Effective rainfall 1.17(In)
times area 2.5(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.43(In)
Total soil loss = 0.089(Ac.Ft)
Total rainfall = 1.60(In)
Flood volume = 10628.6 Cubic Feet
Total soil loss = 3891.3 Cubic Feet

Peak flow rate of this hydrograph = 0.402(CFS)

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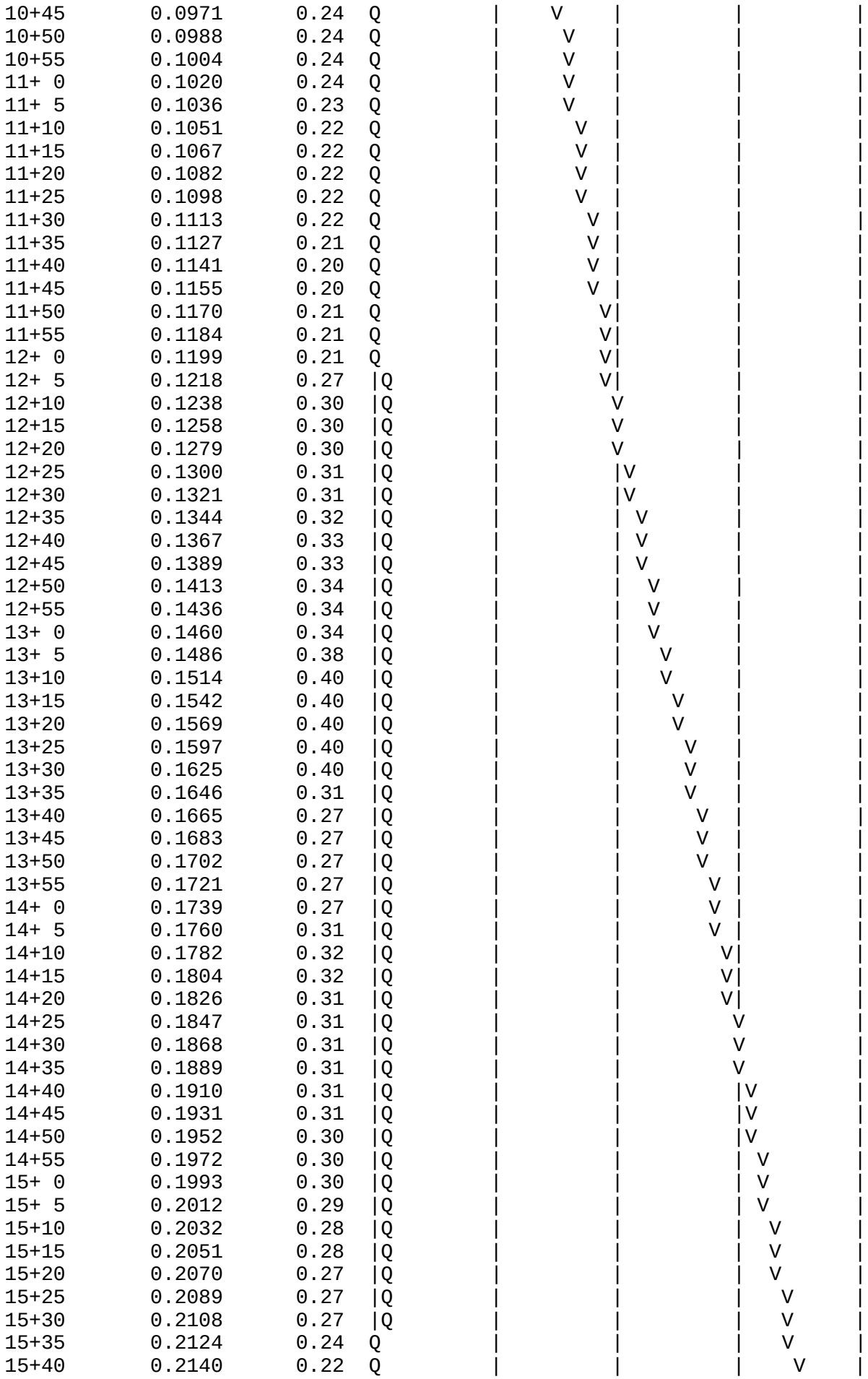
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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	0.0007	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	0.0016	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	0.0028	0.05	Q	|	|	|	|
1+ 5	0.0031	0.04	Q	|	|	|	|
1+10	0.0033	0.04	Q	|	|	|	|
1+15	0.0036	0.04	Q	|	|	|	|
1+20	0.0038	0.04	Q	|	|	|	|
1+25	0.0041	0.04	Q	|	|	|	|
1+30	0.0043	0.04	Q	|	|	|	|
1+35	0.0046	0.04	Q	|	|	|	|
1+40	0.0048	0.04	Q	|	|	|	|
1+45	0.0051	0.04	Q	|	|	|	|
1+50	0.0054	0.04	Q	|	|	|	|
1+55	0.0057	0.05	Q	|	|	|	|
2+ 0	0.0060	0.05	Q	|	|	|	|
2+ 5	0.0063	0.05	QV	|	|	|	|
2+10	0.0067	0.05	QV	|	|	|	|
2+15	0.0070	0.05	QV	|	|	|	|
2+20	0.0073	0.05	QV	|	|	|	|
2+25	0.0076	0.05	QV	|	|	|	|
2+30	0.0080	0.05	QV	|	|	|	|
2+35	0.0083	0.06	QV	|	|	|	|
2+40	0.0088	0.06	QV	|	|	|	|
2+45	0.0092	0.06	QV	|	|	|	|
2+50	0.0096	0.06	QV	|	|	|	|
2+55	0.0100	0.06	QV	|	|	|	|
3+ 0	0.0104	0.06	QV	|	|	|	|
3+ 5	0.0108	0.06	QV	|	|	|	|
3+10	0.0112	0.06	QV	|	|	|	|
3+15	0.0116	0.06	QV	|	|	|	|
3+20	0.0120	0.06	QV	|	|	|	|
3+25	0.0124	0.06	Q V	|	|	|	|
3+30	0.0128	0.06	Q V	|	|	|	|
3+35	0.0132	0.06	Q V	|	|	|	|
3+40	0.0136	0.06	Q V	|	|	|	|
3+45	0.0140	0.06	Q V	|	|	|	|
3+50	0.0145	0.07	Q V	|	|	|	|
3+55	0.0150	0.07	Q V	|	|	|	|
4+ 0	0.0155	0.07	Q V	|	|	|	|
4+ 5	0.0160	0.07	Q V	|	|	|	|
4+10	0.0165	0.07	Q V	|	|	|	|
4+15	0.0169	0.07	Q V	|	|	|	|
4+20	0.0175	0.08	Q V	|	|	|	|
4+25	0.0181	0.08	Q V	|	|	|	|
4+30	0.0186	0.08	Q V	|	|	|	|
4+35	0.0192	0.08	Q V	|	|	|	|
4+40	0.0198	0.08	Q V	|	|	|	|
4+45	0.0203	0.08	Q V	|	|	|	|
4+50	0.0210	0.09	Q V	|	|	|	|
4+55	0.0216	0.09	Q V	|	|	|	|
5+ 0	0.0223	0.09	Q V	|	|	|	|
5+ 5	0.0228	0.08	Q V	|	|	|	|
5+10	0.0233	0.07	Q V	|	|	|	|
5+15	0.0238	0.07	Q V	|	|	|	|
5+20	0.0243	0.08	Q V	|	|	|	|
5+25	0.0249	0.08	Q V	|	|	|	|
5+30	0.0255	0.08	Q V	|	|	|	|
5+35	0.0261	0.09	Q V	|	|	|	|
5+40	0.0267	0.09	Q V	|	|	|	|

5+45	0.0274	0.09	Q	V	|	|	|	|
5+50	0.0280	0.09	Q	V	|	|	|	|
5+55	0.0287	0.09	Q	V	|	|	|	|
6+ 0	0.0293	0.09	Q	V	|	|	|	|
6+ 5	0.0301	0.10	Q	V	|	|	|	|
6+10	0.0308	0.11	Q	V	|	|	|	|
6+15	0.0315	0.11	Q	V	|	|	|	|
6+20	0.0322	0.11	Q	V	|	|	|	|
6+25	0.0330	0.11	Q	V	|	|	|	|
6+30	0.0337	0.11	Q	V	|	|	|	|
6+35	0.0345	0.11	Q	V	|	|	|	|
6+40	0.0353	0.12	Q	V	|	|	|	|
6+45	0.0361	0.12	Q	V	|	|	|	|
6+50	0.0369	0.12	Q	V	|	|	|	|
6+55	0.0378	0.12	Q	V	|	|	|	|
7+ 0	0.0386	0.12	Q	V	|	|	|	|
7+ 5	0.0394	0.12	Q	V	|	|	|	|
7+10	0.0402	0.12	Q	V	|	|	|	|
7+15	0.0410	0.12	Q	V	|	|	|	|
7+20	0.0419	0.13	Q	V	|	|	|	|
7+25	0.0428	0.13	Q	V	|	|	|	|
7+30	0.0437	0.13	Q	V	|	|	|	|
7+35	0.0446	0.14	Q	V	|	|	|	|
7+40	0.0456	0.14	Q	V	|	|	|	|
7+45	0.0466	0.14	Q	V	|	|	|	|
7+50	0.0476	0.15	Q	V	|	|	|	|
7+55	0.0487	0.15	Q	V	|	|	|	|
8+ 0	0.0497	0.15	Q	V	|	|	|	|
8+ 5	0.0509	0.17	Q	V	|	|	|	|
8+10	0.0521	0.18	Q	V	|	|	|	|
8+15	0.0533	0.18	Q	V	|	|	|	|
8+20	0.0546	0.18	Q	V	|	|	|	|
8+25	0.0558	0.18	Q	V	|	|	|	|
8+30	0.0570	0.18	Q	V	|	|	|	|
8+35	0.0583	0.19	Q	V	|	|	|	|
8+40	0.0596	0.19	Q	V	|	|	|	|
8+45	0.0609	0.19	Q	V	|	|	|	|
8+50	0.0622	0.20	Q	V	|	|	|	|
8+55	0.0636	0.20	Q	V	|	|	|	|
9+ 0	0.0650	0.20	Q	V	|	|	|	|
9+ 5	0.0665	0.22	Q	V	|	|	|	|
9+10	0.0680	0.22	Q	|	V	|	|	|
9+15	0.0696	0.22	Q	|	V	|	|	|
9+20	0.0712	0.23	Q	|	V	|	|	|
9+25	0.0728	0.24	Q	|	V	|	|	|
9+30	0.0745	0.24	Q	|	V	|	|	|
9+35	0.0761	0.24	Q	|	V	|	|	|
9+40	0.0778	0.25	Q	|	V	|	|	|
9+45	0.0796	0.25	Q	|	V	|	|	|
9+50	0.0813	0.26	|Q	|	V	|	|	|
9+55	0.0831	0.26	|Q	|	V	|	|	|
10+ 0	0.0849	0.26	|Q	|	V	|	|	|
10+ 5	0.0863	0.20	Q	|	V	|	|	|
10+10	0.0875	0.18	Q	|	V	|	|	|
10+15	0.0887	0.18	Q	|	V	|	|	|
10+20	0.0899	0.18	Q	|	V	|	|	|
10+25	0.0912	0.18	Q	|	V	|	|	|
10+30	0.0924	0.18	Q	|	V	|	|	|
10+35	0.0939	0.22	Q	|	V	|	|	|
10+40	0.0955	0.24	Q	|	V	|	|	|



15+45	0.2155	0.22	Q	|	|	|	V |
15+50	0.2171	0.22	Q	|	|	|	V |
15+55	0.2186	0.22	Q	|	|	|	V |
16+ 0	0.2201	0.22	Q	|	|	|	V |
16+ 5	0.2208	0.10	Q	|	|	|	V |
16+10	0.2211	0.05	Q	|	|	|	V |
16+15	0.2215	0.05	Q	|	|	|	V |
16+20	0.2218	0.05	Q	|	|	|	V |
16+25	0.2221	0.05	Q	|	|	|	V |
16+30	0.2224	0.05	Q	|	|	|	V |
16+35	0.2227	0.04	Q	|	|	|	V |
16+40	0.2229	0.04	Q	|	|	|	V |
16+45	0.2232	0.04	Q	|	|	|	V |
16+50	0.2234	0.04	Q	|	|	|	V |
16+55	0.2237	0.04	Q	|	|	|	V |
17+ 0	0.2239	0.04	Q	|	|	|	V |
17+ 5	0.2243	0.05	Q	|	|	|	V |
17+10	0.2247	0.06	Q	|	|	|	V |
17+15	0.2251	0.06	Q	|	|	|	V |
17+20	0.2255	0.06	Q	|	|	|	V |
17+25	0.2259	0.06	Q	|	|	|	V |
17+30	0.2263	0.06	Q	|	|	|	V |
17+35	0.2267	0.06	Q	|	|	|	V |
17+40	0.2271	0.06	Q	|	|	|	V |
17+45	0.2275	0.06	Q	|	|	|	V |
17+50	0.2279	0.05	Q	|	|	|	V |
17+55	0.2282	0.05	Q	|	|	|	V |
18+ 0	0.2285	0.05	Q	|	|	|	V |
18+ 5	0.2289	0.05	Q	|	|	|	V |
18+10	0.2292	0.05	Q	|	|	|	V |
18+15	0.2295	0.05	Q	|	|	|	V |
18+20	0.2298	0.05	Q	|	|	|	V |
18+25	0.2302	0.05	Q	|	|	|	V |
18+30	0.2305	0.05	Q	|	|	|	V |
18+35	0.2308	0.04	Q	|	|	|	V |
18+40	0.2310	0.04	Q	|	|	|	V |
18+45	0.2312	0.04	Q	|	|	|	V |
18+50	0.2314	0.03	Q	|	|	|	V |
18+55	0.2316	0.02	Q	|	|	|	V |
19+ 0	0.2318	0.02	Q	|	|	|	V |
19+ 5	0.2320	0.03	Q	|	|	|	V |
19+10	0.2322	0.04	Q	|	|	|	V |
19+15	0.2325	0.04	Q	|	|	|	V |
19+20	0.2328	0.04	Q	|	|	|	V |
19+25	0.2331	0.05	Q	|	|	|	V |
19+30	0.2334	0.05	Q	|	|	|	V |
19+35	0.2337	0.04	Q	|	|	|	V |
19+40	0.2339	0.04	Q	|	|	|	V |
19+45	0.2342	0.04	Q	|	|	|	V |
19+50	0.2344	0.03	Q	|	|	|	V |
19+55	0.2345	0.02	Q	|	|	|	V |
20+ 0	0.2347	0.02	Q	|	|	|	V |
20+ 5	0.2349	0.03	Q	|	|	|	V |
20+10	0.2351	0.04	Q	|	|	|	V |
20+15	0.2354	0.04	Q	|	|	|	V |
20+20	0.2356	0.04	Q	|	|	|	V |
20+25	0.2359	0.04	Q	|	|	|	V |
20+30	0.2361	0.04	Q	|	|	|	V |
20+35	0.2364	0.04	Q	|	|	|	V |
20+40	0.2366	0.04	Q	|	|	|	V |

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  20+45       0.2369      0.04  Q          |          |          |        V |
  20+50       0.2370      0.03  Q          |          |          |        V |
  20+55       0.2372      0.02  Q          |          |          |        V |
  21+ 0       0.2374      0.02  Q          |          |          |        V |
  21+ 5       0.2376      0.03  Q          |          |          |        V |
  21+10       0.2378      0.04  Q          |          |          |        V |
  21+15       0.2381      0.04  Q          |          |          |         V|
  21+20       0.2383      0.03  Q          |          |          |         V|
  21+25       0.2384      0.02  Q          |          |          |         V|
  21+30       0.2386      0.02  Q          |          |          |         V|
  21+35       0.2388      0.03  Q          |          |          |         V|
  21+40       0.2391      0.04  Q          |          |          |         V|
  21+45       0.2393      0.04  Q          |          |          |         V|
  21+50       0.2395      0.03  Q          |          |          |         V|
  21+55       0.2396      0.02  Q          |          |          |         V|
  22+ 0       0.2398      0.02  Q          |          |          |         V|
  22+ 5       0.2400      0.03  Q          |          |          |         V|
  22+10       0.2403      0.04  Q          |          |          |         V|
  22+15       0.2405      0.04  Q          |          |          |         V|
  22+20       0.2407      0.03  Q          |          |          |         V|
  22+25       0.2409      0.02  Q          |          |          |         V|
  22+30       0.2410      0.02  Q          |          |          |         V|
  22+35       0.2412      0.02  Q          |          |          |         V|
  22+40       0.2414      0.02  Q          |          |          |         V|
  22+45       0.2415      0.02  Q          |          |          |         V|
  22+50       0.2417      0.02  Q          |          |          |         V|
  22+55       0.2418      0.02  Q          |          |          |         V|
  23+ 0       0.2420      0.02  Q          |          |          |         V|
  23+ 5       0.2422      0.02  Q          |          |          |         V|
  23+10       0.2423      0.02  Q          |          |          |         V|
  23+15       0.2425      0.02  Q          |          |          |         V|
  23+20       0.2427      0.02  Q          |          |          |         V|
  23+25       0.2428      0.02  Q          |          |          |         V|
  23+30       0.2430      0.02  Q          |          |          |         V|
  23+35       0.2431      0.02  Q          |          |          |         V|
  23+40       0.2433      0.02  Q          |          |          |         V|
  23+45       0.2435      0.02  Q          |          |          |         V|
  23+50       0.2436      0.02  Q          |          |          |         V|
  23+55       0.2438      0.02  Q          |          |          |         V|
  24+ 0       0.2440      0.02  Q          |          |          |         V|
  24+ 5       0.2440      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 01/03/22 File: 20522PRD4242.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA D4
2-YEAR 24-HOUR STORM

Drainage Area = 2.10(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.10(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 1040.00(Ft.)
Length along longest watercourse measured to centroid = 280.00(Ft.)
Length along longest watercourse = 0.197 Mi.
Length along longest watercourse measured to centroid = 0.053 Mi.
Difference in elevation = 4.80(Ft.)
Slope along watercourse = 24.3692 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.035 Hr.
Lag time = 2.08 Min.
25% of lag time = 0.52 Min.
40% of lag time = 0.83 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.10	1.60	3.36

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.10	4.00	8.40

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 1.600(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.600(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
2.100	75.00	0.820

Total Area Entered = 2.10(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	0.820	0.131	1.000	0.131
					Sum (F) =	0.131

Area averaged mean soil loss (F) (In/Hr) = 0.131
Minimum soil loss rate ((In/Hr)) = 0.066
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.244

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	240.340	49.605	1.050
2	0.167	480.679	40.660	0.861
3	0.250	721.019	7.341	0.155
4	0.333	961.358	2.395	0.051
		Sum =	100.000 Sum=	2.116

The following loss 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	(0.233)		0.003	0.010
2	0.17	0.07	0.013	(0.232)		0.003	0.010
3	0.25	0.07	0.013	(0.231)		0.003	0.010
4	0.33	0.10	0.019	(0.230)		0.005	0.015
5	0.42	0.10	0.019	(0.229)		0.005	0.015
6	0.50	0.10	0.019	(0.228)		0.005	0.015
7	0.58	0.10	0.019	(0.227)		0.005	0.015
8	0.67	0.10	0.019	(0.226)		0.005	0.015
9	0.75	0.10	0.019	(0.225)		0.005	0.015
10	0.83	0.13	0.026	(0.224)		0.006	0.019
11	0.92	0.13	0.026	(0.224)		0.006	0.019
12	1.00	0.13	0.026	(0.223)		0.006	0.019
13	1.08	0.10	0.019	(0.222)		0.005	0.015
14	1.17	0.10	0.019	(0.221)		0.005	0.015
15	1.25	0.10	0.019	(0.220)		0.005	0.015

16	1.33	0.10	0.019	(0.219)	0.005	0.015
17	1.42	0.10	0.019	(0.218)	0.005	0.015
18	1.50	0.10	0.019	(0.217)	0.005	0.015
19	1.58	0.10	0.019	(0.217)	0.005	0.015
20	1.67	0.10	0.019	(0.216)	0.005	0.015
21	1.75	0.10	0.019	(0.215)	0.005	0.015
22	1.83	0.13	0.026	(0.214)	0.006	0.019
23	1.92	0.13	0.026	(0.213)	0.006	0.019
24	2.00	0.13	0.026	(0.212)	0.006	0.019
25	2.08	0.13	0.026	(0.211)	0.006	0.019
26	2.17	0.13	0.026	(0.211)	0.006	0.019
27	2.25	0.13	0.026	(0.210)	0.006	0.019
28	2.33	0.13	0.026	(0.209)	0.006	0.019
29	2.42	0.13	0.026	(0.208)	0.006	0.019
30	2.50	0.13	0.026	(0.207)	0.006	0.019
31	2.58	0.17	0.032	(0.206)	0.008	0.024
32	2.67	0.17	0.032	(0.205)	0.008	0.024
33	2.75	0.17	0.032	(0.205)	0.008	0.024
34	2.83	0.17	0.032	(0.204)	0.008	0.024
35	2.92	0.17	0.032	(0.203)	0.008	0.024
36	3.00	0.17	0.032	(0.202)	0.008	0.024
37	3.08	0.17	0.032	(0.201)	0.008	0.024
38	3.17	0.17	0.032	(0.200)	0.008	0.024
39	3.25	0.17	0.032	(0.200)	0.008	0.024
40	3.33	0.17	0.032	(0.199)	0.008	0.024
41	3.42	0.17	0.032	(0.198)	0.008	0.024
42	3.50	0.17	0.032	(0.197)	0.008	0.024
43	3.58	0.17	0.032	(0.196)	0.008	0.024
44	3.67	0.17	0.032	(0.195)	0.008	0.024
45	3.75	0.17	0.032	(0.195)	0.008	0.024
46	3.83	0.20	0.038	(0.194)	0.009	0.029
47	3.92	0.20	0.038	(0.193)	0.009	0.029
48	4.00	0.20	0.038	(0.192)	0.009	0.029
49	4.08	0.20	0.038	(0.191)	0.009	0.029
50	4.17	0.20	0.038	(0.191)	0.009	0.029
51	4.25	0.20	0.038	(0.190)	0.009	0.029
52	4.33	0.23	0.045	(0.189)	0.011	0.034
53	4.42	0.23	0.045	(0.188)	0.011	0.034
54	4.50	0.23	0.045	(0.187)	0.011	0.034
55	4.58	0.23	0.045	(0.186)	0.011	0.034
56	4.67	0.23	0.045	(0.186)	0.011	0.034
57	4.75	0.23	0.045	(0.185)	0.011	0.034
58	4.83	0.27	0.051	(0.184)	0.012	0.039
59	4.92	0.27	0.051	(0.183)	0.012	0.039
60	5.00	0.27	0.051	(0.183)	0.012	0.039
61	5.08	0.20	0.038	(0.182)	0.009	0.029
62	5.17	0.20	0.038	(0.181)	0.009	0.029
63	5.25	0.20	0.038	(0.180)	0.009	0.029
64	5.33	0.23	0.045	(0.179)	0.011	0.034
65	5.42	0.23	0.045	(0.179)	0.011	0.034
66	5.50	0.23	0.045	(0.178)	0.011	0.034
67	5.58	0.27	0.051	(0.177)	0.012	0.039
68	5.67	0.27	0.051	(0.176)	0.012	0.039
69	5.75	0.27	0.051	(0.175)	0.012	0.039
70	5.83	0.27	0.051	(0.175)	0.012	0.039
71	5.92	0.27	0.051	(0.174)	0.012	0.039
72	6.00	0.27	0.051	(0.173)	0.012	0.039
73	6.08	0.30	0.058	(0.172)	0.014	0.044
74	6.17	0.30	0.058	(0.172)	0.014	0.044
75	6.25	0.30	0.058	(0.171)	0.014	0.044

76	6.33	0.30	0.058	(0.170)	0.014	0.044
77	6.42	0.30	0.058	(0.169)	0.014	0.044
78	6.50	0.30	0.058	(0.169)	0.014	0.044
79	6.58	0.33	0.064	(0.168)	0.016	0.048
80	6.67	0.33	0.064	(0.167)	0.016	0.048
81	6.75	0.33	0.064	(0.166)	0.016	0.048
82	6.83	0.33	0.064	(0.166)	0.016	0.048
83	6.92	0.33	0.064	(0.165)	0.016	0.048
84	7.00	0.33	0.064	(0.164)	0.016	0.048
85	7.08	0.33	0.064	(0.163)	0.016	0.048
86	7.17	0.33	0.064	(0.163)	0.016	0.048
87	7.25	0.33	0.064	(0.162)	0.016	0.048
88	7.33	0.37	0.070	(0.161)	0.017	0.053
89	7.42	0.37	0.070	(0.160)	0.017	0.053
90	7.50	0.37	0.070	(0.160)	0.017	0.053
91	7.58	0.40	0.077	(0.159)	0.019	0.058
92	7.67	0.40	0.077	(0.158)	0.019	0.058
93	7.75	0.40	0.077	(0.157)	0.019	0.058
94	7.83	0.43	0.083	(0.157)	0.020	0.063
95	7.92	0.43	0.083	(0.156)	0.020	0.063
96	8.00	0.43	0.083	(0.155)	0.020	0.063
97	8.08	0.50	0.096	(0.154)	0.023	0.073
98	8.17	0.50	0.096	(0.154)	0.023	0.073
99	8.25	0.50	0.096	(0.153)	0.023	0.073
100	8.33	0.50	0.096	(0.152)	0.023	0.073
101	8.42	0.50	0.096	(0.152)	0.023	0.073
102	8.50	0.50	0.096	(0.151)	0.023	0.073
103	8.58	0.53	0.102	(0.150)	0.025	0.077
104	8.67	0.53	0.102	(0.150)	0.025	0.077
105	8.75	0.53	0.102	(0.149)	0.025	0.077
106	8.83	0.57	0.109	(0.148)	0.027	0.082
107	8.92	0.57	0.109	(0.147)	0.027	0.082
108	9.00	0.57	0.109	(0.147)	0.027	0.082
109	9.08	0.63	0.122	(0.146)	0.030	0.092
110	9.17	0.63	0.122	(0.145)	0.030	0.092
111	9.25	0.63	0.122	(0.145)	0.030	0.092
112	9.33	0.67	0.128	(0.144)	0.031	0.097
113	9.42	0.67	0.128	(0.143)	0.031	0.097
114	9.50	0.67	0.128	(0.143)	0.031	0.097
115	9.58	0.70	0.134	(0.142)	0.033	0.102
116	9.67	0.70	0.134	(0.141)	0.033	0.102
117	9.75	0.70	0.134	(0.141)	0.033	0.102
118	9.83	0.73	0.141	(0.140)	0.034	0.106
119	9.92	0.73	0.141	(0.139)	0.034	0.106
120	10.00	0.73	0.141	(0.139)	0.034	0.106
121	10.08	0.50	0.096	(0.138)	0.023	0.073
122	10.17	0.50	0.096	(0.137)	0.023	0.073
123	10.25	0.50	0.096	(0.136)	0.023	0.073
124	10.33	0.50	0.096	(0.136)	0.023	0.073
125	10.42	0.50	0.096	(0.135)	0.023	0.073
126	10.50	0.50	0.096	(0.135)	0.023	0.073
127	10.58	0.67	0.128	(0.134)	0.031	0.097
128	10.67	0.67	0.128	(0.133)	0.031	0.097
129	10.75	0.67	0.128	(0.133)	0.031	0.097
130	10.83	0.67	0.128	(0.132)	0.031	0.097
131	10.92	0.67	0.128	(0.131)	0.031	0.097
132	11.00	0.67	0.128	(0.131)	0.031	0.097
133	11.08	0.63	0.122	(0.130)	0.030	0.092
134	11.17	0.63	0.122	(0.129)	0.030	0.092
135	11.25	0.63	0.122	(0.129)	0.030	0.092

136	11.33	0.63	0.122	(0.128)	0.030	0.092
137	11.42	0.63	0.122	(0.127)	0.030	0.092
138	11.50	0.63	0.122	(0.127)	0.030	0.092
139	11.58	0.57	0.109	(0.126)	0.027	0.082
140	11.67	0.57	0.109	(0.126)	0.027	0.082
141	11.75	0.57	0.109	(0.125)	0.027	0.082
142	11.83	0.60	0.115	(0.124)	0.028	0.087
143	11.92	0.60	0.115	(0.124)	0.028	0.087
144	12.00	0.60	0.115	(0.123)	0.028	0.087
145	12.08	0.83	0.160	(0.122)	0.039	0.121
146	12.17	0.83	0.160	(0.122)	0.039	0.121
147	12.25	0.83	0.160	(0.121)	0.039	0.121
148	12.33	0.87	0.166	(0.121)	0.041	0.126
149	12.42	0.87	0.166	(0.120)	0.041	0.126
150	12.50	0.87	0.166	(0.119)	0.041	0.126
151	12.58	0.93	0.179	(0.119)	0.044	0.135
152	12.67	0.93	0.179	(0.118)	0.044	0.135
153	12.75	0.93	0.179	(0.118)	0.044	0.135
154	12.83	0.97	0.186	(0.117)	0.045	0.140
155	12.92	0.97	0.186	(0.116)	0.045	0.140
156	13.00	0.97	0.186	(0.116)	0.045	0.140
157	13.08	1.13	0.218	(0.115)	0.053	0.165
158	13.17	1.13	0.218	(0.115)	0.053	0.165
159	13.25	1.13	0.218	(0.114)	0.053	0.165
160	13.33	1.13	0.218	(0.113)	0.053	0.165
161	13.42	1.13	0.218	(0.113)	0.053	0.165
162	13.50	1.13	0.218	(0.112)	0.053	0.165
163	13.58	0.77	0.147	(0.112)	0.036	0.111
164	13.67	0.77	0.147	(0.111)	0.036	0.111
165	13.75	0.77	0.147	(0.111)	0.036	0.111
166	13.83	0.77	0.147	(0.110)	0.036	0.111
167	13.92	0.77	0.147	(0.110)	0.036	0.111
168	14.00	0.77	0.147	(0.109)	0.036	0.111
169	14.08	0.90	0.173	(0.108)	0.042	0.131
170	14.17	0.90	0.173	(0.108)	0.042	0.131
171	14.25	0.90	0.173	(0.107)	0.042	0.131
172	14.33	0.87	0.166	(0.107)	0.041	0.126
173	14.42	0.87	0.166	(0.106)	0.041	0.126
174	14.50	0.87	0.166	(0.106)	0.041	0.126
175	14.58	0.87	0.166	(0.105)	0.041	0.126
176	14.67	0.87	0.166	(0.105)	0.041	0.126
177	14.75	0.87	0.166	(0.104)	0.041	0.126
178	14.83	0.83	0.160	(0.103)	0.039	0.121
179	14.92	0.83	0.160	(0.103)	0.039	0.121
180	15.00	0.83	0.160	(0.102)	0.039	0.121
181	15.08	0.80	0.154	(0.102)	0.037	0.116
182	15.17	0.80	0.154	(0.101)	0.037	0.116
183	15.25	0.80	0.154	(0.101)	0.037	0.116
184	15.33	0.77	0.147	(0.100)	0.036	0.111
185	15.42	0.77	0.147	(0.100)	0.036	0.111
186	15.50	0.77	0.147	(0.099)	0.036	0.111
187	15.58	0.63	0.122	(0.099)	0.030	0.092
188	15.67	0.63	0.122	(0.098)	0.030	0.092
189	15.75	0.63	0.122	(0.098)	0.030	0.092
190	15.83	0.63	0.122	(0.097)	0.030	0.092
191	15.92	0.63	0.122	(0.097)	0.030	0.092
192	16.00	0.63	0.122	(0.096)	0.030	0.092
193	16.08	0.13	0.026	(0.096)	0.006	0.019
194	16.17	0.13	0.026	(0.095)	0.006	0.019
195	16.25	0.13	0.026	(0.095)	0.006	0.019

196	16.33	0.13	0.026	(0.094)	0.006	0.019
197	16.42	0.13	0.026	(0.094)	0.006	0.019
198	16.50	0.13	0.026	(0.093)	0.006	0.019
199	16.58	0.10	0.019	(0.093)	0.005	0.015
200	16.67	0.10	0.019	(0.092)	0.005	0.015
201	16.75	0.10	0.019	(0.092)	0.005	0.015
202	16.83	0.10	0.019	(0.092)	0.005	0.015
203	16.92	0.10	0.019	(0.091)	0.005	0.015
204	17.00	0.10	0.019	(0.091)	0.005	0.015
205	17.08	0.17	0.032	(0.090)	0.008	0.024
206	17.17	0.17	0.032	(0.090)	0.008	0.024
207	17.25	0.17	0.032	(0.089)	0.008	0.024
208	17.33	0.17	0.032	(0.089)	0.008	0.024
209	17.42	0.17	0.032	(0.088)	0.008	0.024
210	17.50	0.17	0.032	(0.088)	0.008	0.024
211	17.58	0.17	0.032	(0.087)	0.008	0.024
212	17.67	0.17	0.032	(0.087)	0.008	0.024
213	17.75	0.17	0.032	(0.087)	0.008	0.024
214	17.83	0.13	0.026	(0.086)	0.006	0.019
215	17.92	0.13	0.026	(0.086)	0.006	0.019
216	18.00	0.13	0.026	(0.085)	0.006	0.019
217	18.08	0.13	0.026	(0.085)	0.006	0.019
218	18.17	0.13	0.026	(0.084)	0.006	0.019
219	18.25	0.13	0.026	(0.084)	0.006	0.019
220	18.33	0.13	0.026	(0.084)	0.006	0.019
221	18.42	0.13	0.026	(0.083)	0.006	0.019
222	18.50	0.13	0.026	(0.083)	0.006	0.019
223	18.58	0.10	0.019	(0.082)	0.005	0.015
224	18.67	0.10	0.019	(0.082)	0.005	0.015
225	18.75	0.10	0.019	(0.082)	0.005	0.015
226	18.83	0.07	0.013	(0.081)	0.003	0.010
227	18.92	0.07	0.013	(0.081)	0.003	0.010
228	19.00	0.07	0.013	(0.080)	0.003	0.010
229	19.08	0.10	0.019	(0.080)	0.005	0.015
230	19.17	0.10	0.019	(0.080)	0.005	0.015
231	19.25	0.10	0.019	(0.079)	0.005	0.015
232	19.33	0.13	0.026	(0.079)	0.006	0.019
233	19.42	0.13	0.026	(0.079)	0.006	0.019
234	19.50	0.13	0.026	(0.078)	0.006	0.019
235	19.58	0.10	0.019	(0.078)	0.005	0.015
236	19.67	0.10	0.019	(0.078)	0.005	0.015
237	19.75	0.10	0.019	(0.077)	0.005	0.015
238	19.83	0.07	0.013	(0.077)	0.003	0.010
239	19.92	0.07	0.013	(0.076)	0.003	0.010
240	20.00	0.07	0.013	(0.076)	0.003	0.010
241	20.08	0.10	0.019	(0.076)	0.005	0.015
242	20.17	0.10	0.019	(0.075)	0.005	0.015
243	20.25	0.10	0.019	(0.075)	0.005	0.015
244	20.33	0.10	0.019	(0.075)	0.005	0.015
245	20.42	0.10	0.019	(0.075)	0.005	0.015
246	20.50	0.10	0.019	(0.074)	0.005	0.015
247	20.58	0.10	0.019	(0.074)	0.005	0.015
248	20.67	0.10	0.019	(0.074)	0.005	0.015
249	20.75	0.10	0.019	(0.073)	0.005	0.015
250	20.83	0.07	0.013	(0.073)	0.003	0.010
251	20.92	0.07	0.013	(0.073)	0.003	0.010
252	21.00	0.07	0.013	(0.072)	0.003	0.010
253	21.08	0.10	0.019	(0.072)	0.005	0.015
254	21.17	0.10	0.019	(0.072)	0.005	0.015
255	21.25	0.10	0.019	(0.072)	0.005	0.015

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256  21.33     0.07      0.013       (  0.071)       0.003        0.010
257  21.42     0.07      0.013       (  0.071)       0.003        0.010
258  21.50     0.07      0.013       (  0.071)       0.003        0.010
259  21.58     0.10      0.019       (  0.070)       0.005        0.015
260  21.67     0.10      0.019       (  0.070)       0.005        0.015
261  21.75     0.10      0.019       (  0.070)       0.005        0.015
262  21.83     0.07      0.013       (  0.070)       0.003        0.010
263  21.92     0.07      0.013       (  0.069)       0.003        0.010
264  22.00     0.07      0.013       (  0.069)       0.003        0.010
265  22.08     0.10      0.019       (  0.069)       0.005        0.015
266  22.17     0.10      0.019       (  0.069)       0.005        0.015
267  22.25     0.10      0.019       (  0.069)       0.005        0.015
268  22.33     0.07      0.013       (  0.068)       0.003        0.010
269  22.42     0.07      0.013       (  0.068)       0.003        0.010
270  22.50     0.07      0.013       (  0.068)       0.003        0.010
271  22.58     0.07      0.013       (  0.068)       0.003        0.010
272  22.67     0.07      0.013       (  0.068)       0.003        0.010
273  22.75     0.07      0.013       (  0.067)       0.003        0.010
274  22.83     0.07      0.013       (  0.067)       0.003        0.010
275  22.92     0.07      0.013       (  0.067)       0.003        0.010
276  23.00     0.07      0.013       (  0.067)       0.003        0.010
277  23.08     0.07      0.013       (  0.067)       0.003        0.010
278  23.17     0.07      0.013       (  0.067)       0.003        0.010
279  23.25     0.07      0.013       (  0.066)       0.003        0.010
280  23.33     0.07      0.013       (  0.066)       0.003        0.010
281  23.42     0.07      0.013       (  0.066)       0.003        0.010
282  23.50     0.07      0.013       (  0.066)       0.003        0.010
283  23.58     0.07      0.013       (  0.066)       0.003        0.010
284  23.67     0.07      0.013       (  0.066)       0.003        0.010
285  23.75     0.07      0.013       (  0.066)       0.003        0.010
286  23.83     0.07      0.013       (  0.066)       0.003        0.010
287  23.92     0.07      0.013       (  0.066)       0.003        0.010
288  24.00     0.07      0.013       (  0.066)       0.003        0.010
          (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    14.5
     Flood volume = Effective rainfall      1.21(In)
      times area       2.1(Ac.)/[(In)/(Ft.)] =       0.2(Ac.Ft)
     Total soil loss =      0.39(In)
     Total soil loss =     0.068(Ac.Ft)
     Total rainfall =      1.60(In)
     Flood volume =        9220.7 Cubic Feet
     Total soil loss =        2976.0 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =      0.348(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      0.02  Q         |         |         |         |
   0+15       0.0003      0.02  Q         |         |         |         |
   0+20       0.0005      0.03  Q         |         |         |         |
   0+25       0.0007      0.03  Q         |         |         |         |
   0+30       0.0009      0.03  Q         |         |         |         |
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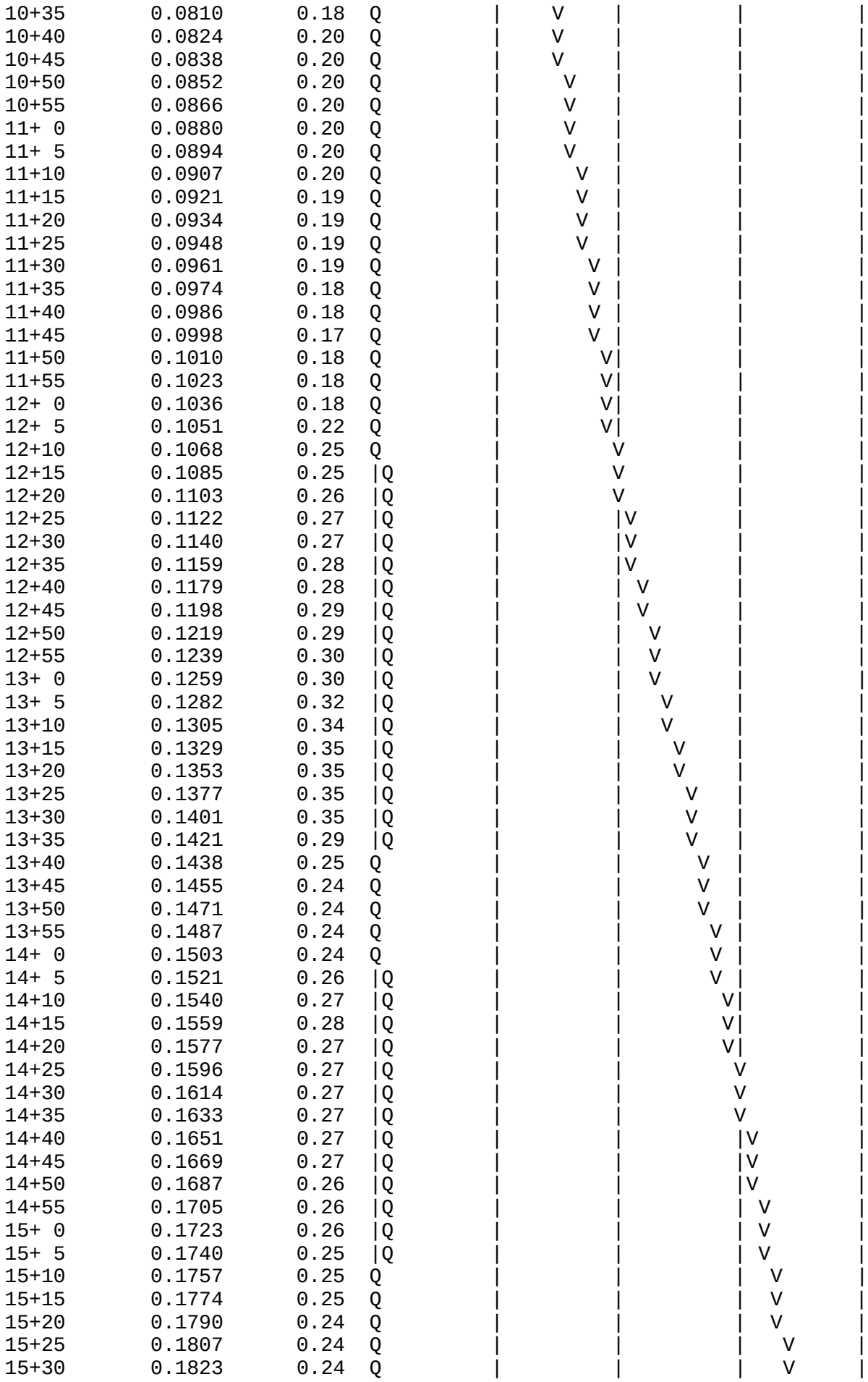
0+35	0.0011	0.03	Q	|	|	|	|
0+40	0.0013	0.03	Q	|	|	|	|
0+45	0.0016	0.03	Q	|	|	|	|
0+50	0.0018	0.04	Q	|	|	|	|
0+55	0.0021	0.04	Q	|	|	|	|
1+ 0	0.0024	0.04	Q	|	|	|	|
1+ 5	0.0026	0.04	Q	|	|	|	|
1+10	0.0028	0.03	Q	|	|	|	|
1+15	0.0030	0.03	Q	|	|	|	|
1+20	0.0033	0.03	Q	|	|	|	|
1+25	0.0035	0.03	Q	|	|	|	|
1+30	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	0.0046	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	0.0057	0.04	QV	|	|	|	|
2+15	0.0060	0.04	QV	|	|	|	|
2+20	0.0062	0.04	QV	|	|	|	|
2+25	0.0065	0.04	QV	|	|	|	|
2+30	0.0068	0.04	QV	|	|	|	|
2+35	0.0071	0.05	QV	|	|	|	|
2+40	0.0075	0.05	QV	|	|	|	|
2+45	0.0078	0.05	QV	|	|	|	|
2+50	0.0082	0.05	QV	|	|	|	|
2+55	0.0085	0.05	QV	|	|	|	|
3+ 0	0.0089	0.05	QV	|	|	|	|
3+ 5	0.0092	0.05	QV	|	|	|	|
3+10	0.0096	0.05	QV	|	|	|	|
3+15	0.0099	0.05	QV	|	|	|	|
3+20	0.0103	0.05	QV	|	|	|	|
3+25	0.0106	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	0.0124	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	0.0141	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	0.0191	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	0.0209	0.07	Q V	|	|	|	|
5+25	0.0214	0.07	Q V	|	|	|	|
5+30	0.0219	0.07	Q V	|	|	|	|

5+35	0.0224	0.08	Q	V	|	|	|	|
5+40	0.0230	0.08	Q	V	|	|	|	|
5+45	0.0236	0.08	Q	V	|	|	|	|
5+50	0.0241	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	0.0368	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	0.14	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	0.0480	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	0.0524	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	0.0572	0.18	Q	V	|	|	|	|
9+10	0.0586	0.19	Q	V	|	|	|	|
9+15	0.0599	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	0.0655	0.21	Q	V	|	|	|	|
9+40	0.0670	0.21	Q	V	|	|	|	|
9+45	0.0685	0.21	Q	V	|	|	|	|
9+50	0.0700	0.22	Q	V	|	|	|	|
9+55	0.0716	0.22	Q	V	|	|	|	|
10+ 0	0.0731	0.23	Q	V	|	|	|	|
10+ 5	0.0744	0.19	Q	V	|	|	|	|
10+10	0.0755	0.16	Q	V	|	|	|	|
10+15	0.0766	0.16	Q	V	|	|	|	|
10+20	0.0777	0.15	Q	V	|	|	|	|
10+25	0.0787	0.15	Q	V	|	|	|	|
10+30	0.0798	0.15	Q	V	|	|	|	|



15+35	0.1838	0.22	Q	|	|	|	V |
15+40	0.1852	0.20	Q	|	|	|	V |
15+45	0.1865	0.20	Q	|	|	|	V |
15+50	0.1878	0.19	Q	|	|	|	V |
15+55	0.1892	0.19	Q	|	|	|	V |
16+ 0	0.1905	0.19	Q	|	|	|	V |
16+ 5	0.1913	0.12	Q	|	|	|	V |
16+10	0.1917	0.06	Q	|	|	|	V |
16+15	0.1920	0.04	Q	|	|	|	V |
16+20	0.1923	0.04	Q	|	|	|	V |
16+25	0.1926	0.04	Q	|	|	|	V |
16+30	0.1929	0.04	Q	|	|	|	V |
16+35	0.1931	0.04	Q	|	|	|	V |
16+40	0.1933	0.03	Q	|	|	|	V |
16+45	0.1936	0.03	Q	|	|	|	V |
16+50	0.1938	0.03	Q	|	|	|	V |
16+55	0.1940	0.03	Q	|	|	|	V |
17+ 0	0.1942	0.03	Q	|	|	|	V |
17+ 5	0.1945	0.04	Q	|	|	|	V |
17+10	0.1948	0.05	Q	|	|	|	V |
17+15	0.1952	0.05	Q	|	|	|	V |
17+20	0.1955	0.05	Q	|	|	|	V |
17+25	0.1959	0.05	Q	|	|	|	V |
17+30	0.1962	0.05	Q	|	|	|	V |
17+35	0.1966	0.05	Q	|	|	|	V |
17+40	0.1969	0.05	Q	|	|	|	V |
17+45	0.1973	0.05	Q	|	|	|	V |
17+50	0.1976	0.05	Q	|	|	|	V |
17+55	0.1979	0.04	Q	|	|	|	V |
18+ 0	0.1982	0.04	Q	|	|	|	V |
18+ 5	0.1984	0.04	Q	|	|	|	V |
18+10	0.1987	0.04	Q	|	|	|	V |
18+15	0.1990	0.04	Q	|	|	|	V |
18+20	0.1993	0.04	Q	|	|	|	V |
18+25	0.1996	0.04	Q	|	|	|	V |
18+30	0.1999	0.04	Q	|	|	|	V |
18+35	0.2001	0.04	Q	|	|	|	V |
18+40	0.2003	0.03	Q	|	|	|	V |
18+45	0.2005	0.03	Q	|	|	|	V |
18+50	0.2007	0.03	Q	|	|	|	V |
18+55	0.2009	0.02	Q	|	|	|	V |
19+ 0	0.2010	0.02	Q	|	|	|	V |
19+ 5	0.2012	0.03	Q	|	|	|	V |
19+10	0.2014	0.03	Q	|	|	|	V |
19+15	0.2016	0.03	Q	|	|	|	V |
19+20	0.2018	0.04	Q	|	|	|	V |
19+25	0.2021	0.04	Q	|	|	|	V |
19+30	0.2024	0.04	Q	|	|	|	V |
19+35	0.2026	0.04	Q	|	|	|	V |
19+40	0.2029	0.03	Q	|	|	|	V |
19+45	0.2031	0.03	Q	|	|	|	V |
19+50	0.2033	0.03	Q	|	|	|	V |
19+55	0.2034	0.02	Q	|	|	|	V |
20+ 0	0.2035	0.02	Q	|	|	|	V |
20+ 5	0.2037	0.03	Q	|	|	|	V |
20+10	0.2039	0.03	Q	|	|	|	V |
20+15	0.2041	0.03	Q	|	|	|	V |
20+20	0.2043	0.03	Q	|	|	|	V |
20+25	0.2046	0.03	Q	|	|	|	V |
20+30	0.2048	0.03	Q	|	|	|	V |

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  20+35       0.2050      0.03  Q          |           |           |        V |
  20+40       0.2052      0.03  Q          |           |           |        V |
  20+45       0.2054      0.03  Q          |           |           |        V |
  20+50       0.2056      0.03  Q          |           |           |        V |
  20+55       0.2057      0.02  Q          |           |           |        V |
  21+ 0       0.2059      0.02  Q          |           |           |        V |
  21+ 5       0.2061      0.03  Q          |           |           |        V |
  21+10       0.2063      0.03  Q          |           |           |        V |
  21+15       0.2065      0.03  Q          |           |           |         V|
  21+20       0.2066      0.03  Q          |           |           |         V|
  21+25       0.2068      0.02  Q          |           |           |         V|
  21+30       0.2069      0.02  Q          |           |           |         V|
  21+35       0.2071      0.03  Q          |           |           |         V|
  21+40       0.2073      0.03  Q          |           |           |         V|
  21+45       0.2075      0.03  Q          |           |           |         V|
  21+50       0.2077      0.03  Q          |           |           |         V|
  21+55       0.2078      0.02  Q          |           |           |         V|
  22+ 0       0.2080      0.02  Q          |           |           |         V|
  22+ 5       0.2082      0.03  Q          |           |           |         V|
  22+10       0.2084      0.03  Q          |           |           |         V|
  22+15       0.2086      0.03  Q          |           |           |         V|
  22+20       0.2088      0.03  Q          |           |           |         V|
  22+25       0.2089      0.02  Q          |           |           |         V|
  22+30       0.2091      0.02  Q          |           |           |         V|
  22+35       0.2092      0.02  Q          |           |           |         V|
  22+40       0.2093      0.02  Q          |           |           |         V|
  22+45       0.2095      0.02  Q          |           |           |         V|
  22+50       0.2096      0.02  Q          |           |           |         V|
  22+55       0.2098      0.02  Q          |           |           |         V|
  23+ 0       0.2099      0.02  Q          |           |           |         V|
  23+ 5       0.2100      0.02  Q          |           |           |         V|
  23+10       0.2102      0.02  Q          |           |           |         V|
  23+15       0.2103      0.02  Q          |           |           |         V|
  23+20       0.2105      0.02  Q          |           |           |         V|
  23+25       0.2106      0.02  Q          |           |           |         V|
  23+30       0.2107      0.02  Q          |           |           |         V|
  23+35       0.2109      0.02  Q          |           |           |         V|
  23+40       0.2110      0.02  Q          |           |           |         V|
  23+45       0.2112      0.02  Q          |           |           |         V|
  23+50       0.2113      0.02  Q          |           |           |         V|
  23+55       0.2114      0.02  Q          |           |           |         V|
  24+ 0       0.2116      0.02  Q          |           |           |         V|
  24+ 5       0.2117      0.01  Q          |           |           |         V|
  24+10       0.2117      0.00  Q          |           |           |         V|
  24+15       0.2117      0.00  Q          |           |           |          V
-------------------------------------------------------------------------------
```

PROPOSED 100-YEAR HYDROLOGY CALCULATIONS

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 01/14/22 File: 20522PRC1100.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA C
100-YEAR 1-HOUR STORM

Drainage Area = 3.70(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.70(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 560.00(Ft.)
Length along longest watercourse measured to centroid = 195.00(Ft.)
Length along longest watercourse = 0.106 Mi.
Length along longest watercourse measured to centroid = 0.037 Mi.
Difference in elevation = 2.80(Ft.)
Slope along watercourse = 26.4000 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.024 Hr.
Lag time = 1.41 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.56 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
3.70	0.50	1.85

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
3.70	1.20	4.44

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
3.700	69.00	0.660

Total Area Entered = 3.70(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
69.0	84.4	0.194	0.660	0.079	1.000	0.079
					Sum (F) =	0.079

Area averaged mean soil loss (F) (In/Hr) = 0.079
Minimum soil loss rate ((In/Hr)) = 0.039
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.372

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

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	354.240	61.648	2.299
2	0.167	708.481	34.313	1.280
3	0.250	1062.721	4.039	0.151
		Sum = 100.000	Sum=	3.729

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	4.40	0.634	0.079	(0.236)	0.555
2	0.17	4.50	0.648	0.079	(0.241)	0.569
3	0.25	5.40	0.778	0.079	(0.289)	0.699
4	0.33	5.40	0.778	0.079	(0.289)	0.699
5	0.42	5.70	0.821	0.079	(0.305)	0.742
6	0.50	6.40	0.922	0.079	(0.343)	0.843
7	0.58	7.90	1.138	0.079	(0.423)	1.059
8	0.67	9.10	1.310	0.079	(0.487)	1.232
9	0.75	12.80	1.843	0.079	(0.686)	1.764
10	0.83	25.60	3.686	0.079	(1.371)	3.608
11	0.92	7.90	1.138	0.079	(0.423)	1.059
12	1.00	4.90	0.706	0.079	(0.262)	0.627
	(Loss Rate Not Used)					
Sum =	100.0				Sum =	13.5

```
    Flood volume = Effective rainfall      1.12(In)
     times area       3.7(Ac.)/[(In)/(Ft.)] =       0.3(Ac.Ft)
    Total soil loss =      0.08(In)
    Total soil loss =     0.024(Ac.Ft)
    Total rainfall =      1.20(In)
    Flood volume =       15059.7 Cubic Feet
    Total soil loss =        1057.0 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =     10.742(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       0.0088      1.28  |VQ       |         |         |         |
   0+10       0.0227      2.02  | V Q     |         |         |         |
   0+15       0.0394      2.42  |   Q     |         |         |         |
   0+20       0.0572      2.59  |    QV   |         |         |         |
   0+25       0.0758      2.71  |    Q  V |         |         |         |
   0+30       0.0964      2.99  |    Q    |V        |         |         |
   0+35       0.1214      3.63  |      Q  |   V     |         |         |
   0+40       0.1511      4.32  |       Q |      V  |         |         |
   0+45       0.1910      5.79  |         |Q        | V       |         |
   0+50       0.2650     10.74  |         |         |Q        V         |
   0+55       0.3154      7.32  |         |   Q     |         |     V   |
   1+ 0       0.3384      3.34  |     Q   |         |         |        V|
   1+ 5       0.3451      0.96  |Q        |         |         |        V|
   1+10       0.3457      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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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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA C
100-YEAR 3-HOUR STORM

Drainage Area = 3.70(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.70(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 560.00(Ft.)
Length along longest watercourse measured to centroid = 195.00(Ft.)
Length along longest watercourse = 0.106 Mi.
Length along longest watercourse measured to centroid = 0.037 Mi.
Difference in elevation = 2.80(Ft.)
Slope along watercourse = 26.4000 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.024 Hr.
Lag time = 1.41 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.56 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]
3.70	0.80	2.96

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
3.70	1.90	7.03

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.900(In)

Point rain (area averaged) = 1.900(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.900(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
3.700	69.00	0.660

Total Area Entered = 3.70(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
69.0	84.4	0.194	0.660	0.079	1.000	0.079
					Sum (F) =	0.079

Area averaged mean soil loss (F) (In/Hr) = 0.079
Minimum soil loss rate ((In/Hr)) = 0.039
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.372

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	354.240	61.648	2.299
2	0.167	708.481	34.313	1.280
3	0.250	1062.721	4.039	0.151
			Sum = 100.000 Sum=	3.729

The following loss 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	0.296	0.079	(0.110)	0.218
2	0.17	1.30	0.296	0.079	(0.110)	0.218
3	0.25	1.10	0.251	0.079	(0.093)	0.172
4	0.33	1.50	0.342	0.079	(0.127)	0.263
5	0.42	1.50	0.342	0.079	(0.127)	0.263
6	0.50	1.80	0.410	0.079	(0.153)	0.332
7	0.58	1.50	0.342	0.079	(0.127)	0.263
8	0.67	1.80	0.410	0.079	(0.153)	0.332
9	0.75	1.80	0.410	0.079	(0.153)	0.332
10	0.83	1.50	0.342	0.079	(0.127)	0.263
11	0.92	1.60	0.365	0.079	(0.136)	0.286
12	1.00	1.80	0.410	0.079	(0.153)	0.332
13	1.08	2.20	0.502	0.079	(0.187)	0.423
14	1.17	2.20	0.502	0.079	(0.187)	0.423
15	1.25	2.20	0.502	0.079	(0.187)	0.423
16	1.33	2.00	0.456	0.079	(0.170)	0.377

17	1.42	2.60	0.593	0.079	(0.221)	0.514
18	1.50	2.70	0.616	0.079	(0.229)	0.537
19	1.58	2.40	0.547	0.079	(0.204)	0.468
20	1.67	2.70	0.616	0.079	(0.229)	0.537
21	1.75	3.30	0.752	0.079	(0.280)	0.674
22	1.83	3.10	0.707	0.079	(0.263)	0.628
23	1.92	2.90	0.661	0.079	(0.246)	0.582
24	2.00	3.00	0.684	0.079	(0.254)	0.605
25	2.08	3.10	0.707	0.079	(0.263)	0.628
26	2.17	4.20	0.958	0.079	(0.356)	0.879
27	2.25	5.00	1.140	0.079	(0.424)	1.061
28	2.33	3.50	0.798	0.079	(0.297)	0.719
29	2.42	6.80	1.550	0.079	(0.577)	1.472
30	2.50	7.30	1.664	0.079	(0.619)	1.586
31	2.58	8.20	1.870	0.079	(0.695)	1.791
32	2.67	5.90	1.345	0.079	(0.500)	1.266
33	2.75	2.00	0.456	0.079	(0.170)	0.377
34	2.83	1.80	0.410	0.079	(0.153)	0.332
35	2.92	1.80	0.410	0.079	(0.153)	0.332
36	3.00	0.60	0.137	(0.079)	0.051	0.086

(Loss Rate Not Used)

Sum = 100.0 Sum = 20.0

Flood volume = Effective rainfall 1.67(In)
times area 3.7(Ac.)/[(In)/(Ft.)] = 0.5(Ac.Ft)

Total soil loss = 0.23(In)

Total soil loss = 0.072(Ac.Ft)

Total rainfall = 1.90(In)

Flood volume = 22378.6 Cubic Feet

Total soil loss = 3139.9 Cubic Feet

Peak flow rate of this hydrograph = 6.371(CFS)

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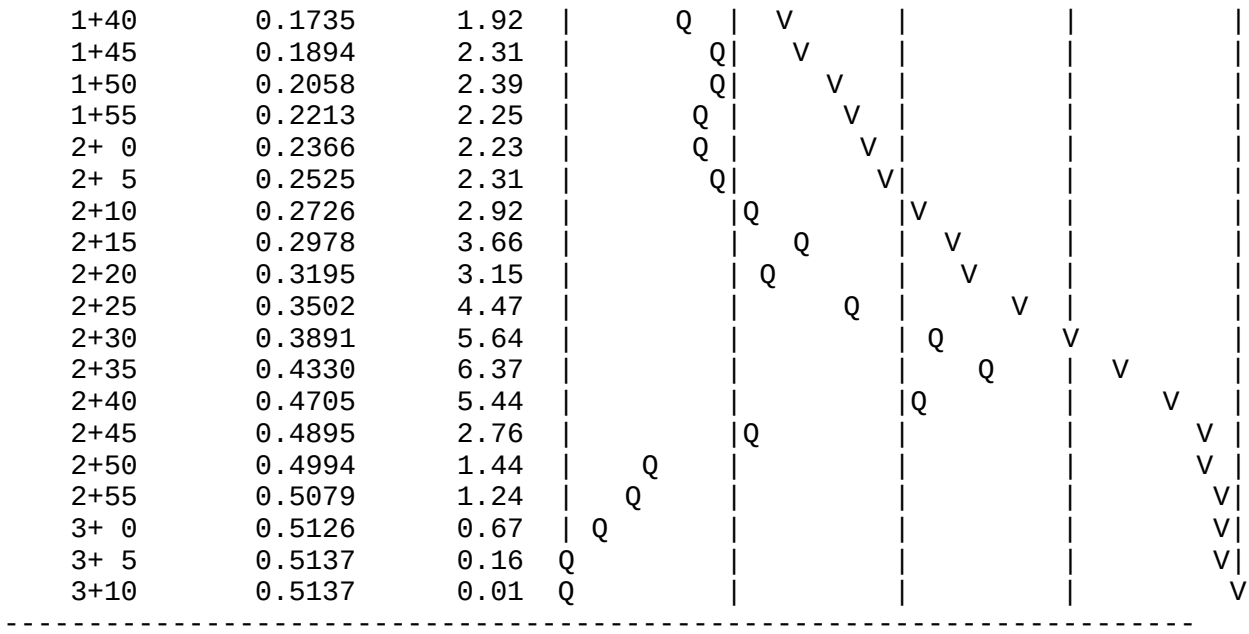
3 - H O U R S T O R M

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	0.0034	0.50	V Q | | | |
0+10	0.0088	0.78	V Q | | | |
0+15	0.0137	0.71	|VQ | | | |
0+20	0.0196	0.86	|V Q | | | |
0+25	0.0263	0.97	| VQ | | | |
0+30	0.0341	1.14	| V Q | | | |
0+35	0.0415	1.07	| VQ | | | |
0+40	0.0494	1.15	| VQ | | | |
0+45	0.0579	1.23	| Q | | | |
0+50	0.0653	1.08	| QV | | | |
0+55	0.0725	1.05	| QV | | | |
1+ 0	0.0805	1.17	| Q V | | | |
1+ 5	0.0905	1.44	| Q V | | | |
1+10	0.1012	1.56	| QV | | | |
1+15	0.1121	1.58	| Q V | | | |
1+20	0.1222	1.47	| Q V| | | |
1+25	0.1342	1.73	| Q V | | |
1+30	0.1476	1.95	| Q |V | | |
1+35	0.1603	1.84	| Q | V | | |


1+40 0.1735 1.92
1+45 0.1894 2.31
1+50 0.2058 2.39
1+55 0.2213 2.25
2+ 0 0.2366 2.23
2+ 5 0.2525 2.31
2+10 0.2726 2.92
2+15 0.2978 3.66
2+20 0.3195 3.15
2+25 0.3502 4.47
2+30 0.3891 5.64
2+35 0.4330 6.37
2+40 0.4705 5.44
2+45 0.4895 2.76
2+50 0.4994 1.44
2+55 0.5079 1.24
3+ 0 0.5126 0.67
3+ 5 0.5137 0.16
3+10 0.5137 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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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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA C
100-YEAR 6-HOUR STORM

Drainage Area = 3.70(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.70(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 560.00(Ft.)
Length along longest watercourse measured to centroid = 195.00(Ft.)
Length along longest watercourse = 0.106 Mi.
Length along longest watercourse measured to centroid = 0.037 Mi.
Difference in elevation = 2.80(Ft.)
Slope along watercourse = 26.4000 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.024 Hr.
Lag time = 1.41 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.56 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]
3.70	1.00	3.70

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
3.70	2.50	9.25

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
3.700	69.00	0.660

Total Area Entered = 3.70(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
69.0	84.4	0.194	0.660	0.079	1.000	0.079
					Sum (F) =	0.079

Area averaged mean soil loss (F) (In/Hr) = 0.079
Minimum soil loss rate ((In/Hr)) = 0.039
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.372

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	354.240	61.648	2.299
2	0.167	708.481	34.313	1.280
3	0.250	1062.721	4.039	0.151
			Sum = 100.000 Sum=	3.729

The following loss 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	0.150	(0.079)		0.056	0.094
2	0.17	0.60	0.180	(0.079)		0.067	0.113
3	0.25	0.60	0.180	(0.079)		0.067	0.113
4	0.33	0.60	0.180	(0.079)		0.067	0.113
5	0.42	0.60	0.180	(0.079)		0.067	0.113
6	0.50	0.70	0.210	(0.079)		0.078	0.132
7	0.58	0.70	0.210	(0.079)		0.078	0.132
8	0.67	0.70	0.210	(0.079)		0.078	0.132
9	0.75	0.70	0.210	(0.079)		0.078	0.132
10	0.83	0.70	0.210	(0.079)		0.078	0.132
11	0.92	0.70	0.210	(0.079)		0.078	0.132
12	1.00	0.80	0.240	0.079	(	0.089)	0.161
13	1.08	0.80	0.240	0.079	(	0.089)	0.161
14	1.17	0.80	0.240	0.079	(	0.089)	0.161
15	1.25	0.80	0.240	0.079	(	0.089)	0.161
16	1.33	0.80	0.240	0.079	(	0.089)	0.161

17	1.42	0.80	0.240		0.079	(0.089)	0.161
18	1.50	0.80	0.240		0.079	(0.089)	0.161
19	1.58	0.80	0.240		0.079	(0.089)	0.161
20	1.67	0.80	0.240		0.079	(0.089)	0.161
21	1.75	0.80	0.240		0.079	(0.089)	0.161
22	1.83	0.80	0.240		0.079	(0.089)	0.161
23	1.92	0.80	0.240		0.079	(0.089)	0.161
24	2.00	0.90	0.270		0.079	(0.100)	0.191
25	2.08	0.80	0.240		0.079	(0.089)	0.161
26	2.17	0.90	0.270		0.079	(0.100)	0.191
27	2.25	0.90	0.270		0.079	(0.100)	0.191
28	2.33	0.90	0.270		0.079	(0.100)	0.191
29	2.42	0.90	0.270		0.079	(0.100)	0.191
30	2.50	0.90	0.270		0.079	(0.100)	0.191
31	2.58	0.90	0.270		0.079	(0.100)	0.191
32	2.67	0.90	0.270		0.079	(0.100)	0.191
33	2.75	1.00	0.300		0.079	(0.112)	0.221
34	2.83	1.00	0.300		0.079	(0.112)	0.221
35	2.92	1.00	0.300		0.079	(0.112)	0.221
36	3.00	1.00	0.300		0.079	(0.112)	0.221
37	3.08	1.00	0.300		0.079	(0.112)	0.221
38	3.17	1.10	0.330		0.079	(0.123)	0.251
39	3.25	1.10	0.330		0.079	(0.123)	0.251
40	3.33	1.10	0.330		0.079	(0.123)	0.251
41	3.42	1.20	0.360		0.079	(0.134)	0.281
42	3.50	1.30	0.390		0.079	(0.145)	0.311
43	3.58	1.40	0.420		0.079	(0.156)	0.341
44	3.67	1.40	0.420		0.079	(0.156)	0.341
45	3.75	1.50	0.450		0.079	(0.167)	0.371
46	3.83	1.50	0.450		0.079	(0.167)	0.371
47	3.92	1.60	0.480		0.079	(0.179)	0.401
48	4.00	1.60	0.480		0.079	(0.179)	0.401
49	4.08	1.70	0.510		0.079	(0.190)	0.431
50	4.17	1.80	0.540		0.079	(0.201)	0.461
51	4.25	1.90	0.570		0.079	(0.212)	0.491
52	4.33	2.00	0.600		0.079	(0.223)	0.521
53	4.42	2.10	0.630		0.079	(0.234)	0.551
54	4.50	2.10	0.630		0.079	(0.234)	0.551
55	4.58	2.20	0.660		0.079	(0.246)	0.581
56	4.67	2.30	0.690		0.079	(0.257)	0.611
57	4.75	2.40	0.720		0.079	(0.268)	0.641
58	4.83	2.40	0.720		0.079	(0.268)	0.641
59	4.92	2.50	0.750		0.079	(0.279)	0.671
60	5.00	2.60	0.780		0.079	(0.290)	0.701
61	5.08	3.10	0.930		0.079	(0.346)	0.851
62	5.17	3.60	1.080		0.079	(0.402)	1.001
63	5.25	3.90	1.170		0.079	(0.435)	1.091
64	5.33	4.20	1.260		0.079	(0.469)	1.181
65	5.42	4.70	1.410		0.079	(0.525)	1.331
66	5.50	5.60	1.680		0.079	(0.625)	1.601
67	5.58	1.90	0.570		0.079	(0.212)	0.491
68	5.67	0.90	0.270		0.079	(0.100)	0.191
69	5.75	0.60	0.180	(0.079)	0.067		0.113
70	5.83	0.50	0.150	(0.079)	0.056		0.094
71	5.92	0.30	0.090	(0.079)	0.033		0.057
72	6.00	0.20	0.060	(0.079)	0.022		0.038

(Loss Rate Not Used)

Sum = 100.0 Sum = 24.5

Flood volume = Effective rainfall 2.05(In)
times area 3.7(Ac.)/[(In)/(Ft.)] = 0.6(Ac.Ft)

Total soil loss = 0.45(In)
Total soil loss = 0.140(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 27469.6 Cubic Feet
Total soil loss = 6107.5 Cubic Feet

Peak flow rate of this hydrograph = 5.565(CFS)

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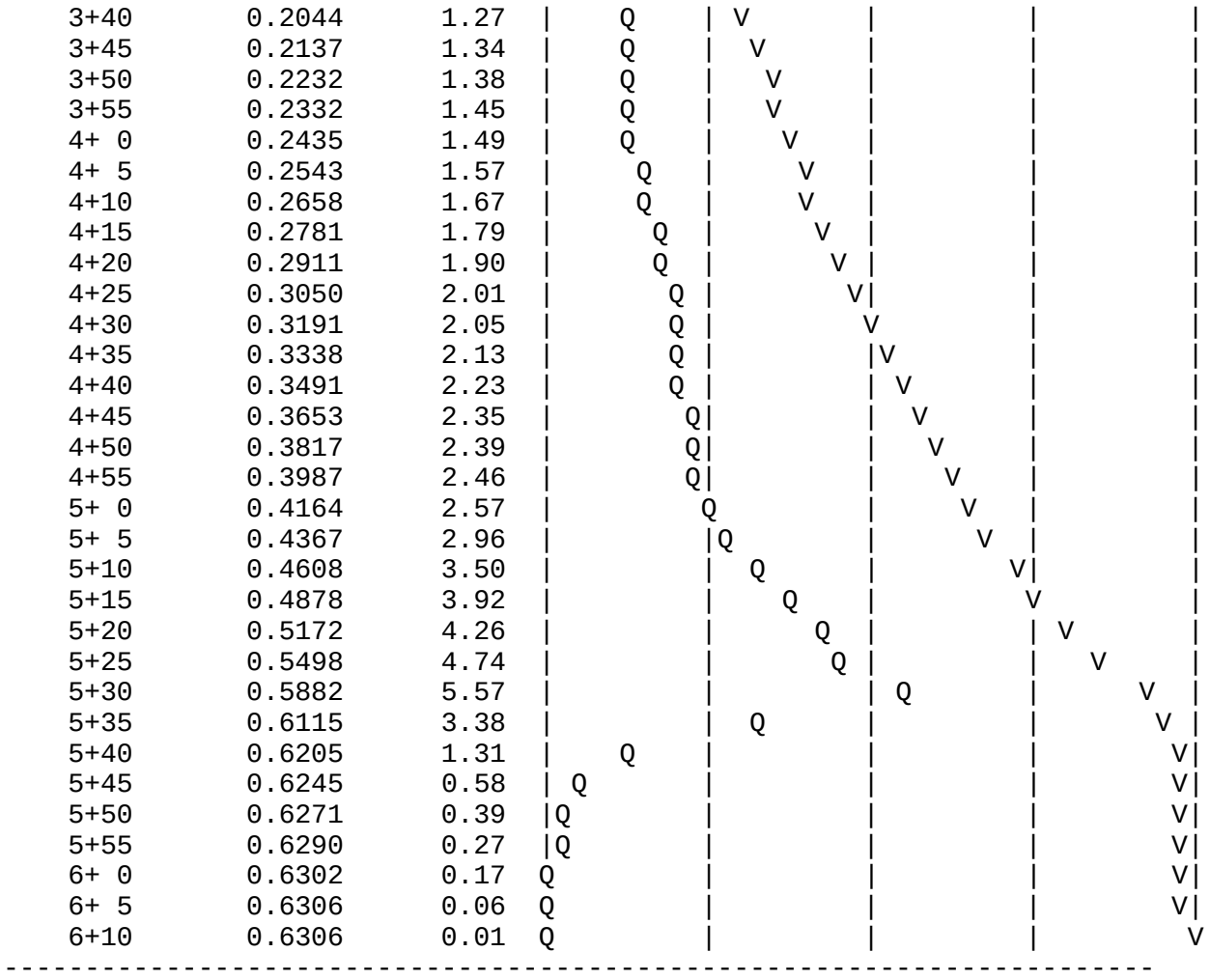
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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	0.0015	0.22	Q				
0+10	0.0041	0.38	VQ				
0+15	0.0070	0.42	VQ				
0+20	0.0099	0.42	VQ				
0+25	0.0128	0.42	VQ				
0+30	0.0160	0.47	|Q				
0+35	0.0194	0.49	|Q				
0+40	0.0228	0.49	|Q				
0+45	0.0262	0.49	|Q				
0+50	0.0295	0.49	|Q				
0+55	0.0329	0.49	|QV				
1+ 0	0.0368	0.56	| Q				
1+ 5	0.0409	0.60	| Q				
1+10	0.0450	0.60	| Q				
1+15	0.0492	0.60	| QV				
1+20	0.0533	0.60	| QV				
1+25	0.0575	0.60	| QV				
1+30	0.0616	0.60	| QV				
1+35	0.0658	0.60	| Q V				
1+40	0.0699	0.60	| Q V				
1+45	0.0741	0.60	| Q V				
1+50	0.0782	0.60	| Q V				
1+55	0.0823	0.60	| Q V				
2+ 0	0.0870	0.67	| Q V				
2+ 5	0.0914	0.64	| Q V				
2+10	0.0960	0.68	| Q V				
2+15	0.1009	0.71	| Q V				
2+20	0.1058	0.71	| Q V				
2+25	0.1107	0.71	| Q V				
2+30	0.1157	0.71	| Q V				
2+35	0.1206	0.71	| Q V				
2+40	0.1255	0.71	| Q V				
2+45	0.1309	0.78	| Q V				
2+50	0.1365	0.82	| Q V				
2+55	0.1422	0.83	| Q V|				
3+ 0	0.1479	0.83	| Q V|				
3+ 5	0.1536	0.83	| Q V|				
3+10	0.1598	0.89	| Q V				
3+15	0.1662	0.93	| Q V				
3+20	0.1726	0.94	| Q V				
3+25	0.1796	1.01	| Q |V				
3+30	0.1872	1.11	| Q |V				
3+35	0.1957	1.23	| Q | V				


3+40 0.2044 1.27
3+45 0.2137 1.34
3+50 0.2232 1.38
3+55 0.2332 1.45
4+ 0 0.2435 1.49
4+ 5 0.2543 1.57
4+10 0.2658 1.67
4+15 0.2781 1.79
4+20 0.2911 1.90
4+25 0.3050 2.01
4+30 0.3191 2.05
4+35 0.3338 2.13
4+40 0.3491 2.23
4+45 0.3653 2.35
4+50 0.3817 2.39
4+55 0.3987 2.46
5+ 0 0.4164 2.57
5+ 5 0.4367 2.96
5+10 0.4608 3.50
5+15 0.4878 3.92
5+20 0.5172 4.26
5+25 0.5498 4.74
5+30 0.5882 5.57
5+35 0.6115 3.38
5+40 0.6205 1.31
5+45 0.6245 0.58
5+50 0.6271 0.39
5+55 0.6290 0.27
6+ 0 0.6302 0.17
6+ 5 0.6306 0.06
6+10 0.6306 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 01/14/22 File: 20522PRC24100.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA C
100-YEAR 24-HOUR STORM

Drainage Area = 3.70(Ac.) = 0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 3.70(Ac.) = 0.006 Sq. Mi.
Length along longest watercourse = 560.00(Ft.)
Length along longest watercourse measured to centroid = 195.00(Ft.)
Length along longest watercourse = 0.106 Mi.
Length along longest watercourse measured to centroid = 0.037 Mi.
Difference in elevation = 2.80(Ft.)
Slope along watercourse = 26.4000 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.024 Hr.
Lag time = 1.41 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.56 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
3.70	1.60	5.92

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
3.70	4.00	14.80

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 4.000(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.000(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
3.700	69.00	0.660

Total Area Entered = 3.70(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
69.0	84.4	0.194	0.660	0.079	1.000	0.079
					Sum (F) =	0.079

Area averaged mean soil loss (F) (In/Hr) = 0.079
Minimum soil loss rate ((In/Hr)) = 0.039
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.372

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	354.240	61.648	2.299
2	0.167	708.481	34.313	1.280
3	0.250	1062.721	4.039	0.151
		Sum = 100.000	Sum=	3.729

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.07	0.032	(0.140)		0.012	0.020
2	0.17	0.07	0.032	(0.139)		0.012	0.020
3	0.25	0.07	0.032	(0.138)		0.012	0.020
4	0.33	0.10	0.048	(0.138)		0.018	0.030
5	0.42	0.10	0.048	(0.137)		0.018	0.030
6	0.50	0.10	0.048	(0.137)		0.018	0.030
7	0.58	0.10	0.048	(0.136)		0.018	0.030
8	0.67	0.10	0.048	(0.136)		0.018	0.030
9	0.75	0.10	0.048	(0.135)		0.018	0.030
10	0.83	0.13	0.064	(0.135)		0.024	0.040
11	0.92	0.13	0.064	(0.134)		0.024	0.040
12	1.00	0.13	0.064	(0.134)		0.024	0.040
13	1.08	0.10	0.048	(0.133)		0.018	0.030
14	1.17	0.10	0.048	(0.133)		0.018	0.030
15	1.25	0.10	0.048	(0.132)		0.018	0.030
16	1.33	0.10	0.048	(0.132)		0.018	0.030

17	1.42	0.10	0.048	(0.131)	0.018	0.030
18	1.50	0.10	0.048	(0.130)	0.018	0.030
19	1.58	0.10	0.048	(0.130)	0.018	0.030
20	1.67	0.10	0.048	(0.129)	0.018	0.030
21	1.75	0.10	0.048	(0.129)	0.018	0.030
22	1.83	0.13	0.064	(0.128)	0.024	0.040
23	1.92	0.13	0.064	(0.128)	0.024	0.040
24	2.00	0.13	0.064	(0.127)	0.024	0.040
25	2.08	0.13	0.064	(0.127)	0.024	0.040
26	2.17	0.13	0.064	(0.126)	0.024	0.040
27	2.25	0.13	0.064	(0.126)	0.024	0.040
28	2.33	0.13	0.064	(0.125)	0.024	0.040
29	2.42	0.13	0.064	(0.125)	0.024	0.040
30	2.50	0.13	0.064	(0.124)	0.024	0.040
31	2.58	0.17	0.080	(0.124)	0.030	0.050
32	2.67	0.17	0.080	(0.123)	0.030	0.050
33	2.75	0.17	0.080	(0.123)	0.030	0.050
34	2.83	0.17	0.080	(0.122)	0.030	0.050
35	2.92	0.17	0.080	(0.122)	0.030	0.050
36	3.00	0.17	0.080	(0.121)	0.030	0.050
37	3.08	0.17	0.080	(0.121)	0.030	0.050
38	3.17	0.17	0.080	(0.120)	0.030	0.050
39	3.25	0.17	0.080	(0.120)	0.030	0.050
40	3.33	0.17	0.080	(0.119)	0.030	0.050
41	3.42	0.17	0.080	(0.119)	0.030	0.050
42	3.50	0.17	0.080	(0.118)	0.030	0.050
43	3.58	0.17	0.080	(0.118)	0.030	0.050
44	3.67	0.17	0.080	(0.117)	0.030	0.050
45	3.75	0.17	0.080	(0.117)	0.030	0.050
46	3.83	0.20	0.096	(0.116)	0.036	0.060
47	3.92	0.20	0.096	(0.116)	0.036	0.060
48	4.00	0.20	0.096	(0.115)	0.036	0.060
49	4.08	0.20	0.096	(0.115)	0.036	0.060
50	4.17	0.20	0.096	(0.114)	0.036	0.060
51	4.25	0.20	0.096	(0.114)	0.036	0.060
52	4.33	0.23	0.112	(0.113)	0.042	0.070
53	4.42	0.23	0.112	(0.113)	0.042	0.070
54	4.50	0.23	0.112	(0.112)	0.042	0.070
55	4.58	0.23	0.112	(0.112)	0.042	0.070
56	4.67	0.23	0.112	(0.111)	0.042	0.070
57	4.75	0.23	0.112	(0.111)	0.042	0.070
58	4.83	0.27	0.128	(0.110)	0.048	0.080
59	4.92	0.27	0.128	(0.110)	0.048	0.080
60	5.00	0.27	0.128	(0.110)	0.048	0.080
61	5.08	0.20	0.096	(0.109)	0.036	0.060
62	5.17	0.20	0.096	(0.109)	0.036	0.060
63	5.25	0.20	0.096	(0.108)	0.036	0.060
64	5.33	0.23	0.112	(0.108)	0.042	0.070
65	5.42	0.23	0.112	(0.107)	0.042	0.070
66	5.50	0.23	0.112	(0.107)	0.042	0.070
67	5.58	0.27	0.128	(0.106)	0.048	0.080
68	5.67	0.27	0.128	(0.106)	0.048	0.080
69	5.75	0.27	0.128	(0.105)	0.048	0.080
70	5.83	0.27	0.128	(0.105)	0.048	0.080
71	5.92	0.27	0.128	(0.104)	0.048	0.080
72	6.00	0.27	0.128	(0.104)	0.048	0.080
73	6.08	0.30	0.144	(0.103)	0.054	0.090
74	6.17	0.30	0.144	(0.103)	0.054	0.090
75	6.25	0.30	0.144	(0.103)	0.054	0.090
76	6.33	0.30	0.144	(0.102)	0.054	0.090

