Preliminary Hydrology Report

for

Temescal Commercial Project

APN: 283-180-001, 283-180-002, 283-180-020, 283-180-021, 283-260-020

West of Temescal Canyon Rd.

Riverside County, CA

PPT230049

AUGUST 2024

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KHA Project # 194142002

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Certification by Engineer

_____ _____

Craig Kwasniewski, PE Date

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References

Hydrology Manual. Riverside County Flood Control and Water Conservation District, April 1978.

INTRODUCTION

Kimley-Horn and Associates has been retained to prepare the Preliminary Hydrology Report for the proposed Temescal Commercial Project development in Riverside County, California. The purpose of this report is to document the analysis of the hydrologic and hydraulic conditions associated with the development of the project site. To do so, the following is the scope of this report:

- Discuss the pre-development discharge patterns and points.
- Discuss the post-development discharge patterns and points.
- Determine the pre-development onsite flow rates for the 2-year and 100-year event.
- Determine the post-development un-mitigated flow rates for the 2-year and 100-year events.
- Determine required post-development onsite mitigation for the 2-year and 100-year event.

Even though this report discusses stormwater, this report is not a Stormwater Pollution Prevention Plan (SWPPP), a Groundwater Study, a Geotechnical Report, nor a Water Quality Management Plan (WQMP). Each of these separate reports discusses separate aspects of stormwater. Portions of the Geotechnical Report are utilized and referenced for the purpose of this report. Similarly, the requirements of the WQMP are considered for the stormwater mitigation and sizing of outlet structures for this project.

PROJECT DESCRIPTION

The existing project site consists of a partially developed site. Apart from the existing Mission Clay Products property, the properties within the project site are generally undeveloped. The proposed development comprises of a proposed Light Industrial Office lot and two undeveloped areas located on the east and west area of the site. The proposed development will consist of commercial development, paved roads and five (5) onsite stormwater treatment areas (2 Infiltration surface basins, 2 underground detention systems and 1 modular wetland system). The proposed surface basins and modular wetland system will be designed for water quality purposes only. The underground detention systems will be sized for water quality, hydromodification, and storm water detention. Collected and treated runoff from the site will discharge in two directions; a) north to an existing creek and b) east towards an existing storm drain in Temescal Canyon Road on the east side of the project.

Site improvements will include landscaping and concrete hardscape. The associated improvements include, but are not limited to, onsite grading, domestic water service, sanitary sewer service, storm drain infrastructure, heavy-duty concrete pavement, asphalt pavement, and irrigation. The project site is approximately 29.24 acres (approximately 29.24 acres will be disturbed) and is located northeast of the intersection of Temescal Canyon Road and Lawson Road.

LOCATION

The site is located northwest of the intersection of Temescal Canyon Road and Lawson Road, in the City of Corona, Riverside County, California. The project site is bounded by Temescal Canyon Road to the east, Lawson Road to the west, undeveloped parcels to the north, and residential and vacant parcels to the south. The APN for the project site area is: 283-180-001, 283-180-002, 283-180-020, 283-180-021, 283-260-020. For reference, see Appendix A for the Location Map.

METHODOLOGY

The hydrologic and hydraulic analyses were completed following the methods outlined in the Riverside County Flood Control & Water Conservation District (RCFC & WCD) Hydrology Manual, dated April 1978. The rational method was used to estimate time of concentrations and peak flow rates generated from the proposed 2-year and 100-year storm events. The synthetic unit hydrograph method was used to determine the onsite proposed hydrographs for the 24-hour durations of the 100-year and 2-year storm event. AES for Riverside County was used to perform the 1-hr rational method calculations. The CivilDesign Engineering Software – 2018 Version 9.0 was used to complete the synthetic unit hydrograph analyses. The results of the rational method analyses are included in Appendix E and the results of the synthetic unit hydrograph analyses are included in Appendix F. HEC-HMS was used to complete the basin routing using the Modified Pul's Method. The results of the analyses are included in Appendix G.

The rainfall data used for the analyses is important for the flow and runoff results and was obtained from the RCFC & WCD Hydrology Manual. The rainfall intensities and depths for the 2-yr and 100-yr events came from Plates D-4.1, E-5.5, and E-5.6, respectively, for the Corona area which was utilized due to the location of the project site. Rainfall data is included in Appendix B.

The type of soil and soil conditions are major factors affecting infiltration/detention and resultant stormwater runoff. The Natural Resources Conservation Service (NRCS) has classified soil into one general hydrologic soil group (HSG) for comparing infiltration and runoff rates. The HSG is based on properties that influence runoff, such as water infiltration rate, texture, natural discharge, and moisture condition. The runoff potential is based on the amount of runoff at the end of a long duration storm that occurs after wetting and swelling of the soil not protected by vegetation. Using the RCFC & WCD Hydrology Manual, Plate C-1.17, included in Appendix B, the project area is in HSG B, which is defined as soils having moderate infiltration rates when thoroughly wetted and consisting chiefly of moderately deep, moderately well drained soils. Per the geotechnical report titled Geotechnical Investigation, dated November 6, 2018 (REV), and prepared by Construction Testing & Engineering (CTE), South, Inc., the site is considered to have moderate infiltration rates, with the observed infiltration rate to be 1.31 – 1.96-in/hr without a factor of safety. See Appendix D for the geotechnical report.

In addition, antecedent moisture condition (AMC) I was used to calculate the 2-year peak flows and AMC III was used to calculate the 100-year peak flows based on the hydrology manual table for hydrologic soil complexes, Plate E-6.1, included in Appendix B.The land use for the proposed drainage subareas was selected based on the pervious characteristic of the proposed development. See Appendix B Plate D-5.6 for the impervious percentages that correspond to each land use. The combination of the soil and coverage type was used as the basis for selecting the appropriate curve numbers used to calculate the soil loss rates.

DRAINAGE CHARACTERISTICS

FEMA MAPPING

The site is located in Zone X per the Federal Emergency Management Administration (FEMA) Flood Insurance Rate Map (FIRM) Number 06065C1390G, effective date August 28, 2008. Flood Zone X is defined by FEMA as areas with minimal flood hazard. A FEMA FIRMette map for the project area is included for reference in Appendix C.

GROUNDWATER

Groundwater was not encountered during the geotechnical exploratory borings, as documented in the geotechnical report prepared by CTE, South, Inc. The maximum depth explored was approximately 51 ½ feet. According to the geotechnical report, well data from a well located approximately 0.6 mile south of

the subject site but at similar elevations indicated groundwater is well in excess of 100 feet below the ground surface. Additional information can be found in the geotechnical report, included in Appendix D.

PRE-DEVELOPMENT CONDITION

In the existing condition, the three easterly parcels of the site are developed by structures for a clay products company, Mission Clay Products, and the two westerly parcels are undeveloped. The land cover is sparsely vegetated with brush and grasses. Under the existing conditions, the site predominately drains from the southeast corner of the site to the northeast corner of the site. The westerly area of the site ultimately discharges to the existing creek and the easterly area ultimately discharges to an existing storm drain in Temescal Canyon Road. A natural drainage channel exists within the northwestern portion of the site. Currently under the existing condition, the project site does receive offsite run on from the neighboring property to the south. This offsite tributary run on is not analyzed in this report because a proposed retaining wall and valley gutter is proposd on the south side of Street A that will divert this flow east in to temescal canyon road, as the flow ultimately does in the existing condition.

Table 1 shows a summary of the existing condition (pre-development) flows. See Appendix I for the Existing Hydrology Exhibit and Appendix E for the rational method calculations.

Table 1: Pre-Development Flows

Outflow	DMA	Drainage Area (ac)	Q_2 (cfs)	Q_{100} (cfs)
A	A-1	3.67	2.20	7.55
	A-2	8.93	4.82	17.18
A Total		**12.6**	**7.02***	**24.73***
B1	B-1	**3.14**	**4.09**	**10.38**
B2	B-2	**4.03**	**5.25**	**13.33**
D	D-1	4.69	5.86	14.87
	D-2	2.03	1.53	5.10
	D-3	2.73	2.06	6.86
D Total		**9.45**	**9.45***	**26.83***
Overall		**29.22**	**-**	**-**

*Total flow is from AES and not addition of individual flows to each outflow

POST-DEVELOPMENT CONDITION

The post-development condition for the project site consists of four (4) drainage management areas (DMAs) areas Outfall A, B-1, B-2, and D.

Outfall A consists of the westerly undeveloped area and a portion of the proposed southern road. Runoff from subareas A-1, E-1, and E-2 is conveyed as surface runoff and will be intercepted by a proposed infiltration surface basins before discharging to an existing creek located along the northwestern portion of the site.

Outflow B-1 consists of the onsite westerly development and proposed private Street B. Runoff from subareas B-1 to B-5 and B-11 is conveyed as surface runoff and will be intercepted by strategically placed inlets in each drainage area. Collected runoff will be conveyed through an underground storm drain system and discharge into proposed underground detention system, CMP Detention System #1 and ultimately discharges to neighboring property to the north as it to match existing conditions. An adequately designed system of concrete weir outlet structures is proposed along the north property line

that will disperse the proposed discharge to more closely resemble the sheet flow present in this area in the existing condition. Rip rap is proposed within these discharge structures for energy dissipation prior to conveying flow through the weir and out to the north property. (Detail provided on Proposed Drainage Map in Appendix I)

Outflow B-2 consists of the onsite easterly development, including the proposed light industrial building. Runoff from subareas B-6 to B-10 is conveyed as surface runoff and will be intercepted by strategically placed inlets in each drainage area. Collected runoff will be conveyed through an underground storm drain system and discharge into proposed underground detention system, CMP Detention System #2 and ultimately discharges to neighboring property to the north as it to match existing conditions. An adequately designed system of concrete weir outlet structures is proposed along the north property line that will disperse the proposed discharge to more closely resemble the sheet flow present in this area in the existing condition. Rip rap is proposed within these discharge structures for energy dissipation prior to conveying flow through the weir and out to the north property. (Detail provided on Proposed Drainage Map in Appendix I)

Outfall D consists of the easterly undeveloped pads and a portion of the proposed southern road. Runoff from subareas E-3 and E-4 is conveyed as surface runoff and will be intercepted by proposed curb opening catch basins located just west of the Street A-Temescal Canyon Road Intersection. Flow is directed into a proposed storm drain line in Temescal Canyon Road that conveys flow to an existing catch basin near the north-east corner of the site. Sub Areas E-3 and E-4 will be untreated and addition storage is being added to the onsite detention systems to account for the required E-3 and E-4 DCV. Areas D-1 and D-2 are conveyed to low points at the north-east corner of their respective drainage areas. Each of these drainage areas are equipped with a proposed riser structure that will discharge flow into the proposed storm drain line in Temescal Canyon Road. The proposed storm drain line connects to the existing catch basin on the north-east side of the site.

Note that the total area of analysis in the proposed condition is slightly less than that of the existing condition because the alignment of future Street A changed. It now curves north in to drainage area A-1. Drainage Area A-1 got slightly smaller and therefore the overall analysis area is slightly less than the existing condition area of analysis. (See Proposed Drainage Map in Appendix I for new future Street A alignment and Table 2 below for the new overall proposed area being analyzed)

Table 2 shows a summary of the post-development flows prior to detention. See Appendix I for the Proposed Hydrology Exhibit and Appendix E for the rational method calculations.

Table 2: Post-Development Flows (Un-mitigated)

Outflow	DMA	Drainage Area (ac)	Q_2 (cfs)	Q_{100} (cfs)
A	**A-1**	10.17	4.78	18.16
	E-1	0.52	0.66	1.67
	E-2	0.43	0.54	1.38
A Total		**11.12**	**5.98***	**21.22***
B1	**B-1**	1.17	1.95	4.95
	B-2	0.61	0.90	2.29
	B-3	0.30	0.47	1.21
	B-4	0.14	0.22	0.56
	B-5	0.58	0.91	2.33
	B-11	0.85	1.19	3.02
B1 Total		**3.65**	**5.19***	**13.16***
B2	**B-6**	1.42	1.47	3.89
	B-7	2.30	2.38	6.30
	B-8	0.45	0.52	1.37
	B-9	0.51	0.59	1.55
	B-10	3.32	4.46	11.31
B2 Total		**8**	**9.42***	**24.43***
D	**D-1**	1.88	0.86	3.07
	D-2	1.60	0.87	3.01
	E-3	1.28	1.52	3.87
	E-4	1.56	1.84	4.69
D Total		**6.33**	**4.84***	**14.26***
Overall		**29.10**	**-**	**-**

*Total flow is from AES and not addition of individual flows to each outflow

STORMWATER MITIGATION

For proposed onsite flows, stormwater mitigation is needed to ensure the proposed flows do not negatively impact the existing downstream drainage facilities. By comparing the results from Table 1 and Table 2 for the onsite area, the proposed development only increases flow to outflow B-1 and B-2. Therefore peak flow mitigation is not necessary for the drainage areas tributary to outflow A and D. To mitigate the increase in flows to outflow B1 and B2, two underground detention systems are proposed to detain the increased flows. The outflow B1 detention system has approximately 35,500 cubic feet of storage and outflow B2 detention system has approximately 96,180 cubic feet of storage.

Appropriately designed outlet structures in each of the 2 detention systems are intended to restrict peak flows in the proposed condition to levels within 5 percent of the existing flows. The outlet structure for B-1 controls basin discharge via the following combination of orifices:

- One 1” orifice 0.5’ above base of detention tank
- Two 2” orifices 1.8’ above base of detention tank
- Three 1” orifices 2.2’ above base of detention tank

The outlet structure in B-2 controls basin discharge via the following combination of orifices:

- One 3” orifice 1.5’ above base of detention tank
- One 4” orifice 3.5’ above base of detention tank
- One 4” orifice 5.5’ above base of detention tank

Riverside County Flood Control Guidelines require the basin detention be designed for the 1-hour, 3-hour, 6-hour, and 24-hour durations for the 2-year, 5-year, and 10-year storm events. Existing and Proposed condition unit hydrographs for each of the required storm events were created from CivilDesign Engineering Software – 2018 Version 9.0. HEC-HMS, a Riverside County approved software was utilized for detention storage and mitigation calculations (See calculations in Appendix G). Proposed condition mitigated peak flows ultimately discharge to the neighboring property to the north and specially designed weir outlet structures along the north property are implemented to disperse the discharge to the north neighboring property to more closely match the sheet flow existing condition drainage pattern.

Since the existing condition calculations analyzes Drainage Area B-1 and B-2 to a single Outflow (Outflow B) the allowable flow to Outflow B-1 and B-2 in the proposed condition will be determined by the percentage of area in B-1 and B-2 relative to the overall existing area tributary to Existing Outflow B.

Table 3 shows a summary of the proposed 2-year, 5-year, 10-year and 100-year final mitigated flows compared to the existing flows for Outflows B1 and B2. Refer to summary tables on the Proposed Drainage Map in Appendix I for unmitigated unit hydrograph existing and proposed condition flows.

Table 3: Existing vs Mitigated Proposed Flows

Pre vs Post Flow Comparison					
Storm Event	**Existing Outflow B**	**Proposed Outflow B1**	**Proposed Outflow B2**	**Total**	**% Diff**
2-Year					
1-hour	6.05	0.059	0.000	0.060	-99.00%
3-hour	4.19	0.086	0.584	0.670	-84.01%
6-hour	3.70	0.103	0.874	0.977	-73.60%
24-hour	1.41	0.37	1.03	1.402	-0.01%
5-Year					
1-hour	9.56	0.077	0.388	0.465	-95.14%
3-hour	6.24	0.105	0.861	0.966	-84.52%
6-hour	5.54	0.307	1.190	1.497	-72.98%
24-hour	2.01	0.663	1.330	1.990	-0.01%
10-year					
1-hour	12.48	0.090	0.584	0.674	-94.60%
3-hour	8.49	0.117	1.015	1.132	-86.67%
6-hour	7.58	0.596	1.273	1.869	-75.34%
24-hour	3.16	0.916	2.300	3.22	1.90%
100-year					
1-hour	19.26	0.375	1.060	1.435	-92.55%
3-hour	14.4	1.191	2.577	3.768	-73.83%
6-hour	12.99	1.546	3.621	5.167	-60.22%
24-hour	6.25	1.825	4.256	6.081	-2.70%

HYDRAULIC ANALYSIS

The calculated peak flows from the CivilD outlet analyses discussed above have been used to size the onsite drainage devices and are confirmed by using Flowmaster. Flowmaster calculations are in Appendix H.

CONCLUSION

In conclusion, the following was covered in this report:

- The pre-development discharge patterns and points were discussed.
- The post-development discharge patterns and points were discussed.
- The pre-development flow rates for the 2-year and 100-year events were determined.
- The post-development un-mitigated flow rates for the 2-year and 100-year events were determined.
- The post-development stormwater mitigation for the 100-year 24-hour event was analyzed.
- The post-development final flow rate was proven to be less than the existing design flowrate for the downstream systems.

  As discussed in the contents of this report, the development of the existing partially developed site into the proposed development is not expected to cause a significant impact to downstream systems or downstream parcels for storms up to the 100-year condition. The mitigated development discharges less stormwater flows than the existing site conditions.

Appendix A – Location Map

Location Map

Temescale Canyon Project

Legend

Park

PROJECT SITE

Temescal Valley Elementary

Knabe Rd

Wildrose Ranch Community Park

Montecito Ranch Park

Arcilla

Tom's Farms

Temescal Canyon Rd

Temescal Valley

Trilogy Pkwy

Glen Ivy Golf Club

15

Google Earth

Image Landsat / Copernicus

N

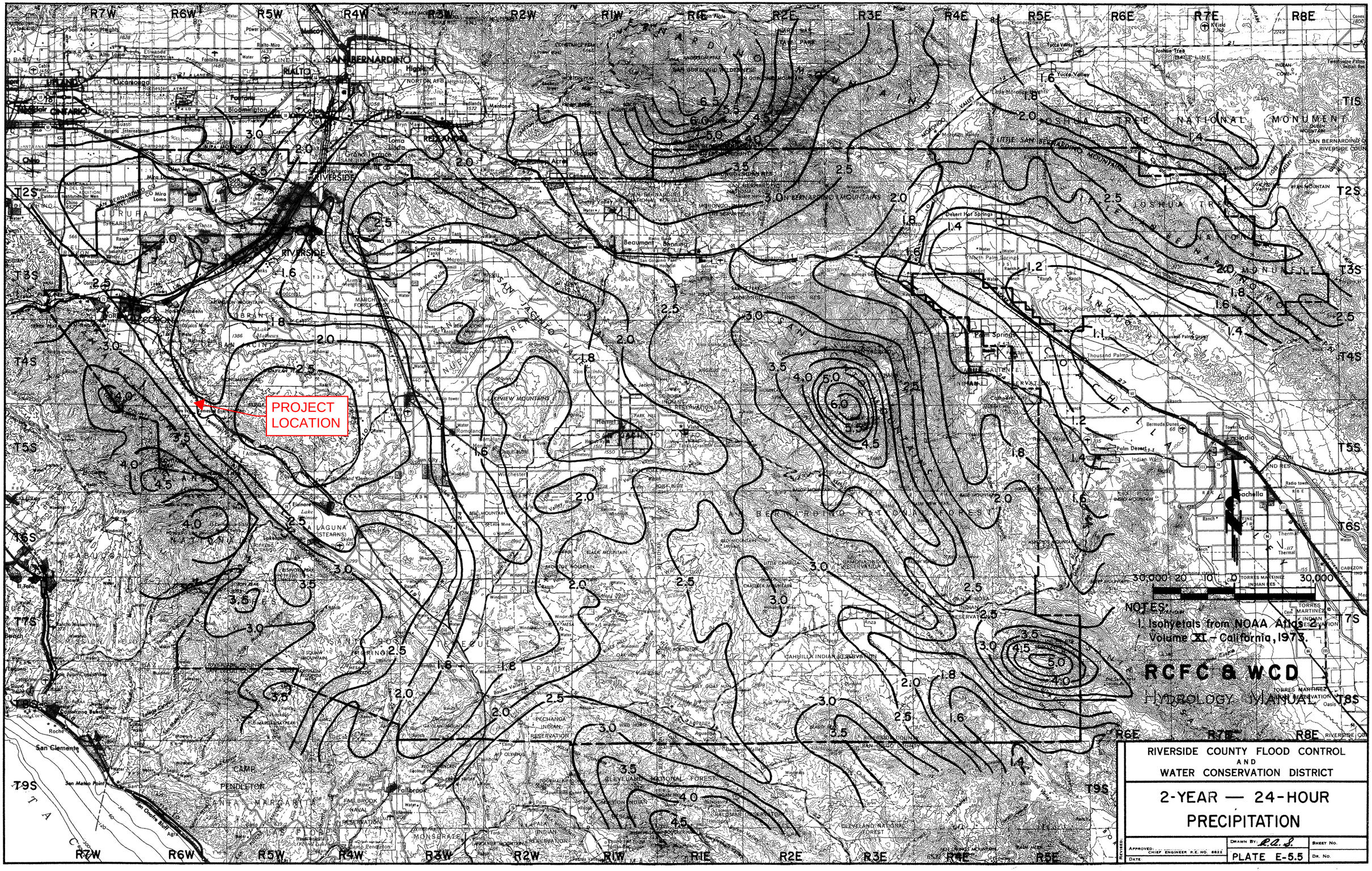
3000 ft

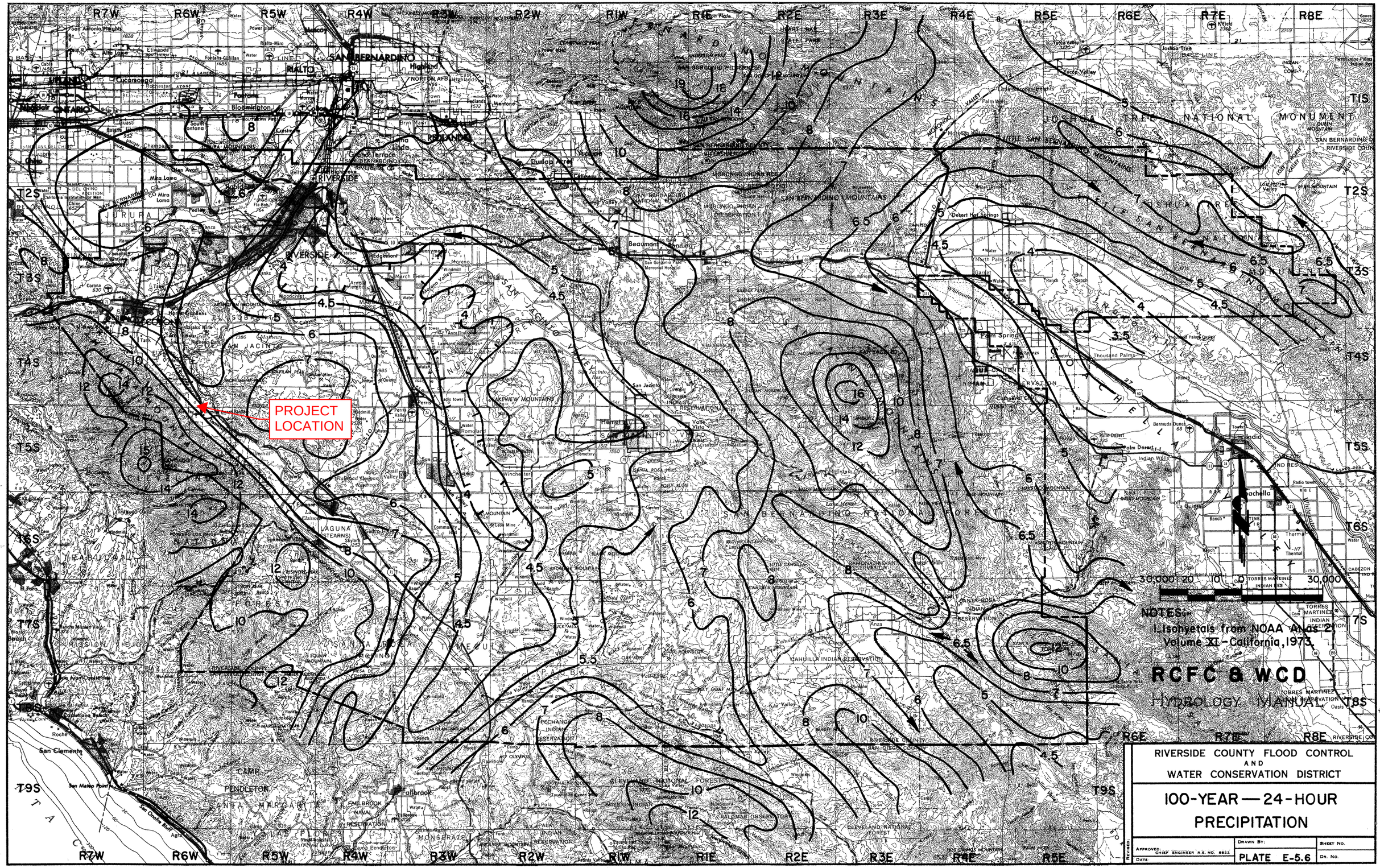
Appendix B – Hydrology Manual Reference Material

RAINFALL INTENSITY–INCHES PER HOUR

CATHEDRAL CITY			CHERRY VALLEY			CORONA			DESERT HOT SPRINGS			ELSINORE - WILDOMAR		
DURATION MINUTES	FREQUENCY 10 YEAR	100 YEAR	DURATION MINUTES	FREQUENCY 10 YEAR	100 YEAR	DURATION MINUTES	FREQUENCY 10 YEAR	100 YEAR	DURATION MINUTES	FREQUENCY 10 YEAR	100 YEAR	DURATION MINUTES	FREQUENCY 10 YEAR	100 YEAR
5	4.14	6.76	5	3.65	5.49	5	3.10	4.78	5	4.39	6.76	5	3.23	4.94
6	3.73	6.08	6	3.30	4.97	6	2.84	4.38	6	3.95	6.08	6	2.96	4.53
7	3.41	5.56	7	3.03	4.56	7	2.64	4.07	7	3.62	5.56	7	2.75	4.21
8	3.15	5.15	8	2.82	4.24	8	2.47	3.81	8	3.35	5.15	8	2.58	3.95
9	2.95	4.81	9	2.64	3.97	9	2.34	3.60	9	3.13	4.81	9	2.44	3.73
10	2.77	4.52	10	2.49	3.75	10	2.22	3.43	10	2.94	4.52	10	2.32	3.54
11	2.62	4.28	11	2.36	3.56	11	2.12	3.27	11	2.78	4.28	11	2.21	3.39
12	2.49	4.07	12	2.25	3.39	12	2.04	3.14	12	2.65	4.07	12	2.12	3.25
13	2.38	3.88	13	2.16	3.25	13	1.96	3.02	13	2.53	3.88	13	2.04	3.13
14	2.28	3.72	14	2.07	3.12	14	1.89	2.92	14	2.42	3.72	14	1.97	3.02
15	2.19	3.58	15	1.99	3.00	15	1.83	2.82	15	2.32	3.58	15	1.91	2.92
16	2.11	3.44	16	1.92	2.90	16	1.77	2.73	16	2.24	3.44	16	1.85	2.83
17	2.04	3.32	17	1.86	2.80	17	1.72	2.66	17	2.16	3.32	17	1.80	2.75
18	1.97	3.22	18	1.80	2.71	18	1.68	2.58	18	2.09	3.22	18	1.75	2.67
19	1.91	3.12	19	1.75	2.64	19	1.63	2.52	19	2.03	3.12	19	1.70	2.60
20	1.85	3.03	20	1.70	2.56	20	1.59	2.46	20	1.97	3.03	20	1.66	2.54
22	1.75	2.86	22	1.61	2.43	22	1.52	2.35	22	1.86	2.86	22	1.59	2.43
24	1.67	2.72	24	1.54	2.32	24	1.46	2.25	24	1.77	2.72	24	1.52	2.33
26	1.59	2.60	26	1.47	2.22	26	1.40	2.17	26	1.69	2.60	26	1.46	2.24
28	1.52	2.49	28	1.41	2.13	28	1.36	2.09	28	1.62	2.49	28	1.41	2.16
30	1.46	2.39	30	1.36	2.05	30	1.31	2.02	30	1.55	2.39	30	1.37	2.09
32	1.41	2.30	32	1.31	1.98	32	1.27	1.96	32	1.50	2.30	32	1.33	2.03
34	1.36	2.22	34	1.27	1.91	34	1.23	1.90	34	1.45	2.22	34	1.29	1.97
36	1.32	2.15	36	1.23	1.85	36	1.20	1.85	36	1.40	2.15	36	1.25	1.92
38	1.28	2.09	38	1.20	1.80	38	1.17	1.81	38	1.36	2.09	38	1.22	1.87
40	1.24	2.02	40	1.16	1.75	40	1.14	1.76	40	1.32	2.02	40	1.19	1.82
45	1.16	1.89	45	1.09	1.64	45	1.08	1.66	45	1.23	1.89	45	1.13	1.72
50	1.09	1.78	50	1.03	1.55	50	1.03	1.58	50	1.16	1.78	50	1.07	1.64
55	1.03	1.68	55	.98	1.47	55	.98	1.51	55	1.09	1.68	55	1.02	1.56
60	.98	1.60	60	.93	1.40	60	.94	1.45	60	1.04	1.60	60	.98	1.50
65	.94	1.53	65	.89	1.34	65	.90	1.40	65	.99	1.53	65	.94	1.44
70	.90	1.46	70	.85	1.29	70	.87	1.35	70	.95	1.46	70	.91	1.39
75	.86	1.41	75	.82	1.24	75	.84	1.30	75	.91	1.41	75	.88	1.35
80	.83	1.35	80	.79	1.20	80	.82	1.26	80	.88	1.35	80	.85	1.31
85	.80	1.31	85	.77	1.16	85	.80	1.23	85	.85	1.31	85	.83	1.27
SLOPE = .580			SLOPE = .550			SLOPE = .480			SLOPE = .580			SLOPE = .480		

STANDARD INTENSITY–DURATION CURVES DATA


PROJECT LOCATION
NOTES:
1. Isohyetals from NOAA Atlas 2, Volume XI - California, 1973.
RCFC & WCD
HYDROLOGY
JANUARY
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
2-YEAR — 24-HOUR PRECIPITATION
APPROVED CHIEF ENGINEER R.E. NO. 8822
DATE
DRAWN BY: R.A.S.
PLATE E-5.5
SHEET NO.
DR. NO.
REVISED


PROJECT LOCATION
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R7E
R8E
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T3S
T4S
T5S
T6S
T7S
T8S
T9S
SAN BERNARDINO
RIVERSIDE
RIALTO
COLTON
LOMA LINDA
REDLANDS
NORTON AFB
MORONGO INDIAN RESERVATION
SAN BERNARDINO MOUNTAINS
JOSHUA TREE NATIONAL MONUMENT
Palm Springs
Desert Hot Springs
Beaumont
Banning
Hemet
San Jacinto
Perris
Moreno
March Field
Edgemont
Mira Loma
Corona
Norco
Riverside
Indio
Coachella
Thermal
Bermuda Dunes
Palm Desert
Indian Wells
Thousand Palms
La Quinta
Oasis
Mecca
Twentynine Palms
Yucca Valley
Joshua Tree
Morongo Valley
Whitewater River
Coachella Valley
Salton Sea
SAN JACINTO MOUNTAINS
SAN JACINTO FAULT
SAN ANDREAS FAULT
SANTA ANA MOUNTAINS
LAKEVIEW MOUNTAINS
PECHANGA INDIAN RESERVATION
SOBOBA INDIAN RESERVATION
AGUANGA INDIAN RESERVATION
CAHUILLA INDIAN RESERVATION
SANTA ROSA INDIAN RESERVATION
TORRES MARTINEZ INDIAN RESERVATION
CABAZON IND RES
AGUA CALIENTE INDIAN RESERVATION
CLEVELAND NATIONAL FOREST
CAMP PENDLETON
FALLBROOK NAVAL RESERVATION
San Clemente
San Mateo Point
San Onofre Bluff
Fallbrook
Elsinore
Lake Elsinore
Lake Mathews
Lake Perris
Lake Skinner
Vail Lake
Temecula
Murrieta
Menifee
Hemet
San Jacinto
Winchester
Romoland
Homeland
Sun City
Canyon Lake

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

Cover Type (3)	Quality of Cover (2)	Soil Group A	B	C	D
NATURAL COVERS -					
Barren (Rockland, eroded and graded land)		78	86	91	93
Chaparrel, Broadleaf (Manzonita, ceanothus and scrub oak)	Poor	53	70	80	85
	Fair	40	63	75	81
	Good	31	57	71	78
Chaparrel, Narrowleaf (Chamise and redshank)	Poor	71	82	88	91
	Fair	55	72	81	86
Grass, Annual or Perennial	Poor	67	78	86	89
	Fair	50	69	79	84
	Good	38	61	74	80
Meadows or Cienegas (Areas with seasonally high water table, principal vegetation is sod forming grass)	Poor	63	77	85	88
	Fair	51	70	80	84
	Good	30	58	72	78
Open Brush (Soft wood shrubs - buckwheat, sage, etc.)	Poor	62	76	84	88
	Fair	46	66	77	83
	Good	41	63	75	81
Woodland (Coniferous or broadleaf trees predominate. Canopy density is at least 50 percent)	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	28	55	70	77
Woodland, Grass (Coniferous or broadleaf trees with canopy density from 20 to 50 percent)	Poor	57	73	82	86
	Fair	44	65	77	82
	Good	33	58	72	79
URBAN COVERS -					
Residential or Commercial Landscaping (Lawn, shrubs, etc.)	Good	32	56	69	75
Turf (Irrigated and mowed grass)	Poor	58	74	83	87
	Fair	44	65	77	82
	Good	33	58	72	79
AGRICULTURAL COVERS -					
Fallow (Land plowed but not tilled or seeded)		76	85	90	92

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RUNOFF INDEX NUMBERS FOR PERVIOUS AREA

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

Cover Type (3)	Quality of Cover (2)	Soil Group A	B	C	D
AGRICULTURAL COVERS (cont.) -					
Legumes, Close Seeded (Alfalfa, sweetclover, timothy, etc.)	Poor	66	77	85	89
	Good	58	72	81	85
Orchards, Deciduous (Apples, apricots, pears, walnuts, etc.)		See Note 4			
Orchards, Evergreen (Citrus, avocados, etc.)	Poor	57	73	82	86
	Fair	44	65	77	82
	Good	33	58	72	79
Pasture, Dryland (Annual grasses)	Poor	67	78	86	89
	Fair	50	69	79	84
	Good	38	61	74	80
Pasture, Irrigated (Legumes and perennial grass)	Poor	58	74	83	87
	Fair	44	65	77	82
	Good	33	58	72	79
Row Crops (Field crops - tomatoes, sugar beets, etc.)	Poor	72	81	88	91
	Good	67	78	85	89
Small Grain (Wheat, oats, barley, etc.)	Poor	65	76	84	88
	Good	63	75	83	87
Vineyard		See Note 4			

Notes:

1. All runoff index (RI) numbers are for Antecedent Moisture Condition (AMC) II.

2. Quality of cover definitions:
   Poor-Heavily grazed or regularly burned areas. Less than 50 percent of the ground surface is protected by plant cover or brush and tree canopy.
   Fair-Moderate cover with 50 percent to 75 percent of the ground surface protected.
   Good-Heavy or dense cover with more than 75 percent of the ground surface protected.

3. See Plate C-2 for a detailed description of cover types.

4. Use runoff index numbers based on ground cover type. See discussion under "Cover Type Descriptions" on Plate C-2.

5. Reference Bibliography item 17.

ACTUAL IMPERVIOUS COVER

Land Use (1)	Range-Percent	Recommended Value For Average Conditions-Percent(2)
Natural or Agriculture	0 - 10	0
Single Family Residential: (3)		
40,000 S. F. (1 Acre) Lots	10 - 25	20
20,000 S. F. (½ Acre) Lots	30 - 45	40
7,200 - 10,000 S. F. Lots	45 - 55	50
Multiple Family Residential:		
Condominiums	45 - 70	65
Apartments	65 - 90	80
Mobile Home Park	60 - 85	75
Commercial, Downtown Business or Industrial	80 -100	90

Notes:

1. Land use should be based on ultimate development of the watershed. Long range master plans for the County and incorporated cities should be reviewed to insure reasonable land use assumptions.

2. Recommended values are based on average conditions which may not apply to a particular study area. The percentage impervious may vary greatly even on comparable sized lots due to differences in dwelling size, improvements, etc. Landscape practices should also be considered as it is common in some areas to use ornamental gravels underlain by impervious plastic materials in place of lawns and shrubs. A field investigation of a study area should always be made, and a review of aerial photos, where available may assist in estimating the percentage of impervious cover in developed areas.

3. For typical horse ranch subdivisions increase impervious area 5 percent over the values recommended in the table above.

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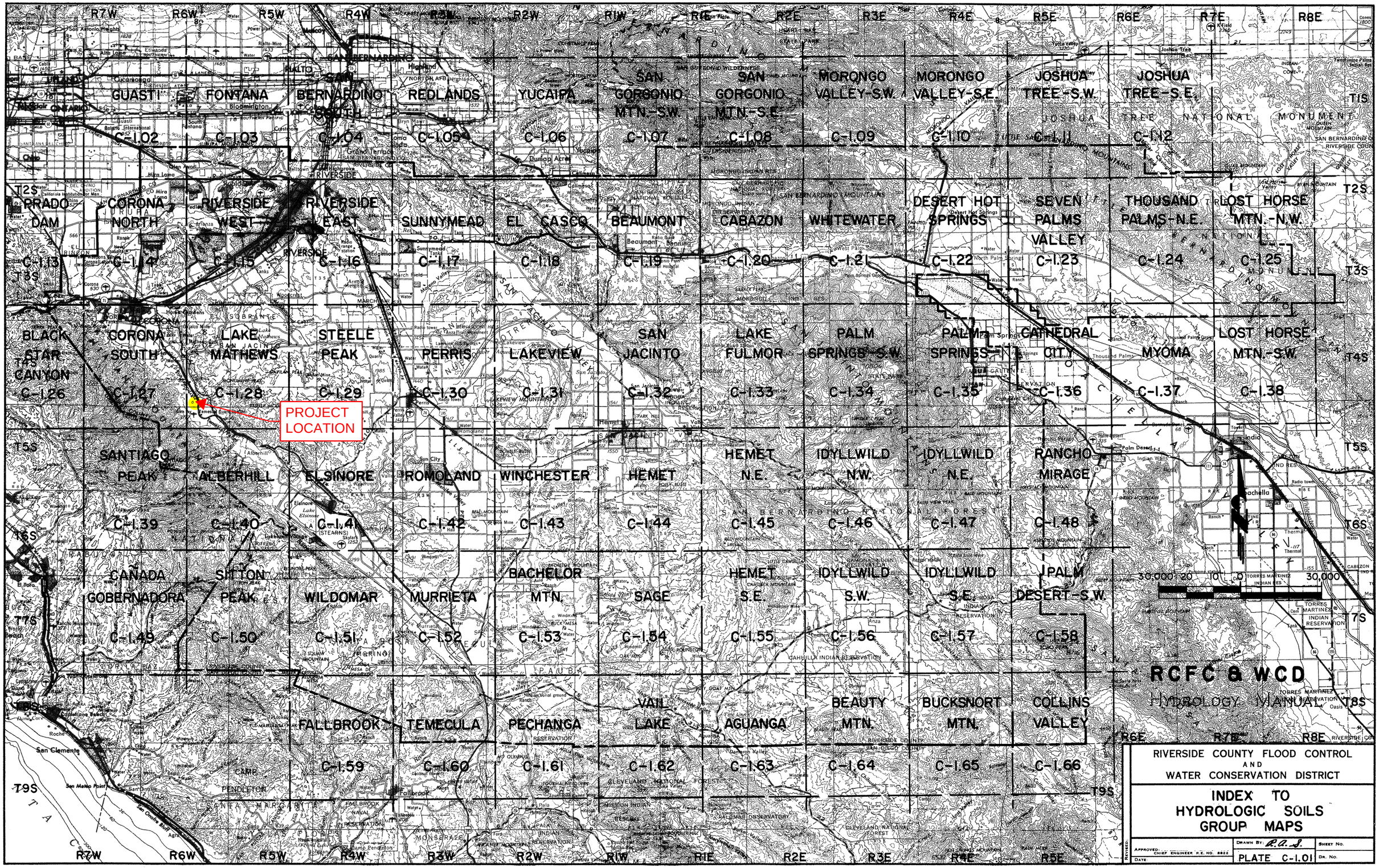
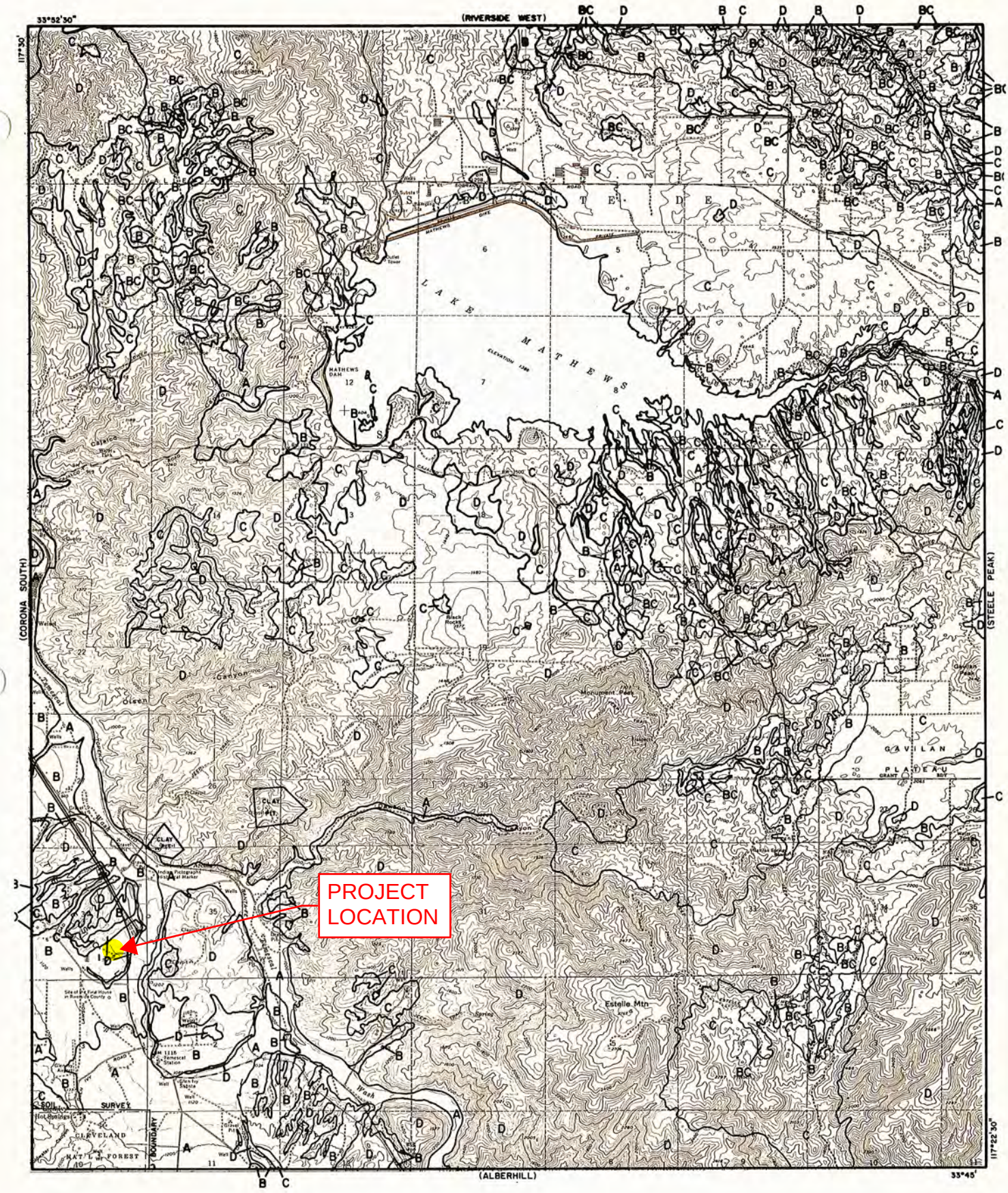
IMPERVIOUS COVER FOR DEVELOPED AREAS

PLATE D-5.6



GUASTI C-1.02
FONTANA C-1.03
SAN BERNARDINO SOUTH C-1.04
REDLANDS C-1.05
YUCAIPA C-1.06
SAN GORGONIO MTN.-S.W. C-1.07
SAN GORGONIO MTN.-S.E. C-1.08
MORONGO VALLEY-S.W. C-1.09
MORONGO VALLEY-S.E. C-1.10
JOSHUA TREE-S.W. C-1.11
JOSHUA TREE-S.E. C-1.12
PRADO DAM C-1.13
CORONA NORTH C-1.14
RIVERSIDE WEST C-1.15
RIVERSIDE EAST C-1.16
SUNNYMEAD C-1.17
EL CASCO C-1.18
BEAUMONT C-1.19
CABAZON C-1.20
WHITEWATER C-1.21
DESERT HOT SPRINGS C-1.22
SEVEN PALMS VALLEY C-1.23
THOUSAND PALMS-N.E. C-1.24
LOST HORSE MTN.-N.W. C-1.25
BLACK STAR CANYON C-1.26
CORONA SOUTH C-1.27
LAKE MATHEWS C-1.28
STEELE PEAK C-1.29
PERRIS C-1.30
LAKEVIEW C-1.31
SAN JACINTO C-1.32
LAKE FULMOR C-1.33
PALM SPRINGS-S.W. C-1.34
PALM SPRINGS C-1.35
CATHEDRAL CITY C-1.36
MYOMA C-1.37
LOST HORSE MTN.-S.W. C-1.38
SANTIAGO PEAK C-1.39
ALBERHILL C-1.40
ELSINORE C-1.41
ROMOLAND C-1.42
WINCHESTER C-1.43
HEMET C-1.44
HEMET N.E. C-1.45
IDYLLWILD N.W. C-1.46
IDYLLWILD N.E. C-1.47
RANCHO MIRAGE C-1.48
CAÑADA GOBERNADORA C-1.49
SITTON PEAK C-1.50
WILDOMAR C-1.51
MURRIETA C-1.52
BACHELOR MTN. C-1.53
SAGE C-1.54
HEMET S.E. C-1.55
IDYLLWILD S.W. C-1.56
IDYLLWILD S.E. C-1.57
PALM DESERT-S.W. C-1.58
FALLBROOK C-1.59
TEMECULA C-1.60
PECHANGA C-1.61
VAIL LAKE C-1.62
AGUANGA C-1.63
BEAUTY MTN. C-1.64
BUCKSNORT MTN. C-1.65
COLLINS VALLEY C-1.66
PROJECT LOCATION
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
INDEX TO HYDROLOGIC SOILS GROUP MAPS
PLATE C-1.01



LEGEND

——— SOILS GROUP BOUNDARY

A SOILS GROUP DESIGNATION

RCFC&WCD

HYDROLOGY MANUAL

N

0 FEET 5000

HYDROLOGIC SOILS GROUP MAP FOR LAKE MATHEWS

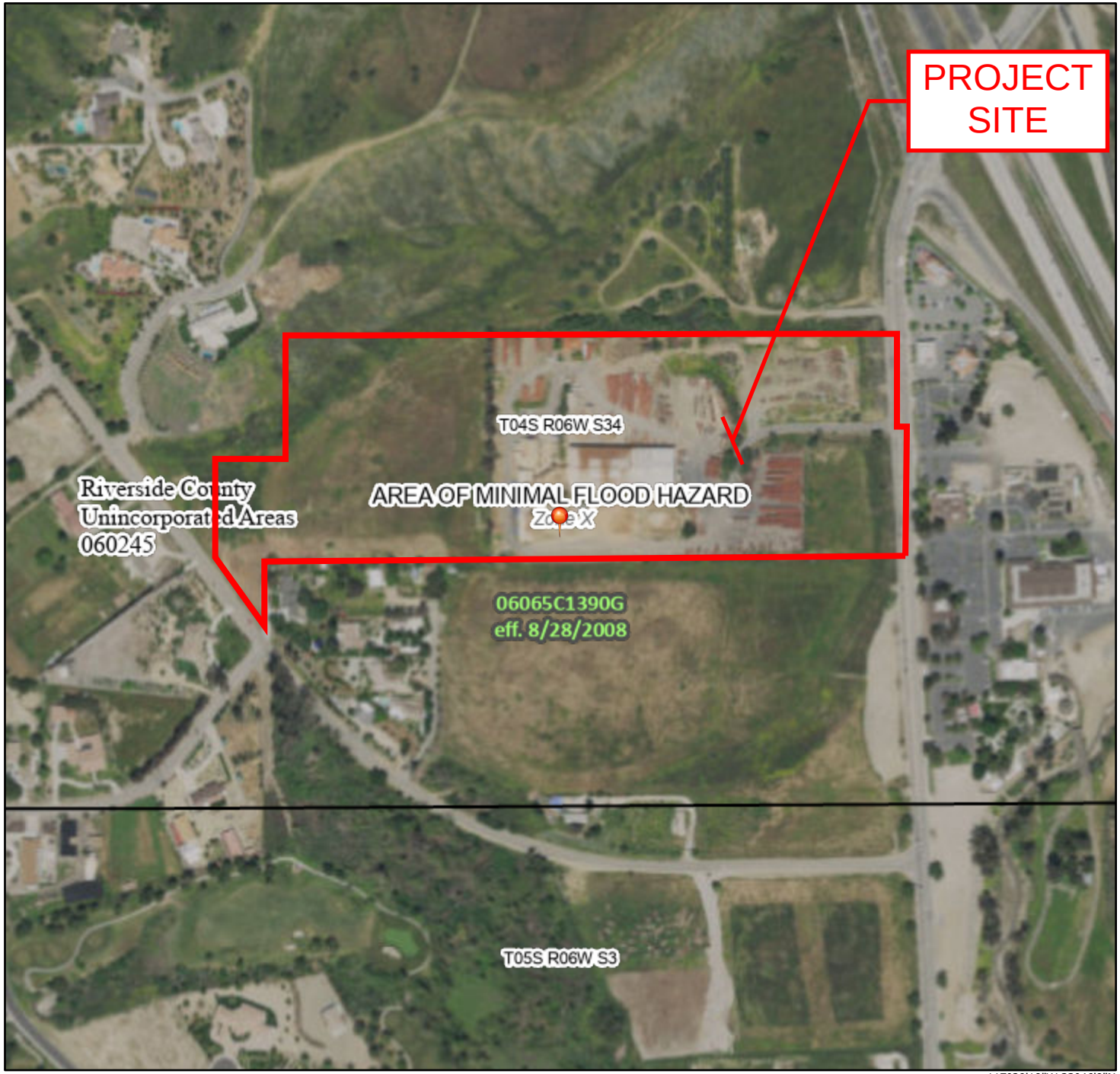
PLATE C-1.28

Appendix C – FEMA Map

National Flood Hazard Layer FIRMette

FEMA

117°29'47"W 33°46'39"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

117°29'10"W 33°46'9"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 10/26/2023 at 2:19 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Appendix D – Geotechnical Report

CTE SOUTH Construction Testing & Engineering, South, Inc.

Inspection | Testing | Geotechnical | Environmental & Construction Engineering | Civil Engineering | Surveying

GEOTECHNICAL INVESTIGATION
PROPOSED COMMERCIAL DEVELOPMENT
APN 283-280-020, 283-180-001, 283-180-002, 283-180-021, 283-180-020
TEMESCAL CANYON ROAD
COUNTY OF RIVERSIDE, CALIFORNIA

PREPARED FOR:

MCP INDUSTRIES, INC.
23835 TEMESCAL CANYON ROAD
CORONA, CA 92883

PREPARED BY:

CTE, SOUTH, INC.
14538 MERIDIAN PARKWAY, SUITE A
RIVERSIDE, CA 92518

CTE JOB NO. 40-3639G **NOVEMBER 6, 2018 (REV)**

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FIGURE 4 RETAINING WALL DRAIN DETAIL

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APPENDIX A FIELD EXPLORATION METHODS AND EXPLORATION LOGS
APPENDIX B LABORATORY METHODS AND RESULTS
APPENDIX C SEISMIC SETTLEMENT ANALYSIS

1.0 EXECUTIVE SUMMARY

This geotechnical report was performed to provide site-specific geotechnical information for the proposed development located between Lawson and Temescal Canyon Roads in the community Temescal Valley, an unincorporated area of Riverside County. The site location is shown on Figure 1.

The proposed project is understood to consist of commercial development. The buildings are anticipated to be multiple story structures. The structures will be founded on shallow footings with slab-on-grade base floors. Construction will also include exterior flatwork, pavements, underground utilities, runoff mitigation measures, and retaining walls. Grading will create level pads for the proposed structures.

The field investigation was conducted on August 10 and 16, 2018 and consisted of 15 subsurface borings. Based on our investigation and review of geologic maps, the site is underlain by Old Alluvial Fan Deposits of late to middle Pleistocene Age. In the western portion of the site stockpiled soil, disturbed surficial material and underlying observed porosity in the near surface will required removal and recompaction on the order of 6 to 12 feet, as recommended herein. The eastern portion of the site, developed by Mission Clay Products, and consists of level stepped pads produced by previous cut and fill grading operations. Artificial fills encountered at some boring locations were on the order of 5 feet. Groundwater was not encountered at the time of our investigation.

Based on our investigation and geologic literature review, Parcel APN 283-280-020 and a portion of APN 283-180-02 are located in an Alquist-Priolo earthquake fault study zone and County of Riverside fault zone. An evaluation of the fault rupture hazard is being performed including additional subsurface investigations, the results of which will be presented in a separate report.

Due to the proximity of the site to the Glen Ivy North Fault and the general seismicity of the region, ground shaking due to seismic activity on local and distant faults will be a significant geologic hazard at the site.

Based on our investigation, the proposed development at the site is considered feasible from a geotechnical standpoint, provided the recommendations herein are implemented during project design and construction.

2.0 INTRODUCTION AND SCOPE OF SERVICES

2.1 Introduction

CTE, South, Inc. has prepared this report for MCP Industries, Inc. Presented herein are the results of the subsurface investigation performed as well as recommendations regarding the geotechnical engineering and dynamic loading criteria for the proposed construction.

The proposed project is understood to consist of commercial development. The locations and types of structures have not been determined and may consist of multiple story steel framed, concrete tilt-up, and wood framed construction on the order of four to five stories. The structures will be founded on shallow footings with slab-on-grade base floor. Construction will also include exterior flatwork, pavements, underground utilities, runoff mitigation measures and retaining walls.

2.2 Scope of Services

Our scope of services included:

- Review of readily available geologic and geotechnical literature pertinent to the site.
- Explorations to determine subsurface soil, rock, and groundwater conditions to the depths influenced by the proposed development.
- Laboratory testing of representative soil samples to provide data to evaluate the geotechnical design characteristics of the site foundation soils.
- Definition of the general geology and evaluation of potential geologic hazards at the site.
- Preparation of this report detailing the investigation performed and providing conclusions and geotechnical engineering recommendations for design and construction. Included in the report are site geology and hazards, seismic effects and design parameters, earthwork recommendations, foundation design parameters including lateral resistance, retaining wall design parameters, and pavement section recommendations.

3.0 SITE DESCRIPTION AND PROPOSED CONSTRUCTION

The site is located in the community of Temescal Valley, California, an unincorporated area of Riverside County. The site is comprised of five parcels with APN numbers 283-180-001, 283-180-002, 283-180-020, 283-180-021, and 283-280-020. The approximate geographic center of

the site has coordinates of 33.77398N and 117.49133W. The site area is approximately 28.8 acres. Site elevations range from approximately 1100 feet on the west to 1064 feet on the east. The three easterly parcels of the site are developed by structures for a clay products company, on a relatively level, graded pad. The two westerly parcels are undeveloped. The ground surface there is sparsely vegetated with brush and grasses, and slopes gently downward generally to the north-northeast. A natural drainage channel exists within the northwestern portion of the site. The site is bounded by Temescal Canyon Road to the east and Lawson Road to the west. Undeveloped parcels border the site to the north, and residential and vacant parcels border the site to the south. We understand that the existing structures at the site will be demolished.

4.0 FIELD AND LABORATORY INVESTIGATION

4.1 Field Investigation

Our field investigation was performed on August 10 and 16, 2018 and included 15 exploratory borings identified as B-1 thru B-15. The exploration locations are shown on Figure 2.

The explorations were excavated to investigate and obtain samples of the subsurface soils. The borings were excavated using a truck-mounted, eight-inch diameter, hollow-stem auger drill rig to a maximum explored depth of 51½ feet below the existing surface.

Soils encountered within the explorations were classified in the field in accordance with the Unified Soil Classification System. The field descriptions were later modified (as appropriate) based on the results of our laboratory-testing program. In general, soil samples were obtained at

5-foot intervals with standard split spoon (SPT and California Modified) samplers. Specifics of the soils encountered can be found in the Exploration Logs, which are presented in Appendix A.

4.2 Laboratory Analyses

Laboratory tests were conducted on representative soil samples to evaluate their physical properties and engineering characteristics. Specific laboratory tests included: maximum dry density and optimum moisture content, in-place moisture and density, "R" value, expansion index, direct shear, consolidation/swell, gradation, Atterberg limits, and chemical analyses. These tests were conducted to determine the material strengths, physical properties, and corrosivity of the on-site soils. Test method descriptions and laboratory results are presented in Appendix B.

5.0 GEOLOGY

5.1 General Physiographic Setting

Geomorphically, the subject site is situated on the westerly margin of the Perris structural block. The Perris structural block lies within the Peninsular Ranges Geomorphic Province and is a relatively stable, rectangular area located between the Elsinore and San Jacinto fault zones. These faults are major components of the San Andreas Fault system which consists of a series of *en echelon* northwest-striking right-lateral faults and pull-apart basins. The Perris block consists of phyllite, schist, and gneiss of Mesozoic- to possible Paleozoic-age meta-sedimentary rocks intruded by plutonic rocks of the Cretaceous-age Peninsular Ranges batholith. Tertiary-age sediments, Miocene-age volcanics, and Quaternary-age sediments unconformably cap the older Mesozoic-age rocks in this portion of the Perris block.

5.2 Site Geologic Conditions

Based on our investigation and geologic mapping (Morton et al, 2001), the site is underlain by old alluvial fan deposits (Qof) of middle to late Pleistocene Age. Below is a brief description of the materials encountered during the investigation. More detailed descriptions are provided in the Exploration Logs in Appendix A.

5.2.1 Artificial Fill (Qaf)

Undocumented fill encountered at Boring locations B-7, B-10, and B-14 was observed to be on the order of 2 to 5 feet thick and consists of Clayey Sand, with gravel in a loose to medium dense condition. Undocumented fill, on the order of 2 ½ feet, was observed at boring location B-13, located outside of the clay plant on the western edge. Materials observed consisted of organics, block, pipe fragments, and clay fines from the clay products building.

Stockpiled soil material, located on Parcel APN 283-280-020, was observed to be on the order of 5 to 6 feet high and covers a significant portion of this parcel. Observations of the drainage on the northwest side of the parcel indicate that undocumented fill may be on the order of 10 feet in depth. These soils are considered unsuitable for the support of structures in their present condition.

5.2.2 Old Alluvial Fan Deposits (Qof)

Old alluvial fan deposits, locally underlie the artificial fill, but were typically encountered in the borings from the existing ground surface to the maximum explored of 51½ feet. The materials, in general, were found to consist of interbedded layers of silty and clayey sand, with gravel in a loose to dense, and dry to moist condition. Qof was observed to unconformably overlie the Silverado formation at Boring at B-1.

5.2.3 Silverado Formation (Tsi)

The Silverado formation was encountered in boring location B-1 at a depth of approximately 35 feet, and consisted of red brown lean clay and sandy lean clay in a stiff to hard condition and clayey sand with gravel in a dense and moist condition.

5.3 Groundwater Conditions

Groundwater was not encountered in the borings. Groundwater levels will likely fluctuate during periods of high precipitation. Groundwater is not expected to impact the proposed development, although grading or construction could be adversely affected if performed during or following periods of wet weather.

5.4 Geologic Hazards

From our investigation, it appears that geologic hazards at the site are limited primarily to those caused by strong shaking from earthquake-generated ground motions. Presented here are the geologic hazards that are considered for potential impacts to site development.

5.4.1 Surface Fault Rupture

As defined by the California Geological Survey, an active fault is one that has had surface displacement within the Holocene Epoch (roughly the last 11,000 years). This definition is used in delineating Earthquake Fault Zones as mandated by the Alquist-Priolo Special Studies Zones Act of 1972 and revised in 1994 as the Alquist-Priolo Earthquake Fault Zoning Act. The name Special Studies Zones was changed to Earthquake Fault Zones as a result of a 1993 amendment. Special Publication - 42 was most recently revised in 2007 and is subject to periodic amendments. The intent of this

act is to require fault investigations on sites located within Earthquake Fault Zones to preclude the construction of structures for human occupancy across the trace of an active fault.

The western portion of the site (specifically parcel APN 283-280-020 and a portion of APN 283-180-001) is located within an Alquist-Priolo Earthquake Fault Study Zone and a County of Riverside Fault Study Zone. A fault study is being performed to evaluate the potential for surface fault rupture and results will be presented in a separate report.

5.4.2 Local and Regional Faulting

The California Geological Survey broadly groups faults as "Class A" or "Class B" (Cao et al, 2003). Class A faults are identified based upon relatively well-defined paleoseismic activity, and a fault slip rate of more than 5 millimeters per year (mm/yr). In contrast Class B faults have comparatively less defined paleoseismic activity and are considered to have a fault slip rate less than 5 mm/yr. The following Table 1 presents the ten nearest active faults to the site and includes magnitude and fault classification.

TABLE 1
NEAR SITE FAULT PARAMETERS

FAULT NAME	APPROXIMATE DISTANCE FROM SITE (mi)	MAXIMUM EARTHQUAKE MAGNITUDE	CLASSIFICATION
Elsinore-Glen Ivy	0	6.8	A
Chino-Central Ave. (Elsinore)	6.3	6.7	B
Whittier	10.2	6.8	A
Elsinore-Temecula	12.4	6.8	A
San Jacinto-San Bernardino	21.8	6.7	A
San Jacinto-San Jacinto Valley	22.3	6.9	A
Elysian Park Thrust	24.9	6.7	B
Newport-Inglewood (L.A. Basin)	25.5	7.1	B
Compton Thrust	26.1	6.4	B
Sierra Madre	27.5	7.1	B

A regional fault activity map is presented on Figure 3.

5.4.3 Liquefaction Evaluation

Liquefaction occurs when saturated fine sands, silts or low plasticity clays lose their physical strength during earthquake-induced shaking and behave as a liquid. This is due to loss of point-to-point grain contact and transfer of normal stress to the pore water. Liquefaction potential varies with groundwater level, soil type, material gradation, relative density, and the intensity and duration of ground shaking.

Based on the absence of groundwater within the top fifty feet of the site soil profile, the potential for liquefaction of site soils is considered very low.

5.4.4 Seismic Settlement Evaluation

Seismic settlement (dynamic densification) occurs when loose to medium dense granular soils densify during seismic events The underlying site materials consisted predominantly of loose to dense silty clayey sand with gravel, and silty sand with gravel and clay. To evaluate potential for seismic settlement, a quantitative analysis was performed using the computer program LiquefyPro (CivilTech, 2006) and the data obtained from the boring logs. Two borings, B-1 and B-14, were used in the evaluation to determine potential differential settlement. A peak ground acceleration of 0.895g and earthquake magnitude of 6.8 were used. The output files for the analyses are presented in Appendix C. The analysis has estimated total seismically-induced settlement of approximately 2.76 to 4.35 inches near Boring B-14 and Boring B-1, respectively. Seismically-induced differential settlement will be approximately 1.6 inches.

Near surface loose, collapsible and disturbed materials present on the site will be mitigated through removal and replacement as compacted fill, as recommended herein, in order to facilitate the proposed construction. Therefore, in our opinion, the potential for seismic settlement of these materials is considered low.

5.4.5 Compressible and Expansive Soils

Based on laboratory testing, the soils within the upper six to eight feet of the ground surface are potentially collapsible. Fill encountered at the site is generally considered to be compressible under the proposed loading conditions. Surficial soils were also found to be locally disturbed and weathered. Therefore, it is recommended that the fill, disturbed soils and collapsible soils be over-excavated, processed and compacted. Based on the investigation data, underlying dense native material is not considered to be subject to significant compressibility under the proposed loads.

Based on geologic observation and laboratory testing, the near-surface materials at the site are anticipated to exhibit a very low expansion potential (Expansion Index of less than 20). Therefore, the recommendations provided herein are based upon the anticipated very low expansion potential of the site soils encountered. Additional evaluation of soil expansion potential should be conducted during grading and upon completion of rough grading and building pad construction.

5.4.6 Tsunami and Seiche Evaluation

Due to site elevation and distance from the Pacific Ocean, the site is not considered to be subject to damage from tsunamis. Based on the absence of large bodies of water in the area, seiche (oscillatory waves in standing bodies of water) damage is also not expected.

5.4.7 Landsliding

No features typically associated with landsliding were noted during the site investigation. In the reference review, no evidence of landslides was found to have occurred within the

area of the site. Therefore, the potential for landsliding to affect the site is considered very low.

5.4.8 Flood Zones

Based on Federal Emergency Management Agency flood zone map (FEMA, 2008), site improvement areas are located in an "Area of Minimal Flood Hazard." Therefore, the chance of flooding at the site is considered low.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 General

Based on our investigation, the proposed construction on the site is feasible from a geotechnical standpoint, provided the recommendations in this report are incorporated into design and construction of the project. Preliminary recommendations for the design and construction of the proposed development are included in the subsequent sections of this report. Additional recommendations could be required based on the actual conditions encountered during earthwork and/or improvement construction. Recommendations presented herein are based on foundation soil with a low expansion potential.

6.2 Site Preparation

6.2.1 General

Prior to grading, the site should be cleared of existing debris, factory residue and deleterious materials. Foundations and buried utilities from existing structures on the site

should be removed and replaced with compacted fill. In areas to receive structures or distress-sensitive improvements, expansive, surficial eroded, desiccated, burrowed, or otherwise loose or disturbed soils should be removed to the depth of competent material. Organic and other deleterious materials not suitable for use as structural backfill should be disposed of offsite at a legal disposal site.

6.2.2 Remedial Grading and Excavations

Due to the presence of disturbed and collapsible soils encountered in the upper approximately 8 feet of the explorations, remedial grading will be required. Where new construction is planned, the site should be excavated to a depth 8 or more feet below existing grade or finish grade, whichever is deeper. The soils exposed at the bottom of the over-excavations should be documented by a geotechnical representative of this office to determine their suitability.

Temporary, unsurcharged excavations up to four feet deep may be cut vertically. Deeper excavations should be sloped back or shored. Temporary sloped excavations should be cut at a slope of 1:1 (horizontal:vertical) or flatter. Permanent slopes should be no steeper than 2:1. Vehicles and storage loads should not be placed within 10 feet of the top of the excavation. If temporary slopes are to be maintained during the rainy season, berms are recommended along the tops of slopes to divert runoff water from entering the excavation and eroding the slope faces.

6.2.3 Preparation of Areas to Receive Fill

Exposed excavation bottoms and subgrade surfaces to receive fill should be scarified to a minimum depth of 12 inches, brought to 2 percent or more above optimum moisture

content and compacted to at least 90 percent of the maximum dry density as determined by ASTM D 1557.

6.2.4 Fill Placement and Compaction

Structural fill and backfill should be compacted to at least 90 percent of the maximum dry density (as determined by ASTM D 1557) at moisture content 2 percent or more above optimum. The upper 12-inches of pavement subgrade should be compacted to at least 95 percent of the maximum dry density (per ASTM D 1557). The optimum lift thickness for fill soils will be dependent on the type of compaction equipment being utilized. Generally, fill should be placed in uniform horizontal lifts not exceeding 8 inches in loose thickness. Placement and compaction of fill should be performed in general conformance with geotechnical recommendations and local ordinances.

Soils generated from on-site excavations are anticipated to be suitable for use as structural fill, provided they are free from deleterious material. Rocks or other soil fragments greater than four inches in size should not be used in the fills. Proposed import material should be evaluated by the project geotechnical engineer prior to being placed at the site. Import materials should consist of non-corrosive, granular material with an expansion index less than 20.

6.2.5 Utility Trenches

Utility trenches should be excavated in accordance with the recommendations presented in Section 6.2.2. Backfill should be placed in loose lifts no greater than eight inches and

mechanically compacted to a relative compaction of at least 90 percent of the maximum dry density (per ASTM D 1557) at a moisture content 2 or more percent above optimum.

6.3 Foundations and Slab Recommendations

6.3.1 General

Foundations and slabs for the proposed structures should be designed in accordance with structural considerations and the following minimum preliminary geotechnical recommendations. Foundations are expected to be supported in properly compacted fill materials. These recommendations assume that the fill soils will have a very low expansion potential (Expansion Index < 20).

6.3.2 Shallow Foundations

Following site grading, it is our opinion that the use of isolated and continuous footings will be geotechnically suitable for this project. We recommend that continuous footings be constructed following the criteria presented in Table 2 below. The values presented are CBC minimums. The structural engineer should provide footing dimensions and reinforcement based on the foundation design values presented in this report.

TABLE 2
MINIMUM FOOTING WIDTH AND EMBEDMENT DEPTH

NUMBER OF FLOORS SUPPORTED BY THE FOOTING	MINIMUM WIDTH OF FOOTING(inches)	MINIMUM DEPTH OF FOOTING BELOW LOWEST ADJACENT SUBGRADE (inches)
1	12	18
2	15	18
3	18	18

Isolated footings should be a minimum of 24 inches in dimension and founded at least 18 inches below lowest adjacent rough grade elevation or top of slab.

Foundation dimensions should be based on an allowable bearing pressure of 2,000 pounds per square foot (psf) for the minimum footing dimensions noted above. The allowable bearing value may be increased by one-third for short-duration loading which includes the effects of wind or seismic forces.

Footing reinforcement within continuous footings should consist of a minimum of four number 4 bars, two located at the top of the footing and two located at the bottom. This minimum reinforcement is due to geotechnical conditions and is not to be used in lieu of that needed for structural considerations. Reinforcement for isolated footings should be determined by the structural engineer. Garage door grade beams should be at least 12 inches deep and reinforced as above.

Lateral loads for structures supported on spread footings may be resisted by soil friction and by the passive resistance of the soils. A coefficient of friction of 0.30 may be used between foundations or the floor slabs and the supporting soils. The allowable passive resistance of the soils may be assumed equal to the pressure developed by a fluid with a density of 250 pounds per square foot/foot. A one-third increase in the passive value may be used for wind or seismic loads. The frictional resistance and the passive resistance may be combined without reduction in determining the total lateral resistance.

6.3.3 Settlement of Shallow Foundations

We have analyzed settlement potential during construction and for long-term performance. Construction settlement is expected to occur as loads are applied and structures are brought to their operational weight. Long-term settlement is expected to occur over time as a result of compression of wetted or partially saturated soil. Anticipated settlements are related to an applied bearing pressure of 2,000 psf.

It is anticipated that shallow foundations designed and constructed as recommended will experience maximum total settlement of 1 inch or less and differential static settlement of 1/2 inch or less over a distance of 40 feet or more.

6.3.4 Concrete Slabs-On-Grade

Concrete slabs-on-grade should be designed for the anticipated loading. Lightly loaded concrete slabs should measure a minimum of 4.5 inches thick and be reinforced with a minimum of number 3 reinforcing bars placed on 18-inch centers, each way at mid-slab height. A modulus of subgrade reaction of 125 pci may be used for elastic design. Concrete slabs subjected to heavier loads may require thicker slab sections and/or increased reinforcement as per the project structural engineer. The correct placement of the reinforcement in the slab is vital for satisfactory performance under normal conditions. The floor slab and foundations should generally be tied together by extending the slab reinforcement into the footings, or as recommended by the structural engineer.

In areas to receive moisture-sensitive floor covering or used to store moisture-sensitive materials, a polyethylene or visqueen moisture vapor retarder (10-mil or thicker) should

be placed beneath the slab. A 4-inch layer of crushed stone should underlie the moisture vapor retarder. To protect the membrane during steel and concrete placement, a maximum two-inch layer of similar material may be placed over the moisture vapor retarder.

As an alternative, a post-tensioned slab may be constructed. Based on our analysis, the following design recommendations may be used:

Allowable Bearing Capacity- 2,000 psf

Building Pad Over-excavation- 8 feet

Friction Coefficient- 0.3

Lateral Load Resistance- 250 pcf

Modulus of Subgrade Reaction- 125 pci (uncorrected)

The following Table 3 presents our recommendations for a post-tensioned slab based on the methods of the Post Tensioning Institute:

Table 3 Post-Tension Recommendations		
Expansion Index		Low to Medium
Assumed Percent Clay		50
Clay Type		Montmorillonite
Approximate Depth of Constant Suction (feet)		7.0
Approximate Soil Suction (pF)		3.6
Approximate Velocity or Moisture Flow (Inches per Month)		0.7
Thornwaite Index		-20
Average Edge Moisture Variation Depth, em (Feet)	Center Lift	5.3
	Edge Lift	2.5
Anticipated Swell, ym (Inches)	Center Lift	3.2
	Edge Lift	0.8

It is recommended that a water-cement ratio of 0.5 or less be used for concrete, and that the slab be moist-cured for at least five days in accordance with methods recommended by the American Concrete Institute. On-site quality control should be used to confirm the design conditions.

6.3.5 Pipe Bedding and Thrust Blocks

We recommend that pipes be supported on a minimum of 6 inches of sand, gravel, or crushed rock. The pipe bedding material should be placed around the pipe, without

voids, and to an elevation of at least 12 inches above the top of the pipe. The pipe bedding material should be compacted in accordance with the recommendations in the earthwork section of this report.

Thrust forces may be resisted by thrust blocks and/or the friction between the pipe and adjacent soil. Thrust blocks may be designed using a passive resistance equal to the pressure developed by a fluid with a density of 250 pounds per cubic foot.

6.4 Seismic Design Criteria

The seismic ground motion values listed in the Table 4 below were derived in accordance with the ASCE 7-10 Standard. This was accomplished by establishing the Site Class based on the soil properties at the site, and then calculating the site coefficients and parameters using the United States Geological Survey Seismic Design Maps application. These values are intended for the design of structures to resist the effects of earthquake ground motions for the site coordinates 33.77398°N and 117.49133°W, as underlain by soils corresponding to Site Class D.

TABLE 4
SEISMIC GROUND MOTION VALUES

PARAMETER	VALUE	CBC REFERENCE (2016)
Site Class	D	ASCE 7, Chapter 20
Mapped Spectral Response Acceleration Parameter, S_S	2.315g	Figure 1613.3.1 (1)
Mapped Spectral Response Acceleration Parameter, S_1	0.913g	Figure 1613.3.1 (2)
Seismic Coefficient, F_a	1.000	Table 1613.3.3 (1)
Seismic Coefficient, F_v	1.500	Table 1613.3.3 (2)
MCE Spectral Response Acceleration Parameter, S_{MS}	2.315g	Section 1613.3.3
MCE Spectral Response Acceleration Parameter, S_{M1}	1.370g	Section 1613.3.3
Design Spectral Response Acceleration Parameter, S_{DS}	1.543g	Section 1613.3.4
Design Spectral Response Acceleration Parameter, S_{D1}	0.913g	Section 1613.3.4
Peak Ground Acceleration, PGA_M	0.895g	ASCE 7, Equation 11.8-1
Seismic Design Category	E	ASCE 7, Chapter 11

6.5 Vehicular Pavements

Pavement sections were evaluated using a design 'R' value of 10, correlating to a modulus of subgrade reaction of approximately 125 pci for site subgrade soil. The pavement section recommendations are based on the assumption that the subgrade soil (the top 12-inches minimum) will be compacted to a minimum of 95 percent of the maximum dry density (per ASTM D 1557).

If concrete pavement is used, it should have a minimum modulus of rupture (flexural strength) of 600 psi. We estimate that a 4,500 psi 28-day compressive strength concrete would generally provide the minimum required flexural strength; however, other mix designs could also meet the

requirements. As such, we recommend that the contractor submit the proposed mix design with necessary documentation to offer a proper level of confidence in the proposed concrete materials. Recommended concrete pavement sections are presented below in Table 5.

TABLE 5

PORTLAND CEMENT CONCRETE (PCC) PAVEMENT SECTION

Traffic Area	Assumed Traffic Index	Design Modulus of Subgrade Reaction (pci)	PCC Thickness (inches)
Parking Lots	5.0	125	6
Drive Lanes	6.0	125	6

An unreinforced pavement with the minimum thickness indicated above should generally be constructed with maximum joint spacing of 24 times the pavement thickness, in both directions, and in nearly square patterns. As an alternative, the concrete pavement could be constructed with typical minimal reinforcement consisting of #4 bars at 18 inches, on-center, both ways, at or above mid-slab height and with proper concrete cover.

Recommended asphalt concrete pavement sections are presented below in Table 6.

TABLE 6

PRELIMINARY ASPHALT CONCRETE (AC) PAVEMENT SECTIONS

Traffic Area	Assumed Traffic Index	Design 'R' Value	AC Thickness (inches)	Aggregate Base Thickness* (inches)
Parking Lots	5.0	10	3	9.0
Drive Lanes	6.0	10	3	12-1/2

* Minimum R Value of 78.

In addition, it is recommended that pavement areas conform to the following criteria:

- Placement and construction of the recommended pavement section should be performed in accordance with the Standard Specifications for Public Works Construction (Greenbook, latest edition).
- Aggregate base should conform to the specification for Caltrans Class 2 Aggregate Base (Caltrans, 2015) or Greenbook Crushed Aggregate Base.
- Pavement sections are prepared assuming that periodic maintenance will be done, including sealing of cracks and other measures.

6.6 Retaining Walls

If retaining walls are proposed, the following recommendations should be incorporated into design and construction. For the design of walls where the surface of the backfill is level, it may be assumed that the on-site sandy soils will exert an active lateral pressure equal to that developed by a fluid with a density of 40 pounds per cubic foot (pcf). The active pressure should be used for walls free to yield at the top at least 0.2 percent of the wall height. For walls restrained at the top so that such movement is not permitted, a pressure corresponding to an equivalent fluid density of 60 pcf should be used, based on at-rest soil conditions. These

pressures should be increased by 20 pcf for walls retaining soils inclined at 2:1 (horizontal:vertical).

For cantilever retaining walls (yielding walls) 6 feet or more in height, lateral pressures due to earthquake motions may be calculated based on work by Seed and Whitman (1970). The total lateral thrust against a properly drained and backfilled cantilever retaining wall above the groundwater level can be expressed as:

$$P_{AE} = P_A + \Delta P_{AE}$$

For non-yielding (or "restrained") walls, the total lateral thrust may be similarly calculated based on work by Wood (1973):

$$P_{KE} = P_K + \Delta P_{KE}$$

Where:

P_A = Static Active Thrust

P_K = Static Restrained Wall Thrust

ΔP_{AE} = Dynamic Active Thrust Increment = $(3/8)\ k_h\ \gamma H^2$

ΔP_{KE} = Dynamic Restrained Thrust Increment = $k_h\ \gamma H^2$

k_h = 2/3 Peak Ground Acceleration =2/3 (PGA_M) = 0.60g

H = Total Height of the Wall

γ = Total Unit Weight of Soil ≈ 135 pounds per cubic foot

The increment of dynamic thrust in both cases should be distributed as an inverted triangle, with a resultant located at 0.6H above the bottom of the wall.

Recommendations for waterproofing the walls to reduce moisture infiltration should be provided by the project architect or structural engineer.

We recommend that walls be backfilled with soil having an expansion index of 20 or less with less than 30 percent passing the #200 sieve. The backfill area should include the zone defined by a 1:1 sloping plane, extended back from the base of the wall footing. Wall backfill should be compacted to at least 90 percent relative compaction, based on ASTM D 1557. Backfill should not be placed until walls have achieved adequate structural strength. Heavy compaction equipment, which could cause distress to walls, should not be used.

The recommended lateral earth pressures presented herein assume that drainage will be provided behind the walls to prevent the accumulation of hydrostatic pressures. A backdrain system (similar to that shown on Figure 4) should be provided to reduce the potential for the accumulation of hydrostatic pressures.

6.7 Corrosive Soils

Sulfate-containing solutions or soil can have a deleterious effect on the in-service performance of concrete. In order to evaluate the foundation environment, representative samples of site soils were laboratory tested for pH, resistivity, soluble sulfate and chloride. The results of the tests are summarized below in Table 7.

TABLE 7
SUMMARY OF CHEMICAL ANALYSES

Sample Location	pH	Resistivity (ohm-cm)	Sulfate (mg/kg)	Chloride (mg/kg)
B-5 @ 0-3 ft.	5.4	7,000	ND*	ND*
B-9 @ 5-10 feet	6.0	2,600	21	9.2

*ND – Not Detected

Based on ACI 18 Building Code and Commentary Table 4.3.1, a sulfate exposure of 21 mg/kg considered *negligible*. We recommend that Type V cement be used. We further recommend that at least a 3-inch thick concrete cover be maintained over the reinforcing steel in concrete in contact with the soil.

Based on the results of the resistivity tests, site soil appears to be *moderately corrosive* to ferrous metals. We recommend plastic pipes be used. CTE does not practice in the field of corrosion engineering. Therefore, a corrosion engineer could be consulted to determine the appropriate protection for metallic improvements in contact with site soils.

6.8 Exterior Flatwork

Exterior concrete flatwork should have a minimum thickness of 4.5 inches, unless otherwise specified by the project architect. To reduce the potential for distress to exterior flatwork caused by minor settlement of foundation soils, we recommend that such flatwork be installed with

crack-control joints at appropriate spacing as recommended by the structural engineer. Flatwork, such as driveways, sidewalks, and architectural features, should be installed with crack control joints. Extra reinforcement is recommended at re-entrant corners and driveways. Subgrade should be prepared in accordance with the earthwork recommendations provided herein. Positive drainage should be established and maintained adjacent to all flatwork as per the recommendations of the project civil engineer of record.

6.9 Drainage

Positive drainage should be established around site structures and is defined as drainage away from structures and improvements as recommended by the project civil engineer of record. To facilitate this, the proper use of construction elements such as roof drains and gutters, downspouts, earthen and/or concrete swales, slopes, external slabs-on-grade, and sub-drains may be employed. The project civil engineer should thoroughly evaluate the on-site drainage and make provisions as necessary to keep surface water from entering structural areas.

6.10 Plan Review

CTE should be authorized to review project grading and foundation plans and the project specifications before the start of earthwork to identify potential conflicts with the recommendations contained in this report.

7.0 LIMITATIONS

The recommendations provided in this report are based on the anticipated construction and the subsurface conditions found in our explorations. The interpolated subsurface conditions should be checked in the field during construction to document that conditions are as anticipated.

Recommendations provided in this report are based on the understanding and assumption that CTE will provide the observation and testing services for the project. Earthwork should be observed and tested to document that grading activity has been performed according to the recommendations contained within this report. The project geotechnical engineer should evaluate footing excavations prior to placement of reinforcing steel.

The field evaluation, laboratory testing and geotechnical analysis presented in this report have been conducted according to current engineering practice and the standard of care exercised by reputable geotechnical consultants performing similar tasks in this area. No other warranty, expressed or implied, is made regarding the conclusions, recommendations and opinions expressed in this report. Variations may exist and conditions not observed or described in this report may be encountered during construction.

This report is applicable to the site for a period of three years after the issue date provided the project remains as described herein. Modifications to the standard of practice and regulatory requirements may necessitate an update to this report prior to the three years from issue.

Our conclusions and recommendations are based on an analysis of the observed conditions. If conditions different from those described in this report are encountered, our office should be notified and additional recommendations, if required, will be provided upon request. CTE

should review project specifications for all earthwork, foundation, and shoring-related activities prior to the solicitation of construction bids.

We appreciate this opportunity to be of service on this project. If you have any questions regarding this report, please do not hesitate to contact the undersigned

Respectfully submitted,
Construction Testing & Engineering, Inc.

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Senior Engineering Geologist

Robert L. Ellerbusch
Staff Geologist

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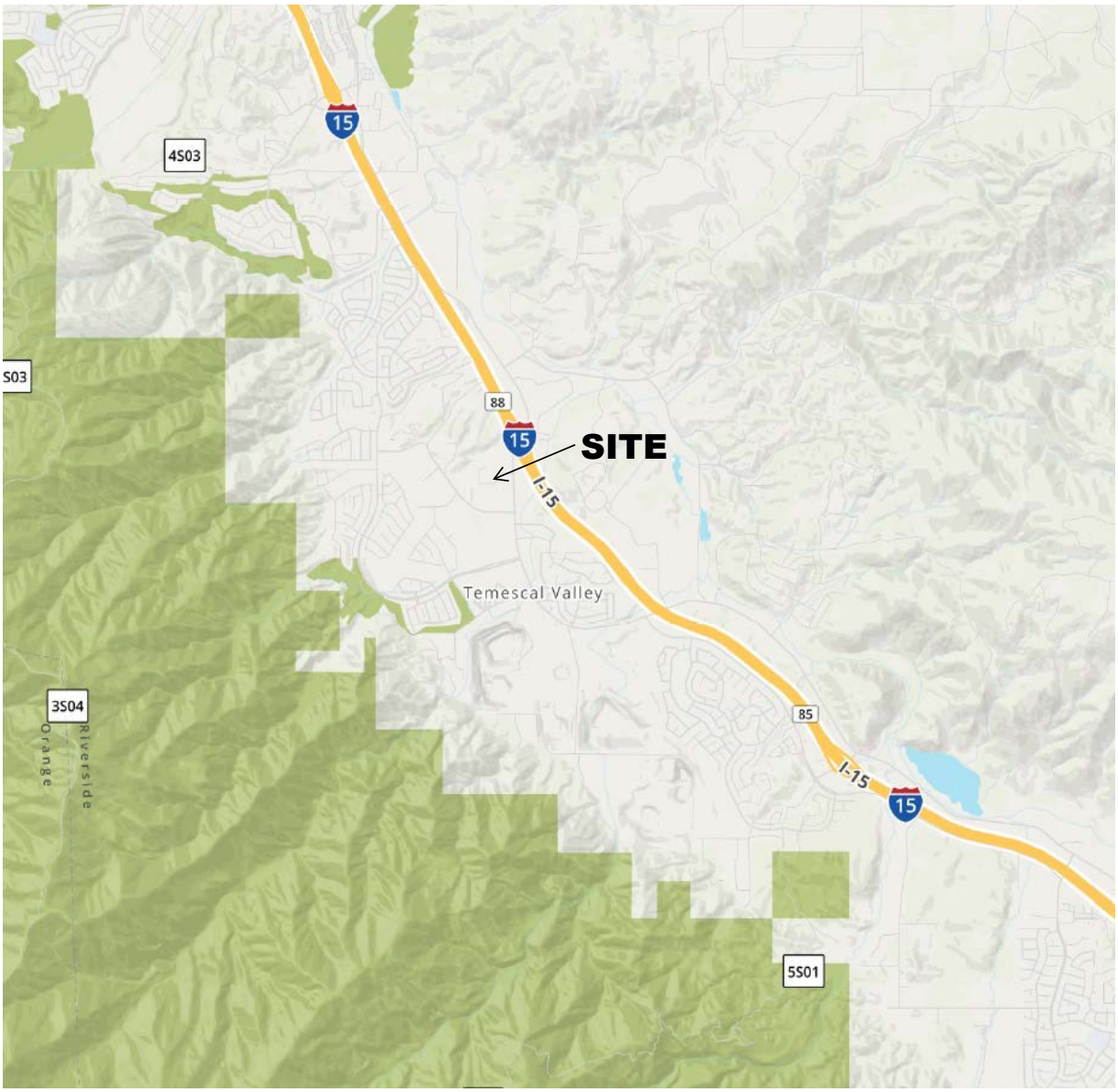

NORTH

NO SCALE

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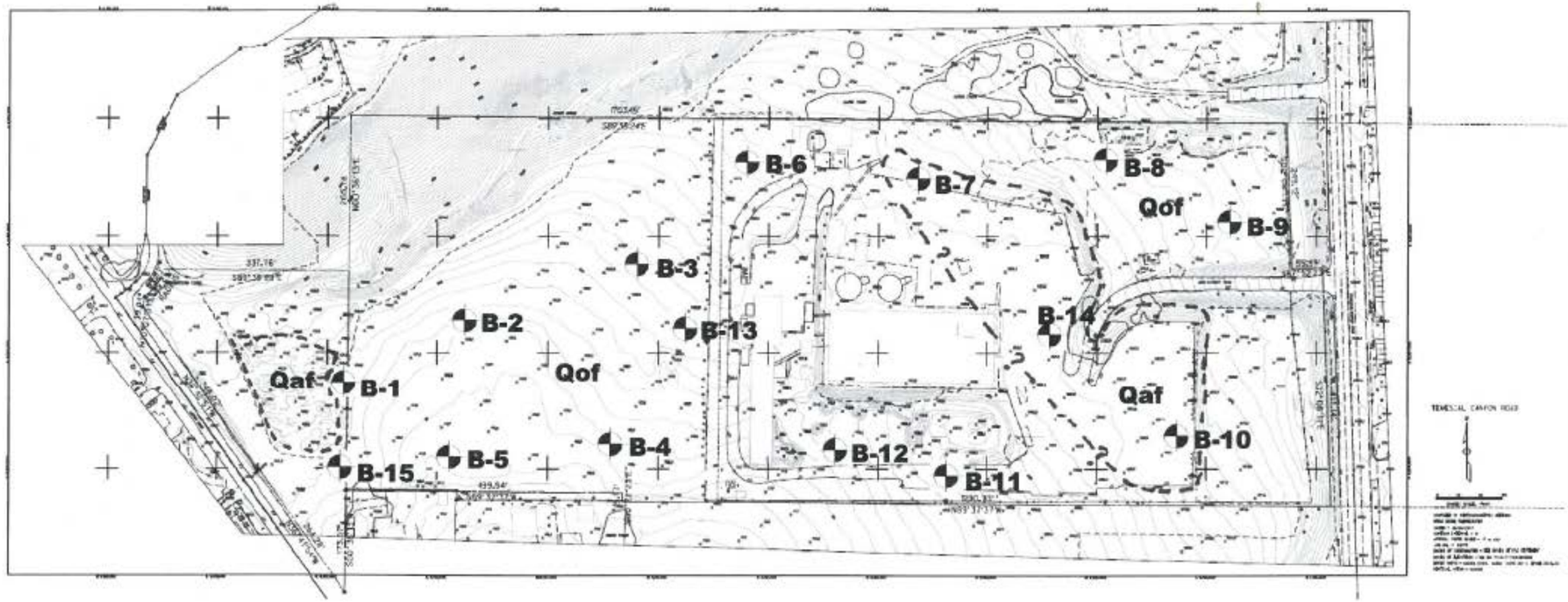
SITE LOCATION MAP

PROPOSED COMMERCIAL DEVELOPMENT
TEMESCAL CANYON ROAD, TEMESCAL VALLEY, CA

Job No.	Date	Figure
40-3639G	OCT 2018	1



GEOTECHNICAL LEGEND

B-1 Approximate Boring Location

Qaf Quaternary Artificial Fill

Qof Quaternary Old Alluvial Fan Deposits

- - - ? - - - Approximate Geologic Contact (queried where uncertain)

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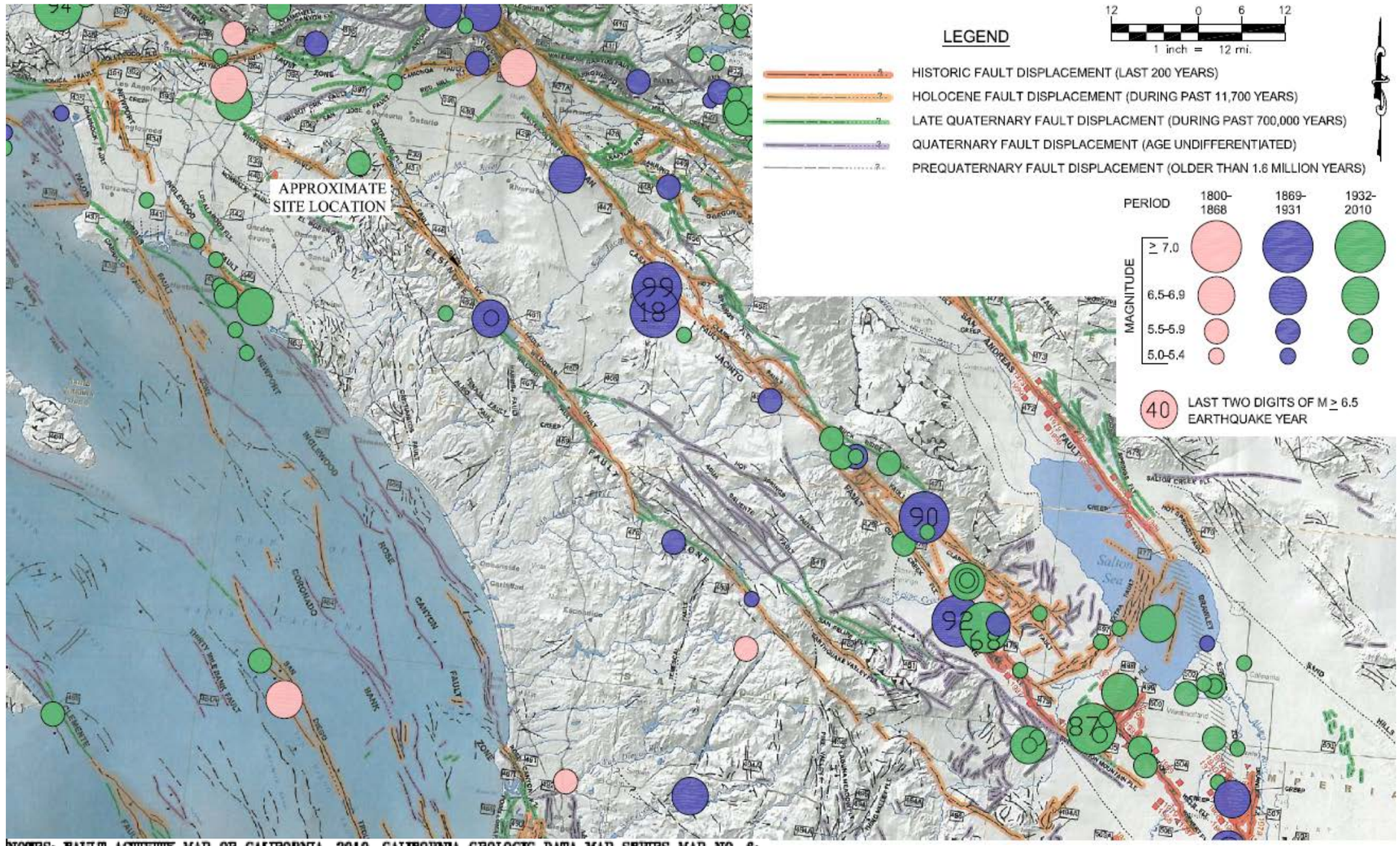
SITE GEOLOGIC & EXPLORATION LOCATION MAP

PROPOSED COMMERCIAL DEVELOPMENT

TEMESCAL CANYON ROAD, TEMESCAL VALLEY, CA

Job No.	Date	Figure
40-3639G	OCT 2018	2



NOTES: FAULT ACTIVITY MAP OF CALIFORNIA, 2010, CALIFORNIA GEOLOGIC DATA MAP SERIES MAP NO. 6;
EPICENTERS OF AND AREAS DAMAGED BY M> 5 CALIFORNIA EARTHQUAKES, 1800–1999 ADAPTED AFTER TOPPOZADA, BRANUM, PETERSEN, HALLSTORM, CRAMER, AND REICHLE, 2000, CDMG MAP SHEET 49
REFERENCE FOR ADDITIONAL EXPLANATION; MODIFIED WITH CISN AND USGS SEISMIC MAPS

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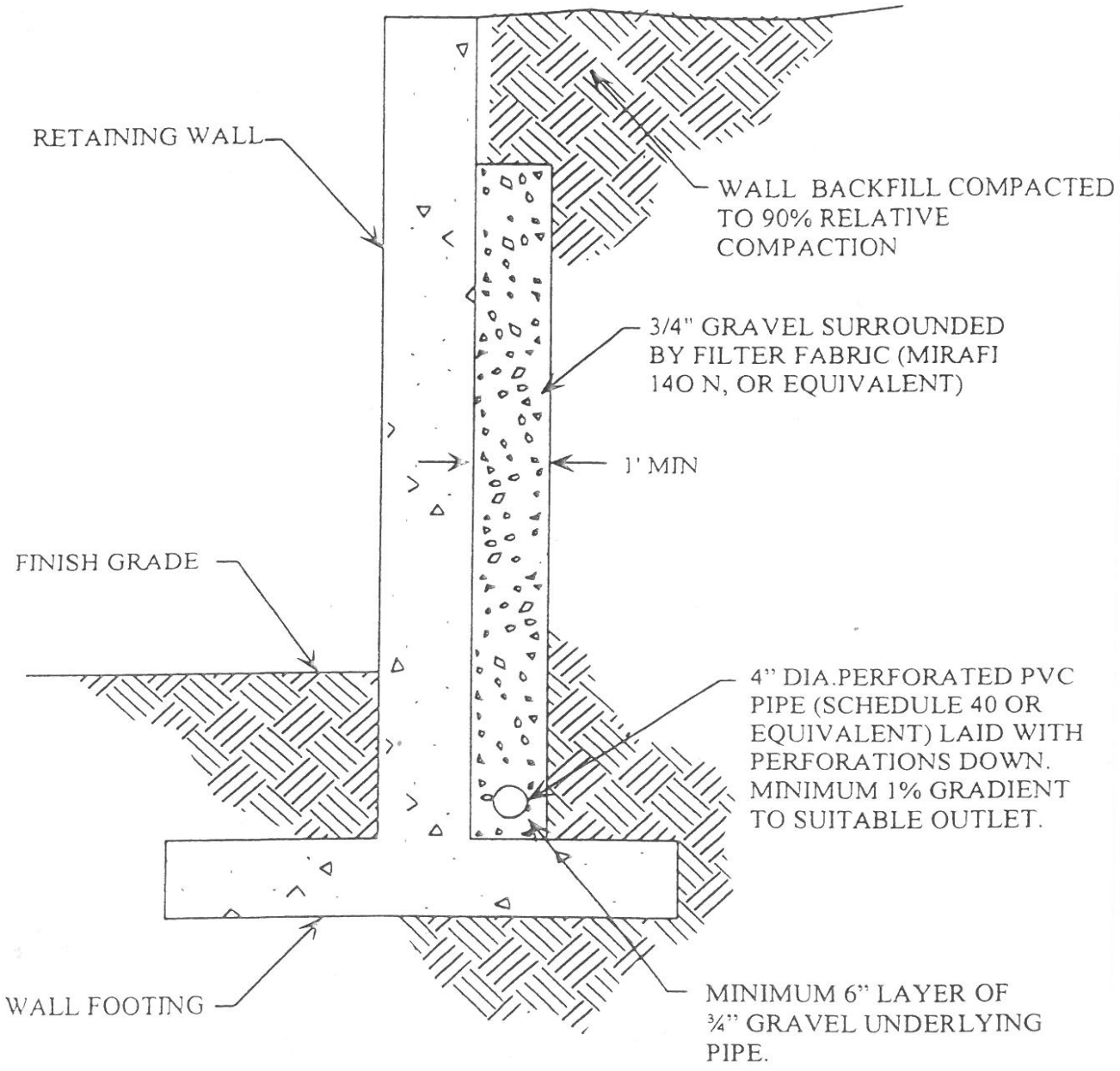
REGIONAL FAULT ACTIVITY MAP

PROPOSED COMMERCIAL DEVELOPMENT
TEMESCAL CANYON ROAD, TEMESCAL VALLEY, CA

Job No.	Date	Figure
40-3639G	OCT 2018	3



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RETAINING WALL DRAIN DETAIL

PROPOSED COMMERCIAL DEVELOPMENT
TEMESCAL CANYON ROAD, TEMESCAL VALLEY, CA

Job No.	Date	Figure
40-3639G	OCT 2018	4

APPENDIX A

FIELD EXPLORATION METHODS AND EXPLORATION LOGS

APPENDIX A

FIELD EXPLORATION METHODS AND EXPLORATION LOGS

Soil Boring Methods

Relatively "Undisturbed" Soil Samples

Relatively "undisturbed" soil samples were collected using a modified California-drive sampler (2.4-inch inside diameter, 3-inch outside diameter) lined with sample rings. Drive sampling was conducted in general accordance with ASTM D-3550. The steel sampler was driven into the bottom of the borehole with successive drops of a 140-pound weight falling 30-inches. Blow counts (N) required for sampler penetration are shown on the boring logs in the column "Blows/Foot." The soil was retained in brass rings (2.4 inches in diameter, 1.0 inch in height) and sealed in waterproof plastic containers for shipment to the CTE, South, Inc. geotechnical laboratory.

Disturbed Soil Sampling

Bulk soil samples were collected for laboratory analysis using two methods. Standard Penetration Tests (SPT) were performed according to ASTM D-1586 at selected depths in the borings using a standard (1.4-inches inside diameter, 2-inches outside diameter) split-barrel sampler. The steel sampler was driven into the bottom of the borehole with successive drops of a 140-pound weight falling 30-inches. Blow counts (N) required for sampler penetration are shown on the boring logs in the column "Blows/Foot." Samples collected in this manner were placed in sealed plastic bags. Bulk soil samples of the drill cuttings were also collected in large plastic bags. The disturbed soil samples were returned to the CTE, South, Inc. geotechnical laboratory for analysis.

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DEFINITION OF TERMS

PRIMARY DIVISIONS			SYMBOLS	SECONDARY DIVISIONS
COARSE GRAINED SOILS MORE THAN HALF OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	**GRAVELS** MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE	CLEAN GRAVELS < 5% FINES	GW	WELL GRADED GRAVELS, GRAVEL-SAND MIXTURES LITTLE OR NO FINES
			GP	POORLY GRADED GRAVELS OR GRAVEL SAND MIXTURES, LITTLE OF NO FINES
		GRAVELS WITH FINES	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES, NON-PLASTIC FINES
			GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES, PLASTIC FINES
	SANDS MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE	CLEAN SANDS < 5% FINES	SW	WELL GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
			SP	POORLY GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		SANDS WITH FINES	SM	SILTY SANDS, SAND-SILT MIXTURES, NON-PLASTIC FINES
			SC	CLAYEY SANDS, SAND-CLAY MIXTURES, PLASTIC FINES
FINE GRAINED SOILS MORE THAN HALF OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	**SILTS AND CLAYS** LIQUID LIMIT IS LESS THAN 50		ML	INORGANIC SILTS, VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS, SLIGHTLY PLASTIC CLAYEY SILTS
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY, SANDY, SILTS OR LEAN CLAYS
			OL	ORGANIC SILTS AND ORGANIC CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS LIQUID LIMIT IS GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS
			CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTY CLAYS
HIGHLY ORGANIC SOILS			PT	PEAT AND OTHER HIGHLY ORGANIC SOILS

GRAIN SIZES

BOULDERS	COBBLES	GRAVEL		SAND			SILTS AND CLAYS
		COARSE	FINE	COARSE	MEDIUM	FINE	

12" 3" 3/4" 4 10 40 200

CLEAR SQUARE SIEVE OPENING U.S. STANDARD SIEVE SIZE

ADDITIONAL TESTS

(OTHER THAN TEST PIT AND BORING LOG COLUMN HEADINGS)

MAX- Maximum Dry Density
GS- Grain Size Distribution
SE- Sand Equivalent
EI- Expansion Index
CHM- Sulfate and Chloride Content , pH, Resistivity
COR - Corrosivity
SD- Sample Disturbed
PM- Permeability
SG- Specific Gravity
HA- Hydrometer Analysis
AL- Atterberg Limits
RV- R-Value
CN- Consolidation
CP- Collapse Potential
HC- Hydrocollapse
RDS- Remolded Direct Shear
PP- Pocket Penetrometer
WA- Wash Analysis
DS- Direct Shear
UC- Unconfined Compression
MD- Moisture/Density
M- Moisture
SC- Swell Compression
OI- Organic Impurities

FIGURE: BL1

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PROJECT:	DRILLER:	SHEET: of
CTE JOB NO:	DRILL METHOD:	DRILLING DATE:
LOGGED BY:	SAMPLE METHOD:	ELEVATION:

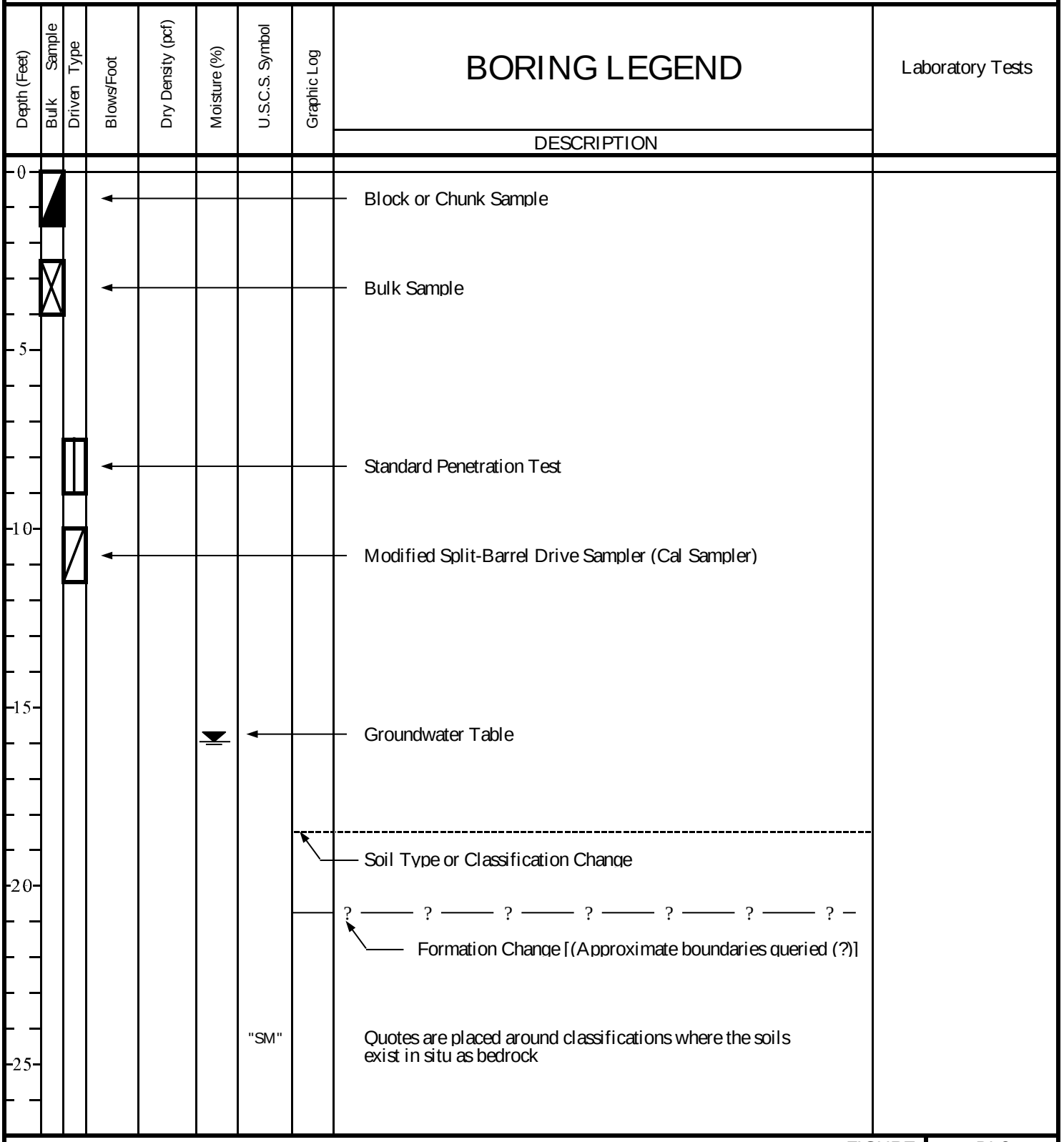

FIGURE: BL2

CTE SOUTH Construction Testing & Engineering, South, Inc.
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PROJECT:	Proposed Commercial Development	DRILLER:	2R Drilling CME 75	SHEET:	1 of 3
CTE JOB NO:	40-3639G	DRILL METHOD:	8" Hollow Stem Auger	DRILLING DATE:	8/16/2018
LOGGED BY:	V.P.	SAMPLE METHOD:	140 lb/30" Autohammer	ELEVATION:	~1105 msl

BORING: B-1

Depth (Feet)	Bulk Sample	Driven Type	Blows/6 inches	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0						SM		**Old Alluvial Fan Deposits(Qof)** Silty SAND,with gravel,dry to damp, light brown,slight clay content	
5			8 11 12		5.0	SC-SM		Silty Clayey SAND with gravel, medium-dense,damp to moist, light brown, concentrations of coaarse sand to fine gravel with fine grained matrix. Gravel content increase to 10 feet.	WA (25% fines) M
10			15 26 32	120.0	6.2			dense	MD
						SC		Clayey SAND, with gravel,medium-dense to dense, moist,red brown. Coarse sand and fine gravel, angular, dark grey shale.	
15			9 7 11		5.3			Clayey SAND with Gravel,medium-dense,moist,red brown	WA (16% fines) M
								at 18' encountered layer of large gravel and cobbles	
20			7 22 25	127.0	3.8	SW-SC		Well-graded SAND with clay and gravel,medium-dense, damp to moist, red brown,	WA (8% fines) MD
								at 23 to 25 feet observed smaller, flatter, subangular, pebbles	
25						SC			

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PROJECT:	Proposed Commercial Development	DRILLER:	2R Drilling CME 75	SHEET:	2 of 3
CTE JOB NO:	40-3639G	DRILL METHOD:	8" Hollow Stem Auger	DRILLING DATE:	8/16/2018
LOGGED BY:	V.P.	SAMPLE METHOD:	140 lb/30" Autohammer	ELEVATION:	~1105"msl

BORING: B-1 Cont'd.

Depth (Feet)	Bulk Sample / Driven Type	Blows/6 inches	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
25		11 26 28		3.3	SC		Clayey SAND with Gravel, very dense,damp,light grey	WA (14% fines) M
30			108.7	3.6	SM		Silty SAND,damp,ligh brown, medium to coarse sand, iron staining.	MD
		10 14 19		5.0	SC		Clayey SAND with gravel, dense,damp, light brown	WA (18% fines) M
35		5 11 17		12.5	CL		**Silverado Formation (Tsi)** Lean CLAY,very stiff, moist, red brown	M
		4 6 11		11.6			Lean CLAY,very stiff, moist, red brown	AL (LL=27, PI=11) M
40		6 19 16		9.5			Sandy Lean CLAY,with gravel,hard,moist, red brown	M
		14 35 43		5.8			Sandy Lean CLAY,with gravel,hard, red brown	M
45		9 11 21		NR	SC		Clayey,SAND,with gravel, dense,damp to moist,red brown	
		15 20 24		4.9				WA (14% fines) M
50					CL		Lean Clay, stiff, moist, red brown	

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PROJECT:	Proposed Commercial Development	DRILLER:	2R Drilling CME 75	SHEET:	3 of 3
CTE JOB NO:	40-3639G	DRILL METHOD:	8" Hollow Stem Auger	DRILLING DATE:	8/16/2018
LOGGED BY:	V.P.	SAMPLE METHOD:	140 lb/30" Autohammer	ELEVATION:	~1093' msl

BORING: B-1 Cont'd.

Depth (Feet)	Bulk Sample	Driven Type	Blows/6 inches	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
50			3 5 8		13.4	CL		Lean Clay, stiff, moist, red brown	M
								Boring terminated at 51.5 feet bgs No groundwater encountered	
55									
60									
65									
70									
75									

Boring B-1c

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PROJECT:	Proposed Commercial Development	DRILLER:	2R Drilling CME 75	SHEET:	1 of 1
CTE JOB NO:	40-3639G	DRILL METHOD:	8" Hollow Stem Auger	DRILLING DATE:	8/16/2018
LOGGED BY:	V.P.	SAMPLE METHOD:	140 lb/30" Autohammer	ELEVATION:	~1109'msl

BORING: B-2

Depth (Feet)	Bulk Sample	Driven Type	Blows/6 inches	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0						SC		**Old Alluvial Fan Deposits(Qof)** Clayey SAND, with gravel, loose to medium-dense,dry to damp, red brown. Medium to large gravels encountered in upper five feet and are described as angular, iron stain surface, dark grey, shale.	
5			18 24 24	118.6	8.8			Clayey SAND with gravel, medium-dense, damp to moist, red brown,	AL (LL=30, PI=20) GS (28% fines) MD EI RV
10			6 8 10		6.4			Clayey SAND with gravel, medium-dense, damp to moist, brown, Concentrations of coarse sand observed.	M
15			14 25 25	118.6	6.4			Clayey SAND with gravel, medium-dense, damp to moist, red brown,weatherd at 16 1/2 to 17 1/2 cobble layer encountered,iron staining, weathered	MD
20			9 14 18		5.3			Clayey SAND with gravel,dense, damp to moist, red brown,weatherd	M
25								Boring terminated at 21.5 feet bgs No groundwater emcounted	

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PROJECT:	Proposed Commercial Development	DRILLER:	2R Drilling CME 75	SHEET:	1 of 1
CTE JOB NO:	40-3639G	DRILL METHOD:	8" Hollow Stem Auger	DRILLING DATE:	8/16/2018
LOGGED BY:	V.P.	SAMPLE METHOD:	140 lb/30" Autohammer	ELEVATION:	~1101' msl

BORING: B-3

Depth (Feet)	Bulk Sample	Driven Type	Blows/6 inches	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0						SC		**Old Alluvial Fan Deposits(Qof)** Clayey SAND, with gravel, loose to medium-dense,dry to damp, red brown. Medium to large gravels encountered in upper five feet and are described as angular, iron stain surface, dark grey, shale.	
5			2 4 7		6.6			Clayey SAND with gravel, medium-dense, damp to moist, red brown,	M
10			50	NR		GW		Gravel layer, NR	
						SC			
15			8 12 21		7.3			Clayey SAND with gravel, dense, moist, red brown red brown,	M
								at 18 feet cobble layer encountered.	
20			8 11 16		15.4			Clayey SAND with gravel, medium-dense, moist, red brown,	M
								Boring terminated at 21.5 feet bgs No groundwater emcounted	
25									

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PROJECT:	Proposed Commercial Development	DRILLER:	2R Drilling CME 75	SHEET:	1 of 1
CTE JOB NO:	40-3639G	DRILL METHOD:	8" Hollow Stem Auger	DRILLING DATE:	8/16/2018
LOGGED BY:	V.P.	SAMPLE METHOD:	140 lb/30" Autohammer	ELEVATION:	~1108' msl

BORING: B-4

Depth (Feet)	Bulk Sample	Driven Type	Blows/6 inches	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0						SC		**Old Alluvial Fan Deposits(Qof)** Clayey SAND, with gravel, loose to medium-dense,dry to damp, brown to light brown.	EI
5			5 8 11	NR		SM		Silty SAND, medium dense	
10			18 43 17			SC		Clayey SAND, with gravel, dense, damp to moist brown to light brown to yellow brown. Iron staining present,fine to large gravel. Gravel described as dark grey shale, angular.	
15			7 9 9		9.2			Clayey SAND with gravel, medium-dense, moist, red brown,weatherd.	M
20			8 16 26	110.6	11.6			Clayey SAND with gravel, medium- dense, moist, red brown,weathered, large gravel in shoe.	MD
25								Boring terminated at 21.5 feet bgs No groundwater emcounted	

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PROJECT:	Proposed Commercial Development	DRILLER:	2R Drilling CME 75	SHEET:	1 of 1
CTE JOB NO:	40-3639G	DRILL METHOD:	8" Hollow Stem Auger	DRILLING DATE:	8/16/2018
LOGGED BY:	V.P.	SAMPLE METHOD:	140 lb/30" Autohammer	ELEVATION:	~1113' msl

BORING: B-5

Depth (Feet)	Bulk Sample	Driven Type	Blows/6 inches	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0						SC		**Old Alluvial Fan Deposits(Qof)** Clayey SAND, with gravel, loose to medium-dense,dry to damp, red brown.	CHM
5			5 10 14	114.6	6.2			Clayey SAND, with gravel, medium-dense, damp to moist red brown.	CN, MD
						GW		Gravel and cobble layer between 7 to 9 feet	
						SC			
10			9 13 12		5.7	SM SC		Silty SAND, with gravel, medium-dense,dry to damp, light grey Clayey SAND, with gravel, dense, damp to moist red brown. Fine gravel dark gray, angular	M
15			12 17 13	120.7	7.3			Clayey SAND, with gravel,med-dense , damp to moist red brown.Coarse sand and fine gravel.	MD
						CL		Lean CLAY,stiff,moist,brown,ocasional fine to medium gravel.	
20			4 7 10		12.9				M
25								Boring terminated at 21.5 feet bgs No groundwater emcounted	

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PROJECT:	Proposed Commercial Development	DRILLER:	2R Drilling CME 75	SHEET:	1 of 1
CTE JOB NO:	40-3639G	DRILL METHOD:	8" Hollow Stem Auger	DRILLING DATE:	8/10/2018
LOGGED BY:	V.P.	SAMPLE METHOD:	140 lb/30" Autohammer	ELEVATION:	~1087' msl

BORING: B-6

Depth (Feet)	Bulk Sample	Driven Type	Blows/6 inches	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0						SC		**Old Alluvial Fan Deposits(Qof)** Clayey SAND, with gravel, loose to medium-dense,dry to damp, red brown.	MAX RDS
5			14 9 11			GM		Silty Gravel,medium-dense, dry to damp, brown, observed flat subangular gravel	
						SC		Clayey SAND, with coarse sand and fine gravel, loose,dry to, damp, red brown	
10			4 6 9						
								Boring terminated at 11.5 feet bgs No groundwater encountered	
15									
20									
25									

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PROJECT:	Proposed Commercial Development	DRILLER:	2R Drilling CME 75	SHEET:	1 of 1
CTE JOB NO:	40-3639G	DRILL METHOD:	8" Hollow Stem Auger	DRILLING DATE:	8/16/2018
LOGGED BY:	V.P.	SAMPLE METHOD:	140 lb/30" Autohammer	ELEVATION:	~1086' msl

BORING: B-7

Depth (Feet)	Bulk Sample	Driven Type	Blows/6 inches	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0						SC		**Artificial Fill (Qaf)** 3" of AC over 7 inches of Aggregate Base Clayey Sand,with gravel, yellow brown, fine gravel	
						SC		**Old Alluvial Fan Deposits(Qof)** Clayey SAND, with gravel, medium-dense,moist, light yellow brown, blocky	
5			9 11 14		7.7				M
10			7 9 13	106.6	6.3	SW-SM		Well-graded SAND with silt and gravel, medium-dense,moist, light brown,	GS (10% fines) MD
15			7 8 10		3.9			Well-graded SAND with silt and gravel, medium-dense,moist, light brown,	M
20			17 35 50	124.3	11.7	SC		Clayey SAND,with sand and gravel, very dense, moist,dark brown, iron staing contacts in sample,coarse sand and fine gravel, fractured shale, granite gravel is weathered in place, and exhibits iron staining.	photo MD
25								Boring terminated at 21.5 feet bgs No groundwater emcounted	

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PROJECT:	Proposed Commercial Development	DRILLER:	2R Drilling CME 75	SHEET:	1 of 1
CTE JOB NO:	40-3639G	DRILL METHOD:	8" Hollow Stem Auger	DRILLING DATE:	8/10/2018
LOGGED BY:	V.P.	SAMPLE METHOD:	140 lb/30" Autohammer	ELEVATION:	~1069' msl

BORING: B-8

Depth (Feet)	Bulk Sample	Driven Type	Blows/6 inches	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0						GP		6-inches of gravel cover	
						SC		**Old Alluvial Fan Deposits(Qof)** Clayey SAND, with gravel, loose to medium-dense,moist, dark brown.	
5			4 9 13		7.5			Clayey SAND, with gravel, medium-dense,moist, dark brown.Becomes light yellow brown at 6 feet.	M
10			7 7 12		4.7			Clayey SAND, with gravel, medium-dense, damp to moist,light yellow brown	M
								Boring terminated at 11.5 feet bgs No groundwater encountered	
15									
20									
25									

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PROJECT:	Proposed Commercial Development	DRILLER:	2R Drilling CME 75	SHEET:	1 of 2
CTE JOB NO:	40-3639G	DRILL METHOD:	8" Hollow Stem Auger	DRILLING DATE:	8/16/2018
LOGGED BY:	V.P.	SAMPLE METHOD:	140 lb/30" Autohammer	ELEVATION:	~1063' msl

BORING: B-9

Depth (Feet)	Sample Bulk	Sample Driven	Type	Blows/6 inches	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0							SC		**Old Alluvial Fan Deposits(Qof)** Clayey SAND, with gravel, loose to medium-dense,moist, dark brown. Coarse sand and fine gravel to 5 feet	
5				5 9 11	103.2	12.6			Clayey SAND, with gravel, medium-dense,moist, light brown. Coarse sand and fine gravel, angular, some iron staining to approximatley 19 1/2ft	CHM MD
10				5 6 50/3"	NR					
15										
20				50/1"	NR		GM		Silty GRAVEL, medium-dense ,light brown, increase in gravel to 24 feet.	
25							SC			

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PROJECT:	Proposed Commercial Development	DRILLER:	2R Drilling CME 75	SHEET:	2 of 2
CTE JOB NO:	40-3639G	DRILL METHOD:	8" Hollow Stem Auger	DRILLING DATE:	8/16/2018
LOGGED BY:	V.P.	SAMPLE METHOD:	140 lb/30" Autohammer	ELEVATION:	~1063' msl

BORING: B-9 Cont'd.