77	6.42	0.30	0.144	(0.102)	0.054	0.090
78	6.50	0.30	0.144	(0.101)	0.054	0.090
79	6.58	0.33	0.160	(0.101)	0.060	0.100
80	6.67	0.33	0.160	(0.100)	0.060	0.100
81	6.75	0.33	0.160	(0.100)	0.060	0.100
82	6.83	0.33	0.160	(0.099)	0.060	0.100
83	6.92	0.33	0.160	(0.099)	0.060	0.100
84	7.00	0.33	0.160	(0.098)	0.060	0.100
85	7.08	0.33	0.160	(0.098)	0.060	0.100
86	7.17	0.33	0.160	(0.098)	0.060	0.100
87	7.25	0.33	0.160	(0.097)	0.060	0.100
88	7.33	0.37	0.176	(0.097)	0.065	0.111
89	7.42	0.37	0.176	(0.096)	0.065	0.111
90	7.50	0.37	0.176	(0.096)	0.065	0.111
91	7.58	0.40	0.192	(0.095)	0.071	0.121
92	7.67	0.40	0.192	(0.095)	0.071	0.121
93	7.75	0.40	0.192	(0.094)	0.071	0.121
94	7.83	0.43	0.208	(0.094)	0.077	0.131
95	7.92	0.43	0.208	(0.094)	0.077	0.131
96	8.00	0.43	0.208	(0.093)	0.077	0.131
97	8.08	0.50	0.240	(0.093)	0.089	0.151
98	8.17	0.50	0.240	(0.092)	0.089	0.151
99	8.25	0.50	0.240	(0.092)	0.089	0.151
100	8.33	0.50	0.240	(0.091)	0.089	0.151
101	8.42	0.50	0.240	(0.091)	0.089	0.151
102	8.50	0.50	0.240	(0.091)	0.089	0.151
103	8.58	0.53	0.256	0.090	(0.095)	0.166
104	8.67	0.53	0.256	0.090	(0.095)	0.166
105	8.75	0.53	0.256	0.089	(0.095)	0.167
106	8.83	0.57	0.272	0.089	(0.101)	0.183
107	8.92	0.57	0.272	0.088	(0.101)	0.184
108	9.00	0.57	0.272	0.088	(0.101)	0.184
109	9.08	0.63	0.304	0.088	(0.113)	0.216
110	9.17	0.63	0.304	0.087	(0.113)	0.217
111	9.25	0.63	0.304	0.087	(0.113)	0.217
112	9.33	0.67	0.320	0.086	(0.119)	0.234
113	9.42	0.67	0.320	0.086	(0.119)	0.234
114	9.50	0.67	0.320	0.086	(0.119)	0.234
115	9.58	0.70	0.336	0.085	(0.125)	0.251
116	9.67	0.70	0.336	0.085	(0.125)	0.251
117	9.75	0.70	0.336	0.084	(0.125)	0.252
118	9.83	0.73	0.352	0.084	(0.131)	0.268
119	9.92	0.73	0.352	0.084	(0.131)	0.268
120	10.00	0.73	0.352	0.083	(0.131)	0.269
121	10.08	0.50	0.240	0.083	(0.089)	0.157
122	10.17	0.50	0.240	0.082	(0.089)	0.158
123	10.25	0.50	0.240	0.082	(0.089)	0.158
124	10.33	0.50	0.240	0.082	(0.089)	0.158
125	10.42	0.50	0.240	0.081	(0.089)	0.159
126	10.50	0.50	0.240	0.081	(0.089)	0.159
127	10.58	0.67	0.320	0.080	(0.119)	0.240
128	10.67	0.67	0.320	0.080	(0.119)	0.240
129	10.75	0.67	0.320	0.080	(0.119)	0.240
130	10.83	0.67	0.320	0.079	(0.119)	0.241
131	10.92	0.67	0.320	0.079	(0.119)	0.241
132	11.00	0.67	0.320	0.078	(0.119)	0.242
133	11.08	0.63	0.304	0.078	(0.113)	0.226
134	11.17	0.63	0.304	0.078	(0.113)	0.226
135	11.25	0.63	0.304	0.077	(0.113)	0.227
136	11.33	0.63	0.304	0.077	(0.113)	0.227

137	11.42	0.63	0.304	0.076	(0.113)	0.228
138	11.50	0.63	0.304	0.076	(0.113)	0.228
139	11.58	0.57	0.272	0.076	(0.101)	0.196
140	11.67	0.57	0.272	0.075	(0.101)	0.197
141	11.75	0.57	0.272	0.075	(0.101)	0.197
142	11.83	0.60	0.288	0.075	(0.107)	0.213
143	11.92	0.60	0.288	0.074	(0.107)	0.214
144	12.00	0.60	0.288	0.074	(0.107)	0.214
145	12.08	0.83	0.400	0.073	(0.149)	0.327
146	12.17	0.83	0.400	0.073	(0.149)	0.327
147	12.25	0.83	0.400	0.073	(0.149)	0.327
148	12.33	0.87	0.416	0.072	(0.155)	0.344
149	12.42	0.87	0.416	0.072	(0.155)	0.344
150	12.50	0.87	0.416	0.072	(0.155)	0.344
151	12.58	0.93	0.448	0.071	(0.167)	0.377
152	12.67	0.93	0.448	0.071	(0.167)	0.377
153	12.75	0.93	0.448	0.071	(0.167)	0.377
154	12.83	0.97	0.464	0.070	(0.173)	0.394
155	12.92	0.97	0.464	0.070	(0.173)	0.394
156	13.00	0.97	0.464	0.069	(0.173)	0.394
157	13.08	1.13	0.544	0.069	(0.202)	0.475
158	13.17	1.13	0.544	0.069	(0.202)	0.475
159	13.25	1.13	0.544	0.068	(0.202)	0.476
160	13.33	1.13	0.544	0.068	(0.202)	0.476
161	13.42	1.13	0.544	0.068	(0.202)	0.476
162	13.50	1.13	0.544	0.067	(0.202)	0.477
163	13.58	0.77	0.368	0.067	(0.137)	0.301
164	13.67	0.77	0.368	0.067	(0.137)	0.301
165	13.75	0.77	0.368	0.066	(0.137)	0.302
166	13.83	0.77	0.368	0.066	(0.137)	0.302
167	13.92	0.77	0.368	0.066	(0.137)	0.302
168	14.00	0.77	0.368	0.065	(0.137)	0.303
169	14.08	0.90	0.432	0.065	(0.161)	0.367
170	14.17	0.90	0.432	0.065	(0.161)	0.367
171	14.25	0.90	0.432	0.064	(0.161)	0.368
172	14.33	0.87	0.416	0.064	(0.155)	0.352
173	14.42	0.87	0.416	0.064	(0.155)	0.352
174	14.50	0.87	0.416	0.063	(0.155)	0.353
175	14.58	0.87	0.416	0.063	(0.155)	0.353
176	14.67	0.87	0.416	0.063	(0.155)	0.353
177	14.75	0.87	0.416	0.062	(0.155)	0.354
178	14.83	0.83	0.400	0.062	(0.149)	0.338
179	14.92	0.83	0.400	0.062	(0.149)	0.338
180	15.00	0.83	0.400	0.061	(0.149)	0.339
181	15.08	0.80	0.384	0.061	(0.143)	0.323
182	15.17	0.80	0.384	0.061	(0.143)	0.323
183	15.25	0.80	0.384	0.061	(0.143)	0.323
184	15.33	0.77	0.368	0.060	(0.137)	0.308
185	15.42	0.77	0.368	0.060	(0.137)	0.308
186	15.50	0.77	0.368	0.060	(0.137)	0.308
187	15.58	0.63	0.304	0.059	(0.113)	0.245
188	15.67	0.63	0.304	0.059	(0.113)	0.245
189	15.75	0.63	0.304	0.059	(0.113)	0.245
190	15.83	0.63	0.304	0.058	(0.113)	0.246
191	15.92	0.63	0.304	0.058	(0.113)	0.246
192	16.00	0.63	0.304	0.058	(0.113)	0.246
193	16.08	0.13	0.064	(0.057)	0.024	0.040
194	16.17	0.13	0.064	(0.057)	0.024	0.040
195	16.25	0.13	0.064	(0.057)	0.024	0.040
196	16.33	0.13	0.064	(0.057)	0.024	0.040

197	16.42	0.13	0.064	(0.056)	0.024	0.040
198	16.50	0.13	0.064	(0.056)	0.024	0.040
199	16.58	0.10	0.048	(0.056)	0.018	0.030
200	16.67	0.10	0.048	(0.055)	0.018	0.030
201	16.75	0.10	0.048	(0.055)	0.018	0.030
202	16.83	0.10	0.048	(0.055)	0.018	0.030
203	16.92	0.10	0.048	(0.055)	0.018	0.030
204	17.00	0.10	0.048	(0.054)	0.018	0.030
205	17.08	0.17	0.080	(0.054)	0.030	0.050
206	17.17	0.17	0.080	(0.054)	0.030	0.050
207	17.25	0.17	0.080	(0.054)	0.030	0.050
208	17.33	0.17	0.080	(0.053)	0.030	0.050
209	17.42	0.17	0.080	(0.053)	0.030	0.050
210	17.50	0.17	0.080	(0.053)	0.030	0.050
211	17.58	0.17	0.080	(0.052)	0.030	0.050
212	17.67	0.17	0.080	(0.052)	0.030	0.050
213	17.75	0.17	0.080	(0.052)	0.030	0.050
214	17.83	0.13	0.064	(0.052)	0.024	0.040
215	17.92	0.13	0.064	(0.051)	0.024	0.040
216	18.00	0.13	0.064	(0.051)	0.024	0.040
217	18.08	0.13	0.064	(0.051)	0.024	0.040
218	18.17	0.13	0.064	(0.051)	0.024	0.040
219	18.25	0.13	0.064	(0.050)	0.024	0.040
220	18.33	0.13	0.064	(0.050)	0.024	0.040
221	18.42	0.13	0.064	(0.050)	0.024	0.040
222	18.50	0.13	0.064	(0.050)	0.024	0.040
223	18.58	0.10	0.048	(0.049)	0.018	0.030
224	18.67	0.10	0.048	(0.049)	0.018	0.030
225	18.75	0.10	0.048	(0.049)	0.018	0.030
226	18.83	0.07	0.032	(0.049)	0.012	0.020
227	18.92	0.07	0.032	(0.049)	0.012	0.020
228	19.00	0.07	0.032	(0.048)	0.012	0.020
229	19.08	0.10	0.048	(0.048)	0.018	0.030
230	19.17	0.10	0.048	(0.048)	0.018	0.030
231	19.25	0.10	0.048	(0.048)	0.018	0.030
232	19.33	0.13	0.064	(0.047)	0.024	0.040
233	19.42	0.13	0.064	(0.047)	0.024	0.040
234	19.50	0.13	0.064	(0.047)	0.024	0.040
235	19.58	0.10	0.048	(0.047)	0.018	0.030
236	19.67	0.10	0.048	(0.047)	0.018	0.030
237	19.75	0.10	0.048	(0.046)	0.018	0.030
238	19.83	0.07	0.032	(0.046)	0.012	0.020
239	19.92	0.07	0.032	(0.046)	0.012	0.020
240	20.00	0.07	0.032	(0.046)	0.012	0.020
241	20.08	0.10	0.048	(0.045)	0.018	0.030
242	20.17	0.10	0.048	(0.045)	0.018	0.030
243	20.25	0.10	0.048	(0.045)	0.018	0.030
244	20.33	0.10	0.048	(0.045)	0.018	0.030
245	20.42	0.10	0.048	(0.045)	0.018	0.030
246	20.50	0.10	0.048	(0.045)	0.018	0.030
247	20.58	0.10	0.048	(0.044)	0.018	0.030
248	20.67	0.10	0.048	(0.044)	0.018	0.030
249	20.75	0.10	0.048	(0.044)	0.018	0.030
250	20.83	0.07	0.032	(0.044)	0.012	0.020
251	20.92	0.07	0.032	(0.044)	0.012	0.020
252	21.00	0.07	0.032	(0.043)	0.012	0.020
253	21.08	0.10	0.048	(0.043)	0.018	0.030
254	21.17	0.10	0.048	(0.043)	0.018	0.030
255	21.25	0.10	0.048	(0.043)	0.018	0.030
256	21.33	0.07	0.032	(0.043)	0.012	0.020

257	21.42	0.07	0.032	(	0.043)	0.012	0.020
258	21.50	0.07	0.032	(	0.042)	0.012	0.020
259	21.58	0.10	0.048	(	0.042)	0.018	0.030
260	21.67	0.10	0.048	(	0.042)	0.018	0.030
261	21.75	0.10	0.048	(	0.042)	0.018	0.030
262	21.83	0.07	0.032	(	0.042)	0.012	0.020
263	21.92	0.07	0.032	(	0.042)	0.012	0.020
264	22.00	0.07	0.032	(	0.042)	0.012	0.020
265	22.08	0.10	0.048	(	0.041)	0.018	0.030
266	22.17	0.10	0.048	(	0.041)	0.018	0.030
267	22.25	0.10	0.048	(	0.041)	0.018	0.030
268	22.33	0.07	0.032	(	0.041)	0.012	0.020
269	22.42	0.07	0.032	(	0.041)	0.012	0.020
270	22.50	0.07	0.032	(	0.041)	0.012	0.020
271	22.58	0.07	0.032	(	0.041)	0.012	0.020
272	22.67	0.07	0.032	(	0.041)	0.012	0.020
273	22.75	0.07	0.032	(	0.040)	0.012	0.020
274	22.83	0.07	0.032	(	0.040)	0.012	0.020
275	22.92	0.07	0.032	(	0.040)	0.012	0.020
276	23.00	0.07	0.032	(	0.040)	0.012	0.020
277	23.08	0.07	0.032	(	0.040)	0.012	0.020
278	23.17	0.07	0.032	(	0.040)	0.012	0.020
279	23.25	0.07	0.032	(	0.040)	0.012	0.020
280	23.33	0.07	0.032	(	0.040)	0.012	0.020
281	23.42	0.07	0.032	(	0.040)	0.012	0.020
282	23.50	0.07	0.032	(	0.040)	0.012	0.020
283	23.58	0.07	0.032	(	0.040)	0.012	0.020
284	23.67	0.07	0.032	(	0.040)	0.012	0.020
285	23.75	0.07	0.032	(	0.039)	0.012	0.020
286	23.83	0.07	0.032	(	0.039)	0.012	0.020
287	23.92	0.07	0.032	(	0.039)	0.012	0.020
288	24.00	0.07	0.032	(	0.039)	0.012	0.020

(Loss Rate Not Used)

Sum = 100.0 Sum = 35.5

Flood volume = Effective rainfall 2.96(In)
times area 3.7(Ac.)/[(In)/(Ft.)] = 0.9(Ac.Ft)
Total soil loss = 1.04(In)
Total soil loss = 0.321(Ac.Ft)
Total rainfall = 4.00(In)
Flood volume = 39752.1 Cubic Feet
Total soil loss = 13971.5 Cubic Feet

Peak flow rate of this hydrograph = 1.778(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	0.0003	0.05	Q	|	|	|	|
0+10	0.0008	0.07	Q	|	|	|	|
0+15	0.0013	0.07	Q	|	|	|	|
0+20	0.0020	0.10	Q	|	|	|	|
0+25	0.0028	0.11	Q	|	|	|	|
0+30	0.0035	0.11	Q	|	|	|	|
0+35	0.0043	0.11	Q	|	|	|	|

0+40	0.0051	0.11	Q	|	|	|	|
0+45	0.0059	0.11	Q	|	|	|	|
0+50	0.0068	0.14	Q	|	|	|	|
0+55	0.0078	0.15	Q	|	|	|	|
1+ 0	0.0089	0.15	Q	|	|	|	|
1+ 5	0.0097	0.13	Q	|	|	|	|
1+10	0.0105	0.11	Q	|	|	|	|
1+15	0.0113	0.11	Q	|	|	|	|
1+20	0.0121	0.11	Q	|	|	|	|
1+25	0.0128	0.11	Q	|	|	|	|
1+30	0.0136	0.11	Q	|	|	|	|
1+35	0.0144	0.11	Q	|	|	|	|
1+40	0.0152	0.11	Q	|	|	|	|
1+45	0.0159	0.11	Q	|	|	|	|
1+50	0.0169	0.14	Q	|	|	|	|
1+55	0.0179	0.15	Q	|	|	|	|
2+ 0	0.0189	0.15	Q	|	|	|	|
2+ 5	0.0200	0.15	Q	|	|	|	|
2+10	0.0210	0.15	Q	|	|	|	|
2+15	0.0220	0.15	Q	|	|	|	|
2+20	0.0231	0.15	QV	|	|	|	|
2+25	0.0241	0.15	QV	|	|	|	|
2+30	0.0251	0.15	QV	|	|	|	|
2+35	0.0263	0.17	QV	|	|	|	|
2+40	0.0276	0.19	QV	|	|	|	|
2+45	0.0289	0.19	QV	|	|	|	|
2+50	0.0302	0.19	QV	|	|	|	|
2+55	0.0315	0.19	QV	|	|	|	|
3+ 0	0.0328	0.19	QV	|	|	|	|
3+ 5	0.0340	0.19	QV	|	|	|	|
3+10	0.0353	0.19	QV	|	|	|	|
3+15	0.0366	0.19	QV	|	|	|	|
3+20	0.0379	0.19	QV	|	|	|	|
3+25	0.0392	0.19	QV	|	|	|	|
3+30	0.0405	0.19	QV	|	|	|	|
3+35	0.0418	0.19	QV	|	|	|	|
3+40	0.0431	0.19	QV	|	|	|	|
3+45	0.0444	0.19	QV	|	|	|	|
3+50	0.0458	0.21	Q V	|	|	|	|
3+55	0.0474	0.22	Q V	|	|	|	|
4+ 0	0.0489	0.22	Q V	|	|	|	|
4+ 5	0.0505	0.22	Q V	|	|	|	|
4+10	0.0520	0.22	Q V	|	|	|	|
4+15	0.0536	0.22	Q V	|	|	|	|
4+20	0.0553	0.25	Q V	|	|	|	|
4+25	0.0571	0.26	|QV	|	|	|	|
4+30	0.0589	0.26	|QV	|	|	|	|
4+35	0.0607	0.26	|QV	|	|	|	|
4+40	0.0625	0.26	|QV	|	|	|	|
4+45	0.0643	0.26	|QV	|	|	|	|
4+50	0.0663	0.29	|QV	|	|	|	|
4+55	0.0683	0.30	|QV	|	|	|	|
5+ 0	0.0704	0.30	|Q V	|	|	|	|
5+ 5	0.0721	0.25	|Q V	|	|	|	|
5+10	0.0737	0.23	Q V	|	|	|	|
5+15	0.0752	0.22	Q V	|	|	|	|
5+20	0.0770	0.25	Q V	|	|	|	|
5+25	0.0788	0.26	|Q V	|	|	|	|
5+30	0.0806	0.26	|Q V	|	|	|	|
5+35	0.0825	0.29	|Q V	|	|	|	|

5+40	0.0846	0.30	Q V				
5+45	0.0866	0.30	Q V				
5+50	0.0887	0.30	Q V				
5+55	0.0908	0.30	Q V				
6+ 0	0.0928	0.30	Q V				
6+ 5	0.0951	0.32	Q V				
6+10	0.0974	0.34	Q V				
6+15	0.0997	0.34	Q V				
6+20	0.1020	0.34	Q V				
6+25	0.1044	0.34	Q V				
6+30	0.1067	0.34	Q V				
6+35	0.1092	0.36	Q V				
6+40	0.1117	0.37	Q V				
6+45	0.1143	0.37	Q V				
6+50	0.1169	0.37	Q V				
6+55	0.1195	0.37	Q V				
7+ 0	0.1221	0.37	Q V				
7+ 5	0.1246	0.37	Q V				
7+10	0.1272	0.37	Q V				
7+15	0.1298	0.37	Q V				
7+20	0.1325	0.40	Q V				
7+25	0.1354	0.41	Q V				
7+30	0.1382	0.41	Q V				
7+35	0.1412	0.44	Q V				
7+40	0.1443	0.45	Q V				
7+45	0.1474	0.45	Q V				
7+50	0.1507	0.47	Q V				
7+55	0.1540	0.49	Q V				
8+ 0	0.1574	0.49	Q V				
8+ 5	0.1610	0.53	Q V				
8+10	0.1649	0.56	Q V				
8+15	0.1688	0.56	Q V				
8+20	0.1726	0.56	Q V				
8+25	0.1765	0.56	Q V				
8+30	0.1804	0.56	Q V				
8+35	0.1845	0.60	Q V				
8+40	0.1887	0.62	Q V				
8+45	0.1930	0.62	Q V				
8+50	0.1976	0.66	Q V				
8+55	0.2023	0.68	Q V				
9+ 0	0.2070	0.69	Q V				
9+ 5	0.2122	0.76	Q V				
9+10	0.2177	0.80	Q V				
9+15	0.2233	0.81	Q V				
9+20	0.2292	0.85	Q V				
9+25	0.2352	0.87	Q V				
9+30	0.2412	0.87	Q V				
9+35	0.2475	0.91	Q V				
9+40	0.2539	0.93	Q V				
9+45	0.2604	0.94	Q V				
9+50	0.2671	0.98	Q V				
9+55	0.2740	1.00	Q V				
10+ 0	0.2809	1.00	Q V				
10+ 5	0.2860	0.75	Q V				
10+10	0.2902	0.60	Q V				
10+15	0.2942	0.59	Q V				
10+20	0.2983	0.59	Q V				
10+25	0.3024	0.59	Q V				
10+30	0.3065	0.59	Q V				
10+35	0.3118	0.78	Q V				

10+40	0.3179	0.88	Q	V				
10+45	0.3241	0.90	Q	V				
10+50	0.3303	0.90	Q	V				
10+55	0.3365	0.90	Q	V				
11+ 0	0.3427	0.90	Q	V				
11+ 5	0.3486	0.87	Q	V				
11+10	0.3545	0.85	Q	V				
11+15	0.3603	0.85	Q	V				
11+20	0.3661	0.85	Q	V				
11+25	0.3720	0.85	Q	V				
11+30	0.3778	0.85	Q	V				
11+35	0.3832	0.78	Q	V				
11+40	0.3882	0.74	Q	V				
11+45	0.3933	0.73	Q	V				
11+50	0.3986	0.77	Q	V				
11+55	0.4041	0.79	Q	V				
12+ 0	0.4096	0.80	Q	V				
12+ 5	0.4169	1.06	Q	V				
12+10	0.4252	1.20	Q	V				
12+15	0.4336	1.22	Q	V				
12+20	0.4422	1.26	Q	V				
12+25	0.4511	1.28	Q	V				
12+30	0.4599	1.28	Q	V				
12+35	0.4693	1.36	Q	V				
12+40	0.4789	1.40	Q	V				
12+45	0.4886	1.41	Q	V				
12+50	0.4986	1.45	Q	V				
12+55	0.5087	1.47	Q	V				
13+ 0	0.5188	1.47	Q	V				
13+ 5	0.5302	1.66	Q	V				
13+10	0.5423	1.76	Q	V				
13+15	0.5545	1.77	Q	V				
13+20	0.5668	1.77	Q	V				
13+25	0.5790	1.78	Q	V				
13+30	0.5912	1.78	Q	V				
13+35	0.6007	1.37	Q	V				
13+40	0.6086	1.15	Q	V				
13+45	0.6164	1.12	Q	V				
13+50	0.6241	1.13	Q	V				
13+55	0.6319	1.13	Q	V				
14+ 0	0.6397	1.13	Q	V				
14+ 5	0.6485	1.28	Q	V				
14+10	0.6578	1.36	Q	V				
14+15	0.6673	1.37	Q	V				
14+20	0.6765	1.34	Q	V				
14+25	0.6855	1.32	Q	V				
14+30	0.6946	1.31	Q	V				
14+35	0.7037	1.32	Q	V				
14+40	0.7127	1.32	Q	V				
14+45	0.7218	1.32	Q	V				
14+50	0.7306	1.28	Q	V				
14+55	0.7393	1.26	Q	V				
15+ 0	0.7480	1.26	Q	V				
15+ 5	0.7565	1.23	Q	V				
15+10	0.7648	1.21	Q	V				
15+15	0.7731	1.21	Q	V				
15+20	0.7812	1.17	Q	V				
15+25	0.7891	1.15	Q	V				
15+30	0.7970	1.15	Q	V				
15+35	0.8039	1.00	Q	V				

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15+40       0.8103      0.92  |  Q      |         |         |    V    |
15+45       0.8166      0.91  |  Q      |         |         |    V    |
15+50       0.8229      0.92  |  Q      |         |         |     V   |
15+55       0.8292      0.92  |  Q      |         |         |     V   |
16+ 0       0.8355      0.92  |  Q      |         |         |     V   |
16+ 5       0.8386      0.44  |Q        |         |         |     V   |
16+10       0.8399      0.18  Q         |         |         |     V   |
16+15       0.8409      0.15  Q         |         |         |     V   |
16+20       0.8419      0.15  Q         |         |         |     V   |
16+25       0.8430      0.15  Q         |         |         |     V   |
16+30       0.8440      0.15  Q         |         |         |     V   |
16+35       0.8449      0.13  Q         |         |         |      V  |
16+40       0.8456      0.11  Q         |         |         |      V  |
16+45       0.8464      0.11  Q         |         |         |      V  |
16+50       0.8472      0.11  Q         |         |         |      V  |
16+55       0.8480      0.11  Q         |         |         |      V  |
17+ 0       0.8487      0.11  Q         |         |         |      V  |
17+ 5       0.8498      0.16  Q         |         |         |      V  |
17+10       0.8511      0.18  Q         |         |         |      V  |
17+15       0.8524      0.19  Q         |         |         |      V  |
17+20       0.8537      0.19  Q         |         |         |      V  |
17+25       0.8550      0.19  Q         |         |         |      V  |
17+30       0.8563      0.19  Q         |         |         |      V  |
17+35       0.8576      0.19  Q         |         |         |      V  |
17+40       0.8589      0.19  Q         |         |         |      V  |
17+45       0.8601      0.19  Q         |         |         |      V  |
17+50       0.8613      0.16  Q         |         |         |      V  |
17+55       0.8623      0.15  Q         |         |         |      V  |
18+ 0       0.8634      0.15  Q         |         |         |      V  |
18+ 5       0.8644      0.15  Q         |         |         |      V  |
18+10       0.8654      0.15  Q         |         |         |      V  |
18+15       0.8664      0.15  Q         |         |         |      V  |
18+20       0.8675      0.15  Q         |         |         |       V |
18+25       0.8685      0.15  Q         |         |         |       V |
18+30       0.8695      0.15  Q         |         |         |       V |
18+35       0.8704      0.13  Q         |         |         |       V |
18+40       0.8712      0.11  Q         |         |         |       V |
18+45       0.8720      0.11  Q         |         |         |       V |
18+50       0.8726      0.09  Q         |         |         |       V |
18+55       0.8731      0.08  Q         |         |         |       V |
19+ 0       0.8736      0.07  Q         |         |         |       V |
19+ 5       0.8743      0.10  Q         |         |         |       V |
19+10       0.8751      0.11  Q         |         |         |       V |
19+15       0.8759      0.11  Q         |         |         |       V |
19+20       0.8768      0.14  Q         |         |         |       V |
19+25       0.8778      0.15  Q         |         |         |       V |
19+30       0.8788      0.15  Q         |         |         |       V |
19+35       0.8797      0.13  Q         |         |         |       V |
19+40       0.8805      0.11  Q         |         |         |       V |
19+45       0.8813      0.11  Q         |         |         |       V |
19+50       0.8819      0.09  Q         |         |         |       V |
19+55       0.8824      0.08  Q         |         |         |       V |
20+ 0       0.8829      0.07  Q         |         |         |       V |
20+ 5       0.8836      0.10  Q         |         |         |       V |
20+10       0.8844      0.11  Q         |         |         |       V |
20+15       0.8851      0.11  Q         |         |         |       V |
20+20       0.8859      0.11  Q         |         |         |       V |
20+25       0.8867      0.11  Q         |         |         |       V |
20+30       0.8875      0.11  Q         |         |         |      V  |
20+35       0.8882      0.11  Q         |         |         |      V  |
```

20+40	0.8890	0.11	Q	|	|	|	V |
20+45	0.8898	0.11	Q	|	|	|	V|
20+50	0.8904	0.09	Q	|	|	|	V|
20+55	0.8909	0.08	Q	|	|	|	V|
21+ 0	0.8915	0.07	Q	|	|	|	V|
21+ 5	0.8921	0.10	Q	|	|	|	V|
21+10	0.8929	0.11	Q	|	|	|	V|
21+15	0.8937	0.11	Q	|	|	|	V|
21+20	0.8943	0.09	Q	|	|	|	V|
21+25	0.8948	0.08	Q	|	|	|	V|
21+30	0.8953	0.07	Q	|	|	|	V|
21+35	0.8960	0.10	Q	|	|	|	V|
21+40	0.8968	0.11	Q	|	|	|	V|
21+45	0.8975	0.11	Q	|	|	|	V|
21+50	0.8982	0.09	Q	|	|	|	V|
21+55	0.8987	0.08	Q	|	|	|	V|
22+ 0	0.8992	0.07	Q	|	|	|	V|
22+ 5	0.8999	0.10	Q	|	|	|	V|
22+10	0.9006	0.11	Q	|	|	|	V|
22+15	0.9014	0.11	Q	|	|	|	V|
22+20	0.9020	0.09	Q	|	|	|	V|
22+25	0.9026	0.08	Q	|	|	|	V|
22+30	0.9031	0.07	Q	|	|	|	V|
22+35	0.9036	0.07	Q	|	|	|	V|
22+40	0.9041	0.07	Q	|	|	|	V|
22+45	0.9046	0.07	Q	|	|	|	V|
22+50	0.9051	0.07	Q	|	|	|	V|
22+55	0.9057	0.07	Q	|	|	|	V|
23+ 0	0.9062	0.07	Q	|	|	|	V|
23+ 5	0.9067	0.07	Q	|	|	|	V|
23+10	0.9072	0.07	Q	|	|	|	V|
23+15	0.9077	0.07	Q	|	|	|	V|
23+20	0.9082	0.07	Q	|	|	|	V|
23+25	0.9087	0.07	Q	|	|	|	V|
23+30	0.9093	0.07	Q	|	|	|	V|
23+35	0.9098	0.07	Q	|	|	|	V|
23+40	0.9103	0.07	Q	|	|	|	V|
23+45	0.9108	0.07	Q	|	|	|	V|
23+50	0.9113	0.07	Q	|	|	|	V|
23+55	0.9118	0.07	Q	|	|	|	V|
24+ 0	0.9124	0.07	Q	|	|	|	V|
24+ 5	0.9126	0.03	Q	|	|	|	V|
24+10	0.9126	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 01/14/22 File: 20522PRE1100.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA E
100-YEAR 1-HOUR STORM

Drainage Area = 21.30(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.30(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1646.00(Ft.)
Length along longest watercourse measured to centroid = 680.00(Ft.)
Length along longest watercourse = 0.312 Mi.
Length along longest watercourse measured to centroid = 0.129 Mi.
Difference in elevation = 4.00(Ft.)
Slope along watercourse = 12.8311 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.131 Hr.
Lag time = 7.84 Min.
25% of lag time = 1.96 Min.
40% of lag time = 3.14 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.30	0.50	10.65

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.30	1.20	25.56

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.98 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
21.300	75.00	0.150

Total Area Entered = 21.30(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	88.0	0.153	0.150	0.132	1.000	0.132
					Sum (F) =	0.132

Area averaged mean soil loss (F) (In/Hr) = 0.132
Minimum soil loss rate ((In/Hr)) = 0.066
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.780

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

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	63.777	9.093	1.952
2	0.167	127.553	36.507	7.837
3	0.250	191.330	25.295	5.430
4	0.333	255.106	9.730	2.089
5	0.417	318.883	5.855	1.257
6	0.500	382.660	3.932	0.844
7	0.583	446.436	2.725	0.585
8	0.667	510.213	2.006	0.431
9	0.750	573.990	1.565	0.336
10	0.833	637.766	1.153	0.247
11	0.917	701.543	0.831	0.178
12	1.000	765.319	0.642	0.138
13	1.083	829.096	0.666	0.143
		Sum = 100.000	Sum=	21.466

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	4.40	0.633	0.132	(0.494)	0.501
2	0.17	4.50	0.648	0.132	(0.505)	0.516
3	0.25	5.40	0.777	0.132	(0.606)	0.645
4	0.33	5.40	0.777	0.132	(0.606)	0.645

5	0.42	5.70	0.821	0.132	(0.640)	0.688
6	0.50	6.40	0.921	0.132	(0.719)	0.789
7	0.58	7.90	1.137	0.132	(0.887)	1.005
8	0.67	9.10	1.310	0.132	(1.022)	1.178
9	0.75	12.80	1.843	0.132	(1.437)	1.711
10	0.83	25.60	3.686	0.132	(2.875)	3.554
11	0.92	7.90	1.137	0.132	(0.887)	1.005
12	1.00	4.90	0.705	0.132	(0.550)	0.573

(Loss Rate Not Used)

Sum = 100.0 Sum = 12.8

Flood volume = Effective rainfall 1.07(In)
times area 21.3(Ac.)/[(In)/(Ft.)] = 1.9(Ac.Ft)
Total soil loss = 0.13(In)
Total soil loss = 0.235(Ac.Ft)
Total rainfall = 1.20(In)
Flood volume = 82545.5 Cubic Feet
Total soil loss = 10219.4 Cubic Feet

Peak flow rate of this hydrograph = 44.627(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	12.5	25.0	37.5	50.0
0+ 5	0.0067	0.98	Q	|	|	|	|
0+10	0.0407	4.94	V Q	|	|	|	|
0+15	0.0960	8.03	| V Q	|	|	|	|
0+20	0.1661	10.17	| V Q |	|	|	|
0+25	0.2461	11.62	| V Q|	|	|	|
0+30	0.3347	12.87	| V Q	|	|	|
0+35	0.4365	14.78	| V|Q	|	|	|
0+40	0.5590	17.78	| |V Q	|	|	|
0+45	0.7095	21.87	| | V Q |	|	|
0+50	0.9257	31.38	| | V| Q	|	|
0+55	1.2330	44.63	| | | V | Q	|
1+ 0	1.4776	35.51	| | | Q |V	|
1+ 5	1.6298	22.11	| | Q | | V	|
1+10	1.7191	12.96	| Q | | V |
1+15	1.7729	7.81	| Q | | | V |
1+20	1.8098	5.36	| Q | | | V |
1+25	1.8363	3.86	| Q | | | V |
1+30	1.8560	2.85	| Q | | | V|
1+35	1.8703	2.08	|Q | | | V|
1+40	1.8805	1.48	|Q | | | V|
1+45	1.8877	1.06	Q | | | V|
1+50	1.8929	0.75	Q | | | V|
1+55	1.8944	0.22	Q | | | V|
2+ 0	1.8950	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 01/14/22 File: 20522PRE3100.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA E
100-YEAR 3-HOUR STORM

Drainage Area = 21.30(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.30(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1646.00(Ft.)
Length along longest watercourse measured to centroid = 680.00(Ft.)
Length along longest watercourse = 0.312 Mi.
Length along longest watercourse measured to centroid = 0.129 Mi.
Difference in elevation = 4.00(Ft.)
Slope along watercourse = 12.8311 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.131 Hr.
Lag time = 7.84 Min.
25% of lag time = 1.96 Min.
40% of lag time = 3.14 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.30	0.80	17.04

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.30	1.90	40.47

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.900(In)

Point rain (area averaged) = 1.900(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.900(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
21.300	75.00	0.150

Total Area Entered = 21.30(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	88.0	0.153	0.150	0.132	1.000	0.132
					Sum (F) =	0.132

Area averaged mean soil loss (F) (In/Hr) = 0.132
Minimum soil loss rate ((In/Hr)) = 0.066
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.780

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	63.777	9.093	1.952
2	0.167	127.553	36.507	7.837
3	0.250	191.330	25.295	5.430
4	0.333	255.106	9.730	2.089
5	0.417	318.883	5.855	1.257
6	0.500	382.660	3.932	0.844
7	0.583	446.436	2.725	0.585
8	0.667	510.213	2.006	0.431
9	0.750	573.990	1.565	0.336
10	0.833	637.766	1.153	0.247
11	0.917	701.543	0.831	0.178
12	1.000	765.319	0.642	0.138
13	1.083	829.096	0.666	0.143
			Sum = 100.000	Sum= 21.466

The following loss 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	0.296	0.132	(0.231)	0.164
2	0.17	1.30	0.296	0.132	(0.231)	0.164
3	0.25	1.10	0.251	0.132	(0.196)	0.119
4	0.33	1.50	0.342	0.132	(0.267)	0.210
5	0.42	1.50	0.342	0.132	(0.267)	0.210
6	0.50	1.80	0.410	0.132	(0.320)	0.278

7	0.58	1.50	0.342	0.132	(0.267)	0.210
8	0.67	1.80	0.410	0.132	(0.320)	0.278
9	0.75	1.80	0.410	0.132	(0.320)	0.278
10	0.83	1.50	0.342	0.132	(0.267)	0.210
11	0.92	1.60	0.365	0.132	(0.285)	0.233
12	1.00	1.80	0.410	0.132	(0.320)	0.278
13	1.08	2.20	0.502	0.132	(0.391)	0.369
14	1.17	2.20	0.502	0.132	(0.391)	0.369
15	1.25	2.20	0.502	0.132	(0.391)	0.369
16	1.33	2.00	0.456	0.132	(0.356)	0.324
17	1.42	2.60	0.593	0.132	(0.462)	0.461
18	1.50	2.70	0.616	0.132	(0.480)	0.483
19	1.58	2.40	0.547	0.132	(0.427)	0.415
20	1.67	2.70	0.616	0.132	(0.480)	0.483
21	1.75	3.30	0.752	0.132	(0.587)	0.620
22	1.83	3.10	0.707	0.132	(0.551)	0.575
23	1.92	2.90	0.661	0.132	(0.516)	0.529
24	2.00	3.00	0.684	0.132	(0.533)	0.552
25	2.08	3.10	0.707	0.132	(0.551)	0.575
26	2.17	4.20	0.958	0.132	(0.747)	0.825
27	2.25	5.00	1.140	0.132	(0.889)	1.008
28	2.33	3.50	0.798	0.132	(0.622)	0.666
29	2.42	6.80	1.550	0.132	(1.209)	1.418
30	2.50	7.30	1.664	0.132	(1.298)	1.532
31	2.58	8.20	1.869	0.132	(1.458)	1.737
32	2.67	5.90	1.345	0.132	(1.049)	1.213
33	2.75	2.00	0.456	0.132	(0.356)	0.324
34	2.83	1.80	0.410	0.132	(0.320)	0.278
35	2.92	1.80	0.410	0.132	(0.320)	0.278
36	3.00	0.60	0.137	(0.132)	0.107	0.030

(Loss Rate Not Used)

Sum = 100.0 Sum = 18.1

Flood volume = Effective rainfall 1.51(In)
times area 21.3(Ac.)/[(In)/(Ft.)] = 2.7(Ac.Ft)

Total soil loss = 0.39(In)

Total soil loss = 0.700(Ac.Ft)

Total rainfall = 1.90(In)

Flood volume = 116398.4 Cubic Feet

Total soil loss = 30494.1 Cubic Feet

Peak flow rate of this hydrograph = 30.269(CFS)

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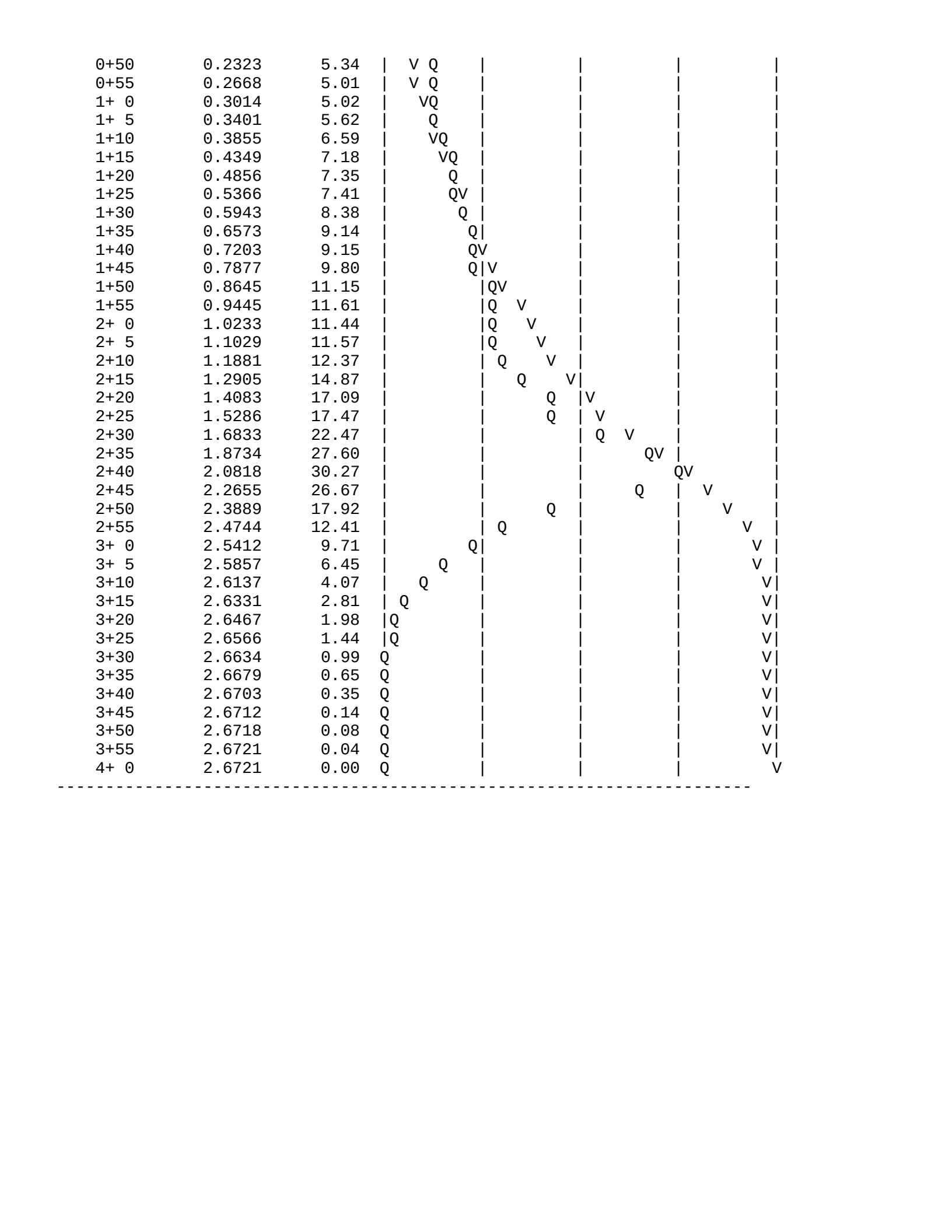
3 - H O U R S T O R M

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	10.0	20.0	30.0	40.0
0+ 5	0.0022	0.32	Q	|	|	|	|
0+10	0.0133	1.61	VQ	|	|	|	|
0+15	0.0299	2.41	V Q	|	|	|	|
0+20	0.0476	2.57	V Q	|	|	|	|
0+25	0.0700	3.25	|V Q	|	|	|	|
0+30	0.0970	3.92	|V Q	|	|	|	|
0+35	0.1284	4.55	|V Q	|	|	|	|
0+40	0.1605	4.67	| V Q	|	|	|	|
0+45	0.1955	5.08	| V Q	|	|	|	|


0+50 0.2323 5.34
0+55 0.2668 5.01
1+ 0 0.3014 5.02
1+ 5 0.3401 5.62
1+10 0.3855 6.59
1+15 0.4349 7.18
1+20 0.4856 7.35
1+25 0.5366 7.41
1+30 0.5943 8.38
1+35 0.6573 9.14
1+40 0.7203 9.15
1+45 0.7877 9.80
1+50 0.8645 11.15
1+55 0.9445 11.61
2+ 0 1.0233 11.44
2+ 5 1.1029 11.57
2+10 1.1881 12.37
2+15 1.2905 14.87
2+20 1.4083 17.09
2+25 1.5286 17.47
2+30 1.6833 22.47
2+35 1.8734 27.60
2+40 2.0818 30.27
2+45 2.2655 26.67
2+50 2.3889 17.92
2+55 2.4744 12.41
3+ 0 2.5412 9.71
3+ 5 2.5857 6.45
3+10 2.6137 4.07
3+15 2.6331 2.81
3+20 2.6467 1.98
3+25 2.6566 1.44
3+30 2.6634 0.99
3+35 2.6679 0.65
3+40 2.6703 0.35
3+45 2.6712 0.14
3+50 2.6718 0.08
3+55 2.6721 0.04
4+ 0 2.6721 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 01/14/22 File: 20522PRE6100.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA E
100-YEAR 6-HOUR STORM

Drainage Area = 21.30(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.30(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1646.00(Ft.)
Length along longest watercourse measured to centroid = 680.00(Ft.)
Length along longest watercourse = 0.312 Mi.
Length along longest watercourse measured to centroid = 0.129 Mi.
Difference in elevation = 4.00(Ft.)
Slope along watercourse = 12.8311 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.131 Hr.
Lag time = 7.84 Min.
25% of lag time = 1.96 Min.
40% of lag time = 3.14 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.30	1.00	21.30

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.30	2.50	53.25

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
21.300	75.00	0.150

Total Area Entered = 21.30(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	88.0	0.153	0.150	0.132	1.000	0.132
					Sum (F) =	0.132

Area averaged mean soil loss (F) (In/Hr) = 0.132
Minimum soil loss rate ((In/Hr)) = 0.066
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.780

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	63.777	9.093	1.952
2	0.167	127.553	36.507	7.837
3	0.250	191.330	25.295	5.430
4	0.333	255.106	9.730	2.089
5	0.417	318.883	5.855	1.257
6	0.500	382.660	3.932	0.844
7	0.583	446.436	2.725	0.585
8	0.667	510.213	2.006	0.431
9	0.750	573.990	1.565	0.336
10	0.833	637.766	1.153	0.247
11	0.917	701.543	0.831	0.178
12	1.000	765.319	0.642	0.138
13	1.083	829.096	0.666	0.143
			Sum = 100.000	Sum= 21.466

The following loss 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	0.150	(0.132)	0.117	0.033
2	0.17	0.60	0.180	0.132	(0.140)	0.048
3	0.25	0.60	0.180	0.132	(0.140)	0.048
4	0.33	0.60	0.180	0.132	(0.140)	0.048
5	0.42	0.60	0.180	0.132	(0.140)	0.048
6	0.50	0.70	0.210	0.132	(0.164)	0.078

7	0.58	0.70	0.210	0.132	(	0.164)	0.078
8	0.67	0.70	0.210	0.132	(	0.164)	0.078
9	0.75	0.70	0.210	0.132	(	0.164)	0.078
10	0.83	0.70	0.210	0.132	(	0.164)	0.078
11	0.92	0.70	0.210	0.132	(	0.164)	0.078
12	1.00	0.80	0.240	0.132	(	0.187)	0.108
13	1.08	0.80	0.240	0.132	(	0.187)	0.108
14	1.17	0.80	0.240	0.132	(	0.187)	0.108
15	1.25	0.80	0.240	0.132	(	0.187)	0.108
16	1.33	0.80	0.240	0.132	(	0.187)	0.108
17	1.42	0.80	0.240	0.132	(	0.187)	0.108
18	1.50	0.80	0.240	0.132	(	0.187)	0.108
19	1.58	0.80	0.240	0.132	(	0.187)	0.108
20	1.67	0.80	0.240	0.132	(	0.187)	0.108
21	1.75	0.80	0.240	0.132	(	0.187)	0.108
22	1.83	0.80	0.240	0.132	(	0.187)	0.108
23	1.92	0.80	0.240	0.132	(	0.187)	0.108
24	2.00	0.90	0.270	0.132	(	0.211)	0.138
25	2.08	0.80	0.240	0.132	(	0.187)	0.108
26	2.17	0.90	0.270	0.132	(	0.211)	0.138
27	2.25	0.90	0.270	0.132	(	0.211)	0.138
28	2.33	0.90	0.270	0.132	(	0.211)	0.138
29	2.42	0.90	0.270	0.132	(	0.211)	0.138
30	2.50	0.90	0.270	0.132	(	0.211)	0.138
31	2.58	0.90	0.270	0.132	(	0.211)	0.138
32	2.67	0.90	0.270	0.132	(	0.211)	0.138
33	2.75	1.00	0.300	0.132	(	0.234)	0.168
34	2.83	1.00	0.300	0.132	(	0.234)	0.168
35	2.92	1.00	0.300	0.132	(	0.234)	0.168
36	3.00	1.00	0.300	0.132	(	0.234)	0.168
37	3.08	1.00	0.300	0.132	(	0.234)	0.168
38	3.17	1.10	0.330	0.132	(	0.257)	0.198
39	3.25	1.10	0.330	0.132	(	0.257)	0.198
40	3.33	1.10	0.330	0.132	(	0.257)	0.198
41	3.42	1.20	0.360	0.132	(	0.281)	0.228
42	3.50	1.30	0.390	0.132	(	0.304)	0.258
43	3.58	1.40	0.420	0.132	(	0.328)	0.288
44	3.67	1.40	0.420	0.132	(	0.328)	0.288
45	3.75	1.50	0.450	0.132	(	0.351)	0.318
46	3.83	1.50	0.450	0.132	(	0.351)	0.318
47	3.92	1.60	0.480	0.132	(	0.374)	0.348
48	4.00	1.60	0.480	0.132	(	0.374)	0.348
49	4.08	1.70	0.510	0.132	(	0.398)	0.378
50	4.17	1.80	0.540	0.132	(	0.421)	0.408
51	4.25	1.90	0.570	0.132	(	0.445)	0.438
52	4.33	2.00	0.600	0.132	(	0.468)	0.468
53	4.42	2.10	0.630	0.132	(	0.491)	0.498
54	4.50	2.10	0.630	0.132	(	0.491)	0.498
55	4.58	2.20	0.660	0.132	(	0.515)	0.528
56	4.67	2.30	0.690	0.132	(	0.538)	0.558
57	4.75	2.40	0.720	0.132	(	0.562)	0.588
58	4.83	2.40	0.720	0.132	(	0.562)	0.588
59	4.92	2.50	0.750	0.132	(	0.585)	0.618
60	5.00	2.60	0.780	0.132	(	0.608)	0.648
61	5.08	3.10	0.930	0.132	(	0.725)	0.798
62	5.17	3.60	1.080	0.132	(	0.842)	0.948
63	5.25	3.90	1.170	0.132	(	0.913)	1.038
64	5.33	4.20	1.260	0.132	(	0.983)	1.128
65	5.42	4.70	1.410	0.132	(	1.100)	1.278
66	5.50	5.60	1.680	0.132	(	1.310)	1.548

67	5.58	1.90	0.570	0.132	(0.445)		0.438
68	5.67	0.90	0.270	0.132	(0.211)		0.138
69	5.75	0.60	0.180	0.132	(0.140)		0.048
70	5.83	0.50	0.150	(0.132)	0.117		0.033
71	5.92	0.30	0.090	(0.132)	0.070		0.020
72	6.00	0.20	0.060	(0.132)	0.047		0.013

(Loss Rate Not Used)

Sum = 100.0 Sum = 20.7

Flood volume = Effective rainfall 1.72(In)
times area 21.3(Ac.)/[(In)/(Ft.)] = 3.1(Ac.Ft)
Total soil loss = 0.78(In)
Total soil loss = 1.381(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 133112.0 Cubic Feet
Total soil loss = 60171.4 Cubic Feet

Peak flow rate of this hydrograph = 25.750(CFS)

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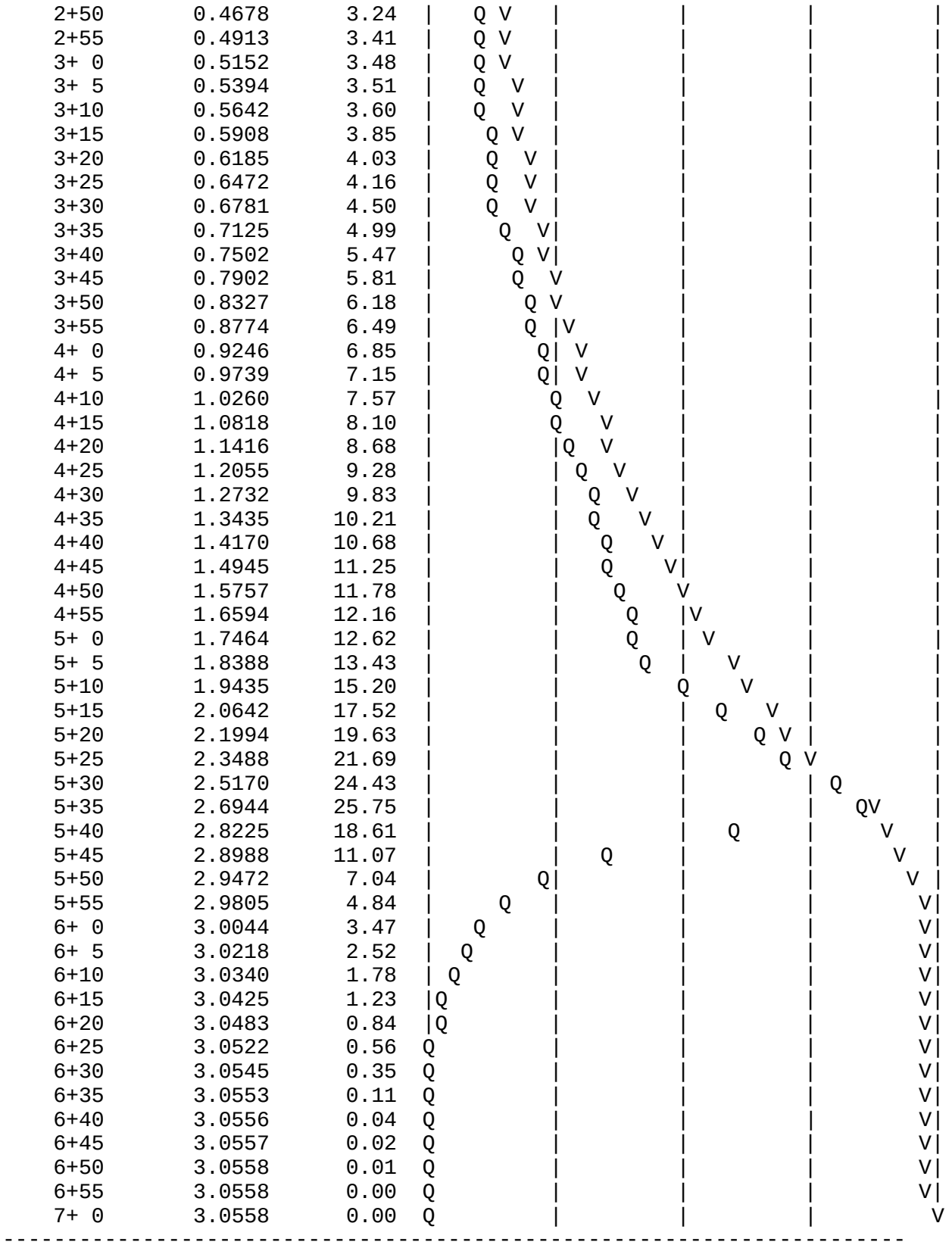
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0004	0.06	Q				
0+10	0.0029	0.35	Q				
0+15	0.0073	0.65	Q				
0+20	0.0128	0.80	VQ				
0+25	0.0188	0.87	VQ				
0+30	0.0255	0.97	VQ				
0+35	0.0341	1.24	VQ				
0+40	0.0439	1.43	VQ				
0+45	0.0543	1.51	V Q				
0+50	0.0650	1.56	V Q				
0+55	0.0760	1.59	V Q				
1+ 0	0.0875	1.68	|VQ				
1+ 5	0.1008	1.93	|VQ				
1+10	0.1153	2.11	|VQ				
1+15	0.1303	2.18	|VQ				
1+20	0.1456	2.22	|VQ				
1+25	0.1611	2.25	| Q				
1+30	0.1768	2.27	| VQ				
1+35	0.1925	2.28	| VQ				
1+40	0.2083	2.29	| VQ				
1+45	0.2241	2.30	| VQ				
1+50	0.2400	2.31	| Q				
1+55	0.2560	2.31	| Q				
2+ 0	0.2723	2.37	| Q				
2+ 5	0.2899	2.55	| Q				
2+10	0.3073	2.54	| QV				
2+15	0.3257	2.67	| QV				
2+20	0.3451	2.81	| QV				
2+25	0.3648	2.86	| QV				
2+30	0.3847	2.89	| Q V				
2+35	0.4048	2.91	| Q V				
2+40	0.4249	2.93	| Q V				
2+45	0.4455	2.99	| 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 01/14/22 File: 20522PRE24100.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA E
100-YEAR 24-HOUR STORM

Drainage Area = 21.30(Ac.) = 0.033 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 21.30(Ac.) = 0.033 Sq. Mi.
Length along longest watercourse = 1646.00(Ft.)
Length along longest watercourse measured to centroid = 680.00(Ft.)
Length along longest watercourse = 0.312 Mi.
Length along longest watercourse measured to centroid = 0.129 Mi.
Difference in elevation = 4.00(Ft.)
Slope along watercourse = 12.8311 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.131 Hr.
Lag time = 7.84 Min.
25% of lag time = 1.96 Min.
40% of lag time = 3.14 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.30	1.60	34.08

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
21.30	4.00	85.20

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 4.000(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.000(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
21.300	75.00	0.150

Total Area Entered = 21.30(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	88.0	0.153	0.150	0.132	1.000	0.132
					Sum (F) =	0.132

Area averaged mean soil loss (F) (In/Hr) = 0.132
Minimum soil loss rate ((In/Hr)) = 0.066
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.780

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	63.777	9.093	1.952
2	0.167	127.553	36.507	7.837
3	0.250	191.330	25.295	5.430
4	0.333	255.106	9.730	2.089
5	0.417	318.883	5.855	1.257
6	0.500	382.660	3.932	0.844
7	0.583	446.436	2.725	0.585
8	0.667	510.213	2.006	0.431
9	0.750	573.990	1.565	0.336
10	0.833	637.766	1.153	0.247
11	0.917	701.543	0.831	0.178
12	1.000	765.319	0.642	0.138
13	1.083	829.096	0.666	0.143
			Sum = 100.000	Sum= 21.466

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.07	0.032	(0.234)		0.025	0.007
2	0.17	0.07	0.032	(0.233)		0.025	0.007
3	0.25	0.07	0.032	(0.232)		0.025	0.007
4	0.33	0.10	0.048	(0.232)		0.037	0.011
5	0.42	0.10	0.048	(0.231)		0.037	0.011
6	0.50	0.10	0.048	(0.230)		0.037	0.011

7	0.58	0.10	0.048	(0.229)	0.037	0.011
8	0.67	0.10	0.048	(0.228)	0.037	0.011
9	0.75	0.10	0.048	(0.227)	0.037	0.011
10	0.83	0.13	0.064	(0.226)	0.050	0.014
11	0.92	0.13	0.064	(0.225)	0.050	0.014
12	1.00	0.13	0.064	(0.224)	0.050	0.014
13	1.08	0.10	0.048	(0.224)	0.037	0.011
14	1.17	0.10	0.048	(0.223)	0.037	0.011
15	1.25	0.10	0.048	(0.222)	0.037	0.011
16	1.33	0.10	0.048	(0.221)	0.037	0.011
17	1.42	0.10	0.048	(0.220)	0.037	0.011
18	1.50	0.10	0.048	(0.219)	0.037	0.011
19	1.58	0.10	0.048	(0.218)	0.037	0.011
20	1.67	0.10	0.048	(0.217)	0.037	0.011
21	1.75	0.10	0.048	(0.217)	0.037	0.011
22	1.83	0.13	0.064	(0.216)	0.050	0.014
23	1.92	0.13	0.064	(0.215)	0.050	0.014
24	2.00	0.13	0.064	(0.214)	0.050	0.014
25	2.08	0.13	0.064	(0.213)	0.050	0.014
26	2.17	0.13	0.064	(0.212)	0.050	0.014
27	2.25	0.13	0.064	(0.211)	0.050	0.014
28	2.33	0.13	0.064	(0.210)	0.050	0.014
29	2.42	0.13	0.064	(0.210)	0.050	0.014
30	2.50	0.13	0.064	(0.209)	0.050	0.014
31	2.58	0.17	0.080	(0.208)	0.062	0.018
32	2.67	0.17	0.080	(0.207)	0.062	0.018
33	2.75	0.17	0.080	(0.206)	0.062	0.018
34	2.83	0.17	0.080	(0.205)	0.062	0.018
35	2.92	0.17	0.080	(0.204)	0.062	0.018
36	3.00	0.17	0.080	(0.204)	0.062	0.018
37	3.08	0.17	0.080	(0.203)	0.062	0.018
38	3.17	0.17	0.080	(0.202)	0.062	0.018
39	3.25	0.17	0.080	(0.201)	0.062	0.018
40	3.33	0.17	0.080	(0.200)	0.062	0.018
41	3.42	0.17	0.080	(0.199)	0.062	0.018
42	3.50	0.17	0.080	(0.199)	0.062	0.018
43	3.58	0.17	0.080	(0.198)	0.062	0.018
44	3.67	0.17	0.080	(0.197)	0.062	0.018
45	3.75	0.17	0.080	(0.196)	0.062	0.018
46	3.83	0.20	0.096	(0.195)	0.075	0.021
47	3.92	0.20	0.096	(0.194)	0.075	0.021
48	4.00	0.20	0.096	(0.194)	0.075	0.021
49	4.08	0.20	0.096	(0.193)	0.075	0.021
50	4.17	0.20	0.096	(0.192)	0.075	0.021
51	4.25	0.20	0.096	(0.191)	0.075	0.021
52	4.33	0.23	0.112	(0.190)	0.087	0.025
53	4.42	0.23	0.112	(0.190)	0.087	0.025
54	4.50	0.23	0.112	(0.189)	0.087	0.025
55	4.58	0.23	0.112	(0.188)	0.087	0.025
56	4.67	0.23	0.112	(0.187)	0.087	0.025
57	4.75	0.23	0.112	(0.186)	0.087	0.025
58	4.83	0.27	0.128	(0.186)	0.100	0.028
59	4.92	0.27	0.128	(0.185)	0.100	0.028
60	5.00	0.27	0.128	(0.184)	0.100	0.028
61	5.08	0.20	0.096	(0.183)	0.075	0.021
62	5.17	0.20	0.096	(0.182)	0.075	0.021
63	5.25	0.20	0.096	(0.182)	0.075	0.021
64	5.33	0.23	0.112	(0.181)	0.087	0.025
65	5.42	0.23	0.112	(0.180)	0.087	0.025
66	5.50	0.23	0.112	(0.179)	0.087	0.025

67	5.58	0.27	0.128	(0.178)	0.100	0.028
68	5.67	0.27	0.128	(0.178)	0.100	0.028
69	5.75	0.27	0.128	(0.177)	0.100	0.028
70	5.83	0.27	0.128	(0.176)	0.100	0.028
71	5.92	0.27	0.128	(0.175)	0.100	0.028
72	6.00	0.27	0.128	(0.174)	0.100	0.028
73	6.08	0.30	0.144	(0.174)	0.112	0.032
74	6.17	0.30	0.144	(0.173)	0.112	0.032
75	6.25	0.30	0.144	(0.172)	0.112	0.032
76	6.33	0.30	0.144	(0.171)	0.112	0.032
77	6.42	0.30	0.144	(0.171)	0.112	0.032
78	6.50	0.30	0.144	(0.170)	0.112	0.032
79	6.58	0.33	0.160	(0.169)	0.125	0.035
80	6.67	0.33	0.160	(0.168)	0.125	0.035
81	6.75	0.33	0.160	(0.168)	0.125	0.035
82	6.83	0.33	0.160	(0.167)	0.125	0.035
83	6.92	0.33	0.160	(0.166)	0.125	0.035
84	7.00	0.33	0.160	(0.165)	0.125	0.035
85	7.08	0.33	0.160	(0.165)	0.125	0.035
86	7.17	0.33	0.160	(0.164)	0.125	0.035
87	7.25	0.33	0.160	(0.163)	0.125	0.035
88	7.33	0.37	0.176	(0.162)	0.137	0.039
89	7.42	0.37	0.176	(0.162)	0.137	0.039
90	7.50	0.37	0.176	(0.161)	0.137	0.039
91	7.58	0.40	0.192	(0.160)	0.150	0.042
92	7.67	0.40	0.192	(0.159)	0.150	0.042
93	7.75	0.40	0.192	(0.159)	0.150	0.042
94	7.83	0.43	0.208	0.158	(0.162)	0.050
95	7.92	0.43	0.208	0.157	(0.162)	0.051
96	8.00	0.43	0.208	0.156	(0.162)	0.052
97	8.08	0.50	0.240	0.156	(0.187)	0.084
98	8.17	0.50	0.240	0.155	(0.187)	0.085
99	8.25	0.50	0.240	0.154	(0.187)	0.086
100	8.33	0.50	0.240	0.154	(0.187)	0.086
101	8.42	0.50	0.240	0.153	(0.187)	0.087
102	8.50	0.50	0.240	0.152	(0.187)	0.088
103	8.58	0.53	0.256	0.151	(0.200)	0.105
104	8.67	0.53	0.256	0.151	(0.200)	0.105
105	8.75	0.53	0.256	0.150	(0.200)	0.106
106	8.83	0.57	0.272	0.149	(0.212)	0.123
107	8.92	0.57	0.272	0.149	(0.212)	0.123
108	9.00	0.57	0.272	0.148	(0.212)	0.124
109	9.08	0.63	0.304	0.147	(0.237)	0.157
110	9.17	0.63	0.304	0.146	(0.237)	0.158
111	9.25	0.63	0.304	0.146	(0.237)	0.158
112	9.33	0.67	0.320	0.145	(0.250)	0.175
113	9.42	0.67	0.320	0.144	(0.250)	0.176
114	9.50	0.67	0.320	0.144	(0.250)	0.176
115	9.58	0.70	0.336	0.143	(0.262)	0.193
116	9.67	0.70	0.336	0.142	(0.262)	0.194
117	9.75	0.70	0.336	0.142	(0.262)	0.194
118	9.83	0.73	0.352	0.141	(0.275)	0.211
119	9.92	0.73	0.352	0.140	(0.275)	0.212
120	10.00	0.73	0.352	0.140	(0.275)	0.212
121	10.08	0.50	0.240	0.139	(0.187)	0.101
122	10.17	0.50	0.240	0.138	(0.187)	0.102
123	10.25	0.50	0.240	0.138	(0.187)	0.102
124	10.33	0.50	0.240	0.137	(0.187)	0.103
125	10.42	0.50	0.240	0.136	(0.187)	0.104
126	10.50	0.50	0.240	0.136	(0.187)	0.104

127	10.58	0.67	0.320	0.135	(0.250)	0.185
128	10.67	0.67	0.320	0.134	(0.250)	0.186
129	10.75	0.67	0.320	0.134	(0.250)	0.186
130	10.83	0.67	0.320	0.133	(0.250)	0.187
131	10.92	0.67	0.320	0.132	(0.250)	0.188
132	11.00	0.67	0.320	0.132	(0.250)	0.188
133	11.08	0.63	0.304	0.131	(0.237)	0.173
134	11.17	0.63	0.304	0.130	(0.237)	0.174
135	11.25	0.63	0.304	0.130	(0.237)	0.174
136	11.33	0.63	0.304	0.129	(0.237)	0.175
137	11.42	0.63	0.304	0.128	(0.237)	0.176
138	11.50	0.63	0.304	0.128	(0.237)	0.176
139	11.58	0.57	0.272	0.127	(0.212)	0.145
140	11.67	0.57	0.272	0.127	(0.212)	0.145
141	11.75	0.57	0.272	0.126	(0.212)	0.146
142	11.83	0.60	0.288	0.125	(0.225)	0.163
143	11.92	0.60	0.288	0.125	(0.225)	0.163
144	12.00	0.60	0.288	0.124	(0.225)	0.164
145	12.08	0.83	0.400	0.123	(0.312)	0.277
146	12.17	0.83	0.400	0.123	(0.312)	0.277
147	12.25	0.83	0.400	0.122	(0.312)	0.278
148	12.33	0.87	0.416	0.122	(0.324)	0.294
149	12.42	0.87	0.416	0.121	(0.324)	0.295
150	12.50	0.87	0.416	0.120	(0.324)	0.296
151	12.58	0.93	0.448	0.120	(0.349)	0.328
152	12.67	0.93	0.448	0.119	(0.349)	0.329
153	12.75	0.93	0.448	0.119	(0.349)	0.329
154	12.83	0.97	0.464	0.118	(0.362)	0.346
155	12.92	0.97	0.464	0.117	(0.362)	0.347
156	13.00	0.97	0.464	0.117	(0.362)	0.347
157	13.08	1.13	0.544	0.116	(0.424)	0.428
158	13.17	1.13	0.544	0.116	(0.424)	0.428
159	13.25	1.13	0.544	0.115	(0.424)	0.429
160	13.33	1.13	0.544	0.114	(0.424)	0.430
161	13.42	1.13	0.544	0.114	(0.424)	0.430
162	13.50	1.13	0.544	0.113	(0.424)	0.431
163	13.58	0.77	0.368	0.113	(0.287)	0.255
164	13.67	0.77	0.368	0.112	(0.287)	0.256
165	13.75	0.77	0.368	0.111	(0.287)	0.256
166	13.83	0.77	0.368	0.111	(0.287)	0.257
167	13.92	0.77	0.368	0.110	(0.287)	0.258
168	14.00	0.77	0.368	0.110	(0.287)	0.258
169	14.08	0.90	0.432	0.109	(0.337)	0.323
170	14.17	0.90	0.432	0.109	(0.337)	0.323
171	14.25	0.90	0.432	0.108	(0.337)	0.324
172	14.33	0.87	0.416	0.108	(0.324)	0.308
173	14.42	0.87	0.416	0.107	(0.324)	0.309
174	14.50	0.87	0.416	0.106	(0.324)	0.310
175	14.58	0.87	0.416	0.106	(0.324)	0.310
176	14.67	0.87	0.416	0.105	(0.324)	0.311
177	14.75	0.87	0.416	0.105	(0.324)	0.311
178	14.83	0.83	0.400	0.104	(0.312)	0.296
179	14.92	0.83	0.400	0.104	(0.312)	0.296
180	15.00	0.83	0.400	0.103	(0.312)	0.297
181	15.08	0.80	0.384	0.103	(0.300)	0.281
182	15.17	0.80	0.384	0.102	(0.300)	0.282
183	15.25	0.80	0.384	0.102	(0.300)	0.282
184	15.33	0.77	0.368	0.101	(0.287)	0.267
185	15.42	0.77	0.368	0.101	(0.287)	0.267
186	15.50	0.77	0.368	0.100	(0.287)	0.268

187	15.58	0.63	0.304	0.100	(0.237)	0.204
188	15.67	0.63	0.304	0.099	(0.237)	0.205
189	15.75	0.63	0.304	0.099	(0.237)	0.205
190	15.83	0.63	0.304	0.098	(0.237)	0.206
191	15.92	0.63	0.304	0.098	(0.237)	0.206
192	16.00	0.63	0.304	0.097	(0.237)	0.207
193	16.08	0.13	0.064	(0.097)	0.050	0.014
194	16.17	0.13	0.064	(0.096)	0.050	0.014
195	16.25	0.13	0.064	(0.096)	0.050	0.014
196	16.33	0.13	0.064	(0.095)	0.050	0.014
197	16.42	0.13	0.064	(0.095)	0.050	0.014
198	16.50	0.13	0.064	(0.094)	0.050	0.014
199	16.58	0.10	0.048	(0.094)	0.037	0.011
200	16.67	0.10	0.048	(0.093)	0.037	0.011
201	16.75	0.10	0.048	(0.093)	0.037	0.011
202	16.83	0.10	0.048	(0.092)	0.037	0.011
203	16.92	0.10	0.048	(0.092)	0.037	0.011
204	17.00	0.10	0.048	(0.091)	0.037	0.011
205	17.08	0.17	0.080	(0.091)	0.062	0.018
206	17.17	0.17	0.080	(0.090)	0.062	0.018
207	17.25	0.17	0.080	(0.090)	0.062	0.018
208	17.33	0.17	0.080	(0.089)	0.062	0.018
209	17.42	0.17	0.080	(0.089)	0.062	0.018
210	17.50	0.17	0.080	(0.089)	0.062	0.018
211	17.58	0.17	0.080	(0.088)	0.062	0.018
212	17.67	0.17	0.080	(0.088)	0.062	0.018
213	17.75	0.17	0.080	(0.087)	0.062	0.018
214	17.83	0.13	0.064	(0.087)	0.050	0.014
215	17.92	0.13	0.064	(0.086)	0.050	0.014
216	18.00	0.13	0.064	(0.086)	0.050	0.014
217	18.08	0.13	0.064	(0.086)	0.050	0.014
218	18.17	0.13	0.064	(0.085)	0.050	0.014
219	18.25	0.13	0.064	(0.085)	0.050	0.014
220	18.33	0.13	0.064	(0.084)	0.050	0.014
221	18.42	0.13	0.064	(0.084)	0.050	0.014
222	18.50	0.13	0.064	(0.083)	0.050	0.014
223	18.58	0.10	0.048	(0.083)	0.037	0.011
224	18.67	0.10	0.048	(0.083)	0.037	0.011
225	18.75	0.10	0.048	(0.082)	0.037	0.011
226	18.83	0.07	0.032	(0.082)	0.025	0.007
227	18.92	0.07	0.032	(0.081)	0.025	0.007
228	19.00	0.07	0.032	(0.081)	0.025	0.007
229	19.08	0.10	0.048	(0.081)	0.037	0.011
230	19.17	0.10	0.048	(0.080)	0.037	0.011
231	19.25	0.10	0.048	(0.080)	0.037	0.011
232	19.33	0.13	0.064	(0.080)	0.050	0.014
233	19.42	0.13	0.064	(0.079)	0.050	0.014
234	19.50	0.13	0.064	(0.079)	0.050	0.014
235	19.58	0.10	0.048	(0.079)	0.037	0.011
236	19.67	0.10	0.048	(0.078)	0.037	0.011
237	19.75	0.10	0.048	(0.078)	0.037	0.011
238	19.83	0.07	0.032	(0.077)	0.025	0.007
239	19.92	0.07	0.032	(0.077)	0.025	0.007
240	20.00	0.07	0.032	(0.077)	0.025	0.007
241	20.08	0.10	0.048	(0.076)	0.037	0.011
242	20.17	0.10	0.048	(0.076)	0.037	0.011
243	20.25	0.10	0.048	(0.076)	0.037	0.011
244	20.33	0.10	0.048	(0.075)	0.037	0.011
245	20.42	0.10	0.048	(0.075)	0.037	0.011
246	20.50	0.10	0.048	(0.075)	0.037	0.011

247	20.58	0.10	0.048	(0.074)	0.037	0.011
248	20.67	0.10	0.048	(0.074)	0.037	0.011
249	20.75	0.10	0.048	(0.074)	0.037	0.011
250	20.83	0.07	0.032	(0.074)	0.025	0.007
251	20.92	0.07	0.032	(0.073)	0.025	0.007
252	21.00	0.07	0.032	(0.073)	0.025	0.007
253	21.08	0.10	0.048	(0.073)	0.037	0.011
254	21.17	0.10	0.048	(0.072)	0.037	0.011
255	21.25	0.10	0.048	(0.072)	0.037	0.011
256	21.33	0.07	0.032	(0.072)	0.025	0.007
257	21.42	0.07	0.032	(0.072)	0.025	0.007
258	21.50	0.07	0.032	(0.071)	0.025	0.007
259	21.58	0.10	0.048	(0.071)	0.037	0.011
260	21.67	0.10	0.048	(0.071)	0.037	0.011
261	21.75	0.10	0.048	(0.071)	0.037	0.011
262	21.83	0.07	0.032	(0.070)	0.025	0.007
263	21.92	0.07	0.032	(0.070)	0.025	0.007
264	22.00	0.07	0.032	(0.070)	0.025	0.007
265	22.08	0.10	0.048	(0.070)	0.037	0.011
266	22.17	0.10	0.048	(0.069)	0.037	0.011
267	22.25	0.10	0.048	(0.069)	0.037	0.011
268	22.33	0.07	0.032	(0.069)	0.025	0.007
269	22.42	0.07	0.032	(0.069)	0.025	0.007
270	22.50	0.07	0.032	(0.068)	0.025	0.007
271	22.58	0.07	0.032	(0.068)	0.025	0.007
272	22.67	0.07	0.032	(0.068)	0.025	0.007
273	22.75	0.07	0.032	(0.068)	0.025	0.007
274	22.83	0.07	0.032	(0.068)	0.025	0.007
275	22.92	0.07	0.032	(0.068)	0.025	0.007
276	23.00	0.07	0.032	(0.067)	0.025	0.007
277	23.08	0.07	0.032	(0.067)	0.025	0.007
278	23.17	0.07	0.032	(0.067)	0.025	0.007
279	23.25	0.07	0.032	(0.067)	0.025	0.007
280	23.33	0.07	0.032	(0.067)	0.025	0.007
281	23.42	0.07	0.032	(0.067)	0.025	0.007
282	23.50	0.07	0.032	(0.067)	0.025	0.007
283	23.58	0.07	0.032	(0.066)	0.025	0.007
284	23.67	0.07	0.032	(0.066)	0.025	0.007
285	23.75	0.07	0.032	(0.066)	0.025	0.007
286	23.83	0.07	0.032	(0.066)	0.025	0.007
287	23.92	0.07	0.032	(0.066)	0.025	0.007
288	24.00	0.07	0.032	(0.066)	0.025	0.007

(Loss Rate Not Used)

Sum = 100.0 Sum = 24.8

Flood volume = Effective rainfall 2.07(In)
times area 21.3(Ac.)/[(In)/(Ft.)] = 3.7(Ac.Ft)

Total soil loss = 1.93(In)

Total soil loss = 3.434(Ac.Ft)

Total rainfall = 4.00(In)

Flood volume = 159679.9 Cubic Feet

Total soil loss = 149583.3 Cubic Feet

Peak flow rate of this hydrograph = 9.042(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	0.0006	0.07	Q				
0+15	0.0013	0.11	Q				
0+20	0.0022	0.13	Q				
0+25	0.0033	0.17	Q				
0+30	0.0046	0.19	Q				
0+35	0.0060	0.20	Q				
0+40	0.0075	0.21	Q				
0+45	0.0090	0.21	Q				
0+50	0.0105	0.23	Q				
0+55	0.0123	0.26	VQ				
1+ 0	0.0142	0.28	VQ				
1+ 5	0.0161	0.28	VQ				
1+10	0.0179	0.26	VQ				
1+15	0.0195	0.24	Q				
1+20	0.0211	0.24	Q				
1+25	0.0228	0.23	Q				
1+30	0.0244	0.23	Q				
1+35	0.0259	0.23	Q				
1+40	0.0275	0.23	Q				
1+45	0.0291	0.23	Q				
1+50	0.0307	0.24	Q				
1+55	0.0325	0.26	VQ				
2+ 0	0.0345	0.28	VQ				
2+ 5	0.0364	0.29	VQ				
2+10	0.0384	0.29	VQ				
2+15	0.0405	0.30	VQ				
2+20	0.0425	0.30	VQ				
2+25	0.0446	0.30	VQ				
2+30	0.0466	0.30	VQ				
2+35	0.0488	0.31	VQ				
2+40	0.0511	0.34	VQ				
2+45	0.0535	0.36	VQ				
2+50	0.0560	0.36	VQ				
2+55	0.0586	0.37	VQ				
3+ 0	0.0611	0.37	VQ				
3+ 5	0.0637	0.37	VQ				
3+10	0.0663	0.37	VQ				
3+15	0.0689	0.38	VQ				
3+20	0.0714	0.38	VQ				
3+25	0.0740	0.38	VQ				
3+30	0.0766	0.38	VQ				
3+35	0.0792	0.38	VQ				
3+40	0.0818	0.38	VQ				
3+45	0.0844	0.38	VQ				
3+50	0.0871	0.38	VQ				
3+55	0.0899	0.41	VQ				
4+ 0	0.0929	0.43	|Q				
4+ 5	0.0959	0.44	|Q				
4+10	0.0990	0.44	|Q				
4+15	0.1021	0.45	|Q				
4+20	0.1052	0.46	|Q				
4+25	0.1085	0.48	|Q				
4+30	0.1120	0.50	|VQ				
4+35	0.1155	0.51	|VQ				
4+40	0.1191	0.52	|VQ				
4+45	0.1227	0.52	|VQ				

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4+50       0.1264      0.53  |VQ       |         |         |         |
4+55       0.1302      0.56  |VQ       |         |         |         |
5+ 0       0.1342      0.58  |VQ       |         |         |         |
5+ 5       0.1382      0.57  |VQ       |         |         |         |
5+10       0.1418      0.52  |VQ       |         |         |         |
5+15       0.1452      0.49  |Q        |         |         |         |
5+20       0.1485      0.48  |Q        |         |         |         |
5+25       0.1520      0.50  |VQ       |         |         |         |
5+30       0.1555      0.52  |VQ       |         |         |         |
5+35       0.1592      0.53  |VQ       |         |         |         |
5+40       0.1631      0.56  |VQ       |         |         |         |
5+45       0.1670      0.58  |VQ       |         |         |         |
5+50       0.1711      0.59  |VQ       |         |         |         |
5+55       0.1752      0.59  |VQ       |         |         |         |
6+ 0       0.1793      0.60  |VQ       |         |         |         |
6+ 5       0.1835      0.60  | Q       |         |         |         |
6+10       0.1878      0.63  | Q       |         |         |         |
6+15       0.1923      0.66  | Q       |         |         |         |
6+20       0.1969      0.66  | Q       |         |         |         |
6+25       0.2015      0.67  | Q       |         |         |         |
6+30       0.2061      0.67  | Q       |         |         |         |
6+35       0.2108      0.68  | Q       |         |         |         |
6+40       0.2157      0.71  | Q       |         |         |         |
6+45       0.2208      0.73  | Q       |         |         |         |
6+50       0.2259      0.74  | Q       |         |         |         |
6+55       0.2310      0.74  | Q       |         |         |         |
7+ 0       0.2362      0.75  | Q       |         |         |         |
7+ 5       0.2413      0.75  | VQ      |         |         |         |
7+10       0.2465      0.75  | VQ      |         |         |         |
7+15       0.2517      0.75  | VQ      |         |         |         |
7+20       0.2569      0.76  | VQ      |         |         |         |
7+25       0.2624      0.79  | VQ      |         |         |         |
7+30       0.2680      0.81  | VQ      |         |         |         |
7+35       0.2736      0.82  | VQ      |         |         |         |
7+40       0.2795      0.86  |  Q      |         |         |         |
7+45       0.2856      0.88  |  Q      |         |         |         |
7+50       0.2918      0.90  |  Q      |         |         |         |
7+55       0.2985      0.97  |  Q      |         |         |         |
8+ 0       0.3055      1.03  |  VQ     |         |         |         |
8+ 5       0.3132      1.12  |  VQ     |         |         |         |
8+10       0.3229      1.39  |  V Q    |         |         |         |
8+15       0.3338      1.59  |  V  Q   |         |         |         |
8+20       0.3454      1.68  |  V  Q   |         |         |         |
8+25       0.3573      1.74  |  V  Q   |         |         |         |
8+30       0.3696      1.78  |   V  Q  |         |         |         |
8+35       0.3823      1.85  |   V  Q  |         |         |         |
8+40       0.3961      2.00  |   V   Q |         |         |         |
8+45       0.4107      2.12  |   V   Q |         |         |         |
8+50       0.4259      2.21  |   V   Q |         |         |         |
8+55       0.4422      2.37  |   V    Q|         |         |         |
9+ 0       0.4594      2.49  |    V   Q|         |         |         |
9+ 5       0.4774      2.62  |    V    Q         |         |         |
9+10       0.4975      2.91  |    V    |Q        |         |         |
9+15       0.5189      3.12  |    V    | Q       |         |         |
9+20       0.5413      3.25  |    V    | Q       |         |         |
9+25       0.5650      3.44  |     V   |  Q      |         |         |
9+30       0.5896      3.57  |     V   |   Q     |         |         |
9+35       0.6149      3.68  |     V   |   Q     |         |         |
9+40       0.6414      3.85  |     V   |    Q    |         |         |
9+45       0.6688      3.98  |      V  |    Q    |         |         |
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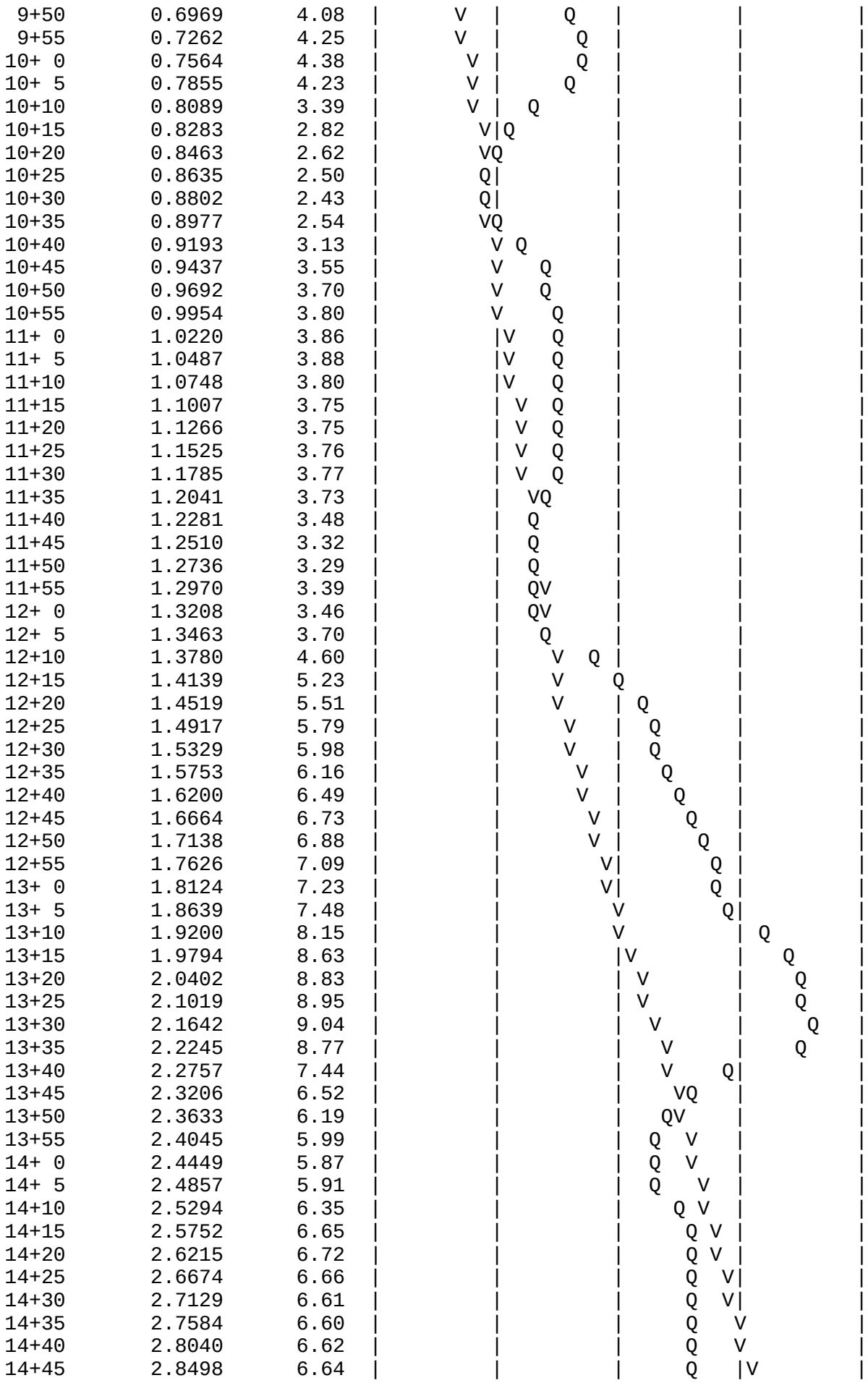

| | | |

19+50	3.6010	0.23	Q	|	|	|	V|
19+55	3.6023	0.20	Q	|	|	|	V|
20+ 0	3.6035	0.18	Q	|	|	|	V|
20+ 5	3.6047	0.18	Q	|	|	|	V|
20+10	3.6061	0.20	Q	|	|	|	V|
20+15	3.6076	0.21	Q	|	|	|	V|
20+20	3.6091	0.22	Q	|	|	|	V|
20+25	3.6106	0.22	Q	|	|	|	V|
20+30	3.6122	0.22	Q	|	|	|	V|
20+35	3.6137	0.22	Q	|	|	|	V|
20+40	3.6152	0.22	Q	|	|	|	V|
20+45	3.6168	0.22	Q	|	|	|	V|
20+50	3.6183	0.22	Q	|	|	|	V|
20+55	3.6196	0.19	Q	|	|	|	V|
21+ 0	3.6208	0.17	Q	|	|	|	V|
21+ 5	3.6220	0.17	Q	|	|	|	V|
21+10	3.6233	0.20	Q	|	|	|	V|
21+15	3.6248	0.21	Q	|	|	|	V|
21+20	3.6262	0.21	Q	|	|	|	V|
21+25	3.6275	0.19	Q	|	|	|	V|
21+30	3.6287	0.17	Q	|	|	|	V|
21+35	3.6298	0.17	Q	|	|	|	V|
21+40	3.6312	0.19	Q	|	|	|	V|
21+45	3.6326	0.21	Q	|	|	|	V|
21+50	3.6341	0.21	Q	|	|	|	V|
21+55	3.6353	0.18	Q	|	|	|	V|
22+ 0	3.6365	0.17	Q	|	|	|	V|
22+ 5	3.6377	0.17	Q	|	|	|	V|
22+10	3.6390	0.19	Q	|	|	|	V|
22+15	3.6404	0.21	Q	|	|	|	V|
22+20	3.6419	0.21	Q	|	|	|	V|
22+25	3.6431	0.18	Q	|	|	|	V|
22+30	3.6443	0.17	Q	|	|	|	V|
22+35	3.6454	0.16	Q	|	|	|	V|
22+40	3.6465	0.16	Q	|	|	|	V|
22+45	3.6476	0.16	Q	|	|	|	V|
22+50	3.6487	0.15	Q	|	|	|	V|
22+55	3.6497	0.15	Q	|	|	|	V|
23+ 0	3.6508	0.15	Q	|	|	|	V|
23+ 5	3.6518	0.15	Q	|	|	|	V|
23+10	3.6529	0.15	Q	|	|	|	V|
23+15	3.6539	0.15	Q	|	|	|	V|
23+20	3.6550	0.15	Q	|	|	|	V|
23+25	3.6560	0.15	Q	|	|	|	V|
23+30	3.6570	0.15	Q	|	|	|	V|
23+35	3.6581	0.15	Q	|	|	|	V|
23+40	3.6591	0.15	Q	|	|	|	V|
23+45	3.6602	0.15	Q	|	|	|	V|
23+50	3.6612	0.15	Q	|	|	|	V|
23+55	3.6622	0.15	Q	|	|	|	V|
24+ 0	3.6633	0.15	Q	|	|	|	V|
24+ 5	3.6642	0.14	Q	|	|	|	V|
24+10	3.6648	0.08	Q	|	|	|	V|
24+15	3.6651	0.04	Q	|	|	|	V|
24+20	3.6653	0.03	Q	|	|	|	V|
24+25	3.6654	0.02	Q	|	|	|	V|
24+30	3.6655	0.01	Q	|	|	|	V|
24+35	3.6656	0.01	Q	|	|	|	V|
24+40	3.6657	0.01	Q	|	|	|	V|
24+45	3.6657	0.00	Q	|	|	|	V|

```
   24+50       3.6657      0.00  Q         |         |         |        V|
   24+55       3.6657      0.00  Q         |         |         |        V|
   25+ 0       3.6657      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 01/14/22 File: 20522PRF1100.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA F
100-YEAR 1-HOUR STORM

Drainage Area = 5.20(Ac.) = 0.008 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.20(Ac.) = 0.008 Sq. Mi.
Length along longest watercourse = 390.00(Ft.)
Length along longest watercourse measured to centroid = 260.00(Ft.)
Length along longest watercourse = 0.074 Mi.
Length along longest watercourse measured to centroid = 0.049 Mi.
Difference in elevation = 3.10(Ft.)
Slope along watercourse = 41.9692 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.021 Hr.
Lag time = 1.26 Min.
25% of lag time = 0.31 Min.
40% of lag time = 0.50 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]
5.20	0.50	2.60

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
5.20	1.20	6.24

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
5.200	69.00	0.990

Total Area Entered = 5.20(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
69.0	84.4	0.194	0.990	0.021	1.000	0.021
					Sum (F) =	0.021

Area averaged mean soil loss (F) (In/Hr) = 0.021
Minimum soil loss rate ((In/Hr)) = 0.011
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.108

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

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	397.906	64.940	3.403
2	0.167	795.812	32.276	1.691
3	0.250	1193.718	2.784	0.146
		Sum = 100.000	Sum=	5.241

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	4.40	0.634	0.021	(0.068)	0.612
2	0.17	4.50	0.648	0.021	(0.070)	0.627
3	0.25	5.40	0.778	0.021	(0.084)	0.756
4	0.33	5.40	0.778	0.021	(0.084)	0.756
5	0.42	5.70	0.821	0.021	(0.089)	0.800
6	0.50	6.40	0.922	0.021	(0.100)	0.900
7	0.58	7.90	1.138	0.021	(0.123)	1.116
8	0.67	9.10	1.310	0.021	(0.142)	1.289
9	0.75	12.80	1.843	0.021	(0.199)	1.822
10	0.83	25.60	3.686	0.021	(0.398)	3.665
11	0.92	7.90	1.138	0.021	(0.123)	1.116
12	1.00	4.90	0.706	0.021	(0.076)	0.684
	(Loss Rate Not Used)					
Sum =	100.0				Sum =	14.1

```
    Flood volume = Effective rainfall      1.18(In)
     times area       5.2(Ac.)/[(In)/(Ft.)] =       0.5(Ac.Ft)
    Total soil loss =      0.02(In)
    Total soil loss =     0.009(Ac.Ft)
    Total rainfall =      1.20(In)
    Flood volume =       22251.3 Cubic Feet
    Total soil loss =         398.8 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =     15.751(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       0.0144      2.09  |V  Q     |          |          |          |
   0+10       0.0362      3.17  | V   Q   |          |          |          |
   0+15       0.0619      3.73  |   V  Q  |          |          |          |
   0+20       0.0890      3.95  |     VQ  |          |          |          |
   0+25       0.1174      4.11  |       QV|          |          |          |
   0+30       0.1486      4.53  |        Q|V         |          |          |
   0+35       0.1860      5.44  |         Q   V      |          |          |
   0+40       0.2302      6.41  |          | Q     V |          |          |
   0+45       0.2891      8.55  |          |       Q  | V        |          |
   0+50       0.3976     15.75  |          |          |          |Q         |
   0+55       0.4683     10.27  |          |          Q          |     V    |
   1+ 0       0.5010      4.75  |         Q|          |          |        V |
   1+ 5       0.5101      1.32  | Q        |          |          |        V |
   1+10       0.5108      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 01/14/22 File: 20522PRF3100.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA F
100-YEAR 3-HOUR STORM

Drainage Area = 5.20(Ac.) = 0.008 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.20(Ac.) = 0.008 Sq. Mi.
Length along longest watercourse = 390.00(Ft.)
Length along longest watercourse measured to centroid = 260.00(Ft.)
Length along longest watercourse = 0.074 Mi.
Length along longest watercourse measured to centroid = 0.049 Mi.
Difference in elevation = 3.10(Ft.)
Slope along watercourse = 41.9692 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.021 Hr.
Lag time = 1.26 Min.
25% of lag time = 0.31 Min.
40% of lag time = 0.50 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]
5.20	0.80	4.16

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
5.20	1.90	9.88

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.900(In)

Point rain (area averaged) = 1.900(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.900(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
5.200	69.00	0.990

Total Area Entered = 5.20(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
69.0	84.4	0.194	0.990	0.021	1.000	0.021
					Sum (F) =	0.021

Area averaged mean soil loss (F) (In/Hr) = 0.021
Minimum soil loss rate ((In/Hr)) = 0.011
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.108

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	397.906	64.940	3.403
2	0.167	795.812	32.276	1.691
3	0.250	1193.718	2.784	0.146
			Sum = 100.000 Sum=	5.241

The following loss 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	0.296	0.021	(0.032)	0.275
2	0.17	1.30	0.296	0.021	(0.032)	0.275
3	0.25	1.10	0.251	0.021	(0.027)	0.230
4	0.33	1.50	0.342	0.021	(0.037)	0.321
5	0.42	1.50	0.342	0.021	(0.037)	0.321
6	0.50	1.80	0.410	0.021	(0.044)	0.389
7	0.58	1.50	0.342	0.021	(0.037)	0.321
8	0.67	1.80	0.410	0.021	(0.044)	0.389
9	0.75	1.80	0.410	0.021	(0.044)	0.389
10	0.83	1.50	0.342	0.021	(0.037)	0.321
11	0.92	1.60	0.365	0.021	(0.039)	0.344
12	1.00	1.80	0.410	0.021	(0.044)	0.389
13	1.08	2.20	0.502	0.021	(0.054)	0.480
14	1.17	2.20	0.502	0.021	(0.054)	0.480
15	1.25	2.20	0.502	0.021	(0.054)	0.480
16	1.33	2.00	0.456	0.021	(0.049)	0.435

```
17   1.42     2.60      0.593          0.021    (  0.064)        0.572
18   1.50     2.70      0.616          0.021    (  0.066)        0.594
19   1.58     2.40      0.547          0.021    (  0.059)        0.526
20   1.67     2.70      0.616          0.021    (  0.066)        0.594
21   1.75     3.30      0.752          0.021    (  0.081)        0.731
22   1.83     3.10      0.707          0.021    (  0.076)        0.686
23   1.92     2.90      0.661          0.021    (  0.071)        0.640
24   2.00     3.00      0.684          0.021    (  0.074)        0.663
25   2.08     3.10      0.707          0.021    (  0.076)        0.686
26   2.17     4.20      0.958          0.021    (  0.103)        0.936
27   2.25     5.00      1.140          0.021    (  0.123)        1.119
28   2.33     3.50      0.798          0.021    (  0.086)        0.777
29   2.42     6.80      1.550          0.021    (  0.167)        1.529
30   2.50     7.30      1.664          0.021    (  0.180)        1.643
31   2.58     8.20      1.870          0.021    (  0.202)        1.848
32   2.67     5.90      1.345          0.021    (  0.145)        1.324
33   2.75     2.00      0.456          0.021    (  0.049)        0.435
34   2.83     1.80      0.410          0.021    (  0.044)        0.389
35   2.92     1.80      0.410          0.021    (  0.044)        0.389
36   3.00     0.60      0.137       (  0.021)       0.015        0.122
          (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    22.0
    Flood volume = Effective rainfall      1.84(In)
     times area       5.2(Ac.)/[(In)/(Ft.)] =       0.8(Ac.Ft)
    Total soil loss =      0.06(In)
    Total soil loss =     0.027(Ac.Ft)
    Total rainfall =      1.90(In)
    Flood volume =       34677.1 Cubic Feet
    Total soil loss =        1186.5 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      9.298(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       0.0065      0.94  V  Q      |         |         |         |
  0+10       0.0161      1.40  V    Q    |         |         |         |
  0+15       0.0250      1.29  |V   Q    |         |         |         |
  0+20       0.0355      1.52  |V    Q   |         |         |         |
  0+25       0.0470      1.67  | V   Q   |         |         |         |
  0+30       0.0602      1.92  |  V   Q  |         |         |         |
  0+35       0.0725      1.80  |  V   Q  |         |         |         |
  0+40       0.0858      1.93  |   V  Q  |         |         |         |
  0+45       0.0998      2.03  |    V  Q |         |         |         |
  0+50       0.1122      1.81  |    V Q  |         |         |         |
  0+55       0.1244      1.77  |     VQ  |         |         |         |
  1+ 0       0.1379      1.95  |     VQ  |         |         |         |
  1+ 5       0.1540      2.34  |      V Q|         |         |         |
  1+10       0.1713      2.51  |       V Q         |         |         |
  1+15       0.1886      2.52  |        VQ         |         |         |
  1+20       0.2049      2.36  |        QV         |         |         |
  1+25       0.2239      2.75  |         |Q        |         |         |
  1+30       0.2449      3.06  |         | Q       |         |         |
  1+35       0.2648      2.88  |         |Q V      |         |         |
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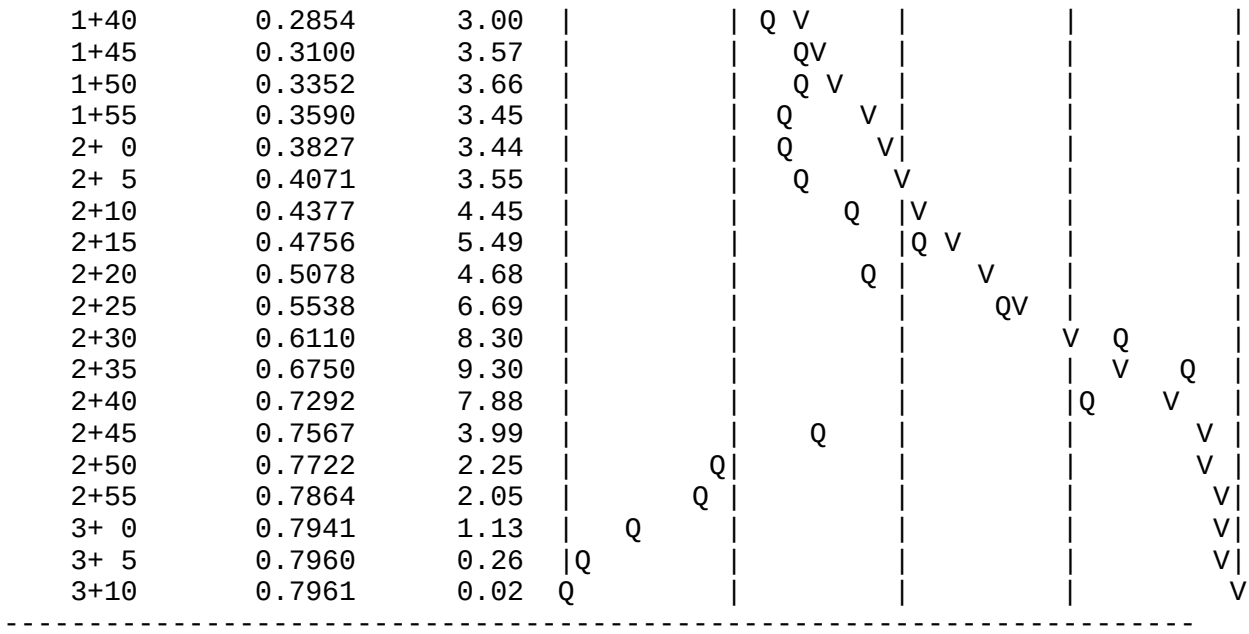
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1+55 0.3590 3.45
2+ 0 0.3827 3.44
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2+10 0.4377 4.45
2+15 0.4756 5.49
2+20 0.5078 4.68
2+25 0.5538 6.69
2+30 0.6110 8.30
2+35 0.6750 9.30
2+40 0.7292 7.88
2+45 0.7567 3.99
2+50 0.7722 2.25
2+55 0.7864 2.05
3+ 0 0.7941 1.13
3+ 5 0.7960 0.26
3+10 0.7961 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 01/14/22 File: 20522PRF6100.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA F
100-YEAR 6-HOUR STORM

Drainage Area = 5.20(Ac.) = 0.008 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.20(Ac.) = 0.008 Sq. Mi.
Length along longest watercourse = 390.00(Ft.)
Length along longest watercourse measured to centroid = 260.00(Ft.)
Length along longest watercourse = 0.074 Mi.
Length along longest watercourse measured to centroid = 0.049 Mi.
Difference in elevation = 3.10(Ft.)
Slope along watercourse = 41.9692 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.021 Hr.
Lag time = 1.26 Min.
25% of lag time = 0.31 Min.
40% of lag time = 0.50 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]
5.20	1.00	5.20

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
5.20	2.50	13.00

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
5.200	69.00	0.990

Total Area Entered = 5.20(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
69.0	84.4	0.194	0.990	0.021	1.000	0.021
					Sum (F) =	0.021

Area averaged mean soil loss (F) (In/Hr) = 0.021
Minimum soil loss rate ((In/Hr)) = 0.011
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.108

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	397.906	64.940	3.403
2	0.167	795.812	32.276	1.691
3	0.250	1193.718	2.784	0.146
		Sum = 100.000	Sum=	5.241

The following loss 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	0.150	(0.021)		0.016	0.134
2	0.17	0.60	0.180	(0.021)		0.019	0.161
3	0.25	0.60	0.180	(0.021)		0.019	0.161
4	0.33	0.60	0.180	(0.021)		0.019	0.161
5	0.42	0.60	0.180	(0.021)		0.019	0.161
6	0.50	0.70	0.210	0.021	(	0.023)	0.189
7	0.58	0.70	0.210	0.021	(	0.023)	0.189
8	0.67	0.70	0.210	0.021	(	0.023)	0.189
9	0.75	0.70	0.210	0.021	(	0.023)	0.189
10	0.83	0.70	0.210	0.021	(	0.023)	0.189
11	0.92	0.70	0.210	0.021	(	0.023)	0.189
12	1.00	0.80	0.240	0.021	(	0.026)	0.219
13	1.08	0.80	0.240	0.021	(	0.026)	0.219
14	1.17	0.80	0.240	0.021	(	0.026)	0.219
15	1.25	0.80	0.240	0.021	(	0.026)	0.219
16	1.33	0.80	0.240	0.021	(	0.026)	0.219

17	1.42	0.80	0.240		0.021	(0.026)	0.219
18	1.50	0.80	0.240		0.021	(0.026)	0.219
19	1.58	0.80	0.240		0.021	(0.026)	0.219
20	1.67	0.80	0.240		0.021	(0.026)	0.219
21	1.75	0.80	0.240		0.021	(0.026)	0.219
22	1.83	0.80	0.240		0.021	(0.026)	0.219
23	1.92	0.80	0.240		0.021	(0.026)	0.219
24	2.00	0.90	0.270		0.021	(0.029)	0.249
25	2.08	0.80	0.240		0.021	(0.026)	0.219
26	2.17	0.90	0.270		0.021	(0.029)	0.249
27	2.25	0.90	0.270		0.021	(0.029)	0.249
28	2.33	0.90	0.270		0.021	(0.029)	0.249
29	2.42	0.90	0.270		0.021	(0.029)	0.249
30	2.50	0.90	0.270		0.021	(0.029)	0.249
31	2.58	0.90	0.270		0.021	(0.029)	0.249
32	2.67	0.90	0.270		0.021	(0.029)	0.249
33	2.75	1.00	0.300		0.021	(0.032)	0.279
34	2.83	1.00	0.300		0.021	(0.032)	0.279
35	2.92	1.00	0.300		0.021	(0.032)	0.279
36	3.00	1.00	0.300		0.021	(0.032)	0.279
37	3.08	1.00	0.300		0.021	(0.032)	0.279
38	3.17	1.10	0.330		0.021	(0.036)	0.309
39	3.25	1.10	0.330		0.021	(0.036)	0.309
40	3.33	1.10	0.330		0.021	(0.036)	0.309
41	3.42	1.20	0.360		0.021	(0.039)	0.339
42	3.50	1.30	0.390		0.021	(0.042)	0.369
43	3.58	1.40	0.420		0.021	(0.045)	0.399
44	3.67	1.40	0.420		0.021	(0.045)	0.399
45	3.75	1.50	0.450		0.021	(0.049)	0.429
46	3.83	1.50	0.450		0.021	(0.049)	0.429
47	3.92	1.60	0.480		0.021	(0.052)	0.459
48	4.00	1.60	0.480		0.021	(0.052)	0.459
49	4.08	1.70	0.510		0.021	(0.055)	0.489
50	4.17	1.80	0.540		0.021	(0.058)	0.519
51	4.25	1.90	0.570		0.021	(0.062)	0.549
52	4.33	2.00	0.600		0.021	(0.065)	0.579
53	4.42	2.10	0.630		0.021	(0.068)	0.609
54	4.50	2.10	0.630		0.021	(0.068)	0.609
55	4.58	2.20	0.660		0.021	(0.071)	0.639
56	4.67	2.30	0.690		0.021	(0.075)	0.669
57	4.75	2.40	0.720		0.021	(0.078)	0.699
58	4.83	2.40	0.720		0.021	(0.078)	0.699
59	4.92	2.50	0.750		0.021	(0.081)	0.729
60	5.00	2.60	0.780		0.021	(0.084)	0.759
61	5.08	3.10	0.930		0.021	(0.100)	0.909
62	5.17	3.60	1.080		0.021	(0.117)	1.059
63	5.25	3.90	1.170		0.021	(0.126)	1.149
64	5.33	4.20	1.260		0.021	(0.136)	1.239
65	5.42	4.70	1.410		0.021	(0.152)	1.389
66	5.50	5.60	1.680		0.021	(0.181)	1.659
67	5.58	1.90	0.570		0.021	(0.062)	0.549
68	5.67	0.90	0.270		0.021	(0.029)	0.249
69	5.75	0.60	0.180	(0.021)		0.019	0.161
70	5.83	0.50	0.150	(0.021)		0.016	0.134
71	5.92	0.30	0.090	(0.021)		0.010	0.080
72	6.00	0.20	0.060	(0.021)		0.006	0.054

(Loss Rate Not Used)

Sum = 100.0 Sum = 28.5

Flood volume = Effective rainfall 2.38(In)
times area 5.2(Ac.)/[(In)/(Ft.)] = 1.0(Ac.Ft)

Total soil loss = 0.12(In)
Total soil loss = 0.053(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 44866.0 Cubic Feet
Total soil loss = 2323.2 Cubic Feet

Peak flow rate of this hydrograph = 8.180(CFS)

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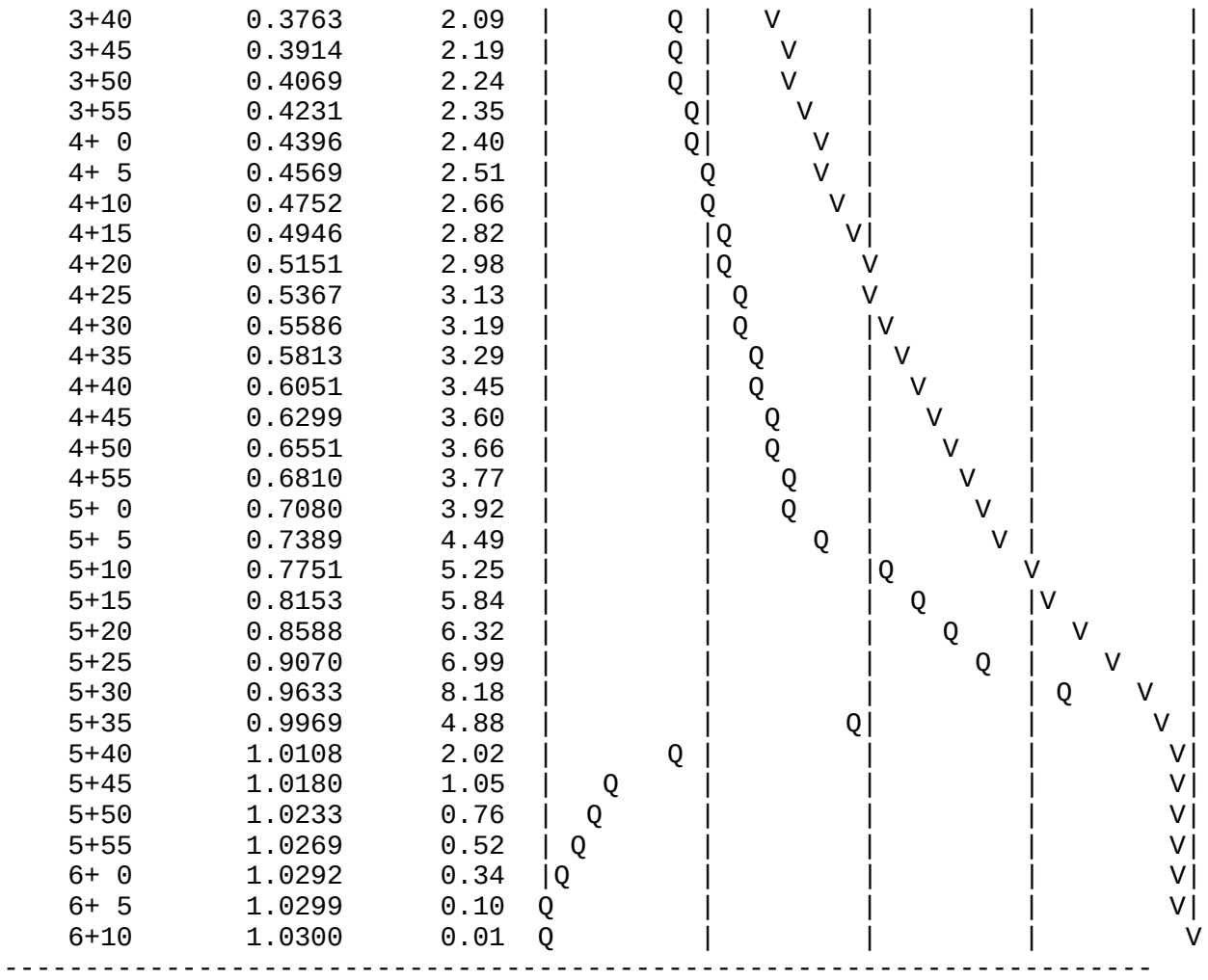
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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	0.0031	0.46	VQ				
0+10	0.0085	0.77	V Q				
0+15	0.0142	0.84	V Q				
0+20	0.0200	0.84	V Q				
0+25	0.0258	0.84	|V Q				
0+30	0.0323	0.94	|V Q				
0+35	0.0391	0.99	|V Q				
0+40	0.0459	0.99	|V Q				
0+45	0.0527	0.99	| VQ				
0+50	0.0595	0.99	| VQ				
0+55	0.0664	0.99	| VQ				
1+ 0	0.0739	1.09	| V Q				
1+ 5	0.0818	1.14	| VQ				
1+10	0.0897	1.15	| VQ				
1+15	0.0976	1.15	| VQ				
1+20	0.1055	1.15	| Q				
1+25	0.1134	1.15	| Q				
1+30	0.1213	1.15	| Q				
1+35	0.1292	1.15	| QV				
1+40	0.1371	1.15	| QV				
1+45	0.1450	1.15	| QV				
1+50	0.1529	1.15	| QV				
1+55	0.1608	1.15	| Q V				
2+ 0	0.1694	1.25	| Q V				
2+ 5	0.1777	1.20	| Q V				
2+10	0.1863	1.25	| Q V				
2+15	0.1953	1.30	| Q V				
2+20	0.2042	1.30	| Q V				
2+25	0.2132	1.30	| Q V				
2+30	0.2222	1.30	| Q V				
2+35	0.2312	1.30	| Q V				
2+40	0.2402	1.30	| Q V				
2+45	0.2499	1.41	| Q V				
2+50	0.2599	1.46	| Q V				
2+55	0.2700	1.46	| Q V				
3+ 0	0.2801	1.46	| Q V				
3+ 5	0.2901	1.46	| Q |V				
3+10	0.3009	1.56	| Q |V				
3+15	0.3120	1.62	| Q | V				
3+20	0.3232	1.62	| Q | V				
3+25	0.3350	1.72	| Q | V				
3+30	0.3479	1.87	| Q | V				
3+35	0.3619	2.03	| Q | V				


3+40 0.3763 2.09
3+45 0.3914 2.19
3+50 0.4069 2.24
3+55 0.4231 2.35
4+ 0 0.4396 2.40
4+ 5 0.4569 2.51
4+10 0.4752 2.66
4+15 0.4946 2.82
4+20 0.5151 2.98
4+25 0.5367 3.13
4+30 0.5586 3.19
4+35 0.5813 3.29
4+40 0.6051 3.45
4+45 0.6299 3.60
4+50 0.6551 3.66
4+55 0.6810 3.77
5+ 0 0.7080 3.92
5+ 5 0.7389 4.49
5+10 0.7751 5.25
5+15 0.8153 5.84
5+20 0.8588 6.32
5+25 0.9070 6.99
5+30 0.9633 8.18
5+35 0.9969 4.88
5+40 1.0108 2.02
5+45 1.0180 1.05
5+50 1.0233 0.76
5+55 1.0269 0.52
6+ 0 1.0292 0.34
6+ 5 1.0299 0.10
6+10 1.0300 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 01/14/22 File: 20522PRF24100.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA F
100-YEAR 24-HOUR STORM

Drainage Area = 5.20(Ac.) = 0.008 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 5.20(Ac.) = 0.008 Sq. Mi.
Length along longest watercourse = 390.00(Ft.)
Length along longest watercourse measured to centroid = 260.00(Ft.)
Length along longest watercourse = 0.074 Mi.
Length along longest watercourse measured to centroid = 0.049 Mi.
Difference in elevation = 3.10(Ft.)
Slope along watercourse = 41.9692 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.021 Hr.
Lag time = 1.26 Min.
25% of lag time = 0.31 Min.
40% of lag time = 0.50 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]
5.20	1.60	8.32

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
5.20	4.00	20.80

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 4.000(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.000(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
5.200	69.00	0.990

Total Area Entered = 5.20(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
69.0	84.4	0.194	0.990	0.021	1.000	0.021
					Sum (F) =	0.021

Area averaged mean soil loss (F) (In/Hr) = 0.021
Minimum soil loss rate ((In/Hr)) = 0.011
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.108

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	397.906	64.940	3.403
2	0.167	795.812	32.276	1.691
3	0.250	1193.718	2.784	0.146
			Sum = 100.000 Sum=	5.241

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.07	0.032	(0.037)		0.003	0.029
2	0.17	0.07	0.032	(0.037)		0.003	0.029
3	0.25	0.07	0.032	(0.037)		0.003	0.029
4	0.33	0.10	0.048	(0.037)		0.005	0.043
5	0.42	0.10	0.048	(0.037)		0.005	0.043
6	0.50	0.10	0.048	(0.037)		0.005	0.043
7	0.58	0.10	0.048	(0.037)		0.005	0.043
8	0.67	0.10	0.048	(0.036)		0.005	0.043
9	0.75	0.10	0.048	(0.036)		0.005	0.043
10	0.83	0.13	0.064	(0.036)		0.007	0.057
11	0.92	0.13	0.064	(0.036)		0.007	0.057
12	1.00	0.13	0.064	(0.036)		0.007	0.057
13	1.08	0.10	0.048	(0.036)		0.005	0.043
14	1.17	0.10	0.048	(0.036)		0.005	0.043
15	1.25	0.10	0.048	(0.035)		0.005	0.043
16	1.33	0.10	0.048	(0.035)		0.005	0.043

17	1.42	0.10	0.048	(0.035)	0.005	0.043
18	1.50	0.10	0.048	(0.035)	0.005	0.043
19	1.58	0.10	0.048	(0.035)	0.005	0.043
20	1.67	0.10	0.048	(0.035)	0.005	0.043
21	1.75	0.10	0.048	(0.035)	0.005	0.043
22	1.83	0.13	0.064	(0.034)	0.007	0.057
23	1.92	0.13	0.064	(0.034)	0.007	0.057
24	2.00	0.13	0.064	(0.034)	0.007	0.057
25	2.08	0.13	0.064	(0.034)	0.007	0.057
26	2.17	0.13	0.064	(0.034)	0.007	0.057
27	2.25	0.13	0.064	(0.034)	0.007	0.057
28	2.33	0.13	0.064	(0.034)	0.007	0.057
29	2.42	0.13	0.064	(0.034)	0.007	0.057
30	2.50	0.13	0.064	(0.033)	0.007	0.057
31	2.58	0.17	0.080	(0.033)	0.009	0.071
32	2.67	0.17	0.080	(0.033)	0.009	0.071
33	2.75	0.17	0.080	(0.033)	0.009	0.071
34	2.83	0.17	0.080	(0.033)	0.009	0.071
35	2.92	0.17	0.080	(0.033)	0.009	0.071
36	3.00	0.17	0.080	(0.033)	0.009	0.071
37	3.08	0.17	0.080	(0.032)	0.009	0.071
38	3.17	0.17	0.080	(0.032)	0.009	0.071
39	3.25	0.17	0.080	(0.032)	0.009	0.071
40	3.33	0.17	0.080	(0.032)	0.009	0.071
41	3.42	0.17	0.080	(0.032)	0.009	0.071
42	3.50	0.17	0.080	(0.032)	0.009	0.071
43	3.58	0.17	0.080	(0.032)	0.009	0.071
44	3.67	0.17	0.080	(0.031)	0.009	0.071
45	3.75	0.17	0.080	(0.031)	0.009	0.071
46	3.83	0.20	0.096	(0.031)	0.010	0.086
47	3.92	0.20	0.096	(0.031)	0.010	0.086
48	4.00	0.20	0.096	(0.031)	0.010	0.086
49	4.08	0.20	0.096	(0.031)	0.010	0.086
50	4.17	0.20	0.096	(0.031)	0.010	0.086
51	4.25	0.20	0.096	(0.031)	0.010	0.086
52	4.33	0.23	0.112	(0.030)	0.012	0.100
53	4.42	0.23	0.112	(0.030)	0.012	0.100
54	4.50	0.23	0.112	(0.030)	0.012	0.100
55	4.58	0.23	0.112	(0.030)	0.012	0.100
56	4.67	0.23	0.112	(0.030)	0.012	0.100
57	4.75	0.23	0.112	(0.030)	0.012	0.100
58	4.83	0.27	0.128	(0.030)	0.014	0.114
59	4.92	0.27	0.128	(0.030)	0.014	0.114
60	5.00	0.27	0.128	(0.029)	0.014	0.114
61	5.08	0.20	0.096	(0.029)	0.010	0.086
62	5.17	0.20	0.096	(0.029)	0.010	0.086
63	5.25	0.20	0.096	(0.029)	0.010	0.086
64	5.33	0.23	0.112	(0.029)	0.012	0.100
65	5.42	0.23	0.112	(0.029)	0.012	0.100
66	5.50	0.23	0.112	(0.029)	0.012	0.100
67	5.58	0.27	0.128	(0.029)	0.014	0.114
68	5.67	0.27	0.128	(0.028)	0.014	0.114
69	5.75	0.27	0.128	(0.028)	0.014	0.114
70	5.83	0.27	0.128	(0.028)	0.014	0.114
71	5.92	0.27	0.128	(0.028)	0.014	0.114
72	6.00	0.27	0.128	(0.028)	0.014	0.114
73	6.08	0.30	0.144	(0.028)	0.016	0.128
74	6.17	0.30	0.144	(0.028)	0.016	0.128
75	6.25	0.30	0.144	(0.028)	0.016	0.128
76	6.33	0.30	0.144	(0.027)	0.016	0.128

77	6.42	0.30	0.144	(0.027)	0.016	0.128
78	6.50	0.30	0.144	(0.027)	0.016	0.128
79	6.58	0.33	0.160	(0.027)	0.017	0.143
80	6.67	0.33	0.160	(0.027)	0.017	0.143
81	6.75	0.33	0.160	(0.027)	0.017	0.143
82	6.83	0.33	0.160	(0.027)	0.017	0.143
83	6.92	0.33	0.160	(0.027)	0.017	0.143
84	7.00	0.33	0.160	(0.026)	0.017	0.143
85	7.08	0.33	0.160	(0.026)	0.017	0.143
86	7.17	0.33	0.160	(0.026)	0.017	0.143
87	7.25	0.33	0.160	(0.026)	0.017	0.143
88	7.33	0.37	0.176	(0.026)	0.019	0.157
89	7.42	0.37	0.176	(0.026)	0.019	0.157
90	7.50	0.37	0.176	(0.026)	0.019	0.157
91	7.58	0.40	0.192	(0.026)	0.021	0.171
92	7.67	0.40	0.192	(0.025)	0.021	0.171
93	7.75	0.40	0.192	(0.025)	0.021	0.171
94	7.83	0.43	0.208	(0.025)	0.022	0.186
95	7.92	0.43	0.208	(0.025)	0.022	0.186
96	8.00	0.43	0.208	(0.025)	0.022	0.186
97	8.08	0.50	0.240	0.025	(0.026)	0.215
98	8.17	0.50	0.240	0.025	(0.026)	0.215
99	8.25	0.50	0.240	0.025	(0.026)	0.215
100	8.33	0.50	0.240	0.025	(0.026)	0.215
101	8.42	0.50	0.240	0.024	(0.026)	0.216
102	8.50	0.50	0.240	0.024	(0.026)	0.216
103	8.58	0.53	0.256	0.024	(0.028)	0.232
104	8.67	0.53	0.256	0.024	(0.028)	0.232
105	8.75	0.53	0.256	0.024	(0.028)	0.232
106	8.83	0.57	0.272	0.024	(0.029)	0.248
107	8.92	0.57	0.272	0.024	(0.029)	0.248
108	9.00	0.57	0.272	0.024	(0.029)	0.248
109	9.08	0.63	0.304	0.024	(0.033)	0.280
110	9.17	0.63	0.304	0.023	(0.033)	0.281
111	9.25	0.63	0.304	0.023	(0.033)	0.281
112	9.33	0.67	0.320	0.023	(0.035)	0.297
113	9.42	0.67	0.320	0.023	(0.035)	0.297
114	9.50	0.67	0.320	0.023	(0.035)	0.297
115	9.58	0.70	0.336	0.023	(0.036)	0.313
116	9.67	0.70	0.336	0.023	(0.036)	0.313
117	9.75	0.70	0.336	0.023	(0.036)	0.313
118	9.83	0.73	0.352	0.023	(0.038)	0.329
119	9.92	0.73	0.352	0.022	(0.038)	0.330
120	10.00	0.73	0.352	0.022	(0.038)	0.330
121	10.08	0.50	0.240	0.022	(0.026)	0.218
122	10.17	0.50	0.240	0.022	(0.026)	0.218
123	10.25	0.50	0.240	0.022	(0.026)	0.218
124	10.33	0.50	0.240	0.022	(0.026)	0.218
125	10.42	0.50	0.240	0.022	(0.026)	0.218
126	10.50	0.50	0.240	0.022	(0.026)	0.218
127	10.58	0.67	0.320	0.022	(0.035)	0.298
128	10.67	0.67	0.320	0.021	(0.035)	0.299
129	10.75	0.67	0.320	0.021	(0.035)	0.299
130	10.83	0.67	0.320	0.021	(0.035)	0.299
131	10.92	0.67	0.320	0.021	(0.035)	0.299
132	11.00	0.67	0.320	0.021	(0.035)	0.299
133	11.08	0.63	0.304	0.021	(0.033)	0.283
134	11.17	0.63	0.304	0.021	(0.033)	0.283
135	11.25	0.63	0.304	0.021	(0.033)	0.283
136	11.33	0.63	0.304	0.021	(0.033)	0.283

137	11.42	0.63	0.304	0.021	(0.033)	0.283
138	11.50	0.63	0.304	0.020	(0.033)	0.284
139	11.58	0.57	0.272	0.020	(0.029)	0.252
140	11.67	0.57	0.272	0.020	(0.029)	0.252
141	11.75	0.57	0.272	0.020	(0.029)	0.252
142	11.83	0.60	0.288	0.020	(0.031)	0.268
143	11.92	0.60	0.288	0.020	(0.031)	0.268
144	12.00	0.60	0.288	0.020	(0.031)	0.268
145	12.08	0.83	0.400	0.020	(0.043)	0.380
146	12.17	0.83	0.400	0.020	(0.043)	0.380
147	12.25	0.83	0.400	0.020	(0.043)	0.380
148	12.33	0.87	0.416	0.019	(0.045)	0.397
149	12.42	0.87	0.416	0.019	(0.045)	0.397
150	12.50	0.87	0.416	0.019	(0.045)	0.397
151	12.58	0.93	0.448	0.019	(0.048)	0.429
152	12.67	0.93	0.448	0.019	(0.048)	0.429
153	12.75	0.93	0.448	0.019	(0.048)	0.429
154	12.83	0.97	0.464	0.019	(0.050)	0.445
155	12.92	0.97	0.464	0.019	(0.050)	0.445
156	13.00	0.97	0.464	0.019	(0.050)	0.445
157	13.08	1.13	0.544	0.019	(0.059)	0.525
158	13.17	1.13	0.544	0.018	(0.059)	0.526
159	13.25	1.13	0.544	0.018	(0.059)	0.526
160	13.33	1.13	0.544	0.018	(0.059)	0.526
161	13.42	1.13	0.544	0.018	(0.059)	0.526
162	13.50	1.13	0.544	0.018	(0.059)	0.526
163	13.58	0.77	0.368	0.018	(0.040)	0.350
164	13.67	0.77	0.368	0.018	(0.040)	0.350
165	13.75	0.77	0.368	0.018	(0.040)	0.350
166	13.83	0.77	0.368	0.018	(0.040)	0.350
167	13.92	0.77	0.368	0.018	(0.040)	0.350
168	14.00	0.77	0.368	0.018	(0.040)	0.350
169	14.08	0.90	0.432	0.017	(0.047)	0.415
170	14.17	0.90	0.432	0.017	(0.047)	0.415
171	14.25	0.90	0.432	0.017	(0.047)	0.415
172	14.33	0.87	0.416	0.017	(0.045)	0.399
173	14.42	0.87	0.416	0.017	(0.045)	0.399
174	14.50	0.87	0.416	0.017	(0.045)	0.399
175	14.58	0.87	0.416	0.017	(0.045)	0.399
176	14.67	0.87	0.416	0.017	(0.045)	0.399
177	14.75	0.87	0.416	0.017	(0.045)	0.399
178	14.83	0.83	0.400	0.017	(0.043)	0.383
179	14.92	0.83	0.400	0.017	(0.043)	0.383
180	15.00	0.83	0.400	0.017	(0.043)	0.383
181	15.08	0.80	0.384	0.016	(0.041)	0.368
182	15.17	0.80	0.384	0.016	(0.041)	0.368
183	15.25	0.80	0.384	0.016	(0.041)	0.368
184	15.33	0.77	0.368	0.016	(0.040)	0.352
185	15.42	0.77	0.368	0.016	(0.040)	0.352
186	15.50	0.77	0.368	0.016	(0.040)	0.352
187	15.58	0.63	0.304	0.016	(0.033)	0.288
188	15.67	0.63	0.304	0.016	(0.033)	0.288
189	15.75	0.63	0.304	0.016	(0.033)	0.288
190	15.83	0.63	0.304	0.016	(0.033)	0.288
191	15.92	0.63	0.304	0.016	(0.033)	0.288
192	16.00	0.63	0.304	0.016	(0.033)	0.288
193	16.08	0.13	0.064	(0.015)	0.007	0.057
194	16.17	0.13	0.064	(0.015)	0.007	0.057
195	16.25	0.13	0.064	(0.015)	0.007	0.057
196	16.33	0.13	0.064	(0.015)	0.007	0.057

197	16.42	0.13	0.064	(0.015)	0.007	0.057
198	16.50	0.13	0.064	(0.015)	0.007	0.057
199	16.58	0.10	0.048	(0.015)	0.005	0.043
200	16.67	0.10	0.048	(0.015)	0.005	0.043
201	16.75	0.10	0.048	(0.015)	0.005	0.043
202	16.83	0.10	0.048	(0.015)	0.005	0.043
203	16.92	0.10	0.048	(0.015)	0.005	0.043
204	17.00	0.10	0.048	(0.015)	0.005	0.043
205	17.08	0.17	0.080	(0.015)	0.009	0.071
206	17.17	0.17	0.080	(0.014)	0.009	0.071
207	17.25	0.17	0.080	(0.014)	0.009	0.071
208	17.33	0.17	0.080	(0.014)	0.009	0.071
209	17.42	0.17	0.080	(0.014)	0.009	0.071
210	17.50	0.17	0.080	(0.014)	0.009	0.071
211	17.58	0.17	0.080	(0.014)	0.009	0.071
212	17.67	0.17	0.080	(0.014)	0.009	0.071
213	17.75	0.17	0.080	(0.014)	0.009	0.071
214	17.83	0.13	0.064	(0.014)	0.007	0.057
215	17.92	0.13	0.064	(0.014)	0.007	0.057
216	18.00	0.13	0.064	(0.014)	0.007	0.057
217	18.08	0.13	0.064	(0.014)	0.007	0.057
218	18.17	0.13	0.064	(0.014)	0.007	0.057
219	18.25	0.13	0.064	(0.014)	0.007	0.057
220	18.33	0.13	0.064	(0.013)	0.007	0.057
221	18.42	0.13	0.064	(0.013)	0.007	0.057
222	18.50	0.13	0.064	(0.013)	0.007	0.057
223	18.58	0.10	0.048	(0.013)	0.005	0.043
224	18.67	0.10	0.048	(0.013)	0.005	0.043
225	18.75	0.10	0.048	(0.013)	0.005	0.043
226	18.83	0.07	0.032	(0.013)	0.003	0.029
227	18.92	0.07	0.032	(0.013)	0.003	0.029
228	19.00	0.07	0.032	(0.013)	0.003	0.029
229	19.08	0.10	0.048	(0.013)	0.005	0.043
230	19.17	0.10	0.048	(0.013)	0.005	0.043
231	19.25	0.10	0.048	(0.013)	0.005	0.043
232	19.33	0.13	0.064	(0.013)	0.007	0.057
233	19.42	0.13	0.064	(0.013)	0.007	0.057
234	19.50	0.13	0.064	(0.013)	0.007	0.057
235	19.58	0.10	0.048	(0.013)	0.005	0.043
236	19.67	0.10	0.048	(0.012)	0.005	0.043
237	19.75	0.10	0.048	(0.012)	0.005	0.043
238	19.83	0.07	0.032	(0.012)	0.003	0.029
239	19.92	0.07	0.032	(0.012)	0.003	0.029
240	20.00	0.07	0.032	(0.012)	0.003	0.029
241	20.08	0.10	0.048	(0.012)	0.005	0.043
242	20.17	0.10	0.048	(0.012)	0.005	0.043
243	20.25	0.10	0.048	(0.012)	0.005	0.043
244	20.33	0.10	0.048	(0.012)	0.005	0.043
245	20.42	0.10	0.048	(0.012)	0.005	0.043
246	20.50	0.10	0.048	(0.012)	0.005	0.043
247	20.58	0.10	0.048	(0.012)	0.005	0.043
248	20.67	0.10	0.048	(0.012)	0.005	0.043
249	20.75	0.10	0.048	(0.012)	0.005	0.043
250	20.83	0.07	0.032	(0.012)	0.003	0.029
251	20.92	0.07	0.032	(0.012)	0.003	0.029
252	21.00	0.07	0.032	(0.012)	0.003	0.029
253	21.08	0.10	0.048	(0.012)	0.005	0.043
254	21.17	0.10	0.048	(0.012)	0.005	0.043
255	21.25	0.10	0.048	(0.012)	0.005	0.043
256	21.33	0.07	0.032	(0.011)	0.003	0.029

257	21.42	0.07	0.032	(0.011)	0.003	0.029
258	21.50	0.07	0.032	(0.011)	0.003	0.029
259	21.58	0.10	0.048	(0.011)	0.005	0.043
260	21.67	0.10	0.048	(0.011)	0.005	0.043
261	21.75	0.10	0.048	(0.011)	0.005	0.043
262	21.83	0.07	0.032	(0.011)	0.003	0.029
263	21.92	0.07	0.032	(0.011)	0.003	0.029
264	22.00	0.07	0.032	(0.011)	0.003	0.029
265	22.08	0.10	0.048	(0.011)	0.005	0.043
266	22.17	0.10	0.048	(0.011)	0.005	0.043
267	22.25	0.10	0.048	(0.011)	0.005	0.043
268	22.33	0.07	0.032	(0.011)	0.003	0.029
269	22.42	0.07	0.032	(0.011)	0.003	0.029
270	22.50	0.07	0.032	(0.011)	0.003	0.029
271	22.58	0.07	0.032	(0.011)	0.003	0.029
272	22.67	0.07	0.032	(0.011)	0.003	0.029
273	22.75	0.07	0.032	(0.011)	0.003	0.029
274	22.83	0.07	0.032	(0.011)	0.003	0.029
275	22.92	0.07	0.032	(0.011)	0.003	0.029
276	23.00	0.07	0.032	(0.011)	0.003	0.029
277	23.08	0.07	0.032	(0.011)	0.003	0.029
278	23.17	0.07	0.032	(0.011)	0.003	0.029
279	23.25	0.07	0.032	(0.011)	0.003	0.029
280	23.33	0.07	0.032	(0.011)	0.003	0.029
281	23.42	0.07	0.032	(0.011)	0.003	0.029
282	23.50	0.07	0.032	(0.011)	0.003	0.029
283	23.58	0.07	0.032	(0.011)	0.003	0.029
284	23.67	0.07	0.032	(0.011)	0.003	0.029
285	23.75	0.07	0.032	(0.011)	0.003	0.029
286	23.83	0.07	0.032	(0.011)	0.003	0.029
287	23.92	0.07	0.032	(0.011)	0.003	0.029
288	24.00	0.07	0.032	(0.011)	0.003	0.029

(Loss Rate Not Used)

Sum = 100.0 Sum = 44.5

Flood volume = Effective rainfall 3.71(In)
times area 5.2(Ac.)/[(In)/(Ft.)] = 1.6(Ac.Ft)
Total soil loss = 0.29(In)
Total soil loss = 0.125(Ac.Ft)
Total rainfall = 4.00(In)
Flood volume = 70040.9 Cubic Feet
Total soil loss = 5462.3 Cubic Feet

Peak flow rate of this hydrograph = 2.757(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	0.0007	0.10	Q	|	|	|	|
0+10	0.0017	0.15	Q	|	|	|	|
0+15	0.0027	0.15	Q	|	|	|	|
0+20	0.0041	0.20	Q	|	|	|	|
0+25	0.0056	0.22	Q	|	|	|	|
0+30	0.0071	0.22	Q	|	|	|	|
0+35	0.0087	0.22	Q	|	|	|	|

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0+40       0.0102      0.22  Q        |          |          |          |
0+45       0.0118      0.22  Q        |          |          |          |
0+50       0.0137      0.27  VQ       |          |          |          |
0+55       0.0157      0.30  VQ       |          |          |          |
1+ 0       0.0178      0.30  VQ       |          |          |          |
1+ 5       0.0195      0.25  VQ       |          |          |          |
1+10       0.0211      0.23  Q        |          |          |          |
1+15       0.0226      0.22  Q        |          |          |          |
1+20       0.0242      0.22  Q        |          |          |          |
1+25       0.0257      0.22  Q        |          |          |          |
1+30       0.0272      0.22  Q        |          |          |          |
1+35       0.0288      0.22  Q        |          |          |          |
1+40       0.0303      0.22  Q        |          |          |          |
1+45       0.0319      0.22  Q        |          |          |          |
1+50       0.0338      0.27  VQ       |          |          |          |
1+55       0.0358      0.30  VQ       |          |          |          |
2+ 0       0.0379      0.30  VQ       |          |          |          |
2+ 5       0.0399      0.30  VQ       |          |          |          |
2+10       0.0420      0.30  |Q       |          |          |          |
2+15       0.0441      0.30  |Q       |          |          |          |
2+20       0.0461      0.30  |Q       |          |          |          |
2+25       0.0482      0.30  |Q       |          |          |          |
2+30       0.0502      0.30  |Q       |          |          |          |
2+35       0.0526      0.35  |Q       |          |          |          |
2+40       0.0552      0.37  |Q       |          |          |          |
2+45       0.0578      0.37  |Q       |          |          |          |
2+50       0.0604      0.37  |Q       |          |          |          |
2+55       0.0629      0.37  |Q       |          |          |          |
3+ 0       0.0655      0.37  |Q       |          |          |          |
3+ 5       0.0681      0.37  |Q       |          |          |          |
3+10       0.0707      0.37  |Q       |          |          |          |
3+15       0.0732      0.37  |Q       |          |          |          |
3+20       0.0758      0.37  |Q       |          |          |          |
3+25       0.0784      0.37  |Q       |          |          |          |
3+30       0.0810      0.37  |QV      |          |          |          |
3+35       0.0835      0.37  |QV      |          |          |          |
3+40       0.0861      0.37  |QV      |          |          |          |
3+45       0.0887      0.37  |QV      |          |          |          |
3+50       0.0916      0.42  |QV      |          |          |          |
3+55       0.0947      0.45  |QV      |          |          |          |
4+ 0       0.0978      0.45  |QV      |          |          |          |
4+ 5       0.1009      0.45  |QV      |          |          |          |
4+10       0.1040      0.45  |QV      |          |          |          |
4+15       0.1071      0.45  |QV      |          |          |          |
4+20       0.1105      0.50  |QV      |          |          |          |
4+25       0.1141      0.52  | Q      |          |          |          |
4+30       0.1177      0.52  | Q      |          |          |          |
4+35       0.1213      0.52  | QV     |          |          |          |
4+40       0.1249      0.52  | QV     |          |          |          |
4+45       0.1285      0.52  | QV     |          |          |          |
4+50       0.1325      0.57  | QV     |          |          |          |
4+55       0.1366      0.60  | QV     |          |          |          |
5+ 0       0.1407      0.60  | QV     |          |          |          |
5+ 5       0.1441      0.50  | QV     |          |          |          |
5+10       0.1473      0.45  |Q V     |          |          |          |
5+15       0.1503      0.45  |Q V     |          |          |          |
5+20       0.1538      0.50  |Q V     |          |          |          |
5+25       0.1574      0.52  | QV     |          |          |          |
5+30       0.1610      0.52  | Q V    |          |          |          |
5+35       0.1649      0.57  | Q V    |          |          |          |
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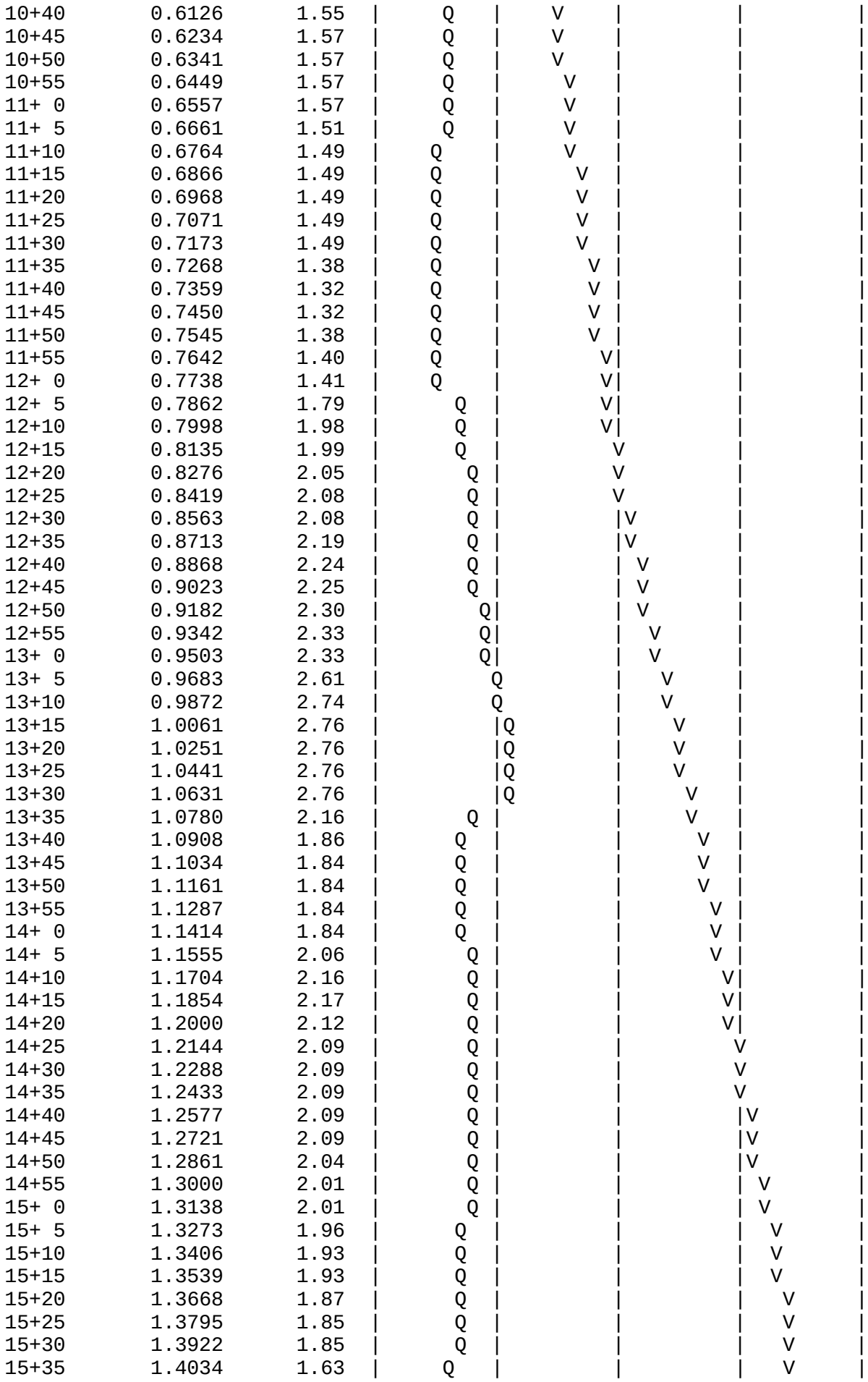
5+40	0.1690	0.60	Q V				
5+45	0.1732	0.60	Q V				
5+50	0.1773	0.60	Q V				
5+55	0.1814	0.60	Q V				
6+ 0	0.1855	0.60	Q V				
6+ 5	0.1900	0.65	Q V				
6+10	0.1946	0.67	Q V				
6+15	0.1992	0.67	Q V				
6+20	0.2039	0.67	Q V				
6+25	0.2085	0.67	Q V				
6+30	0.2132	0.67	Q V				
6+35	0.2181	0.72	Q V				
6+40	0.2233	0.75	Q V				
6+45	0.2284	0.75	Q V				
6+50	0.2336	0.75	Q V				
6+55	0.2387	0.75	Q V				
7+ 0	0.2439	0.75	Q V				
7+ 5	0.2490	0.75	Q V				
7+10	0.2542	0.75	Q V				
7+15	0.2593	0.75	Q V				
7+20	0.2648	0.80	Q V				
7+25	0.2705	0.82	Q V				
7+30	0.2762	0.82	Q V				
7+35	0.2822	0.87	Q V				
7+40	0.2883	0.90	Q V				
7+45	0.2945	0.90	Q V				
7+50	0.3010	0.95	Q V				
7+55	0.3077	0.97	Q V				
8+ 0	0.3144	0.97	Q V				
8+ 5	0.3218	1.07	Q V				
8+10	0.3296	1.12	Q V				
8+15	0.3373	1.13	Q V				
8+20	0.3451	1.13	Q V				
8+25	0.3529	1.13	Q V				
8+30	0.3607	1.13	Q V				
8+35	0.3688	1.19	Q V				
8+40	0.3772	1.21	Q V				
8+45	0.3856	1.22	Q V				
8+50	0.3943	1.27	Q V				
8+55	0.4033	1.30	Q V				
9+ 0	0.4122	1.30	Q V				
9+ 5	0.4220	1.41	Q V				
9+10	0.4321	1.47	Q V				
9+15	0.4422	1.47	Q V				
9+20	0.4527	1.53	Q V				
9+25	0.4634	1.55	Q V				
9+30	0.4741	1.56	Q V				
9+35	0.4852	1.61	Q V				
9+40	0.4965	1.64	Q V				
9+45	0.5079	1.64	Q V				
9+50	0.5196	1.70	Q V				
9+55	0.5314	1.73	Q V				
10+ 0	0.5433	1.73	Q V				
10+ 5	0.5526	1.35	Q V				
10+10	0.5606	1.16	Q V				
10+15	0.5685	1.14	Q V				
10+20	0.5763	1.14	Q V				
10+25	0.5842	1.14	Q V				
10+30	0.5921	1.14	Q V				
10+35	0.6019	1.42	Q V				



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15+40       1.4139      1.52  |     Q   |         |         |    V    |
15+45       1.4243      1.51  |     Q   |         |         |    V    |
15+50       1.4347      1.51  |     Q   |         |         |    V    |
15+55       1.4451      1.51  |     Q   |         |         |    V    |
16+ 0       1.4555      1.51  |     Q   |         |         |     V   |
16+ 5       1.4605      0.72  | Q       |         |         |     V   |
16+10       1.4628      0.33  |Q        |         |         |     V   |
16+15       1.4649      0.30  |Q        |         |         |     V   |
16+20       1.4670      0.30  |Q        |         |         |     V   |
16+25       1.4690      0.30  |Q        |         |         |     V   |
16+30       1.4711      0.30  |Q        |         |         |     V   |
16+35       1.4728      0.25  |Q        |         |         |     V   |
16+40       1.4744      0.23  Q         |         |         |     V   |
16+45       1.4759      0.22  Q         |         |         |     V   |
16+50       1.4775      0.22  Q         |         |         |     V   |
16+55       1.4790      0.22  Q         |         |         |     V   |
17+ 0       1.4806      0.22  Q         |         |         |     V   |
17+ 5       1.4828      0.32  |Q        |         |         |     V   |
17+10       1.4853      0.37  |Q        |         |         |     V   |
17+15       1.4879      0.37  |Q        |         |         |      V  |
17+20       1.4905      0.37  |Q        |         |         |      V  |
17+25       1.4930      0.37  |Q        |         |         |      V  |
17+30       1.4956      0.37  |Q        |         |         |      V  |
17+35       1.4982      0.37  |Q        |         |         |      V  |
17+40       1.5008      0.37  |Q        |         |         |      V  |
17+45       1.5034      0.37  |Q        |         |         |      V  |
17+50       1.5056      0.33  |Q        |         |         |      V  |
17+55       1.5077      0.30  |Q        |         |         |      V  |
18+ 0       1.5097      0.30  |Q        |         |         |      V  |
18+ 5       1.5118      0.30  |Q        |         |         |      V  |
18+10       1.5139      0.30  |Q        |         |         |      V  |
18+15       1.5159      0.30  |Q        |         |         |      V  |
18+20       1.5180      0.30  |Q        |         |         |      V  |
18+25       1.5200      0.30  |Q        |         |         |      V  |
18+30       1.5221      0.30  |Q        |         |         |      V  |
18+35       1.5238      0.25  |Q        |         |         |      V  |
18+40       1.5254      0.23  Q         |         |         |      V  |
18+45       1.5269      0.22  Q         |         |         |      V  |
18+50       1.5281      0.18  Q         |         |         |       V |
18+55       1.5292      0.15  Q         |         |         |       V |
19+ 0       1.5302      0.15  Q         |         |         |       V |
19+ 5       1.5316      0.20  Q         |         |         |       V |
19+10       1.5331      0.22  Q         |         |         |       V |
19+15       1.5347      0.22  Q         |         |         |       V |
19+20       1.5365      0.27  |Q        |         |         |       V |
19+25       1.5386      0.30  |Q        |         |         |       V |
19+30       1.5407      0.30  |Q        |         |         |       V |
19+35       1.5424      0.25  |Q        |         |         |       V |
19+40       1.5439      0.23  Q         |         |         |       V |
19+45       1.5455      0.22  Q         |         |         |       V |
19+50       1.5467      0.18  Q         |         |         |       V |
19+55       1.5477      0.15  Q         |         |         |       V |
20+ 0       1.5488      0.15  Q         |         |         |       V |
20+ 5       1.5501      0.20  Q         |         |         |       V |
20+10       1.5517      0.22  Q         |         |         |       V |
20+15       1.5532      0.22  Q         |         |         |       V |
20+20       1.5548      0.22  Q         |         |         |       V |
20+25       1.5563      0.22  Q         |         |         |       V |
20+30       1.5579      0.22  Q         |         |         |       V |
20+35       1.5594      0.22  Q         |         |         |       V |
```

20+40	1.5609	0.22	Q	|	|	|	V |
20+45	1.5625	0.22	Q	|	|	|	V |
20+50	1.5637	0.18	Q	|	|	|	V |
20+55	1.5648	0.15	Q	|	|	|	V |
21+ 0	1.5658	0.15	Q	|	|	|	V |
21+ 5	1.5671	0.20	Q	|	|	|	V |
21+10	1.5687	0.22	Q	|	|	|	V|
21+15	1.5702	0.22	Q	|	|	|	V|
21+20	1.5714	0.18	Q	|	|	|	V|
21+25	1.5725	0.15	Q	|	|	|	V|
21+30	1.5735	0.15	Q	|	|	|	V|
21+35	1.5749	0.20	Q	|	|	|	V|
21+40	1.5764	0.22	Q	|	|	|	V|
21+45	1.5780	0.22	Q	|	|	|	V|
21+50	1.5792	0.18	Q	|	|	|	V|
21+55	1.5802	0.15	Q	|	|	|	V|
22+ 0	1.5812	0.15	Q	|	|	|	V|
22+ 5	1.5826	0.20	Q	|	|	|	V|
22+10	1.5841	0.22	Q	|	|	|	V|
22+15	1.5857	0.22	Q	|	|	|	V|
22+20	1.5869	0.18	Q	|	|	|	V|
22+25	1.5879	0.15	Q	|	|	|	V|
22+30	1.5890	0.15	Q	|	|	|	V|
22+35	1.5900	0.15	Q	|	|	|	V|
22+40	1.5910	0.15	Q	|	|	|	V|
22+45	1.5921	0.15	Q	|	|	|	V|
22+50	1.5931	0.15	Q	|	|	|	V|
22+55	1.5941	0.15	Q	|	|	|	V|
23+ 0	1.5952	0.15	Q	|	|	|	V|
23+ 5	1.5962	0.15	Q	|	|	|	V|
23+10	1.5972	0.15	Q	|	|	|	V|
23+15	1.5983	0.15	Q	|	|	|	V|
23+20	1.5993	0.15	Q	|	|	|	V|
23+25	1.6003	0.15	Q	|	|	|	V|
23+30	1.6013	0.15	Q	|	|	|	V|
23+35	1.6024	0.15	Q	|	|	|	V|
23+40	1.6034	0.15	Q	|	|	|	V|
23+45	1.6044	0.15	Q	|	|	|	V|
23+50	1.6055	0.15	Q	|	|	|	V|
23+55	1.6065	0.15	Q	|	|	|	V|
24+ 0	1.6075	0.15	Q	|	|	|	V|
24+ 5	1.6079	0.05	Q	|	|	|	V|
24+10	1.6079	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 01/03/22 File: 20522PRD11100.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA D1
100-YEAR 1-HOUR STORM

Drainage Area = 15.60(Ac.) = 0.024 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 15.60(Ac.) = 0.024 Sq. Mi.
Length along longest watercourse = 1690.00(Ft.)
Length along longest watercourse measured to centroid = 955.00(Ft.)
Length along longest watercourse = 0.320 Mi.
Length along longest watercourse measured to centroid = 0.181 Mi.
Difference in elevation = 9.50(Ft.)
Slope along watercourse = 29.6805 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.064 Hr.
Lag time = 3.84 Min.
25% of lag time = 0.96 Min.
40% of lag time = 1.54 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]
15.60	0.50	7.80

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
15.60	1.20	18.72

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
15.600	69.00	0.910

Total Area Entered = 15.60(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
69.0	84.4	0.194	0.910	0.035	1.000	0.035
					Sum (F) =	0.035

Area averaged mean soil loss (F) (In/Hr) = 0.035
Minimum soil loss rate ((In/Hr)) = 0.018
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.172

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

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	130.164	28.066	4.412
2	0.167	260.327	48.283	7.591
3	0.250	390.491	12.489	1.964
4	0.333	520.654	5.585	0.878
5	0.417	650.818	3.068	0.482
6	0.500	780.981	1.669	0.262
7	0.583	911.145	0.841	0.132
		Sum = 100.000	Sum=	15.722

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	4.40	0.634	0.035	(0.109)	0.598
2	0.17	4.50	0.648	0.035	(0.111)	0.613
3	0.25	5.40	0.777	0.035	(0.134)	0.742
4	0.33	5.40	0.777	0.035	(0.134)	0.742
5	0.42	5.70	0.821	0.035	(0.141)	0.786
6	0.50	6.40	0.921	0.035	(0.158)	0.886
7	0.58	7.90	1.137	0.035	(0.196)	1.102
8	0.67	9.10	1.310	0.035	(0.225)	1.275
9	0.75	12.80	1.843	0.035	(0.317)	1.808
10	0.83	25.60	3.686	0.035	(0.634)	3.651

```
 11   0.92     7.90      1.137          0.035    (  0.196)        1.102
 12   1.00     4.90      0.706          0.035    (  0.121)        0.670
          (Loss Rate Not Used)
   Sum =     100.0                                  Sum =    14.0
    Flood volume = Effective rainfall      1.16(In)
     times area      15.6(Ac.)/[(In)/(Ft.)] =       1.5(Ac.Ft)
    Total soil loss =      0.04(In)
    Total soil loss =     0.046(Ac.Ft)
    Total rainfall =      1.20(In)
    Flood volume =       65957.2 Cubic Feet
    Total soil loss =        1986.8 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =     38.134(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                   R u n o f f      H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0       10.0      20.0      30.0      40.0
 ---------------------------------------------------------------------------
   0+ 5       0.0182      2.64  V Q       |         |         |         |
   0+10       0.0681      7.25  |V     Q  |         |         |         |
   0+15       0.1309      9.11  |  V     Q|         |         |         |
   0+20       0.2042     10.65  |    V    Q         |         |         |
   0+25       0.2826     11.39  |      V  |Q        |         |         |
   0+30       0.3683     12.44  |        V| Q       |         |         |
   0+35       0.4674     14.39  |         | V Q     |         |         |
   0+40       0.5850     17.07  |         |    V Q  |         |         |
   0+45       0.7316     21.28  |         |         V|Q        |         |
   0+50       0.9661     34.05  |         |          |    V    |   Q     |
   0+55       1.2287     38.13  |         |          |         | V     Q |
   1+ 0       1.3741     21.11  |         |          |Q        |     V   |
   1+ 5       1.4555     11.82  |         |Q         |         |       V |
   1+10       1.4878      4.69  |   Q     |          |         |        V|
   1+15       1.5038      2.32  | Q       |          |         |        V|
   1+20       1.5113      1.10  |Q        |          |         |        V|
   1+25       1.5136      0.32  Q         |          |         |        V|
   1+30       1.5142      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 01/03/22 File: 20522PRD13100.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA D1
100-YEAR 3-HOUR STORM

Drainage Area = 15.60(Ac.) = 0.024 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 15.60(Ac.) = 0.024 Sq. Mi.
Length along longest watercourse = 1690.00(Ft.)
Length along longest watercourse measured to centroid = 955.00(Ft.)
Length along longest watercourse = 0.320 Mi.
Length along longest watercourse measured to centroid = 0.181 Mi.
Difference in elevation = 9.50(Ft.)
Slope along watercourse = 29.6805 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.064 Hr.
Lag time = 3.84 Min.
25% of lag time = 0.96 Min.
40% of lag time = 1.54 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]
15.60	0.80	12.48

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
15.60	1.90	29.64

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.900(In)

Point rain (area averaged) = 1.900(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.900(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
15.600	69.00	0.910

Total Area Entered = 15.60(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
69.0	84.4	0.194	0.910	0.035	1.000	0.035
					Sum (F) =	0.035

Area averaged mean soil loss (F) (In/Hr) = 0.035
Minimum soil loss rate ((In/Hr)) = 0.018
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.172

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	130.164	28.066	4.412
2	0.167	260.327	48.283	7.591
3	0.250	390.491	12.489	1.964
4	0.333	520.654	5.585	0.878
5	0.417	650.818	3.068	0.482
6	0.500	780.981	1.669	0.262
7	0.583	911.145	0.841	0.132
			Sum = 100.000	Sum= 15.722

The following loss 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	0.296	0.035	(	0.051)	0.261
2	0.17	1.30	0.296	0.035	(	0.051)	0.261
3	0.25	1.10	0.251	0.035	(	0.043)	0.216
4	0.33	1.50	0.342	0.035	(	0.059)	0.307
5	0.42	1.50	0.342	0.035	(	0.059)	0.307
6	0.50	1.80	0.410	0.035	(	0.071)	0.375
7	0.58	1.50	0.342	0.035	(	0.059)	0.307
8	0.67	1.80	0.410	0.035	(	0.071)	0.375
9	0.75	1.80	0.410	0.035	(	0.071)	0.375
10	0.83	1.50	0.342	0.035	(	0.059)	0.307
11	0.92	1.60	0.365	0.035	(	0.063)	0.330
12	1.00	1.80	0.410	0.035	(	0.071)	0.375

13	1.08	2.20	0.502	0.035	(0.086)	0.466
14	1.17	2.20	0.502	0.035	(0.086)	0.466
15	1.25	2.20	0.502	0.035	(0.086)	0.466
16	1.33	2.00	0.456	0.035	(0.078)	0.421
17	1.42	2.60	0.593	0.035	(0.102)	0.558
18	1.50	2.70	0.616	0.035	(0.106)	0.580
19	1.58	2.40	0.547	0.035	(0.094)	0.512
20	1.67	2.70	0.616	0.035	(0.106)	0.580
21	1.75	3.30	0.752	0.035	(0.129)	0.717
22	1.83	3.10	0.707	0.035	(0.122)	0.672
23	1.92	2.90	0.661	0.035	(0.114)	0.626
24	2.00	3.00	0.684	0.035	(0.118)	0.649
25	2.08	3.10	0.707	0.035	(0.122)	0.672
26	2.17	4.20	0.958	0.035	(0.165)	0.922
27	2.25	5.00	1.140	0.035	(0.196)	1.105
28	2.33	3.50	0.798	0.035	(0.137)	0.763
29	2.42	6.80	1.550	0.035	(0.267)	1.515
30	2.50	7.30	1.664	0.035	(0.286)	1.629
31	2.58	8.20	1.869	0.035	(0.322)	1.834
32	2.67	5.90	1.345	0.035	(0.231)	1.310
33	2.75	2.00	0.456	0.035	(0.078)	0.421
34	2.83	1.80	0.410	0.035	(0.071)	0.375
35	2.92	1.80	0.410	0.035	(0.071)	0.375
36	3.00	0.60	0.137	(0.035)	0.024	0.113

(Loss Rate Not Used)

Sum = 100.0 Sum = 21.5

Flood volume = Effective rainfall 1.80(In)
times area 15.6(Ac.)/[(In)/(Ft.)] = 2.3(Ac.Ft)
Total soil loss = 0.10(In)
Total soil loss = 0.136(Ac.Ft)
Total rainfall = 1.90(In)
Flood volume = 101680.0 Cubic Feet
Total soil loss = 5905.8 Cubic Feet

Peak flow rate of this hydrograph = 25.027(CFS)

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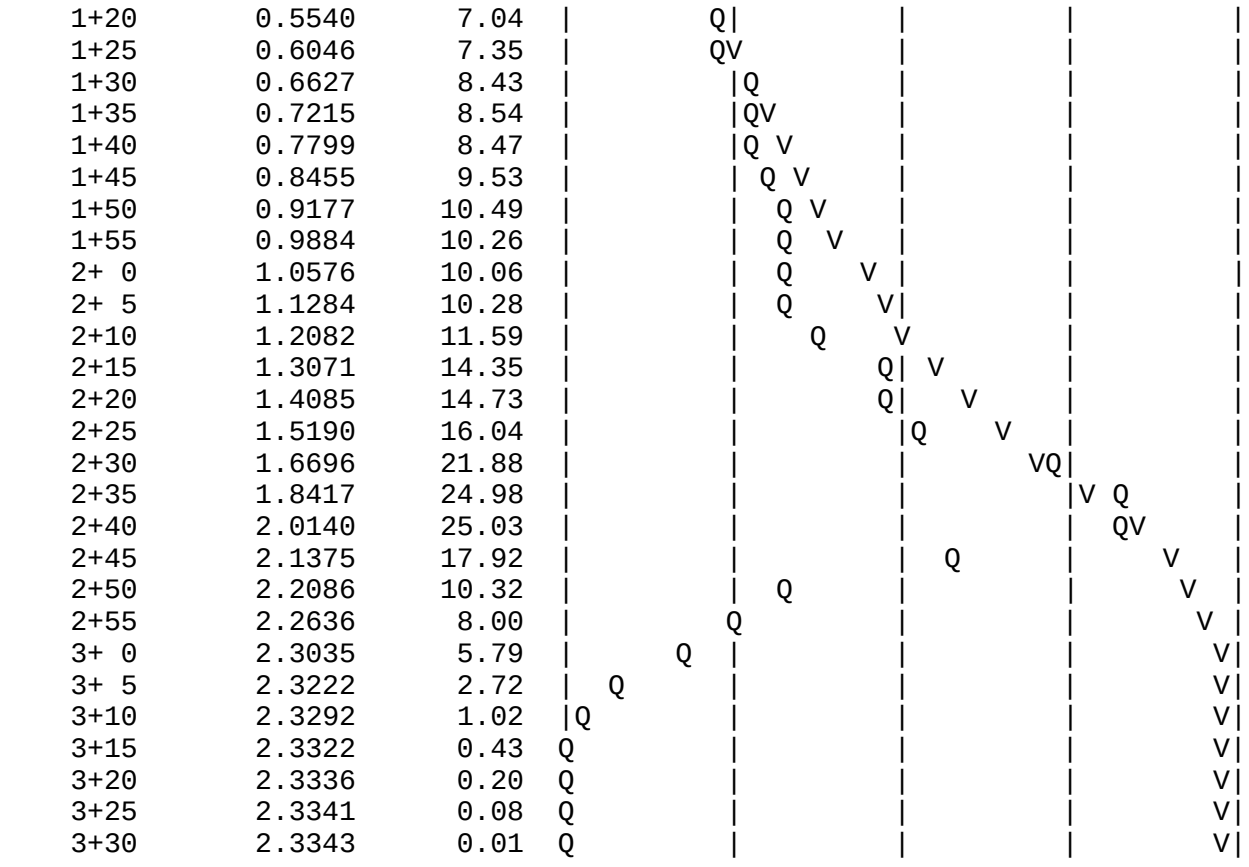
3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0079	1.15	VQ				
0+10	0.0296	3.14	V Q				
0+15	0.0533	3.45	V Q				
0+20	0.0790	3.74	|V Q				
0+25	0.1098	4.47	|V Q				
0+30	0.1441	4.97	| V Q				
0+35	0.1805	5.28	| V Q				
0+40	0.2165	5.23	| V Q				
0+45	0.2557	5.70	| V Q				
0+50	0.2937	5.51	| V Q				
0+55	0.3291	5.14	| VQ				
1+ 0	0.3663	5.40	| VQ				
1+ 5	0.4087	6.15	| VQ				
1+10	0.4564	6.93	| V Q|				
1+15	0.5055	7.14	| VQ|				