Depth (Feet)	Bulk Sample	Driven Type	Blows/6 inches	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
25			20 25 30		5.7	SC		Clayey SAND, with gravel, dense,moist, light brown.	M
						GM		Silty GRAVEL, medium-dense, light brown	
30			50/6"		2.4			rock in shoe	
								Boring terminated at 30.5 feet bgs No groundwater encountered	M
35									
40									
45									
50									

Boring B-9b

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PROJECT:	Proposed Commercial Development	DRILLER:	2R Drilling CME 75	SHEET:	1 of 1
CTE JOB NO:	40-3639G	DRILL METHOD:	8" Hollow Stem Auger	DRILLING DATE:	8/10/2018
LOGGED BY:	V.P.	SAMPLE METHOD:	140 lb/30" Autohammer	ELEVATION:	~1085' msl

BORING: B-10

Depth (Feet)	Bulk Sample	Driven Type	Blows/6 inches	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0								**3" AC over 7 " Base**	
						SC		**Artificial Fill (Qaf)** Clayey SAND, with gravel, loose to medium-dense,moist, dark to reddish brown.small to large gravel, clay pipe fragements	
5			8 7 8	NR		SC		**Old Alluvial Fan Deposits(Qof)** Clayey SAND, with gravel, loose to medium-dense,moist, dark to reddish brown.	
						SM		Silty SAND with Gravel, gravel subrounded	GS (38% fines)
					8.0				M
10			8 11 13	101.6	9.1	SC		Clayey SAND, with gravel, medium-dense, moist, brown.	MD MAX RDS
						GW		Gravel layer 14 to 15 feet	
15			12 16 10		6.8	SC		-transition to lighter brown	M
20			12 40 45	120.2	11.2			- matrix tightly surrounding gravel, iron staining, dense	M
								Boring terminated at 21.5 feet bgs No groundwater emcounted	
25									

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PROJECT:	Proposed Commercial Development	DRILLER:	2R Drilling CME 75	SHEET:	1 of 1
CTE JOB NO:	40-3639G	DRILL METHOD:	8" Hollow Stem Auger	DRILLING DATE:	8/10/2018
LOGGED BY:	V.P.	SAMPLE METHOD:	140 lb/30" Autohammer	ELEVATION:	~1100' msl

BORING: B-11

Depth (Feet)	Bulk Sample	Driven Type	Blows/6 inches	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0						SC		**Old Alluvial Fan Deposits(Qof)** Clayey SAND, with gravel, loose to medium-dense,dry to damp, dark brown.	
5			3 7 7		8.2			Clayey SAND, with gravel, medium-dense to dense, moist, brown.	RV M
10			15 27 35	127.1	6.0			-from 10 to 15 feet increase in gravel, iron staing observed,	MD
15			4 9 21		4.4	SM		Silty SAND,with gravel,medium-dense to dense,dry to damp, light brown	M
20			23 36 34	106.4	3.8 3.6				M MD
25								Boring terminated at 21.5 feet bgs No groundwater emcounted	

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PROJECT:	Proposed Commercial Development	DRILLER:	2R Drilling CME 75	SHEET:	1 of 1
CTE JOB NO:	40-3639G	DRILL METHOD:	8" Hollow Stem Auger	DRILLING DATE:	8/10/2018
LOGGED BY:	V.P.	SAMPLE METHOD:	140 lb/30" Autohammer	ELEVATION:	~1106' msl

BORING: B-12

Depth (Feet)	Bulk Sample	Driven Type	Blows/6 inches	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0						SC		**Old Alluvial Fan Deposits(Qof)** Clayey SAND, with gravel, medium-dense,dry to damp, brown.	
			8 10 12	NR					
5			6 12 15		6.7				M
10			11 14 21		5.2	SM		Silty SAND with gravel, dense, dry to damp, small to medium gravel, iron staining	GS (18% fines) M
								Boring terminated at 11.5 feet bgs No groundwater encountered	
15									
20									
25									

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PROJECT:	Proposed Commercial Development	DRILLER:	2R Drilling CME 75	SHEET:	1 of 1
CTE JOB NO:	40-3639G	DRILL METHOD:	8" Hollow Stem Auger	DRILLING DATE:	8/16/2018
LOGGED BY:	V.P.	SAMPLE METHOD:	140 lb/30" Autohammer	ELEVATION:	~1102' msl

BORING: B-13

Depth (Feet)	Bulk Sample	Driven Type	Blows/6 inches	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0						SC		**Artificial Fill (Qaf)** Clayey SAND, with gravel, loose, dry, broken pipe , organics, block,	
			2 6 8		9.3	SC		**Old Alluvial Fan Deposits(Qof)** Clayey SAND, with gravel, medium-dense,moist, brown to red brown.	M
								- cobble layer encountered at 4 to 5 feet	
5			5 7 8		10.4			Clayey SAND, with gravel, medium-dense,moist, brown, iron stained	M
								-cobble layer 8 to 9 feet	
10			21 26 32	126.0	5.7			Clayey SAND, with gravel, medium-dense, moist, red brown, iron stained. Intact sample exhibit granitic pebbles, weathered siltstone, clayey sand matrix.	MD
								Boring terminated at 11.5 feet bgs No groundwater encountered	
15									
20									
25									

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Inspection | Testing | Geotechnical | Environmental & Construction Engineering | Civil Engineering | Surveying

PROJECT:	Proposed Commercial Development	DRILLER:	2R Drilling CME 75	SHEET:	1 of 3
CTE JOB NO:	40-3639G	DRILL METHOD:	8" Hollow Stem Auger	DRILLING DATE:	8/10/2018
LOGGED BY:	V.P.	SAMPLE METHOD:	140 lb/30" Autohammer	ELEVATION:	~1087' msl

BORING: B-14

Depth (Feet)	Bulk Sample	Driven Type	Blows/6 inches	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0								**3" AC over 7 " Base**	
						SC		**Artificial Fill (af)** Clayey SAND, with gravel, loose to medium-dense,moist, dark brown.small to large gravel, clay pipe fragements	
						SC-SM		**Old Alluvial Fan Deposits(Qof)** Silty Clayey SAND, with gravel, loose to medium-dense,moist, dark to reddish brown.	
5			8 10 10	113.3	8.4				AL (LL=23, PI=6) CN, MD
						SM		Silty SAND, with gravel, dense, damp to moist,light brown light brown.	
10			11 14 17		6.6				WA (23% fines) M
15			17 37 44					Silty SAND, with gravel,dense	
20			7 16 21					Silty SAND, with gravel,dense	WA (18% fines)
25						SP			

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PROJECT:	Proposed Commercial Development	DRILLER:	2R Drilling CME 75	SHEET:	2 of 3
CTE JOB NO:	40-3639G	DRILL METHOD:	8" Hollow Stem Auger	DRILLING DATE:	8/10/2018
LOGGED BY:	V.P.	SAMPLE METHOD:	140 lb/30" Autohammer	ELEVATION:	~1087' msl

BORING: B-14 Cont'd.

Depth (Feet)	Bulk Sample	Driven Type	Blows/6 inches	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
25			14 24 15			SP		Poorly Graded SAND, medium-dense, damp to moist light brown	
						SM		Silty SAND, with gravel, dense, damp to moist,light brown light brown.	
30			9 11 21		2.2				M
35			20 50/3"			GM		Silty Gravel with sand, very dense, dry to damp, light brown, some iron staining	
40			16 25 50/4"		3.2				M
45			13 21 27	110.8	15.3	SC		Clayey SAND, with gravel, medium-dense, moist, red brown, medium to coarse sand	MD
50									

Boring B-14b

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PROJECT:	Proposed Commercial Development	DRILLER:	2R Drilling CME 75	SHEET:	3 of 3
CTE JOB NO:	40-3639G	DRILL METHOD:	8" Hollow Stem Auger	DRILLING DATE:	8/10/2018
LOGGED BY:	V.P.	SAMPLE METHOD:	140 lb/30" Autohammer	ELEVATION:	~1087' msl

BORING: B-14 Cont'd.

Depth (Feet)	Bulk Sample	Driven Type	Blows/6 inches	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
50			10 22 34		4.8	SC		Clayey SAND, with gravel, very-dense, damp to moist, red brown, medium to coarse sand	M
								Boring terminated at 51.5 feet bgs No groundwater encountered	
55									
60									
65									
70									
75									

CTE SOUTH Construction Testing & Engineering, South, Inc.
Inspection | Testing | Geotechnical | Environmental & Construction Engineering | Civil Engineering | Surveying

PROJECT:	Proposed Commercial Development	DRILLER:	2R Drilling CME 75	SHEET:	1 of 1
CTE JOB NO:	40-3639G	DRILL METHOD:	8" Hollow Stem Auger	DRILLING DATE:	8/10/2018
LOGGED BY:	V.P.	SAMPLE METHOD:	140 lb/30" Autohammer	ELEVATION:	~1105' msl

BORING: B-15

Depth (Feet)	Bulk Sample	Driven Type	Blows/6 inches	Dry Density (pcf)	Moisture (%)	U.S.C.S. Symbol	Graphic Log	DESCRIPTION	Laboratory Tests
0						SC		**Old Alluvial Fan Deposits(Qof)** Clayey SAND, with gravel, moist, red brown.	
5			3 6 8		6.9			Clayey SAND, with gravel, medium-dense, damp to moist light brown, iron staining	M
10			5 5 12		5.7			Clayey SAND, with gravel, medium-dense, damp to moist light brown.	M
								Boring terminated at 11.5 feet bgs No groundwater encountered	
15									
20									
25									

APPENDIX B

LABORATORY METHODS AND RESULTS

APPENDIX B
LABORATORY METHODS AND RESULTS

Laboratory tests were performed on selected soil samples to evaluate their engineering properties. Tests were performed following test methods of the American Society for Testing and Materials (ASTM), or other accepted standards. The following presents a brief description of the various test methods used. Laboratory results are presented in the following section of this Appendix.

Atterberg Limits
The liquid limit and plasticity index were determined on selected soil samples in accordance with ASTM D4318.

Chemical Analysis
Soil materials were collected and tested for Sulfate and Chloride content, pH, and Resistivity by Caltrans Test Methods.

Classification
Soils were classified visually according to the Unified Soil Classification System. Visual classifications were supplemented by laboratory testing of selected samples according to ASTM D 2487.

Consolidation/Collapse
To assess compressibility and collapse potential when loaded and wetted, relatively undisturbed samples were subjected to consolidation/collapse in accordance with ASTM D 2435.

Direct Shear
Direct shear tests were performed on samples remolded to 90 percent of the maximum dry density at near optimum moisture content. Direct shear testing was performed in accordance with ASTM D 3080. The samples were inundated during shearing to represent adverse field conditions.

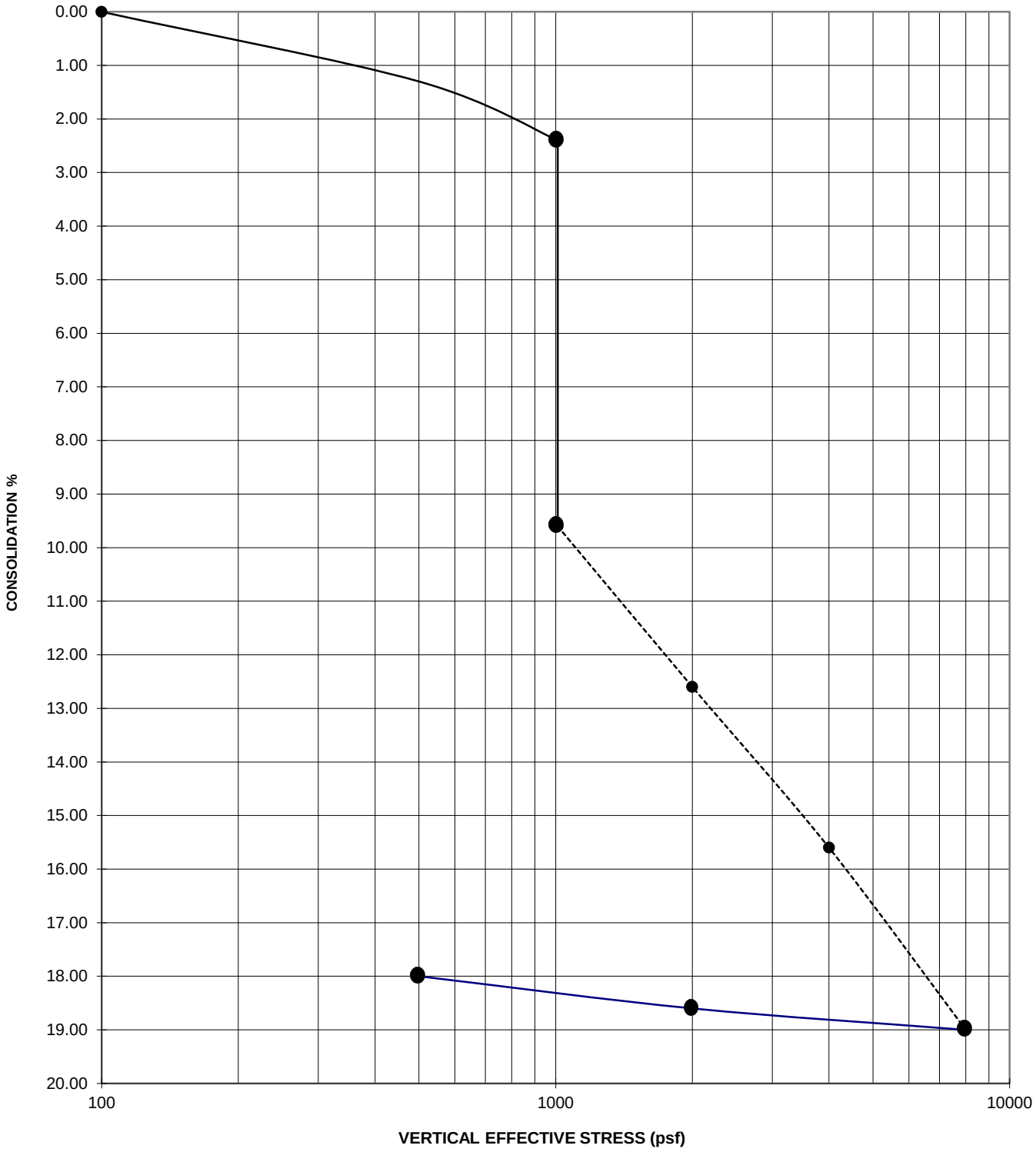
Expansion Index
Expansion Index testing was performed on a selected sample of the on-site soils according to ASTM D 4829.

In-Place Moisture/Density
The in-place moisture content and dry unit weight of selected relatively undisturbed samples in accordance with ASTM D 2216 and D 2937, respectively.

Moisture-Density Relations
Laboratory maximum dry density and optimum moisture content were evaluated according to ASTM D 1557.

Resistance “R” Value
The resistance “R”-value was measured by CTM 301. The graphically determined “R” value at an exudation pressure of 300 pounds per square inch was determined and used for pavement section calculation.

Sieve Analysis (Gradation)
Sieve analyses and 200 washes were performed on selected representative samples according to ASTM C 136 and D 1140 to determine grain-size distribution.



SWELL/CONSOLIDATION TEST

Sample Designation	Depth (ft)	Symbol	Legend
B-5	5.5-6	●	FIELD MOISTURE
Initial Dry Density, pcf	Initial Moisture Content, %	Sample saturated	SAMPLE SATURATED
114.6	6.2	at 1000 psf	REBOUND

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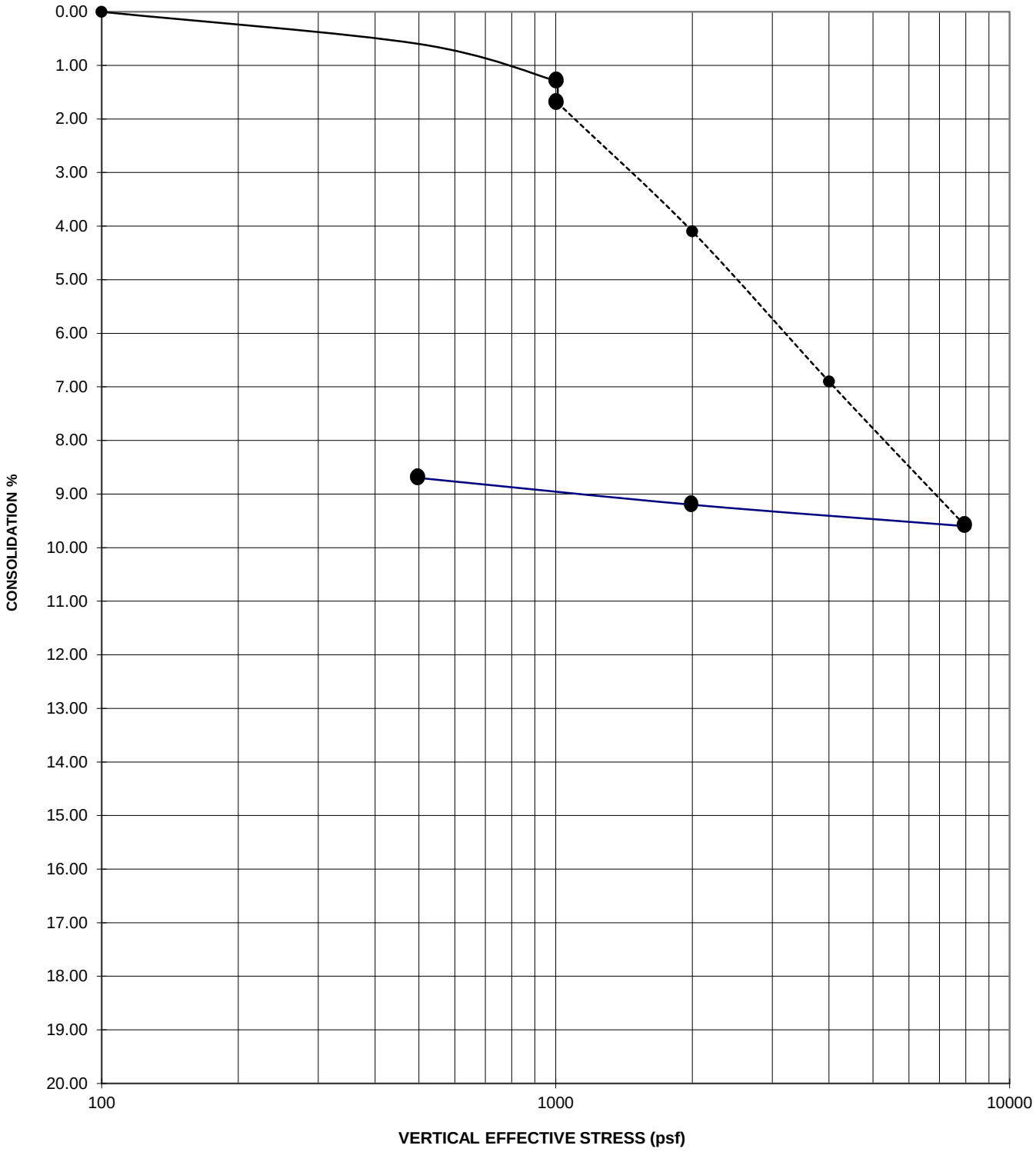
CTE JOB NO: 40-3639

Proposed Commercial Dev.



SWELL/CONSOLIDATION TEST			
Sample Designation	Depth (ft)	Symbol	Legend
B-14	6-6.5	●	FIELD MOISTURE
Initial Dry Density, pcf	Initial Moisture Content, %	Sample saturated	SAMPLE SATURATED
113.3	8.4	at 1000 psf	REBOUND

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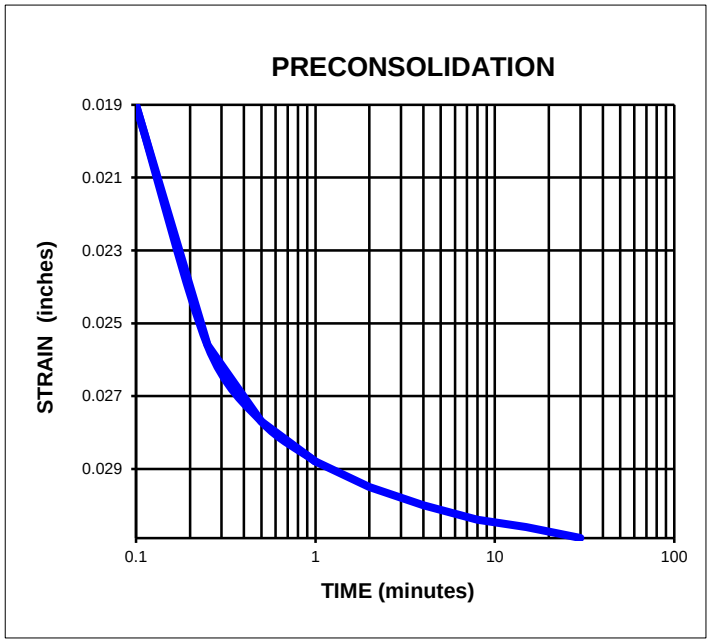
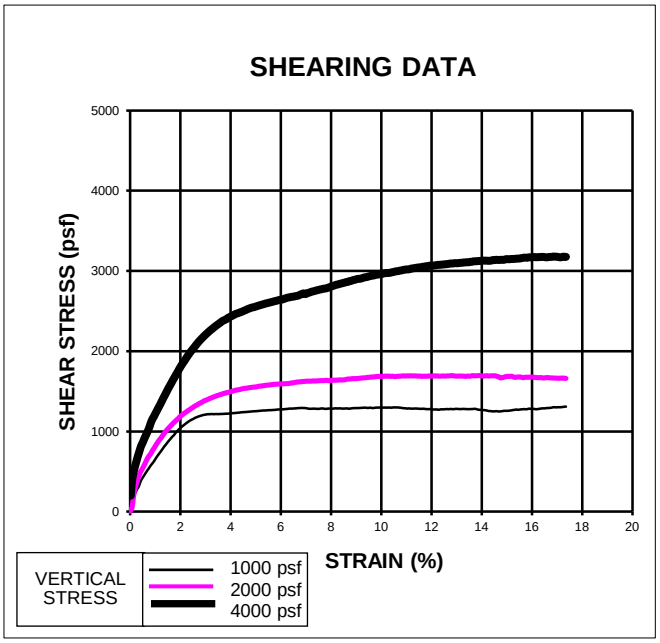
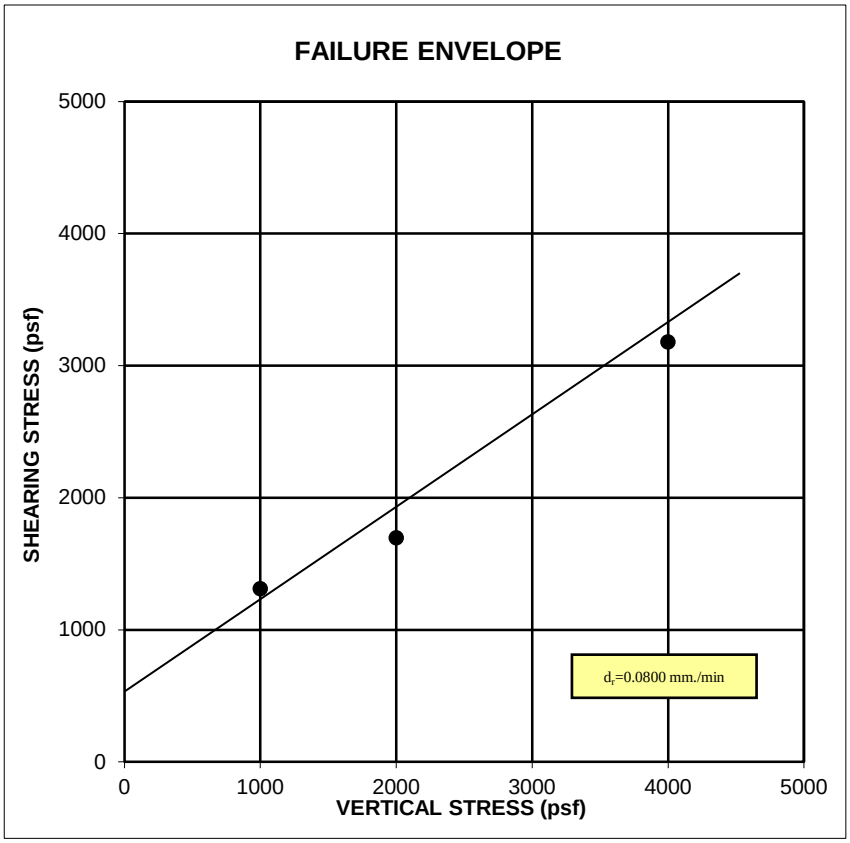
CTE JOB NO: 40-3639

Proposed Commercial Dev.

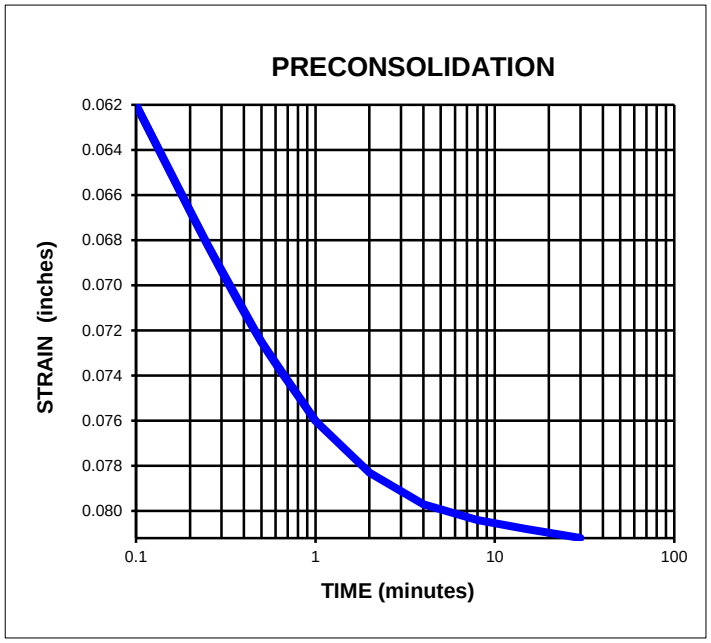


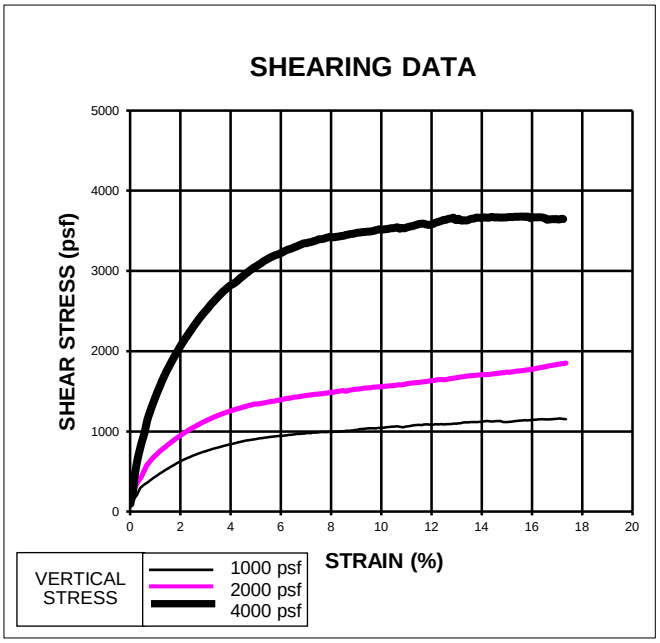


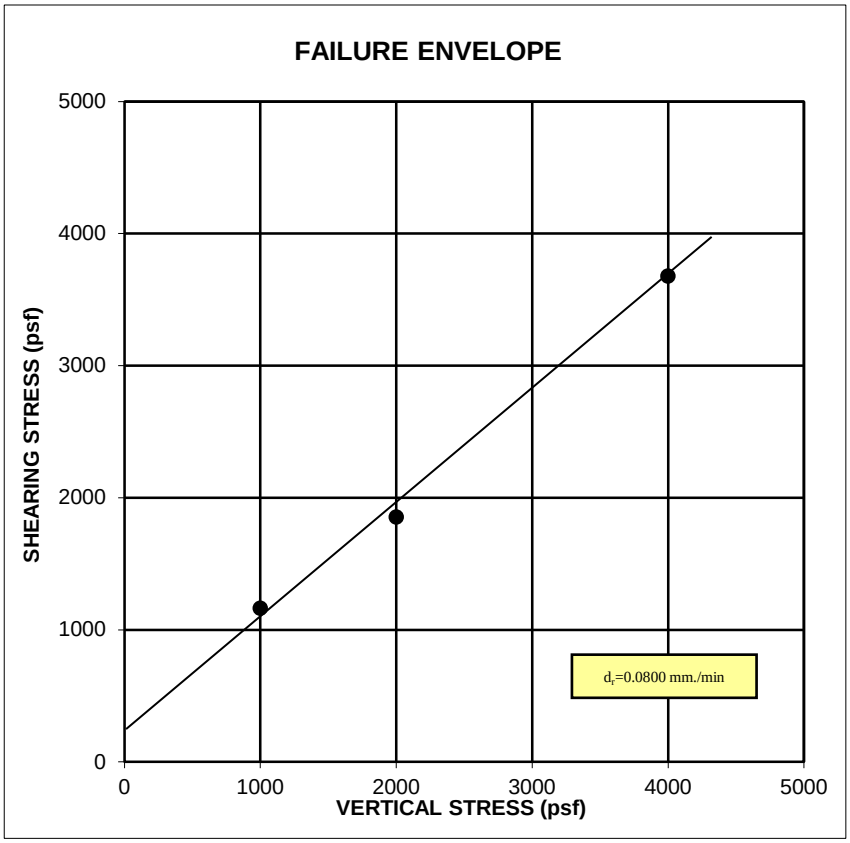


SHEAR STRENGTH TEST - ASTM D3080

Job Name:	Commercial Development - Temescal Canyon			Initial Dry Density (pcf):	119.4
Project Number:	40-3639G	Sample Date:	8/16/2018	Initial Moisture (%):	8.2
Lab Number:	28778	Test Date:	8/30/2018	Final Moisture (%):	18.2
Sample Location:	B-6 @ 1-5'	Tested by:	RCV	Cohesion:	560 psf
Sample Description:	Moderate brown SC (Remolded @ 90%)			Angle Of Friction:	32.6







SHEAR STRENGTH TEST - ASTM D3080

Job Name:	Commercial Development - Temescal Canyon			Initial Dry Density (pcf):	118.2
Project Number:	40-3639G	Sample Date:	8/16/2018	Initial Moisture (%):	8.3
Lab Number:	28778	Test Date:	8/31/2018	Final Moisture (%):	18.5
Sample Location:	B-10 @ 11-14'	Tested by:	RCV	Cohesion:	240 psf
Sample Description:	Moderate brown SC (Remolded @ 90%)			Angle Of Friction:	40.4

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REPORT OF RESISTANCE 'R' VALUE-EXPANSION PRESSURE

Project Name: Commercial Development - Temescal Canyon
Project No.: 40-3639G
Sample Location: B-2 @ 5-10'
Soil Description: Light brown SC w/ gravel
Test Procedure: Cal 301

Lab No.: 28778
Sampled By: V.P. **Date:** 8/16/2018
Submitted By: V.P. **Date:** 8/16/2018
Tested By: Larry Sachs **Date:** 8/30/2018
Reviewed By: Chase Velarde **Date:** 8/31/2018

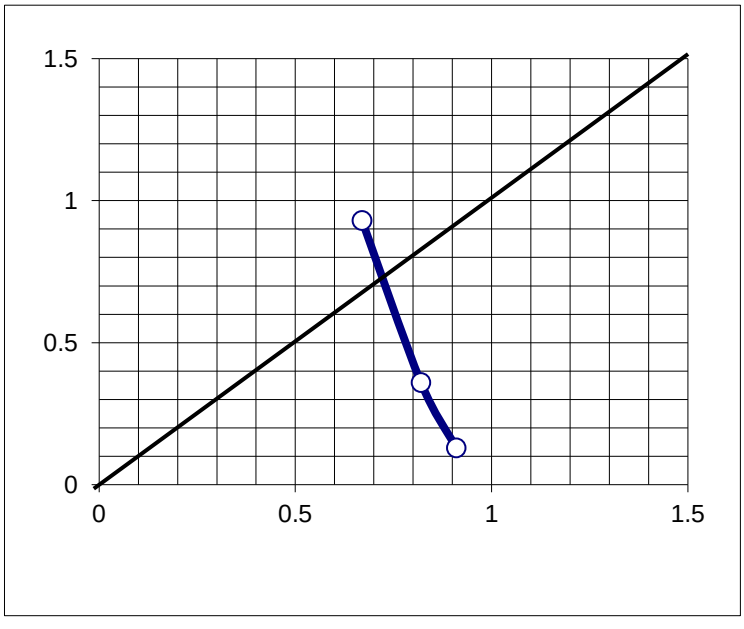
Specimen/ Mold No.	1	2	3	
Compactor Air Pressure, ft.lbs.	350	190	80	
Initial Moisture, %	4.2	4.2	4.2	
Wet Weight / Tare (g)	1950.7	1950.7	1950.7	
Dry Weight / Tare (g)	1902.0	1902.0	1902.0	
Tare (g)	750.1	750.1	750.1	
Water Added, ml	90	100	115	
Moisture at Compaction, %	12.0	12.9	14.2	
Wt. Of Briquette and Mold, g	3238	3252	3230	
Wt. Of Mold, g	2095	2110	2096	
Wt. Of Briquitte,g	1143	1142	1134	
Height of Briquette, in	2.47	2.50	2.53	
Dry Density, pcf	125.2	122.6	119.0	
Stabilometer PH @ 1000 lbs	41	57	64	
Stabilometer PH @ 2000 lbs	97	125	140	
Displacement	3.75	4.05	6.05	
R' Value	30	14	5	
Corrected 'R' Value	30	14	5	
Exudation Pressure, lbs	7250	4200	2450	
Exudation Pressure, psi	580	336	196	
Stabilometer Thickness - ft	0.67	0.82	0.91	
Expansion Pressure	0.0028	0.0011	0.0004	
Expansion Press, Thick-ft	0.93	0.36	0.13	

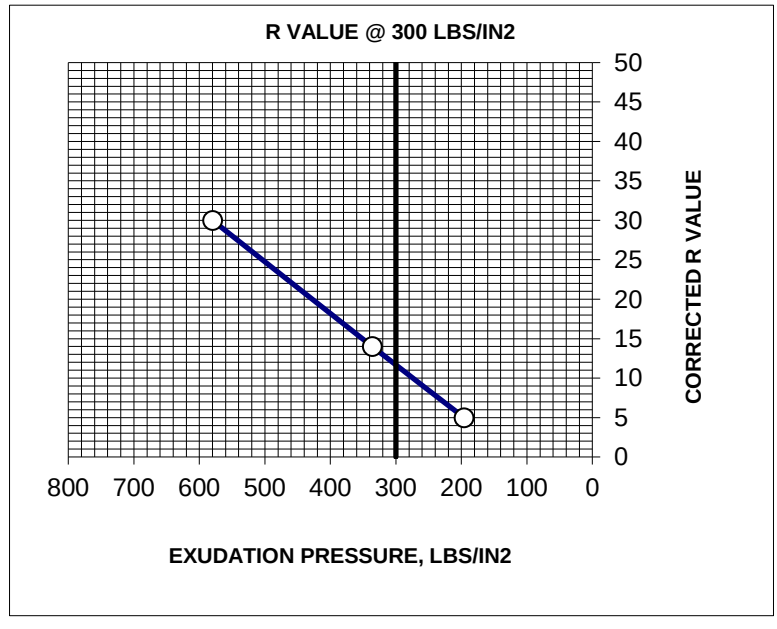
TI	4.5
Expansion	25

Exudation 11

Expansion 25

R-value **11**





Cover Thickness by Expansion Pressure-Feet

Expansion From Graph:	0.72

Chase Velarde
Laboratory Manager

Construction Testing & Engineering, Inc.

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REPORT OF RESISTANCE 'R' VALUE-EXPANSION PRESSURE

Project Name: Commercial Development - Temescal Canyon
Project No.: 40-3639G
Sample Location: B-11 @ 5-10'
Soil Description: Moderate brown SC w/ gravel
Test Procedure: Cal 301

Lab No.: 28778
Sampled By: V.P. **Date:** 8/16/2018
Submitted By: V.P. **Date:** 8/16/2018
Tested By: Larry Sachs **Date:** 8/30/2018
Reviewed By: Chase Velarde **Date:** 8/31/2018

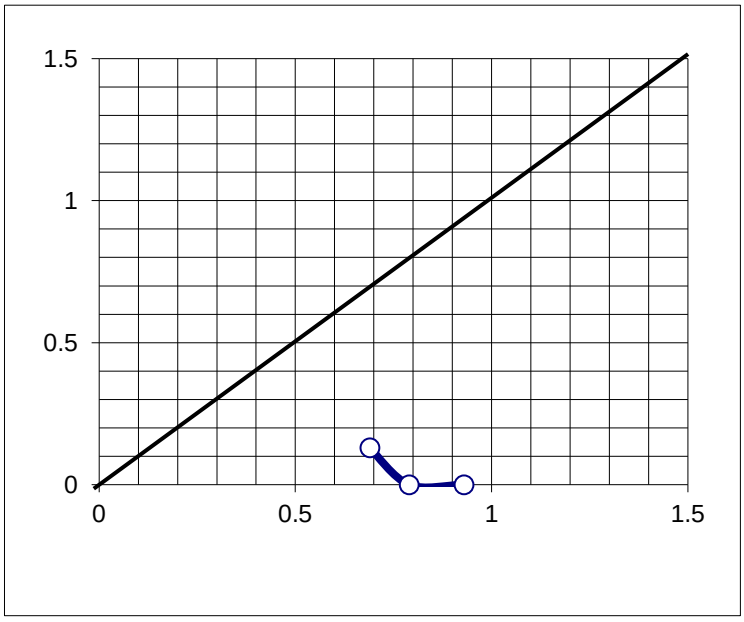
Specimen/ Mold No.	7	8	9	
Compactor Air Pressure, ft.lbs.	320	210	50	
Initial Moisture, %	2.5	2.5	2.5	
Wet Weight / Tare (g)	1471.3	1471.3	1471.3	
Dry Weight / Tare (g)	1442.0	1442.0	1442.0	
Tare (g)	271.0	271.0	271.0	
Water Added, ml	90	100	115	
Moisture at Compaction, %	10.2	11.0	12.3	
Wt. Of Briquette and Mold, g	3245	3268	3264	
Wt. Of Mold, g	2077	2077	2077	
Wt. Of Briquitte,g	1168	1191	1187	
Height of Briquette, in	2.56	2.53	2.58	
Dry Density, pcf	125.5	128.5	124.1	
Stabilometer PH @ 1000 lbs	41	54	70	
Stabilometer PH @ 2000 lbs	99	116	144	
Displacement	3.95	4.55	6.81	
R' Value	28	17	3	
Corrected 'R' Value	28	17	3	
Exudation Pressure, lbs	4700	2950	1200	
Exudation Pressure, psi	376	236	96	
Stabilometer Thickness - ft	0.69	0.79	0.93	
Expansion Pressure	0.0004	0.0000	0.0000	
Expansion Press, Thick-ft	0.13	0.00	0.00	

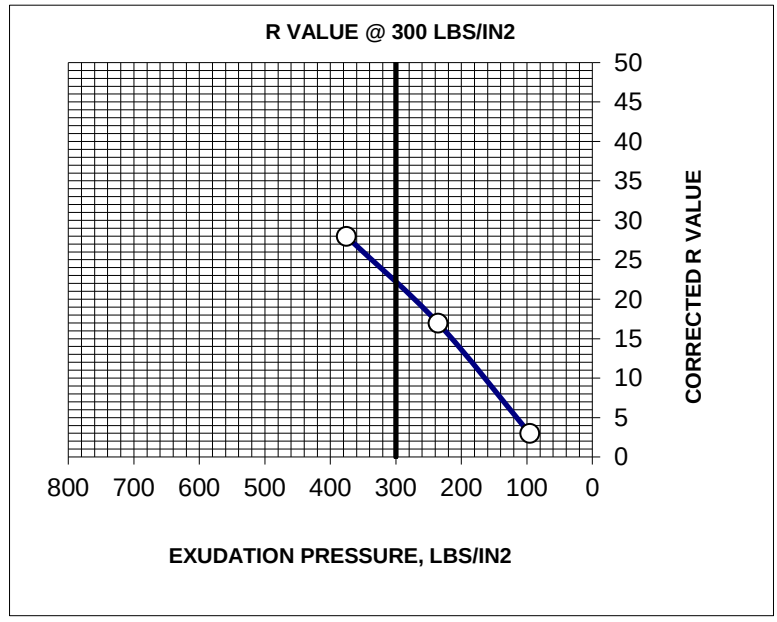
TI	4.5
Expansion	51

Exudation 22

Expansion 51

R-value **22**





Cover Thickness by Expansion Pressure-Feet

Expansion From Graph:	0.47

Chase Velarde
Laboratory Manager

EXPANSION INDEX TEST

ASTM D 4829

CTE Project Number: **40-3639G**

Project Name: **Proposed Commercial Development, Temescal Valley, CA**

Sample ID: B-2 @ 5-10 ft.
Sample Description: Clayey Sand with Gravel

Test Start Date:	Time:	Initial Reading:
8-31-2018	7:53 am	0.0091
Test Finish Date:	**Time:**	**Final Reading:**
9-1-2018	7:53 am	0.0245

Specimen Moisture Content: 12.0 %
Specimen Dry Density: 104.5 pcf
Specimen Percent Saturation: 55.1 %

Expansion (inches): 0.0154

Expansion Index: **15**

Expansion Potential: **Very Low**

EXPANSION INDEX TEST

ASTM D 4829

CTE Project Number: **40-3639G**

Project Name: **Proposed Commercial Development, Temescal Valley, CA**

Sample ID: B-4 @ 2.5-5 ft.
Sample Description: Silty Clayey Sand with Gravel

Test Start Date:	Time:	Initial Reading:
8-30-2018	7:10 am	0.0002

Test Finish Date:	Time:	Final Reading:
8-31-2018	7:10 am	0.0055

Specimen Moisture Content: 9.0 %
Specimen Dry Density: 107.1 pcf
Specimen Percent Saturation: 45.1 %

Expansion (inches): 0.0053

Expansion Index: 5

Expansion Potential: Very Low

LABORATORY COMPACTION OF SOIL (MODIFIED PROCTOR)

ASTM D 1557

Project Name:	Commercial Development	**Sampled By:**	VP	**Date:**	8/16/18
CTE Project No.:	40-3639G	**Tested By:**	JF	**Date:**	8/21/18
Lab No.:	8772	**Reviewed By:**	RE	**Date:**	8/21/18
Sample ID:	B-6 @ 1-5'				
Sample Description:	Brown Silty Clayey Sand w/scattered gravel				

TEST NO.	1	2	3	4	
Wt. Comp. Soil + Mold (lbs)	16.628	16.796	16.430	16.188	
Wt. of Mold (lbs)	5.967	5.967	5.967	5.967	
Net Wt. of Soil (lbs)	10.661	10.829	10.463	10.221	
Wet Wt. of Soil + Cont. (g)	1355.4	1331.9	1391.8	1288.8	
Dry Wt. of Soil + Cont. (g)	1297.0	1262.3	1301.8	1248.8	
Wt. of Container (g)	499.5	499.2	496.7	497.8	
Moisture Content (%)	7.3	9.1	11.2	5.3	
Wet Density (pcf)	142.0	144.2	139.3	136.1	
Dry Density (pcf)	132.3	132.1	125.3	129.2	

Preparation Method: Dry [ ] Moist [X]

Mechanical Rammer [ ]
Manual Rammer [X]

Hammer Weight: 10.0 lb.

Drop: 18 in.

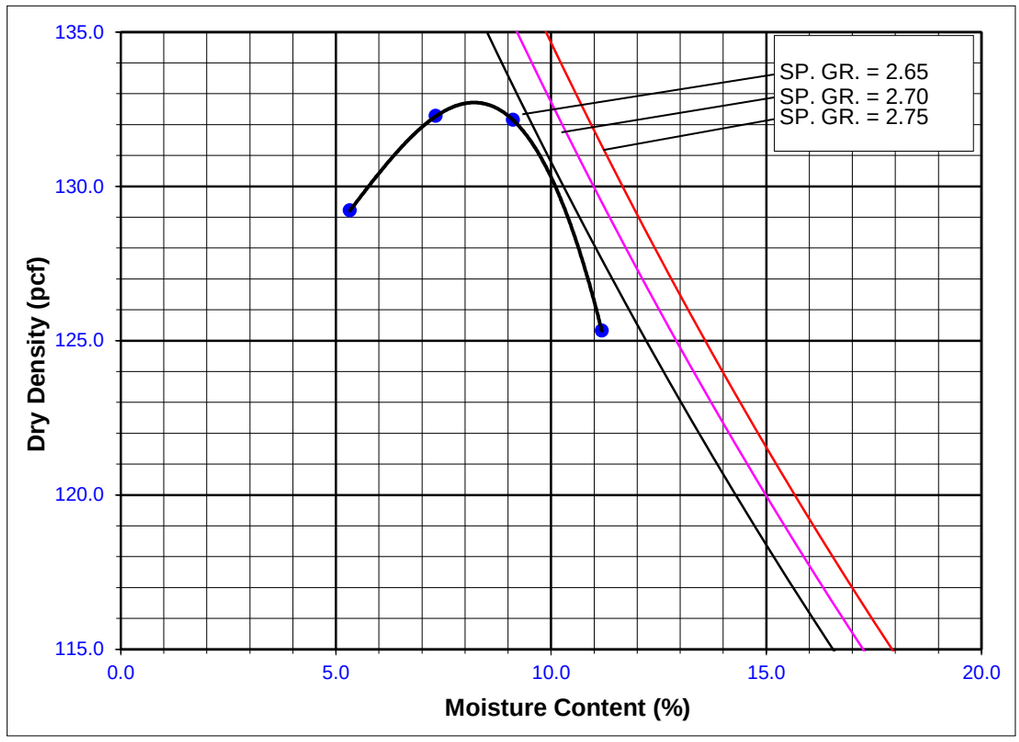
Mold Volume ($ft.^3$): 0.07510

METHOD USED

[ ] **Method A**
Soil Passing No. 4 (4.75 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
May be used if No.4 retained =/< 25%

[ ] **Method B**
Soil Passing 3/8 in. (9.5 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
May be used if 3/8" retained =/< 25%

[X] **Method C**
Soil Passing 3/4 in. (19.0 mm) Sieve
Mold : 6 in. (152.4 mm) diameter
Layers : 5 (Five)
Blows per layer : 56 (fifty-six)
May be used if 3/4" retained =/< 30%



OVERSIZE FRACTION

Total Sample Weight (g): 16037

Weight Retained (g)		Percent Retained
625	Plus 3/4"	3.9
	Plus 3/8"	
	Plus #4	

Maximum Dry Density (pcf): 132.7

Optimum Moisture Content (%): 8.2

Rock Correction Applied per ASTM D 4718

Maximum Dry Density (pcf): N/A

Optimum Moisture Content (%): N/A

LABORATORY COMPACTION OF SOIL (MODIFIED PROCTOR)

ASTM D 1557

Project Name:	Commercial Development	**Sampled By:**	VP	**Date:**	8/16/18
CTE Project No.:	40-3639G	**Tested By:**	JF	**Date:**	8/21/18
Lab No.:	8772	**Reviewed By:**	RE	**Date:**	8/21/18
Sample ID:	B-10 @ 11-14'				
Sample Description:	Brown Silty Clayey Sand w/Gravel				

TEST NO.	1	2	3	4	
Wt. Comp. Soil + Mold (lbs)	16.609	16.682	16.432	16.275	
Wt. of Mold (lbs)	5.967	5.967	5.967	5.967	
Net Wt. of Soil (lbs)	10.642	10.715	10.465	10.308	
Wet Wt. of Soil + Cont. (g)	1301.5	1731.5	1447.2	1279.5	
Dry Wt. of Soil + Cont. (g)	1242.2	1633.7	1365.0	1232.9	
Wt. of Container (g)	499.5	650.4	655.4	497.8	
Moisture Content (%)	8.0	9.9	11.6	6.3	
Wet Density (pcf)	141.7	142.7	139.3	137.3	
Dry Density (pcf)	131.2	129.8	124.9	129.1	

Preparation Method: Dry [ ] Moist [X]

Mechanical Rammer [ ]
Manual Rammer [X]

Hammer Weight: 10.0 lb.

Drop: 18 in.