1+20 0.5540 7.04
1+25 0.6046 7.35
1+30 0.6627 8.43
1+35 0.7215 8.54
1+40 0.7799 8.47
1+45 0.8455 9.53
1+50 0.9177 10.49
1+55 0.9884 10.26
2+ 0 1.0576 10.06
2+ 5 1.1284 10.28
2+10 1.2082 11.59
2+15 1.3071 14.35
2+20 1.4085 14.73
2+25 1.5190 16.04
2+30 1.6696 21.88
2+35 1.8417 24.98
2+40 2.0140 25.03
2+45 2.1375 17.92
2+50 2.2086 10.32
2+55 2.2636 8.00
3+ 0 2.3035 5.79
3+ 5 2.3222 2.72
3+10 2.3292 1.02
3+15 2.3322 0.43
3+20 2.3336 0.20
3+25 2.3341 0.08
3+30 2.3343 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 01/03/22 File: 20522PRD16100.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA D1
100-YEAR 6-HOUR STORM

Drainage Area = 15.60(Ac.) = 0.024 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 15.60(Ac.) = 0.024 Sq. Mi.
Length along longest watercourse = 1690.00(Ft.)
Length along longest watercourse measured to centroid = 955.00(Ft.)
Length along longest watercourse = 0.320 Mi.
Length along longest watercourse measured to centroid = 0.181 Mi.
Difference in elevation = 9.50(Ft.)
Slope along watercourse = 29.6805 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.064 Hr.
Lag time = 3.84 Min.
25% of lag time = 0.96 Min.
40% of lag time = 1.54 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]
15.60	1.00	15.60

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
15.60	2.50	39.00

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
15.600	69.00	0.910

Total Area Entered = 15.60(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
69.0	84.4	0.194	0.910	0.035	1.000	0.035
					Sum (F) =	0.035

Area averaged mean soil loss (F) (In/Hr) = 0.035
Minimum soil loss rate ((In/Hr)) = 0.018
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.172

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	130.164	28.066	4.412
2	0.167	260.327	48.283	7.591
3	0.250	390.491	12.489	1.964
4	0.333	520.654	5.585	0.878
5	0.417	650.818	3.068	0.482
6	0.500	780.981	1.669	0.262
7	0.583	911.145	0.841	0.132
			Sum = 100.000	Sum= 15.722

The following loss 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	0.150	(0.035)		0.026	0.124
2	0.17	0.60	0.180	(0.035)		0.031	0.149
3	0.25	0.60	0.180	(0.035)		0.031	0.149
4	0.33	0.60	0.180	(0.035)		0.031	0.149
5	0.42	0.60	0.180	(0.035)		0.031	0.149
6	0.50	0.70	0.210	0.035	(	0.036)	0.175
7	0.58	0.70	0.210	0.035	(	0.036)	0.175
8	0.67	0.70	0.210	0.035	(	0.036)	0.175
9	0.75	0.70	0.210	0.035	(	0.036)	0.175
10	0.83	0.70	0.210	0.035	(	0.036)	0.175
11	0.92	0.70	0.210	0.035	(	0.036)	0.175
12	1.00	0.80	0.240	0.035	(	0.041)	0.205

13	1.08	0.80	0.240	0.035	(0.041)	0.205
14	1.17	0.80	0.240	0.035	(0.041)	0.205
15	1.25	0.80	0.240	0.035	(0.041)	0.205
16	1.33	0.80	0.240	0.035	(0.041)	0.205
17	1.42	0.80	0.240	0.035	(0.041)	0.205
18	1.50	0.80	0.240	0.035	(0.041)	0.205
19	1.58	0.80	0.240	0.035	(0.041)	0.205
20	1.67	0.80	0.240	0.035	(0.041)	0.205
21	1.75	0.80	0.240	0.035	(0.041)	0.205
22	1.83	0.80	0.240	0.035	(0.041)	0.205
23	1.92	0.80	0.240	0.035	(0.041)	0.205
24	2.00	0.90	0.270	0.035	(0.046)	0.235
25	2.08	0.80	0.240	0.035	(0.041)	0.205
26	2.17	0.90	0.270	0.035	(0.046)	0.235
27	2.25	0.90	0.270	0.035	(0.046)	0.235
28	2.33	0.90	0.270	0.035	(0.046)	0.235
29	2.42	0.90	0.270	0.035	(0.046)	0.235
30	2.50	0.90	0.270	0.035	(0.046)	0.235
31	2.58	0.90	0.270	0.035	(0.046)	0.235
32	2.67	0.90	0.270	0.035	(0.046)	0.235
33	2.75	1.00	0.300	0.035	(0.052)	0.265
34	2.83	1.00	0.300	0.035	(0.052)	0.265
35	2.92	1.00	0.300	0.035	(0.052)	0.265
36	3.00	1.00	0.300	0.035	(0.052)	0.265
37	3.08	1.00	0.300	0.035	(0.052)	0.265
38	3.17	1.10	0.330	0.035	(0.057)	0.295
39	3.25	1.10	0.330	0.035	(0.057)	0.295
40	3.33	1.10	0.330	0.035	(0.057)	0.295
41	3.42	1.20	0.360	0.035	(0.062)	0.325
42	3.50	1.30	0.390	0.035	(0.067)	0.355
43	3.58	1.40	0.420	0.035	(0.072)	0.385
44	3.67	1.40	0.420	0.035	(0.072)	0.385
45	3.75	1.50	0.450	0.035	(0.077)	0.415
46	3.83	1.50	0.450	0.035	(0.077)	0.415
47	3.92	1.60	0.480	0.035	(0.083)	0.445
48	4.00	1.60	0.480	0.035	(0.083)	0.445
49	4.08	1.70	0.510	0.035	(0.088)	0.475
50	4.17	1.80	0.540	0.035	(0.093)	0.505
51	4.25	1.90	0.570	0.035	(0.098)	0.535
52	4.33	2.00	0.600	0.035	(0.103)	0.565
53	4.42	2.10	0.630	0.035	(0.108)	0.595
54	4.50	2.10	0.630	0.035	(0.108)	0.595
55	4.58	2.20	0.660	0.035	(0.114)	0.625
56	4.67	2.30	0.690	0.035	(0.119)	0.655
57	4.75	2.40	0.720	0.035	(0.124)	0.685
58	4.83	2.40	0.720	0.035	(0.124)	0.685
59	4.92	2.50	0.750	0.035	(0.129)	0.715
60	5.00	2.60	0.780	0.035	(0.134)	0.745
61	5.08	3.10	0.930	0.035	(0.160)	0.895
62	5.17	3.60	1.080	0.035	(0.186)	1.045
63	5.25	3.90	1.170	0.035	(0.201)	1.135
64	5.33	4.20	1.260	0.035	(0.217)	1.225
65	5.42	4.70	1.410	0.035	(0.243)	1.375
66	5.50	5.60	1.680	0.035	(0.289)	1.645
67	5.58	1.90	0.570	0.035	(0.098)	0.535
68	5.67	0.90	0.270	0.035	(0.046)	0.235
69	5.75	0.60	0.180	(0.035)	0.031	0.149
70	5.83	0.50	0.150	(0.035)	0.026	0.124
71	5.92	0.30	0.090	(0.035)	0.015	0.075
72	6.00	0.20	0.060	(0.035)	0.010	0.050

(Loss Rate Not Used)
Sum = 100.0 Sum = 27.6
Flood volume = Effective rainfall 2.30(In)
times area 15.6(Ac.)/[(In)/(Ft.)] = 3.0(Ac.Ft)
Total soil loss = 0.20(In)
Total soil loss = 0.265(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 130036.0 Cubic Feet
Total soil loss = 11526.4 Cubic Feet

Peak flow rate of this hydrograph = 21.944(CFS)

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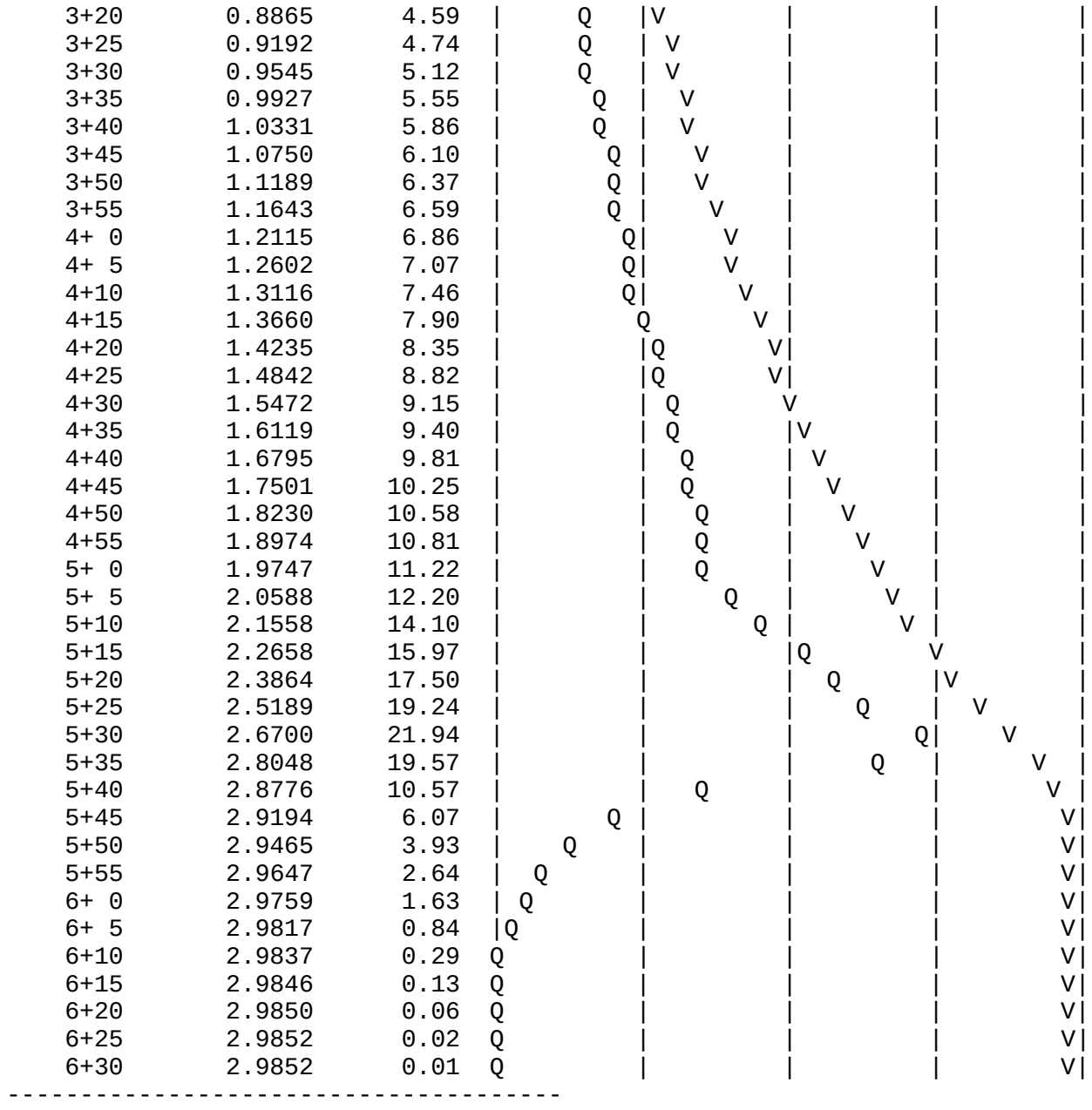
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0 7.5 15.0 22.5 30.0
0+ 5	0.0038	0.55	Q | | | |
0+10	0.0148	1.60	V Q | | | |
0+15	0.0288	2.03	V Q | | | |
0+20	0.0439	2.19	V Q | | | |
0+25	0.0596	2.27	V Q | | | |
0+30	0.0763	2.43	|V Q | | | |
0+35	0.0946	2.65	|V Q | | | |
0+40	0.1132	2.71	|V Q | | | |
0+45	0.1320	2.73	|V Q | | | |
0+50	0.1509	2.74	| VQ | | | |
0+55	0.1698	2.75	| VQ | | | |
1+ 0	0.1897	2.88	| VQ | | | |
1+ 5	0.2111	3.11	| V Q | | | |
1+10	0.2329	3.17	| VQ | | | |
1+15	0.2549	3.20	| VQ | | | |
1+20	0.2771	3.21	| VQ | | | |
1+25	0.2992	3.22	| Q | | | |
1+30	0.3214	3.22	| Q | | | |
1+35	0.3436	3.22	| Q | | | |
1+40	0.3658	3.22	| Q | | | |
1+45	0.3880	3.22	| QV | | | |
1+50	0.4102	3.22	| QV | | | |
1+55	0.4324	3.22	| QV | | | |
2+ 0	0.4555	3.36	| Q V | | | |
2+ 5	0.4793	3.45	| Q V | | | |
2+10	0.5028	3.41	| Q V | | | |
2+15	0.5277	3.61	| Q V | | | |
2+20	0.5529	3.66	| Q V | | | |
2+25	0.5782	3.68	| Q V | | | |
2+30	0.6036	3.69	| Q V | | | |
2+35	0.6290	3.69	| Q V | | | |
2+40	0.6544	3.69	| Q V | | | |
2+45	0.6808	3.83	| Q V| | | |
2+50	0.7087	4.06	| Q V| | | |
2+55	0.7371	4.11	| Q V| | | |
3+ 0	0.7656	4.14	| Q V | | |
3+ 5	0.7942	4.16	| Q V | | |
3+10	0.8238	4.30	| Q |V | | |
3+15	0.8550	4.53	| 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 01/03/22 File: 20522PRD124100.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA D1
100-YEAR 24-HOUR STORM

Drainage Area = 15.60(Ac.) = 0.024 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 15.60(Ac.) = 0.024 Sq. Mi.
Length along longest watercourse = 1690.00(Ft.)
Length along longest watercourse measured to centroid = 955.00(Ft.)
Length along longest watercourse = 0.320 Mi.
Length along longest watercourse measured to centroid = 0.181 Mi.
Difference in elevation = 9.50(Ft.)
Slope along watercourse = 29.6805 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.064 Hr.
Lag time = 3.84 Min.
25% of lag time = 0.96 Min.
40% of lag time = 1.54 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]
15.60	1.60	24.96

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
15.60	4.00	62.40

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 4.000(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.000(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
15.600	69.00	0.910

Total Area Entered = 15.60(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
69.0	84.4	0.194	0.910	0.035	1.000	0.035
					Sum (F) =	0.035

Area averaged mean soil loss (F) (In/Hr) = 0.035
Minimum soil loss rate ((In/Hr)) = 0.018
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.172

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)
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2	0.167	260.327	48.283	7.591
3	0.250	390.491	12.489	1.964
4	0.333	520.654	5.585	0.878
5	0.417	650.818	3.068	0.482
6	0.500	780.981	1.669	0.262
7	0.583	911.145	0.841	0.132
		Sum = 100.000	Sum=	15.722

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.032	(0.062)	0.006	0.026
2	0.17	0.07	0.032	(0.062)	0.006	0.026
3	0.25	0.07	0.032	(0.062)	0.006	0.026
4	0.33	0.10	0.048	(0.061)	0.008	0.040
5	0.42	0.10	0.048	(0.061)	0.008	0.040
6	0.50	0.10	0.048	(0.061)	0.008	0.040
7	0.58	0.10	0.048	(0.061)	0.008	0.040
8	0.67	0.10	0.048	(0.061)	0.008	0.040
9	0.75	0.10	0.048	(0.060)	0.008	0.040
10	0.83	0.13	0.064	(0.060)	0.011	0.053
11	0.92	0.13	0.064	(0.060)	0.011	0.053
12	1.00	0.13	0.064	(0.060)	0.011	0.053

13	1.08	0.10	0.048	(0.059)	0.008	0.040
14	1.17	0.10	0.048	(0.059)	0.008	0.040
15	1.25	0.10	0.048	(0.059)	0.008	0.040
16	1.33	0.10	0.048	(0.059)	0.008	0.040
17	1.42	0.10	0.048	(0.058)	0.008	0.040
18	1.50	0.10	0.048	(0.058)	0.008	0.040
19	1.58	0.10	0.048	(0.058)	0.008	0.040
20	1.67	0.10	0.048	(0.058)	0.008	0.040
21	1.75	0.10	0.048	(0.057)	0.008	0.040
22	1.83	0.13	0.064	(0.057)	0.011	0.053
23	1.92	0.13	0.064	(0.057)	0.011	0.053
24	2.00	0.13	0.064	(0.057)	0.011	0.053
25	2.08	0.13	0.064	(0.057)	0.011	0.053
26	2.17	0.13	0.064	(0.056)	0.011	0.053
27	2.25	0.13	0.064	(0.056)	0.011	0.053
28	2.33	0.13	0.064	(0.056)	0.011	0.053
29	2.42	0.13	0.064	(0.056)	0.011	0.053
30	2.50	0.13	0.064	(0.055)	0.011	0.053
31	2.58	0.17	0.080	(0.055)	0.014	0.066
32	2.67	0.17	0.080	(0.055)	0.014	0.066
33	2.75	0.17	0.080	(0.055)	0.014	0.066
34	2.83	0.17	0.080	(0.055)	0.014	0.066
35	2.92	0.17	0.080	(0.054)	0.014	0.066
36	3.00	0.17	0.080	(0.054)	0.014	0.066
37	3.08	0.17	0.080	(0.054)	0.014	0.066
38	3.17	0.17	0.080	(0.054)	0.014	0.066
39	3.25	0.17	0.080	(0.053)	0.014	0.066
40	3.33	0.17	0.080	(0.053)	0.014	0.066
41	3.42	0.17	0.080	(0.053)	0.014	0.066
42	3.50	0.17	0.080	(0.053)	0.014	0.066
43	3.58	0.17	0.080	(0.053)	0.014	0.066
44	3.67	0.17	0.080	(0.052)	0.014	0.066
45	3.75	0.17	0.080	(0.052)	0.014	0.066
46	3.83	0.20	0.096	(0.052)	0.017	0.079
47	3.92	0.20	0.096	(0.052)	0.017	0.079
48	4.00	0.20	0.096	(0.051)	0.017	0.079
49	4.08	0.20	0.096	(0.051)	0.017	0.079
50	4.17	0.20	0.096	(0.051)	0.017	0.079
51	4.25	0.20	0.096	(0.051)	0.017	0.079
52	4.33	0.23	0.112	(0.051)	0.019	0.093
53	4.42	0.23	0.112	(0.050)	0.019	0.093
54	4.50	0.23	0.112	(0.050)	0.019	0.093
55	4.58	0.23	0.112	(0.050)	0.019	0.093
56	4.67	0.23	0.112	(0.050)	0.019	0.093
57	4.75	0.23	0.112	(0.049)	0.019	0.093
58	4.83	0.27	0.128	(0.049)	0.022	0.106
59	4.92	0.27	0.128	(0.049)	0.022	0.106
60	5.00	0.27	0.128	(0.049)	0.022	0.106
61	5.08	0.20	0.096	(0.049)	0.017	0.079
62	5.17	0.20	0.096	(0.048)	0.017	0.079
63	5.25	0.20	0.096	(0.048)	0.017	0.079
64	5.33	0.23	0.112	(0.048)	0.019	0.093
65	5.42	0.23	0.112	(0.048)	0.019	0.093
66	5.50	0.23	0.112	(0.048)	0.019	0.093
67	5.58	0.27	0.128	(0.047)	0.022	0.106
68	5.67	0.27	0.128	(0.047)	0.022	0.106
69	5.75	0.27	0.128	(0.047)	0.022	0.106
70	5.83	0.27	0.128	(0.047)	0.022	0.106
71	5.92	0.27	0.128	(0.047)	0.022	0.106
72	6.00	0.27	0.128	(0.046)	0.022	0.106

73	6.08	0.30	0.144	(0.046)	0.025	0.119
74	6.17	0.30	0.144	(0.046)	0.025	0.119
75	6.25	0.30	0.144	(0.046)	0.025	0.119
76	6.33	0.30	0.144	(0.045)	0.025	0.119
77	6.42	0.30	0.144	(0.045)	0.025	0.119
78	6.50	0.30	0.144	(0.045)	0.025	0.119
79	6.58	0.33	0.160	(0.045)	0.028	0.132
80	6.67	0.33	0.160	(0.045)	0.028	0.132
81	6.75	0.33	0.160	(0.044)	0.028	0.132
82	6.83	0.33	0.160	(0.044)	0.028	0.132
83	6.92	0.33	0.160	(0.044)	0.028	0.132
84	7.00	0.33	0.160	(0.044)	0.028	0.132
85	7.08	0.33	0.160	(0.044)	0.028	0.132
86	7.17	0.33	0.160	(0.043)	0.028	0.132
87	7.25	0.33	0.160	(0.043)	0.028	0.132
88	7.33	0.37	0.176	(0.043)	0.030	0.146
89	7.42	0.37	0.176	(0.043)	0.030	0.146
90	7.50	0.37	0.176	(0.043)	0.030	0.146
91	7.58	0.40	0.192	(0.042)	0.033	0.159
92	7.67	0.40	0.192	(0.042)	0.033	0.159
93	7.75	0.40	0.192	(0.042)	0.033	0.159
94	7.83	0.43	0.208	(0.042)	0.036	0.172
95	7.92	0.43	0.208	(0.042)	0.036	0.172
96	8.00	0.43	0.208	(0.042)	0.036	0.172
97	8.08	0.50	0.240	(0.041)	0.041	0.199
98	8.17	0.50	0.240	0.041	(0.041)	0.199
99	8.25	0.50	0.240	0.041	(0.041)	0.199
100	8.33	0.50	0.240	0.041	(0.041)	0.199
101	8.42	0.50	0.240	0.041	(0.041)	0.199
102	8.50	0.50	0.240	0.040	(0.041)	0.200
103	8.58	0.53	0.256	0.040	(0.044)	0.216
104	8.67	0.53	0.256	0.040	(0.044)	0.216
105	8.75	0.53	0.256	0.040	(0.044)	0.216
106	8.83	0.57	0.272	0.040	(0.047)	0.232
107	8.92	0.57	0.272	0.039	(0.047)	0.233
108	9.00	0.57	0.272	0.039	(0.047)	0.233
109	9.08	0.63	0.304	0.039	(0.052)	0.265
110	9.17	0.63	0.304	0.039	(0.052)	0.265
111	9.25	0.63	0.304	0.039	(0.052)	0.265
112	9.33	0.67	0.320	0.039	(0.055)	0.281
113	9.42	0.67	0.320	0.038	(0.055)	0.282
114	9.50	0.67	0.320	0.038	(0.055)	0.282
115	9.58	0.70	0.336	0.038	(0.058)	0.298
116	9.67	0.70	0.336	0.038	(0.058)	0.298
117	9.75	0.70	0.336	0.038	(0.058)	0.298
118	9.83	0.73	0.352	0.037	(0.061)	0.315
119	9.92	0.73	0.352	0.037	(0.061)	0.315
120	10.00	0.73	0.352	0.037	(0.061)	0.315
121	10.08	0.50	0.240	0.037	(0.041)	0.203
122	10.17	0.50	0.240	0.037	(0.041)	0.203
123	10.25	0.50	0.240	0.037	(0.041)	0.203
124	10.33	0.50	0.240	0.036	(0.041)	0.204
125	10.42	0.50	0.240	0.036	(0.041)	0.204
126	10.50	0.50	0.240	0.036	(0.041)	0.204
127	10.58	0.67	0.320	0.036	(0.055)	0.284
128	10.67	0.67	0.320	0.036	(0.055)	0.284
129	10.75	0.67	0.320	0.035	(0.055)	0.285
130	10.83	0.67	0.320	0.035	(0.055)	0.285
131	10.92	0.67	0.320	0.035	(0.055)	0.285
132	11.00	0.67	0.320	0.035	(0.055)	0.285

133	11.08	0.63	0.304	0.035	(0.052)	0.269
134	11.17	0.63	0.304	0.035	(0.052)	0.269
135	11.25	0.63	0.304	0.034	(0.052)	0.270
136	11.33	0.63	0.304	0.034	(0.052)	0.270
137	11.42	0.63	0.304	0.034	(0.052)	0.270
138	11.50	0.63	0.304	0.034	(0.052)	0.270
139	11.58	0.57	0.272	0.034	(0.047)	0.238
140	11.67	0.57	0.272	0.034	(0.047)	0.238
141	11.75	0.57	0.272	0.033	(0.047)	0.239
142	11.83	0.60	0.288	0.033	(0.050)	0.255
143	11.92	0.60	0.288	0.033	(0.050)	0.255
144	12.00	0.60	0.288	0.033	(0.050)	0.255
145	12.08	0.83	0.400	0.033	(0.069)	0.367
146	12.17	0.83	0.400	0.033	(0.069)	0.367
147	12.25	0.83	0.400	0.032	(0.069)	0.368
148	12.33	0.87	0.416	0.032	(0.072)	0.384
149	12.42	0.87	0.416	0.032	(0.072)	0.384
150	12.50	0.87	0.416	0.032	(0.072)	0.384
151	12.58	0.93	0.448	0.032	(0.077)	0.416
152	12.67	0.93	0.448	0.032	(0.077)	0.416
153	12.75	0.93	0.448	0.031	(0.077)	0.417
154	12.83	0.97	0.464	0.031	(0.080)	0.433
155	12.92	0.97	0.464	0.031	(0.080)	0.433
156	13.00	0.97	0.464	0.031	(0.080)	0.433
157	13.08	1.13	0.544	0.031	(0.094)	0.513
158	13.17	1.13	0.544	0.031	(0.094)	0.513
159	13.25	1.13	0.544	0.031	(0.094)	0.513
160	13.33	1.13	0.544	0.030	(0.094)	0.514
161	13.42	1.13	0.544	0.030	(0.094)	0.514
162	13.50	1.13	0.544	0.030	(0.094)	0.514
163	13.58	0.77	0.368	0.030	(0.063)	0.338
164	13.67	0.77	0.368	0.030	(0.063)	0.338
165	13.75	0.77	0.368	0.030	(0.063)	0.338
166	13.83	0.77	0.368	0.029	(0.063)	0.339
167	13.92	0.77	0.368	0.029	(0.063)	0.339
168	14.00	0.77	0.368	0.029	(0.063)	0.339
169	14.08	0.90	0.432	0.029	(0.074)	0.403
170	14.17	0.90	0.432	0.029	(0.074)	0.403
171	14.25	0.90	0.432	0.029	(0.074)	0.403
172	14.33	0.87	0.416	0.029	(0.072)	0.387
173	14.42	0.87	0.416	0.028	(0.072)	0.388
174	14.50	0.87	0.416	0.028	(0.072)	0.388
175	14.58	0.87	0.416	0.028	(0.072)	0.388
176	14.67	0.87	0.416	0.028	(0.072)	0.388
177	14.75	0.87	0.416	0.028	(0.072)	0.388
178	14.83	0.83	0.400	0.028	(0.069)	0.372
179	14.92	0.83	0.400	0.028	(0.069)	0.372
180	15.00	0.83	0.400	0.027	(0.069)	0.373
181	15.08	0.80	0.384	0.027	(0.066)	0.357
182	15.17	0.80	0.384	0.027	(0.066)	0.357
183	15.25	0.80	0.384	0.027	(0.066)	0.357
184	15.33	0.77	0.368	0.027	(0.063)	0.341
185	15.42	0.77	0.368	0.027	(0.063)	0.341
186	15.50	0.77	0.368	0.027	(0.063)	0.341
187	15.58	0.63	0.304	0.026	(0.052)	0.278
188	15.67	0.63	0.304	0.026	(0.052)	0.278
189	15.75	0.63	0.304	0.026	(0.052)	0.278
190	15.83	0.63	0.304	0.026	(0.052)	0.278
191	15.92	0.63	0.304	0.026	(0.052)	0.278
192	16.00	0.63	0.304	0.026	(0.052)	0.278

193	16.08	0.13	0.064	(0.026)	0.011	0.053
194	16.17	0.13	0.064	(0.026)	0.011	0.053
195	16.25	0.13	0.064	(0.025)	0.011	0.053
196	16.33	0.13	0.064	(0.025)	0.011	0.053
197	16.42	0.13	0.064	(0.025)	0.011	0.053
198	16.50	0.13	0.064	(0.025)	0.011	0.053
199	16.58	0.10	0.048	(0.025)	0.008	0.040
200	16.67	0.10	0.048	(0.025)	0.008	0.040
201	16.75	0.10	0.048	(0.025)	0.008	0.040
202	16.83	0.10	0.048	(0.024)	0.008	0.040
203	16.92	0.10	0.048	(0.024)	0.008	0.040
204	17.00	0.10	0.048	(0.024)	0.008	0.040
205	17.08	0.17	0.080	(0.024)	0.014	0.066
206	17.17	0.17	0.080	(0.024)	0.014	0.066
207	17.25	0.17	0.080	(0.024)	0.014	0.066
208	17.33	0.17	0.080	(0.024)	0.014	0.066
209	17.42	0.17	0.080	(0.024)	0.014	0.066
210	17.50	0.17	0.080	(0.024)	0.014	0.066
211	17.58	0.17	0.080	(0.023)	0.014	0.066
212	17.67	0.17	0.080	(0.023)	0.014	0.066
213	17.75	0.17	0.080	(0.023)	0.014	0.066
214	17.83	0.13	0.064	(0.023)	0.011	0.053
215	17.92	0.13	0.064	(0.023)	0.011	0.053
216	18.00	0.13	0.064	(0.023)	0.011	0.053
217	18.08	0.13	0.064	(0.023)	0.011	0.053
218	18.17	0.13	0.064	(0.023)	0.011	0.053
219	18.25	0.13	0.064	(0.022)	0.011	0.053
220	18.33	0.13	0.064	(0.022)	0.011	0.053
221	18.42	0.13	0.064	(0.022)	0.011	0.053
222	18.50	0.13	0.064	(0.022)	0.011	0.053
223	18.58	0.10	0.048	(0.022)	0.008	0.040
224	18.67	0.10	0.048	(0.022)	0.008	0.040
225	18.75	0.10	0.048	(0.022)	0.008	0.040
226	18.83	0.07	0.032	(0.022)	0.006	0.026
227	18.92	0.07	0.032	(0.022)	0.006	0.026
228	19.00	0.07	0.032	(0.022)	0.006	0.026
229	19.08	0.10	0.048	(0.021)	0.008	0.040
230	19.17	0.10	0.048	(0.021)	0.008	0.040
231	19.25	0.10	0.048	(0.021)	0.008	0.040
232	19.33	0.13	0.064	(0.021)	0.011	0.053
233	19.42	0.13	0.064	(0.021)	0.011	0.053
234	19.50	0.13	0.064	(0.021)	0.011	0.053
235	19.58	0.10	0.048	(0.021)	0.008	0.040
236	19.67	0.10	0.048	(0.021)	0.008	0.040
237	19.75	0.10	0.048	(0.021)	0.008	0.040
238	19.83	0.07	0.032	(0.021)	0.006	0.026
239	19.92	0.07	0.032	(0.020)	0.006	0.026
240	20.00	0.07	0.032	(0.020)	0.006	0.026
241	20.08	0.10	0.048	(0.020)	0.008	0.040
242	20.17	0.10	0.048	(0.020)	0.008	0.040
243	20.25	0.10	0.048	(0.020)	0.008	0.040
244	20.33	0.10	0.048	(0.020)	0.008	0.040
245	20.42	0.10	0.048	(0.020)	0.008	0.040
246	20.50	0.10	0.048	(0.020)	0.008	0.040
247	20.58	0.10	0.048	(0.020)	0.008	0.040
248	20.67	0.10	0.048	(0.020)	0.008	0.040
249	20.75	0.10	0.048	(0.020)	0.008	0.040
250	20.83	0.07	0.032	(0.020)	0.006	0.026
251	20.92	0.07	0.032	(0.019)	0.006	0.026
252	21.00	0.07	0.032	(0.019)	0.006	0.026

253	21.08	0.10	0.048	(0.019)	0.008	0.040
254	21.17	0.10	0.048	(0.019)	0.008	0.040
255	21.25	0.10	0.048	(0.019)	0.008	0.040
256	21.33	0.07	0.032	(0.019)	0.006	0.026
257	21.42	0.07	0.032	(0.019)	0.006	0.026
258	21.50	0.07	0.032	(0.019)	0.006	0.026
259	21.58	0.10	0.048	(0.019)	0.008	0.040
260	21.67	0.10	0.048	(0.019)	0.008	0.040
261	21.75	0.10	0.048	(0.019)	0.008	0.040
262	21.83	0.07	0.032	(0.019)	0.006	0.026
263	21.92	0.07	0.032	(0.019)	0.006	0.026
264	22.00	0.07	0.032	(0.019)	0.006	0.026
265	22.08	0.10	0.048	(0.018)	0.008	0.040
266	22.17	0.10	0.048	(0.018)	0.008	0.040
267	22.25	0.10	0.048	(0.018)	0.008	0.040
268	22.33	0.07	0.032	(0.018)	0.006	0.026
269	22.42	0.07	0.032	(0.018)	0.006	0.026
270	22.50	0.07	0.032	(0.018)	0.006	0.026
271	22.58	0.07	0.032	(0.018)	0.006	0.026
272	22.67	0.07	0.032	(0.018)	0.006	0.026
273	22.75	0.07	0.032	(0.018)	0.006	0.026
274	22.83	0.07	0.032	(0.018)	0.006	0.026
275	22.92	0.07	0.032	(0.018)	0.006	0.026
276	23.00	0.07	0.032	(0.018)	0.006	0.026
277	23.08	0.07	0.032	(0.018)	0.006	0.026
278	23.17	0.07	0.032	(0.018)	0.006	0.026
279	23.25	0.07	0.032	(0.018)	0.006	0.026
280	23.33	0.07	0.032	(0.018)	0.006	0.026
281	23.42	0.07	0.032	(0.018)	0.006	0.026
282	23.50	0.07	0.032	(0.018)	0.006	0.026
283	23.58	0.07	0.032	(0.018)	0.006	0.026
284	23.67	0.07	0.032	(0.018)	0.006	0.026
285	23.75	0.07	0.032	(0.018)	0.006	0.026
286	23.83	0.07	0.032	(0.018)	0.006	0.026
287	23.92	0.07	0.032	(0.018)	0.006	0.026
288	24.00	0.07	0.032	(0.018)	0.006	0.026

(Loss Rate Not Used)

Sum = 100.0 Sum = 42.3

Flood volume = Effective rainfall 3.53(In)
times area 15.6(Ac.)/[(In)/(Ft.)] = 4.6(Ac.Ft)
Total soil loss = 0.47(In)
Total soil loss = 0.613(Ac.Ft)
Total rainfall = 4.00(In)
Flood volume = 199794.7 Cubic Feet
Total soil loss = 26710.4 Cubic Feet

Peak flow rate of this hydrograph = 8.071(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0008	0.12	Q	|	|	|	|
0+10	0.0030	0.32	VQ	|	|	|	|
0+15	0.0055	0.37	VQ	|	|	|	|

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0+20       0.0087      0.45  VQ        |         |         |         |
0+25       0.0126      0.57  V Q       |         |         |         |
0+30       0.0167      0.60  V Q       |         |         |         |
0+35       0.0209      0.61  V Q       |         |         |         |
0+40       0.0252      0.62  V Q       |         |         |         |
0+45       0.0295      0.62  V Q       |         |         |         |
0+50       0.0342      0.68  V Q       |         |         |         |
0+55       0.0396      0.78  V  Q      |         |         |         |
1+ 0       0.0452      0.81  V  Q      |         |         |         |
1+ 5       0.0504      0.76  V  Q      |         |         |         |
1+10       0.0550      0.67  V Q       |         |         |         |
1+15       0.0595      0.65  V Q       |         |         |         |
1+20       0.0639      0.64  V Q       |         |         |         |
1+25       0.0682      0.63  V Q       |         |         |         |
1+30       0.0725      0.63  V Q       |         |         |         |
1+35       0.0768      0.63  V Q       |         |         |         |
1+40       0.0811      0.63  V Q       |         |         |         |
1+45       0.0854      0.63  V Q       |         |         |         |
1+50       0.0901      0.68  V Q       |         |         |         |
1+55       0.0955      0.78  V  Q      |         |         |         |
2+ 0       0.1011      0.81  V  Q      |         |         |         |
2+ 5       0.1068      0.82  V  Q      |         |         |         |
2+10       0.1125      0.83  V  Q      |         |         |         |
2+15       0.1182      0.83  |V Q      |         |         |         |
2+20       0.1240      0.83  |V Q      |         |         |         |
2+25       0.1297      0.83  |V Q      |         |         |         |
2+30       0.1354      0.83  |V Q      |         |         |         |
2+35       0.1416      0.89  |V Q      |         |         |         |
2+40       0.1484      0.99  |V Q      |         |         |         |
2+45       0.1554      1.02  |V  Q     |         |         |         |
2+50       0.1625      1.03  |V  Q     |         |         |         |
2+55       0.1697      1.04  |V  Q     |         |         |         |
3+ 0       0.1768      1.04  |V  Q     |         |         |         |
3+ 5       0.1840      1.04  |V  Q     |         |         |         |
3+10       0.1912      1.04  |V  Q     |         |         |         |
3+15       0.1984      1.04  |V  Q     |         |         |         |
3+20       0.2055      1.04  |V  Q     |         |         |         |
3+25       0.2127      1.04  |V  Q     |         |         |         |
3+30       0.2199      1.04  |V  Q     |         |         |         |
3+35       0.2271      1.04  |V  Q     |         |         |         |
3+40       0.2342      1.04  | V Q     |         |         |         |
3+45       0.2414      1.04  | V Q     |         |         |         |
3+50       0.2490      1.10  | V Q     |         |         |         |
3+55       0.2573      1.20  | V Q     |         |         |         |
4+ 0       0.2657      1.23  | V Q     |         |         |         |
4+ 5       0.2742      1.24  | V Q     |         |         |         |
4+10       0.2828      1.25  | V Q     |         |         |         |
4+15       0.2914      1.25  | V Q     |         |         |         |
4+20       0.3004      1.31  | V  Q    |         |         |         |
4+25       0.3101      1.41  | V  Q    |         |         |         |
4+30       0.3200      1.44  | V  Q    |         |         |         |
4+35       0.3300      1.45  | V  Q    |         |         |         |
4+40       0.3400      1.45  | V  Q    |         |         |         |
4+45       0.3500      1.46  |  V Q    |         |         |         |
4+50       0.3605      1.52  |  V  Q   |         |         |         |
4+55       0.3716      1.62  |  V  Q   |         |         |         |
5+ 0       0.3830      1.64  |  V  Q   |         |         |         |
5+ 5       0.3935      1.54  |  V  Q   |         |         |         |
5+10       0.4028      1.34  |  V Q    |         |         |         |
5+15       0.4117      1.30  |  V Q    |         |         |         |
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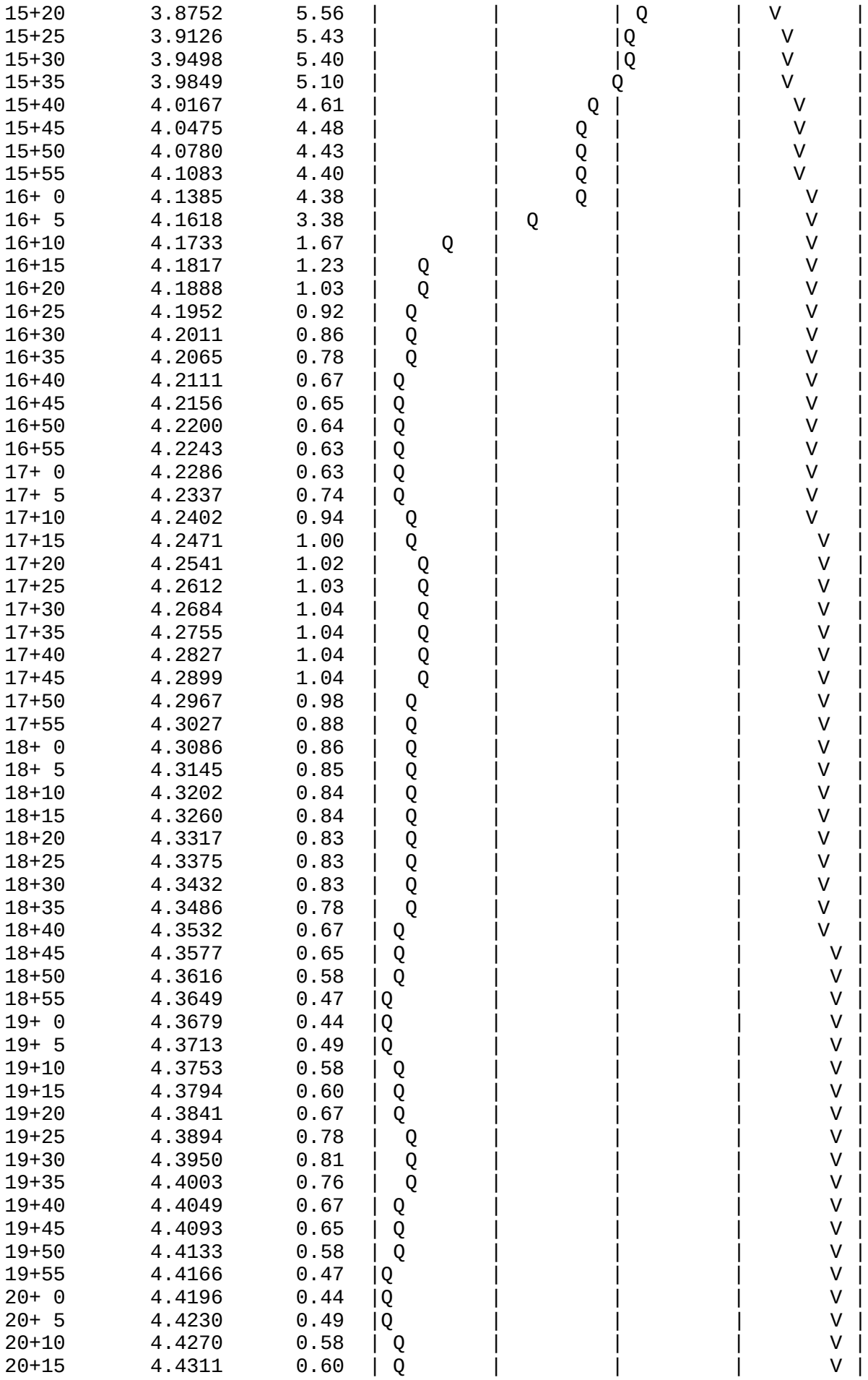
5+20	0.4209	1.33	V Q				
5+25	0.4307	1.42	V Q				
5+30	0.4406	1.44	V Q				
5+35	0.4510	1.51	V Q				
5+40	0.4621	1.61	V Q				
5+45	0.4734	1.64	V Q				
5+50	0.4848	1.66	V Q				
5+55	0.4962	1.66	V Q				
6+ 0	0.5077	1.67	V Q				
6+ 5	0.5196	1.73	V Q				
6+10	0.5321	1.83	V Q				
6+15	0.5449	1.85	V Q				
6+20	0.5577	1.86	V Q				
6+25	0.5706	1.87	V Q				
6+30	0.5835	1.87	V Q				
6+35	0.5968	1.93	V Q				
6+40	0.6109	2.03	V Q				
6+45	0.6250	2.06	V Q				
6+50	0.6393	2.07	V Q				
6+55	0.6536	2.08	V Q				
7+ 0	0.6680	2.08	V Q				
7+ 5	0.6823	2.08	V Q				
7+10	0.6967	2.08	V Q				
7+15	0.7110	2.08	V Q				
7+20	0.7258	2.14	V Q				
7+25	0.7412	2.24	V Q				
7+30	0.7569	2.27	V Q				
7+35	0.7730	2.34	V Q				
7+40	0.7898	2.45	V Q				
7+45	0.8069	2.48	V Q				
7+50	0.8244	2.55	V Q				
7+55	0.8427	2.65	V Q				
8+ 0	0.8612	2.68	V Q				
8+ 5	0.8806	2.81	V Q				
8+10	0.9014	3.02	V Q				
8+15	0.9226	3.08	V Q				
8+20	0.9440	3.11	V Q				
8+25	0.9655	3.12	V Q				
8+30	0.9871	3.13	V Q				
8+35	1.0092	3.21	V Q				
8+40	1.0321	3.33	V Q				
8+45	1.0553	3.37	V Q				
8+50	1.0792	3.46	V Q				
8+55	1.1039	3.59	V Q				
9+ 0	1.1289	3.63	V Q				
9+ 5	1.1549	3.79	V Q				
9+10	1.1828	4.04	V Q				
9+15	1.2111	4.11	V Q				
9+20	1.2401	4.22	V Q				
9+25	1.2701	4.36	V Q				
9+30	1.3004	4.40	V Q				
9+35	1.3313	4.49	V Q				
9+40	1.3632	4.62	V Q				
9+45	1.3953	4.66	V Q				
9+50	1.4280	4.75	V Q				
9+55	1.4616	4.88	V Q				
10+ 0	1.4955	4.92	V Q				
10+ 5	1.5261	4.45	V Q				
10+10	1.5509	3.61	VQ				
10+15	1.5743	3.39	Q				

10+20	1.5970	3.30		Q			
10+25	1.6194	3.25		Q V			
10+30	1.6415	3.22		Q V			
10+35	1.6661	3.56		Q			
10+40	1.6948	4.17		V Q			
10+45	1.7246	4.33		V Q			
10+50	1.7550	4.41		V Q			
10+55	1.7856	4.45		V Q			
11+ 0	1.8164	4.47		V Q			
11+ 5	1.8468	4.41		VQ			
11+10	1.8764	4.29		VQ			
11+15	1.9057	4.27		VQ			
11+20	1.9350	4.25		VQ			
11+25	1.9643	4.25		QV			
11+30	1.9935	4.25		QV			
11+35	2.0218	4.11		QV			
11+40	2.0484	3.87		Q V			
11+45	2.0747	3.81		Q V			
11+50	2.1012	3.85		Q V			
11+55	2.1285	3.96		Q V			
12+ 0	2.1559	3.99		Q V			
12+ 5	2.1868	4.49		Q V			
12+10	2.2237	5.35		V	Q		
12+15	2.2621	5.58		V	Q		
12+20	2.3018	5.75		V	Q		
12+25	2.3426	5.93		V	Q		
12+30	2.3839	6.00		V	Q		
12+35	2.4264	6.17		V	Q		
12+40	2.4706	6.42		V	Q		
12+45	2.5153	6.49		V	Q		
12+50	2.5607	6.59		V	Q		
12+55	2.6071	6.73		V	Q		
13+ 0	2.6538	6.78		V	Q		
13+ 5	2.7030	7.15		V	Q		
13+10	2.7565	7.77		V		Q	
13+15	2.8111	7.93		V		Q	
13+20	2.8663	8.01		V		Q	
13+25	2.9217	8.05		V		Q	
13+30	2.9773	8.07		V		Q	
13+35	3.0276	7.31		V	Q		
13+40	3.0687	5.97		Q	V		
13+45	3.1075	5.63		Q	V		
13+50	3.1452	5.48		Q	V		
13+55	3.1824	5.39		Q	V		
14+ 0	3.2192	5.35		Q	V		
14+ 5	3.2579	5.61		Q	V		
14+10	3.2999	6.10		Q	V		
14+15	3.3428	6.23		Q	V		
14+20	3.3856	6.22		Q	V		
14+25	3.4278	6.13		Q	V		
14+30	3.4699	6.12		Q	V		
14+35	3.5120	6.11		Q	V		
14+40	3.5541	6.11		Q	V		
14+45	3.5961	6.11		Q	V		
14+50	3.6377	6.03		Q	V		
14+55	3.6784	5.92		Q	V		
15+ 0	3.7190	5.89		Q	V		
15+ 5	3.7589	5.80		Q	V		
15+10	3.7980	5.68		Q	V		
15+15	3.8369	5.64		Q	V		



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  20+20       4.4353      0.61  | Q       |         |         |       V |
  20+25       4.4396      0.62  | Q       |         |         |       V |
  20+30       4.4439      0.62  | Q       |         |         |       V |
  20+35       4.4482      0.63  | Q       |         |         |       V |
  20+40       4.4525      0.63  | Q       |         |         |       V |
  20+45       4.4568      0.63  | Q       |         |         |       V |
  20+50       4.4607      0.57  | Q       |         |         |       V |
  20+55       4.4639      0.47  |Q        |         |         |       V |
  21+ 0       4.4670      0.44  |Q        |         |         |       V |
  21+ 5       4.4703      0.49  |Q        |         |         |       V |
  21+10       4.4743      0.58  | Q       |         |         |        V|
  21+15       4.4785      0.60  | Q       |         |         |        V|
  21+20       4.4823      0.56  | Q       |         |         |        V|
  21+25       4.4855      0.46  |Q        |         |         |        V|
  21+30       4.4885      0.44  |Q        |         |         |        V|
  21+35       4.4918      0.49  |Q        |         |         |        V|
  21+40       4.4958      0.58  | Q       |         |         |        V|
  21+45       4.5000      0.60  | Q       |         |         |        V|
  21+50       4.5038      0.56  | Q       |         |         |        V|
  21+55       4.5070      0.46  |Q        |         |         |        V|
  22+ 0       4.5100      0.44  |Q        |         |         |        V|
  22+ 5       4.5134      0.49  |Q        |         |         |        V|
  22+10       4.5174      0.58  | Q       |         |         |        V|
  22+15       4.5215      0.60  | Q       |         |         |        V|
  22+20       4.5253      0.56  | Q       |         |         |        V|
  22+25       4.5285      0.46  |Q        |         |         |        V|
  22+30       4.5315      0.44  |Q        |         |         |        V|
  22+35       4.5345      0.43  |Q        |         |         |        V|
  22+40       4.5374      0.42  |Q        |         |         |        V|
  22+45       4.5403      0.42  |Q        |         |         |        V|
  22+50       4.5432      0.42  |Q        |         |         |        V|
  22+55       4.5460      0.42  |Q        |         |         |        V|
  23+ 0       4.5489      0.42  |Q        |         |         |        V|
  23+ 5       4.5518      0.42  |Q        |         |         |        V|
  23+10       4.5546      0.42  |Q        |         |         |        V|
  23+15       4.5575      0.42  |Q        |         |         |        V|
  23+20       4.5604      0.42  |Q        |         |         |        V|
  23+25       4.5632      0.42  |Q        |         |         |        V|
  23+30       4.5661      0.42  |Q        |         |         |        V|
  23+35       4.5690      0.42  |Q        |         |         |        V|
  23+40       4.5719      0.42  |Q        |         |         |        V|
  23+45       4.5747      0.42  |Q        |         |         |        V|
  23+50       4.5776      0.42  |Q        |         |         |        V|
  23+55       4.5805      0.42  |Q        |         |         |        V|
  24+ 0       4.5833      0.42  |Q        |         |         |        V|
  24+ 5       4.5854      0.30  |Q        |         |         |        V|
  24+10       4.5861      0.10  Q         |         |         |        V|
  24+15       4.5864      0.05  Q         |         |         |        V|
  24+20       4.5866      0.02  Q         |         |         |        V|
  24+25       4.5866      0.01  Q         |         |         |        V|
  24+30       4.5867      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 01/03/22 File: 20522PRD21100.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA D2
100-YEAR 1-HOUR STORM

Drainage Area = 4.60(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.60(Ac.) = 0.007 Sq. Mi.
Length along longest watercourse = 600.00(Ft.)
Length along longest watercourse measured to centroid = 292.00(Ft.)
Length along longest watercourse = 0.114 Mi.
Length along longest watercourse measured to centroid = 0.055 Mi.
Difference in elevation = 7.70(Ft.)
Slope along watercourse = 67.7600 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.024 Hr.
Lag time = 1.41 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.56 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.60	0.50	2.30

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.60	1.20	5.52

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
4.600	69.00	0.960

Total Area Entered = 4.60(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
69.0	84.4	0.194	0.960	0.026	1.000	0.026
					Sum (F) =	0.026

Area averaged mean soil loss (F) (In/Hr) = 0.026
Minimum soil loss rate ((In/Hr)) = 0.013
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.132

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

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	354.046	61.632	2.857
2	0.167	708.093	34.323	1.591
3	0.250	1062.139	4.045	0.188
		Sum = 100.000	Sum=	4.636

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	4.40	0.634	0.026	(0.084)	0.607
2	0.17	4.50	0.648	0.026	(0.086)	0.622
3	0.25	5.40	0.778	0.026	(0.103)	0.751
4	0.33	5.40	0.778	0.026	(0.103)	0.751
5	0.42	5.70	0.821	0.026	(0.108)	0.794
6	0.50	6.40	0.922	0.026	(0.122)	0.895
7	0.58	7.90	1.138	0.026	(0.150)	1.111
8	0.67	9.10	1.310	0.026	(0.173)	1.284
9	0.75	12.80	1.843	0.026	(0.243)	1.817
10	0.83	25.60	3.686	0.026	(0.487)	3.660
11	0.92	7.90	1.138	0.026	(0.150)	1.111
12	1.00	4.90	0.706	0.026	(0.093)	0.679
	(Loss Rate Not Used)					
Sum =	100.0				Sum =	14.1

```
    Flood volume = Effective rainfall      1.17(In)
     times area       4.6(Ac.)/[(In)/(Ft.)] =       0.4(Ac.Ft)
    Total soil loss =      0.03(In)
    Total soil loss =     0.010(Ac.Ft)
    Total rainfall =      1.20(In)
    Flood volume =       19596.6 Cubic Feet
    Total soil loss =         440.2 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =     13.596(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       0.0120      1.74  |V Q      |          |          |          |
   0+10       0.0309      2.74  | V  Q    |          |          |          |
   0+15       0.0532      3.25  |   V Q   |          |          |          |
   0+20       0.0771      3.46  |     Q   |          |          |          |
   0+25       0.1019      3.61  |      Q V|          |          |          |
   0+30       0.1292      3.96  |      Q  |V         |          |          |
   0+35       0.1619      4.75  |        Q|   V      |          |          |
   0+40       0.2006      5.61  |         |Q     V   |          |          |
   0+45       0.2518      7.45  |         |   Q      | V        |          |
   0+50       0.3455     13.60  |         |          |      Q   V          |
   0+55       0.4098      9.34  |         |        Q |          |     V    |
   1+ 0       0.4401      4.40  |       Q |          |          |        V |
   1+ 5       0.4490      1.29  | Q       |          |          |        V |
   1+10       0.4499      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 01/03/22 File: 20522PRD23100.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA D2
100-YEAR 3-HOUR STORM

Drainage Area = 4.60(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.60(Ac.) = 0.007 Sq. Mi.
Length along longest watercourse = 600.00(Ft.)
Length along longest watercourse measured to centroid = 292.00(Ft.)
Length along longest watercourse = 0.114 Mi.
Length along longest watercourse measured to centroid = 0.055 Mi.
Difference in elevation = 7.70(Ft.)
Slope along watercourse = 67.7600 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.024 Hr.
Lag time = 1.41 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.56 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]
4.60	0.80	3.68

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.60	1.90	8.74

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.900(In)

Point rain (area averaged) = 1.900(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.900(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
4.600	69.00	0.960

Total Area Entered = 4.60(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
69.0	84.4	0.194	0.960	0.026	1.000	0.026
					Sum (F) =	0.026

Area averaged mean soil loss (F) (In/Hr) = 0.026
Minimum soil loss rate ((In/Hr)) = 0.013
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.132

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	354.046	61.632	2.857
2	0.167	708.093	34.323	1.591
3	0.250	1062.139	4.045	0.188
			Sum = 100.000 Sum=	4.636

The following loss 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	0.296	0.026	(0.039)	0.270
2	0.17	1.30	0.296	0.026	(0.039)	0.270
3	0.25	1.10	0.251	0.026	(0.033)	0.224
4	0.33	1.50	0.342	0.026	(0.045)	0.316
5	0.42	1.50	0.342	0.026	(0.045)	0.316
6	0.50	1.80	0.410	0.026	(0.054)	0.384
7	0.58	1.50	0.342	0.026	(0.045)	0.316
8	0.67	1.80	0.410	0.026	(0.054)	0.384
9	0.75	1.80	0.410	0.026	(0.054)	0.384
10	0.83	1.50	0.342	0.026	(0.045)	0.316
11	0.92	1.60	0.365	0.026	(0.048)	0.338
12	1.00	1.80	0.410	0.026	(0.054)	0.384
13	1.08	2.20	0.502	0.026	(0.066)	0.475
14	1.17	2.20	0.502	0.026	(0.066)	0.475
15	1.25	2.20	0.502	0.026	(0.066)	0.475
16	1.33	2.00	0.456	0.026	(0.060)	0.430

17	1.42	2.60	0.593	0.026	(0.078)	0.566
18	1.50	2.70	0.616	0.026	(0.081)	0.589
19	1.58	2.40	0.547	0.026	(0.072)	0.521
20	1.67	2.70	0.616	0.026	(0.081)	0.589
21	1.75	3.30	0.752	0.026	(0.099)	0.726
22	1.83	3.10	0.707	0.026	(0.093)	0.680
23	1.92	2.90	0.661	0.026	(0.087)	0.635
24	2.00	3.00	0.684	0.026	(0.090)	0.658
25	2.08	3.10	0.707	0.026	(0.093)	0.680
26	2.17	4.20	0.958	0.026	(0.126)	0.931
27	2.25	5.00	1.140	0.026	(0.150)	1.114
28	2.33	3.50	0.798	0.026	(0.105)	0.772
29	2.42	6.80	1.550	0.026	(0.205)	1.524
30	2.50	7.30	1.664	0.026	(0.220)	1.638
31	2.58	8.20	1.870	0.026	(0.247)	1.843
32	2.67	5.90	1.345	0.026	(0.178)	1.319
33	2.75	2.00	0.456	0.026	(0.060)	0.430
34	2.83	1.80	0.410	0.026	(0.054)	0.384
35	2.92	1.80	0.410	0.026	(0.054)	0.384
36	3.00	0.60	0.137	(0.026)	0.018	0.119

(Loss Rate Not Used)

Sum = 100.0 Sum = 21.9

Flood volume = Effective rainfall 1.82(In)
times area 4.6(Ac.)/[(In)/(Ft.)] = 0.7(Ac.Ft)

Total soil loss = 0.08(In)

Total soil loss = 0.030(Ac.Ft)

Total rainfall = 1.90(In)

Flood volume = 30416.5 Cubic Feet

Total soil loss = 1309.0 Cubic Feet

Peak flow rate of this hydrograph = 8.163(CFS)

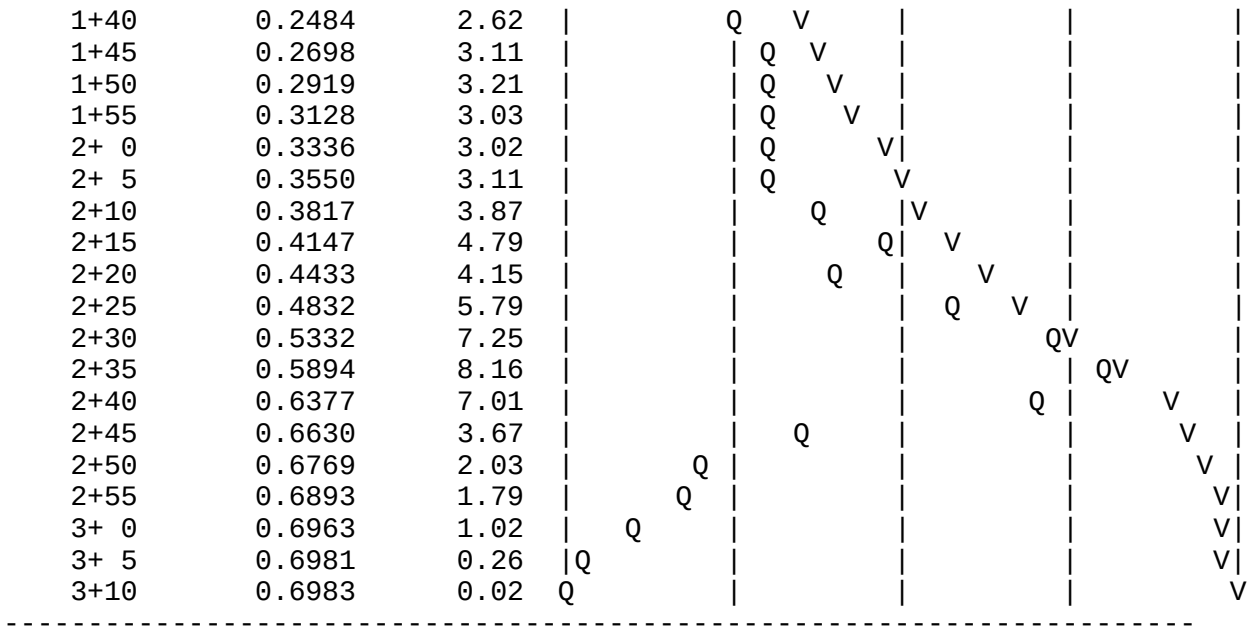
++

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	0.0053	0.77	V Q	|	|	|	|
0+10	0.0136	1.20	V Q	|	|	|	|
0+15	0.0213	1.12	|V Q	|	|	|	|
0+20	0.0303	1.31	|V Q	|	|	|	|
0+25	0.0403	1.45	| V Q	|	|	|	|
0+30	0.0517	1.66	| V Q	|	|	|	|
0+35	0.0626	1.57	| V Q	|	|	|	|
0+40	0.0741	1.67	| V Q	|	|	|	|
0+45	0.0863	1.77	| V Q	|	|	|	|
0+50	0.0972	1.59	| VQ	|	|	|	|
0+55	0.1078	1.54	| Q	|	|	|	|
1+ 0	0.1195	1.70	| Q	|	|	|	|
1+ 5	0.1335	2.03	| VQ	|	|	|	|
1+10	0.1486	2.19	| Q	|	|	|	|
1+15	0.1637	2.20	| QV	|	|	|	|
1+20	0.1780	2.07	| Q V	|	|	|	|
1+25	0.1945	2.39	| Q|V	|	|	|	|
1+30	0.2129	2.67	| Q V	|	|	|	|
1+35	0.2303	2.53	| Q V	|	|	|	|


1+40 0.2484 2.62
1+45 0.2698 3.11
1+50 0.2919 3.21
1+55 0.3128 3.03
2+ 0 0.3336 3.02
2+ 5 0.3550 3.11
2+10 0.3817 3.87
2+15 0.4147 4.79
2+20 0.4433 4.15
2+25 0.4832 5.79
2+30 0.5332 7.25
2+35 0.5894 8.16
2+40 0.6377 7.01
2+45 0.6630 3.67
2+50 0.6769 2.03
2+55 0.6893 1.79
3+ 0 0.6963 1.02
3+ 5 0.6981 0.26
3+10 0.6983 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 01/03/22 File: 20522PRD26100.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA D2
100-YEAR 6-HOUR STORM

Drainage Area = 4.60(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.60(Ac.) = 0.007 Sq. Mi.
Length along longest watercourse = 600.00(Ft.)
Length along longest watercourse measured to centroid = 292.00(Ft.)
Length along longest watercourse = 0.114 Mi.
Length along longest watercourse measured to centroid = 0.055 Mi.
Difference in elevation = 7.70(Ft.)
Slope along watercourse = 67.7600 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.024 Hr.
Lag time = 1.41 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.56 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]
4.60	1.00	4.60

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.60	2.50	11.50

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
4.600	69.00	0.960

Total Area Entered = 4.60(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
69.0	84.4	0.194	0.960	0.026	1.000	0.026
					Sum (F) =	0.026

Area averaged mean soil loss (F) (In/Hr) = 0.026
Minimum soil loss rate ((In/Hr)) = 0.013
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.132

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	354.046	61.632	2.857
2	0.167	708.093	34.323	1.591
3	0.250	1062.139	4.045	0.188
		Sum = 100.000	Sum=	4.636

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

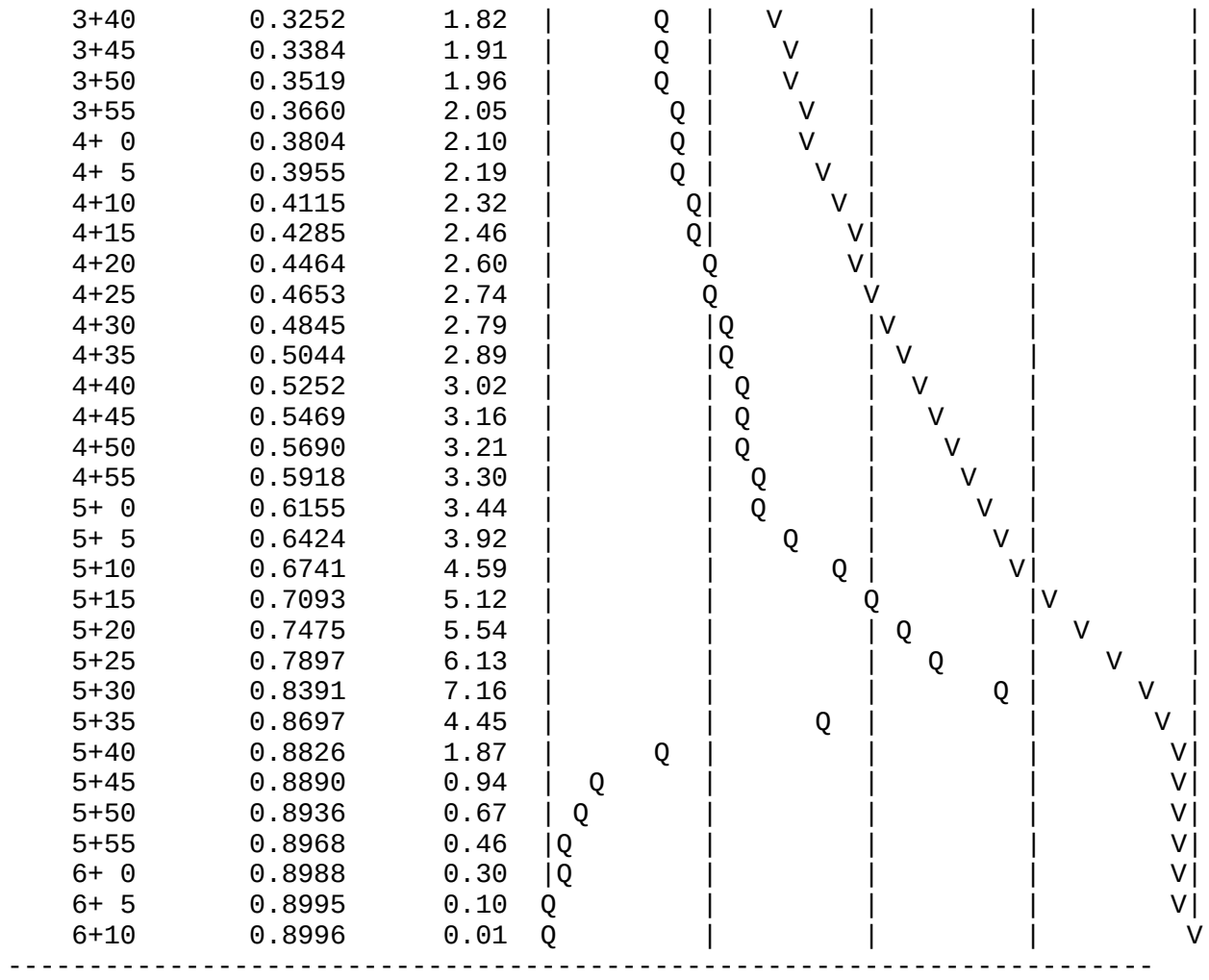
Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.150	(0.026)	0.020	0.130
2	0.17	0.60	0.180	(0.026)	0.024	0.156
3	0.25	0.60	0.180	(0.026)	0.024	0.156
4	0.33	0.60	0.180	(0.026)	0.024	0.156
5	0.42	0.60	0.180	(0.026)	0.024	0.156
6	0.50	0.70	0.210	0.026	(0.028)	0.184
7	0.58	0.70	0.210	0.026	(0.028)	0.184
8	0.67	0.70	0.210	0.026	(0.028)	0.184
9	0.75	0.70	0.210	0.026	(0.028)	0.184
10	0.83	0.70	0.210	0.026	(0.028)	0.184
11	0.92	0.70	0.210	0.026	(0.028)	0.184
12	1.00	0.80	0.240	0.026	(0.032)	0.214
13	1.08	0.80	0.240	0.026	(0.032)	0.214
14	1.17	0.80	0.240	0.026	(0.032)	0.214
15	1.25	0.80	0.240	0.026	(0.032)	0.214
16	1.33	0.80	0.240	0.026	(0.032)	0.214

17	1.42	0.80	0.240	0.026	(0.032)		0.214
18	1.50	0.80	0.240	0.026	(0.032)		0.214
19	1.58	0.80	0.240	0.026	(0.032)		0.214
20	1.67	0.80	0.240	0.026	(0.032)		0.214
21	1.75	0.80	0.240	0.026	(0.032)		0.214
22	1.83	0.80	0.240	0.026	(0.032)		0.214
23	1.92	0.80	0.240	0.026	(0.032)		0.214
24	2.00	0.90	0.270	0.026	(0.036)		0.244
25	2.08	0.80	0.240	0.026	(0.032)		0.214
26	2.17	0.90	0.270	0.026	(0.036)		0.244
27	2.25	0.90	0.270	0.026	(0.036)		0.244
28	2.33	0.90	0.270	0.026	(0.036)		0.244
29	2.42	0.90	0.270	0.026	(0.036)		0.244
30	2.50	0.90	0.270	0.026	(0.036)		0.244
31	2.58	0.90	0.270	0.026	(0.036)		0.244
32	2.67	0.90	0.270	0.026	(0.036)		0.244
33	2.75	1.00	0.300	0.026	(0.040)		0.274
34	2.83	1.00	0.300	0.026	(0.040)		0.274
35	2.92	1.00	0.300	0.026	(0.040)		0.274
36	3.00	1.00	0.300	0.026	(0.040)		0.274
37	3.08	1.00	0.300	0.026	(0.040)		0.274
38	3.17	1.10	0.330	0.026	(0.044)		0.304
39	3.25	1.10	0.330	0.026	(0.044)		0.304
40	3.33	1.10	0.330	0.026	(0.044)		0.304
41	3.42	1.20	0.360	0.026	(0.048)		0.334
42	3.50	1.30	0.390	0.026	(0.051)		0.364
43	3.58	1.40	0.420	0.026	(0.055)		0.394
44	3.67	1.40	0.420	0.026	(0.055)		0.394
45	3.75	1.50	0.450	0.026	(0.059)		0.424
46	3.83	1.50	0.450	0.026	(0.059)		0.424
47	3.92	1.60	0.480	0.026	(0.063)		0.454
48	4.00	1.60	0.480	0.026	(0.063)		0.454
49	4.08	1.70	0.510	0.026	(0.067)		0.484
50	4.17	1.80	0.540	0.026	(0.071)		0.514
51	4.25	1.90	0.570	0.026	(0.075)		0.544
52	4.33	2.00	0.600	0.026	(0.079)		0.574
53	4.42	2.10	0.630	0.026	(0.083)		0.604
54	4.50	2.10	0.630	0.026	(0.083)		0.604
55	4.58	2.20	0.660	0.026	(0.087)		0.634
56	4.67	2.30	0.690	0.026	(0.091)		0.664
57	4.75	2.40	0.720	0.026	(0.095)		0.694
58	4.83	2.40	0.720	0.026	(0.095)		0.694
59	4.92	2.50	0.750	0.026	(0.099)		0.724
60	5.00	2.60	0.780	0.026	(0.103)		0.754
61	5.08	3.10	0.930	0.026	(0.123)		0.904
62	5.17	3.60	1.080	0.026	(0.143)		1.054
63	5.25	3.90	1.170	0.026	(0.154)		1.144
64	5.33	4.20	1.260	0.026	(0.166)		1.234
65	5.42	4.70	1.410	0.026	(0.186)		1.384
66	5.50	5.60	1.680	0.026	(0.222)		1.654
67	5.58	1.90	0.570	0.026	(0.075)		0.544
68	5.67	0.90	0.270	0.026	(0.036)		0.244
69	5.75	0.60	0.180	(0.026)	0.024		0.156
70	5.83	0.50	0.150	(0.026)	0.020		0.130
71	5.92	0.30	0.090	(0.026)	0.012		0.078
72	6.00	0.20	0.060	(0.026)	0.008		0.052
	(Loss Rate Not Used)						
Sum =	100.0					Sum =	28.2

Flood volume = Effective rainfall 2.35(In)
times area 4.6(Ac.)/[(In)/(Ft.)] = 0.9(Ac.Ft)

```
    Total soil loss =      0.15(In)
    Total soil loss =     0.059(Ac.Ft)
    Total rainfall =      2.50(In)
    Flood volume =       39185.3 Cubic Feet
    Total soil loss =        2559.0 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      7.161(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       0.0026      0.37  VQ        |         |         |         |
  0+10       0.0071      0.65  V Q       |         |         |         |
  0+15       0.0120      0.72  V Q       |         |         |         |
  0+20       0.0170      0.72  V Q       |         |         |         |
  0+25       0.0220      0.72  V Q       |         |         |         |
  0+30       0.0275      0.80  |V Q       |         |         |         |
  0+35       0.0334      0.85  |V Q       |         |         |         |
  0+40       0.0392      0.85  |V Q       |         |         |         |
  0+45       0.0451      0.85  | VQ       |         |         |         |
  0+50       0.0510      0.85  | VQ       |         |         |         |
  0+55       0.0568      0.85  | VQ       |         |         |         |
  1+ 0       0.0633      0.94  | VQ       |         |         |         |
  1+ 5       0.0701      0.99  |  Q       |         |         |         |
  1+10       0.0769      0.99  |  Q       |         |         |         |
  1+15       0.0837      0.99  |  Q       |         |         |         |
  1+20       0.0905      0.99  |  QV      |         |         |         |
  1+25       0.0974      0.99  |  QV      |         |         |         |
  1+30       0.1042      0.99  |  QV      |         |         |         |
  1+35       0.1110      0.99  |  QV      |         |         |         |
  1+40       0.1178      0.99  |  Q V     |         |         |         |
  1+45       0.1247      0.99  |  Q V     |         |         |         |
  1+50       0.1315      0.99  |  Q V     |         |         |         |
  1+55       0.1383      0.99  |  Q  V    |         |         |         |
  2+ 0       0.1457      1.08  |   Q V    |         |         |         |
  2+ 5       0.1529      1.04  |   Q V    |         |         |         |
  2+10       0.1603      1.08  |   Q  V   |         |         |         |
  2+15       0.1681      1.12  |   Q  V   |         |         |         |
  2+20       0.1759      1.13  |   Q  V   |         |         |         |
  2+25       0.1836      1.13  |   Q   V  |         |         |         |
  2+30       0.1914      1.13  |   Q   V  |         |         |         |
  2+35       0.1992      1.13  |   Q   V  |         |         |         |
  2+40       0.2070      1.13  |   Q    V|         |         |         |
  2+45       0.2154      1.22  |   Q    V|         |         |         |
  2+50       0.2241      1.26  |    Q   V|         |         |         |
  2+55       0.2328      1.27  |    Q    V         |         |         |
  3+ 0       0.2416      1.27  |    Q    V         |         |         |
  3+ 5       0.2503      1.27  |    Q    |V        |         |         |
  3+10       0.2596      1.35  |    Q    |V        |         |         |
  3+15       0.2693      1.40  |    Q    |V        |         |         |
  3+20       0.2790      1.41  |    Q    | V       |         |         |
  3+25       0.2893      1.49  |    Q    | V       |         |         |
  3+30       0.3005      1.63  |     Q   |  V      |         |         |
  3+35       0.3127      1.77  |      Q  |  V      |         |         |
```


3+40 0.3252 1.82
3+45 0.3384 1.91
3+50 0.3519 1.96
3+55 0.3660 2.05
4+ 0 0.3804 2.10
4+ 5 0.3955 2.19
4+10 0.4115 2.32
4+15 0.4285 2.46
4+20 0.4464 2.60
4+25 0.4653 2.74
4+30 0.4845 2.79
4+35 0.5044 2.89
4+40 0.5252 3.02
4+45 0.5469 3.16
4+50 0.5690 3.21
4+55 0.5918 3.30
5+ 0 0.6155 3.44
5+ 5 0.6424 3.92
5+10 0.6741 4.59
5+15 0.7093 5.12
5+20 0.7475 5.54
5+25 0.7897 6.13
5+30 0.8391 7.16
5+35 0.8697 4.45
5+40 0.8826 1.87
5+45 0.8890 0.94
5+50 0.8936 0.67
5+55 0.8968 0.46
6+ 0 0.8988 0.30
6+ 5 0.8995 0.10
6+10 0.8996 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 01/03/22 File: 20522PRD224100.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA D2
100-YEAR 24-HOUR STORM

Drainage Area = 4.60(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.60(Ac.) = 0.007 Sq. Mi.
Length along longest watercourse = 600.00(Ft.)
Length along longest watercourse measured to centroid = 292.00(Ft.)
Length along longest watercourse = 0.114 Mi.
Length along longest watercourse measured to centroid = 0.055 Mi.
Difference in elevation = 7.70(Ft.)
Slope along watercourse = 67.7600 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.024 Hr.
Lag time = 1.41 Min.
25% of lag time = 0.35 Min.
40% of lag time = 0.56 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.60	1.60	7.36

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.60	4.00	18.40

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 4.000(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.000(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
4.600	69.00	0.960

Total Area Entered = 4.60(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
69.0	84.4	0.194	0.960	0.026	1.000	0.026
					Sum (F) =	0.026

Area averaged mean soil loss (F) (In/Hr) = 0.026
Minimum soil loss rate ((In/Hr)) = 0.013
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.132

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	354.046	61.632	2.857
2	0.167	708.093	34.323	1.591
3	0.250	1062.139	4.045	0.188
			Sum = 100.000 Sum=	4.636

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.07	0.032	(0.047)		0.004	0.028
2	0.17	0.07	0.032	(0.047)		0.004	0.028
3	0.25	0.07	0.032	(0.046)		0.004	0.028
4	0.33	0.10	0.048	(0.046)		0.006	0.042
5	0.42	0.10	0.048	(0.046)		0.006	0.042
6	0.50	0.10	0.048	(0.046)		0.006	0.042
7	0.58	0.10	0.048	(0.046)		0.006	0.042
8	0.67	0.10	0.048	(0.045)		0.006	0.042
9	0.75	0.10	0.048	(0.045)		0.006	0.042
10	0.83	0.13	0.064	(0.045)		0.008	0.056
11	0.92	0.13	0.064	(0.045)		0.008	0.056
12	1.00	0.13	0.064	(0.045)		0.008	0.056
13	1.08	0.10	0.048	(0.045)		0.006	0.042
14	1.17	0.10	0.048	(0.044)		0.006	0.042
15	1.25	0.10	0.048	(0.044)		0.006	0.042
16	1.33	0.10	0.048	(0.044)		0.006	0.042

17	1.42	0.10	0.048	(0.044)	0.006	0.042
18	1.50	0.10	0.048	(0.044)	0.006	0.042
19	1.58	0.10	0.048	(0.044)	0.006	0.042
20	1.67	0.10	0.048	(0.043)	0.006	0.042
21	1.75	0.10	0.048	(0.043)	0.006	0.042
22	1.83	0.13	0.064	(0.043)	0.008	0.056
23	1.92	0.13	0.064	(0.043)	0.008	0.056
24	2.00	0.13	0.064	(0.043)	0.008	0.056
25	2.08	0.13	0.064	(0.042)	0.008	0.056
26	2.17	0.13	0.064	(0.042)	0.008	0.056
27	2.25	0.13	0.064	(0.042)	0.008	0.056
28	2.33	0.13	0.064	(0.042)	0.008	0.056
29	2.42	0.13	0.064	(0.042)	0.008	0.056
30	2.50	0.13	0.064	(0.042)	0.008	0.056
31	2.58	0.17	0.080	(0.041)	0.011	0.069
32	2.67	0.17	0.080	(0.041)	0.011	0.069
33	2.75	0.17	0.080	(0.041)	0.011	0.069
34	2.83	0.17	0.080	(0.041)	0.011	0.069
35	2.92	0.17	0.080	(0.041)	0.011	0.069
36	3.00	0.17	0.080	(0.041)	0.011	0.069
37	3.08	0.17	0.080	(0.040)	0.011	0.069
38	3.17	0.17	0.080	(0.040)	0.011	0.069
39	3.25	0.17	0.080	(0.040)	0.011	0.069
40	3.33	0.17	0.080	(0.040)	0.011	0.069
41	3.42	0.17	0.080	(0.040)	0.011	0.069
42	3.50	0.17	0.080	(0.040)	0.011	0.069
43	3.58	0.17	0.080	(0.039)	0.011	0.069
44	3.67	0.17	0.080	(0.039)	0.011	0.069
45	3.75	0.17	0.080	(0.039)	0.011	0.069
46	3.83	0.20	0.096	(0.039)	0.013	0.083
47	3.92	0.20	0.096	(0.039)	0.013	0.083
48	4.00	0.20	0.096	(0.039)	0.013	0.083
49	4.08	0.20	0.096	(0.038)	0.013	0.083
50	4.17	0.20	0.096	(0.038)	0.013	0.083
51	4.25	0.20	0.096	(0.038)	0.013	0.083
52	4.33	0.23	0.112	(0.038)	0.015	0.097
53	4.42	0.23	0.112	(0.038)	0.015	0.097
54	4.50	0.23	0.112	(0.038)	0.015	0.097
55	4.58	0.23	0.112	(0.037)	0.015	0.097
56	4.67	0.23	0.112	(0.037)	0.015	0.097
57	4.75	0.23	0.112	(0.037)	0.015	0.097
58	4.83	0.27	0.128	(0.037)	0.017	0.111
59	4.92	0.27	0.128	(0.037)	0.017	0.111
60	5.00	0.27	0.128	(0.037)	0.017	0.111
61	5.08	0.20	0.096	(0.037)	0.013	0.083
62	5.17	0.20	0.096	(0.036)	0.013	0.083
63	5.25	0.20	0.096	(0.036)	0.013	0.083
64	5.33	0.23	0.112	(0.036)	0.015	0.097
65	5.42	0.23	0.112	(0.036)	0.015	0.097
66	5.50	0.23	0.112	(0.036)	0.015	0.097
67	5.58	0.27	0.128	(0.036)	0.017	0.111
68	5.67	0.27	0.128	(0.035)	0.017	0.111
69	5.75	0.27	0.128	(0.035)	0.017	0.111
70	5.83	0.27	0.128	(0.035)	0.017	0.111
71	5.92	0.27	0.128	(0.035)	0.017	0.111
72	6.00	0.27	0.128	(0.035)	0.017	0.111
73	6.08	0.30	0.144	(0.035)	0.019	0.125
74	6.17	0.30	0.144	(0.034)	0.019	0.125
75	6.25	0.30	0.144	(0.034)	0.019	0.125
76	6.33	0.30	0.144	(0.034)	0.019	0.125

77	6.42	0.30	0.144	(0.034)	0.019	0.125
78	6.50	0.30	0.144	(0.034)	0.019	0.125
79	6.58	0.33	0.160	(0.034)	0.021	0.139
80	6.67	0.33	0.160	(0.034)	0.021	0.139
81	6.75	0.33	0.160	(0.033)	0.021	0.139
82	6.83	0.33	0.160	(0.033)	0.021	0.139
83	6.92	0.33	0.160	(0.033)	0.021	0.139
84	7.00	0.33	0.160	(0.033)	0.021	0.139
85	7.08	0.33	0.160	(0.033)	0.021	0.139
86	7.17	0.33	0.160	(0.033)	0.021	0.139
87	7.25	0.33	0.160	(0.033)	0.021	0.139
88	7.33	0.37	0.176	(0.032)	0.023	0.153
89	7.42	0.37	0.176	(0.032)	0.023	0.153
90	7.50	0.37	0.176	(0.032)	0.023	0.153
91	7.58	0.40	0.192	(0.032)	0.025	0.167
92	7.67	0.40	0.192	(0.032)	0.025	0.167
93	7.75	0.40	0.192	(0.032)	0.025	0.167
94	7.83	0.43	0.208	(0.031)	0.027	0.181
95	7.92	0.43	0.208	(0.031)	0.027	0.181
96	8.00	0.43	0.208	(0.031)	0.027	0.181
97	8.08	0.50	0.240	0.031	(0.032)	0.209
98	8.17	0.50	0.240	0.031	(0.032)	0.209
99	8.25	0.50	0.240	0.031	(0.032)	0.209
100	8.33	0.50	0.240	0.031	(0.032)	0.209
101	8.42	0.50	0.240	0.030	(0.032)	0.210
102	8.50	0.50	0.240	0.030	(0.032)	0.210
103	8.58	0.53	0.256	0.030	(0.034)	0.226
104	8.67	0.53	0.256	0.030	(0.034)	0.226
105	8.75	0.53	0.256	0.030	(0.034)	0.226
106	8.83	0.57	0.272	0.030	(0.036)	0.242
107	8.92	0.57	0.272	0.030	(0.036)	0.242
108	9.00	0.57	0.272	0.029	(0.036)	0.243
109	9.08	0.63	0.304	0.029	(0.040)	0.275
110	9.17	0.63	0.304	0.029	(0.040)	0.275
111	9.25	0.63	0.304	0.029	(0.040)	0.275
112	9.33	0.67	0.320	0.029	(0.042)	0.291
113	9.42	0.67	0.320	0.029	(0.042)	0.291
114	9.50	0.67	0.320	0.029	(0.042)	0.291
115	9.58	0.70	0.336	0.029	(0.044)	0.307
116	9.67	0.70	0.336	0.028	(0.044)	0.308
117	9.75	0.70	0.336	0.028	(0.044)	0.308
118	9.83	0.73	0.352	0.028	(0.046)	0.324
119	9.92	0.73	0.352	0.028	(0.046)	0.324
120	10.00	0.73	0.352	0.028	(0.046)	0.324
121	10.08	0.50	0.240	0.028	(0.032)	0.212
122	10.17	0.50	0.240	0.028	(0.032)	0.212
123	10.25	0.50	0.240	0.027	(0.032)	0.213
124	10.33	0.50	0.240	0.027	(0.032)	0.213
125	10.42	0.50	0.240	0.027	(0.032)	0.213
126	10.50	0.50	0.240	0.027	(0.032)	0.213
127	10.58	0.67	0.320	0.027	(0.042)	0.293
128	10.67	0.67	0.320	0.027	(0.042)	0.293
129	10.75	0.67	0.320	0.027	(0.042)	0.293
130	10.83	0.67	0.320	0.027	(0.042)	0.293
131	10.92	0.67	0.320	0.026	(0.042)	0.294
132	11.00	0.67	0.320	0.026	(0.042)	0.294
133	11.08	0.63	0.304	0.026	(0.040)	0.278
134	11.17	0.63	0.304	0.026	(0.040)	0.278
135	11.25	0.63	0.304	0.026	(0.040)	0.278
136	11.33	0.63	0.304	0.026	(0.040)	0.278

137	11.42	0.63	0.304	0.026	(0.040)	0.278
138	11.50	0.63	0.304	0.025	(0.040)	0.279
139	11.58	0.57	0.272	0.025	(0.036)	0.247
140	11.67	0.57	0.272	0.025	(0.036)	0.247
141	11.75	0.57	0.272	0.025	(0.036)	0.247
142	11.83	0.60	0.288	0.025	(0.038)	0.263
143	11.92	0.60	0.288	0.025	(0.038)	0.263
144	12.00	0.60	0.288	0.025	(0.038)	0.263
145	12.08	0.83	0.400	0.025	(0.053)	0.375
146	12.17	0.83	0.400	0.024	(0.053)	0.376
147	12.25	0.83	0.400	0.024	(0.053)	0.376
148	12.33	0.87	0.416	0.024	(0.055)	0.392
149	12.42	0.87	0.416	0.024	(0.055)	0.392
150	12.50	0.87	0.416	0.024	(0.055)	0.392
151	12.58	0.93	0.448	0.024	(0.059)	0.424
152	12.67	0.93	0.448	0.024	(0.059)	0.424
153	12.75	0.93	0.448	0.024	(0.059)	0.424
154	12.83	0.97	0.464	0.024	(0.061)	0.440
155	12.92	0.97	0.464	0.023	(0.061)	0.441
156	13.00	0.97	0.464	0.023	(0.061)	0.441
157	13.08	1.13	0.544	0.023	(0.072)	0.521
158	13.17	1.13	0.544	0.023	(0.072)	0.521
159	13.25	1.13	0.544	0.023	(0.072)	0.521
160	13.33	1.13	0.544	0.023	(0.072)	0.521
161	13.42	1.13	0.544	0.023	(0.072)	0.521
162	13.50	1.13	0.544	0.023	(0.072)	0.521
163	13.58	0.77	0.368	0.022	(0.049)	0.346
164	13.67	0.77	0.368	0.022	(0.049)	0.346
165	13.75	0.77	0.368	0.022	(0.049)	0.346
166	13.83	0.77	0.368	0.022	(0.049)	0.346
167	13.92	0.77	0.368	0.022	(0.049)	0.346
168	14.00	0.77	0.368	0.022	(0.049)	0.346
169	14.08	0.90	0.432	0.022	(0.057)	0.410
170	14.17	0.90	0.432	0.022	(0.057)	0.410
171	14.25	0.90	0.432	0.022	(0.057)	0.410
172	14.33	0.87	0.416	0.021	(0.055)	0.395
173	14.42	0.87	0.416	0.021	(0.055)	0.395
174	14.50	0.87	0.416	0.021	(0.055)	0.395
175	14.58	0.87	0.416	0.021	(0.055)	0.395
176	14.67	0.87	0.416	0.021	(0.055)	0.395
177	14.75	0.87	0.416	0.021	(0.055)	0.395
178	14.83	0.83	0.400	0.021	(0.053)	0.379
179	14.92	0.83	0.400	0.021	(0.053)	0.379
180	15.00	0.83	0.400	0.021	(0.053)	0.379
181	15.08	0.80	0.384	0.020	(0.051)	0.364
182	15.17	0.80	0.384	0.020	(0.051)	0.364
183	15.25	0.80	0.384	0.020	(0.051)	0.364
184	15.33	0.77	0.368	0.020	(0.049)	0.348
185	15.42	0.77	0.368	0.020	(0.049)	0.348
186	15.50	0.77	0.368	0.020	(0.049)	0.348
187	15.58	0.63	0.304	0.020	(0.040)	0.284
188	15.67	0.63	0.304	0.020	(0.040)	0.284
189	15.75	0.63	0.304	0.020	(0.040)	0.284
190	15.83	0.63	0.304	0.020	(0.040)	0.284
191	15.92	0.63	0.304	0.019	(0.040)	0.285
192	16.00	0.63	0.304	0.019	(0.040)	0.285
193	16.08	0.13	0.064	(0.019)	0.008	0.056
194	16.17	0.13	0.064	(0.019)	0.008	0.056
195	16.25	0.13	0.064	(0.019)	0.008	0.056
196	16.33	0.13	0.064	(0.019)	0.008	0.056

197	16.42	0.13	0.064	(0.019)	0.008	0.056
198	16.50	0.13	0.064	(0.019)	0.008	0.056
199	16.58	0.10	0.048	(0.019)	0.006	0.042
200	16.67	0.10	0.048	(0.019)	0.006	0.042
201	16.75	0.10	0.048	(0.018)	0.006	0.042
202	16.83	0.10	0.048	(0.018)	0.006	0.042
203	16.92	0.10	0.048	(0.018)	0.006	0.042
204	17.00	0.10	0.048	(0.018)	0.006	0.042
205	17.08	0.17	0.080	(0.018)	0.011	0.069
206	17.17	0.17	0.080	(0.018)	0.011	0.069
207	17.25	0.17	0.080	(0.018)	0.011	0.069
208	17.33	0.17	0.080	(0.018)	0.011	0.069
209	17.42	0.17	0.080	(0.018)	0.011	0.069
210	17.50	0.17	0.080	(0.018)	0.011	0.069
211	17.58	0.17	0.080	(0.018)	0.011	0.069
212	17.67	0.17	0.080	(0.017)	0.011	0.069
213	17.75	0.17	0.080	(0.017)	0.011	0.069
214	17.83	0.13	0.064	(0.017)	0.008	0.056
215	17.92	0.13	0.064	(0.017)	0.008	0.056
216	18.00	0.13	0.064	(0.017)	0.008	0.056
217	18.08	0.13	0.064	(0.017)	0.008	0.056
218	18.17	0.13	0.064	(0.017)	0.008	0.056
219	18.25	0.13	0.064	(0.017)	0.008	0.056
220	18.33	0.13	0.064	(0.017)	0.008	0.056
221	18.42	0.13	0.064	(0.017)	0.008	0.056
222	18.50	0.13	0.064	(0.017)	0.008	0.056
223	18.58	0.10	0.048	(0.017)	0.006	0.042
224	18.67	0.10	0.048	(0.016)	0.006	0.042
225	18.75	0.10	0.048	(0.016)	0.006	0.042
226	18.83	0.07	0.032	(0.016)	0.004	0.028
227	18.92	0.07	0.032	(0.016)	0.004	0.028
228	19.00	0.07	0.032	(0.016)	0.004	0.028
229	19.08	0.10	0.048	(0.016)	0.006	0.042
230	19.17	0.10	0.048	(0.016)	0.006	0.042
231	19.25	0.10	0.048	(0.016)	0.006	0.042
232	19.33	0.13	0.064	(0.016)	0.008	0.056
233	19.42	0.13	0.064	(0.016)	0.008	0.056
234	19.50	0.13	0.064	(0.016)	0.008	0.056
235	19.58	0.10	0.048	(0.016)	0.006	0.042
236	19.67	0.10	0.048	(0.016)	0.006	0.042
237	19.75	0.10	0.048	(0.016)	0.006	0.042
238	19.83	0.07	0.032	(0.015)	0.004	0.028
239	19.92	0.07	0.032	(0.015)	0.004	0.028
240	20.00	0.07	0.032	(0.015)	0.004	0.028
241	20.08	0.10	0.048	(0.015)	0.006	0.042
242	20.17	0.10	0.048	(0.015)	0.006	0.042
243	20.25	0.10	0.048	(0.015)	0.006	0.042
244	20.33	0.10	0.048	(0.015)	0.006	0.042
245	20.42	0.10	0.048	(0.015)	0.006	0.042
246	20.50	0.10	0.048	(0.015)	0.006	0.042
247	20.58	0.10	0.048	(0.015)	0.006	0.042
248	20.67	0.10	0.048	(0.015)	0.006	0.042
249	20.75	0.10	0.048	(0.015)	0.006	0.042
250	20.83	0.07	0.032	(0.015)	0.004	0.028
251	20.92	0.07	0.032	(0.015)	0.004	0.028
252	21.00	0.07	0.032	(0.015)	0.004	0.028
253	21.08	0.10	0.048	(0.014)	0.006	0.042
254	21.17	0.10	0.048	(0.014)	0.006	0.042
255	21.25	0.10	0.048	(0.014)	0.006	0.042
256	21.33	0.07	0.032	(0.014)	0.004	0.028

257	21.42	0.07	0.032	(0.014)	0.004	0.028
258	21.50	0.07	0.032	(0.014)	0.004	0.028
259	21.58	0.10	0.048	(0.014)	0.006	0.042
260	21.67	0.10	0.048	(0.014)	0.006	0.042
261	21.75	0.10	0.048	(0.014)	0.006	0.042
262	21.83	0.07	0.032	(0.014)	0.004	0.028
263	21.92	0.07	0.032	(0.014)	0.004	0.028
264	22.00	0.07	0.032	(0.014)	0.004	0.028
265	22.08	0.10	0.048	(0.014)	0.006	0.042
266	22.17	0.10	0.048	(0.014)	0.006	0.042
267	22.25	0.10	0.048	(0.014)	0.006	0.042
268	22.33	0.07	0.032	(0.014)	0.004	0.028
269	22.42	0.07	0.032	(0.014)	0.004	0.028
270	22.50	0.07	0.032	(0.014)	0.004	0.028
271	22.58	0.07	0.032	(0.014)	0.004	0.028
272	22.67	0.07	0.032	(0.014)	0.004	0.028
273	22.75	0.07	0.032	(0.014)	0.004	0.028
274	22.83	0.07	0.032	(0.014)	0.004	0.028
275	22.92	0.07	0.032	(0.013)	0.004	0.028
276	23.00	0.07	0.032	(0.013)	0.004	0.028
277	23.08	0.07	0.032	(0.013)	0.004	0.028
278	23.17	0.07	0.032	(0.013)	0.004	0.028
279	23.25	0.07	0.032	(0.013)	0.004	0.028
280	23.33	0.07	0.032	(0.013)	0.004	0.028
281	23.42	0.07	0.032	(0.013)	0.004	0.028
282	23.50	0.07	0.032	(0.013)	0.004	0.028
283	23.58	0.07	0.032	(0.013)	0.004	0.028
284	23.67	0.07	0.032	(0.013)	0.004	0.028
285	23.75	0.07	0.032	(0.013)	0.004	0.028
286	23.83	0.07	0.032	(0.013)	0.004	0.028
287	23.92	0.07	0.032	(0.013)	0.004	0.028
288	24.00	0.07	0.032	(0.013)	0.004	0.028

(Loss Rate Not Used)

Sum = 100.0 Sum = 43.7

Flood volume = Effective rainfall 3.64(In)
times area 4.6(Ac.)/[(In)/(Ft.)] = 1.4(Ac.Ft)
Total soil loss = 0.36(In)
Total soil loss = 0.137(Ac.Ft)
Total rainfall = 4.00(In)
Flood volume = 60817.8 Cubic Feet
Total soil loss = 5973.6 Cubic Feet

Peak flow rate of this hydrograph = 2.418(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0005	0.08	Q	|	|	|	|
0+10	0.0014	0.12	Q	|	|	|	|
0+15	0.0023	0.13	Q	|	|	|	|
0+20	0.0034	0.17	Q	|	|	|	|
0+25	0.0048	0.19	Q	|	|	|	|
0+30	0.0061	0.19	Q	|	|	|	|
0+35	0.0074	0.19	Q	|	|	|	|

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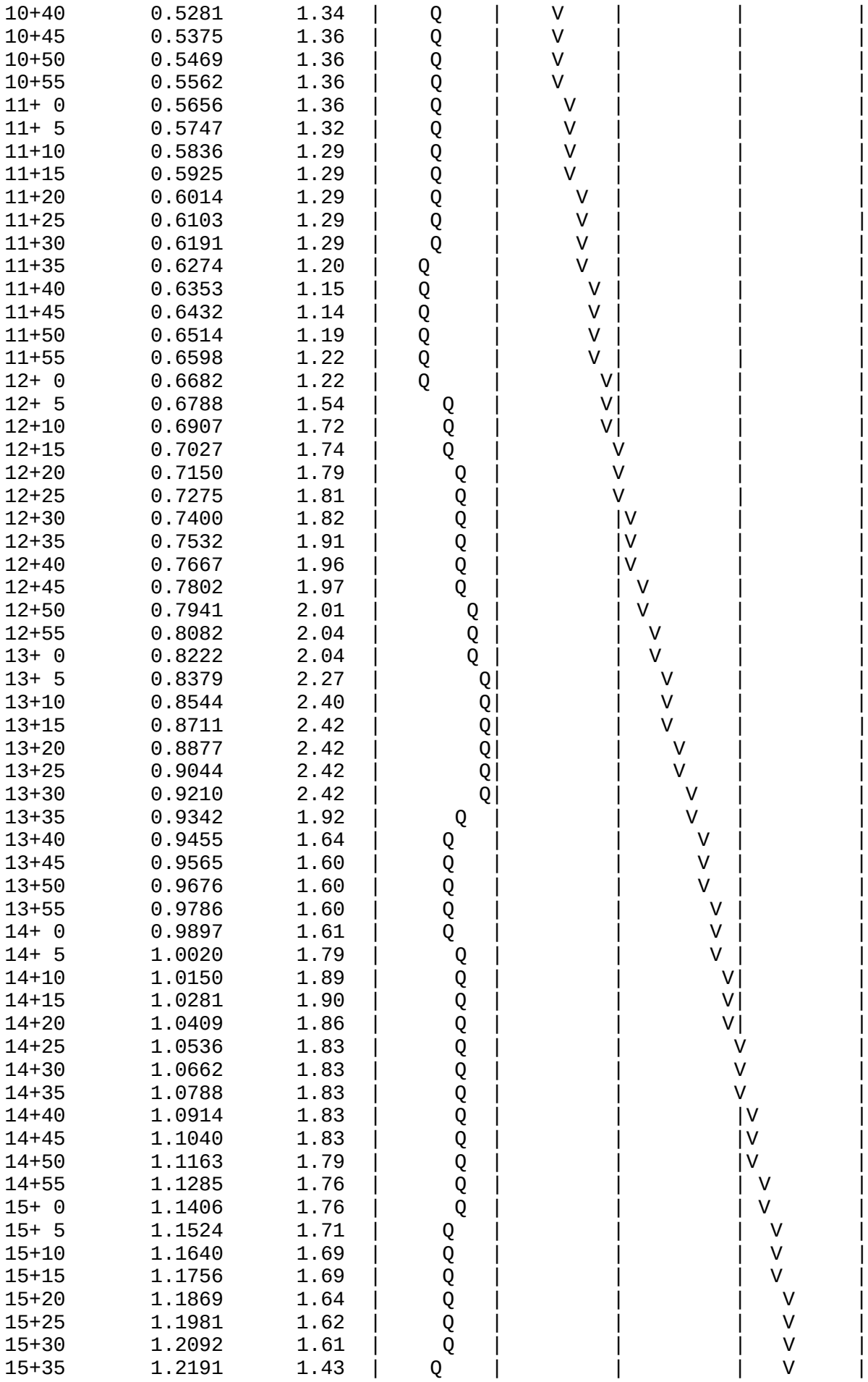
0+40       0.0088      0.19  Q        |          |          |          |
0+45       0.0101      0.19  Q        |          |          |          |
0+50       0.0117      0.23  Q        |          |          |          |
0+55       0.0134      0.26  VQ       |          |          |          |
1+ 0       0.0152      0.26  VQ       |          |          |          |
1+ 5       0.0167      0.22  Q        |          |          |          |
1+10       0.0181      0.20  Q        |          |          |          |
1+15       0.0194      0.19  Q        |          |          |          |
1+20       0.0207      0.19  Q        |          |          |          |
1+25       0.0221      0.19  Q        |          |          |          |
1+30       0.0234      0.19  Q        |          |          |          |
1+35       0.0247      0.19  Q        |          |          |          |
1+40       0.0261      0.19  Q        |          |          |          |
1+45       0.0274      0.19  Q        |          |          |          |
1+50       0.0290      0.23  Q        |          |          |          |
1+55       0.0307      0.26  VQ       |          |          |          |
2+ 0       0.0325      0.26  VQ       |          |          |          |
2+ 5       0.0343      0.26  VQ       |          |          |          |
2+10       0.0361      0.26  |Q       |          |          |          |
2+15       0.0378      0.26  |Q       |          |          |          |
2+20       0.0396      0.26  |Q       |          |          |          |
2+25       0.0414      0.26  |Q       |          |          |          |
2+30       0.0432      0.26  |Q       |          |          |          |
2+35       0.0452      0.30  |Q       |          |          |          |
2+40       0.0474      0.32  |Q       |          |          |          |
2+45       0.0496      0.32  |Q       |          |          |          |
2+50       0.0519      0.32  |Q       |          |          |          |
2+55       0.0541      0.32  |Q       |          |          |          |
3+ 0       0.0563      0.32  |Q       |          |          |          |
3+ 5       0.0585      0.32  |Q       |          |          |          |
3+10       0.0607      0.32  |Q       |          |          |          |
3+15       0.0629      0.32  |Q       |          |          |          |
3+20       0.0652      0.32  |Q       |          |          |          |
3+25       0.0674      0.32  |Q       |          |          |          |
3+30       0.0696      0.32  |Q       |          |          |          |
3+35       0.0718      0.32  |QV      |          |          |          |
3+40       0.0740      0.32  |QV      |          |          |          |
3+45       0.0763      0.32  |QV      |          |          |          |
3+50       0.0787      0.36  |QV      |          |          |          |
3+55       0.0814      0.38  |QV      |          |          |          |
4+ 0       0.0840      0.39  |QV      |          |          |          |
4+ 5       0.0867      0.39  |QV      |          |          |          |
4+10       0.0894      0.39  |QV      |          |          |          |
4+15       0.0920      0.39  |QV      |          |          |          |
4+20       0.0950      0.43  |QV      |          |          |          |
4+25       0.0981      0.45  |QV      |          |          |          |
4+30       0.1012      0.45  |QV      |          |          |          |
4+35       0.1043      0.45  |QV      |          |          |          |
4+40       0.1074      0.45  |Q V     |          |          |          |
4+45       0.1105      0.45  |Q V     |          |          |          |
4+50       0.1139      0.49  |Q V     |          |          |          |
4+55       0.1174      0.51  | QV     |          |          |          |
5+ 0       0.1209      0.52  | QV     |          |          |          |
5+ 5       0.1239      0.44  |Q V     |          |          |          |
5+10       0.1266      0.39  |Q V     |          |          |          |
5+15       0.1293      0.39  |Q V     |          |          |          |
5+20       0.1322      0.43  |Q V     |          |          |          |
5+25       0.1353      0.45  |Q V     |          |          |          |
5+30       0.1384      0.45  |Q V     |          |          |          |
5+35       0.1418      0.49  |Q  V    |          |          |          |
```

5+40	0.1453	0.51	Q V				
5+45	0.1489	0.52	Q V				
5+50	0.1524	0.52	Q V				
5+55	0.1560	0.52	Q V				
6+ 0	0.1595	0.52	Q V				
6+ 5	0.1634	0.56	Q V				
6+10	0.1673	0.58	Q V				
6+15	0.1713	0.58	Q V				
6+20	0.1753	0.58	Q V				
6+25	0.1793	0.58	Q V				
6+30	0.1833	0.58	Q V				
6+35	0.1876	0.62	Q V				
6+40	0.1920	0.64	Q V				
6+45	0.1964	0.64	Q V				
6+50	0.2009	0.64	Q V				
6+55	0.2053	0.64	Q V				
7+ 0	0.2097	0.64	Q V				
7+ 5	0.2142	0.64	Q V				
7+10	0.2186	0.64	Q V				
7+15	0.2230	0.64	Q V				
7+20	0.2278	0.68	Q V				
7+25	0.2326	0.71	Q V				
7+30	0.2375	0.71	Q V				
7+35	0.2426	0.75	Q V				
7+40	0.2480	0.77	Q V				
7+45	0.2533	0.77	Q V				
7+50	0.2589	0.81	Q V				
7+55	0.2646	0.83	Q V				
8+ 0	0.2704	0.84	Q V				
8+ 5	0.2767	0.92	Q V				
8+10	0.2834	0.96	Q V				
8+15	0.2900	0.97	Q V				
8+20	0.2967	0.97	Q V				
8+25	0.3034	0.97	Q V				
8+30	0.3101	0.97	Q V				
8+35	0.3171	1.02	Q V				
8+40	0.3243	1.04	Q V				
8+45	0.3315	1.05	Q V				
8+50	0.3391	1.09	Q V				
8+55	0.3468	1.12	Q V				
9+ 0	0.3546	1.12	Q V				
9+ 5	0.3629	1.22	Q V				
9+10	0.3717	1.27	Q V				
9+15	0.3804	1.27	Q V				
9+20	0.3895	1.32	Q V				
9+25	0.3988	1.35	Q V				
9+30	0.4081	1.35	Q V				
9+35	0.4178	1.40	Q V				
9+40	0.4276	1.42	Q V				
9+45	0.4374	1.43	Q V				
9+50	0.4475	1.47	Q V				
9+55	0.4579	1.50	Q V				
10+ 0	0.4682	1.50	Q V				
10+ 5	0.4764	1.18	Q V				
10+10	0.4833	1.01	Q V				
10+15	0.4901	0.99	Q V				
10+20	0.4969	0.99	Q V				
10+25	0.5037	0.99	Q V				
10+30	0.5105	0.99	Q V				
10+35	0.5189	1.22	Q V				



```
15+40       1.2282      1.33  |    Q    |         |         |    V    |
15+45       1.2373      1.32  |    Q    |         |         |    V    |
15+50       1.2464      1.32  |    Q    |         |         |    V    |
15+55       1.2555      1.32  |    Q    |         |         |    V    |
16+ 0       1.2646      1.32  |    Q    |         |         |     V   |
16+ 5       1.2691      0.67  | Q       |         |         |     V   |
16+10       1.2712      0.30  |Q        |         |         |     V   |
16+15       1.2730      0.26  |Q        |         |         |     V   |
16+20       1.2748      0.26  |Q        |         |         |     V   |
16+25       1.2765      0.26  |Q        |         |         |     V   |
16+30       1.2783      0.26  |Q        |         |         |     V   |
16+35       1.2798      0.22  Q         |         |         |     V   |
16+40       1.2812      0.20  Q         |         |         |     V   |
16+45       1.2825      0.19  Q         |         |         |     V   |
16+50       1.2838      0.19  Q         |         |         |     V   |
16+55       1.2852      0.19  Q         |         |         |     V   |
17+ 0       1.2865      0.19  Q         |         |         |     V   |
17+ 5       1.2884      0.27  |Q        |         |         |     V   |
17+10       1.2905      0.32  |Q        |         |         |     V   |
17+15       1.2928      0.32  |Q        |         |         |      V  |
17+20       1.2950      0.32  |Q        |         |         |      V  |
17+25       1.2972      0.32  |Q        |         |         |      V  |
17+30       1.2994      0.32  |Q        |         |         |      V  |
17+35       1.3016      0.32  |Q        |         |         |      V  |
17+40       1.3039      0.32  |Q        |         |         |      V  |
17+45       1.3061      0.32  |Q        |         |         |      V  |
17+50       1.3080      0.28  |Q        |         |         |      V  |
17+55       1.3098      0.26  |Q        |         |         |      V  |
18+ 0       1.3116      0.26  |Q        |         |         |      V  |
18+ 5       1.3134      0.26  |Q        |         |         |      V  |
18+10       1.3151      0.26  |Q        |         |         |      V  |
18+15       1.3169      0.26  |Q        |         |         |      V  |
18+20       1.3187      0.26  |Q        |         |         |      V  |
18+25       1.3205      0.26  |Q        |         |         |      V  |
18+30       1.3222      0.26  |Q        |         |         |      V  |
18+35       1.3237      0.22  Q         |         |         |      V  |
18+40       1.3251      0.20  Q         |         |         |      V  |
18+45       1.3264      0.19  Q         |         |         |       V |
18+50       1.3275      0.15  Q         |         |         |       V |
18+55       1.3284      0.13  Q         |         |         |       V |
19+ 0       1.3293      0.13  Q         |         |         |       V |
19+ 5       1.3304      0.17  Q         |         |         |       V |
19+10       1.3317      0.19  Q         |         |         |       V |
19+15       1.3331      0.19  Q         |         |         |       V |
19+20       1.3347      0.23  Q         |         |         |       V |
19+25       1.3364      0.26  |Q        |         |         |       V |
19+30       1.3382      0.26  |Q        |         |         |       V |
19+35       1.3397      0.22  Q         |         |         |       V |
19+40       1.3411      0.20  Q         |         |         |       V |
19+45       1.3424      0.19  Q         |         |         |       V |
19+50       1.3434      0.15  Q         |         |         |       V |
19+55       1.3443      0.13  Q         |         |         |       V |
20+ 0       1.3452      0.13  Q         |         |         |       V |
20+ 5       1.3464      0.17  Q         |         |         |       V |
20+10       1.3477      0.19  Q         |         |         |       V |
20+15       1.3490      0.19  Q         |         |         |       V |
20+20       1.3504      0.19  Q         |         |         |       V |
20+25       1.3517      0.19  Q         |         |         |       V |
20+30       1.3530      0.19  Q         |         |         |       V |
20+35       1.3544      0.19  Q         |         |         |       V |
```

20+40	1.3557	0.19	Q	|	|	|	V |
20+45	1.3570	0.19	Q	|	|	|	V |
20+50	1.3581	0.15	Q	|	|	|	V |
20+55	1.3590	0.13	Q	|	|	|	V |
21+ 0	1.3599	0.13	Q	|	|	|	V |
21+ 5	1.3610	0.17	Q	|	|	|	V |
21+10	1.3623	0.19	Q	|	|	|	V|
21+15	1.3637	0.19	Q	|	|	|	V|
21+20	1.3647	0.15	Q	|	|	|	V|
21+25	1.3656	0.13	Q	|	|	|	V|
21+30	1.3665	0.13	Q	|	|	|	V|
21+35	1.3677	0.17	Q	|	|	|	V|
21+40	1.3690	0.19	Q	|	|	|	V|
21+45	1.3703	0.19	Q	|	|	|	V|
21+50	1.3714	0.15	Q	|	|	|	V|
21+55	1.3723	0.13	Q	|	|	|	V|
22+ 0	1.3732	0.13	Q	|	|	|	V|
22+ 5	1.3743	0.17	Q	|	|	|	V|
22+10	1.3757	0.19	Q	|	|	|	V|
22+15	1.3770	0.19	Q	|	|	|	V|
22+20	1.3780	0.15	Q	|	|	|	V|
22+25	1.3789	0.13	Q	|	|	|	V|
22+30	1.3798	0.13	Q	|	|	|	V|
22+35	1.3807	0.13	Q	|	|	|	V|
22+40	1.3816	0.13	Q	|	|	|	V|
22+45	1.3825	0.13	Q	|	|	|	V|
22+50	1.3834	0.13	Q	|	|	|	V|
22+55	1.3843	0.13	Q	|	|	|	V|
23+ 0	1.3852	0.13	Q	|	|	|	V|
23+ 5	1.3860	0.13	Q	|	|	|	V|
23+10	1.3869	0.13	Q	|	|	|	V|
23+15	1.3878	0.13	Q	|	|	|	V|
23+20	1.3887	0.13	Q	|	|	|	V|
23+25	1.3896	0.13	Q	|	|	|	V|
23+30	1.3905	0.13	Q	|	|	|	V|
23+35	1.3914	0.13	Q	|	|	|	V|
23+40	1.3923	0.13	Q	|	|	|	V|
23+45	1.3931	0.13	Q	|	|	|	V|
23+50	1.3940	0.13	Q	|	|	|	V|
23+55	1.3949	0.13	Q	|	|	|	V|
24+ 0	1.3958	0.13	Q	|	|	|	V|
24+ 5	1.3961	0.05	Q	|	|	|	V|
24+10	1.3962	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 01/03/22 File: 20522PRD31100.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA D3
100-YEAR 1-HOUR STORM

Drainage Area = 2.50(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.50(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 345.00(Ft.)
Length along longest watercourse measured to centroid = 270.00(Ft.)
Length along longest watercourse = 0.065 Mi.
Length along longest watercourse measured to centroid = 0.051 Mi.
Difference in elevation = 9.50(Ft.)
Slope along watercourse = 145.3913 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.016 Hr.
Lag time = 0.96 Min.
25% of lag time = 0.24 Min.
40% of lag time = 0.38 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]
2.50	0.50	1.25

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.50	1.20	3.00

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
2.500	69.00	0.790

Total Area Entered = 2.50(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
69.0	84.4	0.194	0.790	0.056	1.000	0.056
					Sum (F) =	0.056

Area averaged mean soil loss (F) (In/Hr) = 0.056
Minimum soil loss rate ((In/Hr)) = 0.028
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.268

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

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	520.368	71.906	1.812
2	0.167	1040.737	28.094	0.708
		Sum = 100.000	Sum=	2.520

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	4.40	0.634	0.056	(0.170)	0.578
2	0.17	4.50	0.648	0.056	(0.174)	0.592
3	0.25	5.40	0.778	0.056	(0.208)	0.722
4	0.33	5.40	0.778	0.056	(0.208)	0.722
5	0.42	5.70	0.821	0.056	(0.220)	0.765
6	0.50	6.40	0.922	0.056	(0.247)	0.866
7	0.58	7.90	1.138	0.056	(0.305)	1.082
8	0.67	9.10	1.310	0.056	(0.351)	1.254
9	0.75	12.80	1.843	0.056	(0.494)	1.787
10	0.83	25.60	3.686	0.056	(0.988)	3.630
11	0.92	7.90	1.138	0.056	(0.305)	1.082
12	1.00	4.90	0.706	0.056	(0.189)	0.650
	(Loss Rate Not Used)					
Sum =	100.0				Sum =	13.7

Flood volume = Effective rainfall 1.14(In)

```
 times area       2.5(Ac.)/[(In)/(Ft.)] =       0.2(Ac.Ft)
Total soil loss =      0.06(In)
Total soil loss =     0.012(Ac.Ft)
Total rainfall =      1.20(In)
Flood volume =       10381.4 Cubic Feet
Total soil loss =         508.4 Cubic Feet
---------------------------------------------------------------------
 Peak flow rate of this hydrograph =     7.846(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       0.0072      1.05  |V  Q     |         |         |         |
   0+10       0.0174      1.48  | V  Q    |         |         |         |
   0+15       0.0293      1.73  |   V Q   |         |         |         |
   0+20       0.0418      1.82  |      Q  |         |         |         |
   0+25       0.0549      1.90  |      Q V|         |         |         |
   0+30       0.0694      2.11  |       Q |V        |         |         |
   0+35       0.0872      2.57  |         Q   V     |         |         |
   0+40       0.1081      3.04  |         | Q     V |         |         |
   0+45       0.1365      4.13  |         |     Q   | V       |         |
   0+50       0.1906      7.85  |         |         |         |Q        |
   0+55       0.2218      4.53  |         |       Q |         |      V  |
   1+ 0       0.2352      1.94  |      Q  |         |         |        V|
   1+ 5       0.2383      0.46  |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 01/03/22 File: 20522PRD33100.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA D3
100-YEAR 3-HOUR STORM

Drainage Area = 2.50(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.50(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 345.00(Ft.)
Length along longest watercourse measured to centroid = 270.00(Ft.)
Length along longest watercourse = 0.065 Mi.
Length along longest watercourse measured to centroid = 0.051 Mi.
Difference in elevation = 9.50(Ft.)
Slope along watercourse = 145.3913 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.016 Hr.
Lag time = 0.96 Min.
25% of lag time = 0.24 Min.
40% of lag time = 0.38 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]
2.50	0.80	2.00

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.50	1.90	4.75

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.900(In)

Point rain (area averaged) = 1.900(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.900(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
2.500	69.00	0.790

Total Area Entered = 2.50(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
69.0	84.4	0.194	0.790	0.056	1.000	0.056
					Sum (F) =	0.056

Area averaged mean soil loss (F) (In/Hr) = 0.056
Minimum soil loss rate ((In/Hr)) = 0.028
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.268

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	520.368	71.906	1.812
2	0.167	1040.737	28.094	0.708
		Sum = 100.000	Sum=	2.520

The following loss 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	0.296	0.056	(0.079)	0.240
2	0.17	1.30	0.296	0.056	(0.079)	0.240
3	0.25	1.10	0.251	0.056	(0.067)	0.195
4	0.33	1.50	0.342	0.056	(0.092)	0.286
5	0.42	1.50	0.342	0.056	(0.092)	0.286
6	0.50	1.80	0.410	0.056	(0.110)	0.354
7	0.58	1.50	0.342	0.056	(0.092)	0.286
8	0.67	1.80	0.410	0.056	(0.110)	0.354
9	0.75	1.80	0.410	0.056	(0.110)	0.354
10	0.83	1.50	0.342	0.056	(0.092)	0.286
11	0.92	1.60	0.365	0.056	(0.098)	0.309
12	1.00	1.80	0.410	0.056	(0.110)	0.354
13	1.08	2.20	0.502	0.056	(0.134)	0.446
14	1.17	2.20	0.502	0.056	(0.134)	0.446
15	1.25	2.20	0.502	0.056	(0.134)	0.446
16	1.33	2.00	0.456	0.056	(0.122)	0.400
17	1.42	2.60	0.593	0.056	(0.159)	0.537

18	1.50	2.70	0.616	0.056	(0.165)		0.560
19	1.58	2.40	0.547	0.056	(0.147)		0.491
20	1.67	2.70	0.616	0.056	(0.165)		0.560
21	1.75	3.30	0.752	0.056	(0.202)		0.696
22	1.83	3.10	0.707	0.056	(0.189)		0.651
23	1.92	2.90	0.661	0.056	(0.177)		0.605
24	2.00	3.00	0.684	0.056	(0.183)		0.628
25	2.08	3.10	0.707	0.056	(0.189)		0.651
26	2.17	4.20	0.958	0.056	(0.257)		0.902
27	2.25	5.00	1.140	0.056	(0.306)		1.084
28	2.33	3.50	0.798	0.056	(0.214)		0.742
29	2.42	6.80	1.550	0.056	(0.416)		1.494
30	2.50	7.30	1.664	0.056	(0.446)		1.608
31	2.58	8.20	1.870	0.056	(0.501)		1.814
32	2.67	5.90	1.345	0.056	(0.361)		1.289
33	2.75	2.00	0.456	0.056	(0.122)		0.400
34	2.83	1.80	0.410	0.056	(0.110)		0.354
35	2.92	1.80	0.410	0.056	(0.110)		0.354
36	3.00	0.60	0.137	(0.056)		0.037	0.100

(Loss Rate Not Used)

Sum = 100.0 Sum = 20.8

Flood volume = Effective rainfall 1.73(In)
times area 2.5(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)

Total soil loss = 0.17(In)

Total soil loss = 0.035(Ac.Ft)

Total rainfall = 1.90(In)

Flood volume = 15731.8 Cubic Feet

Total soil loss = 1510.5 Cubic Feet

Peak flow rate of this hydrograph = 4.426(CFS)

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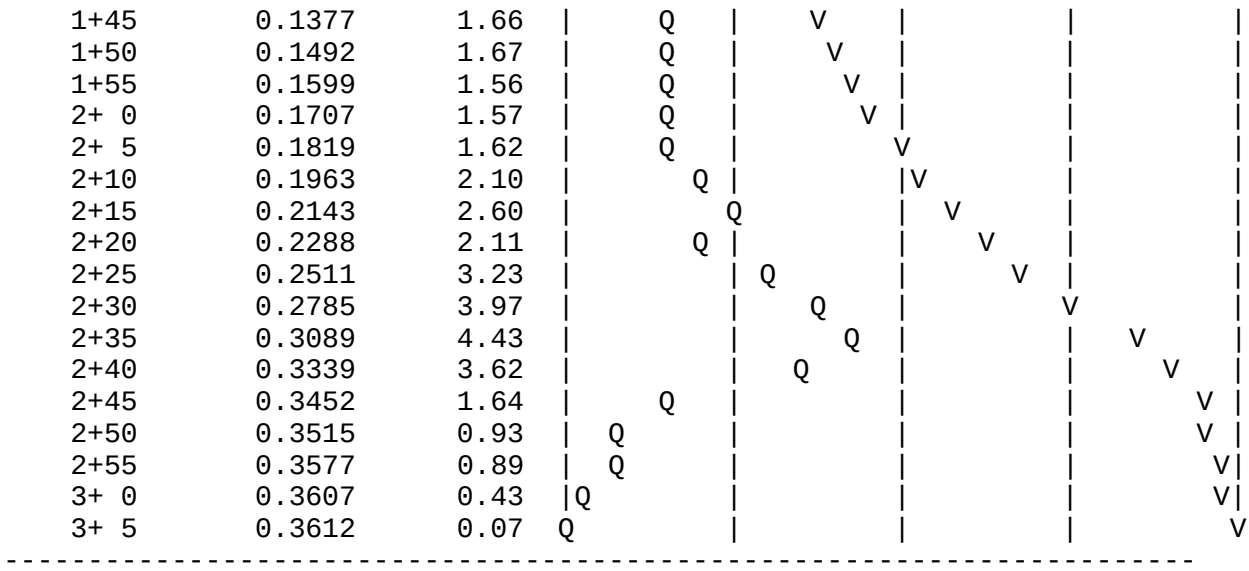
3 - H O U R S T O R M

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	0.0030	0.44	VQ	|	|	|	|
0+10	0.0072	0.61	V Q	|	|	|	|
0+15	0.0108	0.52	|VQ	|	|	|	|
0+20	0.0153	0.66	|VQ	|	|	|	|
0+25	0.0203	0.72	| Q	|	|	|	|
0+30	0.0261	0.84	| VQ	|	|	|	|
0+35	0.0314	0.77	| Q	|	|	|	|
0+40	0.0372	0.84	| QV	|	|	|	|
0+45	0.0434	0.89	| QV	|	|	|	|
0+50	0.0486	0.77	| Q V	|	|	|	|
0+55	0.0539	0.76	| Q V	|	|	|	|
1+ 0	0.0598	0.86	| Q V	|	|	|	|
1+ 5	0.0671	1.06	| Q V	|	|	|	|
1+10	0.0749	1.12	| Q V	|	|	|	|
1+15	0.0826	1.12	| Q V|	|	|	|	|
1+20	0.0898	1.04	| Q V|	|	|	|	|
1+25	0.0984	1.26	| Q V	|	|	|	|
1+30	0.1080	1.39	| Q |V	|	|	|	|
1+35	0.1169	1.29	| Q | V	|	|	|	|
1+40	0.1263	1.36	| Q | V	|	|	|	|


1+45 0.1377 1.66
1+50 0.1492 1.67
1+55 0.1599 1.56
2+ 0 0.1707 1.57
2+ 5 0.1819 1.62
2+10 0.1963 2.10
2+15 0.2143 2.60
2+20 0.2288 2.11
2+25 0.2511 3.23
2+30 0.2785 3.97
2+35 0.3089 4.43
2+40 0.3339 3.62
2+45 0.3452 1.64
2+50 0.3515 0.93
2+55 0.3577 0.89
3+ 0 0.3607 0.43
3+ 5 0.3612 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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Study date 01/03/22 File: 20522PRD36100.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA D3
100-YEAR 6-HOUR STORM

Drainage Area = 2.50(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.50(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 345.00(Ft.)
Length along longest watercourse measured to centroid = 270.00(Ft.)
Length along longest watercourse = 0.065 Mi.
Length along longest watercourse measured to centroid = 0.051 Mi.
Difference in elevation = 9.50(Ft.)
Slope along watercourse = 145.3913 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.016 Hr.
Lag time = 0.96 Min.
25% of lag time = 0.24 Min.
40% of lag time = 0.38 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.50	1.00	2.50

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.50	2.50	6.25

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
2.500	69.00	0.790

Total Area Entered = 2.50(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
69.0	84.4	0.194	0.790	0.056	1.000	0.056
					Sum (F) =	0.056

Area averaged mean soil loss (F) (In/Hr) = 0.056
Minimum soil loss rate ((In/Hr)) = 0.028
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.268

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	520.368	71.906	1.812
2	0.167	1040.737	28.094	0.708
		Sum = 100.000	Sum=	2.520

The following loss 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	0.150	(0.056)		0.040	0.110
2	0.17	0.60	0.180	(0.056)		0.048	0.132
3	0.25	0.60	0.180	(0.056)		0.048	0.132
4	0.33	0.60	0.180	(0.056)		0.048	0.132
5	0.42	0.60	0.180	(0.056)		0.048	0.132
6	0.50	0.70	0.210	0.056	(	0.056)	0.154
7	0.58	0.70	0.210	0.056	(	0.056)	0.154
8	0.67	0.70	0.210	0.056	(	0.056)	0.154
9	0.75	0.70	0.210	0.056	(	0.056)	0.154
10	0.83	0.70	0.210	0.056	(	0.056)	0.154
11	0.92	0.70	0.210	0.056	(	0.056)	0.154
12	1.00	0.80	0.240	0.056	(	0.064)	0.184
13	1.08	0.80	0.240	0.056	(	0.064)	0.184
14	1.17	0.80	0.240	0.056	(	0.064)	0.184
15	1.25	0.80	0.240	0.056	(	0.064)	0.184
16	1.33	0.80	0.240	0.056	(	0.064)	0.184
17	1.42	0.80	0.240	0.056	(	0.064)	0.184

18	1.50	0.80	0.240	0.056	(0.064)	0.184
19	1.58	0.80	0.240	0.056	(0.064)	0.184
20	1.67	0.80	0.240	0.056	(0.064)	0.184
21	1.75	0.80	0.240	0.056	(0.064)	0.184
22	1.83	0.80	0.240	0.056	(0.064)	0.184
23	1.92	0.80	0.240	0.056	(0.064)	0.184
24	2.00	0.90	0.270	0.056	(0.072)	0.214
25	2.08	0.80	0.240	0.056	(0.064)	0.184
26	2.17	0.90	0.270	0.056	(0.072)	0.214
27	2.25	0.90	0.270	0.056	(0.072)	0.214
28	2.33	0.90	0.270	0.056	(0.072)	0.214
29	2.42	0.90	0.270	0.056	(0.072)	0.214
30	2.50	0.90	0.270	0.056	(0.072)	0.214
31	2.58	0.90	0.270	0.056	(0.072)	0.214
32	2.67	0.90	0.270	0.056	(0.072)	0.214
33	2.75	1.00	0.300	0.056	(0.080)	0.244
34	2.83	1.00	0.300	0.056	(0.080)	0.244
35	2.92	1.00	0.300	0.056	(0.080)	0.244
36	3.00	1.00	0.300	0.056	(0.080)	0.244
37	3.08	1.00	0.300	0.056	(0.080)	0.244
38	3.17	1.10	0.330	0.056	(0.088)	0.274
39	3.25	1.10	0.330	0.056	(0.088)	0.274
40	3.33	1.10	0.330	0.056	(0.088)	0.274
41	3.42	1.20	0.360	0.056	(0.096)	0.304
42	3.50	1.30	0.390	0.056	(0.105)	0.334
43	3.58	1.40	0.420	0.056	(0.113)	0.364
44	3.67	1.40	0.420	0.056	(0.113)	0.364
45	3.75	1.50	0.450	0.056	(0.121)	0.394
46	3.83	1.50	0.450	0.056	(0.121)	0.394
47	3.92	1.60	0.480	0.056	(0.129)	0.424
48	4.00	1.60	0.480	0.056	(0.129)	0.424
49	4.08	1.70	0.510	0.056	(0.137)	0.454
50	4.17	1.80	0.540	0.056	(0.145)	0.484
51	4.25	1.90	0.570	0.056	(0.153)	0.514
52	4.33	2.00	0.600	0.056	(0.161)	0.544
53	4.42	2.10	0.630	0.056	(0.169)	0.574
54	4.50	2.10	0.630	0.056	(0.169)	0.574
55	4.58	2.20	0.660	0.056	(0.177)	0.604
56	4.67	2.30	0.690	0.056	(0.185)	0.634
57	4.75	2.40	0.720	0.056	(0.193)	0.664
58	4.83	2.40	0.720	0.056	(0.193)	0.664
59	4.92	2.50	0.750	0.056	(0.201)	0.694
60	5.00	2.60	0.780	0.056	(0.209)	0.724
61	5.08	3.10	0.930	0.056	(0.249)	0.874
62	5.17	3.60	1.080	0.056	(0.289)	1.024
63	5.25	3.90	1.170	0.056	(0.314)	1.114
64	5.33	4.20	1.260	0.056	(0.338)	1.204
65	5.42	4.70	1.410	0.056	(0.378)	1.354
66	5.50	5.60	1.680	0.056	(0.450)	1.624
67	5.58	1.90	0.570	0.056	(0.153)	0.514
68	5.67	0.90	0.270	0.056	(0.072)	0.214
69	5.75	0.60	0.180	(0.056)	0.048	0.132
70	5.83	0.50	0.150	(0.056)	0.040	0.110
71	5.92	0.30	0.090	(0.056)	0.024	0.066
72	6.00	0.20	0.060	(0.056)	0.016	0.044

(Loss Rate Not Used)

Sum = 100.0 Sum = 26.1

Flood volume = Effective rainfall 2.18(In)
times area 2.5(Ac.)/[(In)/(Ft.)] = 0.5(Ac.Ft)
Total soil loss = 0.32(In)

Total soil loss = 0.068(Ac.Ft)
Total rainfall = 2.50(In)
Flood volume = 19744.7 Cubic Feet
Total soil loss = 2942.6 Cubic Feet

Peak flow rate of this hydrograph = 3.903(CFS)

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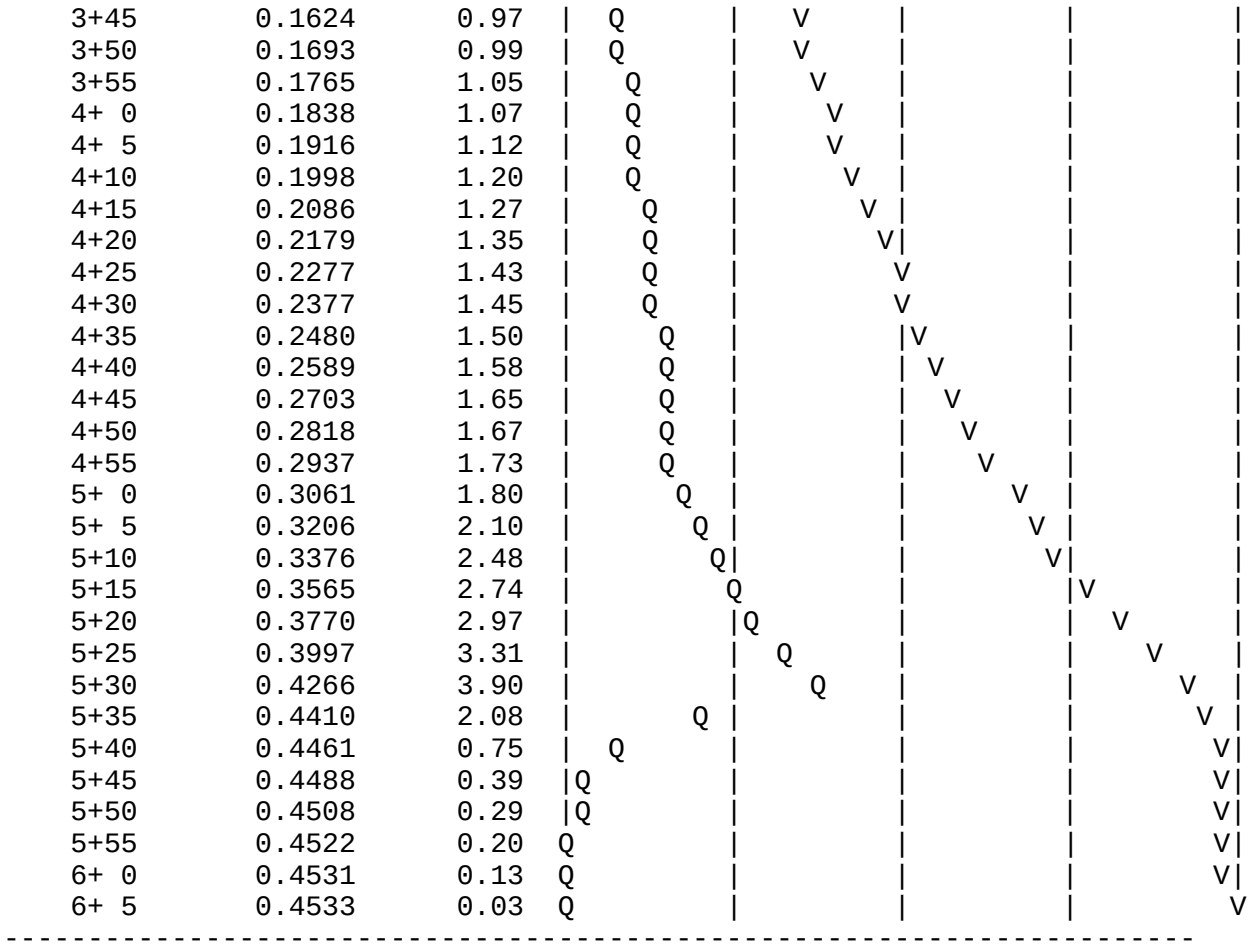
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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	0.0014	0.20	Q | | | |
0+10	0.0036	0.32	VQ | | | |
0+15	0.0058	0.33	VQ | | | |
0+20	0.0081	0.33	VQ | | | |
0+25	0.0104	0.33	VQ | | | |
0+30	0.0130	0.37	|Q | | | |
0+35	0.0157	0.39	|Q | | | |
0+40	0.0183	0.39	|Q | | | |
0+45	0.0210	0.39	|Q | | | |
0+50	0.0237	0.39	|QV | | | |
0+55	0.0263	0.39	|QV | | | |
1+ 0	0.0294	0.44	|QV | | | |
1+ 5	0.0326	0.46	|QV | | | |
1+10	0.0358	0.46	|Q V | | | |
1+15	0.0390	0.46	|Q V | | | |
1+20	0.0422	0.46	|Q V | | | |
1+25	0.0454	0.46	|Q V | | | |
1+30	0.0486	0.46	|Q V | | | |
1+35	0.0518	0.46	|Q V | | | |
1+40	0.0549	0.46	|Q V | | | |
1+45	0.0581	0.46	|Q V | | | |
1+50	0.0613	0.46	|Q V | | | |
1+55	0.0645	0.46	|Q V | | | |
2+ 0	0.0681	0.52	| Q V | | | |
2+ 5	0.0714	0.49	|Q V | | | |
2+10	0.0750	0.52	| Q V | | | |
2+15	0.0787	0.54	| Q V | | | |
2+20	0.0824	0.54	| Q V | | | |
2+25	0.0861	0.54	| Q V | | | |
2+30	0.0899	0.54	| Q V | | | |
2+35	0.0936	0.54	| Q V | | | |
2+40	0.0973	0.54	| Q V | | | |
2+45	0.1014	0.59	| Q V | | | |
2+50	0.1056	0.62	| Q V| | | |
2+55	0.1099	0.62	| Q V| | | |
3+ 0	0.1141	0.62	| Q V | | |
3+ 5	0.1183	0.62	| Q V | | |
3+10	0.1229	0.67	| Q V | | |
3+15	0.1277	0.69	| Q |V | | |
3+20	0.1324	0.69	| Q |V | | |
3+25	0.1376	0.75	| Q | V | | |
3+30	0.1432	0.82	| Q | V | | |
3+35	0.1494	0.90	| Q | V | | |
3+40	0.1557	0.92	| Q | V | | |


3+45 0.1624 0.97
3+50 0.1693 0.99
3+55 0.1765 1.05
4+ 0 0.1838 1.07
4+ 5 0.1916 1.12
4+10 0.1998 1.20
4+15 0.2086 1.27
4+20 0.2179 1.35
4+25 0.2277 1.43
4+30 0.2377 1.45
4+35 0.2480 1.50
4+40 0.2589 1.58
4+45 0.2703 1.65
4+50 0.2818 1.67
4+55 0.2937 1.73
5+ 0 0.3061 1.80
5+ 5 0.3206 2.10
5+10 0.3376 2.48
5+15 0.3565 2.74
5+20 0.3770 2.97
5+25 0.3997 3.31
5+30 0.4266 3.90
5+35 0.4410 2.08
5+40 0.4461 0.75
5+45 0.4488 0.39
5+50 0.4508 0.29
5+55 0.4522 0.20
6+ 0 0.4531 0.13
6+ 5 0.4533 0.03

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 01/03/22 File: 20522PRD324100.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA D3
100-YEAR 24-HOUR STORM

Drainage Area = 2.50(Ac.) = 0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.50(Ac.) = 0.004 Sq. Mi.
Length along longest watercourse = 345.00(Ft.)
Length along longest watercourse measured to centroid = 270.00(Ft.)
Length along longest watercourse = 0.065 Mi.
Length along longest watercourse measured to centroid = 0.051 Mi.
Difference in elevation = 9.50(Ft.)
Slope along watercourse = 145.3913 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.016 Hr.
Lag time = 0.96 Min.
25% of lag time = 0.24 Min.
40% of lag time = 0.38 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.50	1.60	4.00

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.50	4.00	10.00

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 4.000(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.000(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
2.500	69.00	0.790

Total Area Entered = 2.50(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
69.0	84.4	0.194	0.790	0.056	1.000	0.056
					Sum (F) =	0.056

Area averaged mean soil loss (F) (In/Hr) = 0.056
Minimum soil loss rate ((In/Hr)) = 0.028
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.268

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	520.368	71.906	1.812
2	0.167	1040.737	28.094	0.708
		Sum = 100.000	Sum=	2.520

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.07	0.032	(0.099)		0.009	0.023
2	0.17	0.07	0.032	(0.099)		0.009	0.023
3	0.25	0.07	0.032	(0.099)		0.009	0.023
4	0.33	0.10	0.048	(0.098)		0.013	0.035
5	0.42	0.10	0.048	(0.098)		0.013	0.035
6	0.50	0.10	0.048	(0.097)		0.013	0.035
7	0.58	0.10	0.048	(0.097)		0.013	0.035
8	0.67	0.10	0.048	(0.097)		0.013	0.035
9	0.75	0.10	0.048	(0.096)		0.013	0.035
10	0.83	0.13	0.064	(0.096)		0.017	0.047
11	0.92	0.13	0.064	(0.096)		0.017	0.047
12	1.00	0.13	0.064	(0.095)		0.017	0.047
13	1.08	0.10	0.048	(0.095)		0.013	0.035
14	1.17	0.10	0.048	(0.094)		0.013	0.035
15	1.25	0.10	0.048	(0.094)		0.013	0.035
16	1.33	0.10	0.048	(0.094)		0.013	0.035
17	1.42	0.10	0.048	(0.093)		0.013	0.035

18	1.50	0.10	0.048	(0.093)	0.013	0.035
19	1.58	0.10	0.048	(0.093)	0.013	0.035
20	1.67	0.10	0.048	(0.092)	0.013	0.035
21	1.75	0.10	0.048	(0.092)	0.013	0.035
22	1.83	0.13	0.064	(0.091)	0.017	0.047
23	1.92	0.13	0.064	(0.091)	0.017	0.047
24	2.00	0.13	0.064	(0.091)	0.017	0.047
25	2.08	0.13	0.064	(0.090)	0.017	0.047
26	2.17	0.13	0.064	(0.090)	0.017	0.047
27	2.25	0.13	0.064	(0.090)	0.017	0.047
28	2.33	0.13	0.064	(0.089)	0.017	0.047
29	2.42	0.13	0.064	(0.089)	0.017	0.047
30	2.50	0.13	0.064	(0.088)	0.017	0.047
31	2.58	0.17	0.080	(0.088)	0.021	0.059
32	2.67	0.17	0.080	(0.088)	0.021	0.059
33	2.75	0.17	0.080	(0.087)	0.021	0.059
34	2.83	0.17	0.080	(0.087)	0.021	0.059
35	2.92	0.17	0.080	(0.087)	0.021	0.059
36	3.00	0.17	0.080	(0.086)	0.021	0.059
37	3.08	0.17	0.080	(0.086)	0.021	0.059
38	3.17	0.17	0.080	(0.086)	0.021	0.059
39	3.25	0.17	0.080	(0.085)	0.021	0.059
40	3.33	0.17	0.080	(0.085)	0.021	0.059
41	3.42	0.17	0.080	(0.085)	0.021	0.059
42	3.50	0.17	0.080	(0.084)	0.021	0.059
43	3.58	0.17	0.080	(0.084)	0.021	0.059
44	3.67	0.17	0.080	(0.083)	0.021	0.059
45	3.75	0.17	0.080	(0.083)	0.021	0.059
46	3.83	0.20	0.096	(0.083)	0.026	0.070
47	3.92	0.20	0.096	(0.082)	0.026	0.070
48	4.00	0.20	0.096	(0.082)	0.026	0.070
49	4.08	0.20	0.096	(0.082)	0.026	0.070
50	4.17	0.20	0.096	(0.081)	0.026	0.070
51	4.25	0.20	0.096	(0.081)	0.026	0.070
52	4.33	0.23	0.112	(0.081)	0.030	0.082
53	4.42	0.23	0.112	(0.080)	0.030	0.082
54	4.50	0.23	0.112	(0.080)	0.030	0.082
55	4.58	0.23	0.112	(0.080)	0.030	0.082
56	4.67	0.23	0.112	(0.079)	0.030	0.082
57	4.75	0.23	0.112	(0.079)	0.030	0.082
58	4.83	0.27	0.128	(0.079)	0.034	0.094
59	4.92	0.27	0.128	(0.078)	0.034	0.094
60	5.00	0.27	0.128	(0.078)	0.034	0.094
61	5.08	0.20	0.096	(0.078)	0.026	0.070
62	5.17	0.20	0.096	(0.077)	0.026	0.070
63	5.25	0.20	0.096	(0.077)	0.026	0.070
64	5.33	0.23	0.112	(0.077)	0.030	0.082
65	5.42	0.23	0.112	(0.076)	0.030	0.082
66	5.50	0.23	0.112	(0.076)	0.030	0.082
67	5.58	0.27	0.128	(0.076)	0.034	0.094
68	5.67	0.27	0.128	(0.075)	0.034	0.094
69	5.75	0.27	0.128	(0.075)	0.034	0.094
70	5.83	0.27	0.128	(0.075)	0.034	0.094
71	5.92	0.27	0.128	(0.074)	0.034	0.094
72	6.00	0.27	0.128	(0.074)	0.034	0.094
73	6.08	0.30	0.144	(0.074)	0.039	0.105
74	6.17	0.30	0.144	(0.073)	0.039	0.105
75	6.25	0.30	0.144	(0.073)	0.039	0.105
76	6.33	0.30	0.144	(0.073)	0.039	0.105
77	6.42	0.30	0.144	(0.072)	0.039	0.105

78	6.50	0.30	0.144	(0.072)	0.039	0.105
79	6.58	0.33	0.160	(0.072)	0.043	0.117
80	6.67	0.33	0.160	(0.071)	0.043	0.117
81	6.75	0.33	0.160	(0.071)	0.043	0.117
82	6.83	0.33	0.160	(0.071)	0.043	0.117
83	6.92	0.33	0.160	(0.070)	0.043	0.117
84	7.00	0.33	0.160	(0.070)	0.043	0.117
85	7.08	0.33	0.160	(0.070)	0.043	0.117
86	7.17	0.33	0.160	(0.069)	0.043	0.117
87	7.25	0.33	0.160	(0.069)	0.043	0.117
88	7.33	0.37	0.176	(0.069)	0.047	0.129
89	7.42	0.37	0.176	(0.068)	0.047	0.129
90	7.50	0.37	0.176	(0.068)	0.047	0.129
91	7.58	0.40	0.192	(0.068)	0.051	0.141
92	7.67	0.40	0.192	(0.068)	0.051	0.141
93	7.75	0.40	0.192	(0.067)	0.051	0.141
94	7.83	0.43	0.208	(0.067)	0.056	0.152
95	7.92	0.43	0.208	(0.067)	0.056	0.152
96	8.00	0.43	0.208	(0.066)	0.056	0.152
97	8.08	0.50	0.240	(0.066)	0.064	0.176
98	8.17	0.50	0.240	(0.066)	0.064	0.176
99	8.25	0.50	0.240	(0.065)	0.064	0.176
100	8.33	0.50	0.240	(0.065)	0.064	0.176
101	8.42	0.50	0.240	(0.065)	0.064	0.176
102	8.50	0.50	0.240	(0.064)	0.064	0.176
103	8.58	0.53	0.256	0.064	(0.069)	0.192
104	8.67	0.53	0.256	0.064	(0.069)	0.192
105	8.75	0.53	0.256	0.064	(0.069)	0.192
106	8.83	0.57	0.272	0.063	(0.073)	0.209
107	8.92	0.57	0.272	0.063	(0.073)	0.209
108	9.00	0.57	0.272	0.063	(0.073)	0.209
109	9.08	0.63	0.304	0.062	(0.081)	0.242
110	9.17	0.63	0.304	0.062	(0.081)	0.242
111	9.25	0.63	0.304	0.062	(0.081)	0.242
112	9.33	0.67	0.320	0.061	(0.086)	0.259
113	9.42	0.67	0.320	0.061	(0.086)	0.259
114	9.50	0.67	0.320	0.061	(0.086)	0.259
115	9.58	0.70	0.336	0.061	(0.090)	0.275
116	9.67	0.70	0.336	0.060	(0.090)	0.276
117	9.75	0.70	0.336	0.060	(0.090)	0.276
118	9.83	0.73	0.352	0.060	(0.094)	0.292
119	9.92	0.73	0.352	0.059	(0.094)	0.293
120	10.00	0.73	0.352	0.059	(0.094)	0.293
121	10.08	0.50	0.240	0.059	(0.064)	0.181
122	10.17	0.50	0.240	0.059	(0.064)	0.181
123	10.25	0.50	0.240	0.058	(0.064)	0.182
124	10.33	0.50	0.240	0.058	(0.064)	0.182
125	10.42	0.50	0.240	0.058	(0.064)	0.182
126	10.50	0.50	0.240	0.057	(0.064)	0.183
127	10.58	0.67	0.320	0.057	(0.086)	0.263
128	10.67	0.67	0.320	0.057	(0.086)	0.263
129	10.75	0.67	0.320	0.057	(0.086)	0.263
130	10.83	0.67	0.320	0.056	(0.086)	0.264
131	10.92	0.67	0.320	0.056	(0.086)	0.264
132	11.00	0.67	0.320	0.056	(0.086)	0.264
133	11.08	0.63	0.304	0.056	(0.081)	0.248
134	11.17	0.63	0.304	0.055	(0.081)	0.249
135	11.25	0.63	0.304	0.055	(0.081)	0.249
136	11.33	0.63	0.304	0.055	(0.081)	0.249
137	11.42	0.63	0.304	0.054	(0.081)	0.250

138	11.50	0.63	0.304	0.054	(0.081)	0.250
139	11.58	0.57	0.272	0.054	(0.073)	0.218
140	11.67	0.57	0.272	0.054	(0.073)	0.218
141	11.75	0.57	0.272	0.053	(0.073)	0.219
142	11.83	0.60	0.288	0.053	(0.077)	0.235
143	11.92	0.60	0.288	0.053	(0.077)	0.235
144	12.00	0.60	0.288	0.053	(0.077)	0.235
145	12.08	0.83	0.400	0.052	(0.107)	0.348
146	12.17	0.83	0.400	0.052	(0.107)	0.348
147	12.25	0.83	0.400	0.052	(0.107)	0.348
148	12.33	0.87	0.416	0.052	(0.111)	0.364
149	12.42	0.87	0.416	0.051	(0.111)	0.365
150	12.50	0.87	0.416	0.051	(0.111)	0.365
151	12.58	0.93	0.448	0.051	(0.120)	0.397
152	12.67	0.93	0.448	0.050	(0.120)	0.398
153	12.75	0.93	0.448	0.050	(0.120)	0.398
154	12.83	0.97	0.464	0.050	(0.124)	0.414
155	12.92	0.97	0.464	0.050	(0.124)	0.414
156	13.00	0.97	0.464	0.049	(0.124)	0.415
157	13.08	1.13	0.544	0.049	(0.146)	0.495
158	13.17	1.13	0.544	0.049	(0.146)	0.495
159	13.25	1.13	0.544	0.049	(0.146)	0.495
160	13.33	1.13	0.544	0.048	(0.146)	0.496
161	13.42	1.13	0.544	0.048	(0.146)	0.496
162	13.50	1.13	0.544	0.048	(0.146)	0.496
163	13.58	0.77	0.368	0.048	(0.099)	0.320
164	13.67	0.77	0.368	0.047	(0.099)	0.321
165	13.75	0.77	0.368	0.047	(0.099)	0.321
166	13.83	0.77	0.368	0.047	(0.099)	0.321
167	13.92	0.77	0.368	0.047	(0.099)	0.321
168	14.00	0.77	0.368	0.047	(0.099)	0.321
169	14.08	0.90	0.432	0.046	(0.116)	0.386
170	14.17	0.90	0.432	0.046	(0.116)	0.386
171	14.25	0.90	0.432	0.046	(0.116)	0.386
172	14.33	0.87	0.416	0.046	(0.111)	0.370
173	14.42	0.87	0.416	0.045	(0.111)	0.371
174	14.50	0.87	0.416	0.045	(0.111)	0.371
175	14.58	0.87	0.416	0.045	(0.111)	0.371
176	14.67	0.87	0.416	0.045	(0.111)	0.371
177	14.75	0.87	0.416	0.044	(0.111)	0.372
178	14.83	0.83	0.400	0.044	(0.107)	0.356
179	14.92	0.83	0.400	0.044	(0.107)	0.356
180	15.00	0.83	0.400	0.044	(0.107)	0.356
181	15.08	0.80	0.384	0.044	(0.103)	0.340
182	15.17	0.80	0.384	0.043	(0.103)	0.341
183	15.25	0.80	0.384	0.043	(0.103)	0.341
184	15.33	0.77	0.368	0.043	(0.099)	0.325
185	15.42	0.77	0.368	0.043	(0.099)	0.325
186	15.50	0.77	0.368	0.042	(0.099)	0.326
187	15.58	0.63	0.304	0.042	(0.081)	0.262
188	15.67	0.63	0.304	0.042	(0.081)	0.262
189	15.75	0.63	0.304	0.042	(0.081)	0.262
190	15.83	0.63	0.304	0.042	(0.081)	0.262
191	15.92	0.63	0.304	0.041	(0.081)	0.263
192	16.00	0.63	0.304	0.041	(0.081)	0.263
193	16.08	0.13	0.064	(0.041)	0.017	0.047
194	16.17	0.13	0.064	(0.041)	0.017	0.047
195	16.25	0.13	0.064	(0.041)	0.017	0.047
196	16.33	0.13	0.064	(0.040)	0.017	0.047
197	16.42	0.13	0.064	(0.040)	0.017	0.047

198	16.50	0.13	0.064	(0.040)	0.017	0.047
199	16.58	0.10	0.048	(0.040)	0.013	0.035
200	16.67	0.10	0.048	(0.039)	0.013	0.035
201	16.75	0.10	0.048	(0.039)	0.013	0.035
202	16.83	0.10	0.048	(0.039)	0.013	0.035
203	16.92	0.10	0.048	(0.039)	0.013	0.035
204	17.00	0.10	0.048	(0.039)	0.013	0.035
205	17.08	0.17	0.080	(0.039)	0.021	0.059
206	17.17	0.17	0.080	(0.038)	0.021	0.059
207	17.25	0.17	0.080	(0.038)	0.021	0.059
208	17.33	0.17	0.080	(0.038)	0.021	0.059
209	17.42	0.17	0.080	(0.038)	0.021	0.059
210	17.50	0.17	0.080	(0.038)	0.021	0.059
211	17.58	0.17	0.080	(0.037)	0.021	0.059
212	17.67	0.17	0.080	(0.037)	0.021	0.059
213	17.75	0.17	0.080	(0.037)	0.021	0.059
214	17.83	0.13	0.064	(0.037)	0.017	0.047
215	17.92	0.13	0.064	(0.037)	0.017	0.047
216	18.00	0.13	0.064	(0.036)	0.017	0.047
217	18.08	0.13	0.064	(0.036)	0.017	0.047
218	18.17	0.13	0.064	(0.036)	0.017	0.047
219	18.25	0.13	0.064	(0.036)	0.017	0.047
220	18.33	0.13	0.064	(0.036)	0.017	0.047
221	18.42	0.13	0.064	(0.036)	0.017	0.047
222	18.50	0.13	0.064	(0.035)	0.017	0.047
223	18.58	0.10	0.048	(0.035)	0.013	0.035
224	18.67	0.10	0.048	(0.035)	0.013	0.035
225	18.75	0.10	0.048	(0.035)	0.013	0.035
226	18.83	0.07	0.032	(0.035)	0.009	0.023
227	18.92	0.07	0.032	(0.035)	0.009	0.023
228	19.00	0.07	0.032	(0.034)	0.009	0.023
229	19.08	0.10	0.048	(0.034)	0.013	0.035
230	19.17	0.10	0.048	(0.034)	0.013	0.035
231	19.25	0.10	0.048	(0.034)	0.013	0.035
232	19.33	0.13	0.064	(0.034)	0.017	0.047
233	19.42	0.13	0.064	(0.034)	0.017	0.047
234	19.50	0.13	0.064	(0.033)	0.017	0.047
235	19.58	0.10	0.048	(0.033)	0.013	0.035
236	19.67	0.10	0.048	(0.033)	0.013	0.035
237	19.75	0.10	0.048	(0.033)	0.013	0.035
238	19.83	0.07	0.032	(0.033)	0.009	0.023
239	19.92	0.07	0.032	(0.033)	0.009	0.023
240	20.00	0.07	0.032	(0.033)	0.009	0.023
241	20.08	0.10	0.048	(0.032)	0.013	0.035
242	20.17	0.10	0.048	(0.032)	0.013	0.035
243	20.25	0.10	0.048	(0.032)	0.013	0.035
244	20.33	0.10	0.048	(0.032)	0.013	0.035
245	20.42	0.10	0.048	(0.032)	0.013	0.035
246	20.50	0.10	0.048	(0.032)	0.013	0.035
247	20.58	0.10	0.048	(0.032)	0.013	0.035
248	20.67	0.10	0.048	(0.031)	0.013	0.035
249	20.75	0.10	0.048	(0.031)	0.013	0.035
250	20.83	0.07	0.032	(0.031)	0.009	0.023
251	20.92	0.07	0.032	(0.031)	0.009	0.023
252	21.00	0.07	0.032	(0.031)	0.009	0.023
253	21.08	0.10	0.048	(0.031)	0.013	0.035
254	21.17	0.10	0.048	(0.031)	0.013	0.035
255	21.25	0.10	0.048	(0.031)	0.013	0.035
256	21.33	0.07	0.032	(0.030)	0.009	0.023
257	21.42	0.07	0.032	(0.030)	0.009	0.023

258	21.50	0.07	0.032	(0.030)	0.009	0.023
259	21.58	0.10	0.048	(0.030)	0.013	0.035
260	21.67	0.10	0.048	(0.030)	0.013	0.035
261	21.75	0.10	0.048	(0.030)	0.013	0.035
262	21.83	0.07	0.032	(0.030)	0.009	0.023
263	21.92	0.07	0.032	(0.030)	0.009	0.023
264	22.00	0.07	0.032	(0.030)	0.009	0.023
265	22.08	0.10	0.048	(0.029)	0.013	0.035
266	22.17	0.10	0.048	(0.029)	0.013	0.035
267	22.25	0.10	0.048	(0.029)	0.013	0.035
268	22.33	0.07	0.032	(0.029)	0.009	0.023
269	22.42	0.07	0.032	(0.029)	0.009	0.023
270	22.50	0.07	0.032	(0.029)	0.009	0.023
271	22.58	0.07	0.032	(0.029)	0.009	0.023
272	22.67	0.07	0.032	(0.029)	0.009	0.023
273	22.75	0.07	0.032	(0.029)	0.009	0.023
274	22.83	0.07	0.032	(0.029)	0.009	0.023
275	22.92	0.07	0.032	(0.029)	0.009	0.023
276	23.00	0.07	0.032	(0.029)	0.009	0.023
277	23.08	0.07	0.032	(0.028)	0.009	0.023
278	23.17	0.07	0.032	(0.028)	0.009	0.023
279	23.25	0.07	0.032	(0.028)	0.009	0.023
280	23.33	0.07	0.032	(0.028)	0.009	0.023
281	23.42	0.07	0.032	(0.028)	0.009	0.023
282	23.50	0.07	0.032	(0.028)	0.009	0.023
283	23.58	0.07	0.032	(0.028)	0.009	0.023
284	23.67	0.07	0.032	(0.028)	0.009	0.023
285	23.75	0.07	0.032	(0.028)	0.009	0.023
286	23.83	0.07	0.032	(0.028)	0.009	0.023
287	23.92	0.07	0.032	(0.028)	0.009	0.023
288	24.00	0.07	0.032	(0.028)	0.009	0.023

(Loss Rate Not Used)

Sum = 100.0 Sum = 39.1

Flood volume = Effective rainfall 3.26(In)
times area 2.5(Ac.)/[(In)/(Ft.)] = 0.7(Ac.Ft)
Total soil loss = 0.74(In)
Total soil loss = 0.155(Ac.Ft)
Total rainfall = 4.00(In)
Flood volume = 29541.6 Cubic Feet
Total soil loss = 6758.2 Cubic Feet

Peak flow rate of this hydrograph = 1.250(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	0.0003	0.04	Q	|	|	|	|
0+10	0.0007	0.06	Q	|	|	|	|
0+15	0.0011	0.06	Q	|	|	|	|
0+20	0.0017	0.08	Q	|	|	|	|
0+25	0.0023	0.09	Q	|	|	|	|
0+30	0.0029	0.09	Q	|	|	|	|
0+35	0.0035	0.09	Q	|	|	|	|
0+40	0.0041	0.09	Q	|	|	|	|

0+45	0.0047	0.09	Q	|	|	|	|
0+50	0.0055	0.11	Q	|	|	|	|
0+55	0.0063	0.12	Q	|	|	|	|
1+ 0	0.0071	0.12	Q	|	|	|	|
1+ 5	0.0078	0.10	Q	|	|	|	|
1+10	0.0084	0.09	Q	|	|	|	|
1+15	0.0090	0.09	Q	|	|	|	|
1+20	0.0096	0.09	Q	|	|	|	|
1+25	0.0102	0.09	Q	|	|	|	|
1+30	0.0108	0.09	Q	|	|	|	|
1+35	0.0114	0.09	Q	|	|	|	|
1+40	0.0120	0.09	Q	|	|	|	|
1+45	0.0126	0.09	Q	|	|	|	|
1+50	0.0134	0.11	Q	|	|	|	|
1+55	0.0142	0.12	Q	|	|	|	|
2+ 0	0.0150	0.12	Q	|	|	|	|
2+ 5	0.0158	0.12	Q	|	|	|	|
2+10	0.0166	0.12	Q	|	|	|	|
2+15	0.0175	0.12	QV	|	|	|	|
2+20	0.0183	0.12	QV	|	|	|	|
2+25	0.0191	0.12	QV	|	|	|	|
2+30	0.0199	0.12	QV	|	|	|	|
2+35	0.0209	0.14	QV	|	|	|	|
2+40	0.0219	0.15	QV	|	|	|	|
2+45	0.0229	0.15	QV	|	|	|	|
2+50	0.0239	0.15	QV	|	|	|	|
2+55	0.0249	0.15	QV	|	|	|	|
3+ 0	0.0259	0.15	QV	|	|	|	|
3+ 5	0.0270	0.15	QV	|	|	|	|
3+10	0.0280	0.15	QV	|	|	|	|
3+15	0.0290	0.15	QV	|	|	|	|
3+20	0.0300	0.15	QV	|	|	|	|
3+25	0.0310	0.15	QV	|	|	|	|
3+30	0.0320	0.15	QV	|	|	|	|
3+35	0.0331	0.15	QV	|	|	|	|
3+40	0.0341	0.15	Q V	|	|	|	|
3+45	0.0351	0.15	Q V	|	|	|	|
3+50	0.0363	0.17	Q V	|	|	|	|
3+55	0.0375	0.18	Q V	|	|	|	|
4+ 0	0.0387	0.18	Q V	|	|	|	|
4+ 5	0.0399	0.18	Q V	|	|	|	|
4+10	0.0411	0.18	Q V	|	|	|	|
4+15	0.0424	0.18	Q V	|	|	|	|
4+20	0.0437	0.20	Q V	|	|	|	|
4+25	0.0451	0.21	Q V	|	|	|	|
4+30	0.0466	0.21	Q V	|	|	|	|
4+35	0.0480	0.21	Q V	|	|	|	|
4+40	0.0494	0.21	Q V	|	|	|	|
4+45	0.0508	0.21	Q V	|	|	|	|
4+50	0.0524	0.23	Q V	|	|	|	|
4+55	0.0540	0.24	Q V	|	|	|	|
5+ 0	0.0557	0.24	Q V	|	|	|	|
5+ 5	0.0570	0.19	Q V	|	|	|	|
5+10	0.0582	0.18	Q V	|	|	|	|
5+15	0.0594	0.18	Q V	|	|	|	|
5+20	0.0608	0.20	Q V	|	|	|	|
5+25	0.0622	0.21	Q V	|	|	|	|
5+30	0.0636	0.21	Q V	|	|	|	|
5+35	0.0652	0.23	Q V	|	|	|	|
5+40	0.0668	0.24	Q V	|	|	|	|

5+45	0.0685	0.24	Q V	|	|	|	|
5+50	0.0701	0.24	Q V	|	|	|	|
5+55	0.0717	0.24	Q V	|	|	|	|
6+ 0	0.0734	0.24	Q V	|	|	|	|
6+ 5	0.0751	0.26	|Q V	|	|	|	|
6+10	0.0770	0.27	|Q V	|	|	|	|
6+15	0.0788	0.27	|Q V	|	|	|	|
6+20	0.0806	0.27	|Q V	|	|	|	|
6+25	0.0824	0.27	|Q V	|	|	|	|
6+30	0.0843	0.27	|Q V	|	|	|	|
6+35	0.0863	0.29	|Q V	|	|	|	|
6+40	0.0883	0.30	|Q V	|	|	|	|
6+45	0.0903	0.30	|Q V	|	|	|	|
6+50	0.0924	0.30	|Q V	|	|	|	|
6+55	0.0944	0.30	|Q V	|	|	|	|
7+ 0	0.0964	0.30	|Q V	|	|	|	|
7+ 5	0.0985	0.30	|Q V	|	|	|	|
7+10	0.1005	0.30	|Q V	|	|	|	|
7+15	0.1025	0.30	|Q V	|	|	|	|
7+20	0.1047	0.32	|Q V	|	|	|	|
7+25	0.1069	0.32	|Q V	|	|	|	|
7+30	0.1092	0.32	|Q V	|	|	|	|
7+35	0.1116	0.35	|Q V	|	|	|	|
7+40	0.1140	0.35	|Q V	|	|	|	|
7+45	0.1164	0.35	|Q V	|	|	|	|
7+50	0.1190	0.38	|Q V	|	|	|	|
7+55	0.1217	0.38	|Q V	|	|	|	|
8+ 0	0.1243	0.38	|Q V	|	|	|	|
8+ 5	0.1272	0.43	|Q V	|	|	|	|
8+10	0.1303	0.44	|Q V	|	|	|	|
8+15	0.1333	0.44	|Q V	|	|	|	|
8+20	0.1364	0.44	|Q V |	|	|	|	|
8+25	0.1394	0.44	|Q V |	|	|	|	|
8+30	0.1425	0.44	|Q V |	|	|	|	|
8+35	0.1457	0.47	|Q V |	|	|	|	|
8+40	0.1491	0.48	|Q V |	|	|	|	|
8+45	0.1524	0.48	|Q V |	|	|	|	|
8+50	0.1560	0.51	| Q V|	|	|	|	|
8+55	0.1596	0.53	| Q V|	|	|	|	|
9+ 0	0.1632	0.53	| Q V|	|	|	|	|
9+ 5	0.1673	0.59	| Q V|	|	|	|	|
9+10	0.1715	0.61	| Q V	|	|	|	|
9+15	0.1757	0.61	| Q V	|	|	|	|
9+20	0.1801	0.64	| Q V	|	|	|	|
9+25	0.1846	0.65	| Q V	|	|	|	|
9+30	0.1891	0.65	| Q |V	|	|	|	|
9+35	0.1938	0.68	| Q |V	|	|	|	|
9+40	0.1985	0.69	| Q |V	|	|	|	|
9+45	0.2033	0.70	| Q |V	|	|	|	|
9+50	0.2083	0.73	| Q | V	|	|	|	|
9+55	0.2134	0.74	| Q | V	|	|	|	|
10+ 0	0.2185	0.74	| Q | V	|	|	|	|
10+ 5	0.2222	0.54	| Q | V	|	|	|	|
10+10	0.2253	0.46	|Q | V	|	|	|	|
10+15	0.2285	0.46	|Q | V	|	|	|	|
10+20	0.2316	0.46	|Q | V	|	|	|	|
10+25	0.2348	0.46	|Q | V	|	|	|	|
10+30	0.2380	0.46	|Q | V	|	|	|	|
10+35	0.2421	0.61	| Q | V	|	|	|	|
10+40	0.2467	0.66	| Q | V	|	|	|	|

10+45	0.2513	0.66	Q		V			
10+50	0.2559	0.66	Q		V			
10+55	0.2604	0.67	Q		V			
11+ 0	0.2650	0.67	Q		V			
11+ 5	0.2694	0.64	Q		V			
11+10	0.2737	0.63	Q		V			
11+15	0.2781	0.63	Q		V			
11+20	0.2824	0.63	Q		V			
11+25	0.2867	0.63	Q		V			
11+30	0.2910	0.63	Q		V			
11+35	0.2950	0.57	Q		V			
11+40	0.2988	0.55	Q		V			
11+45	0.3026	0.55	Q		V			
11+50	0.3066	0.58	Q		V			
11+55	0.3107	0.59	Q		V			
12+ 0	0.3147	0.59	Q		V			
12+ 5	0.3202	0.80	Q		V			
12+10	0.3263	0.88	Q		V			
12+15	0.3323	0.88	Q		V			
12+20	0.3386	0.91	Q		V			
12+25	0.3449	0.92	Q		V			
12+30	0.3512	0.92	Q		V			
12+35	0.3580	0.98	Q		V			
12+40	0.3649	1.00	Q		V			
12+45	0.3718	1.00	Q		V			
12+50	0.3789	1.03	Q		V			
12+55	0.3861	1.04	Q		V			
13+ 0	0.3933	1.04	Q		V			
13+ 5	0.4015	1.19	Q		V			
13+10	0.4101	1.25	Q		V			
13+15	0.4187	1.25	Q		V			
13+20	0.4273	1.25	Q		V			
13+25	0.4359	1.25	Q		V			
13+30	0.4445	1.25	Q		V			
13+35	0.4509	0.93	Q		V			
13+40	0.4565	0.81	Q		V			
13+45	0.4620	0.81	Q		V			
13+50	0.4676	0.81	Q		V			
13+55	0.4732	0.81	Q		V			
14+ 0	0.4788	0.81	Q		V			
14+ 5	0.4851	0.93	Q		V			
14+10	0.4918	0.97	Q		V			
14+15	0.4985	0.97	Q		V			
14+20	0.5050	0.94	Q		V			
14+25	0.5115	0.93	Q		V			
14+30	0.5179	0.93	Q		V			
14+35	0.5244	0.94	Q		V			
14+40	0.5308	0.94	Q		V			
14+45	0.5373	0.94	Q		V			
14+50	0.5435	0.91	Q		V			
14+55	0.5497	0.90	Q		V			
15+ 0	0.5559	0.90	Q		V			
15+ 5	0.5619	0.87	Q		V			
15+10	0.5678	0.86	Q		V			
15+15	0.5737	0.86	Q		V			
15+20	0.5794	0.83	Q		V			
15+25	0.5851	0.82	Q		V			
15+30	0.5907	0.82	Q		V			
15+35	0.5956	0.71	Q		V			
15+40	0.6001	0.66	Q		V			

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15+45       0.6047      0.66  | Q       |         |         |    V    |
15+50       0.6092      0.66  | Q       |         |         |    V    |
15+55       0.6138      0.66  | Q       |         |         |     V   |
16+ 0       0.6183      0.66  | Q       |         |         |     V   |
16+ 5       0.6202      0.27  |Q        |         |         |     V   |
16+10       0.6210      0.12  Q         |         |         |     V   |
16+15       0.6218      0.12  Q         |         |         |     V   |
16+20       0.6226      0.12  Q         |         |         |     V   |
16+25       0.6235      0.12  Q         |         |         |     V   |
16+30       0.6243      0.12  Q         |         |         |     V   |
16+35       0.6249      0.10  Q         |         |         |     V   |
16+40       0.6256      0.09  Q         |         |         |     V   |
16+45       0.6262      0.09  Q         |         |         |     V   |
16+50       0.6268      0.09  Q         |         |         |     V   |
16+55       0.6274      0.09  Q         |         |         |      V  |
17+ 0       0.6280      0.09  Q         |         |         |      V  |
17+ 5       0.6289      0.13  Q         |         |         |      V  |
17+10       0.6299      0.15  Q         |         |         |      V  |
17+15       0.6309      0.15  Q         |         |         |      V  |
17+20       0.6319      0.15  Q         |         |         |      V  |
17+25       0.6330      0.15  Q         |         |         |      V  |
17+30       0.6340      0.15  Q         |         |         |      V  |
17+35       0.6350      0.15  Q         |         |         |      V  |
17+40       0.6360      0.15  Q         |         |         |      V  |
17+45       0.6370      0.15  Q         |         |         |      V  |
17+50       0.6379      0.13  Q         |         |         |      V  |
17+55       0.6387      0.12  Q         |         |         |      V  |
18+ 0       0.6395      0.12  Q         |         |         |      V  |
18+ 5       0.6403      0.12  Q         |         |         |      V  |
18+10       0.6412      0.12  Q         |         |         |      V  |
18+15       0.6420      0.12  Q         |         |         |      V  |
18+20       0.6428      0.12  Q         |         |         |      V  |
18+25       0.6436      0.12  Q         |         |         |      V  |
18+30       0.6444      0.12  Q         |         |         |       V |
18+35       0.6451      0.10  Q         |         |         |       V |
18+40       0.6457      0.09  Q         |         |         |       V |
18+45       0.6463      0.09  Q         |         |         |       V |
18+50       0.6468      0.07  Q         |         |         |       V |
18+55       0.6472      0.06  Q         |         |         |       V |
19+ 0       0.6476      0.06  Q         |         |         |       V |
19+ 5       0.6481      0.08  Q         |         |         |       V |
19+10       0.6487      0.09  Q         |         |         |       V |
19+15       0.6493      0.09  Q         |         |         |       V |
19+20       0.6501      0.11  Q         |         |         |       V |
19+25       0.6509      0.12  Q         |         |         |       V |
19+30       0.6517      0.12  Q         |         |         |       V |
19+35       0.6524      0.10  Q         |         |         |       V |
19+40       0.6530      0.09  Q         |         |         |       V |
19+45       0.6536      0.09  Q         |         |         |       V |
19+50       0.6541      0.07  Q         |         |         |       V |
19+55       0.6545      0.06  Q         |         |         |       V |
20+ 0       0.6549      0.06  Q         |         |         |       V |
20+ 5       0.6554      0.08  Q         |         |         |       V |
20+10       0.6561      0.09  Q         |         |         |       V |
20+15       0.6567      0.09  Q         |         |         |       V |
20+20       0.6573      0.09  Q         |         |         |       V |
20+25       0.6579      0.09  Q         |         |         |       V |
20+30       0.6585      0.09  Q         |         |         |       V |
20+35       0.6591      0.09  Q         |         |         |       V |
20+40       0.6597      0.09  Q         |         |         |       V |
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20+45	0.6603	0.09	Q	|	|	|	V |
20+50	0.6608	0.07	Q	|	|	|	V |
20+55	0.6612	0.06	Q	|	|	|	V |
21+ 0	0.6616	0.06	Q	|	|	|	V|
21+ 5	0.6622	0.08	Q	|	|	|	V|
21+10	0.6628	0.09	Q	|	|	|	V|
21+15	0.6634	0.09	Q	|	|	|	V|
21+20	0.6638	0.07	Q	|	|	|	V|
21+25	0.6642	0.06	Q	|	|	|	V|
21+30	0.6646	0.06	Q	|	|	|	V|
21+35	0.6652	0.08	Q	|	|	|	V|
21+40	0.6658	0.09	Q	|	|	|	V|
21+45	0.6664	0.09	Q	|	|	|	V|
21+50	0.6669	0.07	Q	|	|	|	V|
21+55	0.6673	0.06	Q	|	|	|	V|
22+ 0	0.6677	0.06	Q	|	|	|	V|
22+ 5	0.6683	0.08	Q	|	|	|	V|
22+10	0.6689	0.09	Q	|	|	|	V|
22+15	0.6695	0.09	Q	|	|	|	V|
22+20	0.6699	0.07	Q	|	|	|	V|
22+25	0.6703	0.06	Q	|	|	|	V|
22+30	0.6707	0.06	Q	|	|	|	V|
22+35	0.6712	0.06	Q	|	|	|	V|
22+40	0.6716	0.06	Q	|	|	|	V|
22+45	0.6720	0.06	Q	|	|	|	V|
22+50	0.6724	0.06	Q	|	|	|	V|
22+55	0.6728	0.06	Q	|	|	|	V|
23+ 0	0.6732	0.06	Q	|	|	|	V|
23+ 5	0.6736	0.06	Q	|	|	|	V|
23+10	0.6740	0.06	Q	|	|	|	V|
23+15	0.6744	0.06	Q	|	|	|	V|
23+20	0.6748	0.06	Q	|	|	|	V|
23+25	0.6752	0.06	Q	|	|	|	V|
23+30	0.6756	0.06	Q	|	|	|	V|
23+35	0.6760	0.06	Q	|	|	|	V|
23+40	0.6764	0.06	Q	|	|	|	V|
23+45	0.6768	0.06	Q	|	|	|	V|
23+50	0.6773	0.06	Q	|	|	|	V|
23+55	0.6777	0.06	Q	|	|	|	V|
24+ 0	0.6781	0.06	Q	|	|	|	V|
24+ 5	0.6782	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 01/03/22 File: 20522PRD41100.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA D4
100-YEAR 1-HOUR STORM

Drainage Area = 2.10(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.10(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 1040.00(Ft.)
Length along longest watercourse measured to centroid = 280.00(Ft.)
Length along longest watercourse = 0.197 Mi.
Length along longest watercourse measured to centroid = 0.053 Mi.
Difference in elevation = 4.80(Ft.)
Slope along watercourse = 24.3692 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.035 Hr.
Lag time = 2.08 Min.
25% of lag time = 0.52 Min.
40% of lag time = 0.83 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]
2.10	0.50	1.05

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.10	1.20	2.52

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.500(In)
Area Averaged 100-Year Rainfall = 1.200(In)

Point rain (area averaged) = 1.200(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.200(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
2.100	75.00	0.820

Total Area Entered = 2.10(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	88.0	0.153	0.820	0.040	1.000	0.040
					Sum (F) =	0.040

Area averaged mean soil loss (F) (In/Hr) = 0.040
Minimum soil loss rate ((In/Hr)) = 0.020
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.244

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

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

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	240.340	49.605	1.050
2	0.167	480.679	40.660	0.861
3	0.250	721.019	7.341	0.155
4	0.333	961.358	2.395	0.051
		Sum = 100.000	Sum=	2.116

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	4.40	0.634	0.040	(0.155)	0.594
2	0.17	4.50	0.648	0.040	(0.158)	0.608
3	0.25	5.40	0.778	0.040	(0.190)	0.738
4	0.33	5.40	0.778	0.040	(0.190)	0.738
5	0.42	5.70	0.821	0.040	(0.200)	0.781
6	0.50	6.40	0.922	0.040	(0.225)	0.882
7	0.58	7.90	1.138	0.040	(0.278)	1.098
8	0.67	9.10	1.310	0.040	(0.320)	1.270
9	0.75	12.80	1.843	0.040	(0.450)	1.803
10	0.83	25.60	3.686	0.040	(0.899)	3.646
11	0.92	7.90	1.138	0.040	(0.278)	1.098
12	1.00	4.90	0.706	0.040	(0.172)	0.666

(Loss Rate Not Used)