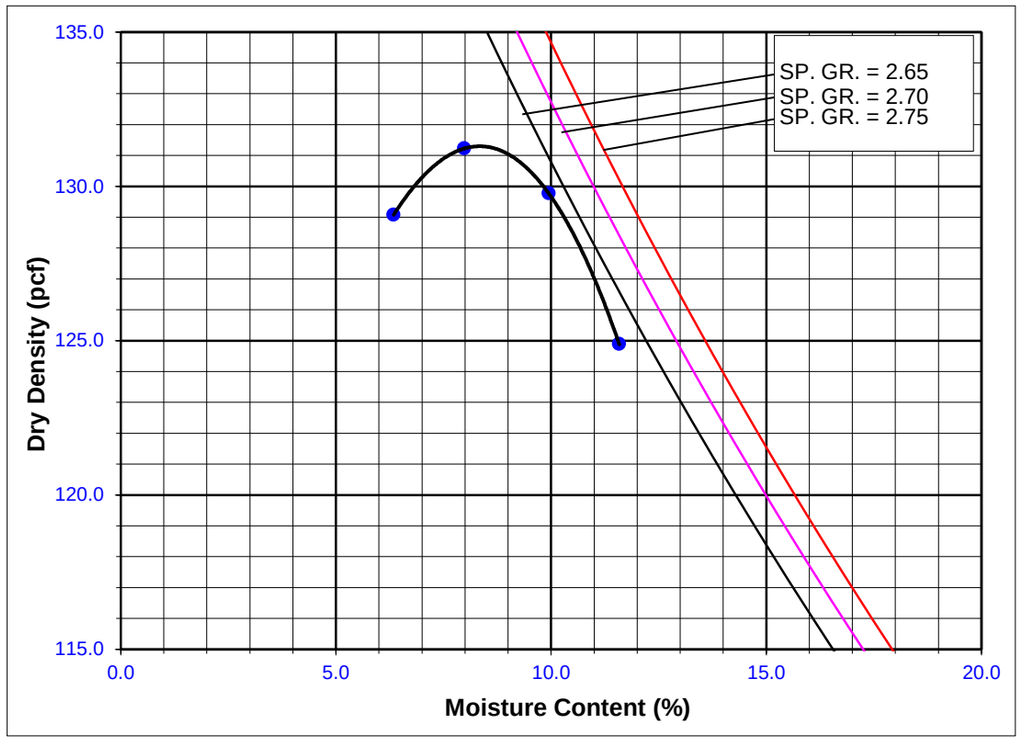
Mold Volume ($ft.^3$): 0.07510

METHOD USED

[ ] **Method A**
Soil Passing No. 4 (4.75 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
May be used if No.4 retained =/< 25%

[ ] **Method B**
Soil Passing 3/8 in. (9.5 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
May be used if 3/8" retained =/< 25%

[X] **Method C**
Soil Passing 3/4 in. (19.0 mm) Sieve
Mold : 6 in. (152.4 mm) diameter
Layers : 5 (Five)
Blows per layer : 56 (fifty-six)
May be used if 3/4" retained =/< 30%



OVERSIZE FRACTION

Total Sample Weight (g): 17350

Weight Retained (g)		Percent Retained
2896	Plus 3/4"	16.7
	Plus 3/8"	
	Plus #4	

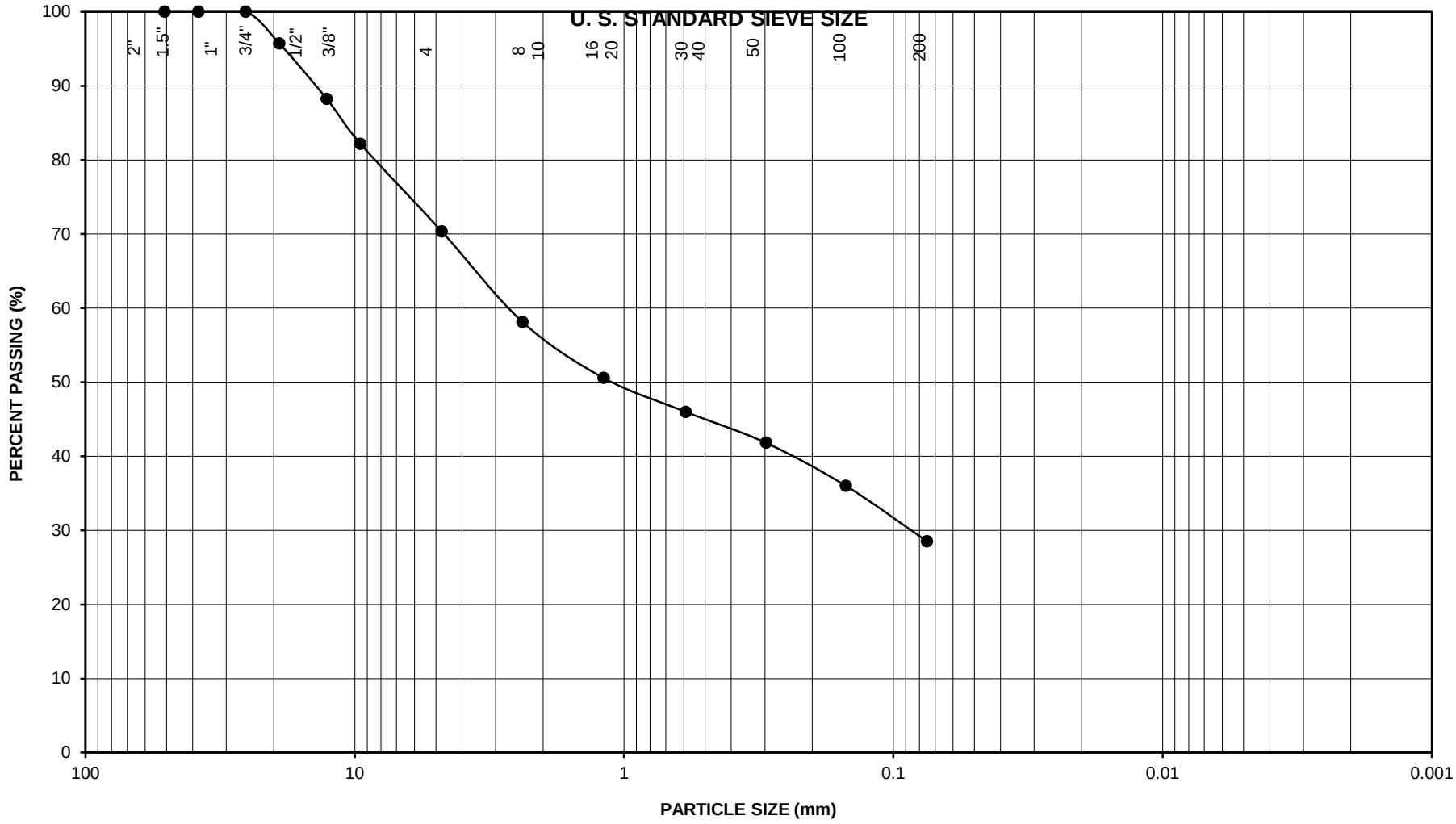
Maximum Dry Density (pcf): 131.3

Optimum Moisture Content (%): 8.3

Rock Correction Applied per ASTM D 4718

Maximum Dry Density (pcf): 136.0

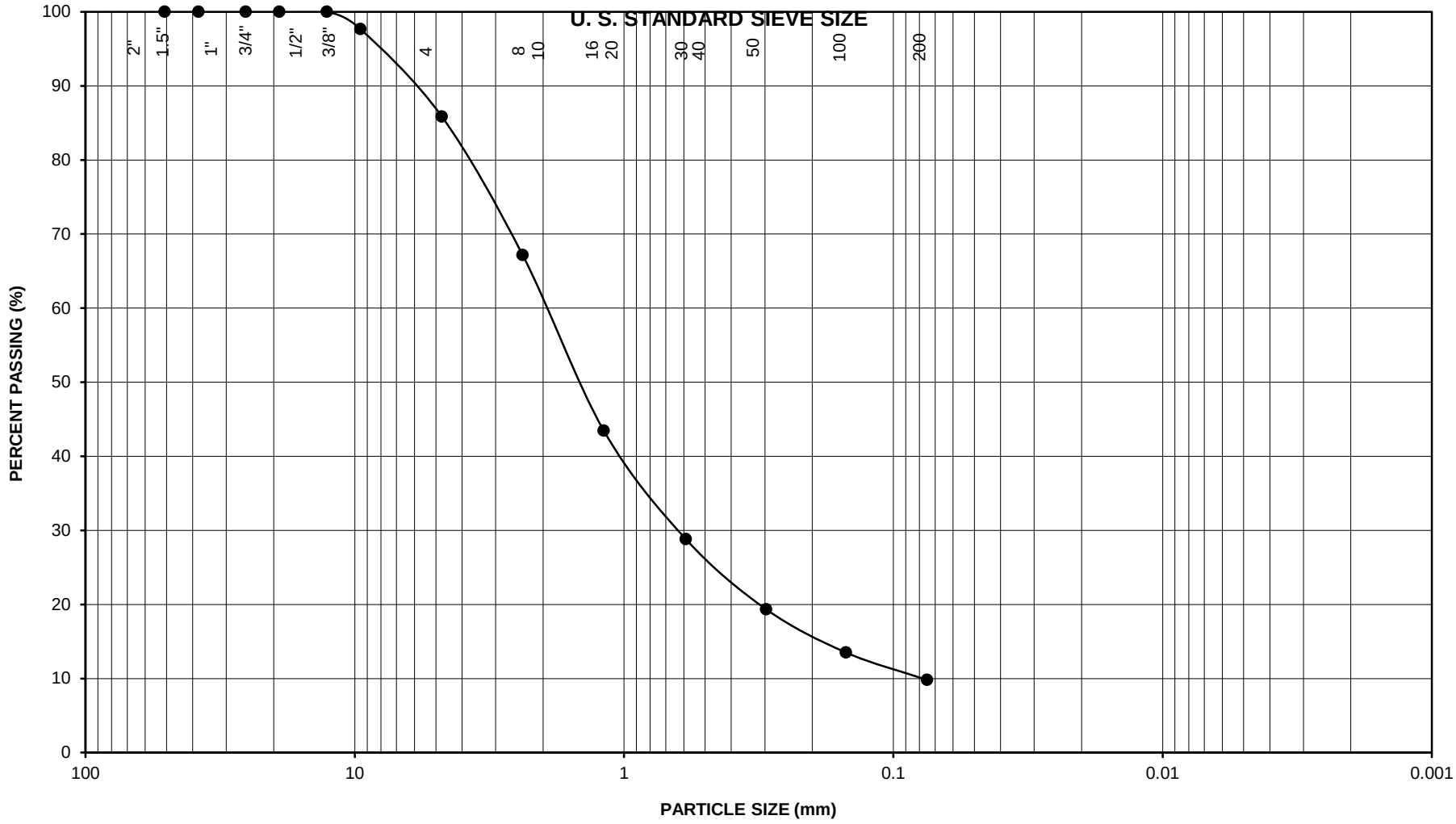
Optimum Moisture Content (%): 7.0



PARTICLE SIZE ANALYSIS

Sample Designation	Sample Depth (feet)	Symbol	Liquid Limit (%)	Plasticity Index	Classification
B-2	6-6.5	●			SC w/Gravel
		■			

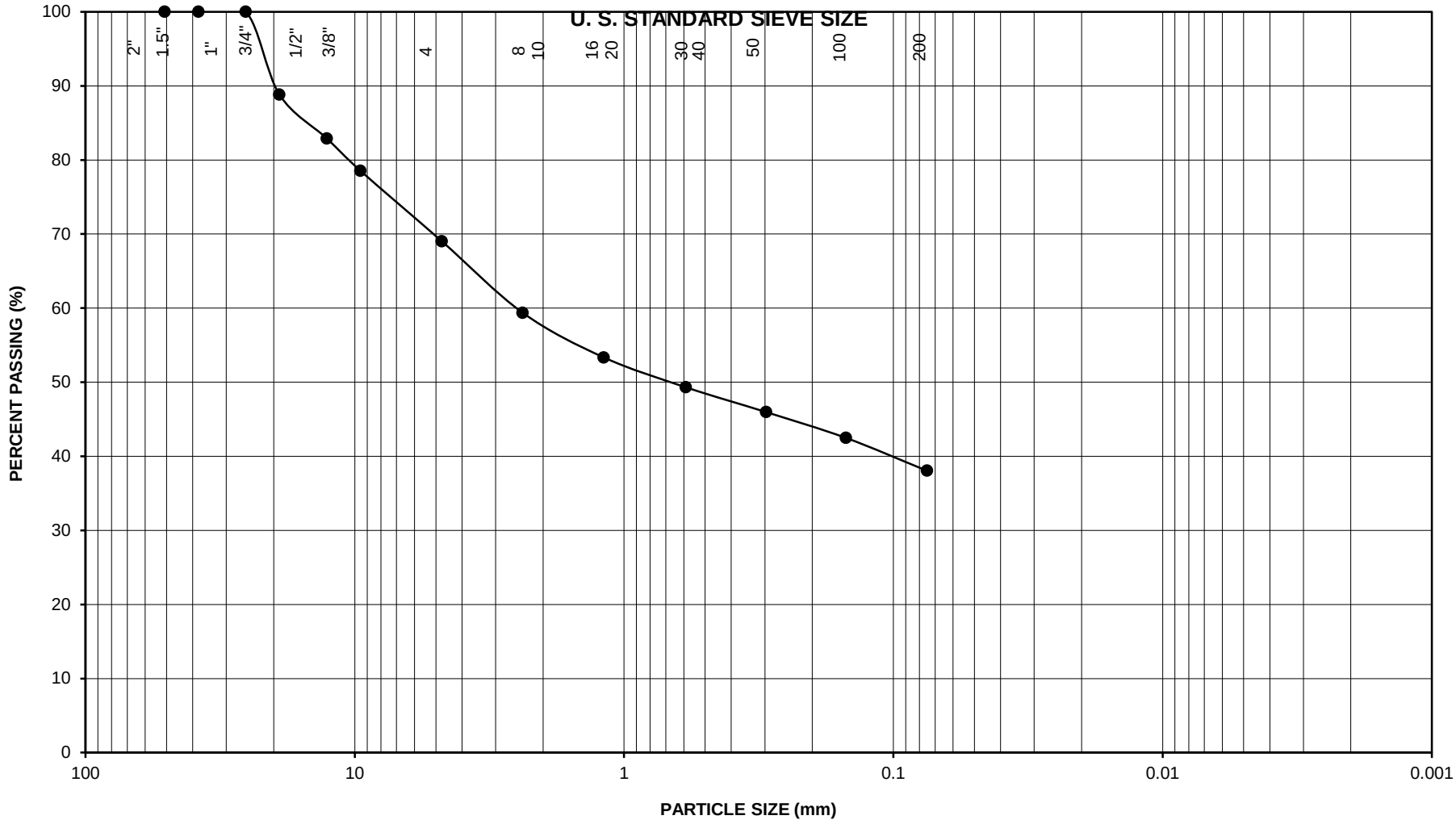
CTE JOB NUMBER: 40-3639G Commercial Development



PARTICLE SIZE ANALYSIS

Sample Designation	Sample Depth (feet)	Symbol	Liquid Limit (%)	Plasticity Index	Classification
B-7	11-11.5	●			SW-SM w/Grav
		■			

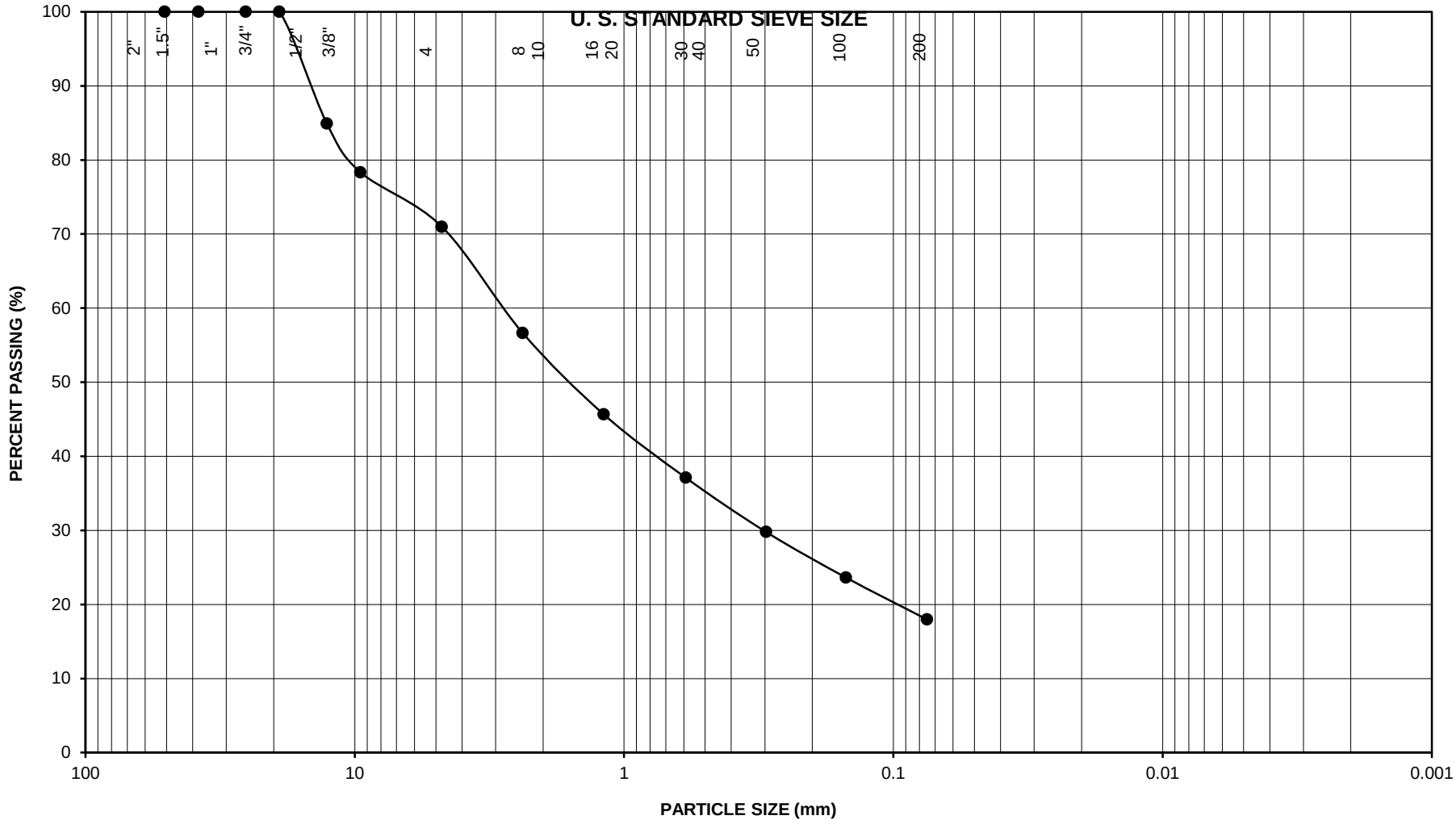
CTE JOB NUMBER: 40-3639G Commercial Development



PARTICLE SIZE ANALYSIS

Sample Designation	Sample Depth (feet)	Symbol	Liquid Limit (%)	Plasticity Index	Classification
B-10	8-10	●			SC w/Gravel
		■			

CTE JOB NUMBER: 40-3639G Commercial Development



PARTICLE SIZE ANALYSIS

Sample Designation	Sample Depth (feet)	Symbol	Liquid Limit (%)	Plasticity Index	Classification
B-12	10-11.5	●			SC-SM w/Grav
		■			

CTE JOB NUMBER: 40-3639G Commercial Development

BABCOCK Laboratories, Inc.
The Standard of Excellence for Over 100 Years

Client Name: Construction Testing & Eng., Inc.
Contact: Robert Ellerbusch
Address: 14538 Meridian Parkway, Suite A
Riverside, CA 92518

Report Date: 30-Aug-2018

Analytical Report: Page 1 of 4
Project Name: Const. Test.-Soils
Project Number: Residential Dev. Temescal Cyn. - Corona CA
Work Order Number: B8H3072
Received on Ice (Y/N): No Temp: 31 °C

Attached is the analytical report for the sample(s) received for your project. Below is a list of the individual sample descriptions with the corresponding laboratory number(s). Also, enclosed is a copy of the Chain of Custody document (if received with your sample(s)). Please note any unused portion of the sample(s) may be responsibly discarded after 30 days from the above report date, unless you have requested otherwise.

Thank you for the opportunity to serve your analytical needs. If you have any questions or concerns regarding this report please contact our client service department.

Sample Identification

Lab Sample #	Client Sample ID	Matrix	Date Sampled	By	Date Submitted	By
B8H3072-01	40-3639: B-5 @ 0-3'	Soil	08/16/18 00:00	Vincent J. Patula	08/24/18 13:57	Jason Collins
B8H3072-02	40-3639: B-9 @ 5-10'	Soil	08/16/18 00:00	Vincent J. Patula	08/24/18 13:57	Jason Collins

BABCOCK Laboratories, Inc.
The Standard of Excellence for Over 100 Years

Client Name: Construction Testing & Eng., Inc.
Contact: Robert Ellerbusch
Address: 14538 Meridian Parkway, Suite A
Riverside, CA 92518

Report Date: 30-Aug-2018

Project Name: Const. Test.-Soils
Project Number: Residential Dev. Temescal Cyn. - Corona CA
Work Order Number: B8H3072
Received on Ice (Y/N): No Temp: 31 °C

Laboratory Reference Number
B8H3072-01

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
40-3639: B-5 @ 0-3'	Soil	08/16/18 00:00	08/24/18 13:57

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
Anions							
Chloride	ND	5.0	mg/kg	Cal Trans 422	08/28/18 16:20	RER	
Sulfate	ND	5.0	mg/kg	Cal Trans 417	08/28/18 16:20	RER	
Saturated Paste							
pH	5.4	0.1	pH Units	S-1.10 W.S.	08/28/18 18:08	TML	
Minimum Resistivity	7000	10	ohm-cm	Cal Trans 643	08/28/18 18:08	TML	

Client Name: Construction Testing & Eng., Inc.
Contact: Robert Ellerbusch
Address: 14538 Meridian Parkway, Suite A
Riverside, CA 92518

Report Date: 30-Aug-2018

Analytical Report: Page 3 of 4
Project Name: Const. Test.-Soils
Project Number: Residential Dev. Temescal Cyn. - Corona CA
Work Order Number: B8H3072

Received on Ice (Y/N): No Temp: 31 °C

Laboratory Reference Number
B8H3072-02

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
40-3639: B-9 @ 5-10'	Soil	08/16/18 00:00	08/24/18 13:57

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
Anions							
Chloride	9.2	5.0	mg/kg	Cal Trans 422	08/28/18 14:54	RER	
Sulfate	21	5.0	mg/kg	Cal Trans 417	08/28/18 14:54	RER	
Saturated Paste							
pH	6.0	0.1	pH Units	S-1.10 W.S.	08/28/18 18:08	TML	
Minimum Resistivity	2600	10	ohm-cm	Cal Trans 643	08/28/18 18:08	TML	

BABCOCK Laboratories, Inc.
The Standard of Excellence for Over 100 Years

Client Name: Construction Testing & Eng., Inc.
Contact: Robert Ellerbusch
Address: 14538 Meridian Parkway, Suite A
Riverside, CA 92518

Report Date: 30-Aug-2018

Project Name: Const. Test.-Soils
Project Number: Residential Dev. Temescal Cyn. - Corona CA
Work Order Number: B8H3072
Received on Ice (Y/N): No Temp: 31 °C

Notes and Definitions

ND:	Analyte NOT DETECTED at or above the Method Detection Limit **(if MDL is reported)**, otherwise at or above the Reportable Detection Limit (RDL)
NR:	Not Reported
RDL:	Reportable Detection Limit
MDL:	Method Detection Limit
* / ''' :	NELAP does not offer accreditation for this analyte/method/matrix combination

Approval

Enclosed are the analytical results for the submitted sample(s). Babcock Laboratories certify the data presented as part of this report meet the minimum quality standards in the referenced analytical methods. Any exceptions have been noted.

KayeLani A. Marshall

cc:

e-Short_No Alias.rpt

This report applies only to the sample(s) analyzed. As a mutual protection to clients, the public, and Babcock Laboratories, Inc., this report is submitted and accepted for the exclusive use of the Client to whom it is addressed. Interpretation and use of the information contained within this report are the sole responsibility of the Client. Babcock Laboratories, Inc. is not responsible for any misinformation or consequences that may result from misinterpretation or improper use of this report. This report is not to be modified or abbreviated in any way. Additionally, this report is not to be used, in whole or in part, in any advertising or publicity matter without written authorization from Babcock Laboratories, Inc. The liability of Babcock Laboratories, Inc. is limited to the actual cost of the requested analyses, unless otherwise agreed upon in writing. There is no other warranty expressed or implied.

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EPA No. CA00102
NELAP No. OR4035
LACSD No. 10119

APPENDIX C

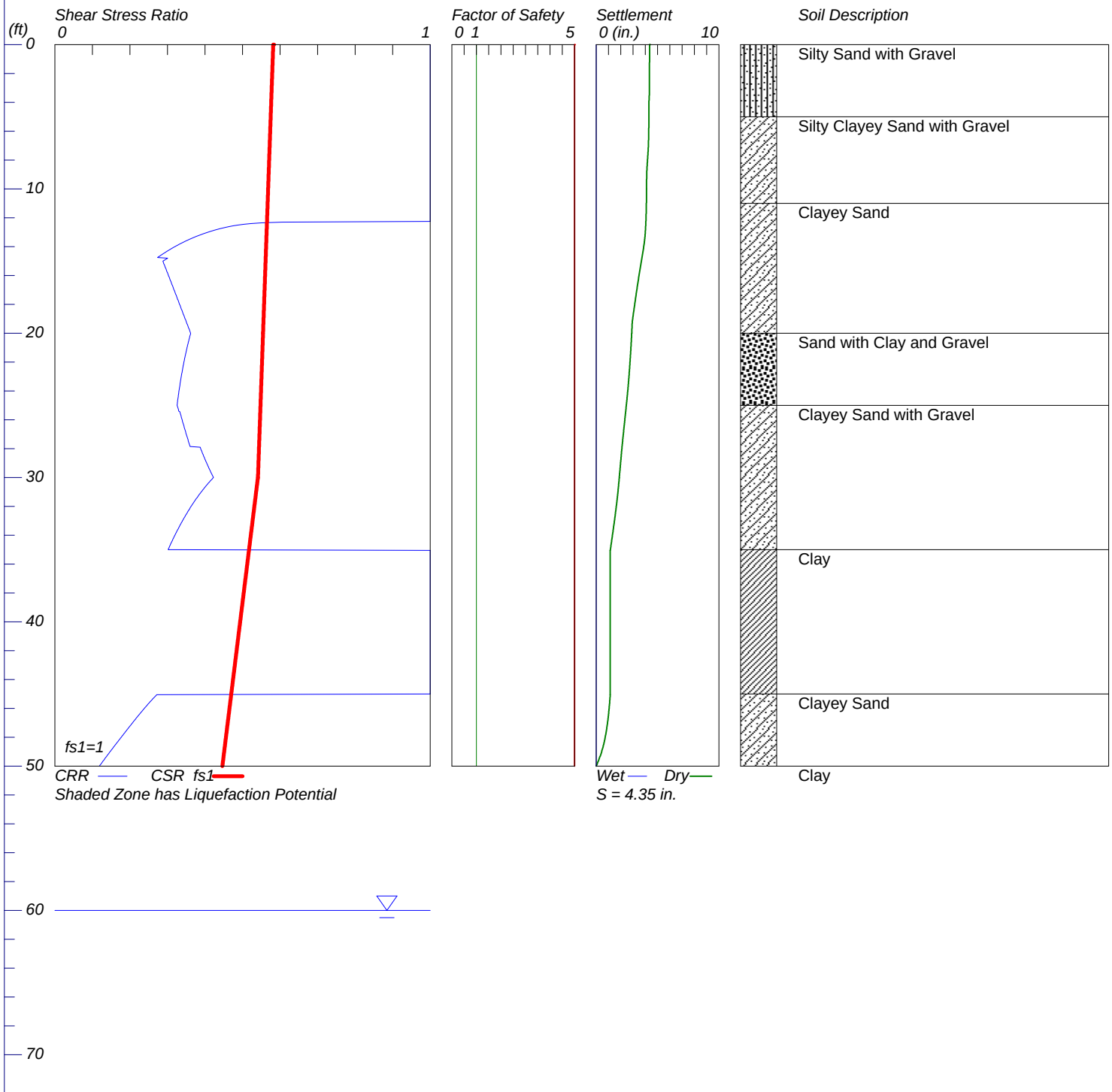
SEISMIC SETTLEMENT ANALYSIS

LIQUEFACTION ANALYSIS

Proposed Commercial Dev. Temescal Cyn

Hole No.=B-1 Water Depth=60 ft Surface Elev.=~1093

Magnitude=6.8
Acceleration=0.895g



LiquefyPro CivilTech Software USA www.civiltech.com

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LIQUEFACTION ANALYSIS CALCULATION SHEET

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****

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Input File Name: \\Server\projects\40-3639G Proposed Residential Development\B1.liq
Title: Proposed Commercial Dev. Temescal Cyn
Subtitle: 40-3639G

Surface Elev.=~1093
Hole No.=B-1
Depth of Hole= 50.0 ft
Water Table during Earthquake= 60.0 ft
Water Table during In-Situ Testing= 60.0 ft
Max. Acceleration= 0.89 g
Earthquake Magnitude= 6.8

Input Data:
Surface Elev.=~1093
Hole No.=B-1
Depth of Hole=50.0 ft
Water Table during Earthquake= 60.0 ft
Water Table during In-Situ Testing= 60.0 ft
Max. Acceleration=0.89 g
Earthquake Magnitude=6.8

Earthquake Magnitude=6.8
2. Settlement Analysis Method: Ishihara / Yoshimine*
3. Fines Correction for Liquefaction: Stark/Olson et al.*
4. Fine Correction for Settlement: During Liquefaction*
5. Settlement Calculation in: All zones*
6. Hammer Energy Ratio, Ce = 1
7. Borehole Diameter, Cb= 1
8. Sampling Method, Cs= 1
9. User request factor of safety (apply to CSR) , User= 1
Plot one CSR curve (fs1=1)
10. Use Curve Smoothing: Yes*
* Recommended Options

In-Situ Test Data:

Depth ft	SPT	gamma pcf	Fines %
0.0	23.0	120.0	25.0
5.0	23.0	120.0	25.0
10.0	35.0	120.0	20.0
15.0	18.0	120.0	16.0
20.0	28.0	125.0	8.0
25.0	27.0	120.0	14.0
30.0	33.0	110.0	18.0
35.0	28.0	120.0	NoLiq
40.0	35.0	120.0	NoLiq
45.0	32.0	120.0	14.0

50.0 13.0 120.0 NoLiq

Output Results:

Settlement of saturated sands=0.00 in.
Settlement of dry sands=4.35 in.
Total settlement of saturated and dry sands=4.35 in.
Differential Settlement=2.173 to 2.868 in.

Depth ft	CRRm	CSRfs	F.S.	S_sat. in.	S_dry in.	S_all in.
0.00	2.57	0.58	5.00	0.00	4.35	4.35
0.05	2.57	0.58	5.00	0.00	4.35	4.35
0.10	2.57	0.58	5.00	0.00	4.35	4.35
0.15	2.57	0.58	5.00	0.00	4.34	4.34
0.20	2.57	0.58	5.00	0.00	4.34	4.34
0.25	2.57	0.58	5.00	0.00	4.34	4.34
0.30	2.57	0.58	5.00	0.00	4.34	4.34
0.35	2.57	0.58	5.00	0.00	4.34	4.34
0.40	2.57	0.58	5.00	0.00	4.34	4.34
0.45	2.57	0.58	5.00	0.00	4.34	4.34
0.50	2.57	0.58	5.00	0.00	4.34	4.34
0.55	2.57	0.58	5.00	0.00	4.34	4.34
0.60	2.57	0.58	5.00	0.00	4.34	4.34
0.65	2.57	0.58	5.00	0.00	4.34	4.34
0.70	2.57	0.58	5.00	0.00	4.34	4.34
0.75	2.57	0.58	5.00	0.00	4.34	4.34
0.80	2.57	0.58	5.00	0.00	4.34	4.34
0.85	2.57	0.58	5.00	0.00	4.34	4.34
0.90	2.57	0.58	5.00	0.00	4.34	4.34
0.95	2.57	0.58	5.00	0.00	4.34	4.34
1.00	2.57	0.58	5.00	0.00	4.34	4.34
1.05	2.57	0.58	5.00	0.00	4.34	4.34
1.10	2.57	0.58	5.00	0.00	4.34	4.34
1.15	2.57	0.58	5.00	0.00	4.34	4.34
1.20	2.57	0.58	5.00	0.00	4.34	4.34
1.25	2.57	0.58	5.00	0.00	4.34	4.34
1.30	2.57	0.58	5.00	0.00	4.34	4.34
1.35	2.57	0.58	5.00	0.00	4.34	4.34
1.40	2.57	0.58	5.00	0.00	4.34	4.34
1.45	2.57	0.58	5.00	0.00	4.34	4.34
1.50	2.57	0.58	5.00	0.00	4.34	4.34
1.55	2.57	0.58	5.00	0.00	4.34	4.34
1.60	2.57	0.58	5.00	0.00	4.34	4.34
1.65	2.57	0.58	5.00	0.00	4.34	4.34
1.70	2.57	0.58	5.00	0.00	4.34	4.34
1.75	2.57	0.58	5.00	0.00	4.34	4.34
1.80	2.57	0.58	5.00	0.00	4.34	4.34
1.85	2.57	0.58	5.00	0.00	4.34	4.34
1.90	2.57	0.58	5.00	0.00	4.34	4.34
1.95	2.57	0.58	5.00	0.00	4.34	4.34
2.00	2.57	0.58	5.00	0.00	4.34	4.34
2.05	2.57	0.58	5.00	0.00	4.34	4.34
2.10	2.57	0.58	5.00	0.00	4.34	4.34
2.15	2.57	0.58	5.00	0.00	4.34	4.34
2.20	2.57	0.58	5.00	0.00	4.34	4.34
2.25	2.57	0.58	5.00	0.00	4.34	4.34
2.30	2.57	0.58	5.00	0.00	4.34	4.34
2.35	2.57	0.58	5.00	0.00	4.34	4.34
2.40	2.57	0.58	5.00	0.00	4.34	4.34
2.45	2.57	0.58	5.00	0.00	4.34	4.34
2.50	2.57	0.58	5.00	0.00	4.34	4.34

				B1.sum		
2.55	2.57	0.58	5.00	0.00	4.34	4.34
2.60	2.57	0.58	5.00	0.00	4.34	4.34
2.65	2.57	0.58	5.00	0.00	4.34	4.34
2.70	2.57	0.58	5.00	0.00	4.34	4.34
2.75	2.57	0.58	5.00	0.00	4.34	4.34
2.80	2.57	0.58	5.00	0.00	4.34	4.34
2.85	2.57	0.58	5.00	0.00	4.34	4.34
2.90	2.57	0.58	5.00	0.00	4.34	4.34
2.95	2.57	0.58	5.00	0.00	4.34	4.34
3.00	2.57	0.58	5.00	0.00	4.33	4.33
3.05	2.57	0.58	5.00	0.00	4.33	4.33
3.10	2.57	0.58	5.00	0.00	4.33	4.33
3.15	2.57	0.58	5.00	0.00	4.33	4.33
3.20	2.57	0.58	5.00	0.00	4.33	4.33
3.25	2.57	0.58	5.00	0.00	4.33	4.33
3.30	2.57	0.58	5.00	0.00	4.33	4.33
3.35	2.57	0.58	5.00	0.00	4.33	4.33
3.40	2.57	0.58	5.00	0.00	4.33	4.33
3.45	2.57	0.58	5.00	0.00	4.33	4.33
3.50	2.57	0.58	5.00	0.00	4.32	4.32
3.55	2.57	0.58	5.00	0.00	4.32	4.32
3.60	2.57	0.58	5.00	0.00	4.32	4.32
3.65	2.57	0.58	5.00	0.00	4.32	4.32
3.70	2.57	0.58	5.00	0.00	4.32	4.32
3.75	2.57	0.58	5.00	0.00	4.31	4.31
3.80	2.57	0.58	5.00	0.00	4.31	4.31
3.85	2.57	0.58	5.00	0.00	4.30	4.30
3.90	2.57	0.58	5.00	0.00	4.30	4.30
3.95	2.57	0.58	5.00	0.00	4.30	4.30
4.00	2.57	0.58	5.00	0.00	4.30	4.30
4.05	2.57	0.58	5.00	0.00	4.30	4.30
4.10	2.57	0.58	5.00	0.00	4.30	4.30
4.15	2.57	0.58	5.00	0.00	4.30	4.30
4.20	2.57	0.58	5.00	0.00	4.30	4.30
4.25	2.57	0.58	5.00	0.00	4.30	4.30
4.30	2.57	0.58	5.00	0.00	4.30	4.30
4.35	2.57	0.58	5.00	0.00	4.30	4.30
4.40	2.57	0.58	5.00	0.00	4.30	4.30
4.45	2.57	0.58	5.00	0.00	4.30	4.30
4.50	2.57	0.58	5.00	0.00	4.30	4.30
4.55	2.57	0.58	5.00	0.00	4.30	4.30
4.60	2.57	0.58	5.00	0.00	4.30	4.30
4.65	2.57	0.58	5.00	0.00	4.30	4.30
4.70	2.57	0.58	5.00	0.00	4.30	4.30
4.75	2.57	0.58	5.00	0.00	4.30	4.30
4.80	2.57	0.58	5.00	0.00	4.30	4.30
4.85	2.57	0.58	5.00	0.00	4.30	4.30
4.90	2.57	0.58	5.00	0.00	4.30	4.30
4.95	2.57	0.58	5.00	0.00	4.30	4.30
5.00	2.57	0.57	5.00	0.00	4.29	4.29
5.05	2.57	0.57	5.00	0.00	4.29	4.29
5.10	2.57	0.57	5.00	0.00	4.29	4.29
5.15	2.57	0.57	5.00	0.00	4.29	4.29
5.20	2.57	0.57	5.00	0.00	4.29	4.29
5.25	2.57	0.57	5.00	0.00	4.29	4.29
5.30	2.57	0.57	5.00	0.00	4.29	4.29
5.35	2.57	0.57	5.00	0.00	4.29	4.29
5.40	2.57	0.57	5.00	0.00	4.29	4.29
5.45	2.57	0.57	5.00	0.00	4.29	4.29
5.50	2.57	0.57	5.00	0.00	4.29	4.29
5.55	2.57	0.57	5.00	0.00	4.29	4.29
5.60	2.57	0.57	5.00	0.00	4.29	4.29
5.65	2.57	0.57	5.00	0.00	4.29	4.29

				B1.sum		
5.70	2.57	0.57	5.00	0.00	4.29	4.29
5.75	2.57	0.57	5.00	0.00	4.28	4.28
5.80	2.57	0.57	5.00	0.00	4.28	4.28
5.85	2.57	0.57	5.00	0.00	4.28	4.28
5.90	2.57	0.57	5.00	0.00	4.28	4.28
5.95	2.57	0.57	5.00	0.00	4.28	4.28
6.00	2.57	0.57	5.00	0.00	4.28	4.28
6.05	2.57	0.57	5.00	0.00	4.28	4.28
6.10	2.57	0.57	5.00	0.00	4.28	4.28
6.15	2.57	0.57	5.00	0.00	4.28	4.28
6.20	2.57	0.57	5.00	0.00	4.28	4.28
6.25	2.57	0.57	5.00	0.00	4.28	4.28
6.30	2.57	0.57	5.00	0.00	4.27	4.27
6.35	2.57	0.57	5.00	0.00	4.27	4.27
6.40	2.57	0.57	5.00	0.00	4.27	4.27
6.45	2.57	0.57	5.00	0.00	4.27	4.27
6.50	2.57	0.57	5.00	0.00	4.27	4.27
6.55	2.57	0.57	5.00	0.00	4.27	4.27
6.60	2.57	0.57	5.00	0.00	4.27	4.27
6.65	2.57	0.57	5.00	0.00	4.26	4.26
6.70	2.57	0.57	5.00	0.00	4.26	4.26
6.75	2.57	0.57	5.00	0.00	4.26	4.26
6.80	2.57	0.57	5.00	0.00	4.26	4.26
6.85	2.57	0.57	5.00	0.00	4.26	4.26
6.90	2.57	0.57	5.00	0.00	4.26	4.26
6.95	2.57	0.57	5.00	0.00	4.25	4.25
7.00	2.57	0.57	5.00	0.00	4.25	4.25
7.05	2.57	0.57	5.00	0.00	4.25	4.25
7.10	2.57	0.57	5.00	0.00	4.25	4.25
7.15	2.57	0.57	5.00	0.00	4.24	4.24
7.20	2.57	0.57	5.00	0.00	4.24	4.24
7.25	2.57	0.57	5.00	0.00	4.24	4.24
7.30	2.57	0.57	5.00	0.00	4.23	4.23
7.35	2.57	0.57	5.00	0.00	4.23	4.23
7.40	2.57	0.57	5.00	0.00	4.23	4.23
7.45	2.57	0.57	5.00	0.00	4.22	4.22
7.50	2.57	0.57	5.00	0.00	4.22	4.22
7.55	2.57	0.57	5.00	0.00	4.22	4.22
7.60	2.57	0.57	5.00	0.00	4.21	4.21
7.65	2.57	0.57	5.00	0.00	4.21	4.21
7.70	2.57	0.57	5.00	0.00	4.21	4.21
7.75	2.57	0.57	5.00	0.00	4.20	4.20
7.80	2.57	0.57	5.00	0.00	4.20	4.20
7.85	2.57	0.57	5.00	0.00	4.19	4.19
7.90	2.57	0.57	5.00	0.00	4.19	4.19
7.95	2.57	0.57	5.00	0.00	4.18	4.18
8.00	2.57	0.57	5.00	0.00	4.18	4.18
8.05	2.57	0.57	5.00	0.00	4.18	4.18
8.10	2.57	0.57	5.00	0.00	4.17	4.17
8.15	2.57	0.57	5.00	0.00	4.17	4.17
8.20	2.57	0.57	5.00	0.00	4.16	4.16
8.25	2.57	0.57	5.00	0.00	4.16	4.16
8.30	2.57	0.57	5.00	0.00	4.16	4.16
8.35	2.57	0.57	5.00	0.00	4.15	4.15
8.40	2.57	0.57	5.00	0.00	4.15	4.15
8.45	2.57	0.57	5.00	0.00	4.15	4.15
8.50	2.57	0.57	5.00	0.00	4.14	4.14
8.55	2.57	0.57	5.00	0.00	4.14	4.14
8.60	2.57	0.57	5.00	0.00	4.14	4.14
8.65	2.57	0.57	5.00	0.00	4.13	4.13
8.70	2.57	0.57	5.00	0.00	4.13	4.13
8.75	2.57	0.57	5.00	0.00	4.13	4.13
8.80	2.57	0.57	5.00	0.00	4.12	4.12

				B1.sum		
8.85	2.57	0.57	5.00	0.00	4.12	4.12
8.90	2.57	0.57	5.00	0.00	4.12	4.12
8.95	2.57	0.57	5.00	0.00	4.11	4.11
9.00	2.57	0.57	5.00	0.00	4.11	4.11
9.05	2.57	0.57	5.00	0.00	4.11	4.11
9.10	2.57	0.57	5.00	0.00	4.11	4.11
9.15	2.57	0.57	5.00	0.00	4.11	4.11
9.20	2.57	0.57	5.00	0.00	4.11	4.11
9.25	2.57	0.57	5.00	0.00	4.11	4.11
9.30	2.57	0.57	5.00	0.00	4.11	4.11
9.35	2.57	0.57	5.00	0.00	4.11	4.11
9.40	2.57	0.57	5.00	0.00	4.11	4.11
9.45	2.57	0.57	5.00	0.00	4.11	4.11
9.50	2.57	0.57	5.00	0.00	4.11	4.11
9.55	2.57	0.57	5.00	0.00	4.11	4.11
9.60	2.57	0.57	5.00	0.00	4.11	4.11
9.65	2.57	0.57	5.00	0.00	4.10	4.10
9.70	2.57	0.57	5.00	0.00	4.10	4.10
9.75	2.57	0.57	5.00	0.00	4.10	4.10
9.80	2.57	0.57	5.00	0.00	4.10	4.10
9.85	2.57	0.57	5.00	0.00	4.10	4.10
9.90	2.57	0.57	5.00	0.00	4.10	4.10
9.95	2.57	0.57	5.00	0.00	4.10	4.10
10.00	2.57	0.57	5.00	0.00	4.10	4.10
10.05	2.57	0.57	5.00	0.00	4.10	4.10
10.10	2.57	0.57	5.00	0.00	4.10	4.10
10.15	2.57	0.57	5.00	0.00	4.10	4.10
10.20	2.57	0.57	5.00	0.00	4.10	4.10
10.25	2.57	0.57	5.00	0.00	4.10	4.10
10.30	2.57	0.57	5.00	0.00	4.10	4.10
10.35	2.57	0.57	5.00	0.00	4.10	4.10
10.40	2.57	0.57	5.00	0.00	4.10	4.10
10.45	2.57	0.57	5.00	0.00	4.10	4.10
10.50	2.57	0.57	5.00	0.00	4.10	4.10
10.55	2.57	0.57	5.00	0.00	4.09	4.09
10.60	2.57	0.57	5.00	0.00	4.09	4.09
10.65	2.57	0.57	5.00	0.00	4.09	4.09
10.70	2.57	0.57	5.00	0.00	4.09	4.09
10.75	2.57	0.57	5.00	0.00	4.09	4.09
10.80	2.57	0.57	5.00	0.00	4.09	4.09
10.85	2.57	0.57	5.00	0.00	4.09	4.09
10.90	2.57	0.57	5.00	0.00	4.09	4.09
10.95	2.57	0.57	5.00	0.00	4.09	4.09
11.00	2.57	0.57	5.00	0.00	4.09	4.09
11.05	2.57	0.57	5.00	0.00	4.09	4.09
11.10	2.57	0.57	5.00	0.00	4.09	4.09
11.15	2.57	0.57	5.00	0.00	4.08	4.08
11.20	2.57	0.57	5.00	0.00	4.08	4.08
11.25	2.57	0.57	5.00	0.00	4.08	4.08
11.30	2.57	0.57	5.00	0.00	4.08	4.08
11.35	2.57	0.57	5.00	0.00	4.08	4.08
11.40	2.57	0.57	5.00	0.00	4.08	4.08
11.45	2.57	0.57	5.00	0.00	4.08	4.08
11.50	2.57	0.57	5.00	0.00	4.08	4.08
11.55	2.57	0.57	5.00	0.00	4.07	4.07
11.60	2.57	0.57	5.00	0.00	4.07	4.07
11.65	2.57	0.57	5.00	0.00	4.07	4.07
11.70	2.57	0.57	5.00	0.00	4.07	4.07
11.75	2.57	0.57	5.00	0.00	4.07	4.07
11.80	2.57	0.57	5.00	0.00	4.07	4.07
11.85	2.57	0.57	5.00	0.00	4.06	4.06
11.90	2.57	0.57	5.00	0.00	4.06	4.06
11.95	2.57	0.57	5.00	0.00	4.06	4.06

				B1.sum		
12.00	2.57	0.57	5.00	0.00	4.06	4.06
12.05	2.57	0.57	5.00	0.00	4.06	4.06
12.10	2.57	0.57	5.00	0.00	4.05	4.05
12.15	2.57	0.57	5.00	0.00	4.05	4.05
12.20	2.57	0.57	5.00	0.00	4.05	4.05
12.25	2.57	0.57	5.00	0.00	4.05	4.05
12.30	0.61	0.57	5.00	0.00	4.05	4.05
12.35	0.55	0.56	5.00	0.00	4.04	4.04
12.40	0.52	0.56	5.00	0.00	4.04	4.04
12.45	0.50	0.56	5.00	0.00	4.04	4.04
12.50	0.49	0.56	5.00	0.00	4.03	4.03
12.55	0.48	0.56	5.00	0.00	4.03	4.03
12.60	0.47	0.56	5.00	0.00	4.03	4.03
12.65	0.46	0.56	5.00	0.00	4.03	4.03
12.70	0.45	0.56	5.00	0.00	4.02	4.02
12.75	0.44	0.56	5.00	0.00	4.02	4.02
12.80	0.43	0.56	5.00	0.00	4.02	4.02
12.85	0.43	0.56	5.00	0.00	4.01	4.01
12.90	0.42	0.56	5.00	0.00	4.01	4.01
12.95	0.41	0.56	5.00	0.00	4.00	4.00
13.00	0.41	0.56	5.00	0.00	4.00	4.00
13.05	0.40	0.56	5.00	0.00	4.00	4.00
13.10	0.40	0.56	5.00	0.00	3.99	3.99
13.15	0.39	0.56	5.00	0.00	3.99	3.99
13.20	0.39	0.56	5.00	0.00	3.98	3.98
13.25	0.38	0.56	5.00	0.00	3.98	3.98
13.30	0.38	0.56	5.00	0.00	3.97	3.97
13.35	0.37	0.56	5.00	0.00	3.97	3.97
13.40	0.37	0.56	5.00	0.00	3.96	3.96
13.45	0.36	0.56	5.00	0.00	3.95	3.95
13.50	0.36	0.56	5.00	0.00	3.95	3.95
13.55	0.35	0.56	5.00	0.00	3.94	3.94
13.60	0.35	0.56	5.00	0.00	3.93	3.93
13.65	0.35	0.56	5.00	0.00	3.93	3.93
13.70	0.34	0.56	5.00	0.00	3.92	3.92
13.75	0.34	0.56	5.00	0.00	3.91	3.91
13.80	0.33	0.56	5.00	0.00	3.90	3.90
13.85	0.33	0.56	5.00	0.00	3.90	3.90
13.90	0.33	0.56	5.00	0.00	3.89	3.89
13.95	0.32	0.56	5.00	0.00	3.88	3.88
14.00	0.32	0.56	5.00	0.00	3.87	3.87
14.05	0.32	0.56	5.00	0.00	3.86	3.86
14.10	0.31	0.56	5.00	0.00	3.85	3.85
14.15	0.31	0.56	5.00	0.00	3.84	3.84
14.20	0.31	0.56	5.00	0.00	3.84	3.84
14.25	0.30	0.56	5.00	0.00	3.83	3.83
14.30	0.30	0.56	5.00	0.00	3.82	3.82
14.35	0.30	0.56	5.00	0.00	3.81	3.81
14.40	0.29	0.56	5.00	0.00	3.80	3.80
14.45	0.29	0.56	5.00	0.00	3.79	3.79
14.50	0.29	0.56	5.00	0.00	3.78	3.78
14.55	0.29	0.56	5.00	0.00	3.77	3.77
14.60	0.28	0.56	5.00	0.00	3.76	3.76
14.65	0.28	0.56	5.00	0.00	3.75	3.75
14.70	0.28	0.56	5.00	0.00	3.74	3.74
14.75	0.27	0.56	5.00	0.00	3.73	3.73
14.80	0.30	0.56	5.00	0.00	3.72	3.72
14.85	0.30	0.56	5.00	0.00	3.71	3.71
14.90	0.29	0.56	5.00	0.00	3.70	3.70
14.95	0.29	0.56	5.00	0.00	3.69	3.69
15.00	0.29	0.56	5.00	0.00	3.68	3.68
15.05	0.29	0.56	5.00	0.00	3.67	3.67
15.10	0.29	0.56	5.00	0.00	3.66	3.66

				B1.sum		
15.15	0.29	0.56	5.00	0.00	3.65	3.65
15.20	0.29	0.56	5.00	0.00	3.64	3.64
15.25	0.29	0.56	5.00	0.00	3.63	3.63
15.30	0.29	0.56	5.00	0.00	3.62	3.62
15.35	0.29	0.56	5.00	0.00	3.61	3.61
15.40	0.29	0.56	5.00	0.00	3.60	3.60
15.45	0.29	0.56	5.00	0.00	3.59	3.59
15.50	0.30	0.56	5.00	0.00	3.58	3.58
15.55	0.30	0.56	5.00	0.00	3.57	3.57
15.60	0.30	0.56	5.00	0.00	3.56	3.56
15.65	0.30	0.56	5.00	0.00	3.55	3.55
15.70	0.30	0.56	5.00	0.00	3.54	3.54
15.75	0.30	0.56	5.00	0.00	3.54	3.54
15.80	0.30	0.56	5.00	0.00	3.53	3.53
15.85	0.30	0.56	5.00	0.00	3.52	3.52
15.90	0.30	0.56	5.00	0.00	3.51	3.51
15.95	0.30	0.56	5.00	0.00	3.50	3.50
16.00	0.30	0.56	5.00	0.00	3.49	3.49
16.05	0.30	0.56	5.00	0.00	3.48	3.48
16.10	0.30	0.56	5.00	0.00	3.47	3.47
16.15	0.30	0.56	5.00	0.00	3.46	3.46
16.20	0.31	0.56	5.00	0.00	3.45	3.45
16.25	0.31	0.56	5.00	0.00	3.44	3.44
16.30	0.31	0.56	5.00	0.00	3.43	3.43
16.35	0.31	0.56	5.00	0.00	3.42	3.42
16.40	0.31	0.56	5.00	0.00	3.41	3.41
16.45	0.31	0.56	5.00	0.00	3.41	3.41
16.50	0.31	0.56	5.00	0.00	3.40	3.40
16.55	0.31	0.56	5.00	0.00	3.39	3.39
16.60	0.31	0.56	5.00	0.00	3.38	3.38
16.65	0.31	0.56	5.00	0.00	3.37	3.37
16.70	0.31	0.56	5.00	0.00	3.36	3.36
16.75	0.31	0.56	5.00	0.00	3.35	3.35
16.80	0.31	0.56	5.00	0.00	3.34	3.34
16.85	0.32	0.56	5.00	0.00	3.33	3.33
16.90	0.32	0.56	5.00	0.00	3.33	3.33
16.95	0.32	0.56	5.00	0.00	3.32	3.32
17.00	0.32	0.56	5.00	0.00	3.31	3.31
17.05	0.32	0.56	5.00	0.00	3.30	3.30
17.10	0.32	0.56	5.00	0.00	3.29	3.29
17.15	0.32	0.56	5.00	0.00	3.28	3.28
17.20	0.32	0.56	5.00	0.00	3.27	3.27
17.25	0.32	0.56	5.00	0.00	3.26	3.26
17.30	0.32	0.56	5.00	0.00	3.26	3.26
17.35	0.32	0.56	5.00	0.00	3.25	3.25
17.40	0.32	0.56	5.00	0.00	3.24	3.24
17.45	0.32	0.56	5.00	0.00	3.23	3.23
17.50	0.32	0.56	5.00	0.00	3.22	3.22
17.55	0.33	0.56	5.00	0.00	3.21	3.21
17.60	0.33	0.56	5.00	0.00	3.20	3.20
17.65	0.33	0.56	5.00	0.00	3.20	3.20
17.70	0.33	0.56	5.00	0.00	3.19	3.19
17.75	0.33	0.56	5.00	0.00	3.18	3.18
17.80	0.33	0.56	5.00	0.00	3.17	3.17
17.85	0.33	0.56	5.00	0.00	3.16	3.16
17.90	0.33	0.56	5.00	0.00	3.15	3.15
17.95	0.33	0.56	5.00	0.00	3.14	3.14
18.00	0.33	0.56	5.00	0.00	3.14	3.14
18.05	0.33	0.56	5.00	0.00	3.13	3.13
18.10	0.33	0.56	5.00	0.00	3.12	3.12
18.15	0.33	0.56	5.00	0.00	3.11	3.11
18.20	0.34	0.56	5.00	0.00	3.10	3.10
18.25	0.34	0.56	5.00	0.00	3.09	3.09

18.30	0.34	0.56	5.00	0.00	3.09	3.09
18.35	0.34	0.56	5.00	0.00	3.08	3.08
18.40	0.34	0.56	5.00	0.00	3.07	3.07
18.45	0.34	0.56	5.00	0.00	3.06	3.06
18.50	0.34	0.56	5.00	0.00	3.05	3.05
18.55	0.34	0.56	5.00	0.00	3.04	3.04
18.60	0.34	0.56	5.00	0.00	3.04	3.04
18.65	0.34	0.56	5.00	0.00	3.03	3.03
18.70	0.34	0.56	5.00	0.00	3.02	3.02
18.75	0.34	0.56	5.00	0.00	3.01	3.01
18.80	0.34	0.56	5.00	0.00	3.00	3.00
18.85	0.34	0.56	5.00	0.00	3.00	3.00
18.90	0.35	0.56	5.00	0.00	2.99	2.99
18.95	0.35	0.56	5.00	0.00	2.98	2.98
19.00	0.35	0.56	5.00	0.00	2.97	2.97
19.05	0.35	0.56	5.00	0.00	2.96	2.96
19.10	0.35	0.56	5.00	0.00	2.96	2.96
19.15	0.35	0.56	5.00	0.00	2.95	2.95
19.20	0.35	0.56	5.00	0.00	2.94	2.94
19.25	0.35	0.56	5.00	0.00	2.94	2.94
19.30	0.35	0.56	5.00	0.00	2.93	2.93
19.35	0.35	0.56	5.00	0.00	2.93	2.93
19.40	0.35	0.56	5.00	0.00	2.93	2.93
19.45	0.35	0.56	5.00	0.00	2.93	2.93
19.50	0.35	0.56	5.00	0.00	2.92	2.92
19.55	0.36	0.56	5.00	0.00	2.92	2.92
19.60	0.36	0.56	5.00	0.00	2.92	2.92
19.65	0.36	0.56	5.00	0.00	2.91	2.91
19.70	0.36	0.56	5.00	0.00	2.91	2.91
19.75	0.36	0.55	5.00	0.00	2.91	2.91
19.80	0.36	0.55	5.00	0.00	2.90	2.90
19.85	0.36	0.55	5.00	0.00	2.90	2.90
19.90	0.36	0.55	5.00	0.00	2.90	2.90
19.95	0.36	0.55	5.00	0.00	2.90	2.90
20.00	0.36	0.55	5.00	0.00	2.89	2.89
20.05	0.36	0.55	5.00	0.00	2.89	2.89
20.10	0.36	0.55	5.00	0.00	2.89	2.89
20.15	0.36	0.55	5.00	0.00	2.88	2.88
20.20	0.36	0.55	5.00	0.00	2.88	2.88
20.25	0.36	0.55	5.00	0.00	2.88	2.88
20.30	0.36	0.55	5.00	0.00	2.87	2.87
20.35	0.36	0.55	5.00	0.00	2.87	2.87
20.40	0.36	0.55	5.00	0.00	2.87	2.87
20.45	0.36	0.55	5.00	0.00	2.87	2.87
20.50	0.36	0.55	5.00	0.00	2.86	2.86
20.55	0.36	0.55	5.00	0.00	2.86	2.86
20.60	0.36	0.55	5.00	0.00	2.86	2.86
20.65	0.36	0.55	5.00	0.00	2.85	2.85
20.70	0.35	0.55	5.00	0.00	2.85	2.85
20.75	0.35	0.55	5.00	0.00	2.85	2.85
20.80	0.35	0.55	5.00	0.00	2.84	2.84
20.85	0.35	0.55	5.00	0.00	2.84	2.84
20.90	0.35	0.55	5.00	0.00	2.84	2.84
20.95	0.35	0.55	5.00	0.00	2.83	2.83
21.00	0.35	0.55	5.00	0.00	2.83	2.83
21.05	0.35	0.55	5.00	0.00	2.83	2.83
21.10	0.35	0.55	5.00	0.00	2.82	2.82
21.15	0.35	0.55	5.00	0.00	2.82	2.82
21.20	0.35	0.55	5.00	0.00	2.81	2.81
21.25	0.35	0.55	5.00	0.00	2.81	2.81
21.30	0.35	0.55	5.00	0.00	2.81	2.81
21.35	0.35	0.55	5.00	0.00	2.80	2.80
21.40	0.35	0.55	5.00	0.00	2.80	2.80

				B1.sum		
21.45	0.35	0.55	5.00	0.00	2.80	2.80
21.50	0.35	0.55	5.00	0.00	2.79	2.79
21.55	0.35	0.55	5.00	0.00	2.79	2.79
21.60	0.35	0.55	5.00	0.00	2.79	2.79
21.65	0.35	0.55	5.00	0.00	2.78	2.78
21.70	0.35	0.55	5.00	0.00	2.78	2.78
21.75	0.35	0.55	5.00	0.00	2.77	2.77
21.80	0.35	0.55	5.00	0.00	2.77	2.77
21.85	0.34	0.55	5.00	0.00	2.77	2.77
21.90	0.34	0.55	5.00	0.00	2.76	2.76
21.95	0.34	0.55	5.00	0.00	2.76	2.76
22.00	0.34	0.55	5.00	0.00	2.75	2.75
22.05	0.34	0.55	5.00	0.00	2.75	2.75
22.10	0.34	0.55	5.00	0.00	2.75	2.75
22.15	0.34	0.55	5.00	0.00	2.74	2.74
22.20	0.34	0.55	5.00	0.00	2.74	2.74
22.25	0.34	0.55	5.00	0.00	2.73	2.73
22.30	0.34	0.55	5.00	0.00	2.73	2.73
22.35	0.34	0.55	5.00	0.00	2.73	2.73
22.40	0.34	0.55	5.00	0.00	2.72	2.72
22.45	0.34	0.55	5.00	0.00	2.72	2.72
22.50	0.34	0.55	5.00	0.00	2.71	2.71
22.55	0.34	0.55	5.00	0.00	2.71	2.71
22.60	0.34	0.55	5.00	0.00	2.70	2.70
22.65	0.34	0.55	5.00	0.00	2.70	2.70
22.70	0.34	0.55	5.00	0.00	2.69	2.69
22.75	0.34	0.55	5.00	0.00	2.69	2.69
22.80	0.34	0.55	5.00	0.00	2.69	2.69
22.85	0.34	0.55	5.00	0.00	2.68	2.68
22.90	0.34	0.55	5.00	0.00	2.68	2.68
22.95	0.34	0.55	5.00	0.00	2.67	2.67
23.00	0.34	0.55	5.00	0.00	2.67	2.67
23.05	0.34	0.55	5.00	0.00	2.66	2.66
23.10	0.34	0.55	5.00	0.00	2.66	2.66
23.15	0.34	0.55	5.00	0.00	2.65	2.65
23.20	0.34	0.55	5.00	0.00	2.65	2.65
23.25	0.34	0.55	5.00	0.00	2.64	2.64
23.30	0.33	0.55	5.00	0.00	2.64	2.64
23.35	0.33	0.55	5.00	0.00	2.63	2.63
23.40	0.33	0.55	5.00	0.00	2.63	2.63
23.45	0.33	0.55	5.00	0.00	2.62	2.62
23.50	0.33	0.55	5.00	0.00	2.62	2.62
23.55	0.33	0.55	5.00	0.00	2.61	2.61
23.60	0.33	0.55	5.00	0.00	2.61	2.61
23.65	0.33	0.55	5.00	0.00	2.60	2.60
23.70	0.33	0.55	5.00	0.00	2.60	2.60
23.75	0.33	0.55	5.00	0.00	2.59	2.59
23.80	0.33	0.55	5.00	0.00	2.59	2.59
23.85	0.33	0.55	5.00	0.00	2.58	2.58
23.90	0.33	0.55	5.00	0.00	2.58	2.58
23.95	0.33	0.55	5.00	0.00	2.57	2.57
24.00	0.33	0.55	5.00	0.00	2.57	2.57
24.05	0.33	0.55	5.00	0.00	2.56	2.56
24.10	0.33	0.55	5.00	0.00	2.56	2.56
24.15	0.33	0.55	5.00	0.00	2.55	2.55
24.20	0.33	0.55	5.00	0.00	2.55	2.55
24.25	0.33	0.55	5.00	0.00	2.54	2.54
24.30	0.33	0.55	5.00	0.00	2.54	2.54
24.35	0.33	0.55	5.00	0.00	2.53	2.53
24.40	0.33	0.55	5.00	0.00	2.52	2.52
24.45	0.33	0.55	5.00	0.00	2.52	2.52
24.50	0.33	0.55	5.00	0.00	2.51	2.51
24.55	0.33	0.55	5.00	0.00	2.51	2.51

				B1.sum		
24.60	0.33	0.55	5.00	0.00	2.50	2.50
24.65	0.33	0.55	5.00	0.00	2.50	2.50
24.70	0.33	0.55	5.00	0.00	2.49	2.49
24.75	0.33	0.55	5.00	0.00	2.48	2.48
24.80	0.33	0.55	5.00	0.00	2.48	2.48
24.85	0.33	0.55	5.00	0.00	2.47	2.47
24.90	0.33	0.55	5.00	0.00	2.47	2.47
24.95	0.33	0.55	5.00	0.00	2.46	2.46
25.00	0.33	0.55	5.00	0.00	2.45	2.45
25.05	0.33	0.55	5.00	0.00	2.45	2.45
25.10	0.33	0.55	5.00	0.00	2.44	2.44
25.15	0.33	0.55	5.00	0.00	2.43	2.43
25.20	0.33	0.55	5.00	0.00	2.43	2.43
25.25	0.33	0.55	5.00	0.00	2.42	2.42
25.30	0.33	0.55	5.00	0.00	2.42	2.42
25.35	0.33	0.55	5.00	0.00	2.41	2.41
25.40	0.33	0.55	5.00	0.00	2.40	2.40
25.45	0.33	0.55	5.00	0.00	2.40	2.40
25.50	0.33	0.55	5.00	0.00	2.39	2.39
25.55	0.33	0.55	5.00	0.00	2.39	2.39
25.60	0.33	0.55	5.00	0.00	2.38	2.38
25.65	0.34	0.55	5.00	0.00	2.37	2.37
25.70	0.34	0.55	5.00	0.00	2.37	2.37
25.75	0.34	0.55	5.00	0.00	2.36	2.36
25.80	0.34	0.55	5.00	0.00	2.36	2.36
25.85	0.34	0.55	5.00	0.00	2.35	2.35
25.90	0.34	0.55	5.00	0.00	2.34	2.34
25.95	0.34	0.55	5.00	0.00	2.34	2.34
26.00	0.34	0.55	5.00	0.00	2.33	2.33
26.05	0.34	0.55	5.00	0.00	2.32	2.32
26.10	0.34	0.55	5.00	0.00	2.32	2.32
26.15	0.34	0.55	5.00	0.00	2.31	2.31
26.20	0.34	0.55	5.00	0.00	2.31	2.31
26.25	0.34	0.55	5.00	0.00	2.30	2.30
26.30	0.34	0.55	5.00	0.00	2.29	2.29
26.35	0.34	0.55	5.00	0.00	2.29	2.29
26.40	0.34	0.55	5.00	0.00	2.28	2.28
26.45	0.34	0.55	5.00	0.00	2.28	2.28
26.50	0.34	0.55	5.00	0.00	2.27	2.27
26.55	0.35	0.55	5.00	0.00	2.26	2.26
26.60	0.35	0.55	5.00	0.00	2.26	2.26
26.65	0.35	0.55	5.00	0.00	2.25	2.25
26.70	0.35	0.55	5.00	0.00	2.24	2.24
26.75	0.35	0.55	5.00	0.00	2.24	2.24
26.80	0.35	0.55	5.00	0.00	2.23	2.23
26.85	0.35	0.55	5.00	0.00	2.23	2.23
26.90	0.35	0.55	5.00	0.00	2.22	2.22
26.95	0.35	0.55	5.00	0.00	2.21	2.21
27.00	0.35	0.55	5.00	0.00	2.21	2.21
27.05	0.35	0.55	5.00	0.00	2.20	2.20
27.10	0.35	0.54	5.00	0.00	2.20	2.20
27.15	0.35	0.54	5.00	0.00	2.19	2.19
27.20	0.35	0.54	5.00	0.00	2.18	2.18
27.25	0.35	0.54	5.00	0.00	2.18	2.18
27.30	0.35	0.54	5.00	0.00	2.17	2.17
27.35	0.35	0.54	5.00	0.00	2.17	2.17
27.40	0.35	0.54	5.00	0.00	2.16	2.16
27.45	0.36	0.54	5.00	0.00	2.15	2.15
27.50	0.36	0.54	5.00	0.00	2.15	2.15
27.55	0.36	0.54	5.00	0.00	2.14	2.14
27.60	0.36	0.54	5.00	0.00	2.14	2.14
27.65	0.36	0.54	5.00	0.00	2.13	2.13
27.70	0.36	0.54	5.00	0.00	2.12	2.12