```
    Sum =     100.0                                        Sum =    13.9
     Flood volume = Effective rainfall      1.16(In)
      times area       2.1(Ac.)/[(In)/(Ft.)] =       0.2(Ac.Ft)
     Total soil loss =      0.04(In)
     Total soil loss =     0.007(Ac.Ft)
     Total rainfall =      1.20(In)
     Flood volume =        8842.2 Cubic Feet
     Total soil loss =         305.2 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =      5.636(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      0.62  V Q       |         |         |         |
    0+10       0.0122      1.15  | V Q     |         |         |         |
    0+15       0.0218      1.39  |   VQ    |         |         |         |
    0+20       0.0324      1.53  |     Q   |         |         |         |
    0+25       0.0434      1.60  |     Q V |         |         |         |
    0+30       0.0554      1.75  |      Q  V         |         |         |
    0+35       0.0697      2.07  |       Q |  V      |         |         |
    0+40       0.0866      2.46  |        Q|      V  |         |         |
    0+45       0.1087      3.20  |         | Q       |V        |         |
    0+50       0.1475      5.64  |         |         | Q     V |         |
    0+55       0.1794      4.64  |         |       Q |         |    V    |
    1+ 0       0.1953      2.30  |        Q|         |         |       V |
    1+ 5       0.2017      0.93  |  Q      |         |         |        V|
    1+10       0.2028      0.16  Q         |         |         |        V|
    1+15       0.2030      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 01/03/22 File: 20522PRD43100.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA D4
100-YEAR 3-HOUR STORM

Drainage Area = 2.10(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.10(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 1040.00(Ft.)
Length along longest watercourse measured to centroid = 280.00(Ft.)
Length along longest watercourse = 0.197 Mi.
Length along longest watercourse measured to centroid = 0.053 Mi.
Difference in elevation = 4.80(Ft.)
Slope along watercourse = 24.3692 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.035 Hr.
Lag time = 2.08 Min.
25% of lag time = 0.52 Min.
40% of lag time = 0.83 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]
2.10	0.80	1.68

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.10	1.90	3.99

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.800(In)
Area Averaged 100-Year Rainfall = 1.900(In)

Point rain (area averaged) = 1.900(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.900(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
2.100	75.00	0.820

Total Area Entered = 2.10(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	88.0	0.153	0.820	0.040	1.000	0.040
					Sum (F) =	0.040

Area averaged mean soil loss (F) (In/Hr) = 0.040
Minimum soil loss rate ((In/Hr)) = 0.020
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.244

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	240.340	49.605	1.050
2	0.167	480.679	40.660	0.861
3	0.250	721.019	7.341	0.155
4	0.333	961.358	2.395	0.051
		Sum = 100.000	Sum=	2.116

The following loss 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	0.296	0.040	(0.072)	0.256
2	0.17	1.30	0.296	0.040	(0.072)	0.256
3	0.25	1.10	0.251	0.040	(0.061)	0.211
4	0.33	1.50	0.342	0.040	(0.083)	0.302
5	0.42	1.50	0.342	0.040	(0.083)	0.302
6	0.50	1.80	0.410	0.040	(0.100)	0.370
7	0.58	1.50	0.342	0.040	(0.083)	0.302
8	0.67	1.80	0.410	0.040	(0.100)	0.370
9	0.75	1.80	0.410	0.040	(0.100)	0.370
10	0.83	1.50	0.342	0.040	(0.083)	0.302
11	0.92	1.60	0.365	0.040	(0.089)	0.325
12	1.00	1.80	0.410	0.040	(0.100)	0.370
13	1.08	2.20	0.502	0.040	(0.122)	0.462
14	1.17	2.20	0.502	0.040	(0.122)	0.462
15	1.25	2.20	0.502	0.040	(0.122)	0.462

16	1.33	2.00	0.456	0.040	(0.111)		0.416
17	1.42	2.60	0.593	0.040	(0.145)		0.553
18	1.50	2.70	0.616	0.040	(0.150)		0.576
19	1.58	2.40	0.547	0.040	(0.134)		0.507
20	1.67	2.70	0.616	0.040	(0.150)		0.576
21	1.75	3.30	0.752	0.040	(0.184)		0.712
22	1.83	3.10	0.707	0.040	(0.172)		0.667
23	1.92	2.90	0.661	0.040	(0.161)		0.621
24	2.00	3.00	0.684	0.040	(0.167)		0.644
25	2.08	3.10	0.707	0.040	(0.172)		0.667
26	2.17	4.20	0.958	0.040	(0.234)		0.918
27	2.25	5.00	1.140	0.040	(0.278)		1.100
28	2.33	3.50	0.798	0.040	(0.195)		0.758
29	2.42	6.80	1.550	0.040	(0.378)		1.510
30	2.50	7.30	1.664	0.040	(0.406)		1.624
31	2.58	8.20	1.870	0.040	(0.456)		1.830
32	2.67	5.90	1.345	0.040	(0.328)		1.305
33	2.75	2.00	0.456	0.040	(0.111)		0.416
34	2.83	1.80	0.410	0.040	(0.100)		0.370
35	2.92	1.80	0.410	0.040	(0.100)		0.370
36	3.00	0.60	0.137	(0.040)		0.033	0.103

(Loss Rate Not Used)

Sum = 100.0 Sum = 21.4

Flood volume = Effective rainfall 1.78(In)
times area 2.1(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)

Total soil loss = 0.12(In)

Total soil loss = 0.021(Ac.Ft)

Total rainfall = 1.90(In)

Flood volume = 13572.3 Cubic Feet

Total soil loss = 911.3 Cubic Feet

Peak flow rate of this hydrograph = 3.593(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	0.0019	0.27	VQ				
0+10	0.0052	0.49	VQ				
0+15	0.0085	0.48	|Q				
0+20	0.0123	0.55	|VQ				
0+25	0.0166	0.62	| Q				
0+30	0.0215	0.71	| Q				
0+35	0.0263	0.70	| QV				
0+40	0.0313	0.72	| Q V				
0+45	0.0366	0.77	| QV				
0+50	0.0415	0.71	| Q V				
0+55	0.0462	0.68	| Q V				
1+ 0	0.0512	0.73	| Q V				
1+ 5	0.0572	0.87	| Q V				
1+10	0.0638	0.96	| Q V				
1+15	0.0705	0.97	| Q V				
1+20	0.0769	0.93	| Q V				
1+25	0.0840	1.03	| Q V				
1+30	0.0921	1.17	| Q |V				

1+35	0.0099	1.14	Q	V			
1+40	0.1079	1.16	Q	V			
1+45	0.1172	1.35	Q	V			
1+50	0.1270	1.43	Q	V			
1+55	0.1364	1.37	Q	V			
2+ 0	0.1457	1.35	Q	V			
2+ 5	0.1553	1.39	Q	V			
2+10	0.1668	1.67	Q	V			
2+15	0.1811	2.08	Q	V			
2+20	0.1943	1.92	Q	V			
2+25	0.2112	2.46	Q	V			
2+30	0.2331	3.18	Q	V			
2+35	0.2579	3.59	Q	V			
2+40	0.2804	3.28	Q	V			
2+45	0.2937	1.93	Q	V			
2+50	0.3009	1.04	Q	V			
2+55	0.3067	0.84	Q	V			
3+ 0	0.3102	0.51	Q	V			
3+ 5	0.3113	0.17	Q	V			
3+10	0.3115	0.03	Q	V			
3+15	0.3116	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 01/03/22 File: 20522PRD46100.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA D4
100-YEAR 6-HOUR STORM

Drainage Area = 2.10(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.10(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 1040.00(Ft.)
Length along longest watercourse measured to centroid = 280.00(Ft.)
Length along longest watercourse = 0.197 Mi.
Length along longest watercourse measured to centroid = 0.053 Mi.
Difference in elevation = 4.80(Ft.)
Slope along watercourse = 24.3692 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.035 Hr.
Lag time = 2.08 Min.
25% of lag time = 0.52 Min.
40% of lag time = 0.83 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.10	1.00	2.10

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.10	2.50	5.25

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.000(In)
Area Averaged 100-Year Rainfall = 2.500(In)

Point rain (area averaged) = 2.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.500(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
2.100	75.00	0.820

Total Area Entered = 2.10(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	88.0	0.153	0.820	0.040	1.000	0.040
					Sum (F) =	0.040

Area averaged mean soil loss (F) (In/Hr) = 0.040
Minimum soil loss rate ((In/Hr)) = 0.020
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.244

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	240.340	49.605	1.050
2	0.167	480.679	40.660	0.861
3	0.250	721.019	7.341	0.155
4	0.333	961.358	2.395	0.051
		Sum = 100.000	Sum=	2.116

The following loss 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	0.150	(0.040)		0.037	0.113
2	0.17	0.60	0.180	0.040	(	0.044)	0.140
3	0.25	0.60	0.180	0.040	(	0.044)	0.140
4	0.33	0.60	0.180	0.040	(	0.044)	0.140
5	0.42	0.60	0.180	0.040	(	0.044)	0.140
6	0.50	0.70	0.210	0.040	(	0.051)	0.170
7	0.58	0.70	0.210	0.040	(	0.051)	0.170
8	0.67	0.70	0.210	0.040	(	0.051)	0.170
9	0.75	0.70	0.210	0.040	(	0.051)	0.170
10	0.83	0.70	0.210	0.040	(	0.051)	0.170
11	0.92	0.70	0.210	0.040	(	0.051)	0.170
12	1.00	0.80	0.240	0.040	(	0.059)	0.200
13	1.08	0.80	0.240	0.040	(	0.059)	0.200
14	1.17	0.80	0.240	0.040	(	0.059)	0.200
15	1.25	0.80	0.240	0.040	(	0.059)	0.200

16	1.33	0.80	0.240	0.040	(0.059)	0.200
17	1.42	0.80	0.240	0.040	(0.059)	0.200
18	1.50	0.80	0.240	0.040	(0.059)	0.200
19	1.58	0.80	0.240	0.040	(0.059)	0.200
20	1.67	0.80	0.240	0.040	(0.059)	0.200
21	1.75	0.80	0.240	0.040	(0.059)	0.200
22	1.83	0.80	0.240	0.040	(0.059)	0.200
23	1.92	0.80	0.240	0.040	(0.059)	0.200
24	2.00	0.90	0.270	0.040	(0.066)	0.230
25	2.08	0.80	0.240	0.040	(0.059)	0.200
26	2.17	0.90	0.270	0.040	(0.066)	0.230
27	2.25	0.90	0.270	0.040	(0.066)	0.230
28	2.33	0.90	0.270	0.040	(0.066)	0.230
29	2.42	0.90	0.270	0.040	(0.066)	0.230
30	2.50	0.90	0.270	0.040	(0.066)	0.230
31	2.58	0.90	0.270	0.040	(0.066)	0.230
32	2.67	0.90	0.270	0.040	(0.066)	0.230
33	2.75	1.00	0.300	0.040	(0.073)	0.260
34	2.83	1.00	0.300	0.040	(0.073)	0.260
35	2.92	1.00	0.300	0.040	(0.073)	0.260
36	3.00	1.00	0.300	0.040	(0.073)	0.260
37	3.08	1.00	0.300	0.040	(0.073)	0.260
38	3.17	1.10	0.330	0.040	(0.081)	0.290
39	3.25	1.10	0.330	0.040	(0.081)	0.290
40	3.33	1.10	0.330	0.040	(0.081)	0.290
41	3.42	1.20	0.360	0.040	(0.088)	0.320
42	3.50	1.30	0.390	0.040	(0.095)	0.350
43	3.58	1.40	0.420	0.040	(0.102)	0.380
44	3.67	1.40	0.420	0.040	(0.102)	0.380
45	3.75	1.50	0.450	0.040	(0.110)	0.410
46	3.83	1.50	0.450	0.040	(0.110)	0.410
47	3.92	1.60	0.480	0.040	(0.117)	0.440
48	4.00	1.60	0.480	0.040	(0.117)	0.440
49	4.08	1.70	0.510	0.040	(0.124)	0.470
50	4.17	1.80	0.540	0.040	(0.132)	0.500
51	4.25	1.90	0.570	0.040	(0.139)	0.530
52	4.33	2.00	0.600	0.040	(0.146)	0.560
53	4.42	2.10	0.630	0.040	(0.154)	0.590
54	4.50	2.10	0.630	0.040	(0.154)	0.590
55	4.58	2.20	0.660	0.040	(0.161)	0.620
56	4.67	2.30	0.690	0.040	(0.168)	0.650
57	4.75	2.40	0.720	0.040	(0.176)	0.680
58	4.83	2.40	0.720	0.040	(0.176)	0.680
59	4.92	2.50	0.750	0.040	(0.183)	0.710
60	5.00	2.60	0.780	0.040	(0.190)	0.740
61	5.08	3.10	0.930	0.040	(0.227)	0.890
62	5.17	3.60	1.080	0.040	(0.264)	1.040
63	5.25	3.90	1.170	0.040	(0.285)	1.130
64	5.33	4.20	1.260	0.040	(0.307)	1.220
65	5.42	4.70	1.410	0.040	(0.344)	1.370
66	5.50	5.60	1.680	0.040	(0.410)	1.640
67	5.58	1.90	0.570	0.040	(0.139)	0.530
68	5.67	0.90	0.270	0.040	(0.066)	0.230
69	5.75	0.60	0.180	0.040	(0.044)	0.140
70	5.83	0.50	0.150	(0.040)	0.037	0.113
71	5.92	0.30	0.090	(0.040)	0.022	0.068
72	6.00	0.20	0.060	(0.040)	0.015	0.045

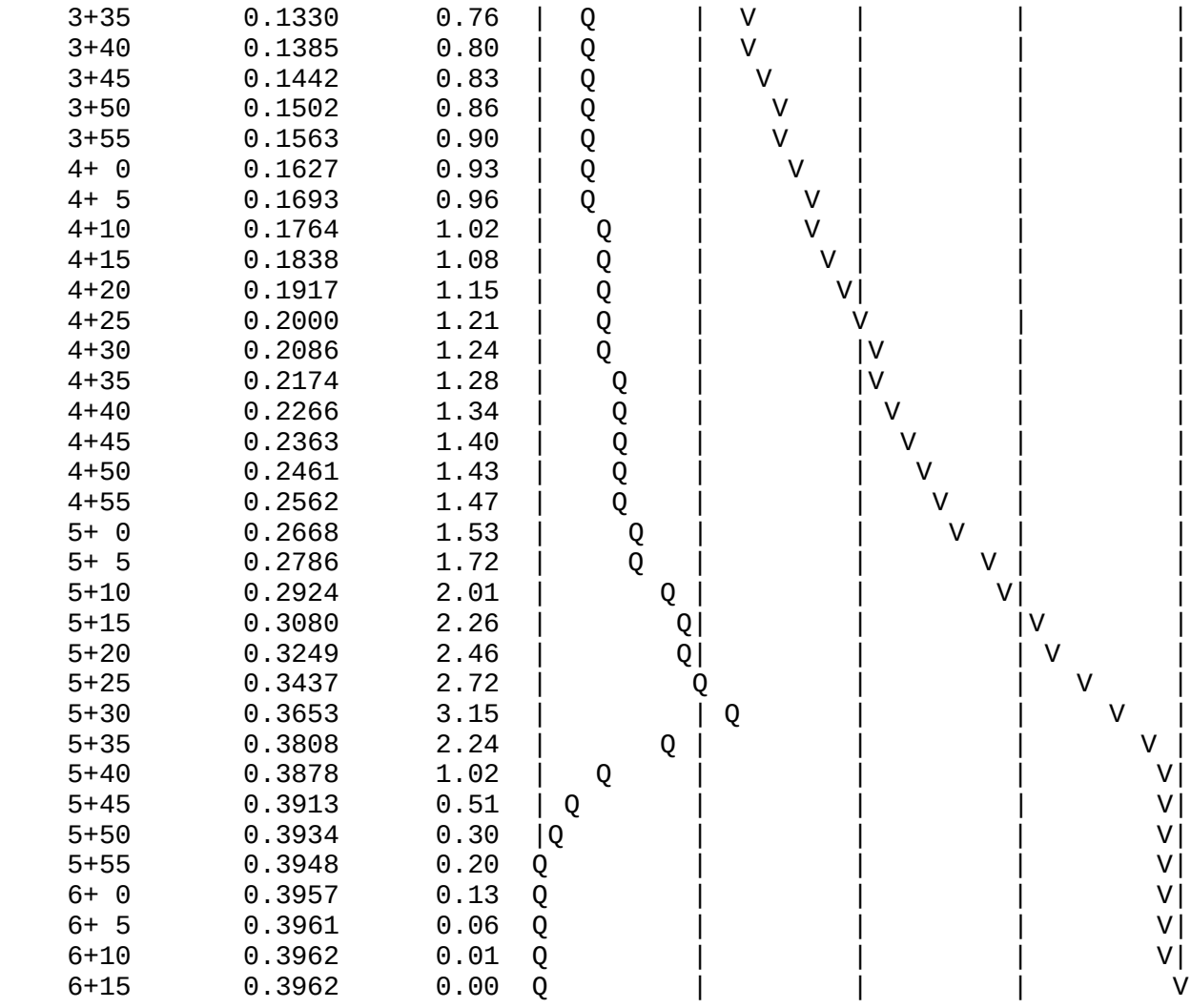
(Loss Rate Not Used)

Sum = 100.0 Sum = 27.2

Flood volume = Effective rainfall 2.26(In)

```
 times area       2.1(Ac.)/[(In)/(Ft.)] =       0.4(Ac.Ft)
Total soil loss =      0.24(In)
Total soil loss =     0.041(Ac.Ft)
Total rainfall =      2.50(In)
Flood volume =       17258.3 Cubic Feet
Total soil loss =        1799.1 Cubic Feet
------------------------------------------------------------------------
 Peak flow rate of this hydrograph =      3.149(CFS)
------------------------------------------------------------------------
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                    6 - H O U R    S T O R M
                R u n o f f      H y d r o g r a p h
------------------------------------------------------------------------
             Hydrograph in   5   Minute intervals ((CFS))

------------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
------------------------------------------------------------------------
  0+ 5       0.0008      0.12  Q         |         |         |         |
  0+10       0.0025      0.24  Q         |         |         |         |
  0+15       0.0045      0.29  VQ        |         |         |         |
  0+20       0.0065      0.30  VQ        |         |         |         |
  0+25       0.0085      0.30  VQ        |         |         |         |
  0+30       0.0108      0.33  |Q        |         |         |         |
  0+35       0.0132      0.35  |Q        |         |         |         |
  0+40       0.0157      0.36  |Q        |         |         |         |
  0+45       0.0182      0.36  |Q        |         |         |         |
  0+50       0.0207      0.36  |QV       |         |         |         |
  0+55       0.0231      0.36  |QV       |         |         |         |
  1+ 0       0.0258      0.39  |QV       |         |         |         |
  1+ 5       0.0287      0.42  |QV       |         |         |         |
  1+10       0.0316      0.42  |Q V      |         |         |         |
  1+15       0.0345      0.42  |Q V      |         |         |         |
  1+20       0.0374      0.42  |Q V      |         |         |         |
  1+25       0.0404      0.42  |Q  V     |         |         |         |
  1+30       0.0433      0.42  |Q  V     |         |         |         |
  1+35       0.0462      0.42  |Q  V     |         |         |         |
  1+40       0.0491      0.42  |Q  V     |         |         |         |
  1+45       0.0520      0.42  |Q   V    |         |         |         |
  1+50       0.0549      0.42  |Q   V    |         |         |         |
  1+55       0.0579      0.42  |Q   V    |         |         |         |
  2+ 0       0.0610      0.45  |Q    V   |         |         |         |
  2+ 5       0.0641      0.45  |Q    V   |         |         |         |
  2+10       0.0673      0.46  |Q    V   |         |         |         |
  2+15       0.0706      0.48  |Q     V  |         |         |         |
  2+20       0.0739      0.49  |Q     V  |         |         |         |
  2+25       0.0773      0.49  |Q     V  |         |         |         |
  2+30       0.0806      0.49  |Q      V |         |         |         |
  2+35       0.0840      0.49  |Q      V |         |         |         |
  2+40       0.0873      0.49  |Q      V |         |         |         |
  2+45       0.0909      0.52  | Q      V|         |         |         |
  2+50       0.0947      0.54  | Q      V|         |         |         |
  2+55       0.0984      0.55  | Q      V|         |         |         |
  3+ 0       0.1022      0.55  | Q       V         |         |         |
  3+ 5       0.1060      0.55  | Q       V         |         |         |
  3+10       0.1100      0.58  | Q       |V        |         |         |
  3+15       0.1142      0.61  | Q       |V        |         |         |
  3+20       0.1184      0.61  | Q       |V        |         |         |
  3+25       0.1229      0.65  | Q       | V       |         |         |
  3+30       0.1277      0.70  | Q       | V       |         |         |
```


3+35 0.1330 0.76
3+40 0.1385 0.80
3+45 0.1442 0.83
3+50 0.1502 0.86
3+55 0.1563 0.90
4+ 0 0.1627 0.93
4+ 5 0.1693 0.96
4+10 0.1764 1.02
4+15 0.1838 1.08
4+20 0.1917 1.15
4+25 0.2000 1.21
4+30 0.2086 1.24
4+35 0.2174 1.28
4+40 0.2266 1.34
4+45 0.2363 1.40
4+50 0.2461 1.43
4+55 0.2562 1.47
5+ 0 0.2668 1.53
5+ 5 0.2786 1.72
5+10 0.2924 2.01
5+15 0.3080 2.26
5+20 0.3249 2.46
5+25 0.3437 2.72
5+30 0.3653 3.15
5+35 0.3808 2.24
5+40 0.3878 1.02
5+45 0.3913 0.51
5+50 0.3934 0.30
5+55 0.3948 0.20
6+ 0 0.3957 0.13
6+ 5 0.3961 0.06
6+10 0.3962 0.01
6+15 0.3962 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 01/03/22 File: 20522PRD424100.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

20-522 D-1 PARCEL
PROPOSED CONDITION
SUBAREA D4
100-YEAR 24-HOUR STORM

Drainage Area = 2.10(Ac.) = 0.003 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 2.10(Ac.) = 0.003 Sq. Mi.
Length along longest watercourse = 1040.00(Ft.)
Length along longest watercourse measured to centroid = 280.00(Ft.)
Length along longest watercourse = 0.197 Mi.
Length along longest watercourse measured to centroid = 0.053 Mi.
Difference in elevation = 4.80(Ft.)
Slope along watercourse = 24.3692 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.035 Hr.
Lag time = 2.08 Min.
25% of lag time = 0.52 Min.
40% of lag time = 0.83 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.10	1.60	3.36

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
2.10	4.00	8.40

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.600(In)
Area Averaged 100-Year Rainfall = 4.000(In)

Point rain (area averaged) = 4.000(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 4.000(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
2.100	75.00	0.820

Total Area Entered = 2.10(Ac.)

RI AMC2	RI AMC-3	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	88.0	0.153	0.820	0.040	1.000	0.040
					Sum (F) =	0.040

Area averaged mean soil loss (F) (In/Hr) = 0.040
Minimum soil loss rate ((In/Hr)) = 0.020
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.244

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	240.340	49.605	1.050
2	0.167	480.679	40.660	0.861
3	0.250	721.019	7.341	0.155
4	0.333	961.358	2.395	0.051
		Sum =	100.000 Sum=	2.116

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.07	0.032	(0.071)		0.008	0.024
2	0.17	0.07	0.032	(0.071)		0.008	0.024
3	0.25	0.07	0.032	(0.070)		0.008	0.024
4	0.33	0.10	0.048	(0.070)		0.012	0.036
5	0.42	0.10	0.048	(0.070)		0.012	0.036
6	0.50	0.10	0.048	(0.070)		0.012	0.036
7	0.58	0.10	0.048	(0.069)		0.012	0.036
8	0.67	0.10	0.048	(0.069)		0.012	0.036
9	0.75	0.10	0.048	(0.069)		0.012	0.036
10	0.83	0.13	0.064	(0.069)		0.016	0.048
11	0.92	0.13	0.064	(0.068)		0.016	0.048
12	1.00	0.13	0.064	(0.068)		0.016	0.048
13	1.08	0.10	0.048	(0.068)		0.012	0.036
14	1.17	0.10	0.048	(0.067)		0.012	0.036
15	1.25	0.10	0.048	(0.067)		0.012	0.036

16	1.33	0.10	0.048	(0.067)	0.012	0.036
17	1.42	0.10	0.048	(0.067)	0.012	0.036
18	1.50	0.10	0.048	(0.066)	0.012	0.036
19	1.58	0.10	0.048	(0.066)	0.012	0.036
20	1.67	0.10	0.048	(0.066)	0.012	0.036
21	1.75	0.10	0.048	(0.066)	0.012	0.036
22	1.83	0.13	0.064	(0.065)	0.016	0.048
23	1.92	0.13	0.064	(0.065)	0.016	0.048
24	2.00	0.13	0.064	(0.065)	0.016	0.048
25	2.08	0.13	0.064	(0.065)	0.016	0.048
26	2.17	0.13	0.064	(0.064)	0.016	0.048
27	2.25	0.13	0.064	(0.064)	0.016	0.048
28	2.33	0.13	0.064	(0.064)	0.016	0.048
29	2.42	0.13	0.064	(0.063)	0.016	0.048
30	2.50	0.13	0.064	(0.063)	0.016	0.048
31	2.58	0.17	0.080	(0.063)	0.020	0.060
32	2.67	0.17	0.080	(0.063)	0.020	0.060
33	2.75	0.17	0.080	(0.062)	0.020	0.060
34	2.83	0.17	0.080	(0.062)	0.020	0.060
35	2.92	0.17	0.080	(0.062)	0.020	0.060
36	3.00	0.17	0.080	(0.062)	0.020	0.060
37	3.08	0.17	0.080	(0.061)	0.020	0.060
38	3.17	0.17	0.080	(0.061)	0.020	0.060
39	3.25	0.17	0.080	(0.061)	0.020	0.060
40	3.33	0.17	0.080	(0.061)	0.020	0.060
41	3.42	0.17	0.080	(0.060)	0.020	0.060
42	3.50	0.17	0.080	(0.060)	0.020	0.060
43	3.58	0.17	0.080	(0.060)	0.020	0.060
44	3.67	0.17	0.080	(0.060)	0.020	0.060
45	3.75	0.17	0.080	(0.059)	0.020	0.060
46	3.83	0.20	0.096	(0.059)	0.023	0.073
47	3.92	0.20	0.096	(0.059)	0.023	0.073
48	4.00	0.20	0.096	(0.059)	0.023	0.073
49	4.08	0.20	0.096	(0.058)	0.023	0.073
50	4.17	0.20	0.096	(0.058)	0.023	0.073
51	4.25	0.20	0.096	(0.058)	0.023	0.073
52	4.33	0.23	0.112	(0.058)	0.027	0.085
53	4.42	0.23	0.112	(0.057)	0.027	0.085
54	4.50	0.23	0.112	(0.057)	0.027	0.085
55	4.58	0.23	0.112	(0.057)	0.027	0.085
56	4.67	0.23	0.112	(0.057)	0.027	0.085
57	4.75	0.23	0.112	(0.056)	0.027	0.085
58	4.83	0.27	0.128	(0.056)	0.031	0.097
59	4.92	0.27	0.128	(0.056)	0.031	0.097
60	5.00	0.27	0.128	(0.056)	0.031	0.097
61	5.08	0.20	0.096	(0.055)	0.023	0.073
62	5.17	0.20	0.096	(0.055)	0.023	0.073
63	5.25	0.20	0.096	(0.055)	0.023	0.073
64	5.33	0.23	0.112	(0.055)	0.027	0.085
65	5.42	0.23	0.112	(0.055)	0.027	0.085
66	5.50	0.23	0.112	(0.054)	0.027	0.085
67	5.58	0.27	0.128	(0.054)	0.031	0.097
68	5.67	0.27	0.128	(0.054)	0.031	0.097
69	5.75	0.27	0.128	(0.054)	0.031	0.097
70	5.83	0.27	0.128	(0.053)	0.031	0.097
71	5.92	0.27	0.128	(0.053)	0.031	0.097
72	6.00	0.27	0.128	(0.053)	0.031	0.097
73	6.08	0.30	0.144	(0.053)	0.035	0.109
74	6.17	0.30	0.144	(0.052)	0.035	0.109
75	6.25	0.30	0.144	(0.052)	0.035	0.109

76	6.33	0.30	0.144	(0.052)	0.035	0.109
77	6.42	0.30	0.144	(0.052)	0.035	0.109
78	6.50	0.30	0.144	(0.051)	0.035	0.109
79	6.58	0.33	0.160	(0.051)	0.039	0.121
80	6.67	0.33	0.160	(0.051)	0.039	0.121
81	6.75	0.33	0.160	(0.051)	0.039	0.121
82	6.83	0.33	0.160	(0.051)	0.039	0.121
83	6.92	0.33	0.160	(0.050)	0.039	0.121
84	7.00	0.33	0.160	(0.050)	0.039	0.121
85	7.08	0.33	0.160	(0.050)	0.039	0.121
86	7.17	0.33	0.160	(0.050)	0.039	0.121
87	7.25	0.33	0.160	(0.049)	0.039	0.121
88	7.33	0.37	0.176	(0.049)	0.043	0.133
89	7.42	0.37	0.176	(0.049)	0.043	0.133
90	7.50	0.37	0.176	(0.049)	0.043	0.133
91	7.58	0.40	0.192	(0.048)	0.047	0.145
92	7.67	0.40	0.192	(0.048)	0.047	0.145
93	7.75	0.40	0.192	(0.048)	0.047	0.145
94	7.83	0.43	0.208	0.048	(0.051)	0.160
95	7.92	0.43	0.208	0.048	(0.051)	0.160
96	8.00	0.43	0.208	0.047	(0.051)	0.161
97	8.08	0.50	0.240	0.047	(0.059)	0.193
98	8.17	0.50	0.240	0.047	(0.059)	0.193
99	8.25	0.50	0.240	0.047	(0.059)	0.193
100	8.33	0.50	0.240	0.047	(0.059)	0.193
101	8.42	0.50	0.240	0.046	(0.059)	0.194
102	8.50	0.50	0.240	0.046	(0.059)	0.194
103	8.58	0.53	0.256	0.046	(0.062)	0.210
104	8.67	0.53	0.256	0.046	(0.062)	0.210
105	8.75	0.53	0.256	0.045	(0.062)	0.211
106	8.83	0.57	0.272	0.045	(0.066)	0.227
107	8.92	0.57	0.272	0.045	(0.066)	0.227
108	9.00	0.57	0.272	0.045	(0.066)	0.227
109	9.08	0.63	0.304	0.045	(0.074)	0.259
110	9.17	0.63	0.304	0.044	(0.074)	0.260
111	9.25	0.63	0.304	0.044	(0.074)	0.260
112	9.33	0.67	0.320	0.044	(0.078)	0.276
113	9.42	0.67	0.320	0.044	(0.078)	0.276
114	9.50	0.67	0.320	0.044	(0.078)	0.276
115	9.58	0.70	0.336	0.043	(0.082)	0.293
116	9.67	0.70	0.336	0.043	(0.082)	0.293
117	9.75	0.70	0.336	0.043	(0.082)	0.293
118	9.83	0.73	0.352	0.043	(0.086)	0.309
119	9.92	0.73	0.352	0.042	(0.086)	0.310
120	10.00	0.73	0.352	0.042	(0.086)	0.310
121	10.08	0.50	0.240	0.042	(0.059)	0.198
122	10.17	0.50	0.240	0.042	(0.059)	0.198
123	10.25	0.50	0.240	0.042	(0.059)	0.198
124	10.33	0.50	0.240	0.041	(0.059)	0.199
125	10.42	0.50	0.240	0.041	(0.059)	0.199
126	10.50	0.50	0.240	0.041	(0.059)	0.199
127	10.58	0.67	0.320	0.041	(0.078)	0.279
128	10.67	0.67	0.320	0.041	(0.078)	0.279
129	10.75	0.67	0.320	0.040	(0.078)	0.280
130	10.83	0.67	0.320	0.040	(0.078)	0.280
131	10.92	0.67	0.320	0.040	(0.078)	0.280
132	11.00	0.67	0.320	0.040	(0.078)	0.280
133	11.08	0.63	0.304	0.040	(0.074)	0.264
134	11.17	0.63	0.304	0.039	(0.074)	0.265
135	11.25	0.63	0.304	0.039	(0.074)	0.265

136	11.33	0.63	0.304	0.039	(0.074)	0.265
137	11.42	0.63	0.304	0.039	(0.074)	0.265
138	11.50	0.63	0.304	0.039	(0.074)	0.265
139	11.58	0.57	0.272	0.039	(0.066)	0.233
140	11.67	0.57	0.272	0.038	(0.066)	0.234
141	11.75	0.57	0.272	0.038	(0.066)	0.234
142	11.83	0.60	0.288	0.038	(0.070)	0.250
143	11.92	0.60	0.288	0.038	(0.070)	0.250
144	12.00	0.60	0.288	0.038	(0.070)	0.250
145	12.08	0.83	0.400	0.037	(0.098)	0.363
146	12.17	0.83	0.400	0.037	(0.098)	0.363
147	12.25	0.83	0.400	0.037	(0.098)	0.363
148	12.33	0.87	0.416	0.037	(0.102)	0.379
149	12.42	0.87	0.416	0.037	(0.102)	0.379
150	12.50	0.87	0.416	0.036	(0.102)	0.380
151	12.58	0.93	0.448	0.036	(0.109)	0.412
152	12.67	0.93	0.448	0.036	(0.109)	0.412
153	12.75	0.93	0.448	0.036	(0.109)	0.412
154	12.83	0.97	0.464	0.036	(0.113)	0.428
155	12.92	0.97	0.464	0.036	(0.113)	0.428
156	13.00	0.97	0.464	0.035	(0.113)	0.429
157	13.08	1.13	0.544	0.035	(0.133)	0.509
158	13.17	1.13	0.544	0.035	(0.133)	0.509
159	13.25	1.13	0.544	0.035	(0.133)	0.509
160	13.33	1.13	0.544	0.035	(0.133)	0.509
161	13.42	1.13	0.544	0.034	(0.133)	0.510
162	13.50	1.13	0.544	0.034	(0.133)	0.510
163	13.58	0.77	0.368	0.034	(0.090)	0.334
164	13.67	0.77	0.368	0.034	(0.090)	0.334
165	13.75	0.77	0.368	0.034	(0.090)	0.334
166	13.83	0.77	0.368	0.034	(0.090)	0.334
167	13.92	0.77	0.368	0.033	(0.090)	0.335
168	14.00	0.77	0.368	0.033	(0.090)	0.335
169	14.08	0.90	0.432	0.033	(0.105)	0.399
170	14.17	0.90	0.432	0.033	(0.105)	0.399
171	14.25	0.90	0.432	0.033	(0.105)	0.399
172	14.33	0.87	0.416	0.033	(0.102)	0.383
173	14.42	0.87	0.416	0.032	(0.102)	0.384
174	14.50	0.87	0.416	0.032	(0.102)	0.384
175	14.58	0.87	0.416	0.032	(0.102)	0.384
176	14.67	0.87	0.416	0.032	(0.102)	0.384
177	14.75	0.87	0.416	0.032	(0.102)	0.384
178	14.83	0.83	0.400	0.032	(0.098)	0.368
179	14.92	0.83	0.400	0.031	(0.098)	0.369
180	15.00	0.83	0.400	0.031	(0.098)	0.369
181	15.08	0.80	0.384	0.031	(0.094)	0.353
182	15.17	0.80	0.384	0.031	(0.094)	0.353
183	15.25	0.80	0.384	0.031	(0.094)	0.353
184	15.33	0.77	0.368	0.031	(0.090)	0.337
185	15.42	0.77	0.368	0.030	(0.090)	0.338
186	15.50	0.77	0.368	0.030	(0.090)	0.338
187	15.58	0.63	0.304	0.030	(0.074)	0.274
188	15.67	0.63	0.304	0.030	(0.074)	0.274
189	15.75	0.63	0.304	0.030	(0.074)	0.274
190	15.83	0.63	0.304	0.030	(0.074)	0.274
191	15.92	0.63	0.304	0.030	(0.074)	0.274
192	16.00	0.63	0.304	0.029	(0.074)	0.275
193	16.08	0.13	0.064	(0.029)	0.016	0.048
194	16.17	0.13	0.064	(0.029)	0.016	0.048
195	16.25	0.13	0.064	(0.029)	0.016	0.048

196	16.33	0.13	0.064	(0.029)	0.016	0.048
197	16.42	0.13	0.064	(0.029)	0.016	0.048
198	16.50	0.13	0.064	(0.029)	0.016	0.048
199	16.58	0.10	0.048	(0.028)	0.012	0.036
200	16.67	0.10	0.048	(0.028)	0.012	0.036
201	16.75	0.10	0.048	(0.028)	0.012	0.036
202	16.83	0.10	0.048	(0.028)	0.012	0.036
203	16.92	0.10	0.048	(0.028)	0.012	0.036
204	17.00	0.10	0.048	(0.028)	0.012	0.036
205	17.08	0.17	0.080	(0.028)	0.020	0.060
206	17.17	0.17	0.080	(0.027)	0.020	0.060
207	17.25	0.17	0.080	(0.027)	0.020	0.060
208	17.33	0.17	0.080	(0.027)	0.020	0.060
209	17.42	0.17	0.080	(0.027)	0.020	0.060
210	17.50	0.17	0.080	(0.027)	0.020	0.060
211	17.58	0.17	0.080	(0.027)	0.020	0.060
212	17.67	0.17	0.080	(0.027)	0.020	0.060
213	17.75	0.17	0.080	(0.026)	0.020	0.060
214	17.83	0.13	0.064	(0.026)	0.016	0.048
215	17.92	0.13	0.064	(0.026)	0.016	0.048
216	18.00	0.13	0.064	(0.026)	0.016	0.048
217	18.08	0.13	0.064	(0.026)	0.016	0.048
218	18.17	0.13	0.064	(0.026)	0.016	0.048
219	18.25	0.13	0.064	(0.026)	0.016	0.048
220	18.33	0.13	0.064	(0.026)	0.016	0.048
221	18.42	0.13	0.064	(0.025)	0.016	0.048
222	18.50	0.13	0.064	(0.025)	0.016	0.048
223	18.58	0.10	0.048	(0.025)	0.012	0.036
224	18.67	0.10	0.048	(0.025)	0.012	0.036
225	18.75	0.10	0.048	(0.025)	0.012	0.036
226	18.83	0.07	0.032	(0.025)	0.008	0.024
227	18.92	0.07	0.032	(0.025)	0.008	0.024
228	19.00	0.07	0.032	(0.025)	0.008	0.024
229	19.08	0.10	0.048	(0.024)	0.012	0.036
230	19.17	0.10	0.048	(0.024)	0.012	0.036
231	19.25	0.10	0.048	(0.024)	0.012	0.036
232	19.33	0.13	0.064	(0.024)	0.016	0.048
233	19.42	0.13	0.064	(0.024)	0.016	0.048
234	19.50	0.13	0.064	(0.024)	0.016	0.048
235	19.58	0.10	0.048	(0.024)	0.012	0.036
236	19.67	0.10	0.048	(0.024)	0.012	0.036
237	19.75	0.10	0.048	(0.024)	0.012	0.036
238	19.83	0.07	0.032	(0.023)	0.008	0.024
239	19.92	0.07	0.032	(0.023)	0.008	0.024
240	20.00	0.07	0.032	(0.023)	0.008	0.024
241	20.08	0.10	0.048	(0.023)	0.012	0.036
242	20.17	0.10	0.048	(0.023)	0.012	0.036
243	20.25	0.10	0.048	(0.023)	0.012	0.036
244	20.33	0.10	0.048	(0.023)	0.012	0.036
245	20.42	0.10	0.048	(0.023)	0.012	0.036
246	20.50	0.10	0.048	(0.023)	0.012	0.036
247	20.58	0.10	0.048	(0.023)	0.012	0.036
248	20.67	0.10	0.048	(0.022)	0.012	0.036
249	20.75	0.10	0.048	(0.022)	0.012	0.036
250	20.83	0.07	0.032	(0.022)	0.008	0.024
251	20.92	0.07	0.032	(0.022)	0.008	0.024
252	21.00	0.07	0.032	(0.022)	0.008	0.024
253	21.08	0.10	0.048	(0.022)	0.012	0.036
254	21.17	0.10	0.048	(0.022)	0.012	0.036
255	21.25	0.10	0.048	(0.022)	0.012	0.036

```
256  21.33     0.07      0.032       (  0.022)       0.008        0.024
257  21.42     0.07      0.032       (  0.022)       0.008        0.024
258  21.50     0.07      0.032       (  0.022)       0.008        0.024
259  21.58     0.10      0.048       (  0.022)       0.012        0.036
260  21.67     0.10      0.048       (  0.021)       0.012        0.036
261  21.75     0.10      0.048       (  0.021)       0.012        0.036
262  21.83     0.07      0.032       (  0.021)       0.008        0.024
263  21.92     0.07      0.032       (  0.021)       0.008        0.024
264  22.00     0.07      0.032       (  0.021)       0.008        0.024
265  22.08     0.10      0.048       (  0.021)       0.012        0.036
266  22.17     0.10      0.048       (  0.021)       0.012        0.036
267  22.25     0.10      0.048       (  0.021)       0.012        0.036
268  22.33     0.07      0.032       (  0.021)       0.008        0.024
269  22.42     0.07      0.032       (  0.021)       0.008        0.024
270  22.50     0.07      0.032       (  0.021)       0.008        0.024
271  22.58     0.07      0.032       (  0.021)       0.008        0.024
272  22.67     0.07      0.032       (  0.021)       0.008        0.024
273  22.75     0.07      0.032       (  0.021)       0.008        0.024
274  22.83     0.07      0.032       (  0.021)       0.008        0.024
275  22.92     0.07      0.032       (  0.020)       0.008        0.024
276  23.00     0.07      0.032       (  0.020)       0.008        0.024
277  23.08     0.07      0.032       (  0.020)       0.008        0.024
278  23.17     0.07      0.032       (  0.020)       0.008        0.024
279  23.25     0.07      0.032       (  0.020)       0.008        0.024
280  23.33     0.07      0.032       (  0.020)       0.008        0.024
281  23.42     0.07      0.032       (  0.020)       0.008        0.024
282  23.50     0.07      0.032       (  0.020)       0.008        0.024
283  23.58     0.07      0.032       (  0.020)       0.008        0.024
284  23.67     0.07      0.032       (  0.020)       0.008        0.024
285  23.75     0.07      0.032       (  0.020)       0.008        0.024
286  23.83     0.07      0.032       (  0.020)       0.008        0.024
287  23.92     0.07      0.032       (  0.020)       0.008        0.024
288  24.00     0.07      0.032       (  0.020)       0.008        0.024
          (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    40.9
     Flood volume = Effective rainfall      3.41(In)
      times area       2.1(Ac.)/[(In)/(Ft.)] =       0.6(Ac.Ft)
     Total soil loss =      0.59(In)
     Total soil loss =     0.104(Ac.Ft)
     Total rainfall =      4.00(In)
     Flood volume =       25956.9 Cubic Feet
     Total soil loss =        4535.0 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =      1.079(CFS)
     ---------------------------------------------------------------------
     +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        24 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
     ---------------------------------------------------------------------
                 Hydrograph in   5   Minute intervals ((CFS))

     ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ---------------------------------------------------------------------
   0+ 5       0.0002      0.03  Q         |         |         |         |
   0+10       0.0005      0.05  Q         |         |         |         |
   0+15       0.0008      0.05  Q         |         |         |         |
   0+20       0.0013      0.06  Q         |         |         |         |
   0+25       0.0018      0.07  Q         |         |         |         |
   0+30       0.0023      0.08  Q         |         |         |         |
```

0+35	0.0028	0.08	Q	|	|	|	|
0+40	0.0034	0.08	Q	|	|	|	|
0+45	0.0039	0.08	Q	|	|	|	|
0+50	0.0045	0.09	Q	|	|	|	|
0+55	0.0052	0.10	Q	|	|	|	|
1+ 0	0.0059	0.10	Q	|	|	|	|
1+ 5	0.0065	0.09	Q	|	|	|	|
1+10	0.0071	0.08	Q	|	|	|	|
1+15	0.0076	0.08	Q	|	|	|	|
1+20	0.0081	0.08	Q	|	|	|	|
1+25	0.0087	0.08	Q	|	|	|	|
1+30	0.0092	0.08	Q	|	|	|	|
1+35	0.0097	0.08	Q	|	|	|	|
1+40	0.0103	0.08	Q	|	|	|	|
1+45	0.0108	0.08	Q	|	|	|	|
1+50	0.0114	0.09	Q	|	|	|	|
1+55	0.0121	0.10	Q	|	|	|	|
2+ 0	0.0128	0.10	Q	|	|	|	|
2+ 5	0.0135	0.10	Q	|	|	|	|
2+10	0.0142	0.10	Q	|	|	|	|
2+15	0.0149	0.10	QV	|	|	|	|
2+20	0.0156	0.10	QV	|	|	|	|
2+25	0.0163	0.10	QV	|	|	|	|
2+30	0.0170	0.10	QV	|	|	|	|
2+35	0.0178	0.12	QV	|	|	|	|
2+40	0.0187	0.13	QV	|	|	|	|
2+45	0.0196	0.13	QV	|	|	|	|
2+50	0.0204	0.13	QV	|	|	|	|
2+55	0.0213	0.13	QV	|	|	|	|
3+ 0	0.0222	0.13	QV	|	|	|	|
3+ 5	0.0231	0.13	QV	|	|	|	|
3+10	0.0240	0.13	QV	|	|	|	|
3+15	0.0249	0.13	QV	|	|	|	|
3+20	0.0257	0.13	QV	|	|	|	|
3+25	0.0266	0.13	QV	|	|	|	|
3+30	0.0275	0.13	QV	|	|	|	|
3+35	0.0284	0.13	QV	|	|	|	|
3+40	0.0293	0.13	QV	|	|	|	|
3+45	0.0301	0.13	Q V	|	|	|	|
3+50	0.0311	0.14	Q V	|	|	|	|
3+55	0.0322	0.15	Q V	|	|	|	|
4+ 0	0.0332	0.15	Q V	|	|	|	|
4+ 5	0.0343	0.15	Q V	|	|	|	|
4+10	0.0353	0.15	Q V	|	|	|	|
4+15	0.0364	0.15	Q V	|	|	|	|
4+20	0.0375	0.17	Q V	|	|	|	|
4+25	0.0387	0.18	Q V	|	|	|	|
4+30	0.0400	0.18	Q V	|	|	|	|
4+35	0.0412	0.18	Q V	|	|	|	|
4+40	0.0424	0.18	Q V	|	|	|	|
4+45	0.0437	0.18	Q V	|	|	|	|
4+50	0.0450	0.19	Q V	|	|	|	|
4+55	0.0464	0.20	Q V	|	|	|	|
5+ 0	0.0478	0.20	Q V	|	|	|	|
5+ 5	0.0490	0.18	Q V	|	|	|	|
5+10	0.0501	0.16	Q V	|	|	|	|
5+15	0.0512	0.15	Q V	|	|	|	|
5+20	0.0523	0.17	Q V	|	|	|	|
5+25	0.0536	0.18	Q V	|	|	|	|
5+30	0.0548	0.18	Q V	|	|	|	|

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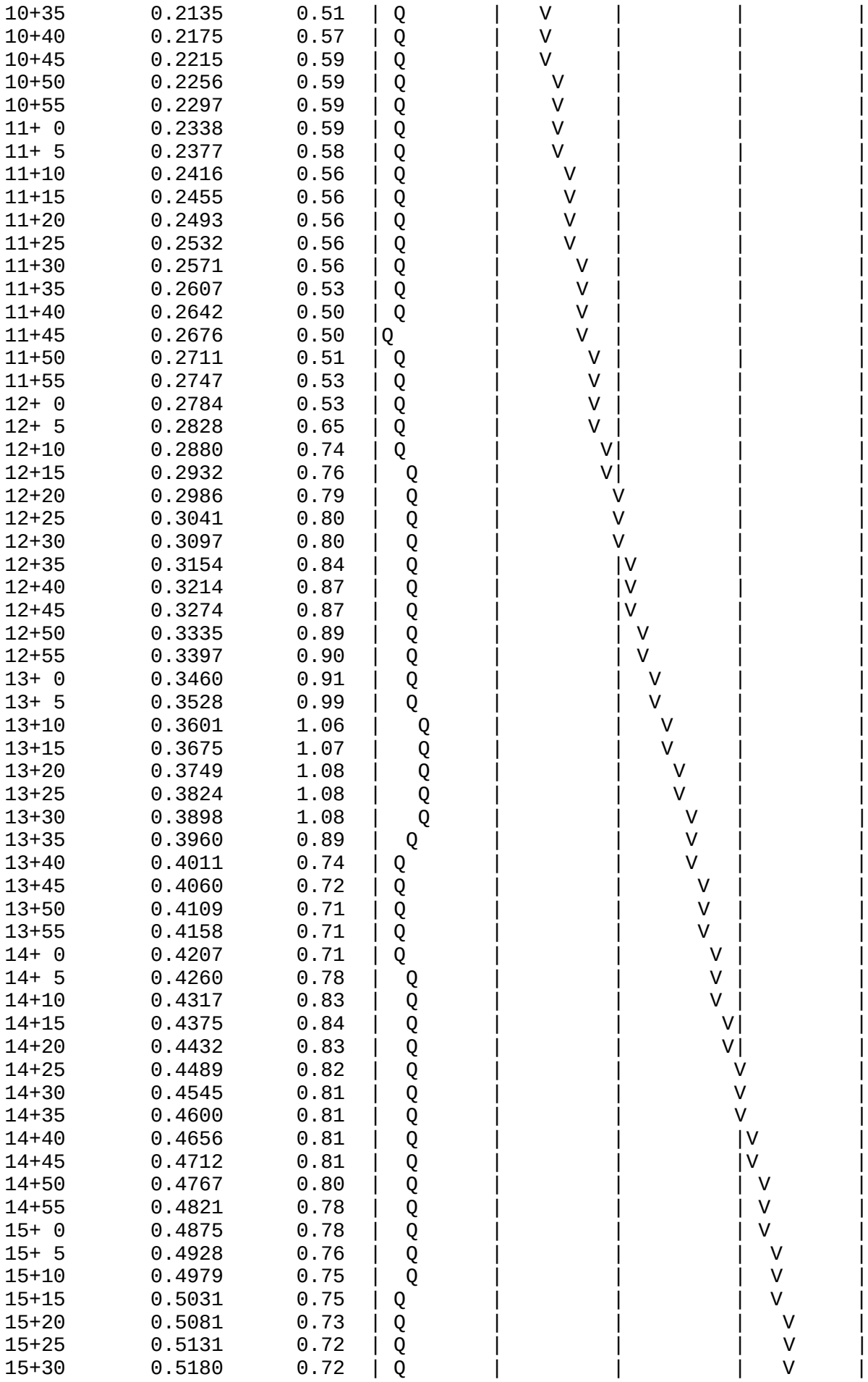
 5+35       0.0561      0.19  Q  V      |          |          |          |
 5+40       0.0575      0.20  Q  V      |          |          |          |
 5+45       0.0589      0.20  Q  V      |          |          |          |
 5+50       0.0603      0.20  Q   V     |          |          |          |
 5+55       0.0617      0.20  Q   V     |          |          |          |
 6+ 0       0.0632      0.20  Q   V     |          |          |          |
 6+ 5       0.0646      0.22  Q   V     |          |          |          |
 6+10       0.0662      0.23  Q   V     |          |          |          |
 6+15       0.0678      0.23  Q   V     |          |          |          |
 6+20       0.0694      0.23  Q   V     |          |          |          |
 6+25       0.0710      0.23  Q   V     |          |          |          |
 6+30       0.0726      0.23  Q   V     |          |          |          |
 6+35       0.0742      0.24  Q   V     |          |          |          |
 6+40       0.0760      0.25  |Q   V     |          |          |          |
 6+45       0.0777      0.26  |Q   V     |          |          |          |
 6+50       0.0795      0.26  |Q   V     |          |          |          |
 6+55       0.0813      0.26  |Q   V     |          |          |          |
 7+ 0       0.0830      0.26  |Q   V     |          |          |          |
 7+ 5       0.0848      0.26  |Q   V     |          |          |          |
 7+10       0.0866      0.26  |Q   V     |          |          |          |
 7+15       0.0883      0.26  |Q   V     |          |          |          |
 7+20       0.0902      0.27  |Q    V    |          |          |          |
 7+25       0.0921      0.28  |Q    V    |          |          |          |
 7+30       0.0940      0.28  |Q    V    |          |          |          |
 7+35       0.0961      0.29  |Q    V    |          |          |          |
 7+40       0.0982      0.30  |Q    V    |          |          |          |
 7+45       0.1003      0.31  |Q    V    |          |          |          |
 7+50       0.1025      0.32  |Q    V    |          |          |          |
 7+55       0.1048      0.34  |Q     V   |          |          |          |
 8+ 0       0.1072      0.34  |Q     V   |          |          |          |
 8+ 5       0.1097      0.37  |Q     V   |          |          |          |
 8+10       0.1125      0.40  |Q     V   |          |          |          |
 8+15       0.1153      0.41  |Q     V   |          |          |          |
 8+20       0.1181      0.41  |Q     V   |          |          |          |
 8+25       0.1210      0.41  |Q      V  |          |          |          |
 8+30       0.1238      0.41  |Q      V  |          |          |          |
 8+35       0.1267      0.43  |Q      V  |          |          |          |
 8+40       0.1298      0.44  |Q      V  |          |          |          |
 8+45       0.1328      0.44  |Q      V  |          |          |          |
 8+50       0.1360      0.46  |Q       V|          |          |          |
 8+55       0.1393      0.48  |Q       V|          |          |          |
 9+ 0       0.1426      0.48  |Q       V|          |          |          |
 9+ 5       0.1462      0.51  | Q      V|          |          |          |
 9+10       0.1499      0.54  | Q       V          |          |          |
 9+15       0.1537      0.55  | Q       V          |          |          |
 9+20       0.1576      0.57  | Q       V          |          |          |
 9+25       0.1616      0.58  | Q       V          |          |          |
 9+30       0.1656      0.58  | Q       |V         |          |          |
 9+35       0.1698      0.60  | Q       |V         |          |          |
 9+40       0.1740      0.62  | Q       |V         |          |          |
 9+45       0.1783      0.62  | Q       |V         |          |          |
 9+50       0.1827      0.64  | Q       | V        |          |          |
 9+55       0.1871      0.65  | Q       | V        |          |          |
10+ 0       0.1917      0.65  | Q       | V        |          |          |
10+ 5       0.1954      0.54  | Q       |  V       |          |          |
10+10       0.1984      0.44  |Q        |  V       |          |          |
10+15       0.2013      0.43  |Q        |  V       |          |          |
10+20       0.2042      0.42  |Q        |  V       |          |          |
10+25       0.2071      0.42  |Q        |  V       |          |          |
10+30       0.2100      0.42  |Q        |   V      |          |          |
```



15+35	0.5225	0.65	| Q	|	|	|	V |
15+40	0.5266	0.59	| Q	|	|	|	V |
15+45	0.5306	0.58	| Q	|	|	|	V |
15+50	0.5346	0.58	| Q	|	|	|	V |
15+55	0.5386	0.58	| Q	|	|	|	V |
16+ 0	0.5426	0.58	| Q	|	|	|	V |
16+ 5	0.5449	0.34	|Q	|	|	|	V |
16+10	0.5460	0.15	Q	|	|	|	V |
16+15	0.5468	0.11	Q	|	|	|	V |
16+20	0.5475	0.10	Q	|	|	|	V |
16+25	0.5482	0.10	Q	|	|	|	V |
16+30	0.5489	0.10	Q	|	|	|	V |
16+35	0.5495	0.09	Q	|	|	|	V |
16+40	0.5500	0.08	Q	|	|	|	V |
16+45	0.5506	0.08	Q	|	|	|	V |
16+50	0.5511	0.08	Q	|	|	|	V |
16+55	0.5516	0.08	Q	|	|	|	V |
17+ 0	0.5522	0.08	Q	|	|	|	V |
17+ 5	0.5529	0.10	Q	|	|	|	V |
17+10	0.5537	0.12	Q	|	|	|	V |
17+15	0.5546	0.13	Q	|	|	|	V |
17+20	0.5555	0.13	Q	|	|	|	V |
17+25	0.5564	0.13	Q	|	|	|	V |
17+30	0.5572	0.13	Q	|	|	|	V |
17+35	0.5581	0.13	Q	|	|	|	V |
17+40	0.5590	0.13	Q	|	|	|	V |
17+45	0.5599	0.13	Q	|	|	|	V |
17+50	0.5607	0.12	Q	|	|	|	V |
17+55	0.5614	0.10	Q	|	|	|	V |
18+ 0	0.5621	0.10	Q	|	|	|	V |
18+ 5	0.5628	0.10	Q	|	|	|	V |
18+10	0.5635	0.10	Q	|	|	|	V |
18+15	0.5642	0.10	Q	|	|	|	V |
18+20	0.5649	0.10	Q	|	|	|	V |
18+25	0.5656	0.10	Q	|	|	|	V |
18+30	0.5663	0.10	Q	|	|	|	V |
18+35	0.5670	0.09	Q	|	|	|	V |
18+40	0.5675	0.08	Q	|	|	|	V |
18+45	0.5680	0.08	Q	|	|	|	V |
18+50	0.5685	0.06	Q	|	|	|	V |
18+55	0.5689	0.05	Q	|	|	|	V |
19+ 0	0.5692	0.05	Q	|	|	|	V |
19+ 5	0.5696	0.06	Q	|	|	|	V |
19+10	0.5702	0.07	Q	|	|	|	V |
19+15	0.5707	0.08	Q	|	|	|	V |
19+20	0.5713	0.09	Q	|	|	|	V |
19+25	0.5720	0.10	Q	|	|	|	V |
19+30	0.5727	0.10	Q	|	|	|	V |
19+35	0.5733	0.09	Q	|	|	|	V |
19+40	0.5739	0.08	Q	|	|	|	V |
19+45	0.5744	0.08	Q	|	|	|	V |
19+50	0.5748	0.06	Q	|	|	|	V |
19+55	0.5752	0.05	Q	|	|	|	V |
20+ 0	0.5756	0.05	Q	|	|	|	V |
20+ 5	0.5760	0.06	Q	|	|	|	V |
20+10	0.5765	0.07	Q	|	|	|	V |
20+15	0.5770	0.08	Q	|	|	|	V |
20+20	0.5776	0.08	Q	|	|	|	V |
20+25	0.5781	0.08	Q	|	|	|	V |
20+30	0.5786	0.08	Q	|	|	|	V |

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  20+35       0.5792      0.08  Q          |           |           |        V |
  20+40       0.5797      0.08  Q          |           |           |        V |
  20+45       0.5802      0.08  Q          |           |           |        V |
  20+50       0.5807      0.06  Q          |           |           |        V |
  20+55       0.5810      0.05  Q          |           |           |         V|
  21+ 0       0.5814      0.05  Q          |           |           |         V|
  21+ 5       0.5818      0.06  Q          |           |           |         V|
  21+10       0.5823      0.07  Q          |           |           |         V|
  21+15       0.5829      0.08  Q          |           |           |         V|
  21+20       0.5833      0.06  Q          |           |           |         V|
  21+25       0.5837      0.05  Q          |           |           |         V|
  21+30       0.5840      0.05  Q          |           |           |         V|
  21+35       0.5845      0.06  Q          |           |           |         V|
  21+40       0.5850      0.07  Q          |           |           |         V|
  21+45       0.5855      0.08  Q          |           |           |         V|
  21+50       0.5859      0.06  Q          |           |           |         V|
  21+55       0.5863      0.05  Q          |           |           |         V|
  22+ 0       0.5867      0.05  Q          |           |           |         V|
  22+ 5       0.5871      0.06  Q          |           |           |         V|
  22+10       0.5876      0.07  Q          |           |           |         V|
  22+15       0.5881      0.08  Q          |           |           |         V|
  22+20       0.5886      0.06  Q          |           |           |         V|
  22+25       0.5890      0.05  Q          |           |           |         V|
  22+30       0.5893      0.05  Q          |           |           |         V|
  22+35       0.5897      0.05  Q          |           |           |         V|
  22+40       0.5900      0.05  Q          |           |           |         V|
  22+45       0.5904      0.05  Q          |           |           |         V|
  22+50       0.5907      0.05  Q          |           |           |         V|
  22+55       0.5911      0.05  Q          |           |           |         V|
  23+ 0       0.5914      0.05  Q          |           |           |         V|
  23+ 5       0.5918      0.05  Q          |           |           |         V|
  23+10       0.5921      0.05  Q          |           |           |         V|
  23+15       0.5925      0.05  Q          |           |           |         V|
  23+20       0.5928      0.05  Q          |           |           |         V|
  23+25       0.5932      0.05  Q          |           |           |         V|
  23+30       0.5936      0.05  Q          |           |           |         V|
  23+35       0.5939      0.05  Q          |           |           |         V|
  23+40       0.5943      0.05  Q          |           |           |         V|
  23+45       0.5946      0.05  Q          |           |           |         V|
  23+50       0.5950      0.05  Q          |           |           |         V|
  23+55       0.5953      0.05  Q          |           |           |         V|
  24+ 0       0.5957      0.05  Q          |           |           |         V|
  24+ 5       0.5958      0.03  Q          |           |           |         V|
  24+10       0.5959      0.00  Q          |           |           |         V|
  24+15       0.5959      0.00  Q          |           |           |          V
-------------------------------------------------------------------------------
```

APPENDIX E

Detention Analysis

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	114.22	5	55	206,721	------	------	------	Existing Subarea D 1-hour
3	Manual	38.13	5	55	65,955	------	------	------	Proposed Subarea D1 1-hour
4	Manual	13.60	5	50	19,599	------	------	------	Proposed Subarea D2 1-hour
5	Manual	7.850	5	50	10,383	------	------	------	Proposed Subarea D3 1-hour
6	Manual	5.640	5	50	8,841	------	------	------	Proposed Subarea D4 1-hour
7	Combine	42.66	5	55	76,338	3, 5,	------	------	Proposed Subarea D1&D3 1-hour
9	Manual	76.57	5	160	287,442	------	------	------	Existing Subarea D 3-hour
11	Manual	25.03	5	160	101,682	------	------	------	Proposed Subarea D1 3-hour
12	Manual	8.160	5	155	30,402	------	------	------	Proposed Subarea D2 3-hour
13	Manual	4.430	5	155	15,726	------	------	------	Proposed Subarea D3 3-hour
14	Manual	3.590	5	155	13,578	------	------	------	Proposed Subarea D4 3-hour
15	Combine	29.41	5	155	117,408	11, 13,	------	------	Proposed Subarea D1&D3 3-hour
17	Manual	64.86	5	335	319,881	------	------	------	Existing Subarea D 6-hour
19	Manual	21.94	5	330	130,032	------	------	------	Proposed Subarea D1 6-hour
20	Manual	7.160	5	330	39,177	------	------	------	Proposed Subarea D2 6-hour
21	Manual	3.900	5	330	19,743	------	------	------	Proposed Subarea D3 6-hour
22	Manual	3.150	5	330	17,253	------	------	------	Proposed Subarea D4 6-hour
23	Combine	25.84	5	330	149,775	19, 21,	------	------	Proposed Subarea D1&D3 6-hour
25	Manual	22.35	5	810	357,183	------	------	------	Existing Subarea D 24-hour
27	Manual	8.070	5	810	199,818	------	------	------	Proposed Subarea D1 24-hour
28	Manual	2.420	5	795	60,795	------	------	------	Proposed Subarea D2 24-hour
29	Manual	1.250	5	790	29,646	------	------	------	Proposed Subarea D3 24-hour
30	Manual	1.080	5	800	25,932	------	------	------	Proposed Subarea D4 24-hour
31	Combine	9.320	5	810	229,464	27, 29,	------	------	Proposed Subarea D1&D3 24-hour
33	Reservoir	12.44	5	65	76,264	7	89.70	61,316	Detention D1&D3 1-hour
34	Reservoir	3.110	5	60	19,572	4	87.27	16,843	Detention D2 1-hour
36	Reservoir	15.60	5	165	117,334	15	90.44	70,077	Detention D1&D3 3-hour
37	Reservoir	4.996	5	165	30,375	12	88.26	19,529	Detention D2 3-hour
39	Reservoir	14.95	5	340	149,701	23	90.27	69,099	Detention D1&D3 6-hour

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4

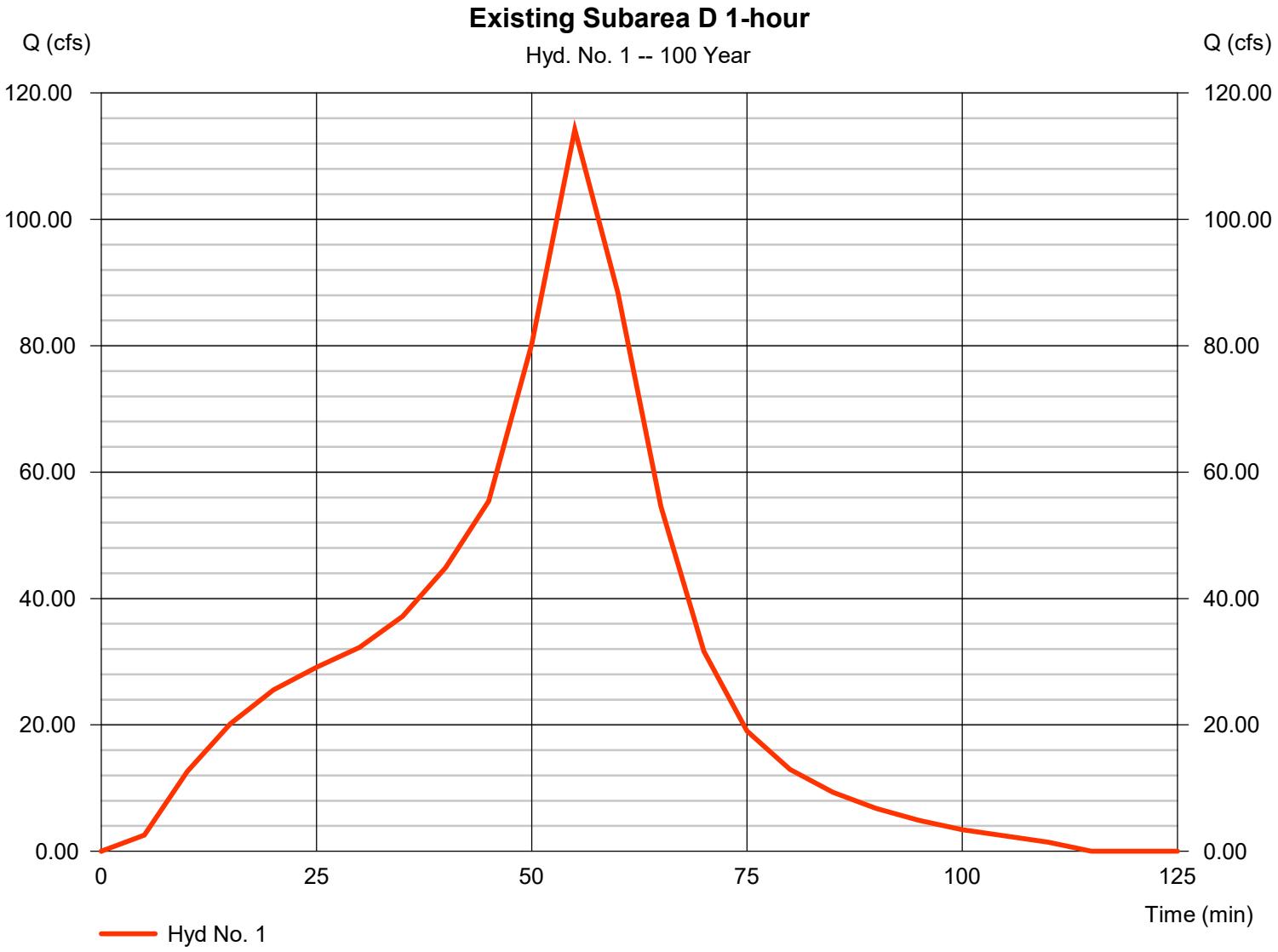
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
40	Reservoir	4.839	5	335	39,150	20	88.21	19,461	Detention D2 6-hour
42	Reservoir	8.124	5	815	229,390	31	88.96	47,935	Detention D1&D3 24-hr
43	Reservoir	2.109	5	815	60,768	28	86.88	15,041	Detention D2 24-hour

Hydrograph Report

Hyd. No. 1

Existing Subarea D 1-hour

Hydrograph type	= Manual	Peak discharge	= 114.22 cfs
Storm frequency	= 100 yrs	Time to peak	= 55 min
Time interval	= 5 min	Hyd. volume	= 206,721 cuft

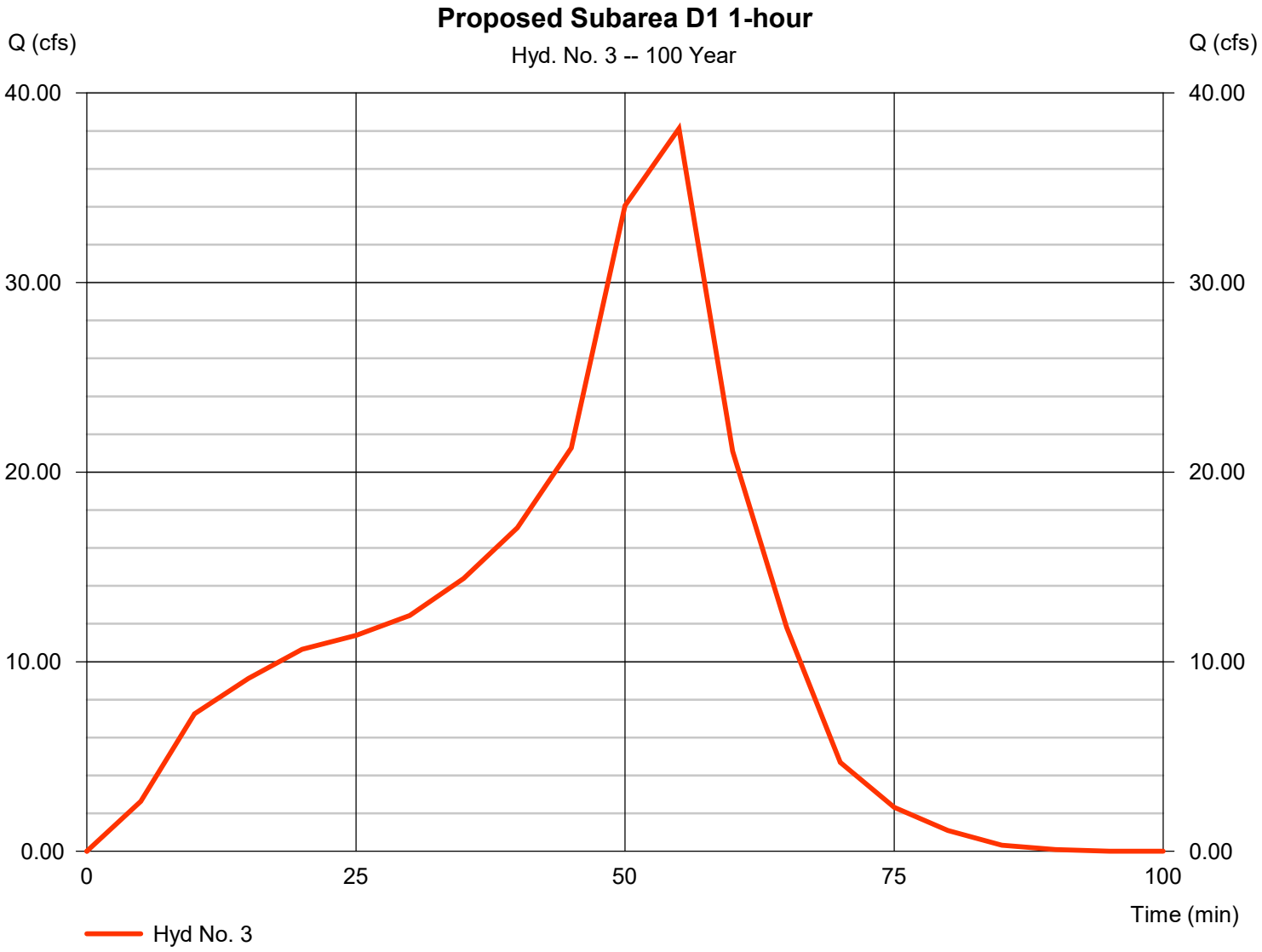


Hydrograph Report

Hyd. No. 3

Proposed Subarea D1 1-hour

Hydrograph type	= Manual	Peak discharge	= 38.13 cfs
Storm frequency	= 100 yrs	Time to peak	= 55 min
Time interval	= 5 min	Hyd. volume	= 65,955 cuft

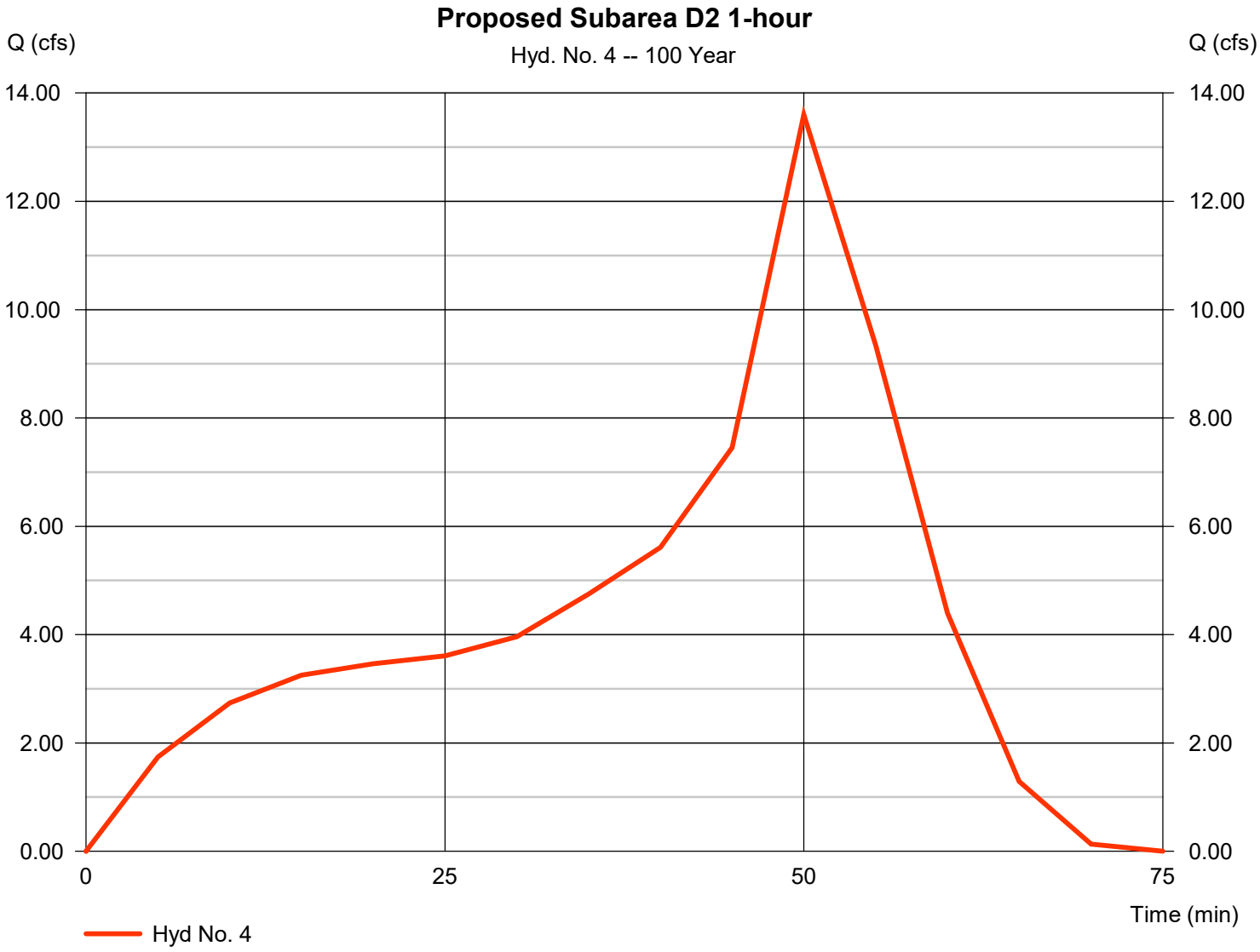


Hydrograph Report

Hyd. No. 4

Proposed Subarea D2 1-hour

Hydrograph type	= Manual	Peak discharge	= 13.60 cfs
Storm frequency	= 100 yrs	Time to peak	= 50 min
Time interval	= 5 min	Hyd. volume	= 19,599 cuft

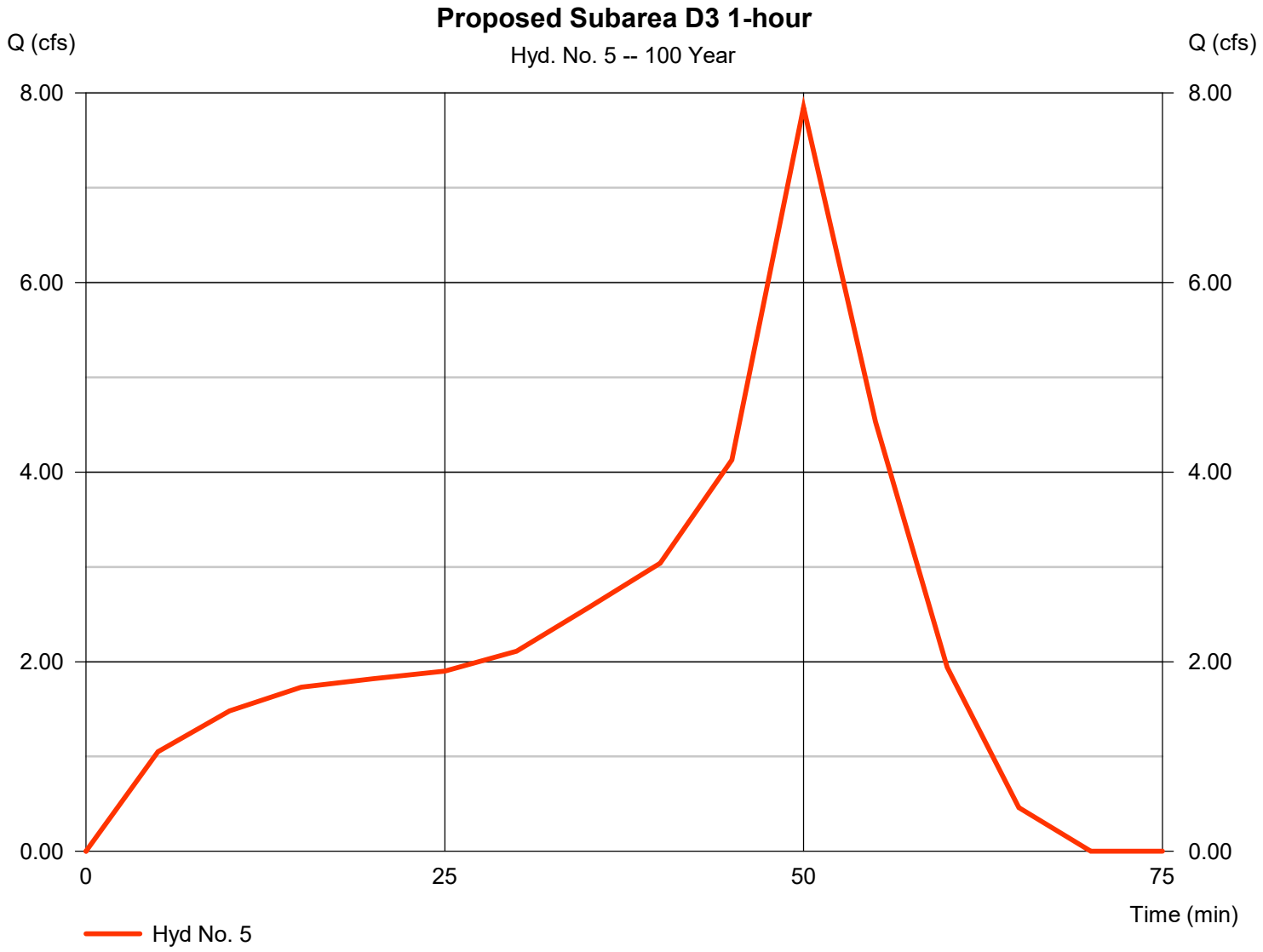


Hydrograph Report

Hyd. No. 5

Proposed Subarea D3 1-hour

Hydrograph type	= Manual	Peak discharge	= 7.850 cfs
Storm frequency	= 100 yrs	Time to peak	= 50 min
Time interval	= 5 min	Hyd. volume	= 10,383 cuft

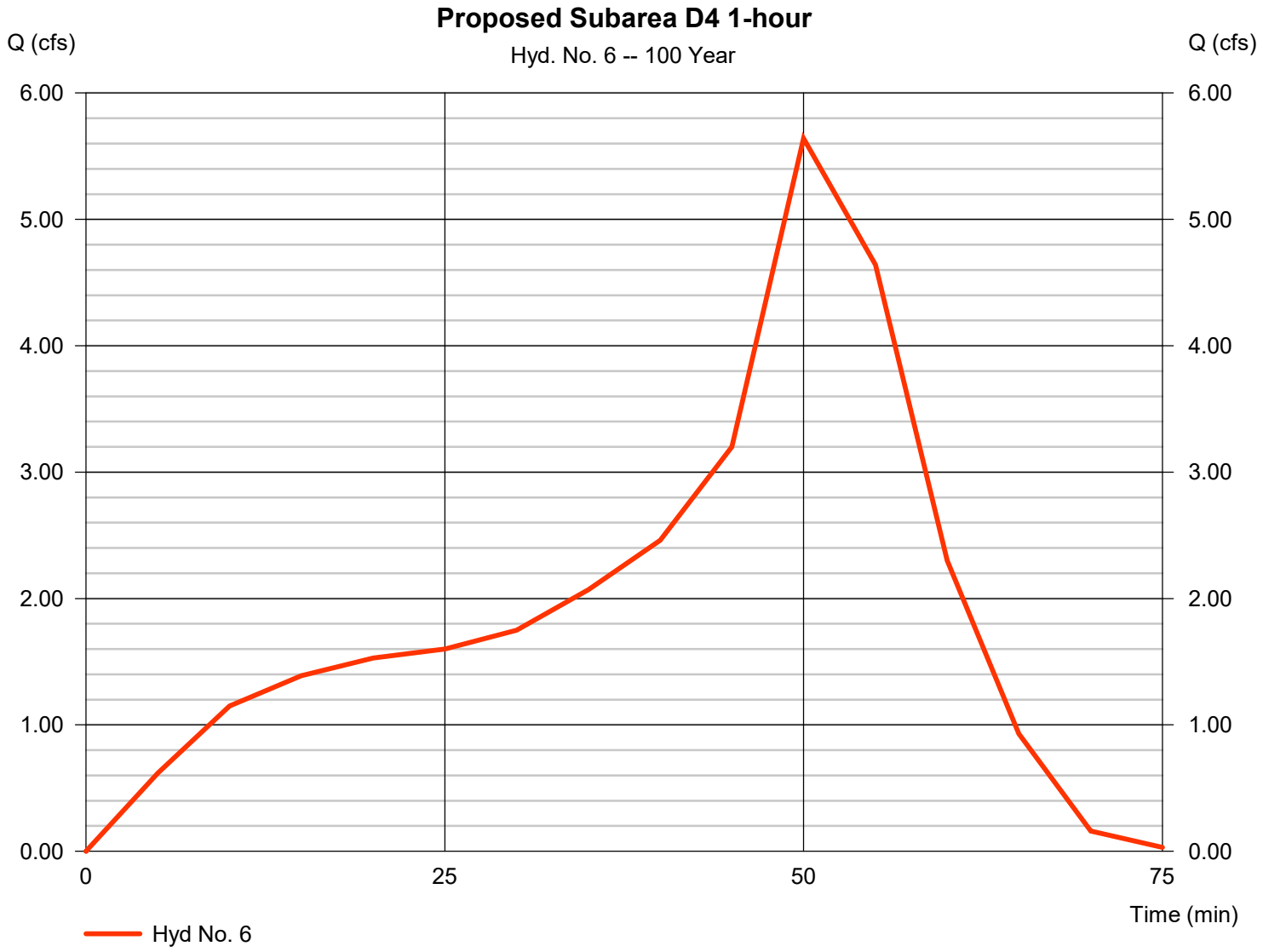


Hydrograph Report

Hyd. No. 6

Proposed Subarea D4 1-hour

Hydrograph type	= Manual	Peak discharge	= 5.640 cfs
Storm frequency	= 100 yrs	Time to peak	= 50 min
Time interval	= 5 min	Hyd. volume	= 8,841 cuft

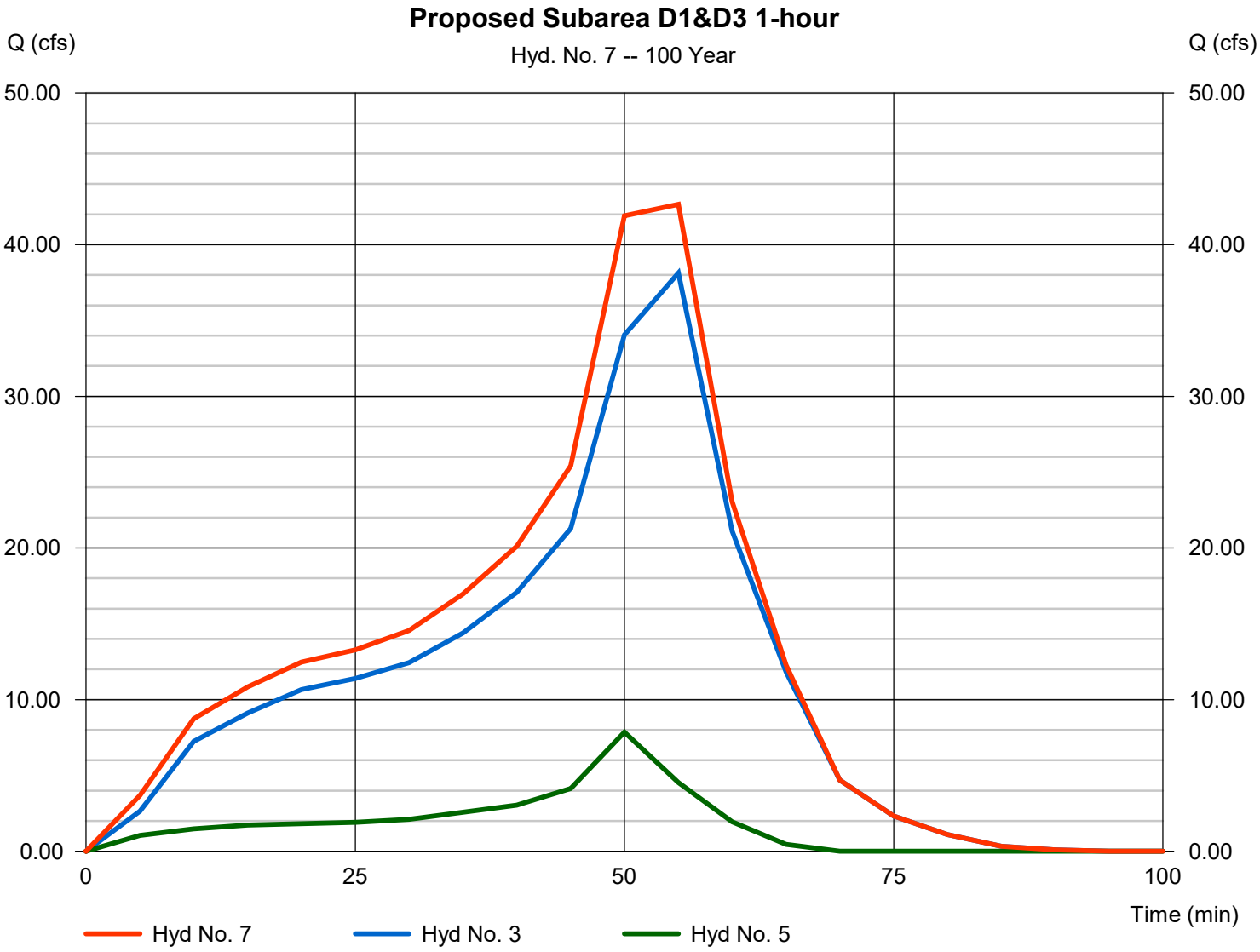


Hydrograph Report

Hyd. No. 7

Proposed Subarea D1&D3 1-hour

Hydrograph type	= Combine	Peak discharge	= 42.66 cfs
Storm frequency	= 100 yrs	Time to peak	= 55 min
Time interval	= 5 min	Hyd. volume	= 76,338 cuft
Inflow hyds.	= 3, 5	Contrib. drain. area	= 0.000 ac

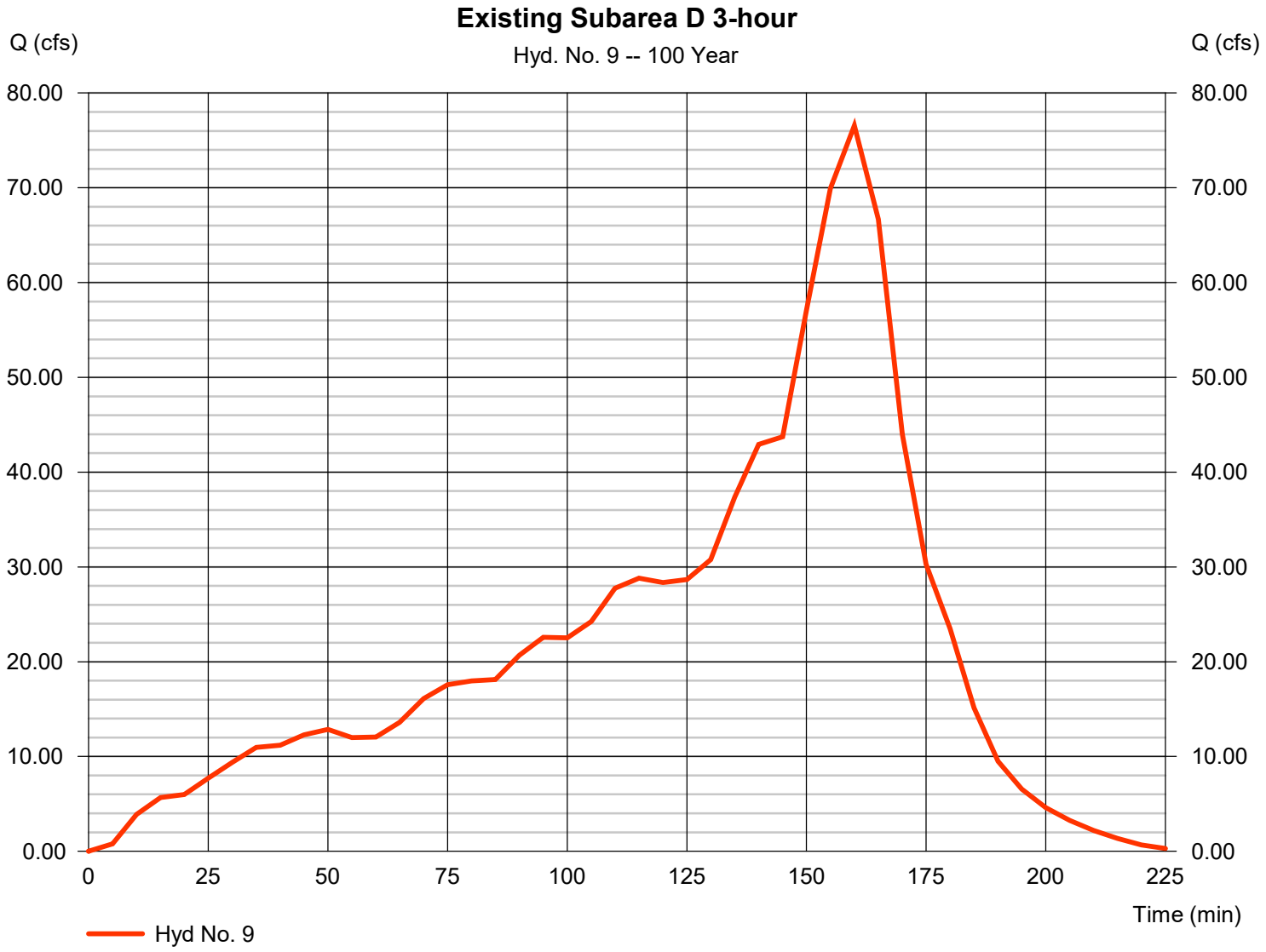


Hydrograph Report

Hyd. No. 9

Existing Subarea D 3-hour

Hydrograph type	= Manual	Peak discharge	= 76.57 cfs
Storm frequency	= 100 yrs	Time to peak	= 160 min
Time interval	= 5 min	Hyd. volume	= 287,442 cuft

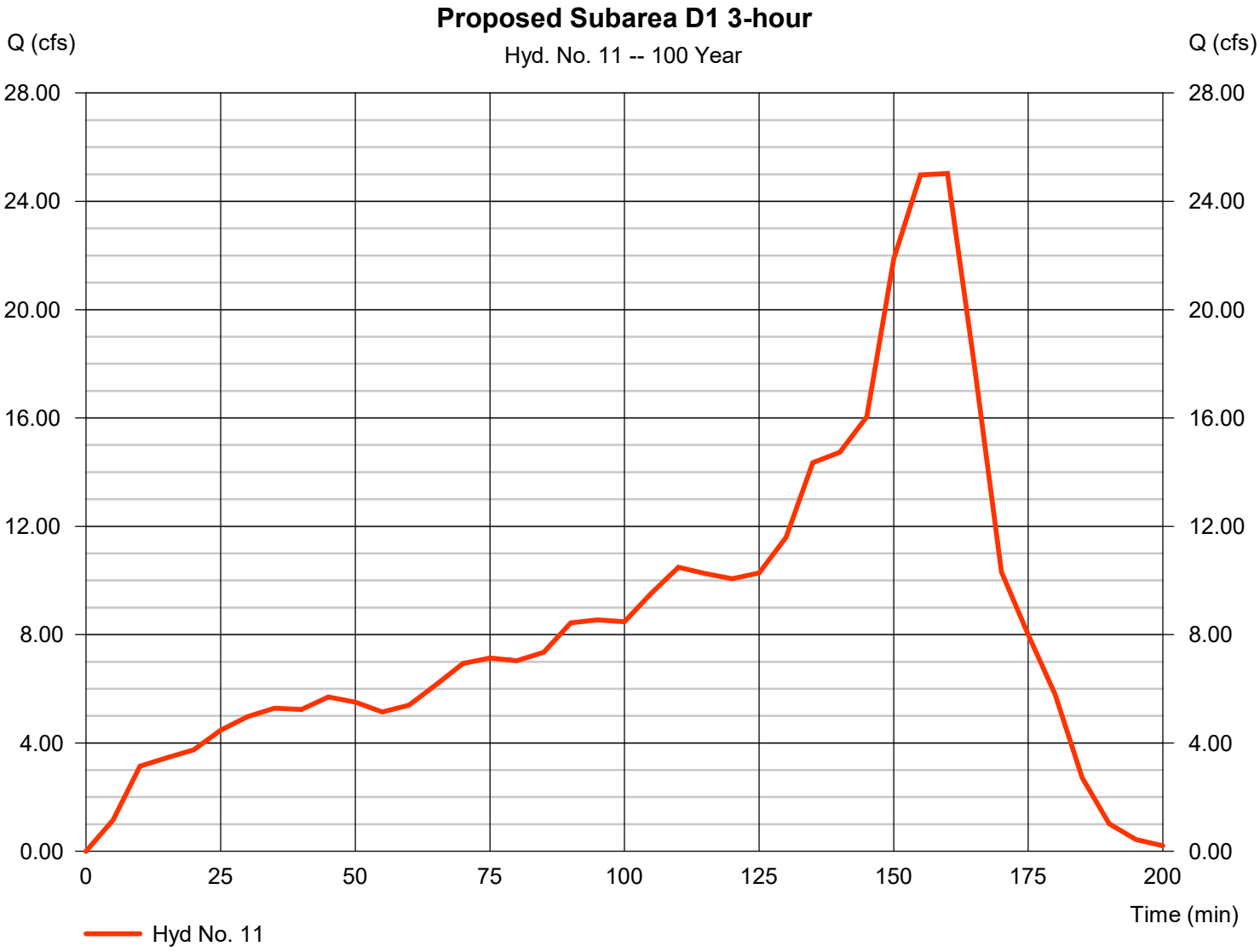


Hydrograph Report

Hyd. No. 11

Proposed Subarea D1 3-hour

Hydrograph type	= Manual	Peak discharge	= 25.03 cfs
Storm frequency	= 100 yrs	Time to peak	= 160 min
Time interval	= 5 min	Hyd. volume	= 101,682 cuft

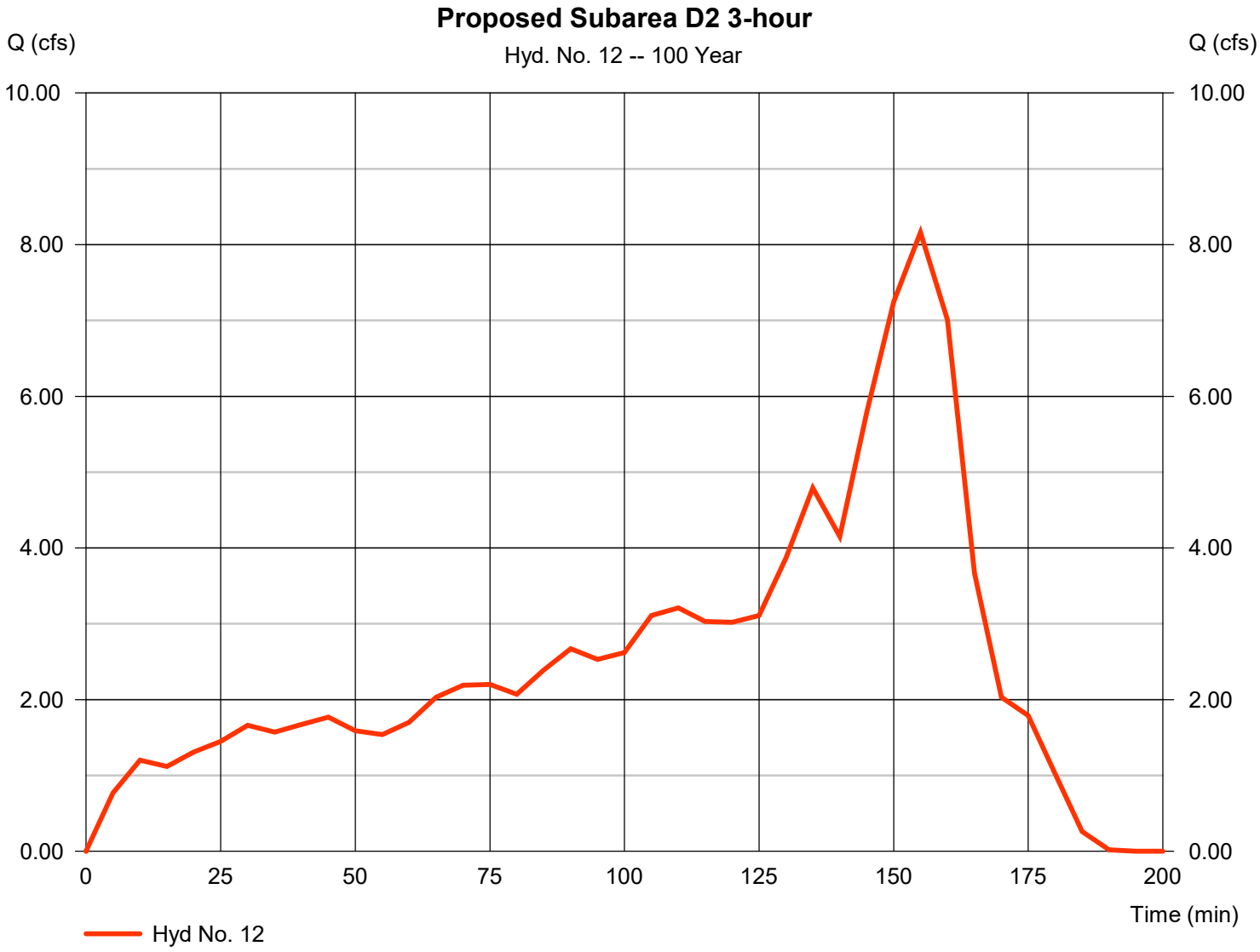


Hydrograph Report

Hyd. No. 12

Proposed Subarea D2 3-hour

Hydrograph type	= Manual	Peak discharge	= 8.160 cfs
Storm frequency	= 100 yrs	Time to peak	= 155 min
Time interval	= 5 min	Hyd. volume	= 30,402 cuft

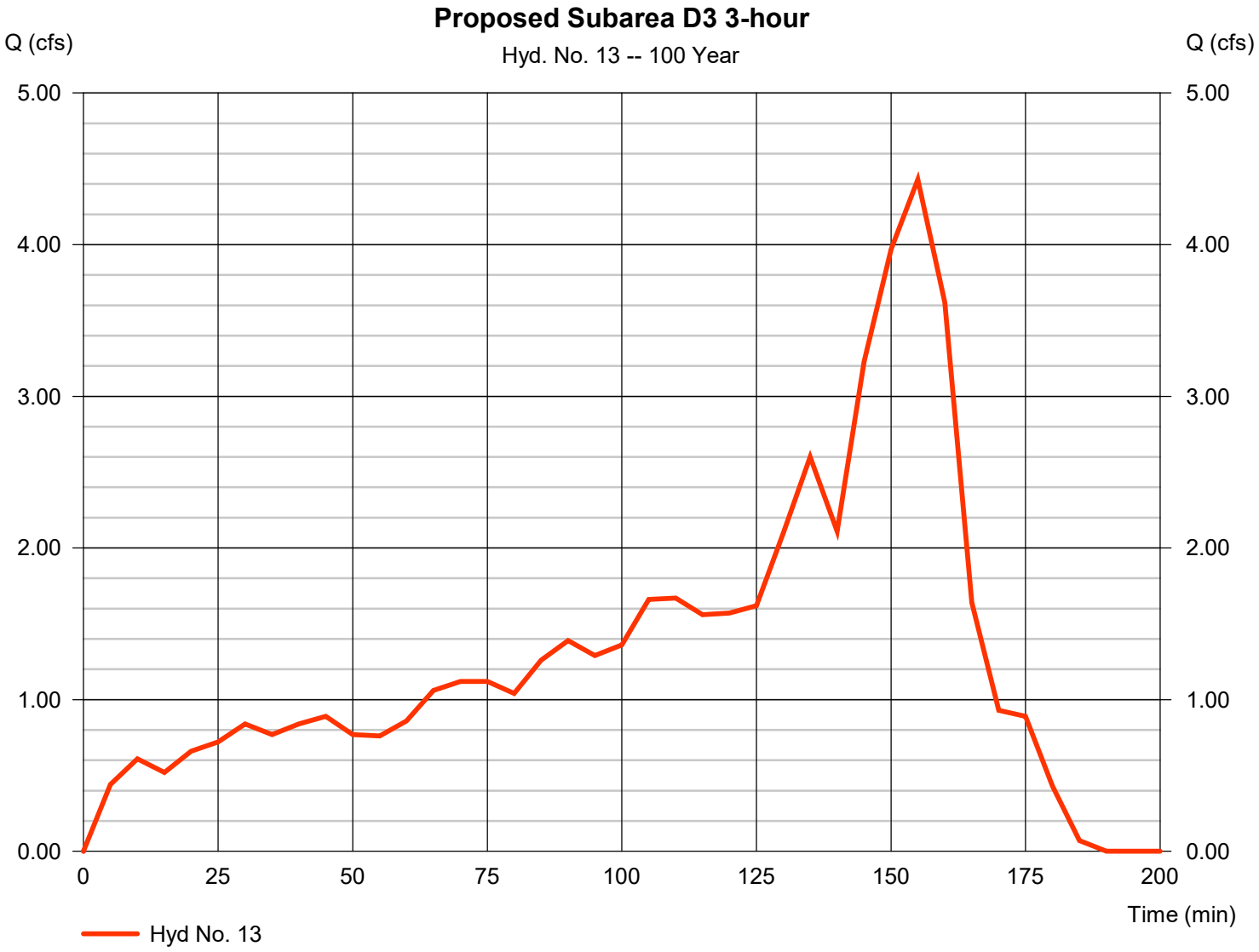


Hydrograph Report

Hyd. No. 13

Proposed Subarea D3 3-hour

Hydrograph type	= Manual	Peak discharge	= 4.430 cfs
Storm frequency	= 100 yrs	Time to peak	= 155 min
Time interval	= 5 min	Hyd. volume	= 15,726 cuft

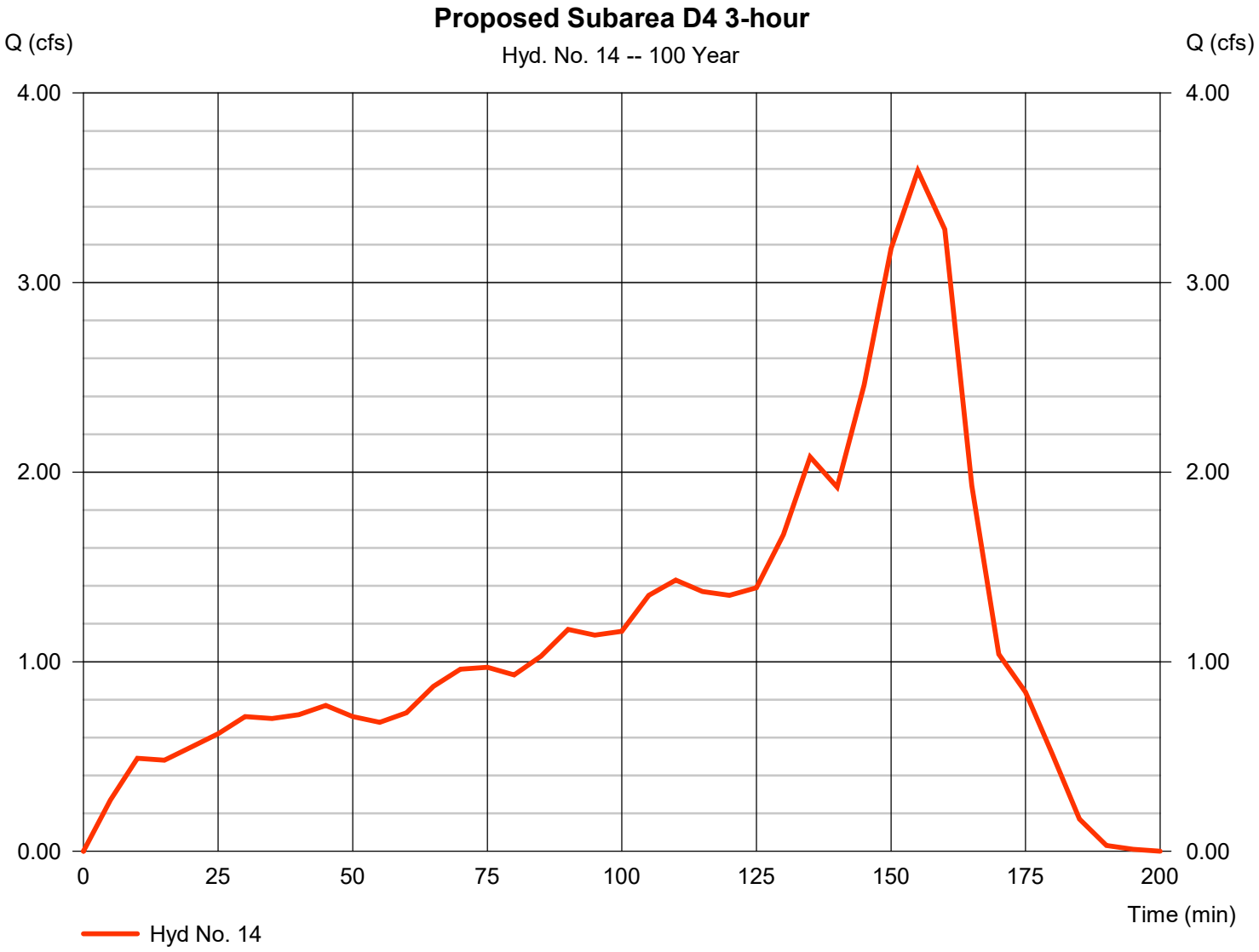


Hydrograph Report

Hyd. No. 14

Proposed Subarea D4 3-hour

Hydrograph type	= Manual	Peak discharge	= 3.590 cfs
Storm frequency	= 100 yrs	Time to peak	= 155 min
Time interval	= 5 min	Hyd. volume	= 13,578 cuft

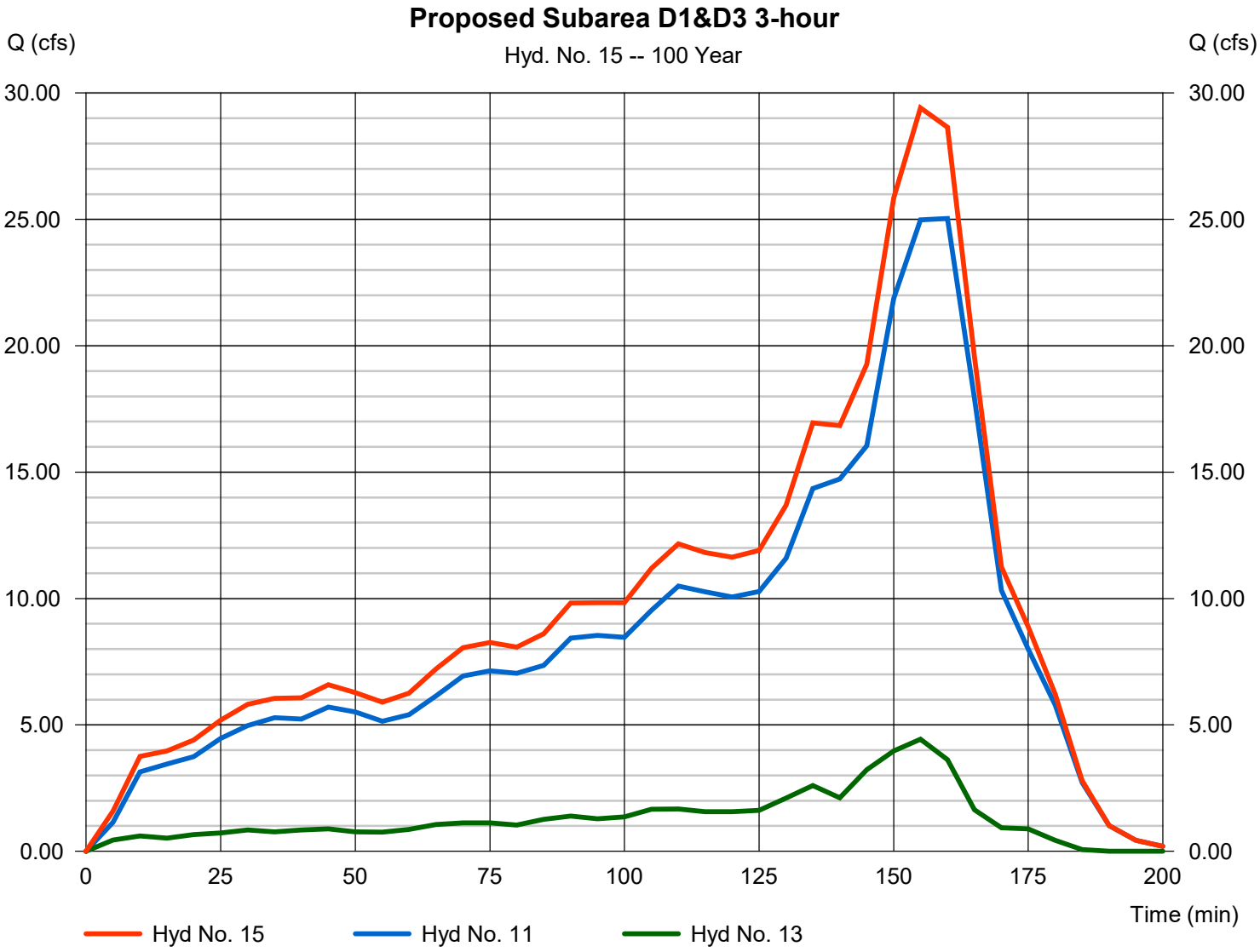


Hydrograph Report

Hyd. No. 15

Proposed Subarea D1&D3 3-hour

Hydrograph type	= Combine	Peak discharge	= 29.41 cfs
Storm frequency	= 100 yrs	Time to peak	= 155 min
Time interval	= 5 min	Hyd. volume	= 117,408 cuft
Inflow hyds.	= 11, 13	Contrib. drain. area	= 0.000 ac

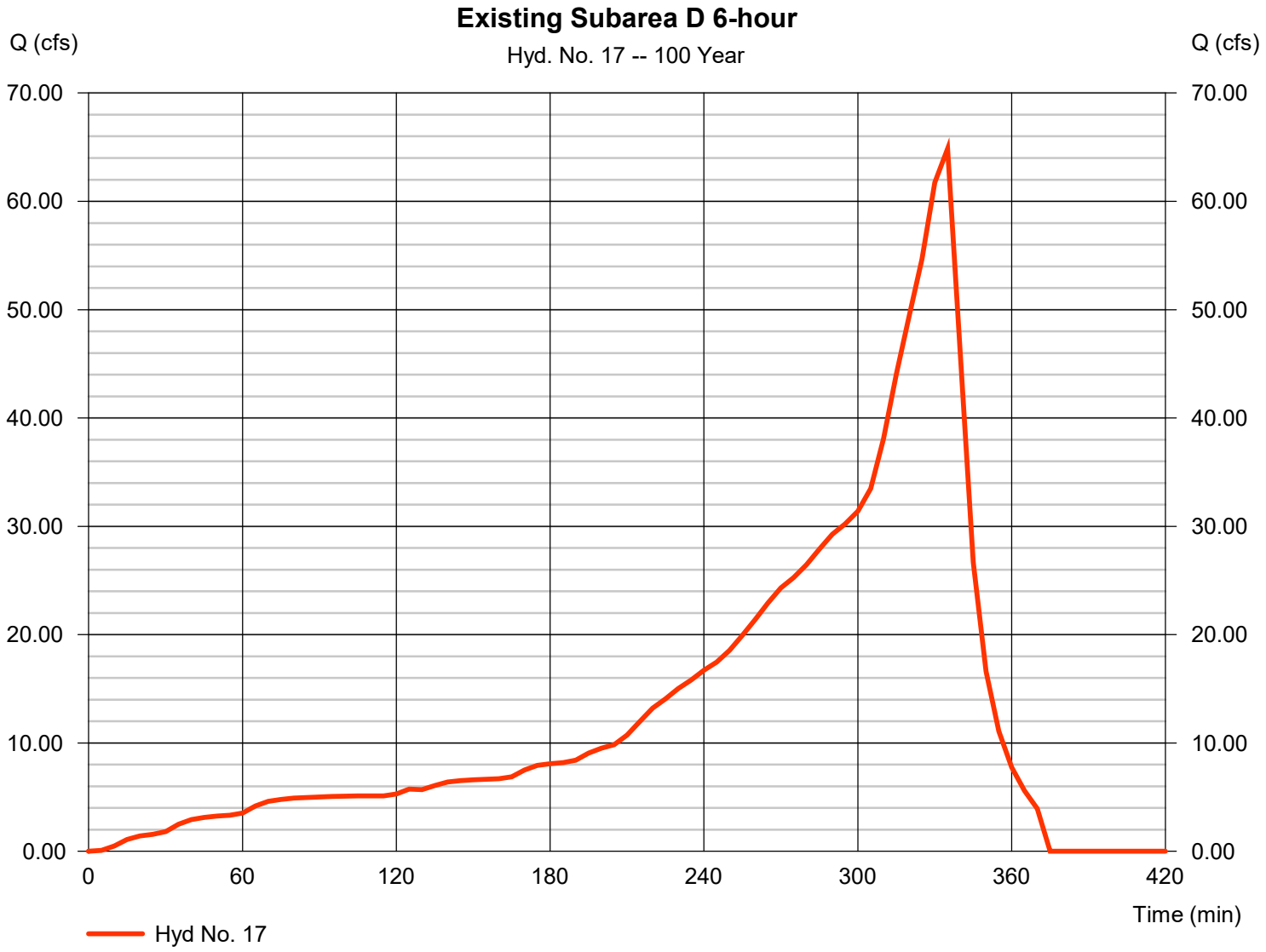


Hydrograph Report

Hyd. No. 17

Existing Subarea D 6-hour

Hydrograph type	= Manual	Peak discharge	= 64.86 cfs
Storm frequency	= 100 yrs	Time to peak	= 335 min
Time interval	= 5 min	Hyd. volume	= 319,881 cuft

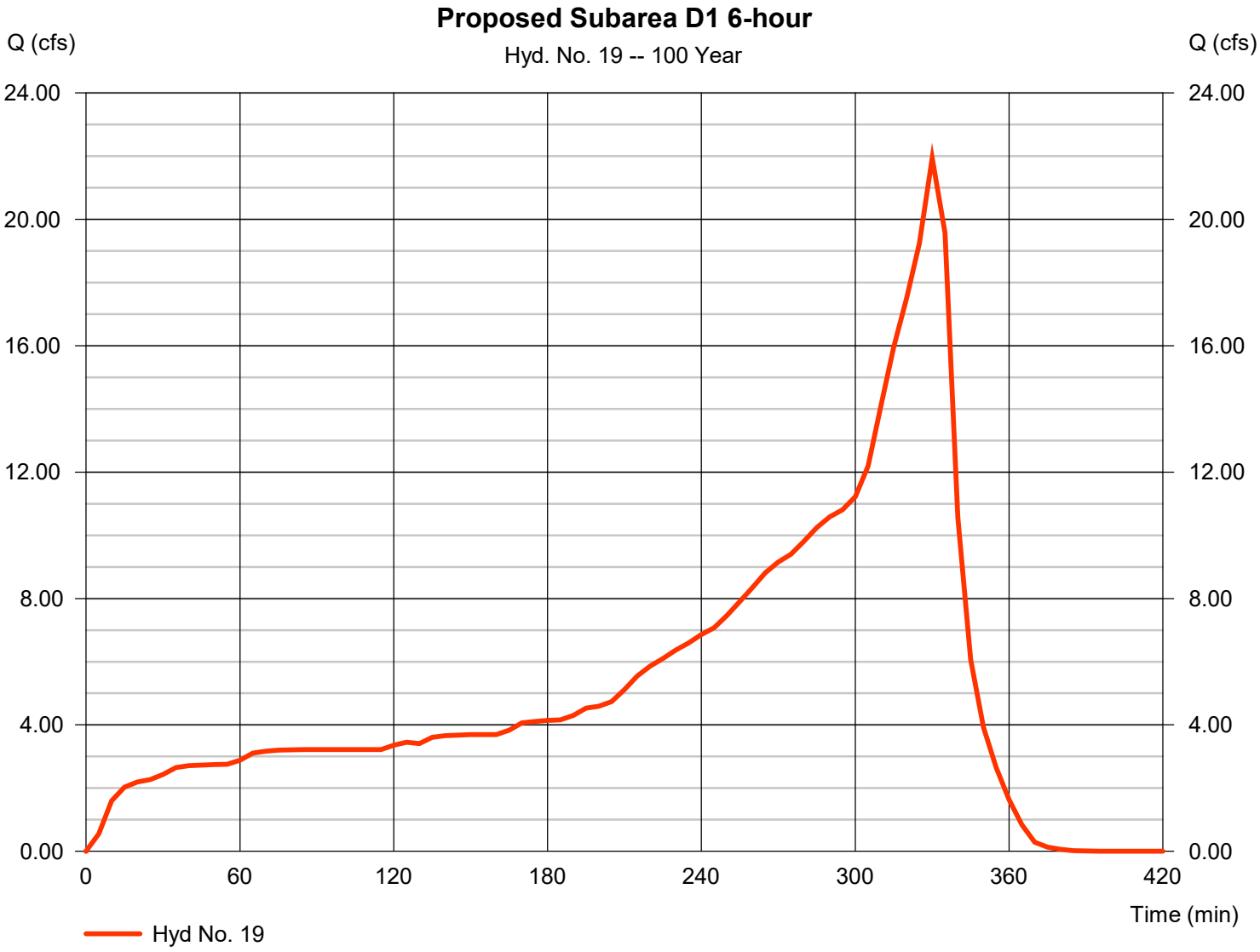


Hydrograph Report

Hyd. No. 19

Proposed Subarea D1 6-hour

Hydrograph type	= Manual	Peak discharge	= 21.94 cfs
Storm frequency	= 100 yrs	Time to peak	= 330 min
Time interval	= 5 min	Hyd. volume	= 130,032 cuft

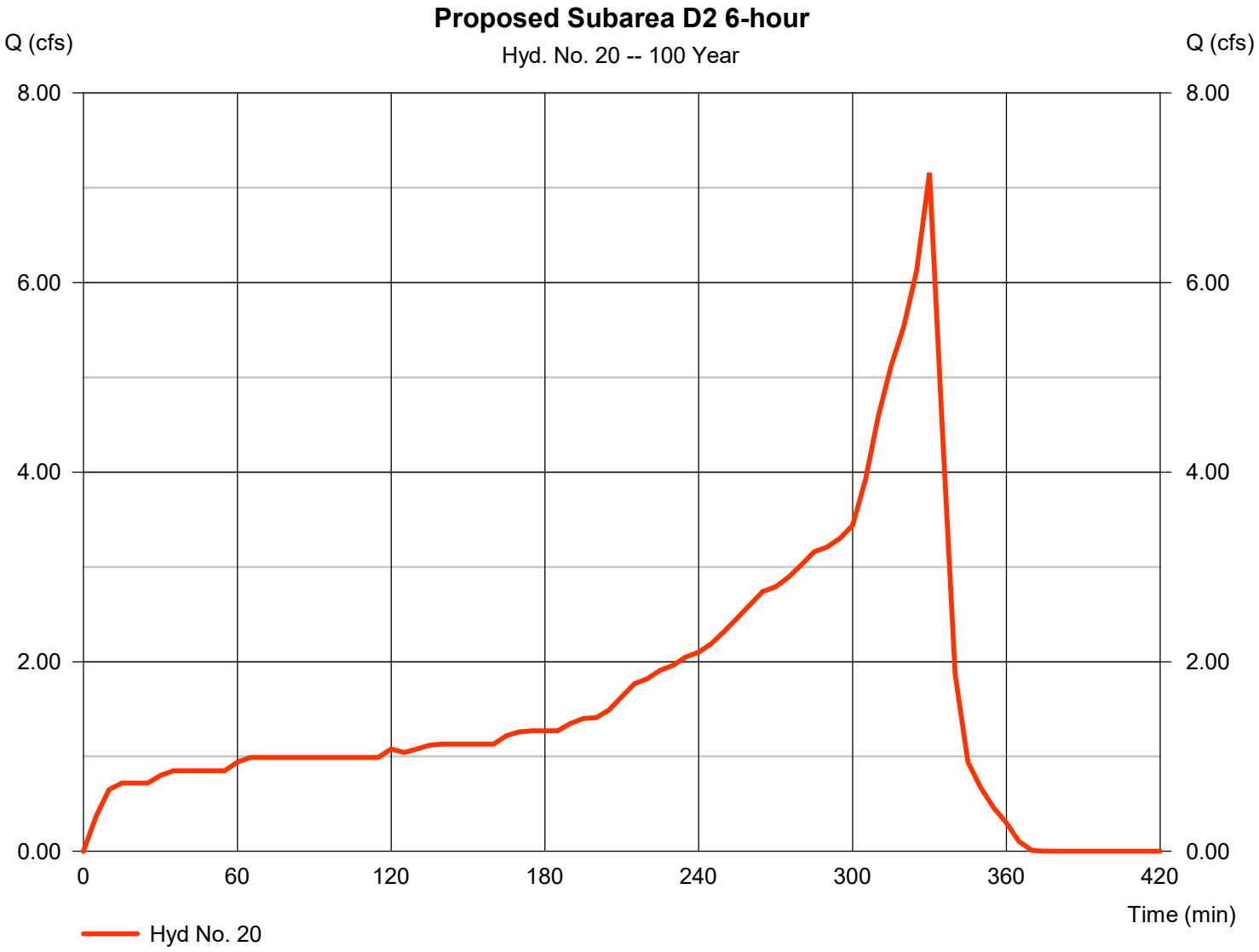


Hydrograph Report

Hyd. No. 20

Proposed Subarea D2 6-hour

Hydrograph type	= Manual	Peak discharge	= 7.160 cfs
Storm frequency	= 100 yrs	Time to peak	= 330 min
Time interval	= 5 min	Hyd. volume	= 39,177 cuft

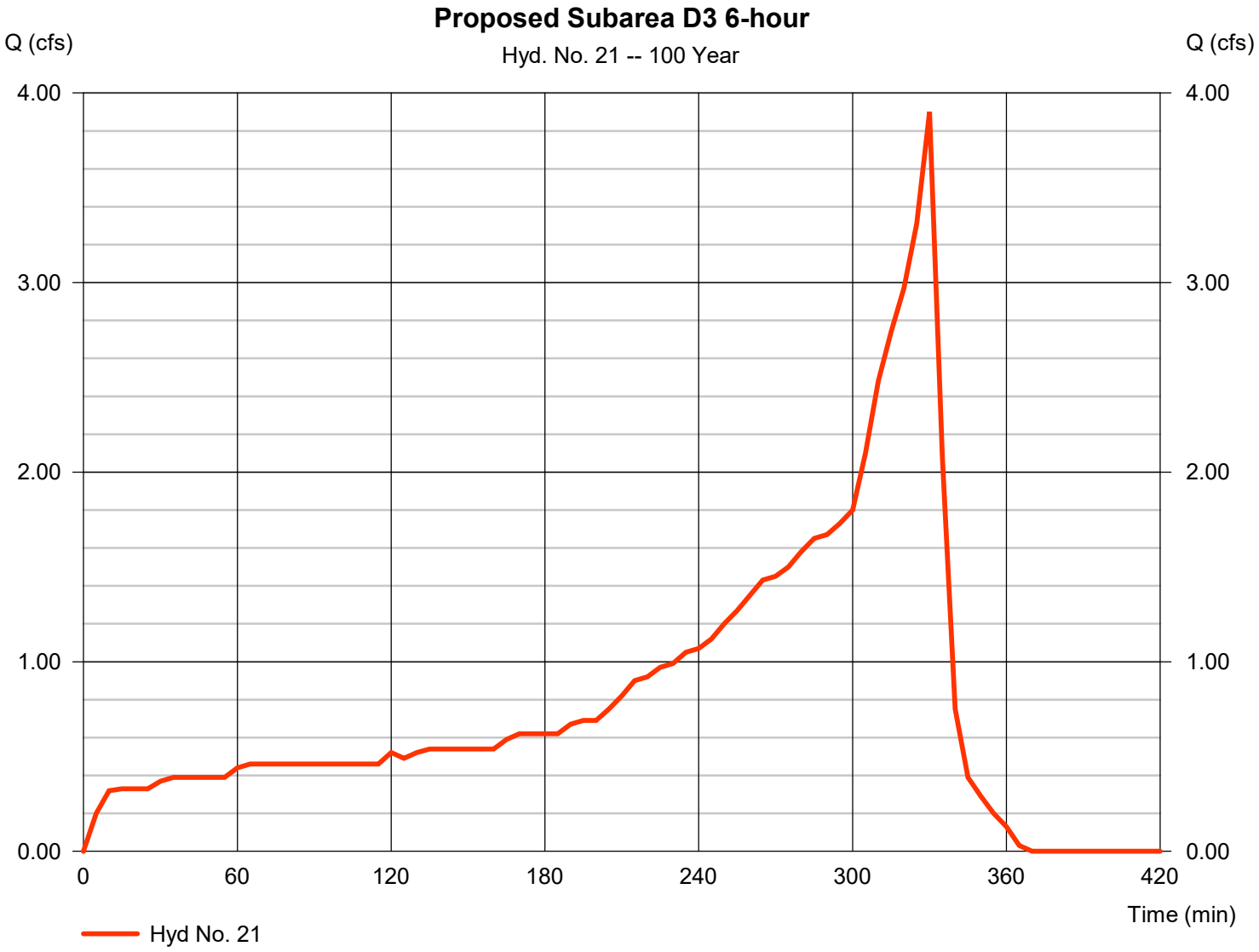


Hydrograph Report

Hyd. No. 21

Proposed Subarea D3 6-hour

Hydrograph type	= Manual	Peak discharge	= 3.900 cfs
Storm frequency	= 100 yrs	Time to peak	= 330 min
Time interval	= 5 min	Hyd. volume	= 19,743 cuft

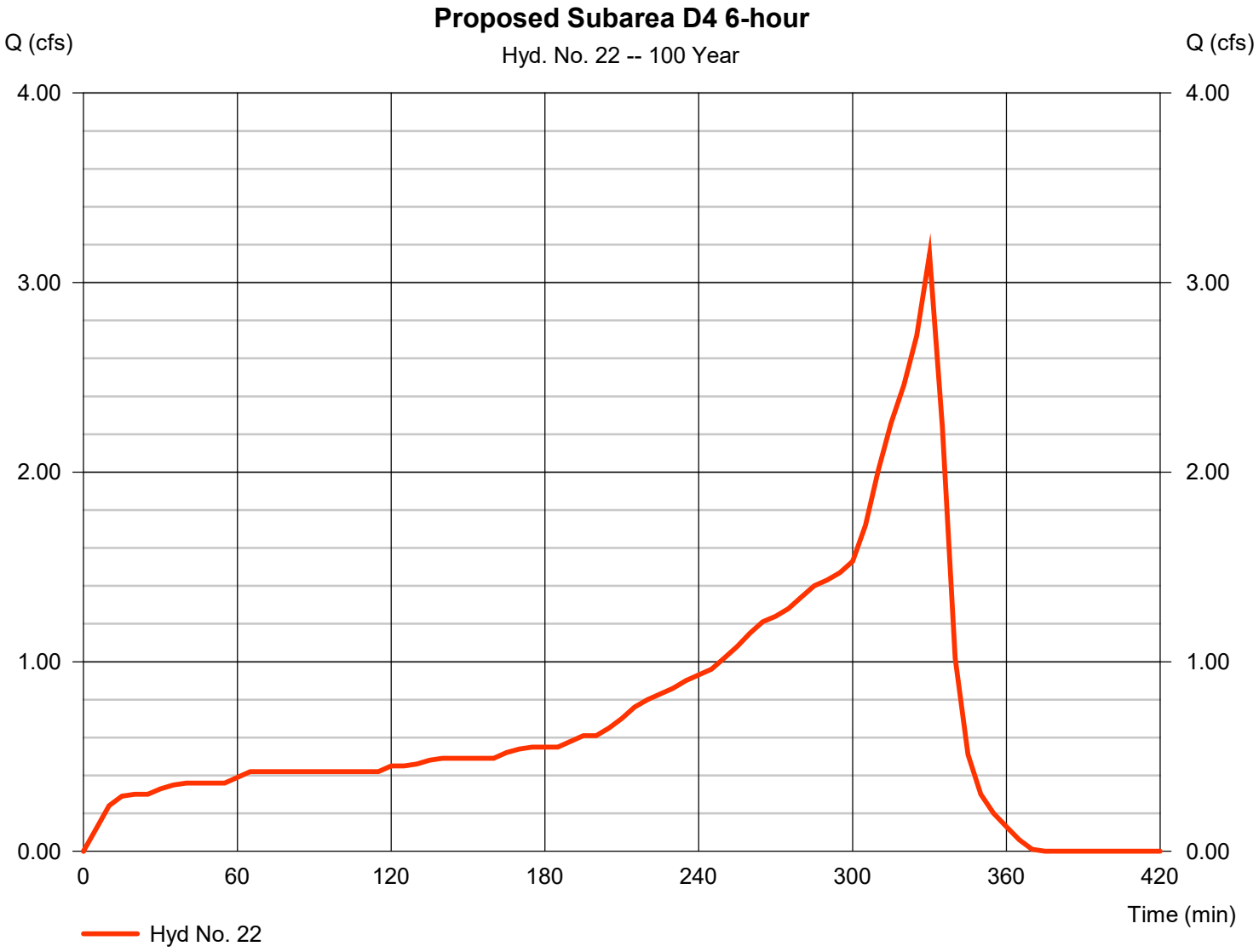


Hydrograph Report

Hyd. No. 22

Proposed Subarea D4 6-hour

Hydrograph type	= Manual	Peak discharge	= 3.150 cfs
Storm frequency	= 100 yrs	Time to peak	= 330 min
Time interval	= 5 min	Hyd. volume	= 17,253 cuft

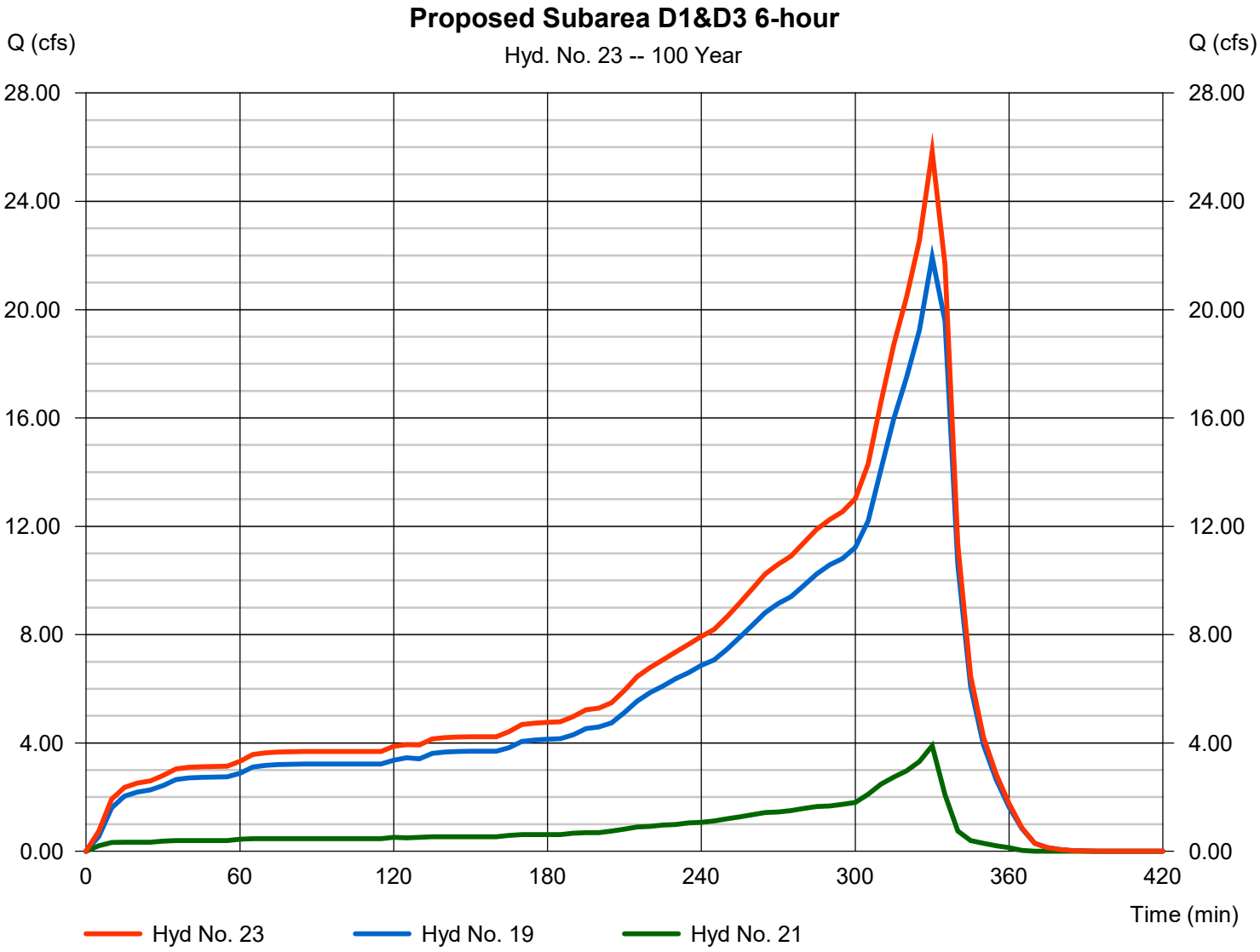


Hydrograph Report

Hyd. No. 23

Proposed Subarea D1&D3 6-hour

Hydrograph type	=	Combine	Peak discharge	=	25.84 cfs
Storm frequency	=	100 yrs	Time to peak	=	330 min
Time interval	=	5 min	Hyd. volume	=	149,775 cuft
Inflow hyds.	=	19, 21	Contrib. drain. area	=	0.000 ac

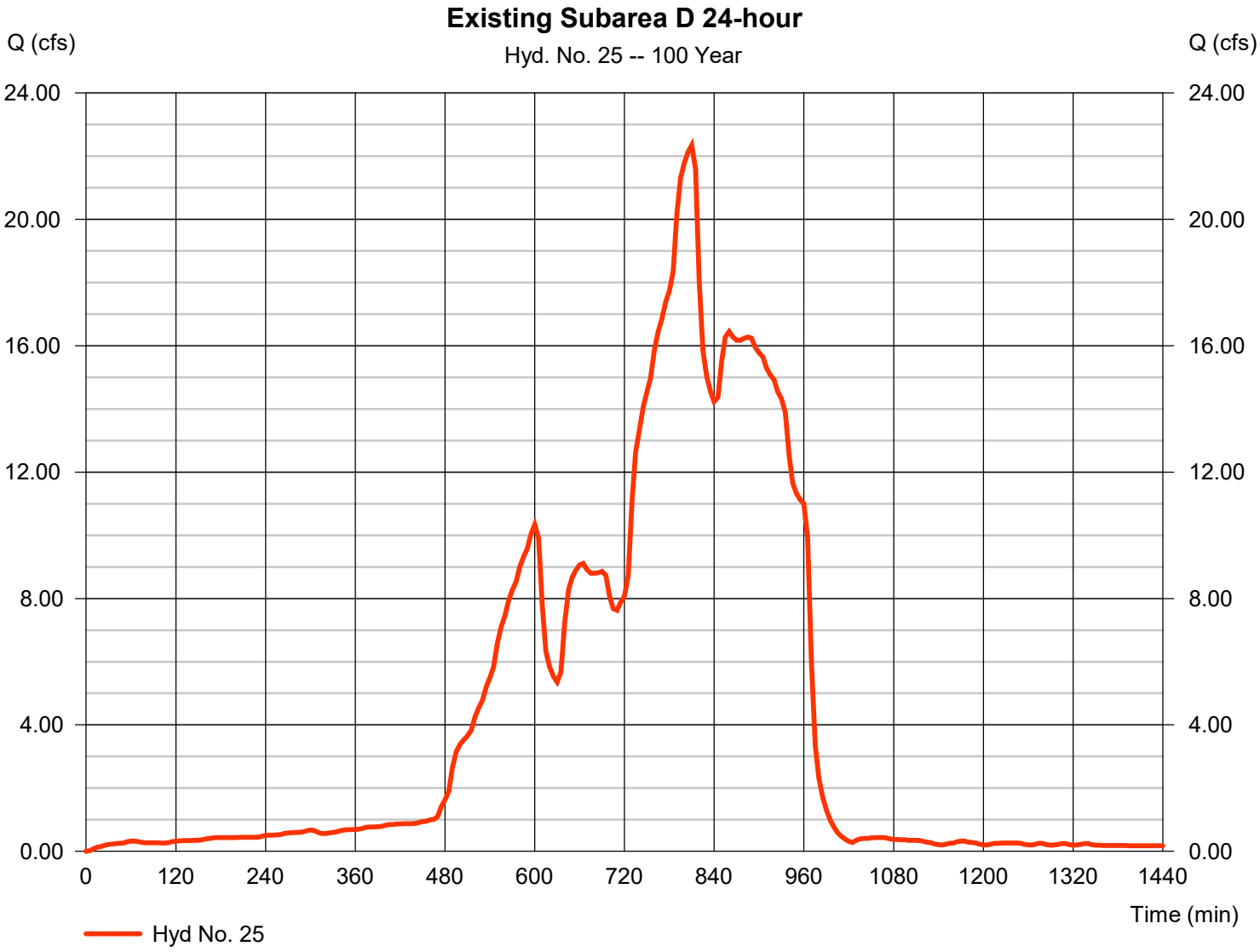


Hydrograph Report

Hyd. No. 25

Existing Subarea D 24-hour

Hydrograph type	= Manual	Peak discharge	= 22.35 cfs
Storm frequency	= 100 yrs	Time to peak	= 810 min
Time interval	= 5 min	Hyd. volume	= 357,183 cuft

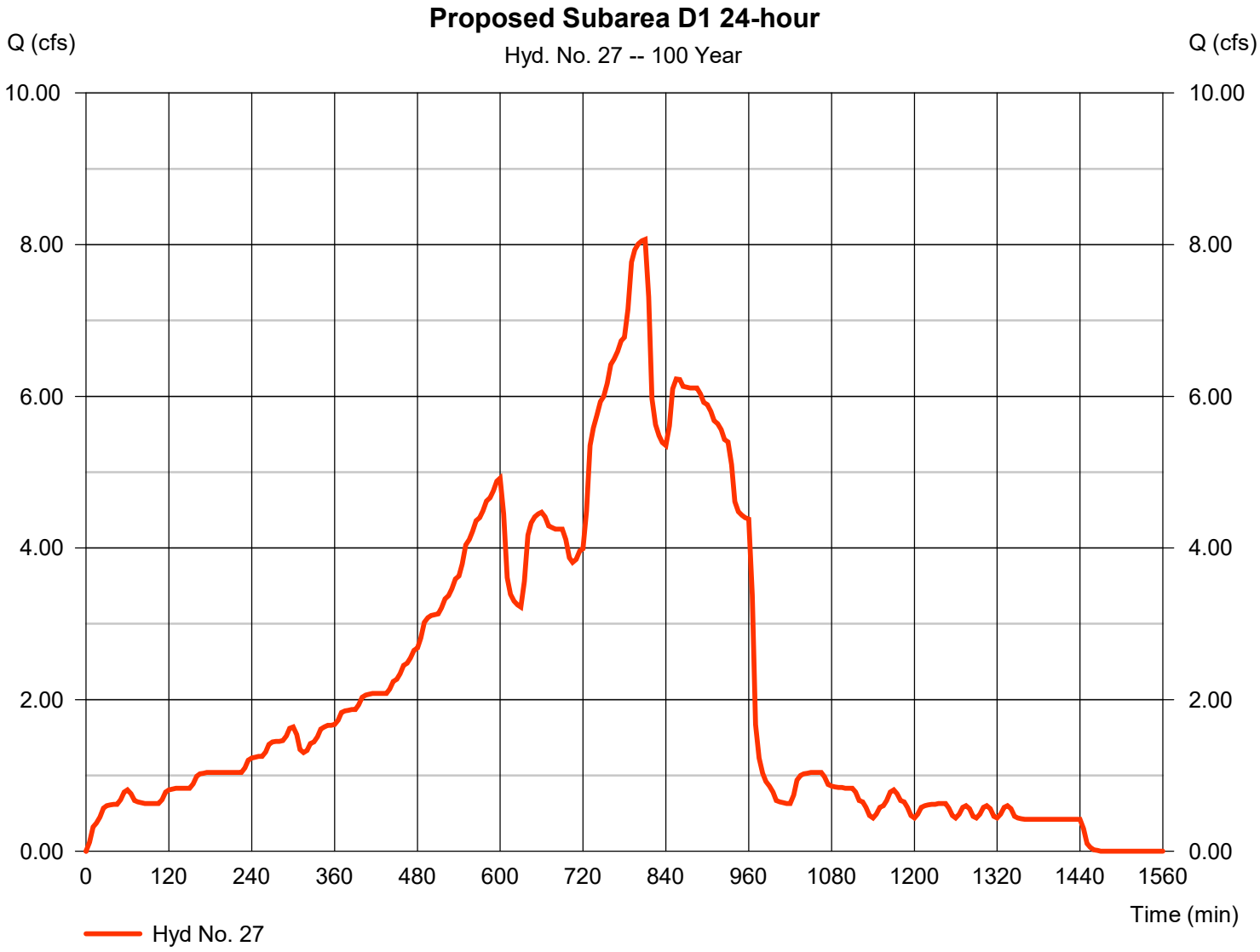


Hydrograph Report

Hyd. No. 27

Proposed Subarea D1 24-hour

Hydrograph type	= Manual	Peak discharge	= 8.070 cfs
Storm frequency	= 100 yrs	Time to peak	= 810 min
Time interval	= 5 min	Hyd. volume	= 199,818 cuft

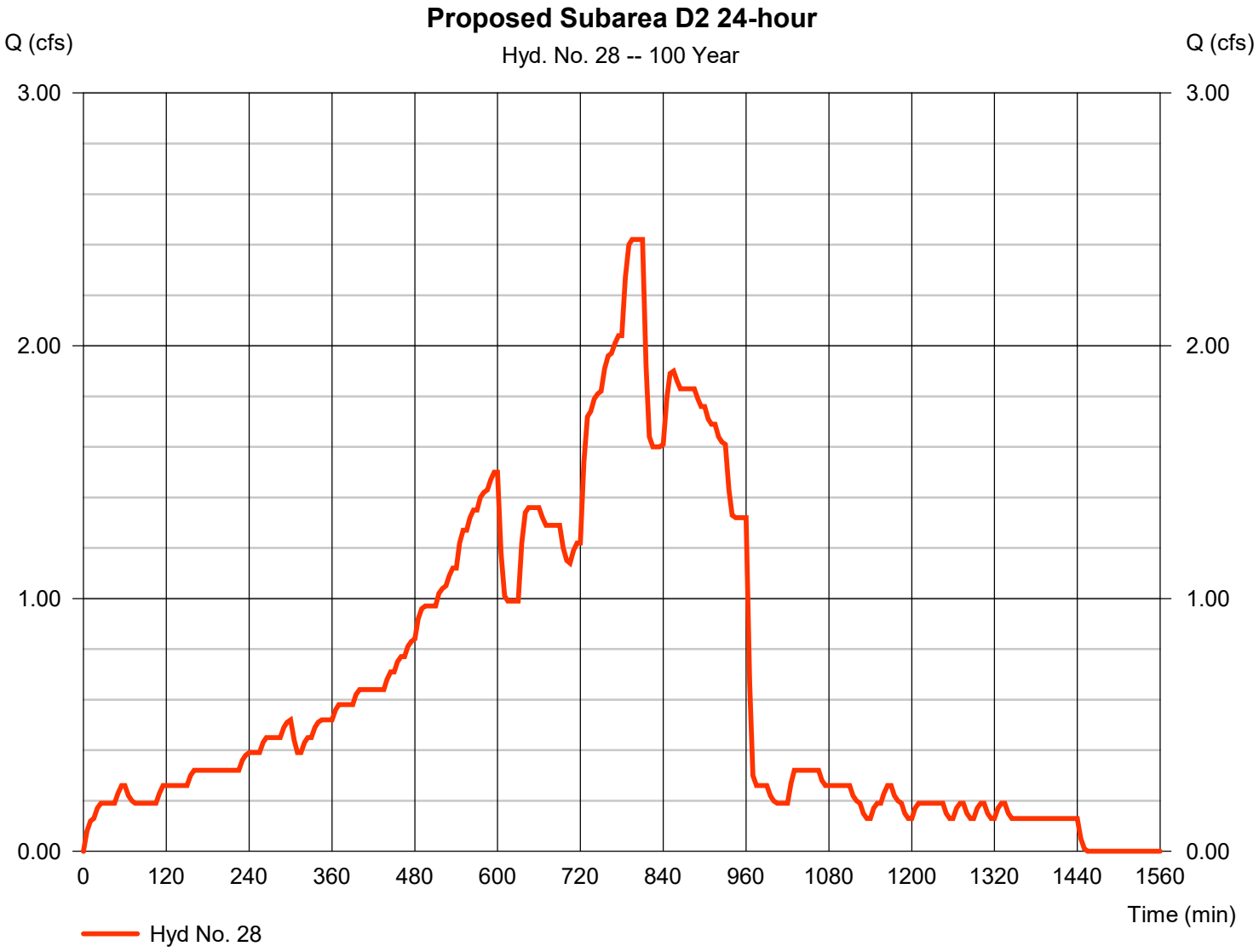


Hydrograph Report

Hyd. No. 28

Proposed Subarea D2 24-hour

Hydrograph type	= Manual	Peak discharge	= 2.420 cfs
Storm frequency	= 100 yrs	Time to peak	= 795 min
Time interval	= 5 min	Hyd. volume	= 60,795 cuft