				B1.sum		
27.75	0.36	0.54	5.00	0.00	2.12	2.12
27.80	0.36	0.54	5.00	0.00	2.11	2.11
27.85	0.36	0.54	5.00	0.00	2.10	2.10
27.90	0.39	0.54	5.00	0.00	2.10	2.10
27.95	0.39	0.54	5.00	0.00	2.09	2.09
28.00	0.39	0.54	5.00	0.00	2.09	2.09
28.05	0.39	0.54	5.00	0.00	2.08	2.08
28.10	0.39	0.54	5.00	0.00	2.08	2.08
28.15	0.39	0.54	5.00	0.00	2.07	2.07
28.20	0.39	0.54	5.00	0.00	2.07	2.07
28.25	0.39	0.54	5.00	0.00	2.06	2.06
28.30	0.39	0.54	5.00	0.00	2.06	2.06
28.35	0.39	0.54	5.00	0.00	2.05	2.05
28.40	0.39	0.54	5.00	0.00	2.05	2.05
28.45	0.40	0.54	5.00	0.00	2.04	2.04
28.50	0.40	0.54	5.00	0.00	2.04	2.04
28.55	0.40	0.54	5.00	0.00	2.03	2.03
28.60	0.40	0.54	5.00	0.00	2.03	2.03
28.65	0.40	0.54	5.00	0.00	2.02	2.02
28.70	0.40	0.54	5.00	0.00	2.02	2.02
28.75	0.40	0.54	5.00	0.00	2.01	2.01
28.80	0.40	0.54	5.00	0.00	2.00	2.00
28.85	0.40	0.54	5.00	0.00	2.00	2.00
28.90	0.40	0.54	5.00	0.00	1.99	1.99
28.95	0.40	0.54	5.00	0.00	1.99	1.99
29.00	0.40	0.54	5.00	0.00	1.98	1.98
29.05	0.41	0.54	5.00	0.00	1.98	1.98
29.10	0.41	0.54	5.00	0.00	1.97	1.97
29.15	0.41	0.54	5.00	0.00	1.97	1.97
29.20	0.41	0.54	5.00	0.00	1.96	1.96
29.25	0.41	0.54	5.00	0.00	1.96	1.96
29.30	0.41	0.54	5.00	0.00	1.95	1.95
29.35	0.41	0.54	5.00	0.00	1.95	1.95
29.40	0.41	0.54	5.00	0.00	1.94	1.94
29.45	0.41	0.54	5.00	0.00	1.94	1.94
29.50	0.41	0.54	5.00	0.00	1.93	1.93
29.55	0.41	0.54	5.00	0.00	1.93	1.93
29.60	0.42	0.54	5.00	0.00	1.92	1.92
29.65	0.42	0.54	5.00	0.00	1.92	1.92
29.70	0.42	0.54	5.00	0.00	1.91	1.91
29.75	0.42	0.54	5.00	0.00	1.91	1.91
29.80	0.42	0.54	5.00	0.00	1.90	1.90
29.85	0.42	0.54	5.00	0.00	1.90	1.90
29.90	0.42	0.54	5.00	0.00	1.89	1.89
29.95	0.42	0.54	5.00	0.00	1.89	1.89
30.00	0.42	0.54	5.00	0.00	1.88	1.88
30.05	0.42	0.54	5.00	0.00	1.88	1.88
30.10	0.42	0.54	5.00	0.00	1.87	1.87
30.15	0.42	0.54	5.00	0.00	1.87	1.87
30.20	0.42	0.54	5.00	0.00	1.86	1.86
30.25	0.41	0.54	5.00	0.00	1.85	1.85
30.30	0.41	0.54	5.00	0.00	1.85	1.85
30.35	0.41	0.54	5.00	0.00	1.84	1.84
30.40	0.41	0.54	5.00	0.00	1.84	1.84
30.45	0.41	0.54	5.00	0.00	1.83	1.83
30.50	0.41	0.54	5.00	0.00	1.83	1.83
30.55	0.40	0.54	5.00	0.00	1.82	1.82
30.60	0.40	0.54	5.00	0.00	1.82	1.82
30.65	0.40	0.54	5.00	0.00	1.81	1.81
30.70	0.40	0.54	5.00	0.00	1.80	1.80
30.75	0.40	0.54	5.00	0.00	1.80	1.80
30.80	0.40	0.54	5.00	0.00	1.79	1.79
30.85	0.39	0.54	5.00	0.00	1.79	1.79

				B1.sum		
30.90	0.39	0.54	5.00	0.00	1.78	1.78
30.95	0.39	0.54	5.00	0.00	1.78	1.78
31.00	0.39	0.54	5.00	0.00	1.77	1.77
31.05	0.39	0.54	5.00	0.00	1.76	1.76
31.10	0.39	0.54	5.00	0.00	1.76	1.76
31.15	0.39	0.54	5.00	0.00	1.75	1.75
31.20	0.38	0.54	5.00	0.00	1.74	1.74
31.25	0.38	0.54	5.00	0.00	1.74	1.74
31.30	0.38	0.53	5.00	0.00	1.73	1.73
31.35	0.38	0.53	5.00	0.00	1.73	1.73
31.40	0.38	0.53	5.00	0.00	1.72	1.72
31.45	0.38	0.53	5.00	0.00	1.71	1.71
31.50	0.38	0.53	5.00	0.00	1.71	1.71
31.55	0.37	0.53	5.00	0.00	1.70	1.70
31.60	0.37	0.53	5.00	0.00	1.69	1.69
31.65	0.37	0.53	5.00	0.00	1.69	1.69
31.70	0.37	0.53	5.00	0.00	1.68	1.68
31.75	0.37	0.53	5.00	0.00	1.67	1.67
31.80	0.37	0.53	5.00	0.00	1.67	1.67
31.85	0.37	0.53	5.00	0.00	1.66	1.66
31.90	0.37	0.53	5.00	0.00	1.65	1.65
31.95	0.36	0.53	5.00	0.00	1.64	1.64
32.00	0.36	0.53	5.00	0.00	1.64	1.64
32.05	0.36	0.53	5.00	0.00	1.63	1.63
32.10	0.36	0.53	5.00	0.00	1.62	1.62
32.15	0.36	0.53	5.00	0.00	1.62	1.62
32.20	0.36	0.53	5.00	0.00	1.61	1.61
32.25	0.36	0.53	5.00	0.00	1.60	1.60
32.30	0.36	0.53	5.00	0.00	1.59	1.59
32.35	0.35	0.53	5.00	0.00	1.59	1.59
32.40	0.35	0.53	5.00	0.00	1.58	1.58
32.45	0.35	0.53	5.00	0.00	1.57	1.57
32.50	0.35	0.53	5.00	0.00	1.56	1.56
32.55	0.35	0.53	5.00	0.00	1.55	1.55
32.60	0.35	0.53	5.00	0.00	1.55	1.55
32.65	0.35	0.53	5.00	0.00	1.54	1.54
32.70	0.35	0.53	5.00	0.00	1.53	1.53
32.75	0.35	0.53	5.00	0.00	1.52	1.52
32.80	0.34	0.53	5.00	0.00	1.52	1.52
32.85	0.34	0.53	5.00	0.00	1.51	1.51
32.90	0.34	0.53	5.00	0.00	1.50	1.50
32.95	0.34	0.53	5.00	0.00	1.49	1.49
33.00	0.34	0.53	5.00	0.00	1.48	1.48
33.05	0.34	0.53	5.00	0.00	1.48	1.48
33.10	0.34	0.53	5.00	0.00	1.47	1.47
33.15	0.34	0.53	5.00	0.00	1.46	1.46
33.20	0.34	0.53	5.00	0.00	1.45	1.45
33.25	0.33	0.53	5.00	0.00	1.45	1.45
33.30	0.33	0.53	5.00	0.00	1.44	1.44
33.35	0.33	0.53	5.00	0.00	1.43	1.43
33.40	0.33	0.52	5.00	0.00	1.42	1.42
33.45	0.33	0.52	5.00	0.00	1.41	1.41
33.50	0.33	0.52	5.00	0.00	1.40	1.40
33.55	0.33	0.52	5.00	0.00	1.40	1.40
33.60	0.33	0.52	5.00	0.00	1.39	1.39
33.65	0.33	0.52	5.00	0.00	1.38	1.38
33.70	0.33	0.52	5.00	0.00	1.37	1.37
33.75	0.32	0.52	5.00	0.00	1.36	1.36
33.80	0.32	0.52	5.00	0.00	1.36	1.36
33.85	0.32	0.52	5.00	0.00	1.35	1.35
33.90	0.32	0.52	5.00	0.00	1.34	1.34
33.95	0.32	0.52	5.00	0.00	1.33	1.33
34.00	0.32	0.52	5.00	0.00	1.32	1.32

				B1.sum		
34.05	0.32	0.52	5.00	0.00	1.31	1.31
34.10	0.32	0.52	5.00	0.00	1.31	1.31
34.15	0.32	0.52	5.00	0.00	1.30	1.30
34.20	0.32	0.52	5.00	0.00	1.29	1.29
34.25	0.32	0.52	5.00	0.00	1.28	1.28
34.30	0.31	0.52	5.00	0.00	1.27	1.27
34.35	0.31	0.52	5.00	0.00	1.26	1.26
34.40	0.31	0.52	5.00	0.00	1.26	1.26
34.45	0.31	0.52	5.00	0.00	1.25	1.25
34.50	0.31	0.52	5.00	0.00	1.24	1.24
34.55	0.31	0.52	5.00	0.00	1.23	1.23
34.60	0.31	0.52	5.00	0.00	1.22	1.22
34.65	0.31	0.52	5.00	0.00	1.21	1.21
34.70	0.31	0.52	5.00	0.00	1.20	1.20
34.75	0.31	0.52	5.00	0.00	1.20	1.20
34.80	0.31	0.52	5.00	0.00	1.19	1.19
34.85	0.30	0.52	5.00	0.00	1.18	1.18
34.90	0.30	0.52	5.00	0.00	1.17	1.17
34.95	0.30	0.52	5.00	0.00	1.16	1.16
35.00	0.30	0.52	5.00	0.00	1.15	1.15
35.05	2.00	0.52	5.00	0.00	1.14	1.14
35.10	2.00	0.52	5.00	0.00	1.14	1.14
35.15	2.00	0.52	5.00	0.00	1.14	1.14
35.20	2.00	0.52	5.00	0.00	1.14	1.14
35.25	2.00	0.52	5.00	0.00	1.14	1.14
35.30	2.00	0.52	5.00	0.00	1.14	1.14
35.35	2.00	0.52	5.00	0.00	1.14	1.14
35.40	2.00	0.52	5.00	0.00	1.14	1.14
35.45	2.00	0.52	5.00	0.00	1.14	1.14
35.50	2.00	0.51	5.00	0.00	1.14	1.14
35.55	2.00	0.51	5.00	0.00	1.14	1.14
35.60	2.00	0.51	5.00	0.00	1.14	1.14
35.65	2.00	0.51	5.00	0.00	1.14	1.14
35.70	2.00	0.51	5.00	0.00	1.14	1.14
35.75	2.00	0.51	5.00	0.00	1.14	1.14
35.80	2.00	0.51	5.00	0.00	1.14	1.14
35.85	2.00	0.51	5.00	0.00	1.14	1.14
35.90	2.00	0.51	5.00	0.00	1.14	1.14
35.95	2.00	0.51	5.00	0.00	1.14	1.14
36.00	2.00	0.51	5.00	0.00	1.14	1.14
36.05	2.00	0.51	5.00	0.00	1.14	1.14
36.10	2.00	0.51	5.00	0.00	1.14	1.14
36.15	2.00	0.51	5.00	0.00	1.14	1.14
36.20	2.00	0.51	5.00	0.00	1.14	1.14
36.25	2.00	0.51	5.00	0.00	1.14	1.14
36.30	2.00	0.51	5.00	0.00	1.14	1.14
36.35	2.00	0.51	5.00	0.00	1.14	1.14
36.40	2.00	0.51	5.00	0.00	1.14	1.14
36.45	2.00	0.51	5.00	0.00	1.14	1.14
36.50	2.00	0.51	5.00	0.00	1.14	1.14
36.55	2.00	0.51	5.00	0.00	1.14	1.14
36.60	2.00	0.51	5.00	0.00	1.14	1.14
36.65	2.00	0.51	5.00	0.00	1.14	1.14
36.70	2.00	0.51	5.00	0.00	1.14	1.14
36.75	2.00	0.51	5.00	0.00	1.14	1.14
36.80	2.00	0.51	5.00	0.00	1.14	1.14
36.85	2.00	0.51	5.00	0.00	1.14	1.14
36.90	2.00	0.51	5.00	0.00	1.14	1.14
36.95	2.00	0.51	5.00	0.00	1.14	1.14
37.00	2.00	0.51	5.00	0.00	1.14	1.14
37.05	2.00	0.51	5.00	0.00	1.14	1.14
37.10	2.00	0.51	5.00	0.00	1.14	1.14
37.15	2.00	0.51	5.00	0.00	1.14	1.14

				B1.sum		
37.20	2.00	0.51	5.00	0.00	1.14	1.14
37.25	2.00	0.51	5.00	0.00	1.14	1.14
37.30	2.00	0.51	5.00	0.00	1.14	1.14
37.35	2.00	0.51	5.00	0.00	1.14	1.14
37.40	2.00	0.51	5.00	0.00	1.14	1.14
37.45	2.00	0.51	5.00	0.00	1.14	1.14
37.50	2.00	0.51	5.00	0.00	1.14	1.14
37.55	2.00	0.51	5.00	0.00	1.14	1.14
37.60	2.00	0.50	5.00	0.00	1.14	1.14
37.65	2.00	0.50	5.00	0.00	1.14	1.14
37.70	2.00	0.50	5.00	0.00	1.14	1.14
37.75	2.00	0.50	5.00	0.00	1.14	1.14
37.80	2.00	0.50	5.00	0.00	1.14	1.14
37.85	2.00	0.50	5.00	0.00	1.14	1.14
37.90	2.00	0.50	5.00	0.00	1.14	1.14
37.95	2.00	0.50	5.00	0.00	1.14	1.14
38.00	2.00	0.50	5.00	0.00	1.14	1.14
38.05	2.00	0.50	5.00	0.00	1.14	1.14
38.10	2.00	0.50	5.00	0.00	1.14	1.14
38.15	2.00	0.50	5.00	0.00	1.14	1.14
38.20	2.00	0.50	5.00	0.00	1.14	1.14
38.25	2.00	0.50	5.00	0.00	1.14	1.14
38.30	2.00	0.50	5.00	0.00	1.14	1.14
38.35	2.00	0.50	5.00	0.00	1.14	1.14
38.40	2.00	0.50	5.00	0.00	1.14	1.14
38.45	2.00	0.50	5.00	0.00	1.14	1.14
38.50	2.00	0.50	5.00	0.00	1.14	1.14
38.55	2.00	0.50	5.00	0.00	1.14	1.14
38.60	2.00	0.50	5.00	0.00	1.14	1.14
38.65	2.00	0.50	5.00	0.00	1.14	1.14
38.70	2.00	0.50	5.00	0.00	1.14	1.14
38.75	2.00	0.50	5.00	0.00	1.14	1.14
38.80	2.00	0.50	5.00	0.00	1.14	1.14
38.85	2.00	0.50	5.00	0.00	1.14	1.14
38.90	2.00	0.50	5.00	0.00	1.14	1.14
38.95	2.00	0.50	5.00	0.00	1.14	1.14
39.00	2.00	0.50	5.00	0.00	1.14	1.14
39.05	2.00	0.50	5.00	0.00	1.14	1.14
39.10	2.00	0.50	5.00	0.00	1.14	1.14
39.15	2.00	0.50	5.00	0.00	1.14	1.14
39.20	2.00	0.50	5.00	0.00	1.14	1.14
39.25	2.00	0.50	5.00	0.00	1.14	1.14
39.30	2.00	0.50	5.00	0.00	1.14	1.14
39.35	2.00	0.50	5.00	0.00	1.14	1.14
39.40	2.00	0.50	5.00	0.00	1.14	1.14
39.45	2.00	0.50	5.00	0.00	1.14	1.14
39.50	2.00	0.50	5.00	0.00	1.14	1.14
39.55	2.00	0.50	5.00	0.00	1.14	1.14
39.60	2.00	0.50	5.00	0.00	1.14	1.14
39.65	2.00	0.50	5.00	0.00	1.14	1.14
39.70	2.00	0.50	5.00	0.00	1.14	1.14
39.75	2.00	0.49	5.00	0.00	1.14	1.14
39.80	2.00	0.49	5.00	0.00	1.14	1.14
39.85	2.00	0.49	5.00	0.00	1.14	1.14
39.90	2.00	0.49	5.00	0.00	1.14	1.14
39.95	2.00	0.49	5.00	0.00	1.14	1.14
40.00	2.00	0.49	5.00	0.00	1.14	1.14
40.05	2.00	0.49	5.00	0.00	1.14	1.14
40.10	2.00	0.49	5.00	0.00	1.14	1.14
40.15	2.00	0.49	5.00	0.00	1.14	1.14
40.20	2.00	0.49	5.00	0.00	1.14	1.14
40.25	2.00	0.49	5.00	0.00	1.14	1.14
40.30	2.00	0.49	5.00	0.00	1.14	1.14

				B1.sum		
40.35	2.00	0.49	5.00	0.00	1.14	1.14
40.40	2.00	0.49	5.00	0.00	1.14	1.14
40.45	2.00	0.49	5.00	0.00	1.14	1.14
40.50	2.00	0.49	5.00	0.00	1.14	1.14
40.55	2.00	0.49	5.00	0.00	1.14	1.14
40.60	2.00	0.49	5.00	0.00	1.14	1.14
40.65	2.00	0.49	5.00	0.00	1.14	1.14
40.70	2.00	0.49	5.00	0.00	1.14	1.14
40.75	2.00	0.49	5.00	0.00	1.14	1.14
40.80	2.00	0.49	5.00	0.00	1.14	1.14
40.85	2.00	0.49	5.00	0.00	1.14	1.14
40.90	2.00	0.49	5.00	0.00	1.14	1.14
40.95	2.00	0.49	5.00	0.00	1.14	1.14
41.00	2.00	0.49	5.00	0.00	1.14	1.14
41.05	2.00	0.49	5.00	0.00	1.14	1.14
41.10	2.00	0.49	5.00	0.00	1.14	1.14
41.15	2.00	0.49	5.00	0.00	1.14	1.14
41.20	2.00	0.49	5.00	0.00	1.14	1.14
41.25	2.00	0.49	5.00	0.00	1.14	1.14
41.30	2.00	0.49	5.00	0.00	1.14	1.14
41.35	2.00	0.49	5.00	0.00	1.14	1.14
41.40	2.00	0.49	5.00	0.00	1.14	1.14
41.45	2.00	0.49	5.00	0.00	1.14	1.14
41.50	2.00	0.49	5.00	0.00	1.14	1.14
41.55	2.00	0.49	5.00	0.00	1.14	1.14
41.60	2.00	0.49	5.00	0.00	1.14	1.14
41.65	2.00	0.49	5.00	0.00	1.14	1.14
41.70	2.00	0.49	5.00	0.00	1.14	1.14
41.75	2.00	0.49	5.00	0.00	1.14	1.14
41.80	2.00	0.49	5.00	0.00	1.14	1.14
41.85	2.00	0.48	5.00	0.00	1.14	1.14
41.90	2.00	0.48	5.00	0.00	1.14	1.14
41.95	2.00	0.48	5.00	0.00	1.14	1.14
42.00	2.00	0.48	5.00	0.00	1.14	1.14
42.05	2.00	0.48	5.00	0.00	1.14	1.14
42.10	2.00	0.48	5.00	0.00	1.14	1.14
42.15	2.00	0.48	5.00	0.00	1.14	1.14
42.20	2.00	0.48	5.00	0.00	1.14	1.14
42.25	2.00	0.48	5.00	0.00	1.14	1.14
42.30	2.00	0.48	5.00	0.00	1.14	1.14
42.35	2.00	0.48	5.00	0.00	1.14	1.14
42.40	2.00	0.48	5.00	0.00	1.14	1.14
42.45	2.00	0.48	5.00	0.00	1.14	1.14
42.50	2.00	0.48	5.00	0.00	1.14	1.14
42.55	2.00	0.48	5.00	0.00	1.14	1.14
42.60	2.00	0.48	5.00	0.00	1.14	1.14
42.65	2.00	0.48	5.00	0.00	1.14	1.14
42.70	2.00	0.48	5.00	0.00	1.14	1.14
42.75	2.00	0.48	5.00	0.00	1.14	1.14
42.80	2.00	0.48	5.00	0.00	1.14	1.14
42.85	2.00	0.48	5.00	0.00	1.14	1.14
42.90	2.00	0.48	5.00	0.00	1.14	1.14
42.95	2.00	0.48	5.00	0.00	1.14	1.14
43.00	2.00	0.48	5.00	0.00	1.14	1.14
43.05	2.00	0.48	5.00	0.00	1.14	1.14
43.10	2.00	0.48	5.00	0.00	1.14	1.14
43.15	2.00	0.48	5.00	0.00	1.14	1.14
43.20	2.00	0.48	5.00	0.00	1.14	1.14
43.25	2.00	0.48	5.00	0.00	1.14	1.14
43.30	2.00	0.48	5.00	0.00	1.14	1.14
43.35	2.00	0.48	5.00	0.00	1.14	1.14
43.40	2.00	0.48	5.00	0.00	1.14	1.14
43.45	2.00	0.48	5.00	0.00	1.14	1.14

				B1.sum		
43.50	2.00	0.48	5.00	0.00	1.14	1.14
43.55	2.00	0.48	5.00	0.00	1.14	1.14
43.60	2.00	0.48	5.00	0.00	1.14	1.14
43.65	2.00	0.48	5.00	0.00	1.14	1.14
43.70	2.00	0.48	5.00	0.00	1.14	1.14
43.75	2.00	0.48	5.00	0.00	1.14	1.14
43.80	2.00	0.48	5.00	0.00	1.14	1.14
43.85	2.00	0.48	5.00	0.00	1.14	1.14
43.90	2.00	0.48	5.00	0.00	1.14	1.14
43.95	2.00	0.47	5.00	0.00	1.14	1.14
44.00	2.00	0.47	5.00	0.00	1.14	1.14
44.05	2.00	0.47	5.00	0.00	1.14	1.14
44.10	2.00	0.47	5.00	0.00	1.14	1.14
44.15	2.00	0.47	5.00	0.00	1.14	1.14
44.20	2.00	0.47	5.00	0.00	1.14	1.14
44.25	2.00	0.47	5.00	0.00	1.14	1.14
44.30	2.00	0.47	5.00	0.00	1.14	1.14
44.35	2.00	0.47	5.00	0.00	1.14	1.14
44.40	2.00	0.47	5.00	0.00	1.14	1.14
44.45	2.00	0.47	5.00	0.00	1.14	1.14
44.50	2.00	0.47	5.00	0.00	1.14	1.14
44.55	2.00	0.47	5.00	0.00	1.14	1.14
44.60	2.00	0.47	5.00	0.00	1.14	1.14
44.65	2.00	0.47	5.00	0.00	1.14	1.14
44.70	2.00	0.47	5.00	0.00	1.14	1.14
44.75	2.00	0.47	5.00	0.00	1.14	1.14
44.80	2.00	0.47	5.00	0.00	1.14	1.14
44.85	2.00	0.47	5.00	0.00	1.14	1.14
44.90	2.00	0.47	5.00	0.00	1.14	1.14
44.95	2.00	0.47	5.00	0.00	1.14	1.14
45.00	2.00	0.47	5.00	0.00	1.14	1.14
45.05	0.27	0.47	5.00	0.00	1.14	1.14
45.10	0.27	0.47	5.00	0.00	1.14	1.14
45.15	0.27	0.47	5.00	0.00	1.13	1.13
45.20	0.27	0.47	5.00	0.00	1.13	1.13
45.25	0.26	0.47	5.00	0.00	1.13	1.13
45.30	0.26	0.47	5.00	0.00	1.12	1.12
45.35	0.26	0.47	5.00	0.00	1.12	1.12
45.40	0.26	0.47	5.00	0.00	1.11	1.11
45.45	0.26	0.47	5.00	0.00	1.11	1.11
45.50	0.26	0.47	5.00	0.00	1.10	1.10
45.55	0.25	0.47	5.00	0.00	1.10	1.10
45.60	0.25	0.47	5.00	0.00	1.09	1.09
45.65	0.25	0.47	5.00	0.00	1.09	1.09
45.70	0.25	0.47	5.00	0.00	1.08	1.08
45.75	0.25	0.47	5.00	0.00	1.08	1.08
45.80	0.24	0.47	5.00	0.00	1.07	1.07
45.85	0.24	0.47	5.00	0.00	1.07	1.07
45.90	0.24	0.47	5.00	0.00	1.06	1.06
45.95	0.24	0.47	5.00	0.00	1.06	1.06
46.00	0.24	0.47	5.00	0.00	1.05	1.05
46.05	0.24	0.46	5.00	0.00	1.05	1.05
46.10	0.24	0.46	5.00	0.00	1.04	1.04
46.15	0.23	0.46	5.00	0.00	1.04	1.04
46.20	0.23	0.46	5.00	0.00	1.03	1.03
46.25	0.23	0.46	5.00	0.00	1.02	1.02
46.30	0.23	0.46	5.00	0.00	1.02	1.02
46.35	0.23	0.46	5.00	0.00	1.01	1.01
46.40	0.23	0.46	5.00	0.00	1.01	1.01
46.45	0.22	0.46	5.00	0.00	1.00	1.00
46.50	0.22	0.46	5.00	0.00	0.99	0.99
46.55	0.22	0.46	5.00	0.00	0.99	0.99
46.60	0.22	0.46	5.00	0.00	0.98	0.98

				B1.sum		
46.65	0.22	0.46	5.00	0.00	0.97	0.97
46.70	0.22	0.46	5.00	0.00	0.97	0.97
46.75	0.21	0.46	5.00	0.00	0.96	0.96
46.80	0.21	0.46	5.00	0.00	0.95	0.95
46.85	0.21	0.46	5.00	0.00	0.94	0.94
46.90	0.21	0.46	5.00	0.00	0.94	0.94
46.95	0.21	0.46	5.00	0.00	0.93	0.93
47.00	0.21	0.46	5.00	0.00	0.92	0.92
47.05	0.21	0.46	5.00	0.00	0.91	0.91
47.10	0.20	0.46	5.00	0.00	0.91	0.91
47.15	0.20	0.46	5.00	0.00	0.90	0.90
47.20	0.20	0.46	5.00	0.00	0.89	0.89
47.25	0.20	0.46	5.00	0.00	0.88	0.88
47.30	0.20	0.46	5.00	0.00	0.87	0.87
47.35	0.20	0.46	5.00	0.00	0.86	0.86
47.40	0.19	0.46	5.00	0.00	0.85	0.85
47.45	0.19	0.46	5.00	0.00	0.85	0.85
47.50	0.19	0.46	5.00	0.00	0.84	0.84
47.55	0.19	0.46	5.00	0.00	0.83	0.83
47.60	0.19	0.46	5.00	0.00	0.82	0.82
47.65	0.19	0.46	5.00	0.00	0.81	0.81
47.70	0.19	0.46	5.00	0.00	0.80	0.80
47.75	0.18	0.46	5.00	0.00	0.79	0.79
47.80	0.18	0.46	5.00	0.00	0.78	0.78
47.85	0.18	0.46	5.00	0.00	0.77	0.77
47.90	0.18	0.46	5.00	0.00	0.75	0.75
47.95	0.18	0.46	5.00	0.00	0.74	0.74
48.00	0.18	0.46	5.00	0.00	0.73	0.73
48.05	0.18	0.46	5.00	0.00	0.72	0.72
48.10	0.17	0.46	5.00	0.00	0.71	0.71
48.15	0.17	0.46	5.00	0.00	0.70	0.70
48.20	0.17	0.45	5.00	0.00	0.68	0.68
48.25	0.17	0.45	5.00	0.00	0.67	0.67
48.30	0.17	0.45	5.00	0.00	0.66	0.66
48.35	0.17	0.45	5.00	0.00	0.65	0.65
48.40	0.16	0.45	5.00	0.00	0.63	0.63
48.45	0.16	0.45	5.00	0.00	0.62	0.62
48.50	0.16	0.45	5.00	0.00	0.60	0.60
48.55	0.16	0.45	5.00	0.00	0.59	0.59
48.60	0.16	0.45	5.00	0.00	0.57	0.57
48.65	0.16	0.45	5.00	0.00	0.56	0.56
48.70	0.16	0.45	5.00	0.00	0.54	0.54
48.75	0.15	0.45	5.00	0.00	0.53	0.53
48.80	0.15	0.45	5.00	0.00	0.51	0.51
48.85	0.15	0.45	5.00	0.00	0.49	0.49
48.90	0.15	0.45	5.00	0.00	0.48	0.48
48.95	0.15	0.45	5.00	0.00	0.46	0.46
49.00	0.15	0.45	5.00	0.00	0.44	0.44
49.05	0.15	0.45	5.00	0.00	0.42	0.42
49.10	0.14	0.45	5.00	0.00	0.41	0.41
49.15	0.14	0.45	5.00	0.00	0.39	0.39
49.20	0.14	0.45	5.00	0.00	0.37	0.37
49.25	0.14	0.45	5.00	0.00	0.35	0.35
49.30	0.14	0.45	5.00	0.00	0.32	0.32
49.35	0.14	0.45	5.00	0.00	0.30	0.30
49.40	0.14	0.45	5.00	0.00	0.28	0.28
49.45	0.13	0.45	5.00	0.00	0.26	0.26
49.50	0.13	0.45	5.00	0.00	0.24	0.24
49.55	0.13	0.45	5.00	0.00	0.22	0.22
49.60	0.13	0.45	5.00	0.00	0.19	0.19
49.65	0.13	0.45	5.00	0.00	0.17	0.17
49.70	0.13	0.45	5.00	0.00	0.15	0.15
49.75	0.13	0.45	5.00	0.00	0.12	0.12

49.80	0.12	0.45	5.00	0.00	0.10	0.10
49.85	0.12	0.45	5.00	0.00	0.07	0.07
49.90	0.12	0.45	5.00	0.00	0.05	0.05
49.95	0.12	0.45	5.00	0.00	0.03	0.03
50.00	0.12	0.45	5.00	0.00	0.00	0.00

* F.S.<1, Liquefaction Potential Zone
(F.S. is limited to 5, CRR is limited to 2, CSR is limited to 2)

Units Depth = ft, Stress or Pressure = tsf (atm), Unit Weight = pcf, Settlement = in.

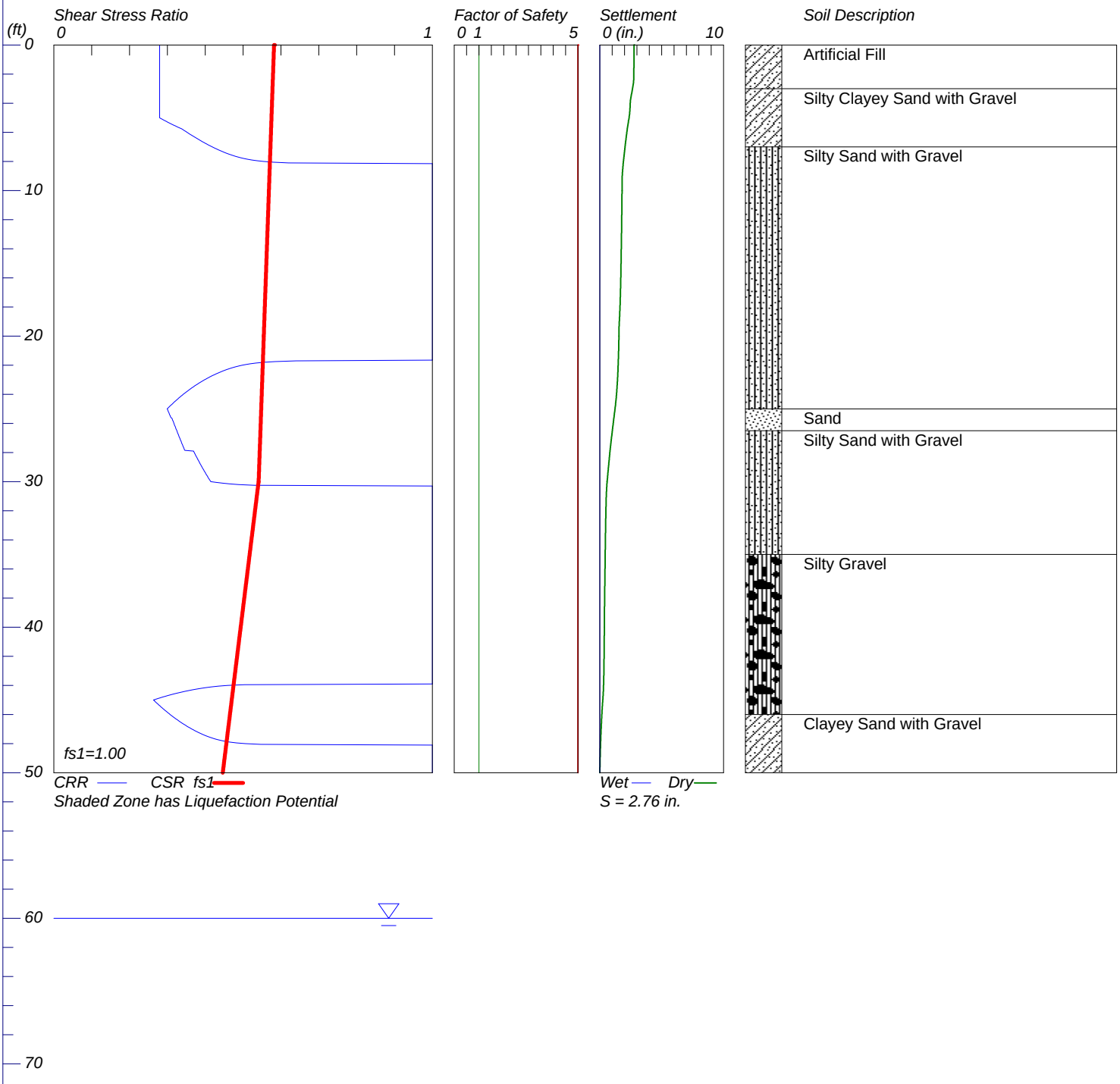
CRRm Cyclic resistance ratio from soils
CSRfs Cyclic stress ratio induced by a given earthquake (with user request factor of safety)
F.S. Factor of Safety against liquefaction, F.S.=CRRm/CSRfs
S_sat Settlement from saturated sands
S_dry Settlement from dry sands
S_all Total settlement from saturated and dry sands
NoLiq No-Liquefy Soils

LIQUEFACTION ANALYSIS

Proposed Commercial Dev. Temescal Cyn

Hole No.=B-14 Water Depth=60 ft Surface Elev.=~1075

Magnitude=6.8
Acceleration=.895g



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LIQUEFACTION ANALYSIS CALCULATION SHEET

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Input File Name: \\Server\projects\40-3639G Proposed Residential Development\B14.liq
Title: Proposed Commercial Dev. Temescal Cyn
Subtitle: 40-3639G

Surface Elev.=~1075
Hole No.=B-14
Depth of Hole= 50.0 ft
Water Table during Earthquake= 60.0 ft
Water Table during In-Situ Testing= 60.0 ft
Max. Acceleration= 0.89 g
Earthquake Magnitude= 6.8

Input Data:
Surface Elev.=~1075
Hole No.=B-14
Depth of Hole=50.0 ft
Water Table during Earthquake= 60.0 ft
Water Table during In-Situ Testing= 60.0 ft
Max. Acceleration=0.89 g
Earthquake Magnitude=6.8

Earthquake Magnitude=6.8
2. Settlement Analysis Method: Ishihara / Yoshimine*
3. Fines Correction for Liquefaction: Stark/Olson et al.*
4. Fine Correction for Settlement: During Liquefaction*
5. Settlement Calculation in: All zones*
6. Hammer Energy Ratio, Ce = 1
7. Borehole Diameter, Cb= 1
8. Sampling Method, Cs= 1
9. User request factor of safety (apply to CSR) , User= 1
Plot one CSR curve (fs1=User)
10. Use Curve Smoothing: Yes*
* Recommended Options

In-Situ Test Data:

Depth ft	SPT	gamma pcf	Fines %
0.0	12.0	120.0	25.0
5.0	12.0	120.0	25.0
10.0	31.0	120.0	23.0
15.0	48.0	120.0	20.0
20.0	37.0	120.0	18.0
25.0	23.0	120.0	20.0
30.0	32.0	120.0	20.0
35.0	100.0	130.0	10.0
40.0	100.0	130.0	10.0
45.0	29.0	125.0	20.0

50.0 56.0 125.0 20.0

Output Results:

Settlement of saturated sands=0.00 in.
Settlement of dry sands=2.76 in.
Total settlement of saturated and dry sands=2.76 in.
Differential Settlement=1.381 to 1.823 in.

Depth ft	CRRm	CSRfs	F.S.	S_sat. in.	S_dry in.	S_all in.
0.00	0.28	0.58	5.00	0.00	2.76	2.76
0.05	0.28	0.58	5.00	0.00	2.76	2.76
0.10	0.28	0.58	5.00	0.00	2.76	2.76
0.15	0.28	0.58	5.00	0.00	2.76	2.76
0.20	0.28	0.58	5.00	0.00	2.76	2.76
0.25	0.28	0.58	5.00	0.00	2.76	2.76
0.30	0.28	0.58	5.00	0.00	2.76	2.76
0.35	0.28	0.58	5.00	0.00	2.76	2.76
0.40	0.28	0.58	5.00	0.00	2.76	2.76
0.45	0.28	0.58	5.00	0.00	2.76	2.76
0.50	0.28	0.58	5.00	0.00	2.76	2.76
0.55	0.28	0.58	5.00	0.00	2.76	2.76
0.60	0.28	0.58	5.00	0.00	2.76	2.76
0.65	0.28	0.58	5.00	0.00	2.76	2.76
0.70	0.28	0.58	5.00	0.00	2.76	2.76
0.75	0.28	0.58	5.00	0.00	2.76	2.76
0.80	0.28	0.58	5.00	0.00	2.76	2.76
0.85	0.28	0.58	5.00	0.00	2.76	2.76
0.90	0.28	0.58	5.00	0.00	2.76	2.76
0.95	0.28	0.58	5.00	0.00	2.76	2.76
1.00	0.28	0.58	5.00	0.00	2.76	2.76
1.05	0.28	0.58	5.00	0.00	2.76	2.76
1.10	0.28	0.58	5.00	0.00	2.76	2.76
1.15	0.28	0.58	5.00	0.00	2.76	2.76
1.20	0.28	0.58	5.00	0.00	2.76	2.76
1.25	0.28	0.58	5.00	0.00	2.76	2.76
1.30	0.28	0.58	5.00	0.00	2.76	2.76
1.35	0.28	0.58	5.00	0.00	2.76	2.76
1.40	0.28	0.58	5.00	0.00	2.76	2.76
1.45	0.28	0.58	5.00	0.00	2.76	2.76
1.50	0.28	0.58	5.00	0.00	2.76	2.76
1.55	0.28	0.58	5.00	0.00	2.76	2.76
1.60	0.28	0.58	5.00	0.00	2.75	2.75
1.65	0.28	0.58	5.00	0.00	2.75	2.75
1.70	0.28	0.58	5.00	0.00	2.75	2.75
1.75	0.28	0.58	5.00	0.00	2.75	2.75
1.80	0.28	0.58	5.00	0.00	2.75	2.75
1.85	0.28	0.58	5.00	0.00	2.75	2.75
1.90	0.28	0.58	5.00	0.00	2.75	2.75
1.95	0.28	0.58	5.00	0.00	2.75	2.75
2.00	0.28	0.58	5.00	0.00	2.75	2.75
2.05	0.28	0.58	5.00	0.00	2.75	2.75
2.10	0.28	0.58	5.00	0.00	2.75	2.75
2.15	0.28	0.58	5.00	0.00	2.75	2.75
2.20	0.28	0.58	5.00	0.00	2.74	2.74
2.25	0.28	0.58	5.00	0.00	2.74	2.74
2.30	0.28	0.58	5.00	0.00	2.74	2.74
2.35	0.28	0.58	5.00	0.00	2.74	2.74
2.40	0.28	0.58	5.00	0.00	2.74	2.74
2.45	0.28	0.58	5.00	0.00	2.73	2.73
2.50	0.28	0.58	5.00	0.00	2.73	2.73

2.55	0.28	0.58	5.00	0.00	2.72	2.72
2.60	0.28	0.58	5.00	0.00	2.72	2.72
2.65	0.28	0.58	5.00	0.00	2.71	2.71
2.70	0.28	0.58	5.00	0.00	2.70	2.70
2.75	0.28	0.58	5.00	0.00	2.69	2.69
2.80	0.28	0.58	5.00	0.00	2.68	2.68
2.85	0.28	0.58	5.00	0.00	2.67	2.67
2.90	0.28	0.58	5.00	0.00	2.66	2.66
2.95	0.28	0.58	5.00	0.00	2.65	2.65
3.00	0.28	0.58	5.00	0.00	2.64	2.64
3.05	0.28	0.58	5.00	0.00	2.63	2.63
3.10	0.28	0.58	5.00	0.00	2.62	2.62
3.15	0.28	0.58	5.00	0.00	2.61	2.61
3.20	0.28	0.58	5.00	0.00	2.60	2.60
3.25	0.28	0.58	5.00	0.00	2.59	2.59
3.30	0.28	0.58	5.00	0.00	2.58	2.58
3.35	0.28	0.58	5.00	0.00	2.57	2.57
3.40	0.28	0.58	5.00	0.00	2.56	2.56
3.45	0.28	0.58	5.00	0.00	2.55	2.55
3.50	0.28	0.58	5.00	0.00	2.54	2.54
3.55	0.28	0.58	5.00	0.00	2.53	2.53
3.60	0.28	0.58	5.00	0.00	2.52	2.52
3.65	0.28	0.58	5.00	0.00	2.51	2.51
3.70	0.28	0.58	5.00	0.00	2.50	2.50
3.75	0.28	0.58	5.00	0.00	2.49	2.49
3.80	0.28	0.58	5.00	0.00	2.48	2.48
3.85	0.28	0.58	5.00	0.00	2.47	2.47
3.90	0.28	0.58	5.00	0.00	2.46	2.46
3.95	0.28	0.58	5.00	0.00	2.46	2.46
4.00	0.28	0.58	5.00	0.00	2.46	2.46
4.05	0.28	0.58	5.00	0.00	2.46	2.46
4.10	0.28	0.58	5.00	0.00	2.46	2.46
4.15	0.28	0.58	5.00	0.00	2.45	2.45
4.20	0.28	0.58	5.00	0.00	2.45	2.45
4.25	0.28	0.58	5.00	0.00	2.45	2.45
4.30	0.28	0.58	5.00	0.00	2.44	2.44
4.35	0.28	0.58	5.00	0.00	2.44	2.44
4.40	0.28	0.58	5.00	0.00	2.44	2.44
4.45	0.28	0.58	5.00	0.00	2.43	2.43
4.50	0.28	0.58	5.00	0.00	2.43	2.43
4.55	0.28	0.58	5.00	0.00	2.42	2.42
4.60	0.28	0.58	5.00	0.00	2.42	2.42
4.65	0.28	0.58	5.00	0.00	2.41	2.41
4.70	0.28	0.58	5.00	0.00	2.41	2.41
4.75	0.28	0.58	5.00	0.00	2.40	2.40
4.80	0.28	0.58	5.00	0.00	2.40	2.40
4.85	0.28	0.58	5.00	0.00	2.39	2.39
4.90	0.28	0.58	5.00	0.00	2.38	2.38
4.95	0.28	0.58	5.00	0.00	2.37	2.37
5.00	0.28	0.57	5.00	0.00	2.36	2.36
5.05	0.28	0.57	5.00	0.00	2.35	2.35
5.10	0.29	0.57	5.00	0.00	2.34	2.34
5.15	0.29	0.57	5.00	0.00	2.33	2.33
5.20	0.29	0.57	5.00	0.00	2.32	2.32
5.25	0.30	0.57	5.00	0.00	2.31	2.31
5.30	0.30	0.57	5.00	0.00	2.30	2.30
5.35	0.30	0.57	5.00	0.00	2.30	2.30
5.40	0.31	0.57	5.00	0.00	2.29	2.29
5.45	0.31	0.57	5.00	0.00	2.28	2.28
5.50	0.32	0.57	5.00	0.00	2.27	2.27
5.55	0.32	0.57	5.00	0.00	2.26	2.26
5.60	0.32	0.57	5.00	0.00	2.25	2.25
5.65	0.33	0.57	5.00	0.00	2.24	2.24

5.70	0.33	0.57	5.00	0.00	2.23	2.23
5.75	0.34	0.57	5.00	0.00	2.22	2.22
5.80	0.34	0.57	5.00	0.00	2.22	2.22
5.85	0.34	0.57	5.00	0.00	2.21	2.21
5.90	0.35	0.57	5.00	0.00	2.20	2.20
5.95	0.35	0.57	5.00	0.00	2.19	2.19
6.00	0.35	0.57	5.00	0.00	2.18	2.18
6.05	0.36	0.57	5.00	0.00	2.18	2.18
6.10	0.36	0.57	5.00	0.00	2.17	2.17
6.15	0.36	0.57	5.00	0.00	2.16	2.16
6.20	0.36	0.57	5.00	0.00	2.15	2.15
6.25	0.37	0.57	5.00	0.00	2.15	2.15
6.30	0.37	0.57	5.00	0.00	2.14	2.14
6.35	0.37	0.57	5.00	0.00	2.13	2.13
6.40	0.38	0.57	5.00	0.00	2.12	2.12
6.45	0.38	0.57	5.00	0.00	2.12	2.12
6.50	0.38	0.57	5.00	0.00	2.11	2.11
6.55	0.39	0.57	5.00	0.00	2.10	2.10
6.60	0.39	0.57	5.00	0.00	2.09	2.09
6.65	0.39	0.57	5.00	0.00	2.09	2.09
6.70	0.40	0.57	5.00	0.00	2.08	2.08
6.75	0.40	0.57	5.00	0.00	2.07	2.07
6.80	0.40	0.57	5.00	0.00	2.06	2.06
6.85	0.41	0.57	5.00	0.00	2.06	2.06
6.90	0.41	0.57	5.00	0.00	2.05	2.05
6.95	0.41	0.57	5.00	0.00	2.04	2.04
7.00	0.42	0.57	5.00	0.00	2.04	2.04
7.05	0.42	0.57	5.00	0.00	2.03	2.03
7.10	0.43	0.57	5.00	0.00	2.02	2.02
7.15	0.43	0.57	5.00	0.00	2.02	2.02
7.20	0.43	0.57	5.00	0.00	2.01	2.01
7.25	0.44	0.57	5.00	0.00	2.00	2.00
7.30	0.44	0.57	5.00	0.00	2.00	2.00
7.35	0.45	0.57	5.00	0.00	1.99	1.99
7.40	0.45	0.57	5.00	0.00	1.98	1.98
7.45	0.46	0.57	5.00	0.00	1.98	1.98
7.50	0.46	0.57	5.00	0.00	1.97	1.97
7.55	0.47	0.57	5.00	0.00	1.96	1.96
7.60	0.47	0.57	5.00	0.00	1.96	1.96
7.65	0.48	0.57	5.00	0.00	1.95	1.95
7.70	0.49	0.57	5.00	0.00	1.95	1.95
7.75	0.49	0.57	5.00	0.00	1.94	1.94
7.80	0.50	0.57	5.00	0.00	1.93	1.93
7.85	0.51	0.57	5.00	0.00	1.93	1.93
7.90	0.52	0.57	5.00	0.00	1.92	1.92
7.95	0.54	0.57	5.00	0.00	1.92	1.92
8.00	0.55	0.57	5.00	0.00	1.91	1.91
8.05	0.58	0.57	5.00	0.00	1.90	1.90
8.10	0.62	0.57	5.00	0.00	1.90	1.90
8.15	2.57	0.57	5.00	0.00	1.89	1.89
8.20	2.57	0.57	5.00	0.00	1.89	1.89
8.25	2.57	0.57	5.00	0.00	1.88	1.88
8.30	2.57	0.57	5.00	0.00	1.87	1.87
8.35	2.57	0.57	5.00	0.00	1.87	1.87
8.40	2.57	0.57	5.00	0.00	1.87	1.87
8.45	2.57	0.57	5.00	0.00	1.86	1.86
8.50	2.57	0.57	5.00	0.00	1.86	1.86
8.55	2.57	0.57	5.00	0.00	1.85	1.85
8.60	2.57	0.57	5.00	0.00	1.85	1.85
8.65	2.57	0.57	5.00	0.00	1.84	1.84
8.70	2.57	0.57	5.00	0.00	1.84	1.84
8.75	2.57	0.57	5.00	0.00	1.83	1.83
8.80	2.57	0.57	5.00	0.00	1.83	1.83

8.85	2.57	0.57	5.00	0.00	1.82	1.82
8.90	2.57	0.57	5.00	0.00	1.82	1.82
8.95	2.57	0.57	5.00	0.00	1.81	1.81
9.00	2.57	0.57	5.00	0.00	1.81	1.81
9.05	2.57	0.57	5.00	0.00	1.81	1.81
9.10	2.57	0.57	5.00	0.00	1.81	1.81
9.15	2.57	0.57	5.00	0.00	1.81	1.81
9.20	2.57	0.57	5.00	0.00	1.81	1.81
9.25	2.57	0.57	5.00	0.00	1.81	1.81
9.30	2.57	0.57	5.00	0.00	1.81	1.81
9.35	2.57	0.57	5.00	0.00	1.81	1.81
9.40	2.57	0.57	5.00	0.00	1.81	1.81
9.45	2.57	0.57	5.00	0.00	1.80	1.80
9.50	2.57	0.57	5.00	0.00	1.80	1.80
9.55	2.57	0.57	5.00	0.00	1.80	1.80
9.60	2.57	0.57	5.00	0.00	1.80	1.80
9.65	2.57	0.57	5.00	0.00	1.80	1.80
9.70	2.57	0.57	5.00	0.00	1.80	1.80
9.75	2.57	0.57	5.00	0.00	1.80	1.80
9.80	2.57	0.57	5.00	0.00	1.80	1.80
9.85	2.57	0.57	5.00	0.00	1.80	1.80
9.90	2.57	0.57	5.00	0.00	1.80	1.80
9.95	2.57	0.57	5.00	0.00	1.80	1.80
10.00	2.57	0.57	5.00	0.00	1.80	1.80
10.05	2.57	0.57	5.00	0.00	1.80	1.80
10.10	2.57	0.57	5.00	0.00	1.80	1.80
10.15	2.57	0.57	5.00	0.00	1.80	1.80
10.20	2.57	0.57	5.00	0.00	1.79	1.79
10.25	2.57	0.57	5.00	0.00	1.79	1.79
10.30	2.57	0.57	5.00	0.00	1.79	1.79
10.35	2.57	0.57	5.00	0.00	1.79	1.79
10.40	2.57	0.57	5.00	0.00	1.79	1.79
10.45	2.57	0.57	5.00	0.00	1.79	1.79
10.50	2.57	0.57	5.00	0.00	1.79	1.79
10.55	2.57	0.57	5.00	0.00	1.79	1.79
10.60	2.57	0.57	5.00	0.00	1.79	1.79
10.65	2.57	0.57	5.00	0.00	1.79	1.79
10.70	2.57	0.57	5.00	0.00	1.79	1.79
10.75	2.57	0.57	5.00	0.00	1.79	1.79
10.80	2.57	0.57	5.00	0.00	1.79	1.79
10.85	2.57	0.57	5.00	0.00	1.79	1.79
10.90	2.57	0.57	5.00	0.00	1.79	1.79
10.95	2.57	0.57	5.00	0.00	1.78	1.78
11.00	2.57	0.57	5.00	0.00	1.78	1.78
11.05	2.57	0.57	5.00	0.00	1.78	1.78
11.10	2.57	0.57	5.00	0.00	1.78	1.78
11.15	2.57	0.57	5.00	0.00	1.78	1.78
11.20	2.57	0.57	5.00	0.00	1.78	1.78
11.25	2.57	0.57	5.00	0.00	1.78	1.78
11.30	2.57	0.57	5.00	0.00	1.78	1.78
11.35	2.57	0.57	5.00	0.00	1.78	1.78
11.40	2.57	0.57	5.00	0.00	1.78	1.78
11.45	2.57	0.57	5.00	0.00	1.78	1.78
11.50	2.57	0.57	5.00	0.00	1.78	1.78
11.55	2.57	0.57	5.00	0.00	1.78	1.78
11.60	2.57	0.57	5.00	0.00	1.78	1.78
11.65	2.57	0.57	5.00	0.00	1.77	1.77
11.70	2.57	0.57	5.00	0.00	1.77	1.77
11.75	2.57	0.57	5.00	0.00	1.77	1.77
11.80	2.57	0.57	5.00	0.00	1.77	1.77
11.85	2.57	0.57	5.00	0.00	1.77	1.77
11.90	2.57	0.57	5.00	0.00	1.77	1.77
11.95	2.57	0.57	5.00	0.00	1.77	1.77

12.00	2.57	0.57	5.00	0.00	1.77	1.77
12.05	2.57	0.57	5.00	0.00	1.77	1.77
12.10	2.57	0.57	5.00	0.00	1.77	1.77
12.15	2.57	0.57	5.00	0.00	1.77	1.77
12.20	2.57	0.57	5.00	0.00	1.77	1.77
12.25	2.57	0.57	5.00	0.00	1.77	1.77
12.30	2.57	0.57	5.00	0.00	1.77	1.77
12.35	2.57	0.56	5.00	0.00	1.76	1.76
12.40	2.57	0.56	5.00	0.00	1.76	1.76
12.45	2.57	0.56	5.00	0.00	1.76	1.76
12.50	2.57	0.56	5.00	0.00	1.76	1.76
12.55	2.57	0.56	5.00	0.00	1.76	1.76
12.60	2.57	0.56	5.00	0.00	1.76	1.76
12.65	2.57	0.56	5.00	0.00	1.76	1.76
12.70	2.57	0.56	5.00	0.00	1.76	1.76
12.75	2.57	0.56	5.00	0.00	1.76	1.76
12.80	2.57	0.56	5.00	0.00	1.76	1.76
12.85	2.57	0.56	5.00	0.00	1.76	1.76
12.90	2.57	0.56	5.00	0.00	1.76	1.76
12.95	2.57	0.56	5.00	0.00	1.75	1.75
13.00	2.57	0.56	5.00	0.00	1.75	1.75
13.05	2.57	0.56	5.00	0.00	1.75	1.75
13.10	2.57	0.56	5.00	0.00	1.75	1.75
13.15	2.57	0.56	5.00	0.00	1.75	1.75
13.20	2.57	0.56	5.00	0.00	1.75	1.75
13.25	2.57	0.56	5.00	0.00	1.75	1.75
13.30	2.57	0.56	5.00	0.00	1.75	1.75
13.35	2.57	0.56	5.00	0.00	1.75	1.75
13.40	2.57	0.56	5.00	0.00	1.75	1.75
13.45	2.57	0.56	5.00	0.00	1.75	1.75
13.50	2.57	0.56	5.00	0.00	1.74	1.74
13.55	2.57	0.56	5.00	0.00	1.74	1.74
13.60	2.57	0.56	5.00	0.00	1.74	1.74
13.65	2.57	0.56	5.00	0.00	1.74	1.74
13.70	2.57	0.56	5.00	0.00	1.74	1.74
13.75	2.57	0.56	5.00	0.00	1.74	1.74
13.80	2.57	0.56	5.00	0.00	1.74	1.74
13.85	2.57	0.56	5.00	0.00	1.74	1.74
13.90	2.57	0.56	5.00	0.00	1.74	1.74
13.95	2.57	0.56	5.00	0.00	1.74	1.74
14.00	2.57	0.56	5.00	0.00	1.74	1.74
14.05	2.57	0.56	5.00	0.00	1.73	1.73
14.10	2.57	0.56	5.00	0.00	1.73	1.73
14.15	2.57	0.56	5.00	0.00	1.73	1.73
14.20	2.57	0.56	5.00	0.00	1.73	1.73
14.25	2.57	0.56	5.00	0.00	1.73	1.73
14.30	2.57	0.56	5.00	0.00	1.73	1.73
14.35	2.57	0.56	5.00	0.00	1.73	1.73
14.40	2.57	0.56	5.00	0.00	1.73	1.73
14.45	2.57	0.56	5.00	0.00	1.73	1.73
14.50	2.57	0.56	5.00	0.00	1.73	1.73
14.55	2.57	0.56	5.00	0.00	1.72	1.72
14.60	2.57	0.56	5.00	0.00	1.72	1.72
14.65	2.57	0.56	5.00	0.00	1.72	1.72
14.70	2.57	0.56	5.00	0.00	1.72	1.72
14.75	2.57	0.56	5.00	0.00	1.72	1.72
14.80	2.57	0.56	5.00	0.00	1.72	1.72
14.85	2.57	0.56	5.00	0.00	1.72	1.72
14.90	2.57	0.56	5.00	0.00	1.72	1.72
14.95	2.57	0.56	5.00	0.00	1.72	1.72
15.00	2.57	0.56	5.00	0.00	1.72	1.72
15.05	2.57	0.56	5.00	0.00	1.72	1.72
15.10	2.57	0.56	5.00	0.00	1.71	1.71

15.15	2.57	0.56	5.00	0.00	1.71	1.71
15.20	2.57	0.56	5.00	0.00	1.71	1.71
15.25	2.57	0.56	5.00	0.00	1.71	1.71
15.30	2.57	0.56	5.00	0.00	1.71	1.71
15.35	2.57	0.56	5.00	0.00	1.71	1.71
15.40	2.57	0.56	5.00	0.00	1.71	1.71
15.45	2.57	0.56	5.00	0.00	1.71	1.71
15.50	2.57	0.56	5.00	0.00	1.71	1.71
15.55	2.57	0.56	5.00	0.00	1.71	1.71
15.60	2.57	0.56	5.00	0.00	1.70	1.70
15.65	2.57	0.56	5.00	0.00	1.70	1.70
15.70	2.57	0.56	5.00	0.00	1.70	1.70
15.75	2.57	0.56	5.00	0.00	1.70	1.70
15.80	2.57	0.56	5.00	0.00	1.70	1.70
15.85	2.57	0.56	5.00	0.00	1.70	1.70
15.90	2.57	0.56	5.00	0.00	1.70	1.70
15.95	2.57	0.56	5.00	0.00	1.70	1.70
16.00	2.57	0.56	5.00	0.00	1.70	1.70
16.05	2.57	0.56	5.00	0.00	1.69	1.69
16.10	2.57	0.56	5.00	0.00	1.69	1.69
16.15	2.57	0.56	5.00	0.00	1.69	1.69
16.20	2.57	0.56	5.00	0.00	1.69	1.69
16.25	2.57	0.56	5.00	0.00	1.69	1.69
16.30	2.57	0.56	5.00	0.00	1.69	1.69
16.35	2.57	0.56	5.00	0.00	1.69	1.69
16.40	2.57	0.56	5.00	0.00	1.69	1.69
16.45	2.57	0.56	5.00	0.00	1.68	1.68
16.50	2.57	0.56	5.00	0.00	1.68	1.68
16.55	2.57	0.56	5.00	0.00	1.68	1.68
16.60	2.57	0.56	5.00	0.00	1.68	1.68
16.65	2.57	0.56	5.00	0.00	1.68	1.68
16.70	2.57	0.56	5.00	0.00	1.68	1.68
16.75	2.57	0.56	5.00	0.00	1.68	1.68
16.80	2.57	0.56	5.00	0.00	1.67	1.67
16.85	2.57	0.56	5.00	0.00	1.67	1.67
16.90	2.57	0.56	5.00	0.00	1.67	1.67
16.95	2.57	0.56	5.00	0.00	1.67	1.67
17.00	2.57	0.56	5.00	0.00	1.67	1.67
17.05	2.57	0.56	5.00	0.00	1.67	1.67
17.10	2.57	0.56	5.00	0.00	1.66	1.66
17.15	2.57	0.56	5.00	0.00	1.66	1.66
17.20	2.57	0.56	5.00	0.00	1.66	1.66
17.25	2.57	0.56	5.00	0.00	1.66	1.66
17.30	2.57	0.56	5.00	0.00	1.66	1.66
17.35	2.57	0.56	5.00	0.00	1.66	1.66
17.40	2.57	0.56	5.00	0.00	1.65	1.65
17.45	2.57	0.56	5.00	0.00	1.65	1.65
17.50	2.57	0.56	5.00	0.00	1.65	1.65
17.55	2.57	0.56	5.00	0.00	1.65	1.65
17.60	2.57	0.56	5.00	0.00	1.65	1.65
17.65	2.57	0.56	5.00	0.00	1.65	1.65
17.70	2.57	0.56	5.00	0.00	1.64	1.64
17.75	2.57	0.56	5.00	0.00	1.64	1.64
17.80	2.57	0.56	5.00	0.00	1.64	1.64
17.85	2.57	0.56	5.00	0.00	1.64	1.64
17.90	2.57	0.56	5.00	0.00	1.64	1.64
17.95	2.57	0.56	5.00	0.00	1.63	1.63
18.00	2.57	0.56	5.00	0.00	1.63	1.63
18.05	2.57	0.56	5.00	0.00	1.63	1.63
18.10	2.57	0.56	5.00	0.00	1.63	1.63
18.15	2.57	0.56	5.00	0.00	1.62	1.62
18.20	2.57	0.56	5.00	0.00	1.62	1.62
18.25	2.57	0.56	5.00	0.00	1.62	1.62

18.30	2.57	0.56	5.00	0.00	1.62	1.62
18.35	2.57	0.56	5.00	0.00	1.62	1.62
18.40	2.57	0.56	5.00	0.00	1.61	1.61
18.45	2.57	0.56	5.00	0.00	1.61	1.61
18.50	2.57	0.56	5.00	0.00	1.61	1.61
18.55	2.57	0.56	5.00	0.00	1.61	1.61
18.60	2.57	0.56	5.00	0.00	1.60	1.60
18.65	2.57	0.56	5.00	0.00	1.60	1.60
18.70	2.57	0.56	5.00	0.00	1.60	1.60
18.75	2.57	0.56	5.00	0.00	1.59	1.59
18.80	2.57	0.56	5.00	0.00	1.59	1.59
18.85	2.57	0.56	5.00	0.00	1.59	1.59
18.90	2.57	0.56	5.00	0.00	1.58	1.58
18.95	2.57	0.56	5.00	0.00	1.58	1.58
19.00	2.57	0.56	5.00	0.00	1.58	1.58
19.05	2.57	0.56	5.00	0.00	1.57	1.57
19.10	2.57	0.56	5.00	0.00	1.57	1.57
19.15	2.57	0.56	5.00	0.00	1.57	1.57
19.20	2.57	0.56	5.00	0.00	1.56	1.56
19.25	2.57	0.56	5.00	0.00	1.56	1.56
19.30	2.57	0.56	5.00	0.00	1.56	1.56
19.35	2.57	0.56	5.00	0.00	1.56	1.56
19.40	2.57	0.56	5.00	0.00	1.56	1.56
19.45	2.57	0.56	5.00	0.00	1.56	1.56
19.50	2.57	0.56	5.00	0.00	1.56	1.56
19.55	2.57	0.56	5.00	0.00	1.56	1.56
19.60	2.57	0.56	5.00	0.00	1.55	1.55
19.65	2.57	0.56	5.00	0.00	1.55	1.55
19.70	2.57	0.56	5.00	0.00	1.55	1.55
19.75	2.57	0.55	5.00	0.00	1.55	1.55
19.80	2.57	0.55	5.00	0.00	1.55	1.55
19.85	2.57	0.55	5.00	0.00	1.55	1.55
19.90	2.57	0.55	5.00	0.00	1.55	1.55
19.95	2.57	0.55	5.00	0.00	1.55	1.55
20.00	2.57	0.55	5.00	0.00	1.55	1.55
20.05	2.57	0.55	5.00	0.00	1.54	1.54
20.10	2.57	0.55	5.00	0.00	1.54	1.54
20.15	2.57	0.55	5.00	0.00	1.54	1.54
20.20	2.57	0.55	5.00	0.00	1.54	1.54
20.25	2.57	0.55	5.00	0.00	1.54	1.54
20.30	2.57	0.55	5.00	0.00	1.54	1.54
20.35	2.57	0.55	5.00	0.00	1.54	1.54
20.40	2.57	0.55	5.00	0.00	1.54	1.54
20.45	2.57	0.55	5.00	0.00	1.54	1.54
20.50	2.57	0.55	5.00	0.00	1.53	1.53
20.55	2.57	0.55	5.00	0.00	1.53	1.53
20.60	2.57	0.55	5.00	0.00	1.53	1.53
20.65	2.57	0.55	5.00	0.00	1.53	1.53
20.70	2.57	0.55	5.00	0.00	1.53	1.53
20.75	2.57	0.55	5.00	0.00	1.53	1.53
20.80	2.57	0.55	5.00	0.00	1.53	1.53
20.85	2.57	0.55	5.00	0.00	1.52	1.52
20.90	2.57	0.55	5.00	0.00	1.52	1.52
20.95	2.57	0.55	5.00	0.00	1.52	1.52
21.00	2.57	0.55	5.00	0.00	1.52	1.52
21.05	2.57	0.55	5.00	0.00	1.52	1.52
21.10	2.57	0.55	5.00	0.00	1.52	1.52
21.15	2.57	0.55	5.00	0.00	1.52	1.52
21.20	2.57	0.55	5.00	0.00	1.51	1.51
21.25	2.57	0.55	5.00	0.00	1.51	1.51
21.30	2.57	0.55	5.00	0.00	1.51	1.51
21.35	2.57	0.55	5.00	0.00	1.51	1.51
21.40	2.57	0.55	5.00	0.00	1.51	1.51

21.45	2.57	0.55	5.00	0.00	1.50	1.50
21.50	2.57	0.55	5.00	0.00	1.50	1.50
21.55	2.57	0.55	5.00	0.00	1.50	1.50
21.60	2.57	0.55	5.00	0.00	1.50	1.50
21.65	2.57	0.55	5.00	0.00	1.50	1.50
21.70	0.64	0.55	5.00	0.00	1.50	1.50
21.75	0.58	0.55	5.00	0.00	1.49	1.49
21.80	0.55	0.55	5.00	0.00	1.49	1.49
21.85	0.53	0.55	5.00	0.00	1.49	1.49
21.90	0.52	0.55	5.00	0.00	1.49	1.49
21.95	0.51	0.55	5.00	0.00	1.48	1.48
22.00	0.50	0.55	5.00	0.00	1.48	1.48
22.05	0.49	0.55	5.00	0.00	1.48	1.48
22.10	0.48	0.55	5.00	0.00	1.48	1.48
22.15	0.47	0.55	5.00	0.00	1.48	1.48
22.20	0.47	0.55	5.00	0.00	1.47	1.47
22.25	0.46	0.55	5.00	0.00	1.47	1.47
22.30	0.46	0.55	5.00	0.00	1.47	1.47
22.35	0.45	0.55	5.00	0.00	1.47	1.47
22.40	0.45	0.55	5.00	0.00	1.46	1.46
22.45	0.44	0.55	5.00	0.00	1.46	1.46
22.50	0.44	0.55	5.00	0.00	1.46	1.46
22.55	0.43	0.55	5.00	0.00	1.46	1.46
22.60	0.43	0.55	5.00	0.00	1.45	1.45
22.65	0.42	0.55	5.00	0.00	1.45	1.45
22.70	0.42	0.55	5.00	0.00	1.45	1.45
22.75	0.42	0.55	5.00	0.00	1.44	1.44
22.80	0.41	0.55	5.00	0.00	1.44	1.44
22.85	0.41	0.55	5.00	0.00	1.44	1.44
22.90	0.41	0.55	5.00	0.00	1.44	1.44
22.95	0.40	0.55	5.00	0.00	1.43	1.43
23.00	0.40	0.55	5.00	0.00	1.43	1.43
23.05	0.39	0.55	5.00	0.00	1.43	1.43
23.10	0.39	0.55	5.00	0.00	1.42	1.42
23.15	0.39	0.55	5.00	0.00	1.42	1.42
23.20	0.39	0.55	5.00	0.00	1.42	1.42
23.25	0.38	0.55	5.00	0.00	1.41	1.41
23.30	0.38	0.55	5.00	0.00	1.41	1.41
23.35	0.38	0.55	5.00	0.00	1.40	1.40
23.40	0.37	0.55	5.00	0.00	1.40	1.40
23.45	0.37	0.55	5.00	0.00	1.40	1.40
23.50	0.37	0.55	5.00	0.00	1.39	1.39
23.55	0.36	0.55	5.00	0.00	1.39	1.39
23.60	0.36	0.55	5.00	0.00	1.39	1.39
23.65	0.36	0.55	5.00	0.00	1.38	1.38
23.70	0.36	0.55	5.00	0.00	1.38	1.38
23.75	0.35	0.55	5.00	0.00	1.37	1.37
23.80	0.35	0.55	5.00	0.00	1.37	1.37
23.85	0.35	0.55	5.00	0.00	1.36	1.36
23.90	0.35	0.55	5.00	0.00	1.36	1.36
23.95	0.34	0.55	5.00	0.00	1.35	1.35
24.00	0.34	0.55	5.00	0.00	1.35	1.35
24.05	0.34	0.55	5.00	0.00	1.34	1.34
24.10	0.34	0.55	5.00	0.00	1.34	1.34
24.15	0.33	0.55	5.00	0.00	1.33	1.33
24.20	0.33	0.55	5.00	0.00	1.33	1.33
24.25	0.33	0.55	5.00	0.00	1.32	1.32
24.30	0.33	0.55	5.00	0.00	1.32	1.32
24.35	0.33	0.55	5.00	0.00	1.31	1.31
24.40	0.32	0.55	5.00	0.00	1.31	1.31
24.45	0.32	0.55	5.00	0.00	1.30	1.30
24.50	0.32	0.55	5.00	0.00	1.30	1.30
24.55	0.32	0.55	5.00	0.00	1.29	1.29

24.60	0.32	0.55	5.00	0.00	1.28	1.28
24.65	0.31	0.55	5.00	0.00	1.28	1.28
24.70	0.31	0.55	5.00	0.00	1.27	1.27
24.75	0.31	0.55	5.00	0.00	1.27	1.27
24.80	0.31	0.55	5.00	0.00	1.26	1.26
24.85	0.31	0.55	5.00	0.00	1.25	1.25
24.90	0.30	0.55	5.00	0.00	1.24	1.24
24.95	0.30	0.55	5.00	0.00	1.24	1.24
25.00	0.30	0.55	5.00	0.00	1.23	1.23
25.05	0.30	0.55	5.00	0.00	1.22	1.22
25.10	0.30	0.55	5.00	0.00	1.21	1.21
25.15	0.30	0.55	5.00	0.00	1.21	1.21
25.20	0.30	0.55	5.00	0.00	1.20	1.20
25.25	0.30	0.55	5.00	0.00	1.19	1.19
25.30	0.30	0.55	5.00	0.00	1.19	1.19
25.35	0.31	0.55	5.00	0.00	1.18	1.18
25.40	0.31	0.55	5.00	0.00	1.17	1.17
25.45	0.31	0.55	5.00	0.00	1.16	1.16
25.50	0.31	0.55	5.00	0.00	1.16	1.16
25.55	0.31	0.55	5.00	0.00	1.15	1.15
25.60	0.31	0.55	5.00	0.00	1.14	1.14
25.65	0.31	0.55	5.00	0.00	1.13	1.13
25.70	0.31	0.55	5.00	0.00	1.13	1.13
25.75	0.31	0.55	5.00	0.00	1.12	1.12
25.80	0.31	0.55	5.00	0.00	1.11	1.11
25.85	0.32	0.55	5.00	0.00	1.11	1.11
25.90	0.32	0.55	5.00	0.00	1.10	1.10
25.95	0.32	0.55	5.00	0.00	1.09	1.09
26.00	0.32	0.55	5.00	0.00	1.08	1.08
26.05	0.32	0.55	5.00	0.00	1.08	1.08
26.10	0.32	0.55	5.00	0.00	1.07	1.07
26.15	0.32	0.55	5.00	0.00	1.06	1.06
26.20	0.32	0.55	5.00	0.00	1.06	1.06
26.25	0.32	0.55	5.00	0.00	1.05	1.05
26.30	0.32	0.55	5.00	0.00	1.04	1.04
26.35	0.32	0.55	5.00	0.00	1.03	1.03
26.40	0.32	0.55	5.00	0.00	1.03	1.03
26.45	0.32	0.55	5.00	0.00	1.02	1.02
26.50	0.32	0.55	5.00	0.00	1.01	1.01
26.55	0.33	0.55	5.00	0.00	1.01	1.01
26.60	0.33	0.55	5.00	0.00	1.00	1.00
26.65	0.33	0.55	5.00	0.00	0.99	0.99
26.70	0.33	0.55	5.00	0.00	0.99	0.99
26.75	0.33	0.55	5.00	0.00	0.98	0.98
26.80	0.33	0.55	5.00	0.00	0.97	0.97
26.85	0.33	0.55	5.00	0.00	0.96	0.96
26.90	0.33	0.55	5.00	0.00	0.96	0.96
26.95	0.33	0.55	5.00	0.00	0.95	0.95
27.00	0.33	0.55	5.00	0.00	0.94	0.94
27.05	0.33	0.55	5.00	0.00	0.94	0.94
27.10	0.33	0.54	5.00	0.00	0.93	0.93
27.15	0.33	0.54	5.00	0.00	0.92	0.92
27.20	0.34	0.54	5.00	0.00	0.92	0.92
27.25	0.34	0.54	5.00	0.00	0.91	0.91
27.30	0.34	0.54	5.00	0.00	0.90	0.90
27.35	0.34	0.54	5.00	0.00	0.90	0.90
27.40	0.34	0.54	5.00	0.00	0.89	0.89
27.45	0.34	0.54	5.00	0.00	0.88	0.88
27.50	0.34	0.54	5.00	0.00	0.88	0.88
27.55	0.34	0.54	5.00	0.00	0.87	0.87
27.60	0.34	0.54	5.00	0.00	0.86	0.86
27.65	0.34	0.54	5.00	0.00	0.86	0.86
27.70	0.34	0.54	5.00	0.00	0.85	0.85

27.75	0.34	0.54	5.00	0.00	0.84	0.84
27.80	0.35	0.54	5.00	0.00	0.84	0.84
27.85	0.35	0.54	5.00	0.00	0.83	0.83
27.90	0.37	0.54	5.00	0.00	0.82	0.82
27.95	0.37	0.54	5.00	0.00	0.82	0.82
28.00	0.37	0.54	5.00	0.00	0.81	0.81
28.05	0.37	0.54	5.00	0.00	0.81	0.81
28.10	0.37	0.54	5.00	0.00	0.80	0.80
28.15	0.37	0.54	5.00	0.00	0.79	0.79
28.20	0.37	0.54	5.00	0.00	0.79	0.79
28.25	0.38	0.54	5.00	0.00	0.78	0.78
28.30	0.38	0.54	5.00	0.00	0.78	0.78
28.35	0.38	0.54	5.00	0.00	0.77	0.77
28.40	0.38	0.54	5.00	0.00	0.77	0.77
28.45	0.38	0.54	5.00	0.00	0.76	0.76
28.50	0.38	0.54	5.00	0.00	0.76	0.76
28.55	0.38	0.54	5.00	0.00	0.75	0.75
28.60	0.38	0.54	5.00	0.00	0.74	0.74
28.65	0.38	0.54	5.00	0.00	0.74	0.74
28.70	0.39	0.54	5.00	0.00	0.73	0.73
28.75	0.39	0.54	5.00	0.00	0.73	0.73
28.80	0.39	0.54	5.00	0.00	0.72	0.72
28.85	0.39	0.54	5.00	0.00	0.72	0.72
28.90	0.39	0.54	5.00	0.00	0.71	0.71
28.95	0.39	0.54	5.00	0.00	0.71	0.71
29.00	0.39	0.54	5.00	0.00	0.70	0.70
29.05	0.39	0.54	5.00	0.00	0.69	0.69
29.10	0.39	0.54	5.00	0.00	0.69	0.69
29.15	0.39	0.54	5.00	0.00	0.68	0.68
29.20	0.40	0.54	5.00	0.00	0.68	0.68
29.25	0.40	0.54	5.00	0.00	0.67	0.67
29.30	0.40	0.54	5.00	0.00	0.67	0.67
29.35	0.40	0.54	5.00	0.00	0.66	0.66
29.40	0.40	0.54	5.00	0.00	0.66	0.66
29.45	0.40	0.54	5.00	0.00	0.65	0.65
29.50	0.40	0.54	5.00	0.00	0.65	0.65
29.55	0.40	0.54	5.00	0.00	0.64	0.64
29.60	0.41	0.54	5.00	0.00	0.64	0.64
29.65	0.41	0.54	5.00	0.00	0.63	0.63
29.70	0.41	0.54	5.00	0.00	0.62	0.62
29.75	0.41	0.54	5.00	0.00	0.62	0.62
29.80	0.41	0.54	5.00	0.00	0.61	0.61
29.85	0.41	0.54	5.00	0.00	0.61	0.61
29.90	0.41	0.54	5.00	0.00	0.60	0.60
29.95	0.41	0.54	5.00	0.00	0.60	0.60
30.00	0.41	0.54	5.00	0.00	0.59	0.59
30.05	0.43	0.54	5.00	0.00	0.59	0.59
30.10	0.44	0.54	5.00	0.00	0.58	0.58
30.15	0.46	0.54	5.00	0.00	0.58	0.58
30.20	0.49	0.54	5.00	0.00	0.57	0.57
30.25	0.53	0.54	5.00	0.00	0.57	0.57
30.30	2.51	0.54	5.00	0.00	0.56	0.56
30.35	2.51	0.54	5.00	0.00	0.56	0.56
30.40	2.51	0.54	5.00	0.00	0.56	0.56
30.45	2.51	0.54	5.00	0.00	0.55	0.55
30.50	2.51	0.54	5.00	0.00	0.55	0.55
30.55	2.51	0.54	5.00	0.00	0.55	0.55
30.60	2.51	0.54	5.00	0.00	0.54	0.54
30.65	2.51	0.54	5.00	0.00	0.54	0.54
30.70	2.51	0.54	5.00	0.00	0.54	0.54
30.75	2.51	0.54	5.00	0.00	0.54	0.54
30.80	2.51	0.54	5.00	0.00	0.53	0.53
30.85	2.50	0.54	5.00	0.00	0.53	0.53

30.90	2.50	0.54	5.00	0.00	0.53	0.53
30.95	2.50	0.54	5.00	0.00	0.53	0.53
31.00	2.50	0.54	5.00	0.00	0.52	0.52
31.05	2.50	0.54	5.00	0.00	0.52	0.52
31.10	2.50	0.54	5.00	0.00	0.52	0.52
31.15	2.50	0.54	5.00	0.00	0.52	0.52
31.20	2.50	0.54	5.00	0.00	0.52	0.52
31.25	2.50	0.54	5.00	0.00	0.51	0.51
31.30	2.50	0.53	5.00	0.00	0.51	0.51
31.35	2.50	0.53	5.00	0.00	0.51	0.51
31.40	2.50	0.53	5.00	0.00	0.51	0.51
31.45	2.50	0.53	5.00	0.00	0.51	0.51
31.50	2.49	0.53	5.00	0.00	0.51	0.51
31.55	2.49	0.53	5.00	0.00	0.50	0.50
31.60	2.49	0.53	5.00	0.00	0.50	0.50
31.65	2.49	0.53	5.00	0.00	0.50	0.50
31.70	2.49	0.53	5.00	0.00	0.50	0.50
31.75	2.49	0.53	5.00	0.00	0.50	0.50
31.80	2.49	0.53	5.00	0.00	0.50	0.50
31.85	2.49	0.53	5.00	0.00	0.50	0.50
31.90	2.49	0.53	5.00	0.00	0.50	0.50
31.95	2.49	0.53	5.00	0.00	0.49	0.49
32.00	2.49	0.53	5.00	0.00	0.49	0.49
32.05	2.49	0.53	5.00	0.00	0.49	0.49
32.10	2.49	0.53	5.00	0.00	0.49	0.49
32.15	2.48	0.53	5.00	0.00	0.49	0.49
32.20	2.48	0.53	5.00	0.00	0.49	0.49
32.25	2.48	0.53	5.00	0.00	0.49	0.49
32.30	2.48	0.53	5.00	0.00	0.49	0.49
32.35	2.48	0.53	5.00	0.00	0.48	0.48
32.40	2.48	0.53	5.00	0.00	0.48	0.48
32.45	2.48	0.53	5.00	0.00	0.48	0.48
32.50	2.48	0.53	5.00	0.00	0.48	0.48
32.55	2.48	0.53	5.00	0.00	0.48	0.48
32.60	2.48	0.53	5.00	0.00	0.48	0.48
32.65	2.48	0.53	5.00	0.00	0.48	0.48
32.70	2.48	0.53	5.00	0.00	0.48	0.48
32.75	2.48	0.53	5.00	0.00	0.48	0.48
32.80	2.47	0.53	5.00	0.00	0.47	0.47
32.85	2.47	0.53	5.00	0.00	0.47	0.47
32.90	2.47	0.53	5.00	0.00	0.47	0.47
32.95	2.47	0.53	5.00	0.00	0.47	0.47
33.00	2.47	0.53	5.00	0.00	0.47	0.47
33.05	2.47	0.53	5.00	0.00	0.47	0.47
33.10	2.47	0.53	5.00	0.00	0.47	0.47
33.15	2.47	0.53	5.00	0.00	0.47	0.47
33.20	2.47	0.53	5.00	0.00	0.47	0.47
33.25	2.47	0.53	5.00	0.00	0.47	0.47
33.30	2.47	0.53	5.00	0.00	0.47	0.47
33.35	2.47	0.53	5.00	0.00	0.46	0.46
33.40	2.47	0.52	5.00	0.00	0.46	0.46
33.45	2.46	0.52	5.00	0.00	0.46	0.46
33.50	2.46	0.52	5.00	0.00	0.46	0.46
33.55	2.46	0.52	5.00	0.00	0.46	0.46
33.60	2.46	0.52	5.00	0.00	0.46	0.46
33.65	2.46	0.52	5.00	0.00	0.46	0.46
33.70	2.46	0.52	5.00	0.00	0.46	0.46
33.75	2.46	0.52	5.00	0.00	0.46	0.46
33.80	2.46	0.52	5.00	0.00	0.46	0.46
33.85	2.46	0.52	5.00	0.00	0.45	0.45
33.90	2.46	0.52	5.00	0.00	0.45	0.45
33.95	2.46	0.52	5.00	0.00	0.45	0.45
34.00	2.46	0.52	5.00	0.00	0.45	0.45

34.05	2.46	0.52	5.00	0.00	0.45	0.45
34.10	2.46	0.52	5.00	0.00	0.45	0.45
34.15	2.45	0.52	5.00	0.00	0.45	0.45
34.20	2.45	0.52	5.00	0.00	0.45	0.45
34.25	2.45	0.52	5.00	0.00	0.45	0.45
34.30	2.45	0.52	5.00	0.00	0.45	0.45
34.35	2.45	0.52	5.00	0.00	0.45	0.45
34.40	2.45	0.52	5.00	0.00	0.45	0.45
34.45	2.45	0.52	5.00	0.00	0.44	0.44
34.50	2.45	0.52	5.00	0.00	0.44	0.44
34.55	2.45	0.52	5.00	0.00	0.44	0.44
34.60	2.45	0.52	5.00	0.00	0.44	0.44
34.65	2.45	0.52	5.00	0.00	0.44	0.44
34.70	2.45	0.52	5.00	0.00	0.44	0.44
34.75	2.45	0.52	5.00	0.00	0.44	0.44
34.80	2.44	0.52	5.00	0.00	0.44	0.44
34.85	2.44	0.52	5.00	0.00	0.44	0.44
34.90	2.44	0.52	5.00	0.00	0.44	0.44
34.95	2.44	0.52	5.00	0.00	0.44	0.44
35.00	2.44	0.52	5.00	0.00	0.44	0.44
35.05	2.44	0.52	5.00	0.00	0.44	0.44
35.10	2.44	0.52	5.00	0.00	0.43	0.43
35.15	2.44	0.52	5.00	0.00	0.43	0.43
35.20	2.44	0.52	5.00	0.00	0.43	0.43
35.25	2.44	0.52	5.00	0.00	0.43	0.43
35.30	2.44	0.52	5.00	0.00	0.43	0.43
35.35	2.44	0.52	5.00	0.00	0.43	0.43
35.40	2.44	0.52	5.00	0.00	0.43	0.43
35.45	2.43	0.52	5.00	0.00	0.43	0.43
35.50	2.43	0.51	5.00	0.00	0.43	0.43
35.55	2.43	0.51	5.00	0.00	0.43	0.43
35.60	2.43	0.51	5.00	0.00	0.43	0.43
35.65	2.43	0.51	5.00	0.00	0.43	0.43
35.70	2.43	0.51	5.00	0.00	0.43	0.43
35.75	2.43	0.51	5.00	0.00	0.42	0.42
35.80	2.43	0.51	5.00	0.00	0.42	0.42
35.85	2.43	0.51	5.00	0.00	0.42	0.42
35.90	2.43	0.51	5.00	0.00	0.42	0.42
35.95	2.43	0.51	5.00	0.00	0.42	0.42
36.00	2.43	0.51	5.00	0.00	0.42	0.42
36.05	2.43	0.51	5.00	0.00	0.42	0.42
36.10	2.42	0.51	5.00	0.00	0.42	0.42
36.15	2.42	0.51	5.00	0.00	0.42	0.42
36.20	2.42	0.51	5.00	0.00	0.42	0.42
36.25	2.42	0.51	5.00	0.00	0.42	0.42
36.30	2.42	0.51	5.00	0.00	0.42	0.42
36.35	2.42	0.51	5.00	0.00	0.42	0.42
36.40	2.42	0.51	5.00	0.00	0.41	0.41
36.45	2.42	0.51	5.00	0.00	0.41	0.41
36.50	2.42	0.51	5.00	0.00	0.41	0.41
36.55	2.42	0.51	5.00	0.00	0.41	0.41
36.60	2.42	0.51	5.00	0.00	0.41	0.41
36.65	2.42	0.51	5.00	0.00	0.41	0.41
36.70	2.42	0.51	5.00	0.00	0.41	0.41
36.75	2.42	0.51	5.00	0.00	0.41	0.41
36.80	2.41	0.51	5.00	0.00	0.41	0.41
36.85	2.41	0.51	5.00	0.00	0.41	0.41
36.90	2.41	0.51	5.00	0.00	0.41	0.41
36.95	2.41	0.51	5.00	0.00	0.41	0.41
37.00	2.41	0.51	5.00	0.00	0.40	0.40
37.05	2.41	0.51	5.00	0.00	0.40	0.40
37.10	2.41	0.51	5.00	0.00	0.40	0.40
37.15	2.41	0.51	5.00	0.00	0.40	0.40

37.20	2.41	0.51	5.00	0.00	0.40	0.40
37.25	2.41	0.51	5.00	0.00	0.40	0.40
37.30	2.41	0.51	5.00	0.00	0.40	0.40
37.35	2.41	0.51	5.00	0.00	0.40	0.40
37.40	2.41	0.51	5.00	0.00	0.40	0.40
37.45	2.40	0.51	5.00	0.00	0.40	0.40
37.50	2.40	0.51	5.00	0.00	0.40	0.40
37.55	2.40	0.51	5.00	0.00	0.40	0.40
37.60	2.40	0.50	5.00	0.00	0.39	0.39
37.65	2.40	0.50	5.00	0.00	0.39	0.39
37.70	2.40	0.50	5.00	0.00	0.39	0.39
37.75	2.40	0.50	5.00	0.00	0.39	0.39
37.80	2.40	0.50	5.00	0.00	0.39	0.39
37.85	2.40	0.50	5.00	0.00	0.39	0.39
37.90	2.40	0.50	5.00	0.00	0.39	0.39
37.95	2.40	0.50	5.00	0.00	0.39	0.39
38.00	2.40	0.50	5.00	0.00	0.39	0.39
38.05	2.40	0.50	5.00	0.00	0.39	0.39
38.10	2.40	0.50	5.00	0.00	0.39	0.39
38.15	2.39	0.50	5.00	0.00	0.39	0.39
38.20	2.39	0.50	5.00	0.00	0.39	0.39
38.25	2.39	0.50	5.00	0.00	0.39	0.39
38.30	2.39	0.50	5.00	0.00	0.38	0.38
38.35	2.39	0.50	5.00	0.00	0.38	0.38
38.40	2.39	0.50	5.00	0.00	0.38	0.38
38.45	2.39	0.50	5.00	0.00	0.38	0.38
38.50	2.39	0.50	5.00	0.00	0.38	0.38
38.55	2.39	0.50	5.00	0.00	0.38	0.38
38.60	2.39	0.50	5.00	0.00	0.38	0.38
38.65	2.39	0.50	5.00	0.00	0.38	0.38
38.70	2.39	0.50	5.00	0.00	0.38	0.38
38.75	2.39	0.50	5.00	0.00	0.38	0.38
38.80	2.39	0.50	5.00	0.00	0.38	0.38
38.85	2.38	0.50	5.00	0.00	0.38	0.38
38.90	2.38	0.50	5.00	0.00	0.38	0.38
38.95	2.38	0.50	5.00	0.00	0.38	0.38
39.00	2.38	0.50	5.00	0.00	0.38	0.38
39.05	2.38	0.50	5.00	0.00	0.38	0.38
39.10	2.38	0.50	5.00	0.00	0.38	0.38
39.15	2.38	0.50	5.00	0.00	0.38	0.38
39.20	2.38	0.50	5.00	0.00	0.38	0.38
39.25	2.38	0.50	5.00	0.00	0.38	0.38
39.30	2.38	0.50	5.00	0.00	0.38	0.38
39.35	2.38	0.50	5.00	0.00	0.37	0.37
39.40	2.38	0.50	5.00	0.00	0.37	0.37
39.45	2.38	0.50	5.00	0.00	0.37	0.37
39.50	2.38	0.50	5.00	0.00	0.37	0.37
39.55	2.37	0.50	5.00	0.00	0.37	0.37
39.60	2.37	0.50	5.00	0.00	0.37	0.37
39.65	2.37	0.50	5.00	0.00	0.37	0.37
39.70	2.37	0.50	5.00	0.00	0.37	0.37
39.75	2.37	0.49	5.00	0.00	0.37	0.37
39.80	2.37	0.49	5.00	0.00	0.37	0.37
39.85	2.37	0.49	5.00	0.00	0.37	0.37
39.90	2.37	0.49	5.00	0.00	0.37	0.37
39.95	2.37	0.49	5.00	0.00	0.37	0.37
40.00	2.37	0.49	5.00	0.00	0.37	0.37
40.05	2.37	0.49	5.00	0.00	0.37	0.37
40.10	2.37	0.49	5.00	0.00	0.37	0.37
40.15	2.37	0.49	5.00	0.00	0.37	0.37
40.20	2.37	0.49	5.00	0.00	0.37	0.37
40.25	2.36	0.49	5.00	0.00	0.37	0.37
40.30	2.36	0.49	5.00	0.00	0.37	0.37

40.35	2.36	0.49	5.00	0.00	0.36	0.36
40.40	2.36	0.49	5.00	0.00	0.36	0.36
40.45	2.36	0.49	5.00	0.00	0.36	0.36
40.50	2.36	0.49	5.00	0.00	0.36	0.36
40.55	2.36	0.49	5.00	0.00	0.36	0.36
40.60	2.36	0.49	5.00	0.00	0.36	0.36
40.65	2.36	0.49	5.00	0.00	0.36	0.36
40.70	2.36	0.49	5.00	0.00	0.36	0.36
40.75	2.36	0.49	5.00	0.00	0.36	0.36
40.80	2.36	0.49	5.00	0.00	0.36	0.36
40.85	2.36	0.49	5.00	0.00	0.36	0.36
40.90	2.36	0.49	5.00	0.00	0.36	0.36
40.95	2.35	0.49	5.00	0.00	0.36	0.36
41.00	2.35	0.49	5.00	0.00	0.36	0.36
41.05	2.35	0.49	5.00	0.00	0.36	0.36
41.10	2.35	0.49	5.00	0.00	0.36	0.36
41.15	2.35	0.49	5.00	0.00	0.36	0.36
41.20	2.35	0.49	5.00	0.00	0.36	0.36
41.25	2.35	0.49	5.00	0.00	0.36	0.36
41.30	2.35	0.49	5.00	0.00	0.35	0.35
41.35	2.35	0.49	5.00	0.00	0.35	0.35
41.40	2.35	0.49	5.00	0.00	0.35	0.35
41.45	2.35	0.49	5.00	0.00	0.35	0.35
41.50	2.35	0.49	5.00	0.00	0.35	0.35
41.55	2.35	0.49	5.00	0.00	0.35	0.35
41.60	2.35	0.49	5.00	0.00	0.35	0.35
41.65	2.35	0.49	5.00	0.00	0.35	0.35
41.70	2.34	0.49	5.00	0.00	0.35	0.35
41.75	2.34	0.49	5.00	0.00	0.35	0.35
41.80	2.34	0.49	5.00	0.00	0.35	0.35
41.85	2.34	0.48	5.00	0.00	0.35	0.35
41.90	2.34	0.48	5.00	0.00	0.35	0.35
41.95	2.34	0.48	5.00	0.00	0.35	0.35
42.00	2.34	0.48	5.00	0.00	0.35	0.35
42.05	2.34	0.48	5.00	0.00	0.34	0.34
42.10	2.34	0.48	5.00	0.00	0.34	0.34
42.15	2.34	0.48	5.00	0.00	0.34	0.34
42.20	2.34	0.48	5.00	0.00	0.34	0.34
42.25	2.34	0.48	5.00	0.00	0.34	0.34
42.30	2.34	0.48	5.00	0.00	0.34	0.34
42.35	2.34	0.48	5.00	0.00	0.34	0.34
42.40	2.34	0.48	5.00	0.00	0.34	0.34
42.45	2.33	0.48	5.00	0.00	0.34	0.34
42.50	2.33	0.48	5.00	0.00	0.34	0.34
42.55	2.33	0.48	5.00	0.00	0.34	0.34
42.60	2.33	0.48	5.00	0.00	0.34	0.34
42.65	2.33	0.48	5.00	0.00	0.34	0.34
42.70	2.33	0.48	5.00	0.00	0.34	0.34
42.75	2.33	0.48	5.00	0.00	0.33	0.33
42.80	2.33	0.48	5.00	0.00	0.33	0.33
42.85	2.33	0.48	5.00	0.00	0.33	0.33
42.90	2.33	0.48	5.00	0.00	0.33	0.33
42.95	2.33	0.48	5.00	0.00	0.33	0.33
43.00	2.33	0.48	5.00	0.00	0.33	0.33
43.05	2.33	0.48	5.00	0.00	0.33	0.33
43.10	2.33	0.48	5.00	0.00	0.33	0.33
43.15	2.33	0.48	5.00	0.00	0.33	0.33
43.20	2.32	0.48	5.00	0.00	0.33	0.33
43.25	2.32	0.48	5.00	0.00	0.33	0.33
43.30	2.32	0.48	5.00	0.00	0.32	0.32
43.35	2.32	0.48	5.00	0.00	0.32	0.32
43.40	2.32	0.48	5.00	0.00	0.32	0.32
43.45	2.32	0.48	5.00	0.00	0.32	0.32

43.50	2.32	0.48	5.00	0.00	0.32	0.32
43.55	2.32	0.48	5.00	0.00	0.32	0.32
43.60	2.32	0.48	5.00	0.00	0.32	0.32
43.65	2.32	0.48	5.00	0.00	0.31	0.31
43.70	2.32	0.48	5.00	0.00	0.31	0.31
43.75	2.32	0.48	5.00	0.00	0.31	0.31
43.80	2.32	0.48	5.00	0.00	0.31	0.31
43.85	2.32	0.48	5.00	0.00	0.31	0.31
43.90	2.32	0.48	5.00	0.00	0.31	0.31
43.95	0.50	0.47	5.00	0.00	0.30	0.30
44.00	0.46	0.47	5.00	0.00	0.30	0.30
44.05	0.43	0.47	5.00	0.00	0.30	0.30
44.10	0.42	0.47	5.00	0.00	0.30	0.30
44.15	0.40	0.47	5.00	0.00	0.30	0.30
44.20	0.39	0.47	5.00	0.00	0.29	0.29
44.25	0.38	0.47	5.00	0.00	0.29	0.29
44.30	0.37	0.47	5.00	0.00	0.29	0.29
44.35	0.36	0.47	5.00	0.00	0.29	0.29
44.40	0.35	0.47	5.00	0.00	0.28	0.28
44.45	0.34	0.47	5.00	0.00	0.28	0.28
44.50	0.33	0.47	5.00	0.00	0.28	0.28
44.55	0.32	0.47	5.00	0.00	0.28	0.28
44.60	0.32	0.47	5.00	0.00	0.27	0.27
44.65	0.31	0.47	5.00	0.00	0.27	0.27
44.70	0.30	0.47	5.00	0.00	0.27	0.27
44.75	0.29	0.47	5.00	0.00	0.26	0.26
44.80	0.29	0.47	5.00	0.00	0.26	0.26
44.85	0.28	0.47	5.00	0.00	0.26	0.26
44.90	0.27	0.47	5.00	0.00	0.25	0.25
44.95	0.27	0.47	5.00	0.00	0.25	0.25
45.00	0.26	0.47	5.00	0.00	0.24	0.24
45.05	0.27	0.47	5.00	0.00	0.24	0.24
45.10	0.27	0.47	5.00	0.00	0.23	0.23
45.15	0.27	0.47	5.00	0.00	0.23	0.23
45.20	0.27	0.47	5.00	0.00	0.23	0.23
45.25	0.27	0.47	5.00	0.00	0.22	0.22
45.30	0.28	0.47	5.00	0.00	0.22	0.22
45.35	0.28	0.47	5.00	0.00	0.21	0.21
45.40	0.28	0.47	5.00	0.00	0.21	0.21
45.45	0.28	0.47	5.00	0.00	0.20	0.20
45.50	0.28	0.47	5.00	0.00	0.20	0.20
45.55	0.29	0.47	5.00	0.00	0.20	0.20
45.60	0.29	0.47	5.00	0.00	0.19	0.19
45.65	0.29	0.47	5.00	0.00	0.19	0.19
45.70	0.29	0.47	5.00	0.00	0.19	0.19
45.75	0.30	0.47	5.00	0.00	0.18	0.18
45.80	0.30	0.47	5.00	0.00	0.18	0.18
45.85	0.30	0.47	5.00	0.00	0.17	0.17
45.90	0.30	0.47	5.00	0.00	0.17	0.17
45.95	0.30	0.47	5.00	0.00	0.17	0.17
46.00	0.31	0.47	5.00	0.00	0.16	0.16
46.05	0.31	0.46	5.00	0.00	0.16	0.16
46.10	0.31	0.46	5.00	0.00	0.16	0.16
46.15	0.31	0.46	5.00	0.00	0.15	0.15
46.20	0.32	0.46	5.00	0.00	0.15	0.15
46.25	0.32	0.46	5.00	0.00	0.15	0.15
46.30	0.32	0.46	5.00	0.00	0.15	0.15
46.35	0.33	0.46	5.00	0.00	0.14	0.14
46.40	0.33	0.46	5.00	0.00	0.14	0.14
46.45	0.33	0.46	5.00	0.00	0.14	0.14
46.50	0.33	0.46	5.00	0.00	0.13	0.13
46.55	0.34	0.46	5.00	0.00	0.13	0.13
46.60	0.34	0.46	5.00	0.00	0.13	0.13

46.65	0.34	0.46	5.00	0.00	0.12	0.12
46.70	0.35	0.46	5.00	0.00	0.12	0.12
46.75	0.35	0.46	5.00	0.00	0.12	0.12
46.80	0.35	0.46	5.00	0.00	0.12	0.12
46.85	0.35	0.46	5.00	0.00	0.11	0.11
46.90	0.36	0.46	5.00	0.00	0.11	0.11
46.95	0.36	0.46	5.00	0.00	0.11	0.11
47.00	0.36	0.46	5.00	0.00	0.11	0.11
47.05	0.37	0.46	5.00	0.00	0.10	0.10
47.10	0.37	0.46	5.00	0.00	0.10	0.10
47.15	0.38	0.46	5.00	0.00	0.10	0.10
47.20	0.38	0.46	5.00	0.00	0.10	0.10
47.25	0.38	0.46	5.00	0.00	0.09	0.09
47.30	0.39	0.46	5.00	0.00	0.09	0.09
47.35	0.39	0.46	5.00	0.00	0.09	0.09
47.40	0.40	0.46	5.00	0.00	0.09	0.09
47.45	0.40	0.46	5.00	0.00	0.08	0.08
47.50	0.41	0.46	5.00	0.00	0.08	0.08
47.55	0.41	0.46	5.00	0.00	0.08	0.08
47.60	0.42	0.46	5.00	0.00	0.08	0.08
47.65	0.42	0.46	5.00	0.00	0.08	0.08
47.70	0.43	0.46	5.00	0.00	0.07	0.07
47.75	0.44	0.46	5.00	0.00	0.07	0.07
47.80	0.44	0.46	5.00	0.00	0.07	0.07
47.85	0.45	0.46	5.00	0.00	0.07	0.07
47.90	0.47	0.46	5.00	0.00	0.07	0.07
47.95	0.48	0.46	5.00	0.00	0.06	0.06
48.00	0.51	0.46	5.00	0.00	0.06	0.06
48.05	0.55	0.46	5.00	0.00	0.06	0.06
48.10	2.26	0.46	5.00	0.00	0.06	0.06
48.15	2.26	0.46	5.00	0.00	0.06	0.06
48.20	2.26	0.45	5.00	0.00	0.05	0.05
48.25	2.26	0.45	5.00	0.00	0.05	0.05
48.30	2.26	0.45	5.00	0.00	0.05	0.05
48.35	2.26	0.45	5.00	0.00	0.05	0.05
48.40	2.26	0.45	5.00	0.00	0.05	0.05
48.45	2.26	0.45	5.00	0.00	0.05	0.05
48.50	2.26	0.45	5.00	0.00	0.04	0.04
48.55	2.26	0.45	5.00	0.00	0.04	0.04
48.60	2.26	0.45	5.00	0.00	0.04	0.04
48.65	2.26	0.45	5.00	0.00	0.04	0.04
48.70	2.26	0.45	5.00	0.00	0.04	0.04
48.75	2.26	0.45	5.00	0.00	0.04	0.04
48.80	2.26	0.45	5.00	0.00	0.03	0.03
48.85	2.25	0.45	5.00	0.00	0.03	0.03
48.90	2.25	0.45	5.00	0.00	0.03	0.03
48.95	2.25	0.45	5.00	0.00	0.03	0.03
49.00	2.25	0.45	5.00	0.00	0.03	0.03
49.05	2.25	0.45	5.00	0.00	0.03	0.03
49.10	2.25	0.45	5.00	0.00	0.02	0.02
49.15	2.25	0.45	5.00	0.00	0.02	0.02
49.20	2.25	0.45	5.00	0.00	0.02	0.02
49.25	2.25	0.45	5.00	0.00	0.02	0.02
49.30	2.25	0.45	5.00	0.00	0.02	0.02
49.35	2.25	0.45	5.00	0.00	0.02	0.02
49.40	2.25	0.45	5.00	0.00	0.02	0.02
49.45	2.25	0.45	5.00	0.00	0.01	0.01
49.50	2.25	0.45	5.00	0.00	0.01	0.01
49.55	2.25	0.45	5.00	0.00	0.01	0.01
49.60	2.25	0.45	5.00	0.00	0.01	0.01
49.65	2.25	0.45	5.00	0.00	0.01	0.01
49.70	2.24	0.45	5.00	0.00	0.01	0.01
49.75	2.24	0.45	5.00	0.00	0.01	0.01

49.80	2.24	0.45	5.00	0.00	0.00	0.00
49.85	2.24	0.45	5.00	0.00	0.00	0.00
49.90	2.24	0.45	5.00	0.00	0.00	0.00
49.95	2.24	0.45	5.00	0.00	0.00	0.00
50.00	2.24	0.45	5.00	0.00	0.00	0.00

* F.S.<1, Liquefaction Potential Zone
(F.S. is limited to 5, CRR is limited to 2, CSR is limited to 2)

Units Depth = ft, Stress or Pressure = tsf (atm), Unit Weight = pcf, Settlement = in.

CRRm Cyclic resistance ratio from soils
CSRfs Cyclic stress ratio induced by a given earthquake (with user request factor of safety)
F.S. Factor of Safety against liquefaction, F.S.=CRRm/CSRfs
S_sat Settlement from saturated sands
S_dry Settlement from dry sands
S_all Total settlement from saturated and dry sands
NoLiq No-Liquefy Soils

Appendix E – Rational Method Analysis

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 ************************************************************************
             RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
          RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
                       (RCFC&WCD)  1978 HYDROLOGY MANUAL
           (c) Copyright 1982-2011 Advanced Engineering Software (aes)
                       (Rational Tabling Version 18.0)
                   Release Date: 07/01/2011  License ID 1499

                            Analysis prepared by:

                        Kimley-Horn and Associates, Inc.
                               765 The City Drive
                                   Suite 200
                                Orange, CA 92868

 ************************** DESCRIPTION OF STUDY **************************
* Temescal Canyon                                                        *
* Existing 10 Year 1 Hour                                                *
* Kimley-Horn                                                            *
 ************************************************************************

  FILE NAME: TEMCAL.DAT
  TIME/DATE OF STUDY: 09:12 02/15/2024
------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
------------------------------------------------------------------------
  USER SPECIFIED STORM EVENT(YEAR) =   10.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   8.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  10-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) =  2.220
  10-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) =  0.940
  100-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) =  3.430
  100-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) =  1.450
  SLOPE OF 10-YEAR INTENSITY-DURATION CURVE =  0.4796304
  SLOPE OF 100-YEAR INTENSITY-DURATION CURVE =  0.4805313
  COMPUTED RAINFALL INTENSITY DATA:
  STORM EVENT =   10.00   1-HOUR INTENSITY(INCH/HOUR) =   0.949
  SLOPE OF INTENSITY DURATION CURVE = 0.4796
  RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: COMPUTE CONFLUENCE VALUES ACCORDING TO RCFC&WCD HYDROLOGY MANUAL
        AND IGNORE OTHER CONFLUENCE COMBINATIONS FOR DOWNSTREAM ANALYSES
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)   (FT)    (n)
===  =====  ========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0312 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

************************************************************************
  FLOW PROCESS FROM NODE    101.00 TO NODE    102.00 IS CODE =  21
------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
========================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS: UNDEVELOPED WITH FAIR COVER
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   372.34
  UPSTREAM ELEVATION(FEET) =   1112.01
  DOWNSTREAM ELEVATION(FEET) =   1083.19
  ELEVATION DIFFERENCE(FEET) =     28.82
  TC = 0.709*[(  372.34**3)/(    28.82)]**.2 =   12.633
```

```
  10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.004
 UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .5911
 SOIL CLASSIFICATION IS "B"
 SUBAREA RUNOFF(CFS) =      4.35
 TOTAL AREA(ACRES) =      3.67   TOTAL RUNOFF(CFS) =      4.35

****************************************************************************
 FLOW PROCESS FROM NODE    102.00 TO NODE    103.00 IS CODE =  21
----------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
          ASSUMED INITIAL SUBAREA UNIFORM
          DEVELOPMENT IS: UNDEVELOPED WITH FAIR COVER
 TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
 INITIAL SUBAREA FLOW-LENGTH(FEET) =   484.84
 UPSTREAM ELEVATION(FEET) =   1083.19
 DOWNSTREAM ELEVATION(FEET) =   1060.53
 ELEVATION DIFFERENCE(FEET) =     22.66
 TC = 0.709*[(  484.84**3)/(    22.66)]**.2 =   15.531
  10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.815
 UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .5707
 SOIL CLASSIFICATION IS "B"
 SUBAREA RUNOFF(CFS) =      9.25
 TOTAL AREA(ACRES) =      8.93   TOTAL RUNOFF(CFS) =      9.25

****************************************************************************
 FLOW PROCESS FROM NODE    201.00 TO NODE    202.00 IS CODE =  21
----------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
          ASSUMED INITIAL SUBAREA UNIFORM
          DEVELOPMENT IS COMMERCIAL
 TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
 INITIAL SUBAREA FLOW-LENGTH(FEET) =   787.16
 UPSTREAM ELEVATION(FEET) =   1112.14
 DOWNSTREAM ELEVATION(FEET) =   1080.00
 ELEVATION DIFFERENCE(FEET) =     32.14
 TC = 0.303*[(  787.16**3)/(    32.14)]**.2 =    8.276
  10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.455
 COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8731
 SOIL CLASSIFICATION IS "B"
 SUBAREA RUNOFF(CFS) =      6.73
 TOTAL AREA(ACRES) =      3.14   TOTAL RUNOFF(CFS) =      6.73

****************************************************************************
 FLOW PROCESS FROM NODE    202.00 TO NODE    202.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
  10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.455
 COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8731
 SOIL CLASSIFICATION IS "B"
 SUBAREA AREA(ACRES) =    4.03   SUBAREA RUNOFF(CFS) =    8.64
 TOTAL AREA(ACRES) =       7.2   TOTAL RUNOFF(CFS) =     15.37
 TC(MIN.) =    8.28

****************************************************************************
 FLOW PROCESS FROM NODE    301.00 TO NODE    302.00 IS CODE =  21
----------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
          ASSUMED INITIAL SUBAREA UNIFORM
          DEVELOPMENT IS COMMERCIAL
 TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
 INITIAL SUBAREA FLOW-LENGTH(FEET) =  1225.00
 UPSTREAM ELEVATION(FEET) =   1112.10
 DOWNSTREAM ELEVATION(FEET) =   1033.40
 ELEVATION DIFFERENCE(FEET) =     78.70
 TC = 0.303*[( 1225.00**3)/(    78.70)]**.2 =    9.021
```

```
      10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.356
    COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8723
    SOIL CLASSIFICATION IS "B"
    SUBAREA RUNOFF(CFS) =      9.64
    TOTAL AREA(ACRES) =      4.69   TOTAL RUNOFF(CFS) =      9.64

****************************************************************************
    FLOW PROCESS FROM NODE    302.00 TO NODE    302.00 IS CODE =  81
----------------------------------------------------------------------------
    >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
      10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.356
    UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .6230
    SOIL CLASSIFICATION IS "B"
    SUBAREA AREA(ACRES) =    2.03   SUBAREA RUNOFF(CFS) =    2.98
    TOTAL AREA(ACRES) =        6.7   TOTAL RUNOFF(CFS) =      12.62
    TC(MIN.) =    9.02

****************************************************************************
    FLOW PROCESS FROM NODE    302.00 TO NODE    302.00 IS CODE =  81
----------------------------------------------------------------------------
    >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
      10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.356
    UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .6230
    SOIL CLASSIFICATION IS "B"
    SUBAREA AREA(ACRES) =    2.73   SUBAREA RUNOFF(CFS) =    4.01
    TOTAL AREA(ACRES) =        9.5   TOTAL RUNOFF(CFS) =      16.62
    TC(MIN.) =    9.02
============================================================================
    END OF STUDY SUMMARY:
    TOTAL AREA(ACRES)     =        9.5  TC(MIN.) =      9.02
    PEAK FLOW RATE(CFS)   =      16.62
============================================================================
============================================================================
    END OF RATIONAL METHOD ANALYSIS

FF
```

```
____________________________________________________________________________
****************************************************************************
            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
        RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
                      (RCFC&WCD)  1978 HYDROLOGY MANUAL
         (c) Copyright 1982-2011 Advanced Engineering Software (aes)
                      (Rational Tabling Version 18.0)
                  Release Date: 07/01/2011  License ID 1499

                          Analysis prepared by:

                     Kimley-Horn and Associates, Inc.
                            765 The City Drive
                                Suite 200
                             Orange, CA 92868

 ************************** DESCRIPTION OF STUDY **************************
* Temescal Canyon                                                          *
* Existing 100 Year 1 Hour                                                 *
* Kimley-Horn                                                              *
 ***************************************************************************

  FILE NAME: TEMCAL.DAT
  TIME/DATE OF STUDY: 09:11 02/15/2024
----------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
----------------------------------------------------------------------------
  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   8.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  10-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) =  2.220
  10-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) =  0.940
  100-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) =  3.430
  100-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) =  1.450
  SLOPE OF 10-YEAR INTENSITY-DURATION CURVE =  0.4796304
  SLOPE OF 100-YEAR INTENSITY-DURATION CURVE =  0.4805313
  COMPUTED RAINFALL INTENSITY DATA:
  STORM EVENT =  100.00   1-HOUR INTENSITY(INCH/HOUR) =   1.450
  SLOPE OF INTENSITY DURATION CURVE = 0.4805
  RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: COMPUTE CONFLUENCE VALUES ACCORDING TO RCFC&WCD HYDROLOGY MANUAL
        AND IGNORE OTHER CONFLUENCE COMBINATIONS FOR DOWNSTREAM ANALYSES
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0312 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

****************************************************************************
  FLOW PROCESS FROM NODE    101.00 TO NODE    102.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS: UNDEVELOPED WITH FAIR COVER
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   372.34
  UPSTREAM ELEVATION(FEET) =   1112.01
  DOWNSTREAM ELEVATION(FEET) =   1083.19
  ELEVATION DIFFERENCE(FEET) =     28.82
  TC = 0.709*[(  372.34**3)/(    28.82)]**.2 =   12.633
```

```
 100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.066
 UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .6708
 SOIL CLASSIFICATION IS "B"
 SUBAREA RUNOFF(CFS) =      7.55
 TOTAL AREA(ACRES) =      3.67   TOTAL RUNOFF(CFS) =      7.55

****************************************************************************
 FLOW PROCESS FROM NODE    102.00 TO NODE    103.00 IS CODE =  21
----------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
          ASSUMED INITIAL SUBAREA UNIFORM
          DEVELOPMENT IS: UNDEVELOPED WITH FAIR COVER
 TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
 INITIAL SUBAREA FLOW-LENGTH(FEET) =   484.84
 UPSTREAM ELEVATION(FEET) =   1083.19
 DOWNSTREAM ELEVATION(FEET) =   1060.53
 ELEVATION DIFFERENCE(FEET) =     22.66
 TC = 0.709*[(  484.84**3)/(    22.66)]**.2 =   15.531
 100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.776
 UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .6534
 SOIL CLASSIFICATION IS "B"
 SUBAREA RUNOFF(CFS) =     16.20
 TOTAL AREA(ACRES) =      8.93   TOTAL RUNOFF(CFS) =     16.20

****************************************************************************
 FLOW PROCESS FROM NODE    201.00 TO NODE    202.00 IS CODE =  21
----------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
          ASSUMED INITIAL SUBAREA UNIFORM
          DEVELOPMENT IS COMMERCIAL
 TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
 INITIAL SUBAREA FLOW-LENGTH(FEET) =   787.16
 UPSTREAM ELEVATION(FEET) =   1112.14
 DOWNSTREAM ELEVATION(FEET) =   1080.00
 ELEVATION DIFFERENCE(FEET) =     32.14
 TC = 0.303*[(  787.16**3)/(    32.14)]**.2 =    8.276
 100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.757
 COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8804
 SOIL CLASSIFICATION IS "B"
 SUBAREA RUNOFF(CFS) =     10.38
 TOTAL AREA(ACRES) =      3.14   TOTAL RUNOFF(CFS) =     10.38

****************************************************************************
 FLOW PROCESS FROM NODE    202.00 TO NODE    202.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.757
 COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8804
 SOIL CLASSIFICATION IS "B"
 SUBAREA AREA(ACRES) =    4.03   SUBAREA RUNOFF(CFS) =   13.33
 TOTAL AREA(ACRES) =       7.2   TOTAL RUNOFF(CFS) =     23.71
 TC(MIN.) =    8.28

****************************************************************************
 FLOW PROCESS FROM NODE    301.00 TO NODE    302.00 IS CODE =  21
----------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
          ASSUMED INITIAL SUBAREA UNIFORM
          DEVELOPMENT IS COMMERCIAL
 TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
 INITIAL SUBAREA FLOW-LENGTH(FEET) =  1225.00
 UPSTREAM ELEVATION(FEET) =   1112.10
 DOWNSTREAM ELEVATION(FEET) =   1033.40
 ELEVATION DIFFERENCE(FEET) =     78.70
 TC = 0.303*[( 1225.00**3)/(    78.70)]**.2 =    9.021
```

```
 100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.604
 COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8797
 SOIL CLASSIFICATION IS "B"
 SUBAREA RUNOFF(CFS) =     14.87
 TOTAL AREA(ACRES) =      4.69   TOTAL RUNOFF(CFS) =     14.87

****************************************************************************
 FLOW PROCESS FROM NODE    302.00 TO NODE    302.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.604
 UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .6973
 SOIL CLASSIFICATION IS "B"
 SUBAREA AREA(ACRES) =    2.03   SUBAREA RUNOFF(CFS) =    5.10
 TOTAL AREA(ACRES) =        6.7   TOTAL RUNOFF(CFS) =      19.97
 TC(MIN.) =    9.02

****************************************************************************
 FLOW PROCESS FROM NODE    302.00 TO NODE    302.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
 100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.604
 UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .6973
 SOIL CLASSIFICATION IS "B"
 SUBAREA AREA(ACRES) =    2.73   SUBAREA RUNOFF(CFS) =    6.86
 TOTAL AREA(ACRES) =        9.5   TOTAL RUNOFF(CFS) =      26.83
 TC(MIN.) =    9.02
============================================================================
 END OF STUDY SUMMARY:
 TOTAL AREA(ACRES)     =        9.5  TC(MIN.) =      9.02
 PEAK FLOW RATE(CFS)   =      26.83
============================================================================
============================================================================
 END OF RATIONAL METHOD ANALYSIS

FF
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____________________________________________________________________________
****************************************************************************
            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
        RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
                      (RCFC&WCD)  1978 HYDROLOGY MANUAL
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                      (Rational Tabling Version 18.0)
                   Release Date: 07/01/2011  License ID 1499

                           Analysis prepared by:

                      Kimley-Horn and Associates, Inc.
                             765 The City Drive
                                 Suite 200
                              Orange, CA 92868

 ************************** DESCRIPTION OF STUDY **************************
* TEMESCAL CANYON INDUSTRIAL                                               *
* PROPOSED CONDITION                                                       *
* 2 YEAR STORM                                                             *
 ***************************************************************************

  FILE NAME: PTCIND.DAT
  TIME/DATE OF STUDY: 10:38 08/08/2024
----------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
----------------------------------------------------------------------------
  USER SPECIFIED STORM EVENT(YEAR) =    2.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   8.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  10-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) =  2.220
  10-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) =  0.940
  100-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) =  3.430
  100-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) =  1.450
  SLOPE OF 10-YEAR INTENSITY-DURATION CURVE =  0.4796304
  SLOPE OF 100-YEAR INTENSITY-DURATION CURVE =  0.4805313
  COMPUTED RAINFALL INTENSITY DATA:
  STORM EVENT =    2.00   1-HOUR INTENSITY(INCH/HOUR) =   0.584
  SLOPE OF INTENSITY DURATION CURVE = 0.4796
  RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: COMPUTE CONFLUENCE VALUES ACCORDING TO RCFC&WCD HYDROLOGY MANUAL
        AND IGNORE OTHER CONFLUENCE COMBINATIONS FOR DOWNSTREAM ANALYSES
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

+---------------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                      |
| DA B-1                                                                    |
| 1.17 AC                                                                   |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    100.00 TO NODE    101.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS COMMERCIAL
```

```
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   276.00
  UPSTREAM ELEVATION(FEET) =   1104.35
  DOWNSTREAM ELEVATION(FEET) =   1082.84
  ELEVATION DIFFERENCE(FEET) =     21.51
  TC = 0.303*[(  276.00**3)/(    21.51)]**.2 =    4.782
  COMPUTED TIME OF CONCENTRATION INCREASED TO 5 MIN.
     2 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.922
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8682
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      1.95
  TOTAL AREA(ACRES) =      1.17   TOTAL RUNOFF(CFS) =      1.95

+---------------------------------------------------------------------------+
| CONFLUENCE                                                                |
|                                                                           |
|                                                                           |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    5.00
  RAINFALL INTENSITY(INCH/HR) =   1.92
  TOTAL STREAM AREA(ACRES) =     1.17
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      1.95

+---------------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                      |
| DA B-2                                                                    |
| 0.61 AC                                                                   |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    200.00 TO NODE    101.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
          ASSUMED INITIAL SUBAREA UNIFORM
          DEVELOPMENT IS COMMERCIAL
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   200.00
  UPSTREAM ELEVATION(FEET) =   1085.00
  DOWNSTREAM ELEVATION(FEET) =   1083.05
  ELEVATION DIFFERENCE(FEET) =      1.95
  TC = 0.303*[(  200.00**3)/(     1.95)]**.2 =    6.371
     2 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.711
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8658
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      0.90
  TOTAL AREA(ACRES) =      0.61   TOTAL RUNOFF(CFS) =      0.90

+---------------------------------------------------------------------------+
| CONFLUENCE                                                                |
|                                                                           |
|                                                                           |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
```

```
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
 TIME OF CONCENTRATION(MIN.) =    6.37
 RAINFALL INTENSITY(INCH/HR) =   1.71
 TOTAL STREAM AREA(ACRES) =     0.61
 PEAK FLOW RATE(CFS) AT CONFLUENCE =      0.90

 ** CONFLUENCE DATA **
 STREAM     RUNOFF       Tc      INTENSITY      AREA
 NUMBER      (CFS)     (MIN.)   (INCH/HOUR)    (ACRE)
     1        1.95     5.00        1.922          1.17
     2        0.90     6.37        1.711          0.61

**********************************WARNING***********************************
 IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED
 ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA
 WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.
*****************************************************************************

 RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
 CONFLUENCE FORMULA USED FOR  2 STREAMS.