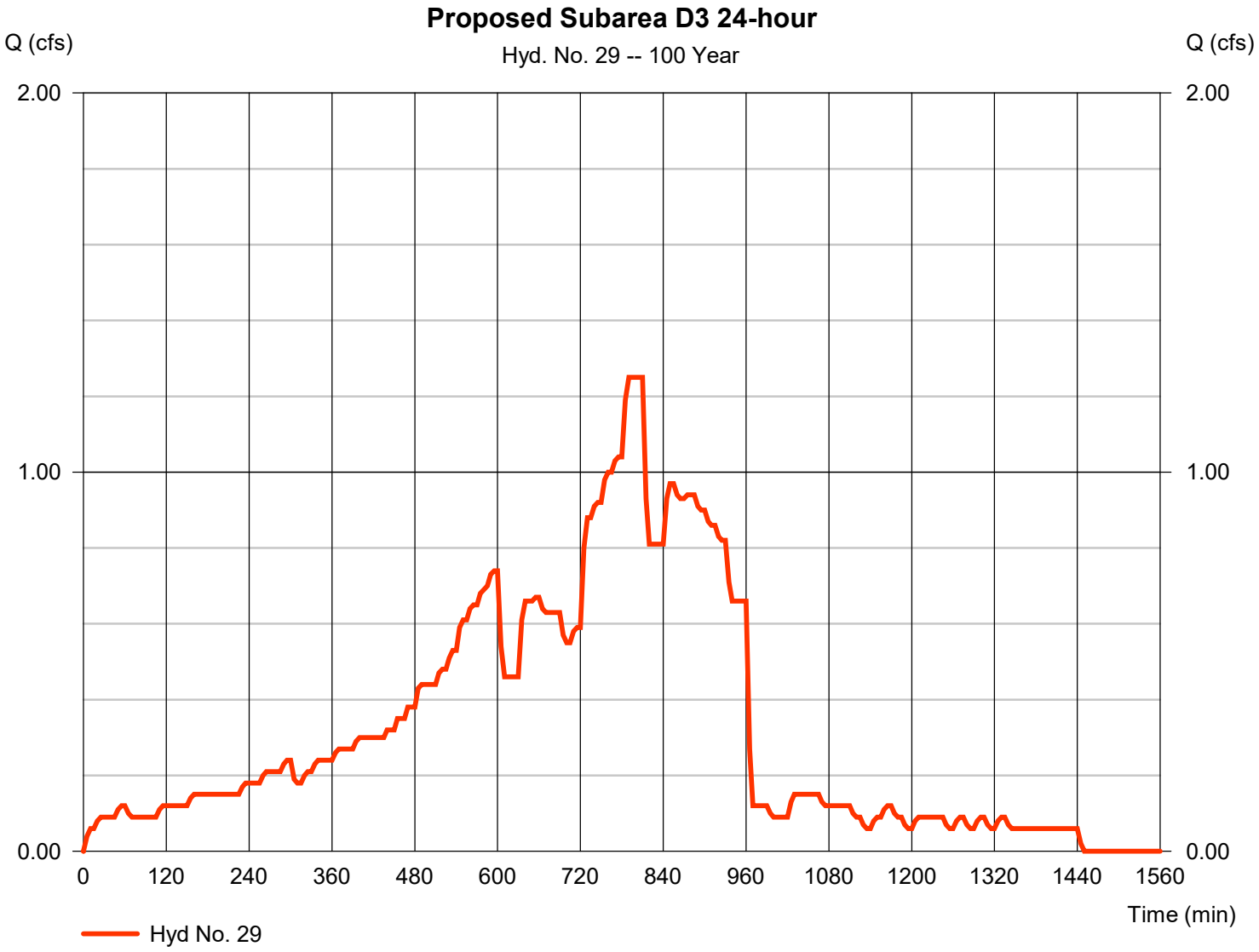


Hydrograph Report

Hyd. No. 29

Proposed Subarea D3 24-hour

Hydrograph type	= Manual	Peak discharge	= 1.250 cfs
Storm frequency	= 100 yrs	Time to peak	= 790 min
Time interval	= 5 min	Hyd. volume	= 29,646 cuft

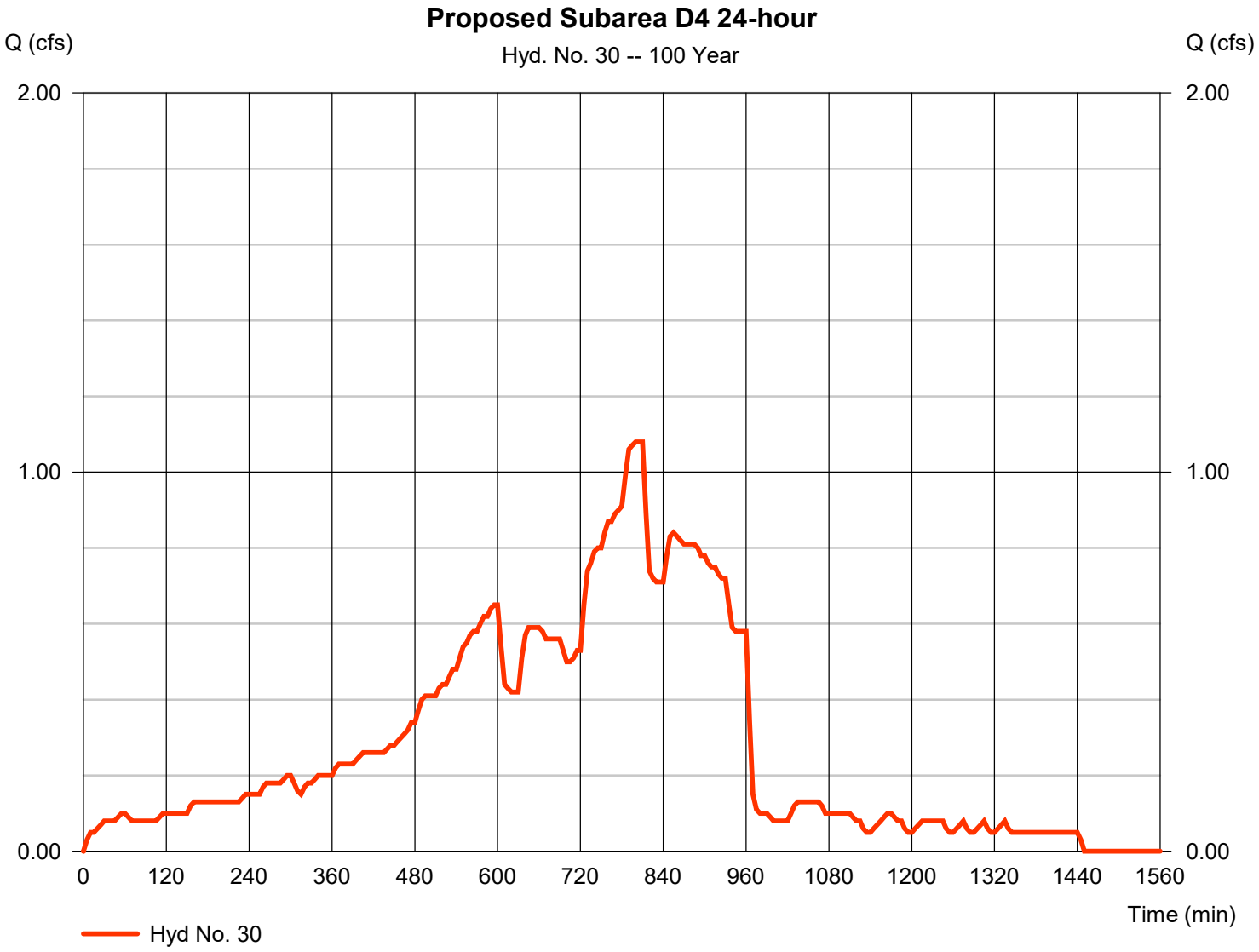


Hydrograph Report

Hyd. No. 30

Proposed Subarea D4 24-hour

Hydrograph type	= Manual	Peak discharge	= 1.080 cfs
Storm frequency	= 100 yrs	Time to peak	= 800 min
Time interval	= 5 min	Hyd. volume	= 25,932 cuft

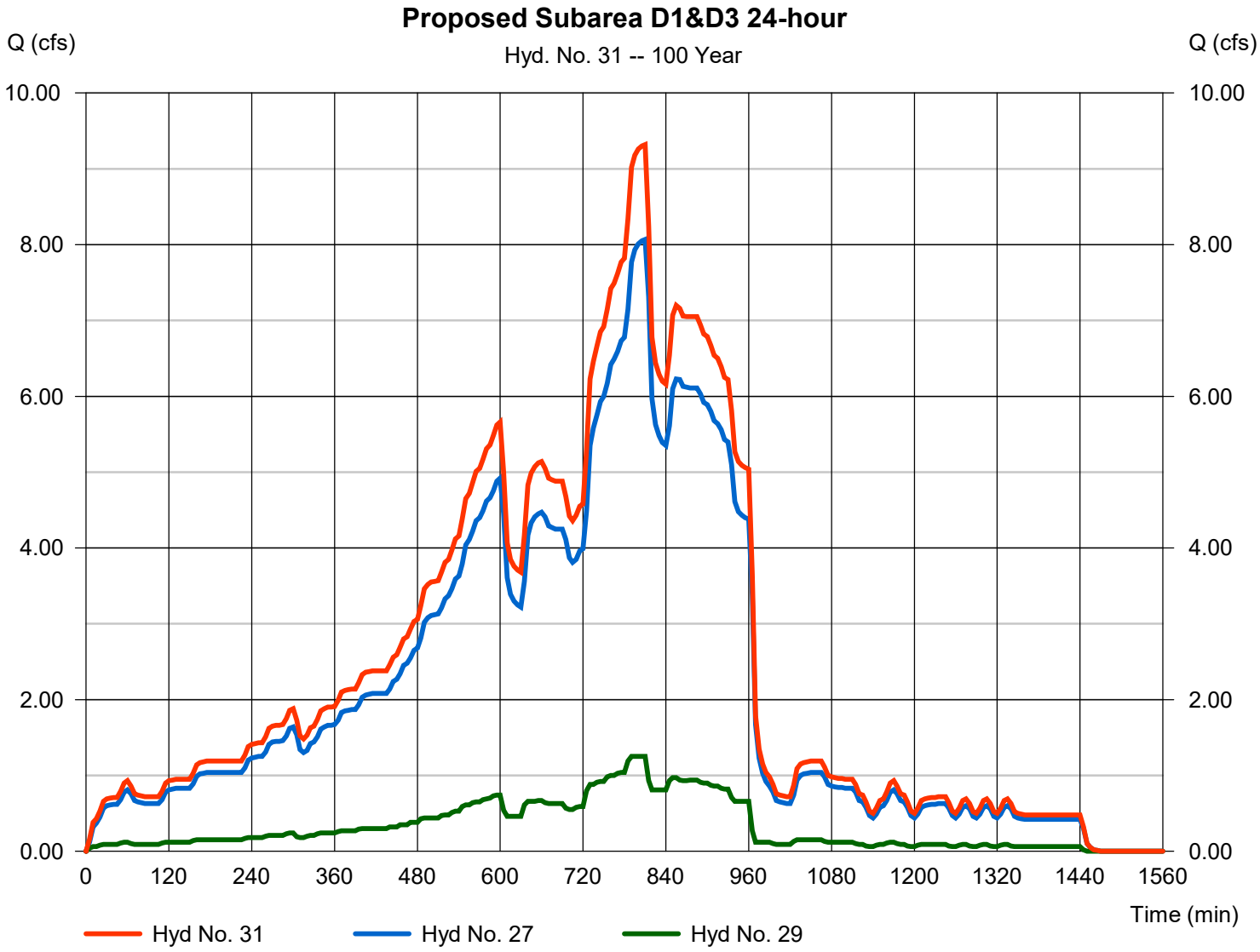


Hydrograph Report

Hyd. No. 31

Proposed Subarea D1&D3 24-hour

Hydrograph type	=	Combine	Peak discharge	=	9.320 cfs
Storm frequency	=	100 yrs	Time to peak	=	810 min
Time interval	=	5 min	Hyd. volume	=	229,464 cuft
Inflow hyds.	=	27, 29	Contrib. drain. area	=	0.000 ac



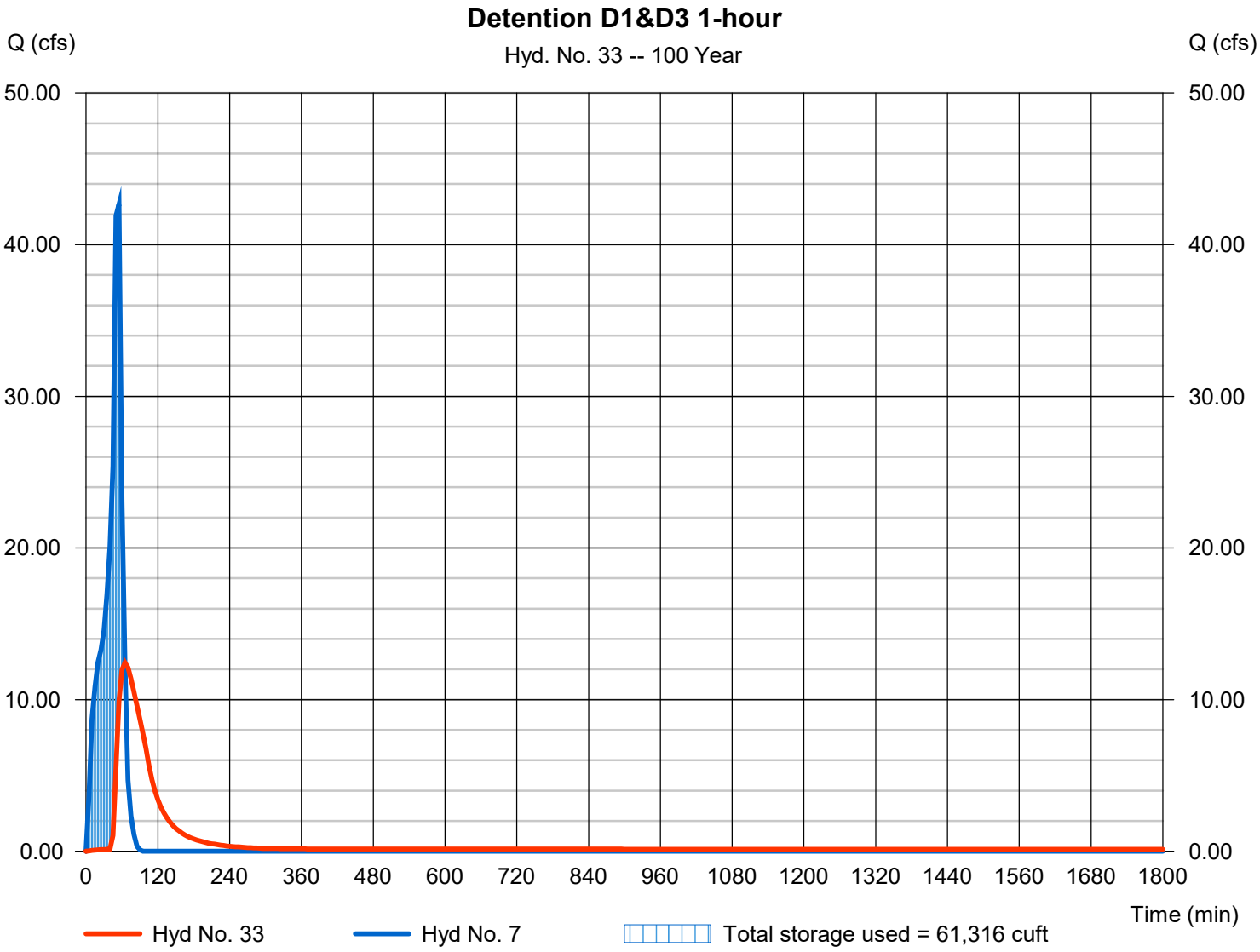
Hydrograph Report

Hyd. No. 33

Detention D1&D3 1-hour

Hydrograph type	=	Reservoir	Peak discharge	=	12.44 cfs
Storm frequency	=	100 yrs	Time to peak	=	65 min
Time interval	=	5 min	Hyd. volume	=	76,264 cuft
Inflow hyd. No.	=	7 - Proposed Subarea D1&D3 Hour	Max. Elevation	=	89.70 ft
Reservoir name	=	Detention A	Max. Storage	=	61,316 cuft

Storage Indication method used.



Pond Report

Pond No. 1 - Detention A

Pond Data

UG Chambers -Invert elev. = 86.00 ft, Rise x Span = 4.50 x 4.50 ft, Barrel Len = 212.00 ft, No. Barrels = 20, Slope = 0.10%, Headers = Yes

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	86.00	n/a	0	0
0.47	86.47	n/a	2,777	2,777
0.94	86.94	n/a	6,429	9,205
1.41	87.41	n/a	8,115	17,320
1.88	87.88	n/a	9,042	26,362
2.36	88.36	n/a	9,481	35,843
2.83	88.83	n/a	9,481	45,324
3.30	89.30	n/a	9,055	54,379
3.77	89.77	n/a	8,099	62,477
4.24	90.24	n/a	6,422	68,900
4.71	90.71	n/a	2,771	71,670

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 2.00	9.00	Inactive	0.00
Span (in)	= 2.00	36.00	39.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 86.00	88.05	89.30	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

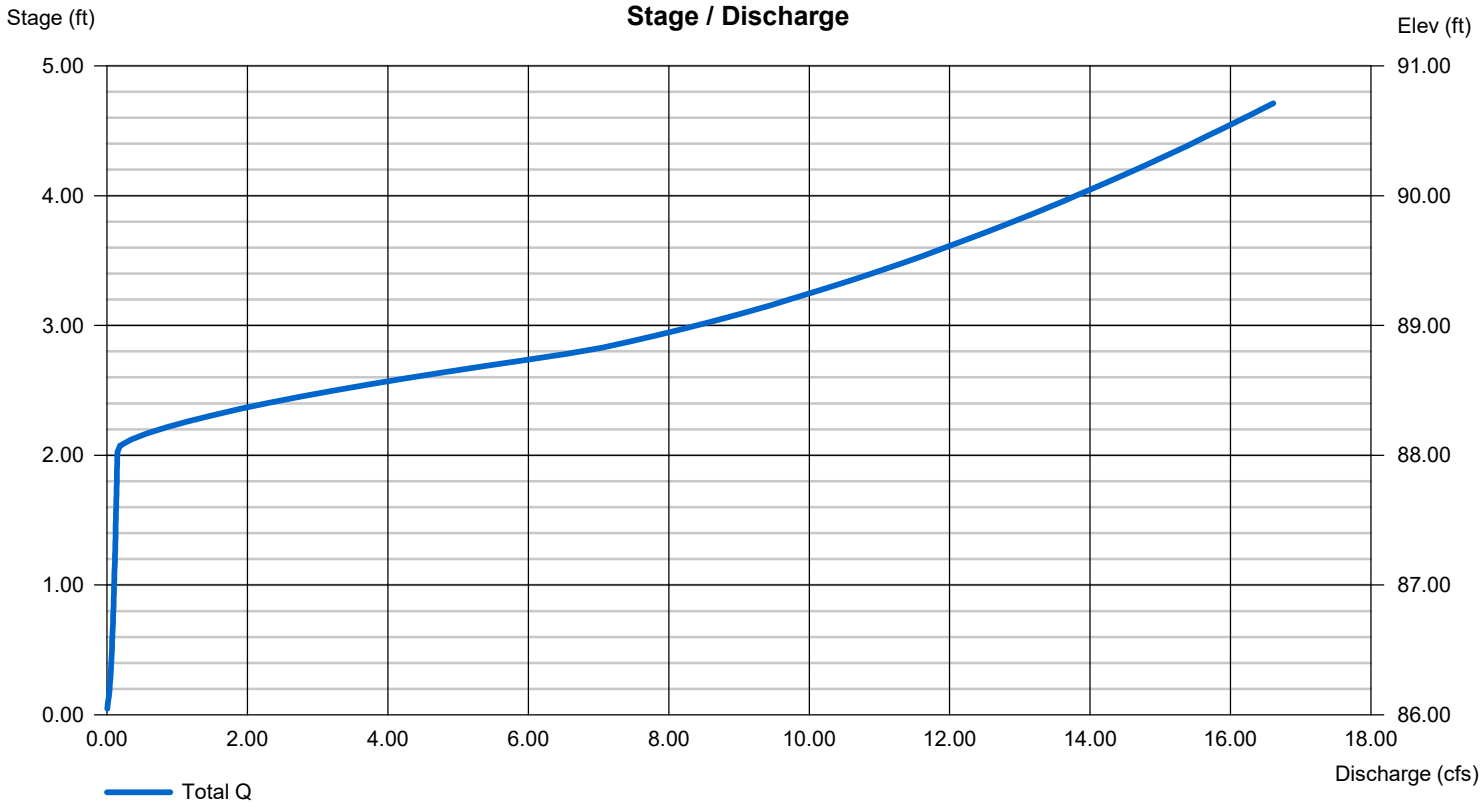
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 4.50	Inactive	Inactive	0.00
Crest El. (ft)	= 90.73	0.00	0.00	0.00
Weir Coeff.	= 2.60	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

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



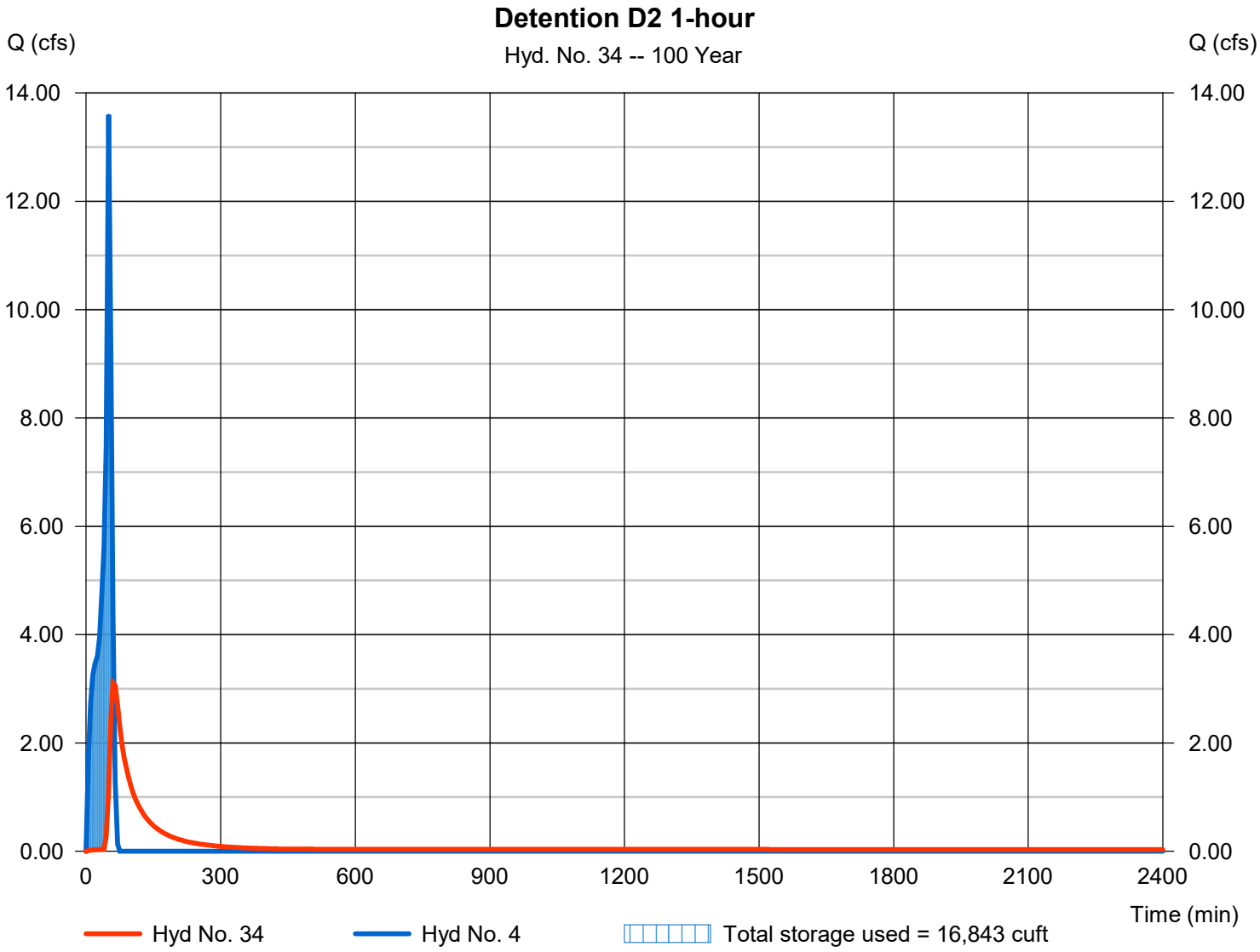
Hydrograph Report

Hyd. No. 34

Detention D2 1-hour

Hydrograph type	=	Reservoir	Peak discharge	=	3.110 cfs
Storm frequency	=	100 yrs	Time to peak	=	60 min
Time interval	=	5 min	Hyd. volume	=	19,572 cuft
Inflow hyd. No.	=	4 - Proposed Subarea D2 1-hour	Max. Elevation	=	87.27 ft
Reservoir name	=	Detention B	Max. Storage	=	16,843 cuft

Storage Indication method used.



Pond Report

Pond No. 2 - Detention B

Pond Data

UG Chambers -Invert elev. = 83.50 ft, Rise x Span = 4.50 x 4.50 ft, Barrel Len = 308.00 ft, No. Barrels = 4, Slope = 0.10%, Headers = No

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	83.50	n/a	0	0
0.48	83.98	n/a	654	654
0.96	84.46	n/a	1,744	2,398
1.44	84.94	n/a	2,243	4,641
1.92	85.42	n/a	2,516	7,157
2.40	85.90	n/a	2,644	9,801
2.88	86.38	n/a	2,645	12,446
3.37	86.87	n/a	2,514	14,961
3.85	87.35	n/a	2,243	17,203
4.33	87.83	n/a	1,742	18,945
4.81	88.31	n/a	653	19,598

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 1.00	22.00	Inactive	0.00
Span (in)	= 1.00	5.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 83.50	85.60	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

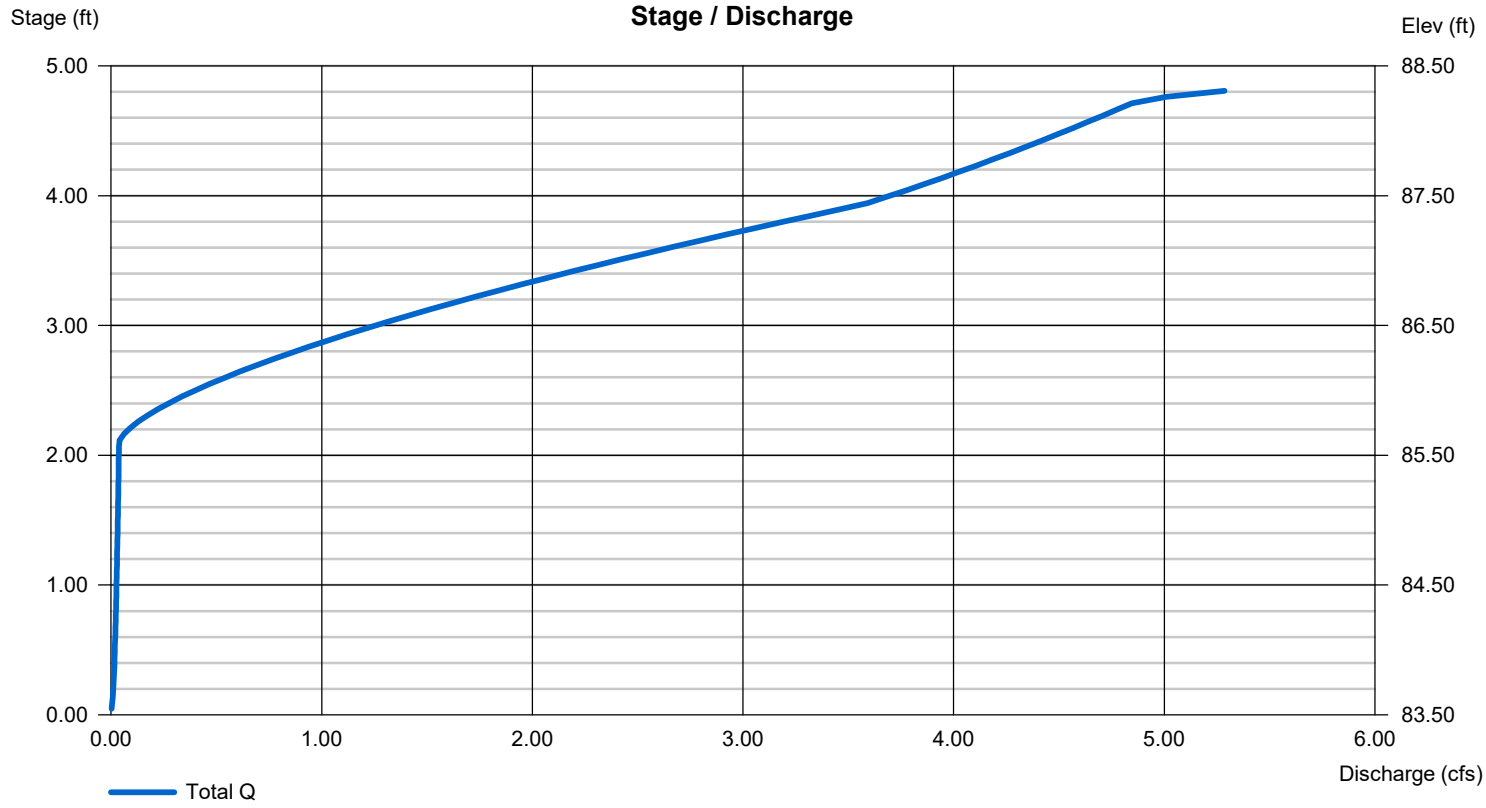
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 4.50	Inactive	Inactive	0.00
Crest El. (ft)	= 88.22	0.00	0.00	0.00
Weir Coeff.	= 2.60	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

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



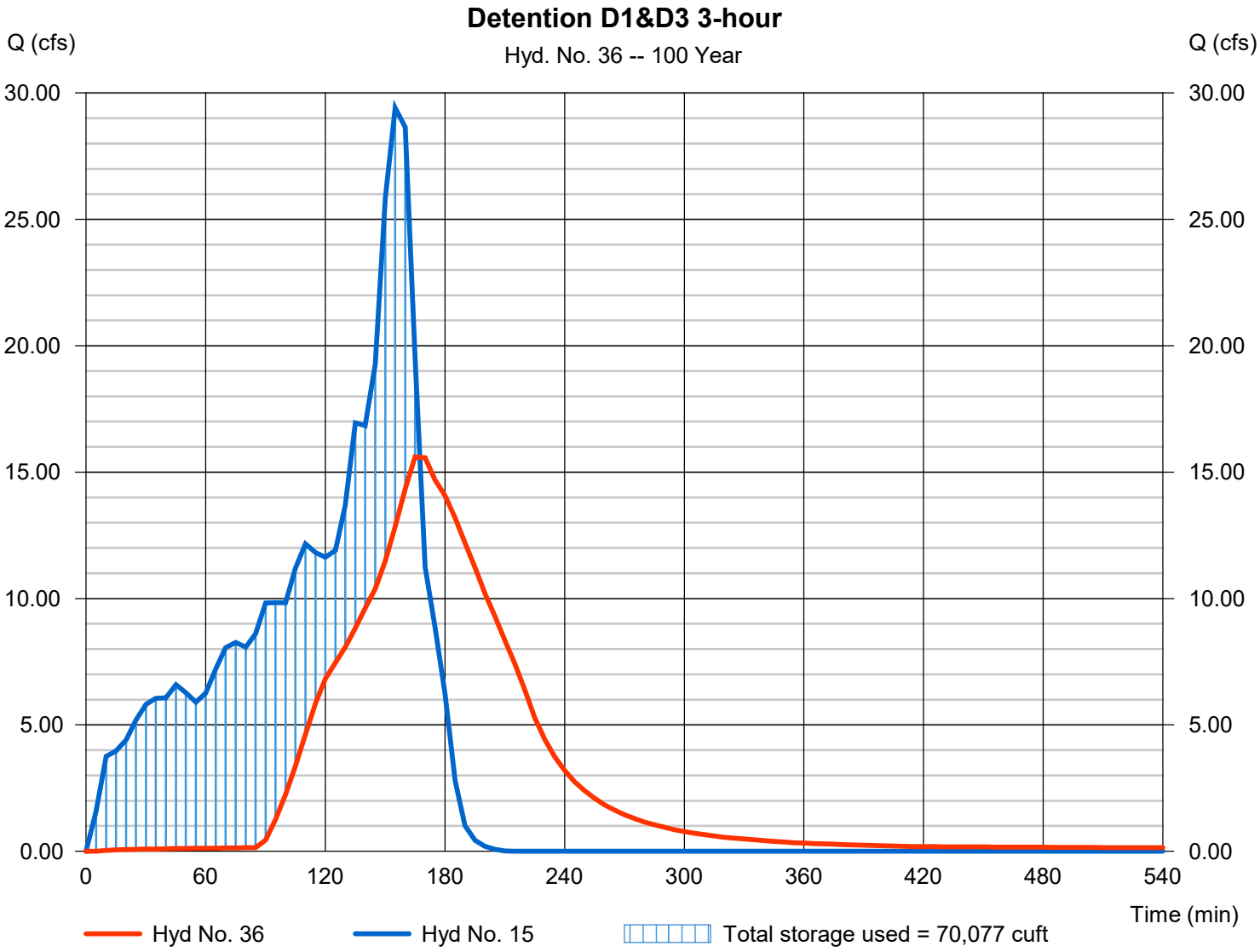
Hydrograph Report

Hyd. No. 36

Detention D1&D3 3-hour

Hydrograph type	=	Reservoir	Peak discharge	=	15.60 cfs
Storm frequency	=	100 yrs	Time to peak	=	165 min
Time interval	=	5 min	Hyd. volume	=	117,334 cuft
Inflow hyd. No.	=	15 - Proposed Subarea D1&D3 Basin	Max. Elevation	=	90.44 ft
Reservoir name	=	Detention A	Max. Storage	=	70,077 cuft

Storage Indication method used.



Pond Report

Pond No. 1 - Detention A

Pond Data

UG Chambers -Invert elev. = 86.00 ft, Rise x Span = 4.50 x 4.50 ft, Barrel Len = 212.00 ft, No. Barrels = 20, Slope = 0.10%, Headers = Yes

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	86.00	n/a	0	0
0.47	86.47	n/a	2,777	2,777
0.94	86.94	n/a	6,429	9,205
1.41	87.41	n/a	8,115	17,320
1.88	87.88	n/a	9,042	26,362
2.36	88.36	n/a	9,481	35,843
2.83	88.83	n/a	9,481	45,324
3.30	89.30	n/a	9,055	54,379
3.77	89.77	n/a	8,099	62,477
4.24	90.24	n/a	6,422	68,900
4.71	90.71	n/a	2,771	71,670

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 2.00	9.00	Inactive	0.00
Span (in)	= 2.00	36.00	39.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 86.00	88.05	89.30	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

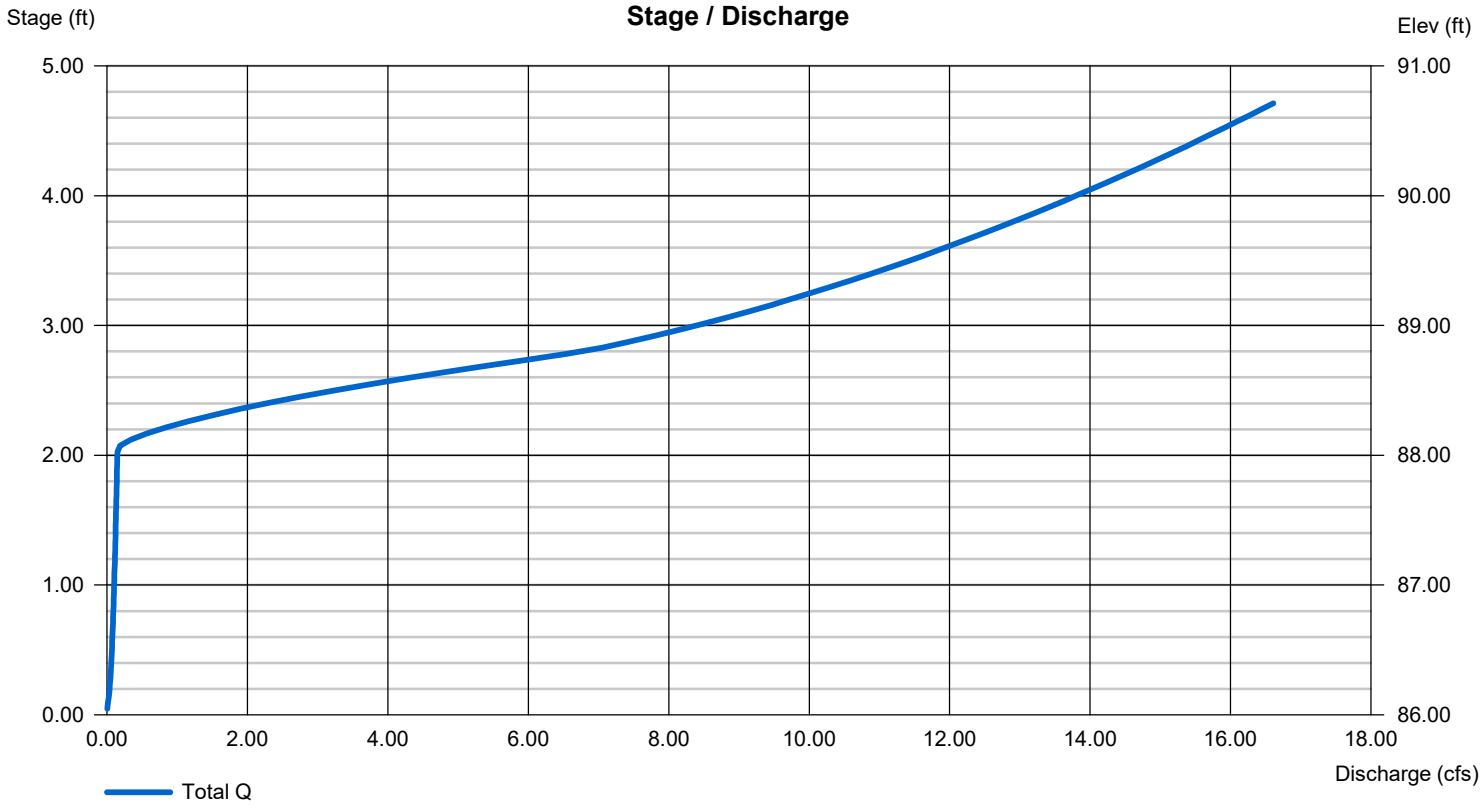
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 4.50	Inactive	Inactive	0.00
Crest El. (ft)	= 90.73	0.00	0.00	0.00
Weir Coeff.	= 2.60	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

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



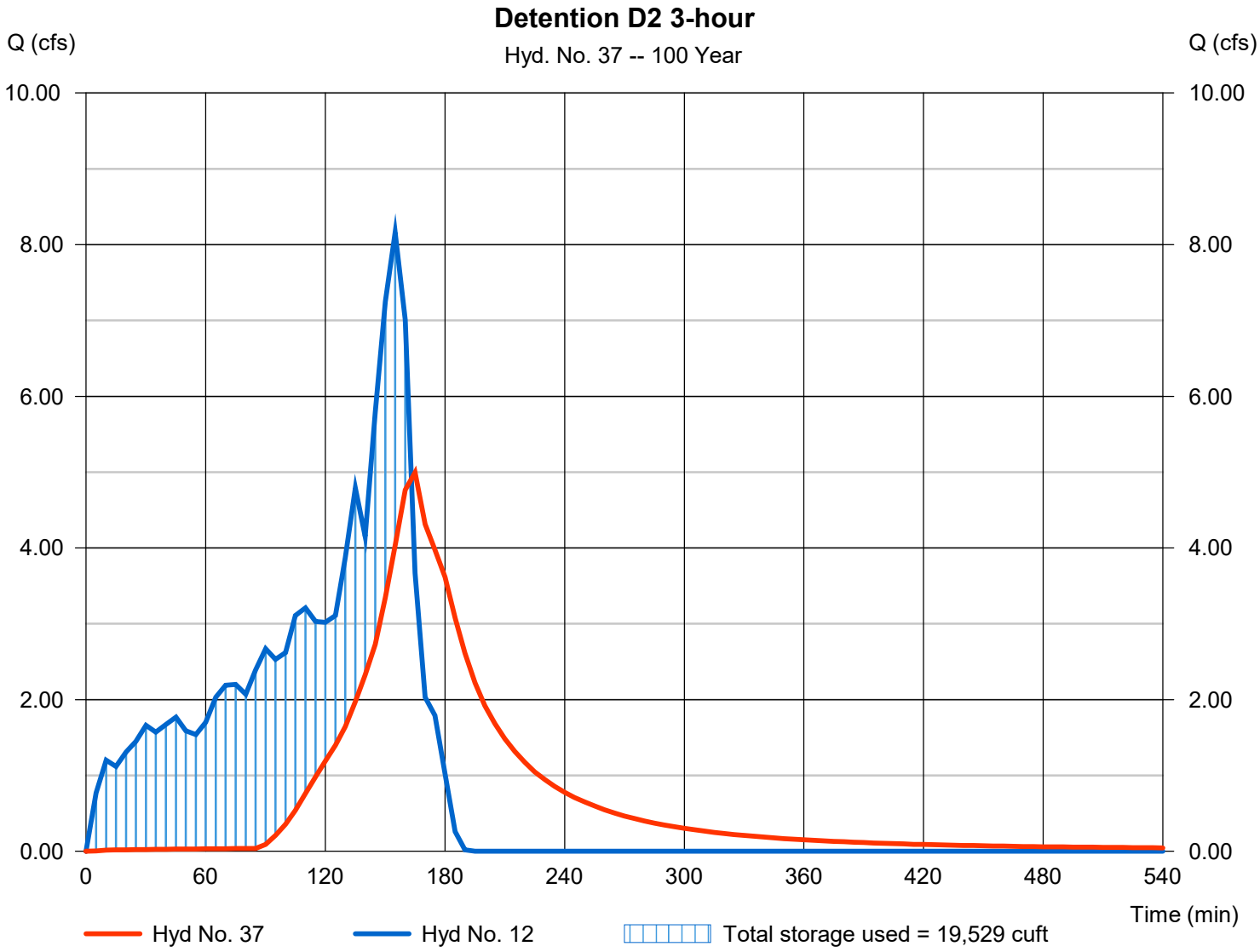
Hydrograph Report

Hyd. No. 37

Detention D2 3-hour

Hydrograph type	=	Reservoir	Peak discharge	=	4.996 cfs
Storm frequency	=	100 yrs	Time to peak	=	165 min
Time interval	=	5 min	Hyd. volume	=	30,375 cuft
Inflow hyd. No.	=	12 - Proposed Subarea D2 3-hour	Max. Elevation	=	88.26 ft
Reservoir name	=	Detention B	Max. Storage	=	19,529 cuft

Storage Indication method used.



Pond Report

Pond No. 2 - Detention B

Pond Data

UG Chambers -Invert elev. = 83.50 ft, Rise x Span = 4.50 x 4.50 ft, Barrel Len = 308.00 ft, No. Barrels = 4, Slope = 0.10%, Headers = No

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	83.50	n/a	0	0
0.48	83.98	n/a	654	654
0.96	84.46	n/a	1,744	2,398
1.44	84.94	n/a	2,243	4,641
1.92	85.42	n/a	2,516	7,157
2.40	85.90	n/a	2,644	9,801
2.88	86.38	n/a	2,645	12,446
3.37	86.87	n/a	2,514	14,961
3.85	87.35	n/a	2,243	17,203
4.33	87.83	n/a	1,742	18,945
4.81	88.31	n/a	653	19,598

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 1.00	22.00	Inactive	0.00
Span (in)	= 1.00	5.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 83.50	85.60	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

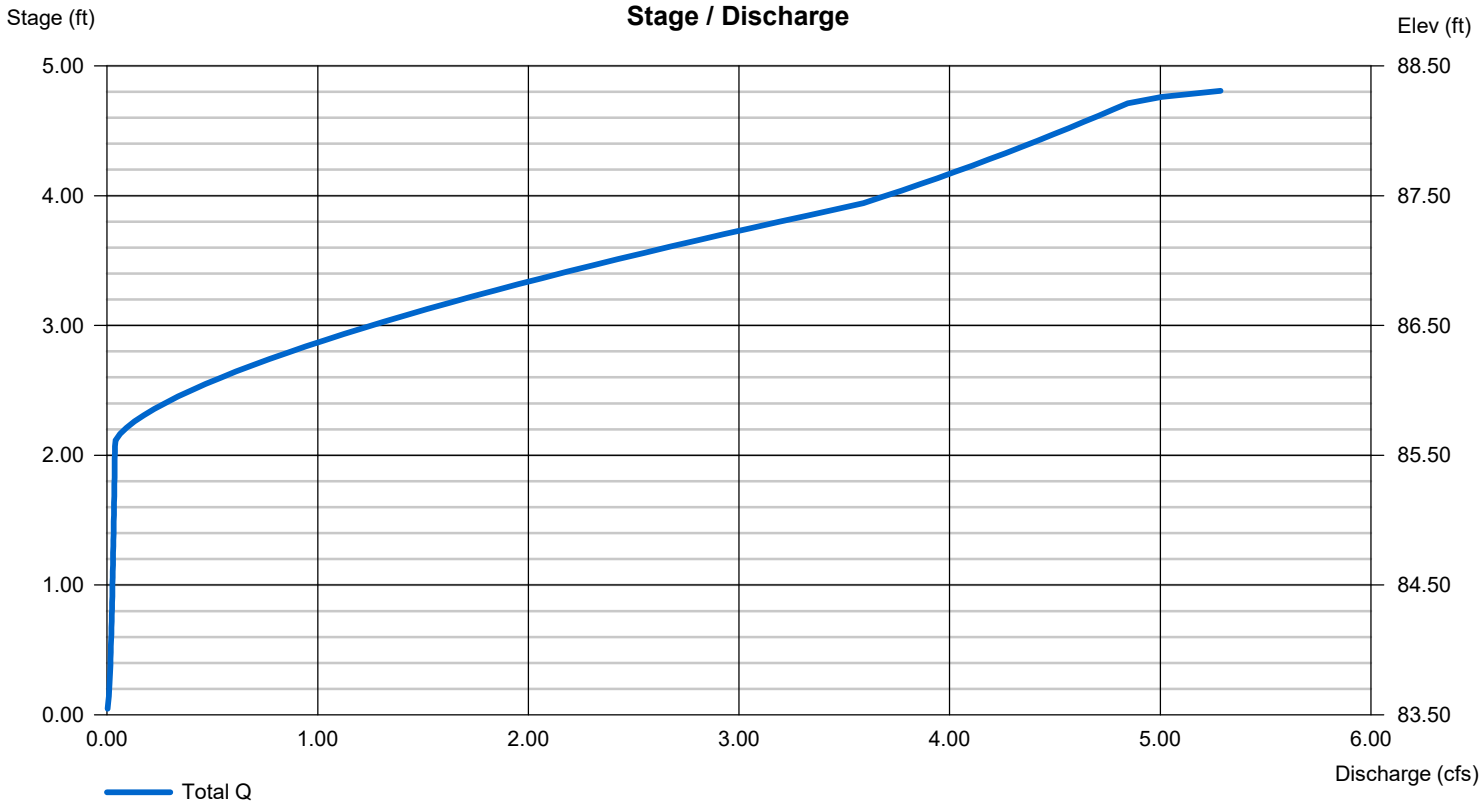
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 4.50	Inactive	Inactive	0.00
Crest El. (ft)	= 88.22	0.00	0.00	0.00
Weir Coeff.	= 2.60	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

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



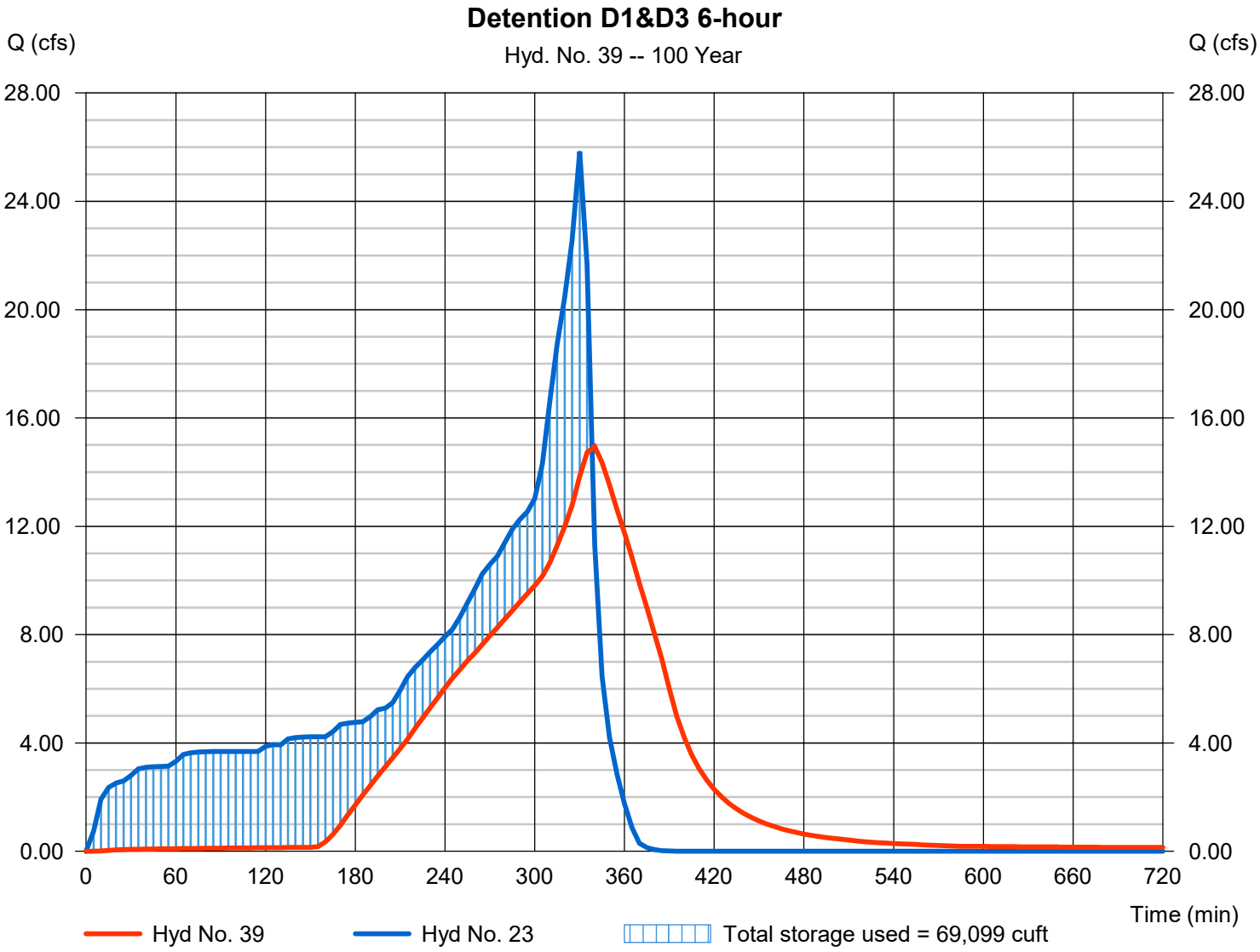
Hydrograph Report

Hyd. No. 39

Detention D1&D3 6-hour

Hydrograph type	=	Reservoir	Peak discharge	=	14.95 cfs
Storm frequency	=	100 yrs	Time to peak	=	340 min
Time interval	=	5 min	Hyd. volume	=	149,701 cuft
Inflow hyd. No.	=	23 - Proposed Subarea D1&D3 Total	Max. Elevation	=	90.27 ft
Reservoir name	=	Detention A	Max. Storage	=	69,099 cuft

Storage Indication method used.



Pond Report

Pond No. 1 - Detention A

Pond Data

UG Chambers -Invert elev. = 86.00 ft, Rise x Span = 4.50 x 4.50 ft, Barrel Len = 212.00 ft, No. Barrels = 20, Slope = 0.10%, Headers = Yes

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	86.00	n/a	0	0
0.47	86.47	n/a	2,777	2,777
0.94	86.94	n/a	6,429	9,205
1.41	87.41	n/a	8,115	17,320
1.88	87.88	n/a	9,042	26,362
2.36	88.36	n/a	9,481	35,843
2.83	88.83	n/a	9,481	45,324
3.30	89.30	n/a	9,055	54,379
3.77	89.77	n/a	8,099	62,477
4.24	90.24	n/a	6,422	68,900
4.71	90.71	n/a	2,771	71,670

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 2.00	9.00	Inactive	0.00
Span (in)	= 2.00	36.00	39.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 86.00	88.05	89.30	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

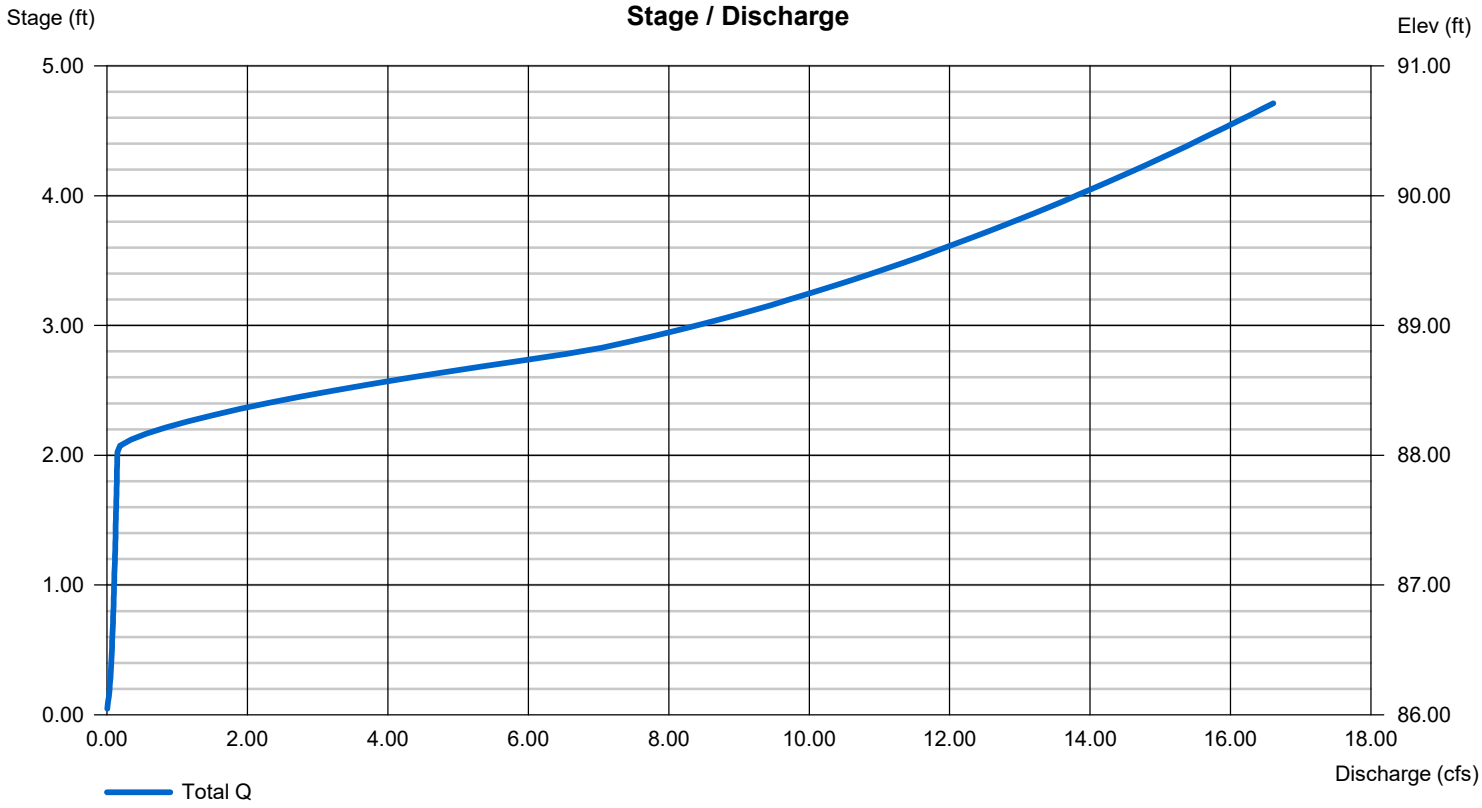
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 4.50	Inactive	Inactive	0.00
Crest El. (ft)	= 90.73	0.00	0.00	0.00
Weir Coeff.	= 2.60	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

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



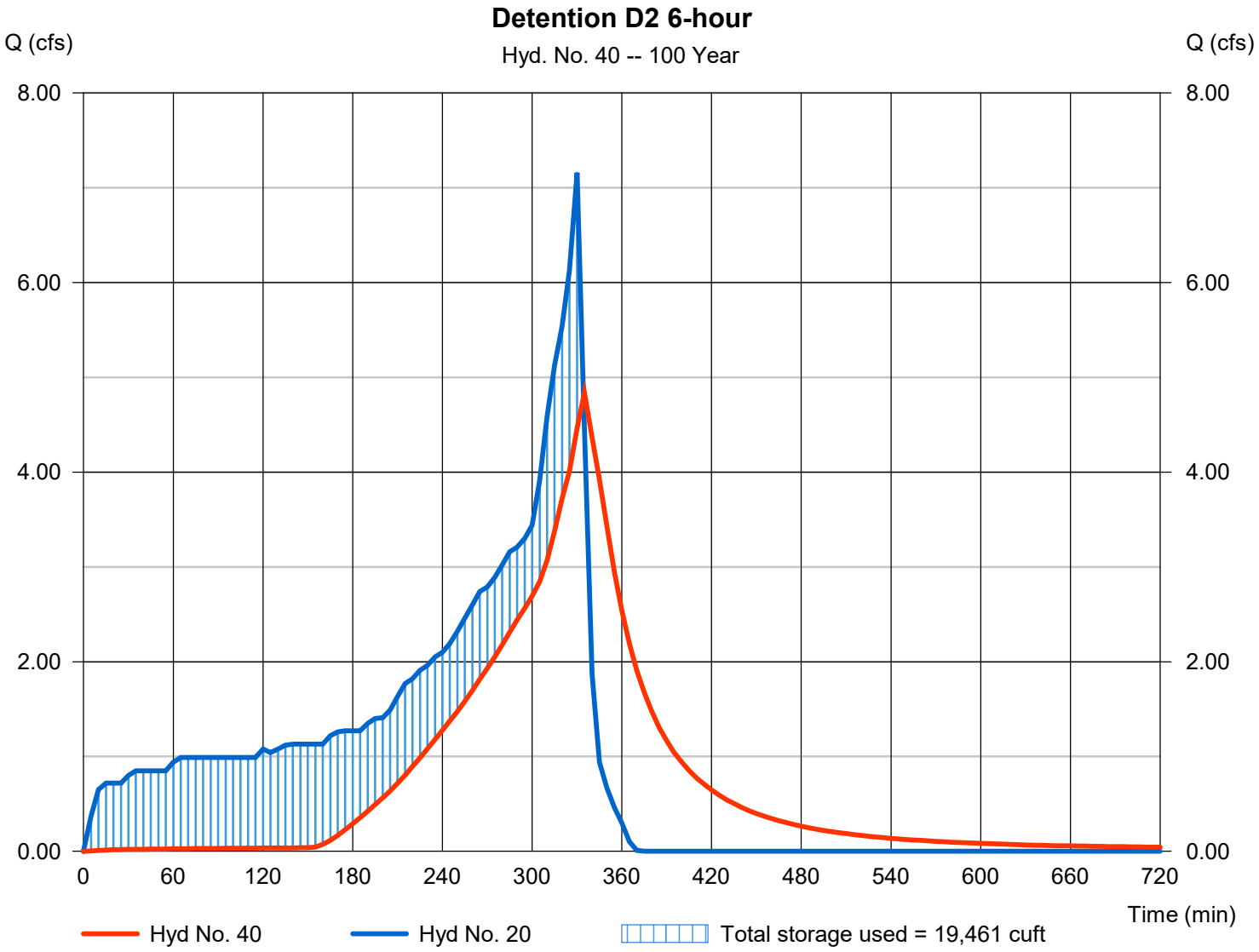
Hydrograph Report

Hyd. No. 40

Detention D2 6-hour

Hydrograph type	=	Reservoir	Peak discharge	=	4.839 cfs
Storm frequency	=	100 yrs	Time to peak	=	335 min
Time interval	=	5 min	Hyd. volume	=	39,150 cuft
Inflow hyd. No.	=	20 - Proposed Subarea D2 6-hour	Max. Elevation	=	88.21 ft
Reservoir name	=	Detention B	Max. Storage	=	19,461 cuft

Storage Indication method used.



Pond Report

Pond No. 2 - Detention B

Pond Data

UG Chambers -Invert elev. = 83.50 ft, Rise x Span = 4.50 x 4.50 ft, Barrel Len = 308.00 ft, No. Barrels = 4, Slope = 0.10%, Headers = No

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	83.50	n/a	0	0
0.48	83.98	n/a	654	654
0.96	84.46	n/a	1,744	2,398
1.44	84.94	n/a	2,243	4,641
1.92	85.42	n/a	2,516	7,157
2.40	85.90	n/a	2,644	9,801
2.88	86.38	n/a	2,645	12,446
3.37	86.87	n/a	2,514	14,961
3.85	87.35	n/a	2,243	17,203
4.33	87.83	n/a	1,742	18,945
4.81	88.31	n/a	653	19,598

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 1.00	22.00	Inactive	0.00
Span (in)	= 1.00	5.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 83.50	85.60	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

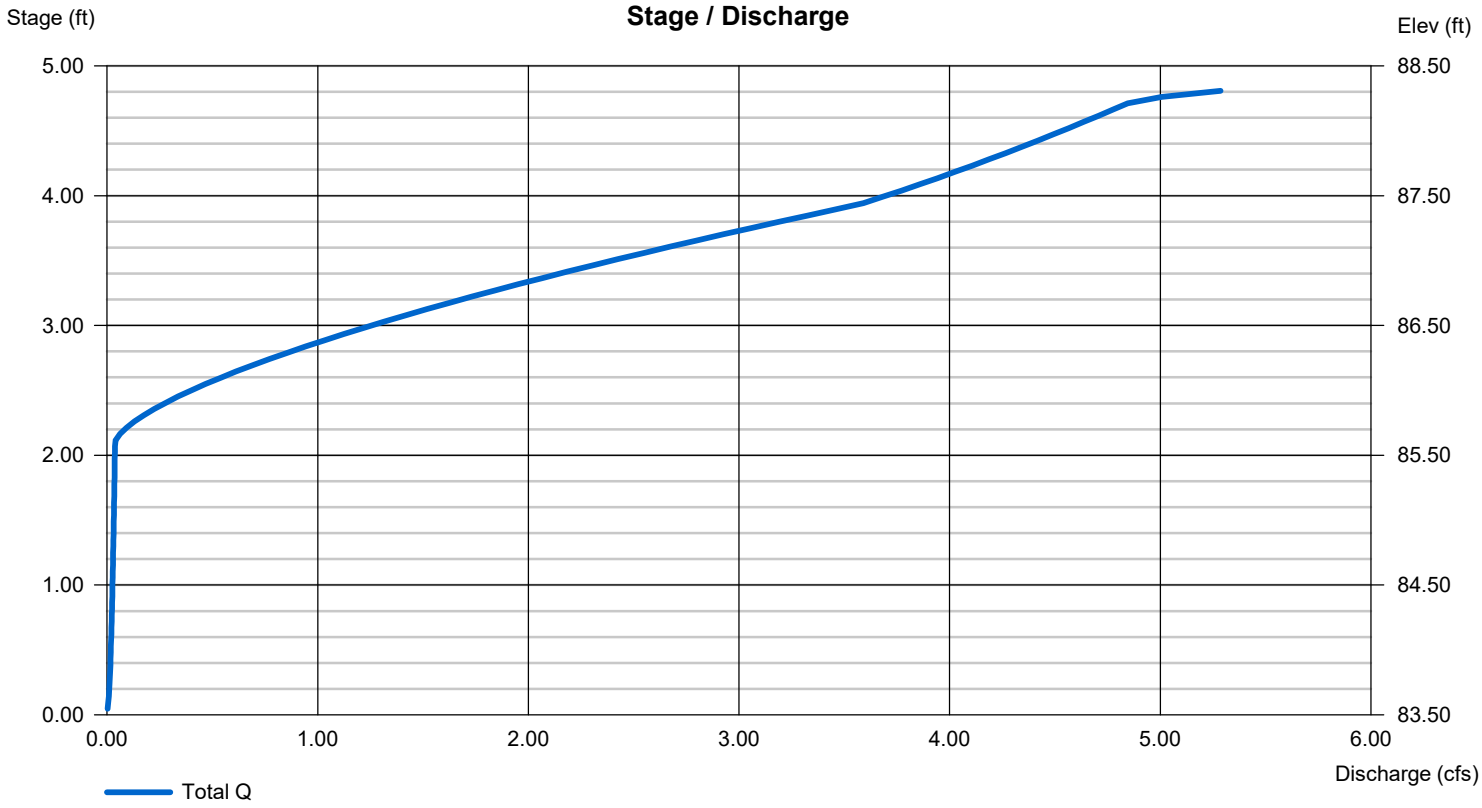
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 4.50	Inactive	Inactive	0.00
Crest El. (ft)	= 88.22	0.00	0.00	0.00
Weir Coeff.	= 2.60	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

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



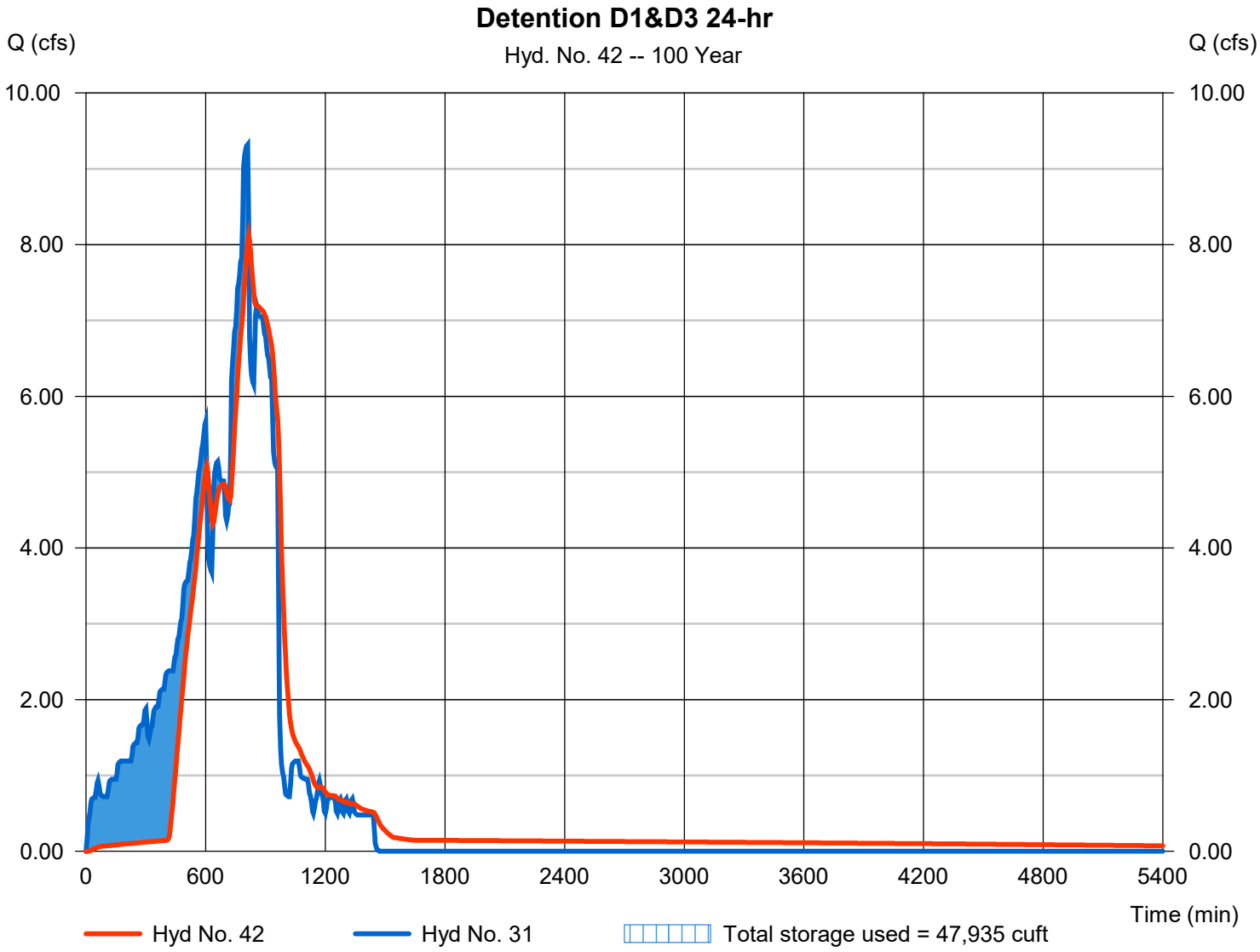
Hydrograph Report

Hyd. No. 42

Detention D1&D3 24-hr

Hydrograph type	=	Reservoir	Peak discharge	=	8.124 cfs
Storm frequency	=	100 yrs	Time to peak	=	815 min
Time interval	=	5 min	Hyd. volume	=	229,390 cuft
Inflow hyd. No.	=	31 - Proposed Subarea D1&D3 24-hr	Max. Elevation	=	88.96 ft
Reservoir name	=	Detention A	Max. Storage	=	47,935 cuft

Storage Indication method used.



Pond Report

Pond No. 1 - Detention A

Pond Data

UG Chambers -Invert elev. = 86.00 ft, Rise x Span = 4.50 x 4.50 ft, Barrel Len = 212.00 ft, No. Barrels = 20, Slope = 0.10%, Headers = Yes

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	86.00	n/a	0	0
0.47	86.47	n/a	2,777	2,777
0.94	86.94	n/a	6,429	9,205
1.41	87.41	n/a	8,115	17,320
1.88	87.88	n/a	9,042	26,362
2.36	88.36	n/a	9,481	35,843
2.83	88.83	n/a	9,481	45,324
3.30	89.30	n/a	9,055	54,379
3.77	89.77	n/a	8,099	62,477
4.24	90.24	n/a	6,422	68,900
4.71	90.71	n/a	2,771	71,670

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 2.00	9.00	Inactive	0.00
Span (in)	= 2.00	36.00	39.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 86.00	88.05	89.30	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

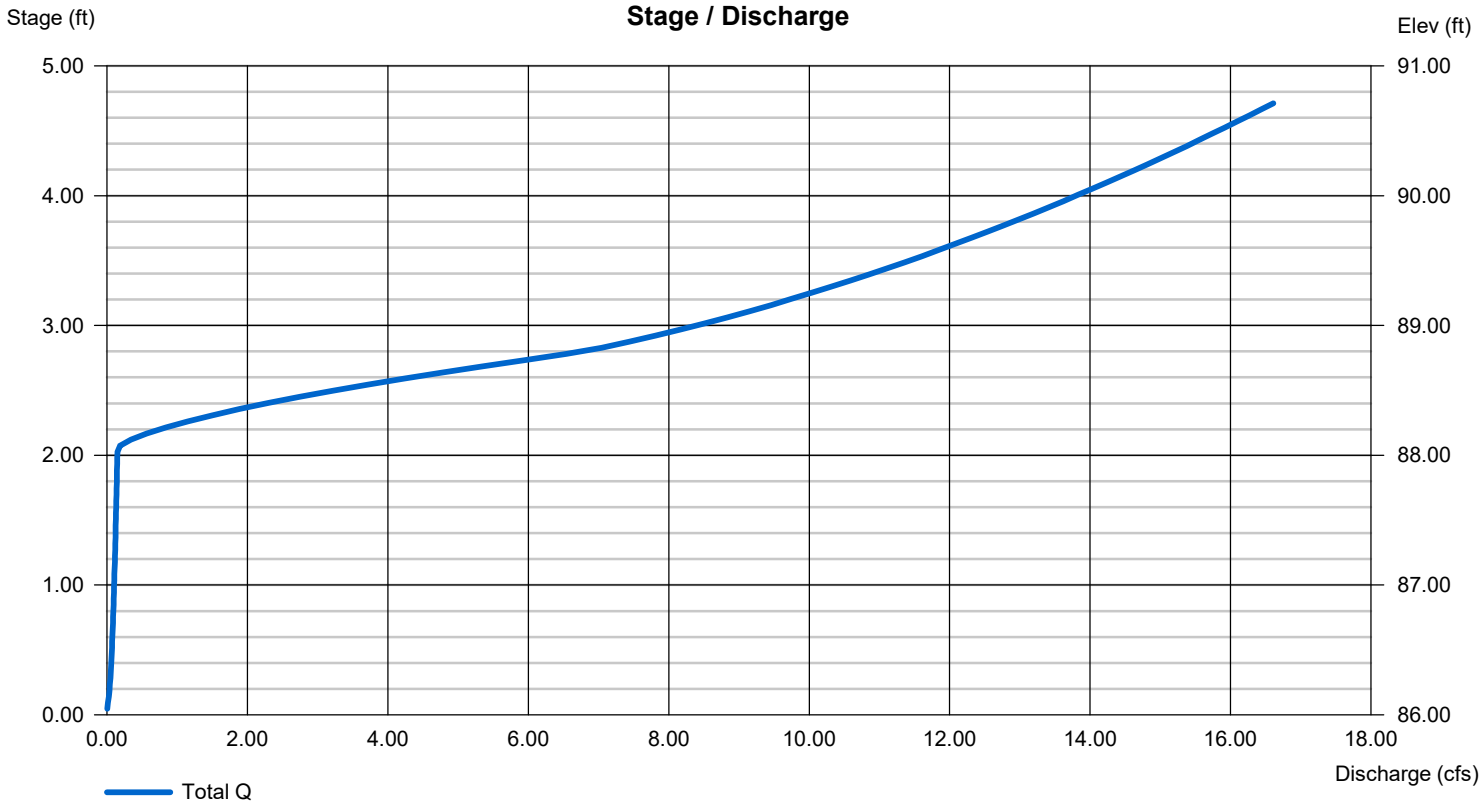
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 4.50	Inactive	Inactive	0.00
Crest El. (ft)	= 90.73	0.00	0.00	0.00
Weir Coeff.	= 2.60	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

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



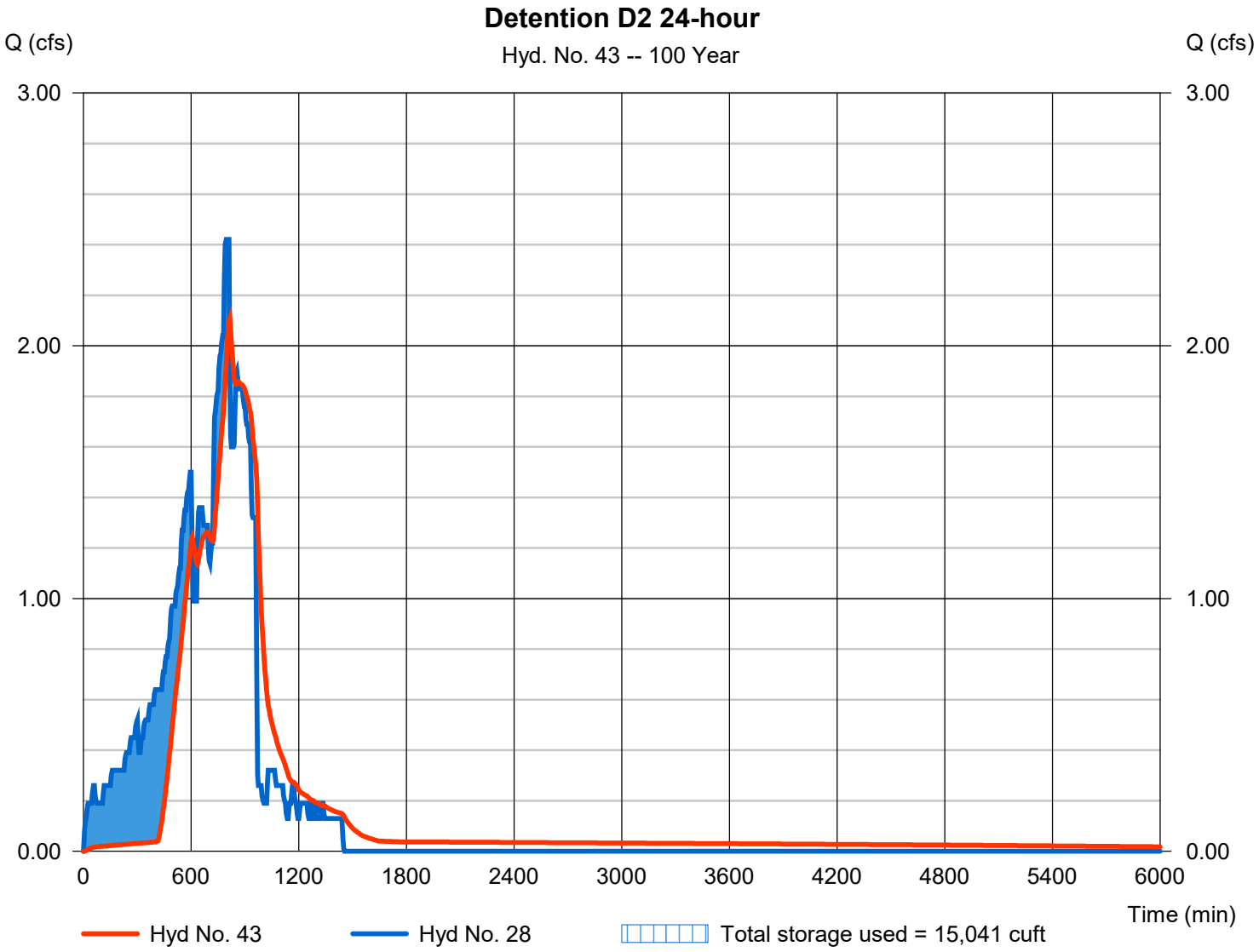
Hydrograph Report

Hyd. No. 43

Detention D2 24-hour

Hydrograph type	=	Reservoir	Peak discharge	=	2.109 cfs
Storm frequency	=	100 yrs	Time to peak	=	815 min
Time interval	=	5 min	Hyd. volume	=	60,768 cuft
Inflow hyd. No.	=	28 - Proposed Subarea D2 24-hour	Max. Elevation	=	86.88 ft
Reservoir name	=	Detention B	Max. Storage	=	15,041 cuft

Storage Indication method used.



Pond Report

Pond No. 2 - Detention B

Pond Data

UG Chambers -Invert elev. = 83.50 ft, Rise x Span = 4.50 x 4.50 ft, Barrel Len = 308.00 ft, No. Barrels = 4, Slope = 0.10%, Headers = No

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	83.50	n/a	0	0
0.48	83.98	n/a	654	654
0.96	84.46	n/a	1,744	2,398
1.44	84.94	n/a	2,243	4,641
1.92	85.42	n/a	2,516	7,157
2.40	85.90	n/a	2,644	9,801
2.88	86.38	n/a	2,645	12,446
3.37	86.87	n/a	2,514	14,961
3.85	87.35	n/a	2,243	17,203
4.33	87.83	n/a	1,742	18,945
4.81	88.31	n/a	653	19,598

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 1.00	22.00	Inactive	0.00
Span (in)	= 1.00	5.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 83.50	85.60	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

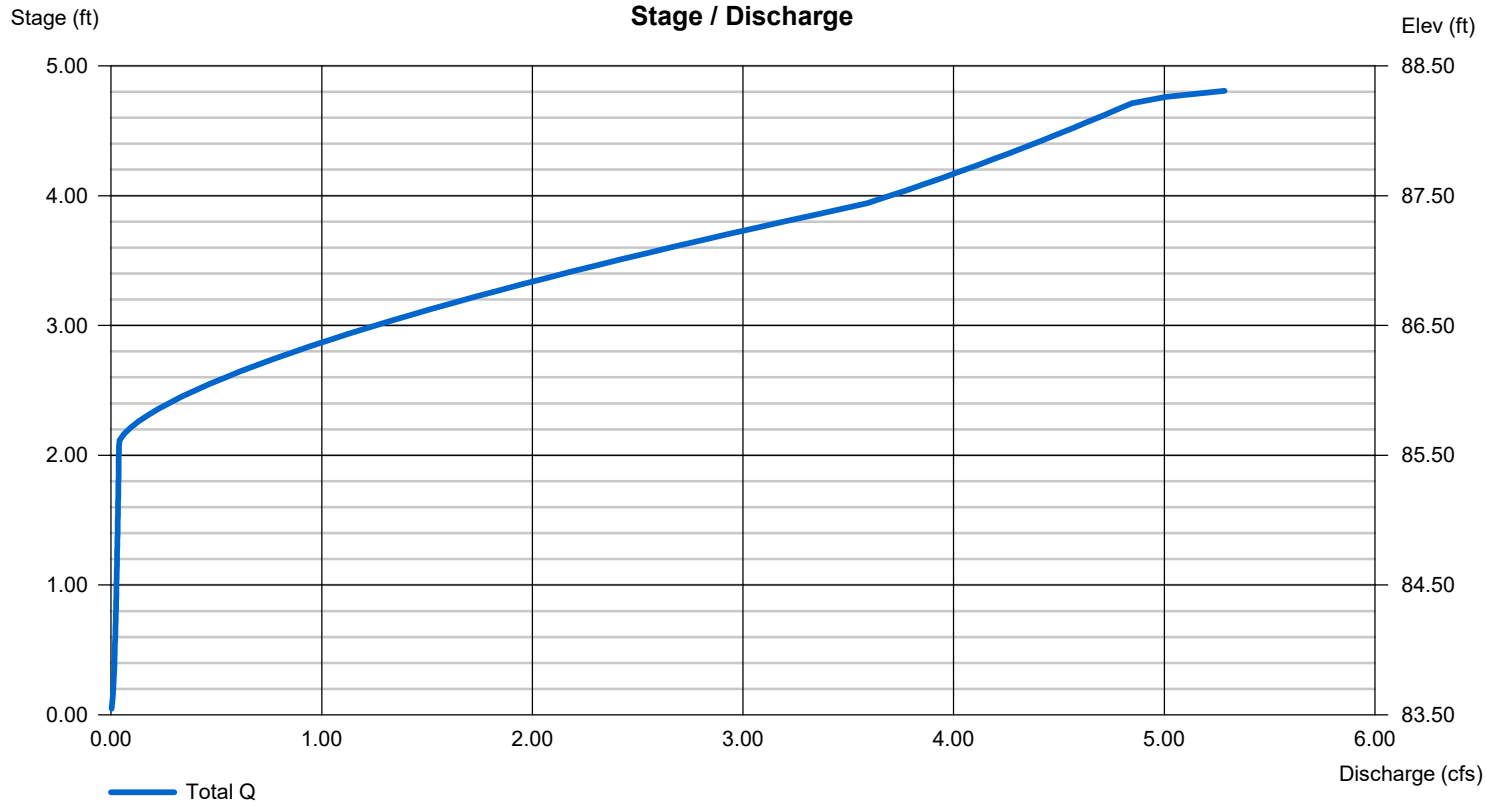
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 4.50	Inactive	Inactive	0.00
Crest El. (ft)	= 88.22	0.00	0.00	0.00
Weir Coeff.	= 2.60	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

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



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Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4 Friday, 01 / 14 / 2022

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Hydrograph No. 5, Manual, Proposed Subarea D3 1-hour 6

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APPENDIX F

Supplemental Materials