 ** PEAK FLOW RATE TABLE **
 STREAM     RUNOFF      Tc      INTENSITY
 NUMBER      (CFS)    (MIN.)   (INCH/HOUR)
     1        2.66     5.00       1.922
     2        2.64     6.37       1.711

 COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
 PEAK FLOW RATE(CFS) =       2.66   Tc(MIN.) =    5.00
 TOTAL AREA(ACRES) =        1.8
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE      0.00 =     276.00 FEET.

+---------------------------------------------------------------------------+
| PIPE FLOW                                                                 |
|                                                                           |
|                                                                           |
+---------------------------------------------------------------------------+

****************************************************************************
 FLOW PROCESS FROM NODE    101.00 TO NODE    102.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1079.11  DOWNSTREAM(FEET) =  1076.58
 FLOW LENGTH(FEET) =   243.00   MANNING'S N =  0.010
 DEPTH OF FLOW IN  12.0 INCH PIPE IS   6.6 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   6.07
 ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       2.66
 PIPE TRAVEL TIME(MIN.) =   0.67    Tc(MIN.) =    5.67
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE    102.00 =     519.00 FEET.

+---------------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                                  |
| DA B-3                                                                    |
| 0.30 AC                                                                   |
+---------------------------------------------------------------------------+

****************************************************************************
 FLOW PROCESS FROM NODE    102.00 TO NODE    102.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
    2 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.810
 COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8670
 SOIL CLASSIFICATION IS "B"
 SUBAREA AREA(ACRES) =    0.30   SUBAREA RUNOFF(CFS) =    0.47
 TOTAL AREA(ACRES) =        2.1   TOTAL RUNOFF(CFS) =       3.13
```

```
  TC(MIN.) =    5.67

+-------------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                                |
| DA B-4                                                                  |
| 0.14 AC                                                                 |
+-------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    102.00 TO NODE    102.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
     2 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.810
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8670
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    0.14   SUBAREA RUNOFF(CFS) =    0.22
  TOTAL AREA(ACRES) =        2.2   TOTAL RUNOFF(CFS) =       3.35
  TC(MIN.) =    5.67

+-------------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                                |
| DA B-5                                                                  |
| 0.58 AC                                                                 |
+-------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    103.00 TO NODE    103.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
     2 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.810
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8670
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    0.58   SUBAREA RUNOFF(CFS) =    0.91
  TOTAL AREA(ACRES) =        2.8   TOTAL RUNOFF(CFS) =       4.26
  TC(MIN.) =    5.67

+-------------------------------------------------------------------------+
| CONFLUENCE                                                              |
|                                                                         |
|                                                                         |
+-------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    5.67
  RAINFALL INTENSITY(INCH/HR) =   1.81
  TOTAL STREAM AREA(ACRES) =     2.80
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      4.26

+-------------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                    |
| DA B-11                                                                 |
| 0.85 AC                                                                 |
+-------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    700.00 TO NODE    701.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
          ASSUMED INITIAL SUBAREA UNIFORM
          DEVELOPMENT IS COMMERCIAL
```

```
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   555.00
  UPSTREAM ELEVATION(FEET) =   1105.00
  DOWNSTREAM ELEVATION(FEET) =   1081.22
  ELEVATION DIFFERENCE(FEET) =     23.78
  TC = 0.303*[(  555.00**3)/(    23.78)]**.2 =    7.127
     2 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.621
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8647
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      1.19
  TOTAL AREA(ACRES) =      0.85   TOTAL RUNOFF(CFS) =      1.19

+---------------------------------------------------------------------------+
| PIPE FLOW                                                                 |
|                                                                           |
|                                                                           |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    701.00 TO NODE    103.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1077.50  DOWNSTREAM(FEET) =  1076.58
  FLOW LENGTH(FEET) =    62.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN   9.0 INCH PIPE IS   4.3 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.69
  ESTIMATED PIPE DIAMETER(INCH) =   9.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       1.19
  PIPE TRAVEL TIME(MIN.) =   0.18    Tc(MIN.) =    7.31
  LONGEST FLOWPATH FROM NODE    700.00 TO NODE    103.00 =     617.00 FEET.

+---------------------------------------------------------------------------+
| CONFLUENCE                                                                |
|                                                                           |
|                                                                           |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    7.31
  RAINFALL INTENSITY(INCH/HR) =   1.60
  TOTAL STREAM AREA(ACRES) =     0.85
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      1.19

  ** CONFLUENCE DATA **
  STREAM     RUNOFF       Tc      INTENSITY      AREA
  NUMBER       (CFS)     (MIN.)   (INCH/HOUR)    (ACRE)
      1         4.26     5.67        1.810          2.80
      2         1.19     7.31        1.602          0.85

 **********************************WARNING***********************************
  IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED
  ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA
  WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.
 ****************************************************************************

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
  STREAM     RUNOFF      Tc      INTENSITY
```

```
  NUMBER      (CFS)     (MIN.)   (INCH/HOUR)
      1        5.19      5.67       1.810
      2        4.96      7.31       1.602

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =       5.19   Tc(MIN.) =    5.67
  TOTAL AREA(ACRES) =        3.7
  LONGEST FLOWPATH FROM NODE    700.00 TO NODE      0.00 =     617.00 FEET.

+----------------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                       |
| DA B-10                                                                    |
| 3.32                                                                       |
+----------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    300.00 TO NODE    301.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
          ASSUMED INITIAL SUBAREA UNIFORM
          DEVELOPMENT IS COMMERCIAL
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   395.00
  UPSTREAM ELEVATION(FEET) =   1084.00
  DOWNSTREAM ELEVATION(FEET) =   1078.50
  ELEVATION DIFFERENCE(FEET) =      5.50
  TC = 0.303*[(  395.00**3)/(     5.50)]**.2 =    7.789
     2 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.554
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8638
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      4.46
  TOTAL AREA(ACRES) =      3.32   TOTAL RUNOFF(CFS) =      4.46

+----------------------------------------------------------------------------+
| PIPE FLOW                                                                  |
|                                                                            |
|                                                                            |
+----------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    301.00 TO NODE    302.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1074.13  DOWNSTREAM(FEET) =  1070.65
  FLOW LENGTH(FEET) =   770.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN  15.0 INCH PIPE IS  10.2 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   4.99
  ESTIMATED PIPE DIAMETER(INCH) =  15.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       4.46
  PIPE TRAVEL TIME(MIN.) =   2.57    Tc(MIN.) =   10.36
  LONGEST FLOWPATH FROM NODE    300.00 TO NODE    302.00 =    1165.00 FEET.

+----------------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                                   |
| DA B-9                                                                     |
| 0.51                                                                       |
+----------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    302.00 TO NODE    302.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
     2 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.355
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8608
  SOIL CLASSIFICATION IS "B"
```

```
  SUBAREA AREA(ACRES) =    0.51   SUBAREA RUNOFF(CFS) =    0.59
  TOTAL AREA(ACRES) =        3.8   TOTAL RUNOFF(CFS) =       5.05
  TC(MIN.) =   10.36

+---------------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                                  |
| DA-B8                                                                     |
| 0.45 AC                                                                   |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    302.00 TO NODE    302.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
     2 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.355
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8608
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    0.45   SUBAREA RUNOFF(CFS) =    0.52
  TOTAL AREA(ACRES) =        4.3   TOTAL RUNOFF(CFS) =       5.57
  TC(MIN.) =   10.36

+---------------------------------------------------------------------------+
| PIPE FLOW                                                                 |
|                                                                           |
|                                                                           |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    302.00 TO NODE    303.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1070.65  DOWNSTREAM(FEET) =  1068.63
  FLOW LENGTH(FEET) =   748.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN  18.0 INCH PIPE IS  12.3 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   4.35
  ESTIMATED PIPE DIAMETER(INCH) =  18.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       5.57
  PIPE TRAVEL TIME(MIN.) =   2.87    Tc(MIN.) =   13.23
  LONGEST FLOWPATH FROM NODE    300.00 TO NODE    303.00 =    1913.00 FEET.

+---------------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                                  |
| DA B-7                                                                    |
| 2.30 AC                                                                   |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    303.00 TO NODE    303.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
     2 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.205
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8581
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    2.30   SUBAREA RUNOFF(CFS) =    2.38
  TOTAL AREA(ACRES) =        6.6   TOTAL RUNOFF(CFS) =       7.95
  TC(MIN.) =   13.23

+---------------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                                  |
| DA B-6                                                                    |
| 1.42 AC                                                                   |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    303.00 TO NODE    303.00 IS CODE =  81
```

```
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
================================================================================
     2 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.205
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8581
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    1.42   SUBAREA RUNOFF(CFS) =    1.47
  TOTAL AREA(ACRES) =        8.0   TOTAL RUNOFF(CFS) =       9.42
  TC(MIN.) =   13.23

+------------------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                         |
| DA D-1                                                                       |
| 1.88 AC                                                                      |
+------------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    401.00 TO NODE    403.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS: UNDEVELOPED WITH FAIR COVER
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   700.00
  UPSTREAM ELEVATION(FEET) =   1054.77
  DOWNSTREAM ELEVATION(FEET) =   1026.04
  ELEVATION DIFFERENCE(FEET) =     28.73
  TC = 0.709*[(  700.00**3)/(    28.73)]**.2 =   18.462
     2 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.027
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .4455
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      0.86
  TOTAL AREA(ACRES) =      1.88   TOTAL RUNOFF(CFS) =      0.86

+------------------------------------------------------------------------------+
| CONFLUENCE                                                                   |
|                                                                              |
|                                                                              |
+------------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =   18.46
  RAINFALL INTENSITY(INCH/HR) =   1.03
  TOTAL STREAM AREA(ACRES) =     1.88
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      0.86

+------------------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                         |
| DA D-2                                                                       |
| 1.60                                                                         |
+------------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    402.00 TO NODE    403.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS: UNDEVELOPED WITH FAIR COVER
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   365.00
  UPSTREAM ELEVATION(FEET) =   1039.24
```

```
  DOWNSTREAM ELEVATION(FEET) =   1026.04
  ELEVATION DIFFERENCE(FEET) =     13.20
  TC = 0.709*[(  365.00**3)/(    13.20)]**.2 =   14.593
     2 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.150
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .4709
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      0.87
  TOTAL AREA(ACRES) =      1.60   TOTAL RUNOFF(CFS) =      0.87

+-------------------------------------------------------------------------+
| CONFLUENCE                                                              |
|                                                                         |
|                                                                         |
+-------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =   14.59
  RAINFALL INTENSITY(INCH/HR) =   1.15
  TOTAL STREAM AREA(ACRES) =     1.60
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      0.87

  ** CONFLUENCE DATA **
  STREAM     RUNOFF       Tc      INTENSITY      AREA
  NUMBER      (CFS)     (MIN.)   (INCH/HOUR)    (ACRE)
      1        0.86    18.46        1.027          1.88
      2        0.87    14.59        1.150          1.60

 **********************************WARNING***********************************
  IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED
  ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA
  WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.
 ****************************************************************************

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
  STREAM     RUNOFF      Tc      INTENSITY
  NUMBER      (CFS)    (MIN.)   (INCH/HOUR)
      1        1.55    14.59       1.150
      2        1.63    18.46       1.027

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =       1.55   Tc(MIN.) =   14.59
  TOTAL AREA(ACRES) =        3.5
  LONGEST FLOWPATH FROM NODE    401.00 TO NODE      0.00 =     700.00 FEET.

+-------------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                    |
| DA E-3                                                                  |
| 1.28                                                                    |
+-------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    500.00 TO NODE    501.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
          ASSUMED INITIAL SUBAREA UNIFORM
          DEVELOPMENT IS COMMERCIAL
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =  1400.00
```

```
  UPSTREAM ELEVATION(FEET) =   1113.70
  DOWNSTREAM ELEVATION(FEET) =   1042.31
  ELEVATION DIFFERENCE(FEET) =     71.39
  TC = 0.303*[( 1400.00**3)/(    71.39)]**.2 =    9.966
     2 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.380
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8612
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      1.52
  TOTAL AREA(ACRES) =      1.28   TOTAL RUNOFF(CFS) =      1.52

****************************************************************************
  FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    9.97
  RAINFALL INTENSITY(INCH/HR) =   1.38
  TOTAL STREAM AREA(ACRES) =     1.28
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      1.52

+--------------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                     |
| DA E-4                                                                   |
| 1.56 AC                                                                  |
+--------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    601.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
          ASSUMED INITIAL SUBAREA UNIFORM
          DEVELOPMENT IS COMMERCIAL
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =  1430.00
  UPSTREAM ELEVATION(FEET) =   1113.37
  DOWNSTREAM ELEVATION(FEET) =   1041.24
  ELEVATION DIFFERENCE(FEET) =     72.13
  TC = 0.303*[( 1430.00**3)/(    72.13)]**.2 =   10.073
     2 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.373
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8611
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      1.84
  TOTAL AREA(ACRES) =      1.56   TOTAL RUNOFF(CFS) =      1.84

+--------------------------------------------------------------------------+
| PIPE FLOW                                                                |
|                                                                          |
|                                                                          |
+--------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    601.00 TO NODE    501.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1034.81  DOWNSTREAM(FEET) =  1034.58
  FLOW LENGTH(FEET) =    45.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   7.7 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   3.47
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       1.84
  PIPE TRAVEL TIME(MIN.) =   0.22    Tc(MIN.) =   10.29
  LONGEST FLOWPATH FROM NODE    600.00 TO NODE    501.00 =    1475.00 FEET.

****************************************************************************
```

```
  FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =   10.29
  RAINFALL INTENSITY(INCH/HR) =   1.36
  TOTAL STREAM AREA(ACRES) =     1.56
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      1.84

  ** CONFLUENCE DATA **
  STREAM     RUNOFF       Tc      INTENSITY      AREA
  NUMBER      (CFS)     (MIN.)   (INCH/HOUR)    (ACRE)
      1        1.52     9.97        1.380          1.28
      2        1.84    10.29        1.359          1.56

 **********************************WARNING***********************************
  IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED
  ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA
  WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.
 ****************************************************************************

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
  STREAM     RUNOFF      Tc      INTENSITY
  NUMBER      (CFS)    (MIN.)   (INCH/HOUR)
      1        3.31     9.97       1.380
      2        3.34    10.29       1.359

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =       3.34   Tc(MIN.) =   10.29
  TOTAL AREA(ACRES) =        2.8
  LONGEST FLOWPATH FROM NODE    600.00 TO NODE      0.00 =    1475.00 FEET.

+--------------------------------------------------------------------------+
| PIPE FLOW                                                                |
|                                                                          |
|                                                                          |
+--------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    501.00 TO NODE    502.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1034.58  DOWNSTREAM(FEET) =  1029.13
  FLOW LENGTH(FEET) =   560.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   9.6 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   4.97
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       3.34
  PIPE TRAVEL TIME(MIN.) =   1.88    Tc(MIN.) =   12.17
  LONGEST FLOWPATH FROM NODE    600.00 TO NODE    502.00 =    2035.00 FEET.

+--------------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                     |
| DA E-1                                                                   |
| 0.52 AC                                                                  |
+--------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    800.00 TO NODE    801.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
```

```
==========================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS COMMERCIAL
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   553.00
  UPSTREAM ELEVATION(FEET) =   1113.43
  DOWNSTREAM ELEVATION(FEET) =   1105.00
  ELEVATION DIFFERENCE(FEET) =      8.43
  TC = 0.303*[(  553.00**3)/(     8.43)]**.2 =    8.751
     2 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.469
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8625
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      0.66
  TOTAL AREA(ACRES) =      0.52   TOTAL RUNOFF(CFS) =      0.66

+------------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                               |
| DA E-2                                                                 |
| 0.43 AC                                                                |
+------------------------------------------------------------------------+

**************************************************************************
  FLOW PROCESS FROM NODE    801.00 TO NODE    801.00 IS CODE =  81
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
     2 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.469
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8625
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    0.43   SUBAREA RUNOFF(CFS) =    0.54
  TOTAL AREA(ACRES) =        0.9   TOTAL RUNOFF(CFS) =       1.20
  TC(MIN.) =    8.75

+------------------------------------------------------------------------+
| SHALLOW CONCENTRATED FLOW                                              |
|                                                                        |
|                                                                        |
+------------------------------------------------------------------------+

**************************************************************************
  FLOW PROCESS FROM NODE    801.00 TO NODE    802.00 IS CODE =  51
--------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
==========================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   1105.00  DOWNSTREAM(FEET) =   1059.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =  1140.00   CHANNEL SLOPE =  0.0404
  CHANNEL BASE(FEET) =    0.00   "Z" FACTOR =  15.000
  MANNING'S FACTOR = 0.030   MAXIMUM DEPTH(FEET) =   1.00
  CHANNEL FLOW THRU SUBAREA(CFS) =       1.20
  FLOW VELOCITY(FEET/SEC.) =   2.10   FLOW DEPTH(FEET) =   0.20
  TRAVEL TIME(MIN.) =   9.05   Tc(MIN.) =   17.80
  LONGEST FLOWPATH FROM NODE    800.00 TO NODE    802.00 =    1693.00 FEET.

+------------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                               |
| DA A-1                                                                 |
| 10.17 AC                                                               |
+------------------------------------------------------------------------+

**************************************************************************
  FLOW PROCESS FROM NODE    802.00 TO NODE    802.00 IS CODE =  81
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
     2 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.045
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .4495
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =   10.17   SUBAREA RUNOFF(CFS) =    4.78
```

```
  TOTAL AREA(ACRES) =       11.1   TOTAL RUNOFF(CFS) =       5.98
  TC(MIN.) =   17.80
================================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =       11.1  TC(MIN.) =     17.80
  PEAK FLOW RATE(CFS)   =       5.98
================================================================================
================================================================================
  END OF RATIONAL METHOD ANALYSIS

FF
```

```
 ************************************************************************
             RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
         RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
                       (RCFC&WCD)  1978 HYDROLOGY MANUAL
          (c) Copyright 1982-2011 Advanced Engineering Software (aes)
                       (Rational Tabling Version 18.0)
                   Release Date: 07/01/2011  License ID 1499

                            Analysis prepared by:

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                                   Suite 200
                                Orange, CA 92868

 ************************** DESCRIPTION OF STUDY **************************
* TEMESCAL CANYON INDUSTRIAL                                              *
* PROPOSED CONDITION                                                      *
* 5 YEAR STORM                                                            *
 ************************************************************************

  FILE NAME: PTCIND.DAT
  TIME/DATE OF STUDY: 10:39 08/08/2024
------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
------------------------------------------------------------------------
  USER SPECIFIED STORM EVENT(YEAR) =    5.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   8.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  10-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) =  2.220
  10-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) =  0.940
  100-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) =  3.430
  100-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) =  1.450
  SLOPE OF 10-YEAR INTENSITY-DURATION CURVE =  0.4796304
  SLOPE OF 100-YEAR INTENSITY-DURATION CURVE =  0.4805313
  COMPUTED RAINFALL INTENSITY DATA:
  STORM EVENT =    5.00   1-HOUR INTENSITY(INCH/HOUR) =   0.806
  SLOPE OF INTENSITY DURATION CURVE = 0.4796
  RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: COMPUTE CONFLUENCE VALUES ACCORDING TO RCFC&WCD HYDROLOGY MANUAL
        AND IGNORE OTHER CONFLUENCE COMBINATIONS FOR DOWNSTREAM ANALYSES
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

+------------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                   |
| DA B-1                                                                 |
| 1.17 AC                                                                |
+------------------------------------------------------------------------+

************************************************************************
  FLOW PROCESS FROM NODE    100.00 TO NODE    101.00 IS CODE =  21
------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
========================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS COMMERCIAL
```

```
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   276.00
  UPSTREAM ELEVATION(FEET) =   1104.35
  DOWNSTREAM ELEVATION(FEET) =   1082.84
  ELEVATION DIFFERENCE(FEET) =     21.51
  TC = 0.303*[(  276.00**3)/(    21.51)]**.2 =    4.782
  COMPUTED TIME OF CONCENTRATION INCREASED TO 5 MIN.
     5 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.656
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8745
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      2.72
  TOTAL AREA(ACRES) =      1.17   TOTAL RUNOFF(CFS) =      2.72

+---------------------------------------------------------------------------+
| CONFLUENCE                                                                |
|                                                                           |
|                                                                           |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    5.00
  RAINFALL INTENSITY(INCH/HR) =   2.66
  TOTAL STREAM AREA(ACRES) =     1.17
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      2.72

+---------------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                      |
| DA B-2                                                                    |
| 0.61 AC                                                                   |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    200.00 TO NODE    101.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
          ASSUMED INITIAL SUBAREA UNIFORM
          DEVELOPMENT IS COMMERCIAL
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   200.00
  UPSTREAM ELEVATION(FEET) =   1085.00
  DOWNSTREAM ELEVATION(FEET) =   1083.05
  ELEVATION DIFFERENCE(FEET) =      1.95
  TC = 0.303*[(  200.00**3)/(     1.95)]**.2 =    6.371
     5 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.364
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8724
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      1.26
  TOTAL AREA(ACRES) =      0.61   TOTAL RUNOFF(CFS) =      1.26

+---------------------------------------------------------------------------+
| CONFLUENCE                                                                |
|                                                                           |
|                                                                           |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
```

```
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
 TIME OF CONCENTRATION(MIN.) =    6.37
 RAINFALL INTENSITY(INCH/HR) =   2.36
 TOTAL STREAM AREA(ACRES) =     0.61
 PEAK FLOW RATE(CFS) AT CONFLUENCE =      1.26

 ** CONFLUENCE DATA **
 STREAM     RUNOFF       Tc      INTENSITY      AREA
 NUMBER      (CFS)     (MIN.)   (INCH/HOUR)    (ACRE)
     1        2.72     5.00        2.656          1.17
     2        1.26     6.37        2.364          0.61

**********************************WARNING***********************************
 IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED
 ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA
 WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.
*****************************************************************************

 RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
 CONFLUENCE FORMULA USED FOR  2 STREAMS.

 ** PEAK FLOW RATE TABLE **
 STREAM     RUNOFF      Tc      INTENSITY
 NUMBER      (CFS)    (MIN.)   (INCH/HOUR)
     1        3.70     5.00       2.656
     2        3.68     6.37       2.364

 COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
 PEAK FLOW RATE(CFS) =       3.70   Tc(MIN.) =    5.00
 TOTAL AREA(ACRES) =        1.8
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE      0.00 =     276.00 FEET.

+---------------------------------------------------------------------------+
| PIPE FLOW                                                                 |
|                                                                           |
|                                                                           |
+---------------------------------------------------------------------------+

****************************************************************************
 FLOW PROCESS FROM NODE    101.00 TO NODE    102.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1079.11  DOWNSTREAM(FEET) =  1076.58
 FLOW LENGTH(FEET) =   243.00   MANNING'S N =  0.010
 DEPTH OF FLOW IN  12.0 INCH PIPE IS   8.1 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   6.52
 ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       3.70
 PIPE TRAVEL TIME(MIN.) =   0.62    Tc(MIN.) =    5.62
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE    102.00 =     519.00 FEET.

+---------------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                                  |
| DA B-3                                                                    |
| 0.30 AC                                                                   |
+---------------------------------------------------------------------------+

****************************************************************************
 FLOW PROCESS FROM NODE    102.00 TO NODE    102.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
    5 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.511
 COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8735
 SOIL CLASSIFICATION IS "B"
 SUBAREA AREA(ACRES) =    0.30   SUBAREA RUNOFF(CFS) =    0.66
 TOTAL AREA(ACRES) =        2.1   TOTAL RUNOFF(CFS) =       4.36
```

```
  TC(MIN.) =    5.62

+---------------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                                  |
| DA B-4                                                                    |
| 0.14 AC                                                                   |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    102.00 TO NODE    102.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
     5 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.511
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8735
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    0.14   SUBAREA RUNOFF(CFS) =    0.31
  TOTAL AREA(ACRES) =        2.2   TOTAL RUNOFF(CFS) =       4.67
  TC(MIN.) =    5.62

+---------------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                                  |
| DA B-5                                                                    |
| 0.58 AC                                                                   |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    103.00 TO NODE    103.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
     5 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.511
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8735
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    0.58   SUBAREA RUNOFF(CFS) =    1.27
  TOTAL AREA(ACRES) =        2.8   TOTAL RUNOFF(CFS) =       5.94
  TC(MIN.) =    5.62

+---------------------------------------------------------------------------+
| CONFLUENCE                                                                |
|                                                                           |
|                                                                           |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    5.62
  RAINFALL INTENSITY(INCH/HR) =   2.51
  TOTAL STREAM AREA(ACRES) =     2.80
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      5.94

+---------------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                      |
| DA B-11                                                                   |
| 0.85 AC                                                                   |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    700.00 TO NODE    701.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
          ASSUMED INITIAL SUBAREA UNIFORM
          DEVELOPMENT IS COMMERCIAL
```

```
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   555.00
  UPSTREAM ELEVATION(FEET) =   1105.00
  DOWNSTREAM ELEVATION(FEET) =   1081.22
  ELEVATION DIFFERENCE(FEET) =     23.78
  TC = 0.303*[(  555.00**3)/(    23.78)]**.2 =    7.127
     5 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.241
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8713
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      1.66
  TOTAL AREA(ACRES) =      0.85   TOTAL RUNOFF(CFS) =      1.66

+---------------------------------------------------------------------------+
| PIPE FLOW                                                                 |
|                                                                           |
|                                                                           |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    701.00 TO NODE    103.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1077.50  DOWNSTREAM(FEET) =  1076.58
  FLOW LENGTH(FEET) =    62.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN   9.0 INCH PIPE IS   5.3 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   6.15
  ESTIMATED PIPE DIAMETER(INCH) =   9.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       1.66
  PIPE TRAVEL TIME(MIN.) =   0.17    Tc(MIN.) =    7.30
  LONGEST FLOWPATH FROM NODE    700.00 TO NODE    103.00 =     617.00 FEET.

+---------------------------------------------------------------------------+
| CONFLUENCE                                                                |
|                                                                           |
|                                                                           |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    7.30
  RAINFALL INTENSITY(INCH/HR) =   2.22
  TOTAL STREAM AREA(ACRES) =     0.85
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      1.66

  ** CONFLUENCE DATA **
  STREAM     RUNOFF       Tc      INTENSITY      AREA
  NUMBER       (CFS)     (MIN.)   (INCH/HOUR)    (ACRE)
      1         5.94     5.62        2.511          2.80
      2         1.66     7.30        2.216          0.85

 **********************************WARNING***********************************
  IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED
  ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA
  WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.
 ****************************************************************************

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
  STREAM     RUNOFF      Tc      INTENSITY
```

```
  NUMBER      (CFS)     (MIN.)   (INCH/HOUR)
      1        7.22      5.62       2.511
      2        6.90      7.30       2.216

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =       7.22   Tc(MIN.) =    5.62
  TOTAL AREA(ACRES) =        3.7
  LONGEST FLOWPATH FROM NODE    700.00 TO NODE      0.00 =     617.00 FEET.

+----------------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                       |
| DA B-10                                                                    |
| 3.32                                                                       |
+----------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    300.00 TO NODE    301.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
          ASSUMED INITIAL SUBAREA UNIFORM
          DEVELOPMENT IS COMMERCIAL
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   395.00
  UPSTREAM ELEVATION(FEET) =   1084.00
  DOWNSTREAM ELEVATION(FEET) =   1078.50
  ELEVATION DIFFERENCE(FEET) =      5.50
  TC = 0.303*[(  395.00**3)/(     5.50)]**.2 =    7.789
     5 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.147
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8705
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      6.21
  TOTAL AREA(ACRES) =      3.32   TOTAL RUNOFF(CFS) =      6.21

+----------------------------------------------------------------------------+
| PIPE FLOW                                                                  |
|                                                                            |
|                                                                            |
+----------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    301.00 TO NODE    302.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1074.13  DOWNSTREAM(FEET) =  1070.65
  FLOW LENGTH(FEET) =   770.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN  18.0 INCH PIPE IS  11.0 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.46
  ESTIMATED PIPE DIAMETER(INCH) =  18.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       6.21
  PIPE TRAVEL TIME(MIN.) =   2.35    Tc(MIN.) =   10.14
  LONGEST FLOWPATH FROM NODE    300.00 TO NODE    302.00 =    1165.00 FEET.

+----------------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                                   |
| DA B-9                                                                     |
| 0.51                                                                       |
+----------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    302.00 TO NODE    302.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
     5 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.892
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8679
  SOIL CLASSIFICATION IS "B"
```

```
  SUBAREA AREA(ACRES) =    0.51   SUBAREA RUNOFF(CFS) =    0.84
  TOTAL AREA(ACRES) =        3.8   TOTAL RUNOFF(CFS) =       7.04
  TC(MIN.) =   10.14

+----------------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                                   |
| DA-B8                                                                      |
| 0.45 AC                                                                    |
+----------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    302.00 TO NODE    302.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
     5 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.892
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8679
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    0.45   SUBAREA RUNOFF(CFS) =    0.74
  TOTAL AREA(ACRES) =        4.3   TOTAL RUNOFF(CFS) =       7.78
  TC(MIN.) =   10.14

+----------------------------------------------------------------------------+
| PIPE FLOW                                                                  |
|                                                                            |
|                                                                            |
+----------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    302.00 TO NODE    303.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1070.65  DOWNSTREAM(FEET) =  1068.63
  FLOW LENGTH(FEET) =   748.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN  21.0 INCH PIPE IS  13.5 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   4.75
  ESTIMATED PIPE DIAMETER(INCH) =  21.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       7.78
  PIPE TRAVEL TIME(MIN.) =   2.62    Tc(MIN.) =   12.76
  LONGEST FLOWPATH FROM NODE    300.00 TO NODE    303.00 =    1913.00 FEET.

+----------------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                                   |
| DA B-7                                                                     |
| 2.30 AC                                                                    |
+----------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    303.00 TO NODE    303.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
     5 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.694
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8656
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    2.30   SUBAREA RUNOFF(CFS) =    3.37
  TOTAL AREA(ACRES) =        6.6   TOTAL RUNOFF(CFS) =      11.16
  TC(MIN.) =   12.76

+----------------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                                   |
| DA B-6                                                                     |
| 1.42 AC                                                                    |
+----------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    303.00 TO NODE    303.00 IS CODE =  81
```

```
------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
========================================================================
     5 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.694
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8656
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    1.42   SUBAREA RUNOFF(CFS) =    2.08
  TOTAL AREA(ACRES) =        8.0   TOTAL RUNOFF(CFS) =      13.24
  TC(MIN.) =   12.76

+----------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                 |
| DA D-1                                                               |
| 1.88 AC                                                              |
+----------------------------------------------------------------------+

************************************************************************
  FLOW PROCESS FROM NODE    401.00 TO NODE    403.00 IS CODE =  21
------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
========================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS: UNDEVELOPED WITH FAIR COVER
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   700.00
  UPSTREAM ELEVATION(FEET) =   1054.77
  DOWNSTREAM ELEVATION(FEET) =   1026.04
  ELEVATION DIFFERENCE(FEET) =     28.73
  TC = 0.709*[(  700.00**3)/(    28.73)]**.2 =   18.462
     5 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.419
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .5178
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      1.38
  TOTAL AREA(ACRES) =      1.88   TOTAL RUNOFF(CFS) =      1.38

+----------------------------------------------------------------------+
| CONFLUENCE                                                           |
|                                                                      |
|                                                                      |
+----------------------------------------------------------------------+

************************************************************************
  FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
========================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =   18.46
  RAINFALL INTENSITY(INCH/HR) =   1.42
  TOTAL STREAM AREA(ACRES) =     1.88
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      1.38

+----------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                 |
| DA D-2                                                               |
| 1.60                                                                 |
+----------------------------------------------------------------------+

************************************************************************
  FLOW PROCESS FROM NODE    402.00 TO NODE    403.00 IS CODE =  21
------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
========================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS: UNDEVELOPED WITH FAIR COVER
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   365.00
  UPSTREAM ELEVATION(FEET) =   1039.24
```

```
  DOWNSTREAM ELEVATION(FEET) =   1026.04
  ELEVATION DIFFERENCE(FEET) =     13.20
  TC = 0.709*[(  365.00**3)/(    13.20)]**.2 =   14.593
     5 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.589
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .5424
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      1.38
  TOTAL AREA(ACRES) =      1.60   TOTAL RUNOFF(CFS) =      1.38

+---------------------------------------------------------------------------+
| CONFLUENCE                                                                |
|                                                                           |
|                                                                           |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =   14.59
  RAINFALL INTENSITY(INCH/HR) =   1.59
  TOTAL STREAM AREA(ACRES) =     1.60
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      1.38

  ** CONFLUENCE DATA **
  STREAM     RUNOFF       Tc      INTENSITY      AREA
  NUMBER      (CFS)     (MIN.)   (INCH/HOUR)    (ACRE)
      1        1.38    18.46        1.419          1.88
      2        1.38    14.59        1.589          1.60

 **********************************WARNING***********************************
  IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED
  ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA
  WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.
 ****************************************************************************

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
  STREAM     RUNOFF      Tc      INTENSITY
  NUMBER      (CFS)     (MIN.)   (INCH/HOUR)
      1        2.47    14.59       1.589
      2        2.61    18.46       1.419

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =       2.61   Tc(MIN.) =   18.46
  TOTAL AREA(ACRES) =        3.5
  LONGEST FLOWPATH FROM NODE    401.00 TO NODE      0.00 =     700.00 FEET.

+---------------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                      |
| DA E-3                                                                    |
| 1.28                                                                      |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    500.00 TO NODE    501.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
          ASSUMED INITIAL SUBAREA UNIFORM
          DEVELOPMENT IS COMMERCIAL
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =  1400.00
```

```
  UPSTREAM ELEVATION(FEET) =   1113.70
  DOWNSTREAM ELEVATION(FEET) =   1042.31
  ELEVATION DIFFERENCE(FEET) =     71.39
  TC = 0.303*[( 1400.00**3)/(    71.39)]**.2 =    9.966
     5 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.908
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8681
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      2.12
  TOTAL AREA(ACRES) =      1.28   TOTAL RUNOFF(CFS) =      2.12

****************************************************************************
  FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    9.97
  RAINFALL INTENSITY(INCH/HR) =   1.91
  TOTAL STREAM AREA(ACRES) =     1.28
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      2.12

+--------------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                     |
| DA E-4                                                                   |
| 1.56 AC                                                                  |
+--------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    601.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
          ASSUMED INITIAL SUBAREA UNIFORM
          DEVELOPMENT IS COMMERCIAL
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =  1430.00
  UPSTREAM ELEVATION(FEET) =   1113.37
  DOWNSTREAM ELEVATION(FEET) =   1041.24
  ELEVATION DIFFERENCE(FEET) =     72.13
  TC = 0.303*[( 1430.00**3)/(    72.13)]**.2 =   10.073
     5 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.898
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8680
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      2.57
  TOTAL AREA(ACRES) =      1.56   TOTAL RUNOFF(CFS) =      2.57

+--------------------------------------------------------------------------+
| PIPE FLOW                                                                |
|                                                                          |
|                                                                          |
+--------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    601.00 TO NODE    501.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1034.81  DOWNSTREAM(FEET) =  1034.58
  FLOW LENGTH(FEET) =    45.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  15.0 INCH PIPE IS   8.1 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   3.79
  ESTIMATED PIPE DIAMETER(INCH) =  15.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       2.57
  PIPE TRAVEL TIME(MIN.) =   0.20    Tc(MIN.) =   10.27
  LONGEST FLOWPATH FROM NODE    600.00 TO NODE    501.00 =    1475.00 FEET.

****************************************************************************
```

```
 FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
 >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  2
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
 TIME OF CONCENTRATION(MIN.) =   10.27
 RAINFALL INTENSITY(INCH/HR) =   1.88
 TOTAL STREAM AREA(ACRES) =     1.56
 PEAK FLOW RATE(CFS) AT CONFLUENCE =      2.57

 ** CONFLUENCE DATA **
 STREAM     RUNOFF       Tc      INTENSITY      AREA
 NUMBER      (CFS)     (MIN.)   (INCH/HOUR)    (ACRE)
     1        2.12     9.97        1.908          1.28
     2        2.57    10.27        1.880          1.56

 ********************************WARNING*************************************
 IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED
 ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA
 WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.
 ****************************************************************************

 RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
 CONFLUENCE FORMULA USED FOR  2 STREAMS.

 ** PEAK FLOW RATE TABLE **
 STREAM     RUNOFF      Tc      INTENSITY
 NUMBER      (CFS)    (MIN.)   (INCH/HOUR)
     1        4.61     9.97       1.908
     2        4.66    10.27       1.880

 COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
 PEAK FLOW RATE(CFS) =       4.66   Tc(MIN.) =   10.27
 TOTAL AREA(ACRES) =        2.8
 LONGEST FLOWPATH FROM NODE    600.00 TO NODE      0.00 =    1475.00 FEET.

+----------------------------------------------------------------------------+
| PIPE FLOW                                                                  |
|                                                                            |
|                                                                            |
+----------------------------------------------------------------------------+

****************************************************************************
 FLOW PROCESS FROM NODE    501.00 TO NODE    502.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1034.58  DOWNSTREAM(FEET) =  1029.13
 FLOW LENGTH(FEET) =   560.00   MANNING'S N =  0.013
 DEPTH OF FLOW IN  15.0 INCH PIPE IS   9.7 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   5.55
 ESTIMATED PIPE DIAMETER(INCH) =  15.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       4.66
 PIPE TRAVEL TIME(MIN.) =   1.68    Tc(MIN.) =   11.95
 LONGEST FLOWPATH FROM NODE    600.00 TO NODE    502.00 =    2035.00 FEET.

+----------------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                       |
| DA E-1                                                                     |
| 0.52 AC                                                                    |
+----------------------------------------------------------------------------+

****************************************************************************
 FLOW PROCESS FROM NODE    800.00 TO NODE    801.00 IS CODE =  21
----------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
```

```
============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS COMMERCIAL
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   553.00
  UPSTREAM ELEVATION(FEET) =   1113.43
  DOWNSTREAM ELEVATION(FEET) =   1105.00
  ELEVATION DIFFERENCE(FEET) =      8.43
  TC = 0.303*[(  553.00**3)/(     8.43)]**.2 =    8.751
     5 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.030
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8694
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      0.92
  TOTAL AREA(ACRES) =      0.52   TOTAL RUNOFF(CFS) =      0.92

+--------------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                                 |
| DA E-2                                                                   |
| 0.43 AC                                                                  |
+--------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    801.00 TO NODE    801.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
     5 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.030
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8694
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    0.43   SUBAREA RUNOFF(CFS) =    0.76
  TOTAL AREA(ACRES) =        0.9   TOTAL RUNOFF(CFS) =       1.68
  TC(MIN.) =    8.75

+--------------------------------------------------------------------------+
| SHALLOW CONCENTRATED FLOW                                                |
|                                                                          |
|                                                                          |
+--------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    801.00 TO NODE    802.00 IS CODE =  51
----------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   1105.00  DOWNSTREAM(FEET) =   1059.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =  1140.00   CHANNEL SLOPE =  0.0404
  CHANNEL BASE(FEET) =    0.00   "Z" FACTOR =  15.000
  MANNING'S FACTOR = 0.030   MAXIMUM DEPTH(FEET) =   1.00
  CHANNEL FLOW THRU SUBAREA(CFS) =       1.68
  FLOW VELOCITY(FEET/SEC.) =   2.34   FLOW DEPTH(FEET) =   0.22
  TRAVEL TIME(MIN.) =   8.11   Tc(MIN.) =   16.86
  LONGEST FLOWPATH FROM NODE    800.00 TO NODE    802.00 =    1693.00 FEET.

+--------------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                                 |
| DA A-1                                                                   |
| 10.17 AC                                                                 |
+--------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    802.00 TO NODE    802.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
     5 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.483
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .5274
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =   10.17   SUBAREA RUNOFF(CFS) =    7.95
```

```
  TOTAL AREA(ACRES) =       11.1   TOTAL RUNOFF(CFS) =       9.63
  TC(MIN.) =   16.86
================================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =       11.1  TC(MIN.) =     16.86
  PEAK FLOW RATE(CFS)   =       9.63
================================================================================
================================================================================
  END OF RATIONAL METHOD ANALYSIS

FF
```

```
 ************************************************************************
             RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
         RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
                       (RCFC&WCD)  1978 HYDROLOGY MANUAL
          (c) Copyright 1982-2011 Advanced Engineering Software (aes)
                       (Rational Tabling Version 18.0)
                   Release Date: 07/01/2011  License ID 1499

                            Analysis prepared by:

                        Kimley-Horn and Associates, Inc.
                               765 The City Drive
                                   Suite 200
                                Orange, CA 92868

 ************************** DESCRIPTION OF STUDY **************************
* TEMESCAL CANYON INDUSTRIAL                                              *
* PROPOSED CONDITION                                                      *
* 10 YEAR STORM                                                           *
 ************************************************************************

  FILE NAME: PTCIND.DAT
  TIME/DATE OF STUDY: 17:17 08/07/2024
------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
------------------------------------------------------------------------
  USER SPECIFIED STORM EVENT(YEAR) =   10.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   8.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  10-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) =  2.220
  10-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) =  0.940
  100-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) =  3.430
  100-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) =  1.450
  SLOPE OF 10-YEAR INTENSITY-DURATION CURVE =  0.4796304
  SLOPE OF 100-YEAR INTENSITY-DURATION CURVE =  0.4805313
  COMPUTED RAINFALL INTENSITY DATA:
  STORM EVENT =   10.00   1-HOUR INTENSITY(INCH/HOUR) =   0.949
  SLOPE OF INTENSITY DURATION CURVE = 0.4796
  RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: COMPUTE CONFLUENCE VALUES ACCORDING TO RCFC&WCD HYDROLOGY MANUAL
        AND IGNORE OTHER CONFLUENCE COMBINATIONS FOR DOWNSTREAM ANALYSES
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

+------------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                   |
| DA B-1                                                                 |
| 1.17 AC                                                                |
+------------------------------------------------------------------------+

************************************************************************
  FLOW PROCESS FROM NODE    100.00 TO NODE    101.00 IS CODE =  21
------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
========================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS COMMERCIAL
```

```
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   276.00
  UPSTREAM ELEVATION(FEET) =   1104.35
  DOWNSTREAM ELEVATION(FEET) =   1082.84
  ELEVATION DIFFERENCE(FEET) =     21.51
  TC = 0.303*[(  276.00**3)/(    21.51)]**.2 =    4.782
  COMPUTED TIME OF CONCENTRATION INCREASED TO 5 MIN.
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.126
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8774
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      3.21
  TOTAL AREA(ACRES) =      1.17   TOTAL RUNOFF(CFS) =      3.21

+---------------------------------------------------------------------------+
| CONFLUENCE                                                                |
|                                                                           |
|                                                                           |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    5.00
  RAINFALL INTENSITY(INCH/HR) =   3.13
  TOTAL STREAM AREA(ACRES) =     1.17
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      3.21

+---------------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                      |
| DA B-2                                                                    |
| 0.61 AC                                                                   |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    200.00 TO NODE    101.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
          ASSUMED INITIAL SUBAREA UNIFORM
          DEVELOPMENT IS COMMERCIAL
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   200.00
  UPSTREAM ELEVATION(FEET) =   1085.00
  DOWNSTREAM ELEVATION(FEET) =   1083.05
  ELEVATION DIFFERENCE(FEET) =      1.95
  TC = 0.303*[(  200.00**3)/(     1.95)]**.2 =    6.371
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.783
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8754
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      1.49
  TOTAL AREA(ACRES) =      0.61   TOTAL RUNOFF(CFS) =      1.49

+---------------------------------------------------------------------------+
| CONFLUENCE                                                                |
|                                                                           |
|                                                                           |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
```

```
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
 TIME OF CONCENTRATION(MIN.) =    6.37
 RAINFALL INTENSITY(INCH/HR) =   2.78
 TOTAL STREAM AREA(ACRES) =     0.61
 PEAK FLOW RATE(CFS) AT CONFLUENCE =      1.49

 ** CONFLUENCE DATA **
 STREAM     RUNOFF       Tc      INTENSITY      AREA
 NUMBER      (CFS)     (MIN.)   (INCH/HOUR)    (ACRE)
     1        3.21     5.00        3.126          1.17
     2        1.49     6.37        2.783          0.61

 ********************************WARNING*************************************
 IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED
 ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA
 WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.
 ****************************************************************************

 RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
 CONFLUENCE FORMULA USED FOR  2 STREAMS.

 ** PEAK FLOW RATE TABLE **
 STREAM     RUNOFF      Tc      INTENSITY
 NUMBER      (CFS)    (MIN.)   (INCH/HOUR)
     1        4.38     5.00       3.126
     2        4.34     6.37       2.783

 COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
 PEAK FLOW RATE(CFS) =       4.38   Tc(MIN.) =    5.00
 TOTAL AREA(ACRES) =        1.8
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE      0.00 =     276.00 FEET.

+----------------------------------------------------------------------------+
| PIPE FLOW                                                                  |
|                                                                            |
|                                                                            |
+----------------------------------------------------------------------------+

****************************************************************************
 FLOW PROCESS FROM NODE    101.00 TO NODE    102.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1079.11  DOWNSTREAM(FEET) =  1076.58
 FLOW LENGTH(FEET) =   243.00   MANNING'S N =  0.010
 DEPTH OF FLOW IN  12.0 INCH PIPE IS   9.3 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   6.67
 ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       4.38
 PIPE TRAVEL TIME(MIN.) =   0.61    Tc(MIN.) =    5.61
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE    102.00 =     519.00 FEET.

+----------------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                                   |
| DA B-3                                                                     |
| 0.30 AC                                                                    |
+----------------------------------------------------------------------------+

****************************************************************************
 FLOW PROCESS FROM NODE    102.00 TO NODE    102.00 IS CODE =  81
----------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.959
 COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8765
 SOIL CLASSIFICATION IS "B"
 SUBAREA AREA(ACRES) =    0.30   SUBAREA RUNOFF(CFS) =    0.78
 TOTAL AREA(ACRES) =        2.1   TOTAL RUNOFF(CFS) =       5.15
```

```
  TC(MIN.) =    5.61

+---------------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                                  |
| DA B-4                                                                    |
| 0.14 AC                                                                   |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    102.00 TO NODE    102.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.959
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8765
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    0.14   SUBAREA RUNOFF(CFS) =    0.36
  TOTAL AREA(ACRES) =        2.2   TOTAL RUNOFF(CFS) =       5.52
  TC(MIN.) =    5.61

+---------------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                                  |
| DA B-5                                                                    |
| 0.58 AC                                                                   |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    103.00 TO NODE    103.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.959
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8765
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    0.58   SUBAREA RUNOFF(CFS) =    1.50
  TOTAL AREA(ACRES) =        2.8   TOTAL RUNOFF(CFS) =       7.02
  TC(MIN.) =    5.61

+---------------------------------------------------------------------------+
| CONFLUENCE                                                                |
|                                                                           |
|                                                                           |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    5.61
  RAINFALL INTENSITY(INCH/HR) =   2.96
  TOTAL STREAM AREA(ACRES) =     2.80
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      7.02

+---------------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                      |
| DA B-11                                                                   |
| 0.85 AC                                                                   |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    700.00 TO NODE    701.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
          ASSUMED INITIAL SUBAREA UNIFORM
          DEVELOPMENT IS COMMERCIAL
```

```
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   555.00
  UPSTREAM ELEVATION(FEET) =   1105.00
  DOWNSTREAM ELEVATION(FEET) =   1081.22
  ELEVATION DIFFERENCE(FEET) =     23.78
  TC = 0.303*[(  555.00**3)/(    23.78)]**.2 =    7.127
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.638
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8744
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      1.96
  TOTAL AREA(ACRES) =      0.85   TOTAL RUNOFF(CFS) =      1.96

+---------------------------------------------------------------------------+
| PIPE FLOW                                                                 |
|                                                                           |
|                                                                           |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    701.00 TO NODE    103.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1077.50  DOWNSTREAM(FEET) =  1076.58
  FLOW LENGTH(FEET) =    62.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN   9.0 INCH PIPE IS   5.9 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   6.36
  ESTIMATED PIPE DIAMETER(INCH) =   9.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       1.96
  PIPE TRAVEL TIME(MIN.) =   0.16    Tc(MIN.) =    7.29
  LONGEST FLOWPATH FROM NODE    700.00 TO NODE    103.00 =     617.00 FEET.

+---------------------------------------------------------------------------+
| CONFLUENCE                                                                |
|                                                                           |
|                                                                           |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    7.29
  RAINFALL INTENSITY(INCH/HR) =   2.61
  TOTAL STREAM AREA(ACRES) =     0.85
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      1.96

  ** CONFLUENCE DATA **
  STREAM     RUNOFF       Tc      INTENSITY      AREA
  NUMBER       (CFS)     (MIN.)   (INCH/HOUR)    (ACRE)
      1         7.02     5.61        2.959          2.80
      2         1.96     7.29        2.609          0.85

 **********************************WARNING***********************************
  IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED
  ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA
  WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.
 ****************************************************************************

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
  STREAM     RUNOFF      Tc      INTENSITY
```

```
  NUMBER      (CFS)     (MIN.)   (INCH/HOUR)
      1        8.53      5.61       2.959
      2        8.15      7.29       2.609

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =       8.53   Tc(MIN.) =    5.61
  TOTAL AREA(ACRES) =        3.7
  LONGEST FLOWPATH FROM NODE    700.00 TO NODE      0.00 =     617.00 FEET.

+----------------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                       |
| DA B-10                                                                    |
| 3.32                                                                       |
+----------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    300.00 TO NODE    301.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
          ASSUMED INITIAL SUBAREA UNIFORM
          DEVELOPMENT IS COMMERCIAL
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   395.00
  UPSTREAM ELEVATION(FEET) =   1084.00
  DOWNSTREAM ELEVATION(FEET) =   1078.50
  ELEVATION DIFFERENCE(FEET) =      5.50
  TC = 0.303*[(  395.00**3)/(     5.50)]**.2 =    7.789
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.528
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8736
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      7.33
  TOTAL AREA(ACRES) =      3.32   TOTAL RUNOFF(CFS) =      7.33

+----------------------------------------------------------------------------+
| PIPE FLOW                                                                  |
|                                                                            |
|                                                                            |
+----------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    301.00 TO NODE    302.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1074.13  DOWNSTREAM(FEET) =  1070.65
  FLOW LENGTH(FEET) =   770.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN  18.0 INCH PIPE IS  12.4 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.64
  ESTIMATED PIPE DIAMETER(INCH) =  18.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       7.33
  PIPE TRAVEL TIME(MIN.) =   2.27    Tc(MIN.) =   10.06
  LONGEST FLOWPATH FROM NODE    300.00 TO NODE    302.00 =    1165.00 FEET.

+----------------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                                   |
| DA B-9                                                                     |
| 0.51                                                                       |
+----------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    302.00 TO NODE    302.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.235
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8713
  SOIL CLASSIFICATION IS "B"
```

```
  SUBAREA AREA(ACRES) =    0.51   SUBAREA RUNOFF(CFS) =    0.99
  TOTAL AREA(ACRES) =       3.8   TOTAL RUNOFF(CFS) =       8.32
  TC(MIN.) =   10.06

+----------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                             |
| DA-B8                                                                |
| 0.45 AC                                                              |
+----------------------------------------------------------------------+

**************************************************************************
  FLOW PROCESS FROM NODE    302.00 TO NODE    302.00 IS CODE =  81
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.235
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8713
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    0.45   SUBAREA RUNOFF(CFS) =    0.88
  TOTAL AREA(ACRES) =       4.3   TOTAL RUNOFF(CFS) =       9.20
  TC(MIN.) =   10.06

+----------------------------------------------------------------------+
| PIPE FLOW                                                            |
|                                                                      |
|                                                                      |
+----------------------------------------------------------------------+

**************************************************************************
  FLOW PROCESS FROM NODE    302.00 TO NODE    303.00 IS CODE =  31
--------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
==========================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1070.65  DOWNSTREAM(FEET) =  1068.63
  FLOW LENGTH(FEET) =   748.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN  21.0 INCH PIPE IS  15.3 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   4.89
  ESTIMATED PIPE DIAMETER(INCH) =  21.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       9.20
  PIPE TRAVEL TIME(MIN.) =   2.55    Tc(MIN.) =   12.61
  LONGEST FLOWPATH FROM NODE    300.00 TO NODE    303.00 =    1913.00 FEET.

+----------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                             |
| DA B-7                                                               |
| 2.30 AC                                                              |
+----------------------------------------------------------------------+

**************************************************************************
  FLOW PROCESS FROM NODE    303.00 TO NODE    303.00 IS CODE =  81
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.006
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8691
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    2.30   SUBAREA RUNOFF(CFS) =    4.01
  TOTAL AREA(ACRES) =       6.6   TOTAL RUNOFF(CFS) =      13.21
  TC(MIN.) =   12.61

+----------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                             |
| DA B-6                                                               |
| 1.42 AC                                                              |
+----------------------------------------------------------------------+

**************************************************************************
  FLOW PROCESS FROM NODE    303.00 TO NODE    303.00 IS CODE =  81
```

```
------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
========================================================================
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.006
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8691
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    1.42   SUBAREA RUNOFF(CFS) =    2.48
  TOTAL AREA(ACRES) =        8.0   TOTAL RUNOFF(CFS) =      15.69
  TC(MIN.) =   12.61

+----------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                 |
| DA D-1                                                               |
| 1.88 AC                                                              |
+----------------------------------------------------------------------+

************************************************************************
  FLOW PROCESS FROM NODE    401.00 TO NODE    403.00 IS CODE =  21
------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
========================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS: UNDEVELOPED WITH FAIR COVER
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   700.00
  UPSTREAM ELEVATION(FEET) =   1054.77
  DOWNSTREAM ELEVATION(FEET) =   1026.04
  ELEVATION DIFFERENCE(FEET) =     28.73
  TC = 0.709*[(  700.00**3)/(    28.73)]**.2 =   18.462
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.671
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .5532
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      1.74
  TOTAL AREA(ACRES) =      1.88   TOTAL RUNOFF(CFS) =      1.74

+----------------------------------------------------------------------+
| CONFLUENCE                                                           |
|                                                                      |
|                                                                      |
+----------------------------------------------------------------------+

************************************************************************
  FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
========================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =   18.46
  RAINFALL INTENSITY(INCH/HR) =   1.67
  TOTAL STREAM AREA(ACRES) =     1.88
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      1.74

+----------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                 |
| DA D-2                                                               |
| 1.60                                                                 |
+----------------------------------------------------------------------+

************************************************************************
  FLOW PROCESS FROM NODE    402.00 TO NODE    403.00 IS CODE =  21
------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
========================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS: UNDEVELOPED WITH FAIR COVER
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   365.00
  UPSTREAM ELEVATION(FEET) =   1039.24
```

```
  DOWNSTREAM ELEVATION(FEET) =   1026.04
  ELEVATION DIFFERENCE(FEET) =     13.20
  TC = 0.709*[(  365.00**3)/(    13.20)]**.2 =   14.593
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.870
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .5769
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      1.73
  TOTAL AREA(ACRES) =      1.60   TOTAL RUNOFF(CFS) =      1.73

+---------------------------------------------------------------------------+
| CONFLUENCE                                                                |
|                                                                           |
|                                                                           |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =   14.59
  RAINFALL INTENSITY(INCH/HR) =   1.87
  TOTAL STREAM AREA(ACRES) =     1.60
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      1.73

  ** CONFLUENCE DATA **
  STREAM     RUNOFF       Tc      INTENSITY      AREA
  NUMBER      (CFS)     (MIN.)   (INCH/HOUR)    (ACRE)
      1        1.74    18.46        1.671          1.88
      2        1.73    14.59        1.870          1.60

 **********************************WARNING***********************************
  IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED
  ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA
  WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.
 ****************************************************************************

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
  STREAM     RUNOFF      Tc      INTENSITY
  NUMBER      (CFS)     (MIN.)   (INCH/HOUR)
      1        3.10    14.59       1.870
      2        3.28    18.46       1.671

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =       3.28   Tc(MIN.) =   18.46
  TOTAL AREA(ACRES) =        3.5
  LONGEST FLOWPATH FROM NODE    401.00 TO NODE      0.00 =     700.00 FEET.

+---------------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                      |
| DA E-3                                                                    |
| 1.28                                                                      |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    500.00 TO NODE    501.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
          ASSUMED INITIAL SUBAREA UNIFORM
          DEVELOPMENT IS COMMERCIAL
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =  1400.00
```

```
  UPSTREAM ELEVATION(FEET) =   1113.70
  DOWNSTREAM ELEVATION(FEET) =   1042.31
  ELEVATION DIFFERENCE(FEET) =     71.39
  TC = 0.303*[( 1400.00**3)/(    71.39)]**.2 =    9.966
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.246
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8714
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      2.50
  TOTAL AREA(ACRES) =      1.28   TOTAL RUNOFF(CFS) =      2.50

****************************************************************************
  FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    9.97
  RAINFALL INTENSITY(INCH/HR) =   2.25
  TOTAL STREAM AREA(ACRES) =     1.28
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      2.50

+--------------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                     |
| DA E-4                                                                   |
| 1.56 AC                                                                  |
+--------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    601.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
          ASSUMED INITIAL SUBAREA UNIFORM
          DEVELOPMENT IS COMMERCIAL
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =  1430.00
  UPSTREAM ELEVATION(FEET) =   1113.37
  DOWNSTREAM ELEVATION(FEET) =   1041.24
  ELEVATION DIFFERENCE(FEET) =     72.13
  TC = 0.303*[( 1430.00**3)/(    72.13)]**.2 =   10.073
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.234
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8713
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      3.04
  TOTAL AREA(ACRES) =      1.56   TOTAL RUNOFF(CFS) =      3.04

+--------------------------------------------------------------------------+
| PIPE FLOW                                                                |
|                                                                          |
|                                                                          |
+--------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    601.00 TO NODE    501.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1034.81  DOWNSTREAM(FEET) =  1034.58
  FLOW LENGTH(FEET) =    45.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  15.0 INCH PIPE IS   9.0 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   3.94
  ESTIMATED PIPE DIAMETER(INCH) =  15.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       3.04
  PIPE TRAVEL TIME(MIN.) =   0.19    Tc(MIN.) =   10.26
  LONGEST FLOWPATH FROM NODE    600.00 TO NODE    501.00 =    1475.00 FEET.

****************************************************************************
```

```
 FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
 >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  2
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
 TIME OF CONCENTRATION(MIN.) =   10.26
 RAINFALL INTENSITY(INCH/HR) =   2.21
 TOTAL STREAM AREA(ACRES) =     1.56
 PEAK FLOW RATE(CFS) AT CONFLUENCE =      3.04

 ** CONFLUENCE DATA **
 STREAM     RUNOFF       Tc      INTENSITY      AREA
 NUMBER      (CFS)     (MIN.)   (INCH/HOUR)    (ACRE)
     1        2.50     9.97        2.246          1.28
     2        3.04    10.26        2.214          1.56

 **********************************WARNING***********************************
 IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED
 ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA
 WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.
 ****************************************************************************

 RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
 CONFLUENCE FORMULA USED FOR  2 STREAMS.

 ** PEAK FLOW RATE TABLE **
 STREAM     RUNOFF      Tc      INTENSITY
 NUMBER      (CFS)    (MIN.)   (INCH/HOUR)
     1        5.45     9.97       2.246
     2        5.51    10.26       2.214

 COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
 PEAK FLOW RATE(CFS) =       5.51   Tc(MIN.) =   10.26
 TOTAL AREA(ACRES) =        2.8
 LONGEST FLOWPATH FROM NODE    600.00 TO NODE      0.00 =    1475.00 FEET.

+----------------------------------------------------------------------------+
| PIPE FLOW                                                                  |
|                                                                            |
|                                                                            |
+----------------------------------------------------------------------------+

****************************************************************************
 FLOW PROCESS FROM NODE    501.00 TO NODE    502.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1034.58  DOWNSTREAM(FEET) =  1029.13
 FLOW LENGTH(FEET) =   560.00   MANNING'S N =  0.013
 DEPTH OF FLOW IN  15.0 INCH PIPE IS  11.0 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   5.72
 ESTIMATED PIPE DIAMETER(INCH) =  15.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       5.51
 PIPE TRAVEL TIME(MIN.) =   1.63    Tc(MIN.) =   11.90
 LONGEST FLOWPATH FROM NODE    600.00 TO NODE    502.00 =    2035.00 FEET.

+----------------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                       |
| DA E-1                                                                     |
| 0.52 AC                                                                    |
+----------------------------------------------------------------------------+

****************************************************************************
 FLOW PROCESS FROM NODE    800.00 TO NODE    801.00 IS CODE =  21
----------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
```

```
==========================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS COMMERCIAL
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   553.00
  UPSTREAM ELEVATION(FEET) =   1113.43
  DOWNSTREAM ELEVATION(FEET) =   1105.00
  ELEVATION DIFFERENCE(FEET) =      8.43
  TC = 0.303*[(  553.00**3)/(     8.43)]**.2 =    8.751
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.390
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8726
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      1.08
  TOTAL AREA(ACRES) =      0.52   TOTAL RUNOFF(CFS) =      1.08

+------------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                               |
| DA E-2                                                                 |
| 0.43 AC                                                                |
+------------------------------------------------------------------------+

**************************************************************************
  FLOW PROCESS FROM NODE    801.00 TO NODE    801.00 IS CODE =  81
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.390
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8726
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    0.43   SUBAREA RUNOFF(CFS) =    0.90
  TOTAL AREA(ACRES) =        0.9   TOTAL RUNOFF(CFS) =       1.98
  TC(MIN.) =    8.75

+------------------------------------------------------------------------+
| SHALLOW CONCENTRATED FLOW                                              |
|                                                                        |
|                                                                        |
+------------------------------------------------------------------------+

**************************************************************************
  FLOW PROCESS FROM NODE    801.00 TO NODE    802.00 IS CODE =  51
--------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
==========================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   1105.00  DOWNSTREAM(FEET) =   1059.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =  1140.00   CHANNEL SLOPE =  0.0404
  CHANNEL BASE(FEET) =    0.00   "Z" FACTOR =  15.000
  MANNING'S FACTOR = 0.030   MAXIMUM DEPTH(FEET) =   1.00
  CHANNEL FLOW THRU SUBAREA(CFS) =       1.98
  FLOW VELOCITY(FEET/SEC.) =   2.42   FLOW DEPTH(FEET) =   0.23
  TRAVEL TIME(MIN.) =   7.85   Tc(MIN.) =   16.60
  LONGEST FLOWPATH FROM NODE    800.00 TO NODE    802.00 =    1693.00 FEET.

+------------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                               |
| DA A-1                                                                 |
| 10.17 AC                                                               |
+------------------------------------------------------------------------+

**************************************************************************
  FLOW PROCESS FROM NODE    802.00 TO NODE    802.00 IS CODE =  81
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.758
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .5640
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =   10.17   SUBAREA RUNOFF(CFS) =   10.08
```

```
  TOTAL AREA(ACRES) =       11.1   TOTAL RUNOFF(CFS) =      12.07
  TC(MIN.) =   16.60
================================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =       11.1  TC(MIN.) =     16.60
  PEAK FLOW RATE(CFS)   =      12.07
================================================================================
================================================================================
  END OF RATIONAL METHOD ANALYSIS

FF
```

```
 ************************************************************************
             RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
         RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
                       (RCFC&WCD)  1978 HYDROLOGY MANUAL
          (c) Copyright 1982-2011 Advanced Engineering Software (aes)
                       (Rational Tabling Version 18.0)
                   Release Date: 07/01/2011  License ID 1499

                            Analysis prepared by:

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                                Orange, CA 92868

 ************************** DESCRIPTION OF STUDY **************************
* TEMESCAL CANYON INDUSTRIAL                                              *
* PROPOSED CONDITION                                                      *
* 100 YEAR STORM                                                          *
 ************************************************************************

  FILE NAME: PTCIND.DAT
  TIME/DATE OF STUDY: 17:17 08/07/2024
------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
------------------------------------------------------------------------
  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =   8.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  10-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) =  2.220
  10-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) =  0.940
  100-YEAR STORM 10-MINUTE INTENSITY(INCH/HOUR) =  3.430
  100-YEAR STORM 60-MINUTE INTENSITY(INCH/HOUR) =  1.450
  SLOPE OF 10-YEAR INTENSITY-DURATION CURVE =  0.4796304
  SLOPE OF 100-YEAR INTENSITY-DURATION CURVE =  0.4805313
  COMPUTED RAINFALL INTENSITY DATA:
  STORM EVENT =  100.00   1-HOUR INTENSITY(INCH/HOUR) =   1.450
  SLOPE OF INTENSITY DURATION CURVE = 0.4805
  RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: COMPUTE CONFLUENCE VALUES ACCORDING TO RCFC&WCD HYDROLOGY MANUAL
        AND IGNORE OTHER CONFLUENCE COMBINATIONS FOR DOWNSTREAM ANALYSES
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

+------------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                   |
| DA B-1                                                                 |
| 1.17 AC                                                                |
+------------------------------------------------------------------------+

************************************************************************
  FLOW PROCESS FROM NODE    100.00 TO NODE    101.00 IS CODE =  21
------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
========================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS COMMERCIAL
```

```
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   276.00
  UPSTREAM ELEVATION(FEET) =   1104.35
  DOWNSTREAM ELEVATION(FEET) =   1082.84
  ELEVATION DIFFERENCE(FEET) =     21.51
  TC = 0.303*[(  276.00**3)/(    21.51)]**.2 =    4.782
  COMPUTED TIME OF CONCENTRATION INCREASED TO 5 MIN.
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.786
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8838
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      4.95
  TOTAL AREA(ACRES) =      1.17   TOTAL RUNOFF(CFS) =      4.95

+---------------------------------------------------------------------------+
| CONFLUENCE                                                                |
|                                                                           |
|                                                                           |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    5.00
  RAINFALL INTENSITY(INCH/HR) =   4.79
  TOTAL STREAM AREA(ACRES) =     1.17
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      4.95

+---------------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                      |
| DA B-2                                                                    |
| 0.61 AC                                                                   |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    200.00 TO NODE    101.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
          ASSUMED INITIAL SUBAREA UNIFORM
          DEVELOPMENT IS COMMERCIAL
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   200.00
  UPSTREAM ELEVATION(FEET) =   1085.00
  DOWNSTREAM ELEVATION(FEET) =   1083.05
  ELEVATION DIFFERENCE(FEET) =      1.95
  TC = 0.303*[(  200.00**3)/(     1.95)]**.2 =    6.371
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.260
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8822
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      2.29
  TOTAL AREA(ACRES) =      0.61   TOTAL RUNOFF(CFS) =      2.29

+---------------------------------------------------------------------------+
| CONFLUENCE                                                                |
|                                                                           |
|                                                                           |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
```

```
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
 TIME OF CONCENTRATION(MIN.) =    6.37
 RAINFALL INTENSITY(INCH/HR) =   4.26
 TOTAL STREAM AREA(ACRES) =     0.61
 PEAK FLOW RATE(CFS) AT CONFLUENCE =      2.29

 ** CONFLUENCE DATA **
 STREAM     RUNOFF       Tc      INTENSITY      AREA
 NUMBER      (CFS)     (MIN.)   (INCH/HOUR)    (ACRE)
     1        4.95     5.00        4.786          1.17
     2        2.29     6.37        4.260          0.61

 ********************************WARNING***********************************
 IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED
 ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA
 WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.
 **************************************************************************

 RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
 CONFLUENCE FORMULA USED FOR  2 STREAMS.

 ** PEAK FLOW RATE TABLE **
 STREAM     RUNOFF      Tc      INTENSITY
 NUMBER      (CFS)    (MIN.)   (INCH/HOUR)
     1        6.75     5.00       4.786
     2        6.70     6.37       4.260

 COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
 PEAK FLOW RATE(CFS) =       6.75   Tc(MIN.) =    5.00
 TOTAL AREA(ACRES) =        1.8
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE      0.00 =     276.00 FEET.

+-------------------------------------------------------------------------+
| PIPE FLOW                                                               |
|                                                                         |
|                                                                         |
+-------------------------------------------------------------------------+

**************************************************************************
 FLOW PROCESS FROM NODE    101.00 TO NODE    102.00 IS CODE =  31
--------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
==========================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1079.11  DOWNSTREAM(FEET) =  1076.58
 FLOW LENGTH(FEET) =   243.00   MANNING'S N =  0.010
 DEPTH OF FLOW IN  15.0 INCH PIPE IS  10.2 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   7.57
 ESTIMATED PIPE DIAMETER(INCH) =  15.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       6.75
 PIPE TRAVEL TIME(MIN.) =   0.54    Tc(MIN.) =    5.54
 LONGEST FLOWPATH FROM NODE    100.00 TO NODE    102.00 =     519.00 FEET.

+-------------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                                |
| DA B-3                                                                  |
| 0.30 AC                                                                 |
+-------------------------------------------------------------------------+

**************************************************************************
 FLOW PROCESS FROM NODE    102.00 TO NODE    102.00 IS CODE =  81
--------------------------------------------------------------------------
 >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
  100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.557
 COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8832
 SOIL CLASSIFICATION IS "B"
 SUBAREA AREA(ACRES) =    0.30   SUBAREA RUNOFF(CFS) =    1.21
 TOTAL AREA(ACRES) =        2.1   TOTAL RUNOFF(CFS) =       7.96
```

```
  TC(MIN.) =    5.54

+---------------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                                  |
| DA B-4                                                                    |
| 0.14 AC                                                                   |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    102.00 TO NODE    102.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.557
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8832
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    0.14   SUBAREA RUNOFF(CFS) =    0.56
  TOTAL AREA(ACRES) =        2.2   TOTAL RUNOFF(CFS) =       8.52
  TC(MIN.) =    5.54

+---------------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                                  |
| DA B-5                                                                    |
| 0.58 AC                                                                   |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    103.00 TO NODE    103.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.557
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8832
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    0.58   SUBAREA RUNOFF(CFS) =    2.33
  TOTAL AREA(ACRES) =        2.8   TOTAL RUNOFF(CFS) =      10.85
  TC(MIN.) =    5.54

+---------------------------------------------------------------------------+
| CONFLUENCE                                                                |
|                                                                           |
|                                                                           |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    5.54
  RAINFALL INTENSITY(INCH/HR) =   4.56
  TOTAL STREAM AREA(ACRES) =     2.80
  PEAK FLOW RATE(CFS) AT CONFLUENCE =     10.85

+---------------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                      |
| DA B-11                                                                   |
| 0.85 AC                                                                   |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    700.00 TO NODE    701.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
          ASSUMED INITIAL SUBAREA UNIFORM
          DEVELOPMENT IS COMMERCIAL
```

```
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   555.00
  UPSTREAM ELEVATION(FEET) =   1105.00
  DOWNSTREAM ELEVATION(FEET) =   1081.22
  ELEVATION DIFFERENCE(FEET) =     23.78
  TC = 0.303*[(  555.00**3)/(    23.78)]**.2 =    7.127
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  4.036
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8815
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      3.02
  TOTAL AREA(ACRES) =      0.85   TOTAL RUNOFF(CFS) =      3.02

+---------------------------------------------------------------------------+
| PIPE FLOW                                                                 |
|                                                                           |
|                                                                           |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    701.00 TO NODE    103.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1077.50  DOWNSTREAM(FEET) =  1076.58
  FLOW LENGTH(FEET) =    62.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   6.4 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   7.16
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       3.02
  PIPE TRAVEL TIME(MIN.) =   0.14    Tc(MIN.) =    7.27
  LONGEST FLOWPATH FROM NODE    700.00 TO NODE    103.00 =     617.00 FEET.

+---------------------------------------------------------------------------+
| CONFLUENCE                                                                |
|                                                                           |
|                                                                           |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =    7.27
  RAINFALL INTENSITY(INCH/HR) =   4.00
  TOTAL STREAM AREA(ACRES) =     0.85
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      3.02

  ** CONFLUENCE DATA **
  STREAM     RUNOFF       Tc      INTENSITY      AREA
  NUMBER       (CFS)     (MIN.)   (INCH/HOUR)    (ACRE)
      1       10.85     5.54        4.557          2.80
      2        3.02     7.27        3.998          0.85

 **********************************WARNING***********************************
  IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED
  ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA
  WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.
 ****************************************************************************

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
  STREAM     RUNOFF      Tc      INTENSITY
```

```
  NUMBER      (CFS)     (MIN.)   (INCH/HOUR)
      1       13.16      5.54       4.557
      2       12.54      7.27       3.998

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =      13.16   Tc(MIN.) =    5.54
  TOTAL AREA(ACRES) =        3.7
  LONGEST FLOWPATH FROM NODE    700.00 TO NODE      0.00 =     617.00 FEET.

+----------------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                       |
| DA B-10                                                                    |
| 3.32                                                                       |
+----------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    300.00 TO NODE    301.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
          ASSUMED INITIAL SUBAREA UNIFORM
          DEVELOPMENT IS COMMERCIAL
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   395.00
  UPSTREAM ELEVATION(FEET) =   1084.00
  DOWNSTREAM ELEVATION(FEET) =   1078.50
  ELEVATION DIFFERENCE(FEET) =      5.50
  TC = 0.303*[(  395.00**3)/(     5.50)]**.2 =    7.789
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.868
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8808
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =     11.31
  TOTAL AREA(ACRES) =      3.32   TOTAL RUNOFF(CFS) =     11.31

+----------------------------------------------------------------------------+
| PIPE FLOW                                                                  |
|                                                                            |
|                                                                            |
+----------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    301.00 TO NODE    302.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1074.13  DOWNSTREAM(FEET) =  1070.65
  FLOW LENGTH(FEET) =   770.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN  21.0 INCH PIPE IS  14.7 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   6.28
  ESTIMATED PIPE DIAMETER(INCH) =  21.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      11.31
  PIPE TRAVEL TIME(MIN.) =   2.04    Tc(MIN.) =    9.83
  LONGEST FLOWPATH FROM NODE    300.00 TO NODE    302.00 =    1165.00 FEET.

+----------------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                                   |
| DA B-9                                                                     |
| 0.51                                                                       |
+----------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    302.00 TO NODE    302.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.458
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8791
  SOIL CLASSIFICATION IS "B"
```

```
  SUBAREA AREA(ACRES) =    0.51   SUBAREA RUNOFF(CFS) =    1.55
  TOTAL AREA(ACRES) =        3.8   TOTAL RUNOFF(CFS) =      12.86
  TC(MIN.) =    9.83

+----------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                             |
| DA-B8                                                                |
| 0.45 AC                                                              |
+----------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    302.00 TO NODE    302.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.458
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8791
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    0.45   SUBAREA RUNOFF(CFS) =    1.37
  TOTAL AREA(ACRES) =        4.3   TOTAL RUNOFF(CFS) =      14.23
  TC(MIN.) =    9.83

+----------------------------------------------------------------------+
| PIPE FLOW                                                            |
|                                                                      |
|                                                                      |
+----------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    302.00 TO NODE    303.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1070.65  DOWNSTREAM(FEET) =  1068.63
  FLOW LENGTH(FEET) =   748.00   MANNING'S N =  0.010
  DEPTH OF FLOW IN  24.0 INCH PIPE IS  18.8 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   5.39
  ESTIMATED PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =      14.23
  PIPE TRAVEL TIME(MIN.) =   2.31    Tc(MIN.) =   12.14
  LONGEST FLOWPATH FROM NODE    300.00 TO NODE    303.00 =    1913.00 FEET.

+----------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                             |
| DA B-7                                                               |
| 2.30 AC                                                              |
+----------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    303.00 TO NODE    303.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.124
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8774
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    2.30   SUBAREA RUNOFF(CFS) =    6.30
  TOTAL AREA(ACRES) =        6.6   TOTAL RUNOFF(CFS) =      20.53
  TC(MIN.) =   12.14

+----------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                             |
| DA B-6                                                               |
| 1.42 AC                                                              |
+----------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    303.00 TO NODE    303.00 IS CODE =  81
```

```
------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
========================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.124
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8774
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    1.42   SUBAREA RUNOFF(CFS) =    3.89
  TOTAL AREA(ACRES) =        8.0   TOTAL RUNOFF(CFS) =      24.43
  TC(MIN.) =   12.14

+----------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                 |
| DA D-1                                                               |
| 1.88 AC                                                              |
+----------------------------------------------------------------------+

************************************************************************
  FLOW PROCESS FROM NODE    401.00 TO NODE    403.00 IS CODE =  21
------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
========================================================================
          ASSUMED INITIAL SUBAREA UNIFORM
          DEVELOPMENT IS: UNDEVELOPED WITH FAIR COVER
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   700.00
  UPSTREAM ELEVATION(FEET) =   1054.77
  DOWNSTREAM ELEVATION(FEET) =   1026.04
  ELEVATION DIFFERENCE(FEET) =     28.73
  TC = 0.709*[(  700.00**3)/(    28.73)]**.2 =   18.462
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.555
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .6383
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      3.07
  TOTAL AREA(ACRES) =      1.88   TOTAL RUNOFF(CFS) =      3.07

+----------------------------------------------------------------------+
| CONFLUENCE                                                           |
|                                                                      |
|                                                                      |
+----------------------------------------------------------------------+

************************************************************************
  FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
========================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =   18.46
  RAINFALL INTENSITY(INCH/HR) =   2.55
  TOTAL STREAM AREA(ACRES) =     1.88
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      3.07

+----------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                 |
| DA D-2                                                               |
| 1.60                                                                 |
+----------------------------------------------------------------------+

************************************************************************
  FLOW PROCESS FROM NODE    402.00 TO NODE    403.00 IS CODE =  21
------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
========================================================================
          ASSUMED INITIAL SUBAREA UNIFORM
          DEVELOPMENT IS: UNDEVELOPED WITH FAIR COVER
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   365.00
  UPSTREAM ELEVATION(FEET) =   1039.24
```

```
  DOWNSTREAM ELEVATION(FEET) =   1026.04
  ELEVATION DIFFERENCE(FEET) =     13.20
  TC = 0.709*[(  365.00**3)/(    13.20)]**.2 =   14.593
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.860
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .6587
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      3.01
  TOTAL AREA(ACRES) =      1.60   TOTAL RUNOFF(CFS) =      3.01

+---------------------------------------------------------------------------+
| CONFLUENCE                                                                |
|                                                                           |
|                                                                           |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
  >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
  TIME OF CONCENTRATION(MIN.) =   14.59
  RAINFALL INTENSITY(INCH/HR) =   2.86
  TOTAL STREAM AREA(ACRES) =     1.60
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      3.01

  ** CONFLUENCE DATA **
  STREAM     RUNOFF       Tc      INTENSITY      AREA
  NUMBER      (CFS)     (MIN.)   (INCH/HOUR)    (ACRE)
      1        3.07    18.46        2.555          1.88
      2        3.01    14.59        2.860          1.60

 **********************************WARNING***********************************
  IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED
  ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA
  WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.
 ****************************************************************************

  RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
  CONFLUENCE FORMULA USED FOR  2 STREAMS.

  ** PEAK FLOW RATE TABLE **
  STREAM     RUNOFF      Tc      INTENSITY
  NUMBER      (CFS)    (MIN.)   (INCH/HOUR)
      1        5.44    14.59       2.860
      2        5.76    18.46       2.555

  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =       5.76   Tc(MIN.) =   18.46
  TOTAL AREA(ACRES) =        3.5
  LONGEST FLOWPATH FROM NODE    401.00 TO NODE      0.00 =     700.00 FEET.

+---------------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                      |
| DA E-3                                                                    |
| 1.28                                                                      |
+---------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    500.00 TO NODE    501.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
          ASSUMED INITIAL SUBAREA UNIFORM
          DEVELOPMENT IS COMMERCIAL
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =  1400.00
```

```
  UPSTREAM ELEVATION(FEET) =   1113.70
  DOWNSTREAM ELEVATION(FEET) =   1042.31
  ELEVATION DIFFERENCE(FEET) =     71.39
  TC = 0.303*[( 1400.00**3)/(    71.39)]**.2 =    9.966
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.436
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8790
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      3.87
  TOTAL AREA(ACRES) =      1.28   TOTAL RUNOFF(CFS) =      3.87

****************************************************************************
  FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
----------------------------------------------------------------------------
  >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
============================================================================
  TOTAL NUMBER OF STREAMS =  2
  CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
  TIME OF CONCENTRATION(MIN.) =    9.97
  RAINFALL INTENSITY(INCH/HR) =   3.44
  TOTAL STREAM AREA(ACRES) =     1.28
  PEAK FLOW RATE(CFS) AT CONFLUENCE =      3.87

+--------------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                     |
| DA E-4                                                                   |
| 1.56 AC                                                                  |
+--------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    600.00 TO NODE    601.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
          ASSUMED INITIAL SUBAREA UNIFORM
          DEVELOPMENT IS COMMERCIAL
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =  1430.00
  UPSTREAM ELEVATION(FEET) =   1113.37
  DOWNSTREAM ELEVATION(FEET) =   1041.24
  ELEVATION DIFFERENCE(FEET) =     72.13
  TC = 0.303*[( 1430.00**3)/(    72.13)]**.2 =   10.073
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.418
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8789
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      4.69
  TOTAL AREA(ACRES) =      1.56   TOTAL RUNOFF(CFS) =      4.69

+--------------------------------------------------------------------------+
| PIPE FLOW                                                                |
|                                                                          |
|                                                                          |
+--------------------------------------------------------------------------+

****************************************************************************
  FLOW PROCESS FROM NODE    601.00 TO NODE    501.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1034.81  DOWNSTREAM(FEET) =  1034.58
  FLOW LENGTH(FEET) =    45.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  18.0 INCH PIPE IS  10.5 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   4.39
  ESTIMATED PIPE DIAMETER(INCH) =  18.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       4.69
  PIPE TRAVEL TIME(MIN.) =   0.17    Tc(MIN.) =   10.24
  LONGEST FLOWPATH FROM NODE    600.00 TO NODE    501.00 =    1475.00 FEET.

****************************************************************************
```

```
 FLOW PROCESS FROM NODE      0.00 TO NODE      0.00 IS CODE =   1
----------------------------------------------------------------------------
 >>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
 >>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
============================================================================
 TOTAL NUMBER OF STREAMS =  2
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  2 ARE:
 TIME OF CONCENTRATION(MIN.) =   10.24
 RAINFALL INTENSITY(INCH/HR) =   3.39
 TOTAL STREAM AREA(ACRES) =     1.56
 PEAK FLOW RATE(CFS) AT CONFLUENCE =      4.69

 ** CONFLUENCE DATA **
 STREAM     RUNOFF       Tc      INTENSITY      AREA
 NUMBER      (CFS)     (MIN.)   (INCH/HOUR)    (ACRE)
     1        3.87     9.97        3.436          1.28
     2        4.69    10.24        3.391          1.56

 **********************************WARNING***********************************
 IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED
 ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA
 WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.
 ****************************************************************************

 RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
 CONFLUENCE FORMULA USED FOR  2 STREAMS.

 ** PEAK FLOW RATE TABLE **
 STREAM     RUNOFF      Tc      INTENSITY
 NUMBER      (CFS)    (MIN.)   (INCH/HOUR)
     1        8.42     9.97       3.436
     2        8.50    10.24       3.391

 COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
 PEAK FLOW RATE(CFS) =       8.50   Tc(MIN.) =   10.24
 TOTAL AREA(ACRES) =        2.8
 LONGEST FLOWPATH FROM NODE    600.00 TO NODE      0.00 =    1475.00 FEET.

+----------------------------------------------------------------------------+
| PIPE FLOW                                                                  |
|                                                                            |
|                                                                            |
+----------------------------------------------------------------------------+

****************************************************************************
 FLOW PROCESS FROM NODE    501.00 TO NODE    502.00 IS CODE =  31
----------------------------------------------------------------------------
 >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
 >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
 ELEVATION DATA: UPSTREAM(FEET) =  1034.58  DOWNSTREAM(FEET) =  1029.13
 FLOW LENGTH(FEET) =   560.00   MANNING'S N =  0.013
 DEPTH OF FLOW IN  18.0 INCH PIPE IS  12.6 INCHES
 PIPE-FLOW VELOCITY(FEET/SEC.) =   6.41
 ESTIMATED PIPE DIAMETER(INCH) =  18.00    NUMBER OF PIPES =   1
 PIPE-FLOW(CFS) =       8.50
 PIPE TRAVEL TIME(MIN.) =   1.46    Tc(MIN.) =   11.70
 LONGEST FLOWPATH FROM NODE    600.00 TO NODE    502.00 =    2035.00 FEET.

+----------------------------------------------------------------------------+
| INITIAL SUBAREA FLOW                                                       |
| DA E-1                                                                     |
| 0.52 AC                                                                    |
+----------------------------------------------------------------------------+

****************************************************************************
 FLOW PROCESS FROM NODE    800.00 TO NODE    801.00 IS CODE =  21
----------------------------------------------------------------------------
 >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
```

```
==========================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS COMMERCIAL
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   553.00
  UPSTREAM ELEVATION(FEET) =   1113.43
  DOWNSTREAM ELEVATION(FEET) =   1105.00
  ELEVATION DIFFERENCE(FEET) =      8.43
  TC = 0.303*[(  553.00**3)/(     8.43)]**.2 =    8.751
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.657
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8800
  SOIL CLASSIFICATION IS "B"
  SUBAREA RUNOFF(CFS) =      1.67
  TOTAL AREA(ACRES) =      0.52   TOTAL RUNOFF(CFS) =      1.67

+------------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                               |
| DA E-2                                                                 |
| 0.43 AC                                                                |
+------------------------------------------------------------------------+

**************************************************************************
  FLOW PROCESS FROM NODE    801.00 TO NODE    801.00 IS CODE =  81
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.657
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8800
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =    0.43   SUBAREA RUNOFF(CFS) =    1.38
  TOTAL AREA(ACRES) =        0.9   TOTAL RUNOFF(CFS) =       3.06
  TC(MIN.) =    8.75

+------------------------------------------------------------------------+
| SHALLOW CONCENTRATED FLOW                                              |
|                                                                        |
|                                                                        |
+------------------------------------------------------------------------+

**************************************************************************
  FLOW PROCESS FROM NODE    801.00 TO NODE    802.00 IS CODE =  51
--------------------------------------------------------------------------
  >>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
  >>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
==========================================================================
  ELEVATION DATA: UPSTREAM(FEET) =   1105.00  DOWNSTREAM(FEET) =   1059.00
  CHANNEL LENGTH THRU SUBAREA(FEET) =  1140.00   CHANNEL SLOPE =  0.0404
  CHANNEL BASE(FEET) =    0.00   "Z" FACTOR =  15.000
  MANNING'S FACTOR = 0.030   MAXIMUM DEPTH(FEET) =   1.00
  CHANNEL FLOW THRU SUBAREA(CFS) =       3.06
  FLOW VELOCITY(FEET/SEC.) =   2.65   FLOW DEPTH(FEET) =   0.28
  TRAVEL TIME(MIN.) =   7.18   Tc(MIN.) =   15.93
  LONGEST FLOWPATH FROM NODE    800.00 TO NODE    802.00 =    1693.00 FEET.

+------------------------------------------------------------------------+
| ADDITION OF SUBAREA FLOW                                               |
| DA A-1                                                                 |
| 10.17 AC                                                               |
+------------------------------------------------------------------------+

**************************************************************************
  FLOW PROCESS FROM NODE    802.00 TO NODE    802.00 IS CODE =  81
--------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
==========================================================================
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.742
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .6512
  SOIL CLASSIFICATION IS "B"
  SUBAREA AREA(ACRES) =   10.17   SUBAREA RUNOFF(CFS) =   18.16
```

```
  TOTAL AREA(ACRES) =       11.1   TOTAL RUNOFF(CFS) =      21.22
  TC(MIN.) =   15.93
================================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =       11.1  TC(MIN.) =     15.93
  PEAK FLOW RATE(CFS)   =      21.22
================================================================================
================================================================================
  END OF RATIONAL METHOD ANALYSIS

FF
```

Appendix F – Unit Hydrograph Analysis

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

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Study date 11/30/23 File: temcal12.out

++

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

Program License Serial Number 6443

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

English Units used in output format

Temescal Canyon Existing A-1 & A-2
2 Year 1 Hour
Kimley-Horn

Drainage Area = 12.62(Ac.) = 0.020 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 12.62(Ac.) = 0.020 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.376 Hr.
Lag time = 22.56 Min.
25% of lag time = 5.64 Min.
40% of lag time = 9.02 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]
12.62	0.55	6.94

100 YEAR Area rainfall data:

```
Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       12.62             1.40                   17.67

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    0.550(In)
Area Averaged 100-Year Rainfall =    1.400(In)

Point rain (area averaged) =    0.550(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    0.550(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    12.620           69.00         0.000
 Total Area Entered =     12.62(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
69.0  49.8      0.574     0.000        0.574       1.000      0.574
                                                 Sum (F) =   0.574
Area averaged mean soil loss (F) (In/Hr) =  0.574
Minimum soil loss rate ((In/Hr)) =  0.287
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.900
------------------------------------------------------------------------
Slope of intensity-duration curve for a 1 hour storm =0.4800
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                       VALLEY S-Curve
------------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %            (CFS)
------------------------------------------------------------------------
    1   0.083         22.163          1.998              0.254
    2   0.167         44.326          6.188              0.787
    3   0.250         66.489         10.868              1.382
    4   0.333         88.652         14.830              1.886
    5   0.417        110.816         15.415              1.961
    6   0.500        132.979         11.254              1.431
    7   0.583        155.142          7.250              0.922
    8   0.667        177.305          4.922              0.626
    9   0.750        199.468          3.556              0.452
   10   0.833        221.631          2.985              0.380
   11   0.917        243.794          2.500              0.318
   12   1.000        265.957          2.152              0.274
```

13	1.083	288.121	1.899	0.241
14	1.167	310.284	1.597	0.203
15	1.250	332.447	1.368	0.174
16	1.333	354.610	1.322	0.168
17	1.417	376.773	1.086	0.138
18	1.500	398.936	0.975	0.124
19	1.583	421.099	0.855	0.109
20	1.667	443.262	0.710	0.090
21	1.750	465.426	0.698	0.089
22	1.833	487.589	0.667	0.085
23	1.917	509.752	0.648	0.082
24	2.000	531.915	0.515	0.066
25	2.083	554.078	0.486	0.062
26	2.167	576.241	0.428	0.054
27	2.250	598.404	0.399	0.051
28	2.333	620.567	0.361	0.046
29	2.417	642.730	0.311	0.039
30	2.500	664.894	0.290	0.037
31	2.583	687.057	0.226	0.029
32	2.667	709.220	0.222	0.028
33	2.750	731.383	0.222	0.028
34	2.833	753.546	0.222	0.028
35	2.917	775.709	0.222	0.028
36	3.000	797.872	0.222	0.028
37	3.083	820.035	0.132	0.017
		Sum = 100.000	Sum=	12.719

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.290	(0.574)	0.261	0.029
2	0.17	4.50	0.297	(0.574)	0.267	0.030
3	0.25	5.40	0.356	(0.574)	0.321	0.036
4	0.33	5.40	0.356	(0.574)	0.321	0.036
5	0.42	5.70	0.376	(0.574)	0.339	0.038
6	0.50	6.40	0.422	(0.574)	0.380	0.042
7	0.58	7.90	0.521	(0.574)	0.469	0.052
8	0.67	9.10	0.601	(0.574)	0.540	0.060
9	0.75	12.80	0.845	0.574	(0.760)	0.271
10	0.83	25.60	1.689	0.574	(1.520)	1.115
11	0.92	7.90	0.521	(0.574)	0.469	0.052
12	1.00	4.90	0.323	(0.574)	0.291	0.032
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	1.8

Flood volume = Effective rainfall 0.15(In)
times area 12.6(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)

```
      Total soil loss =      0.40(In)
      Total soil loss =     0.421(Ac.Ft)
      Total rainfall =      0.55(In)
      Flood volume =        6843.7 Cubic Feet
      Total soil loss =       18349.2 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      2.951(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          1 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0001      0.01  Q         |         |         |         |
  0+10       0.0003      0.03  Q         |         |         |         |
  0+15       0.0008      0.07  Q         |         |         |         |
  0+20       0.0017      0.13  Q         |         |         |         |
  0+25       0.0031      0.20  Q         |         |         |         |
  0+30       0.0048      0.26  |Q        |         |         |         |
  0+35       0.0069      0.31  |Q        |         |         |         |
  0+40       0.0093      0.35  |QV       |         |         |         |
  0+45       0.0125      0.46  |Q V      |         |         |         |
  0+50       0.0187      0.89  |  QV     |         |         |         |
  0+55       0.0299      1.64  |     QV  |         |         |         |
  1+ 0       0.0465      2.40  |        Q|V        |         |         |
  1+ 5       0.0668      2.95  |         |Q     V  |         |         |
  1+10       0.0866      2.87  |         |Q        | V       |         |
  1+15       0.1013      2.13  |       Q |         |    V    |         |
  1+20       0.1111      1.43  |    Q    |         |       V |         |
  1+25       0.1180      1.00  |  Q      |         |         V         |
  1+30       0.1231      0.74  | Q       |         |         |V        |
  1+35       0.1274      0.62  | Q       |         |         | V       |
  1+40       0.1309      0.52  | Q       |         |         |  V      |
  1+45       0.1340      0.45  |Q        |         |         |   V     |
  1+50       0.1367      0.39  |Q        |         |         |   V     |
  1+55       0.1390      0.33  |Q        |         |         |    V    |
  2+ 0       0.1410      0.29  |Q        |         |         |    V    |
  2+ 5       0.1429      0.27  |Q        |         |         |     V   |
  2+10       0.1444      0.23  Q         |         |         |     V   |
  2+15       0.1459      0.20  Q         |         |         |      V  |
  2+20       0.1471      0.18  Q         |         |         |      V  |
  2+25       0.1482      0.16  Q         |         |         |      V  |
  2+30       0.1492      0.15  Q         |         |         |      V  |
  2+35       0.1502      0.14  Q         |         |         |       V |
  2+40       0.1511      0.13  Q         |         |         |       V |
  2+45       0.1518      0.11  Q         |         |         |       V |
```

```
    2+50       0.1525      0.10  Q          |          |          |        V |
    2+55       0.1532      0.09  Q          |          |          |        V |
    3+ 0       0.1537      0.08  Q          |          |          |         V|
    3+ 5       0.1543      0.08  Q          |          |          |         V|
    3+10       0.1547      0.07  Q          |          |          |         V|
    3+15       0.1551      0.06  Q          |          |          |         V|
    3+20       0.1555      0.05  Q          |          |          |         V|
    3+25       0.1558      0.05  Q          |          |          |         V|
    3+30       0.1561      0.05  Q          |          |          |         V|
    3+35       0.1564      0.04  Q          |          |          |         V|
    3+40       0.1567      0.04  Q          |          |          |         V|
    3+45       0.1569      0.04  Q          |          |          |         V|
    3+50       0.1571      0.02  Q          |          |          |         V|
    3+55       0.1571      0.00  Q          |          |          |         V|
    4+ 0       0.1571      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  08/08/24 File: temcal1100.out


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
------------------------------------------------------------------------------

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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON AREA A
100 YEAR 1 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =      12.60(Ac.)  =      0.020 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =      12.60(Ac.)  =      0.020 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.188 Hr.
Lag time =    11.28 Min.
25% of lag time =     2.82 Min.
40% of lag time =     4.51 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]
       12.60            0.55                6.93

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       12.60            1.40               17.64

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.550(In)
Area Averaged 100-Year Rainfall =    1.400(In)

Point rain (area averaged) =    1.400(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    1.400(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    12.600           69.00          0.000
 Total Area Entered =     12.60(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

69.0 49.8 0.574 0.000 0.574 1.000 0.574

Sum (F) = 0.574

Area averaged **mean** soil loss (F) (In/Hr) = 0.574

Minimum soil loss rate ((In/Hr)) = 0.287

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.900

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	44.326	5.092	0.647
2	0.167	88.652	21.377	2.715
3	0.250	132.979	28.456	3.614
4	0.333	177.305	15.339	1.948
5	0.417	221.631	7.510	0.954
6	0.500	265.957	5.069	0.644
7	0.583	310.284	3.773	0.479
8	0.667	354.610	2.827	0.359
9	0.750	398.936	2.235	0.284
10	0.833	443.262	1.697	0.215
11	0.917	487.589	1.387	0.176
12	1.000	531.915	1.239	0.157
13	1.083	576.241	0.958	0.122
14	1.167	620.567	0.794	0.101
15	1.250	664.894	0.636	0.081
16	1.333	709.220	0.482	0.061
17	1.417	753.546	0.443	0.056
18	1.500	797.872	0.443	0.056
19	1.583	842.199	0.243	0.031
		Sum = 100.000	Sum= 12.698

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.706	0.574	(0.635)	0.132
2	0.17	4.30	0.722	0.574	(0.650)	0.148
3	0.25	5.00	0.840	0.574	(0.756)	0.266
4	0.33	5.00	0.840	0.574	(0.756)	0.266
5	0.42	5.80	0.974	0.574	(0.877)	0.400
6	0.50	6.50	1.092	0.574	(0.983)	0.518
7	0.58	7.40	1.243	0.574	(1.119)	0.669
8	0.67	8.60	1.445	0.574	(1.300)	0.871
9	0.75	12.30	2.066	0.574	(1.860)	1.492
10	0.83	29.10	4.888	0.574	(4.399)	4.314
11	0.92	6.80	1.142	0.574	(1.028)	0.568
12	1.00	5.00	0.840	0.574	(0.756)	0.266
	(Loss Rate Not Used)				
Sum =	100.0			Sum =	9.9

Flood volume = Effective rainfall 0.83(In)

times area 12.6(Ac.)/[(In)/(Ft.)] = 0.9(Ac.Ft)

Total soil loss = 0.57(In)

Total soil loss = 0.603(Ac.Ft)

Total rainfall = 1.40(In)

Flood volume = 37774.1 Cubic Feet

Total soil loss = 26251.8 Cubic Feet

Peak flow rate of this hydrograph = 22.055(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0006	0.09	Q				
0+10	0.0037	0.45	Q				
0+15	0.0109	1.05	VQ				
0+20	0.0226	1.69	VQ				
0+25	0.0388	2.36	V Q				
0+30	0.0603	3.13	V Q				
0+35	0.0894	4.22	VQ				
0+40	0.1278	5.58	V Q				
0+45	0.1797	7.53	V Q				
0+50	0.2646	12.34	V Q				
0+55	0.4063	20.57	V Q				
1+ 0	0.5582	22.05	V Q				
1+ 5	0.6541	13.93	Q V				
1+10	0.7103	8.16	Q V				
1+15	0.7471	5.34	Q V				
1+20	0.7736	3.85	Q V				
1+25	0.7937	2.92	Q V				
1+30	0.8095	2.29	Q V				
1+35	0.8219	1.80	Q V				
1+40	0.8320	1.47	Q V				
1+45	0.8405	1.24	Q V				
1+50	0.8473	0.98	Q V				
1+55	0.8528	0.80	Q V				
2+ 0	0.8571	0.63	Q V				
2+ 5	0.8605	0.49	Q V				
2+10	0.8633	0.41	Q V				
2+15	0.8657	0.34	Q V				
2+20	0.8669	0.18	Q V				
2+25	0.8671	0.03	Q V				
2+30	0.8672	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  02/27/24 File: tcal212.out


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------------------------------------------------------------------------------

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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
Temescal Canyon Existing Area B
2 Year 1 Hour
Kimley-Horn

------------------------------------------------------------------------
Drainage Area =       7.17(Ac.)  =      0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       7.17(Ac.)  =      0.011 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.110 Hr.
Lag time =     6.60 Min.
25% of lag time =     1.65 Min.
40% of lag time =     2.64 Min.
Unit time =     5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.17            0.55                3.94

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.17            1.40               10.04

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    0.550(In)
Area Averaged 100-Year Rainfall =    1.400(In)

Point rain (area averaged) =    0.550(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    0.550(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     7.170           69.00          0.600
 Total Area Entered =      7.17(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

```
    69.0  49.8      0.574     0.600        0.264       1.000      0.264
                                                        Sum (F) =   0.264
    Area averaged mean soil loss (F) (In/Hr) =  0.264
    Minimum soil loss rate ((In/Hr)) =  0.132
    (for 24 hour storm duration)
    Soil low loss rate (decimal) =   0.420
    ------------------------------------------------------------------------
    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   Time % of lag   Distribution   Unit Hydrograph
        (hrs)                           Graph %           (CFS)
    ------------------------------------------------------------------------
        1   0.083         75.758         12.137             0.877
        2   0.167        151.515         42.806             3.093
        3   0.250        227.273         21.225             1.534
        4   0.333        303.030          8.541             0.617
        5   0.417        378.788          5.158             0.373
        6   0.500        454.545          3.330             0.241
        7   0.583        530.303          2.327             0.168
        8   0.667        606.061          1.692             0.122
        9   0.750        681.818          1.172             0.085
       10   0.833        757.576          0.809             0.058
       11   0.917        833.333          0.803             0.058
                                 Sum = 100.000    Sum=       7.226
------------------------------------------------------------------------


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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max    |   Low         (In/Hr)
    1   0.08     4.40      0.290       (  0.264)      0.122        0.168
    2   0.17     4.50      0.297       (  0.264)      0.125        0.172
    3   0.25     5.40      0.356       (  0.264)      0.150        0.207
    4   0.33     5.40      0.356       (  0.264)      0.150        0.207
    5   0.42     5.70      0.376       (  0.264)      0.158        0.218
    6   0.50     6.40      0.422       (  0.264)      0.177        0.245
    7   0.58     7.90      0.521       (  0.264)      0.219        0.302
    8   0.67     9.10      0.601       (  0.264)      0.252        0.348
    9   0.75    12.80      0.845          0.264    (  0.355)        0.581
   10   0.83    25.60      1.689          0.264    (  0.710)        1.425
   11   0.92     7.90      0.521       (  0.264)      0.219        0.302
   12   1.00     4.90      0.323       (  0.264)      0.136        0.188
          (Loss Rate Not Used)
     Sum =     100.0                                    Sum =     4.4
    Flood volume = Effective rainfall      0.36(In)
     times area       7.2(Ac.)/[(In)/(Ft.)] =       0.2(Ac.Ft)
    Total soil loss =      0.19(In)
    Total soil loss =     0.111(Ac.Ft)
    Total rainfall =      0.55(In)
    Flood volume =        9465.4 Cubic Feet
    Total soil loss =        4848.6 Cubic Feet
    ------------------------------------------------------------------------
     Peak flow rate of this hydrograph =      6.054(CFS)
    ------------------------------------------------------------------------
    ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                      1 - H O U R    S T O R M
                  R u n o f f     H y d r o g r a p h
    ------------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ------------------------------------------------------------------------
```

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0010	0.15	Q				
0+10	0.0056	0.67	VQ				
0+15	0.0123	0.97	VQ				
0+20	0.0205	1.19	VQ				
0+25	0.0296	1.32	Q				
0+30	0.0395	1.44	Q V				
0+35	0.0508	1.63	Q V				
0+40	0.0641	1.93	Q V				
0+45	0.0806	2.40	Q V				
0+50	0.1081	4.00	Q V				
0+55	0.1498	6.05	Q V				
1+ 0	0.1771	3.96	Q			V	
1+ 5	0.1933	2.35	Q			V	
1+10	0.2021	1.29	Q			V	
1+15	0.2074	0.76	Q			V	
1+20	0.2109	0.52	Q			V	
1+25	0.2134	0.36	Q			V	
1+30	0.2151	0.24	Q			V	
1+35	0.2162	0.17	Q			V	
1+40	0.2170	0.12	Q			V	
1+45	0.2172	0.03	Q			V	
1+50	0.2173	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  02/27/24 File: tcal232.out


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------------------------------------------------------------------------------

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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
Temescal Canyon Existing Area B
2 Year 3 Hour
Kimley-Horn

------------------------------------------------------------------------
Drainage Area =       7.17(Ac.)  =      0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       7.17(Ac.)  =      0.011 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.110 Hr.
Lag time =     6.60 Min.
25% of lag time =     1.65 Min.
40% of lag time =     2.64 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]
        7.17            1.00                7.17

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.17            2.50               17.93

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    1.000(In)
Area Averaged 100-Year Rainfall =    2.500(In)

Point rain (area averaged) =    1.000(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.000(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     7.170           69.00          0.600
 Total Area Entered =      7.17(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

69.0 49.8 0.574 0.600 0.264 1.000 0.264

Sum (F) = 0.264

Area averaged **mean** soil loss (F) (In/Hr) = 0.264

Minimum soil loss rate ((In/Hr)) = 0.132

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.420

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	75.758	12.137	0.877
2	0.167	151.515	42.806	3.093
3	0.250	227.273	21.225	1.534
4	0.333	303.030	8.541	0.617
5	0.417	378.788	5.158	0.373
6	0.500	454.545	3.330	0.241
7	0.583	530.303	2.327	0.168
8	0.667	606.061	1.692	0.122
9	0.750	681.818	1.172	0.085
10	0.833	757.576	0.809	0.058
11	0.917	833.333	0.803	0.058
		Sum = 100.000	Sum=	7.226

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.156	(0.264)	0.066	0.090
2	0.17	1.30	0.156	(0.264)	0.066	0.090
3	0.25	1.10	0.132	(0.264)	0.055	0.077
4	0.33	1.50	0.180	(0.264)	0.076	0.104
5	0.42	1.50	0.180	(0.264)	0.076	0.104
6	0.50	1.80	0.216	(0.264)	0.091	0.125
7	0.58	1.50	0.180	(0.264)	0.076	0.104
8	0.67	1.80	0.216	(0.264)	0.091	0.125
9	0.75	1.80	0.216	(0.264)	0.091	0.125
10	0.83	1.50	0.180	(0.264)	0.076	0.104
11	0.92	1.60	0.192	(0.264)	0.081	0.111
12	1.00	1.80	0.216	(0.264)	0.091	0.125
13	1.08	2.20	0.264	(0.264)	0.111	0.153
14	1.17	2.20	0.264	(0.264)	0.111	0.153
15	1.25	2.20	0.264	(0.264)	0.111	0.153
16	1.33	2.00	0.240	(0.264)	0.101	0.139
17	1.42	2.60	0.312	(0.264)	0.131	0.181
18	1.50	2.70	0.324	(0.264)	0.136	0.188
19	1.58	2.40	0.288	(0.264)	0.121	0.167
20	1.67	2.70	0.324	(0.264)	0.136	0.188
21	1.75	3.30	0.396	(0.264)	0.166	0.230
22	1.83	3.10	0.372	(0.264)	0.156	0.216
23	1.92	2.90	0.348	(0.264)	0.146	0.202
24	2.00	3.00	0.360	(0.264)	0.151	0.209
25	2.08	3.10	0.372	(0.264)	0.156	0.216
26	2.17	4.20	0.504	(0.264)	0.212	0.292
27	2.25	5.00	0.600	(0.264)	0.252	0.348
28	2.33	3.50	0.420	(0.264)	0.176	0.244
29	2.42	6.80	0.816	0.264	(0.343)	0.552
30	2.50	7.30	0.876	0.264	(0.368)	0.612
31	2.58	8.20	0.984	0.264	(0.413)	0.720
32	2.67	5.90	0.708	0.264	(0.297)	0.444
33	2.75	2.00	0.240	(0.264)	0.101	0.139

```
    34   2.83     1.80      0.216       (  0.264)       0.091        0.125
    35   2.92     1.80      0.216       (  0.264)       0.091        0.125
    36   3.00     0.60      0.072       (  0.264)       0.030        0.042
          (Loss Rate Not Used)
     Sum =     100.0                                    Sum =      7.3
    Flood volume = Effective rainfall      0.61(In)
     times area       7.2(Ac.)/[(In)/(Ft.)] =       0.4(Ac.Ft)
    Total soil loss =      0.39(In)
    Total soil loss =     0.233(Ac.Ft)
    Total rainfall =      1.00(In)
    Flood volume =       15887.2 Cubic Feet
    Total soil loss =       10139.1 Cubic Feet
    ------------------------------------------------------------------------
     Peak flow rate of this hydrograph =      4.190(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       0.0005      0.08  Q          |         |         |         |
    0+10       0.0030      0.36  VQ         |         |         |         |
    0+15       0.0064      0.49  VQ         |         |         |         |
    0+20       0.0100      0.52  |VQ        |         |         |         |
    0+25       0.0143      0.62  |VQ        |         |         |         |
    0+30       0.0190      0.70  | Q        |         |         |         |
    0+35       0.0243      0.77  | VQ       |         |         |         |
    0+40       0.0297      0.77  |  Q       |         |         |         |
    0+45       0.0354      0.83  |  Q       |         |         |         |
    0+50       0.0412      0.85  |  QV      |         |         |         |
    0+55       0.0468      0.81  |  Q V     |         |         |         |
    1+ 0       0.0524      0.82  |  Q V     |         |         |         |
    1+ 5       0.0585      0.89  |  Q  V    |         |         |         |
    1+10       0.0654      0.99  |  Q   V   |         |         |         |
    1+15       0.0726      1.05  |   Q  V   |         |         |         |
    1+20       0.0798      1.06  |   Q   V  |         |         |         |
    1+25       0.0872      1.06  |   Q    V |         |         |         |
    1+30       0.0953      1.19  |   Q     V|         |         |         |
    1+35       0.1039      1.25  |   Q      |V        |         |         |
    1+40       0.1125      1.24  |   Q      | V       |         |         |
    1+45       0.1216      1.33  |    Q     |  V      |         |         |
    1+50       0.1318      1.48  |    Q     |   V     |         |         |
    1+55       0.1421      1.50  |    Q     |    V    |         |         |
    2+ 0       0.1522      1.47  |    Q     |     V   |         |         |
    2+ 5       0.1625      1.49  |    Q     |      V  |         |         |
    2+10       0.1735      1.59  |     Q    |       V |         |         |
    2+15       0.1865      1.89  |      Q   |        V|         |         |
    2+20       0.2010      2.10  |       Q  |         | V       |         |
    2+25       0.2160      2.18  |       Q  |         |  V      |         |
    2+30       0.2374      3.10  |          | Q       |     V   |         |
    2+35       0.2637      3.83  |          |    Q    |       V |         |
    2+40       0.2926      4.19  |          |     Q   |         |  V      |
    2+45       0.3159      3.38  |          |  Q      |         |    V    |
    2+50       0.3307      2.16  |       Q  |         |         |      V  |
    2+55       0.3416      1.58  |     Q    |         |         |       V |
    3+ 0       0.3504      1.27  |    Q     |         |         |        V|
    3+ 5       0.3561      0.83  |  Q       |         |         |         V
    3+10       0.3595      0.48  |Q         |         |         |         V
    3+15       0.3616      0.31  |Q         |         |         |         V
    3+20       0.3630      0.20  Q          |         |         |         V
    3+25       0.3638      0.13  Q          |         |         |         V
    3+30       0.3643      0.07  Q          |         |         |         V
    3+35       0.3645      0.03  Q          |         |         |         V
    3+40       0.3646      0.02  Q          |         |         |         V
    3+45       0.3647      0.01  Q          |         |         |         V
```

```
    3+50       0.3647      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  02/27/24 File: tcal262.out


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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
Temescal Canyon Existing Area B
2 Year 6 Hour
Kimley-Horn

------------------------------------------------------------------------
Drainage Area =       7.17(Ac.)  =      0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       7.17(Ac.)  =      0.011 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.110 Hr.
Lag time =     6.60 Min.
25% of lag time =     1.65 Min.
40% of lag time =     2.64 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]
        7.17            1.40                10.04

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.17            3.50                25.09

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    1.400(In)
Area Averaged 100-Year Rainfall =    3.500(In)

Point rain (area averaged) =    1.400(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.400(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     7.170           69.00          0.600
 Total Area Entered =      7.17(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

69.0	49.8	0.574	0.600	0.264	1.000	0.264

Sum (F) = 0.264

Area averaged **mean** soil loss (F) (In/Hr) = 0.264

Minimum soil loss rate ((In/Hr)) = 0.132

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.420

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	75.758	12.137	0.877
2	0.167	151.515	42.806	3.093
3	0.250	227.273	21.225	1.534
4	0.333	303.030	8.541	0.617
5	0.417	378.788	5.158	0.373
6	0.500	454.545	3.330	0.241
7	0.583	530.303	2.327	0.168
8	0.667	606.061	1.692	0.122
9	0.750	681.818	1.172	0.085
10	0.833	757.576	0.809	0.058
11	0.917	833.333	0.803	0.058
		Sum = 100.000	Sum=	7.226

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.084	(0.264)	0.035	0.049
2	0.17	0.60	0.101	(0.264)	0.042	0.058
3	0.25	0.60	0.101	(0.264)	0.042	0.058
4	0.33	0.60	0.101	(0.264)	0.042	0.058
5	0.42	0.60	0.101	(0.264)	0.042	0.058
6	0.50	0.70	0.118	(0.264)	0.049	0.068
7	0.58	0.70	0.118	(0.264)	0.049	0.068
8	0.67	0.70	0.118	(0.264)	0.049	0.068
9	0.75	0.70	0.118	(0.264)	0.049	0.068
10	0.83	0.70	0.118	(0.264)	0.049	0.068
11	0.92	0.70	0.118	(0.264)	0.049	0.068
12	1.00	0.80	0.134	(0.264)	0.056	0.078
13	1.08	0.80	0.134	(0.264)	0.056	0.078
14	1.17	0.80	0.134	(0.264)	0.056	0.078
15	1.25	0.80	0.134	(0.264)	0.056	0.078
16	1.33	0.80	0.134	(0.264)	0.056	0.078
17	1.42	0.80	0.134	(0.264)	0.056	0.078
18	1.50	0.80	0.134	(0.264)	0.056	0.078
19	1.58	0.80	0.134	(0.264)	0.056	0.078
20	1.67	0.80	0.134	(0.264)	0.056	0.078
21	1.75	0.80	0.134	(0.264)	0.056	0.078
22	1.83	0.80	0.134	(0.264)	0.056	0.078
23	1.92	0.80	0.134	(0.264)	0.056	0.078
24	2.00	0.90	0.151	(0.264)	0.064	0.088
25	2.08	0.80	0.134	(0.264)	0.056	0.078
26	2.17	0.90	0.151	(0.264)	0.064	0.088
27	2.25	0.90	0.151	(0.264)	0.064	0.088
28	2.33	0.90	0.151	(0.264)	0.064	0.088
29	2.42	0.90	0.151	(0.264)	0.064	0.088
30	2.50	0.90	0.151	(0.264)	0.064	0.088
31	2.58	0.90	0.151	(0.264)	0.064	0.088
32	2.67	0.90	0.151	(0.264)	0.064	0.088
33	2.75	1.00	0.168	(0.264)	0.071	0.097

34	2.83	1.00	0.168	(0.264)	0.071	0.097
35	2.92	1.00	0.168	(0.264)	0.071	0.097
36	3.00	1.00	0.168	(0.264)	0.071	0.097
37	3.08	1.00	0.168	(0.264)	0.071	0.097
38	3.17	1.10	0.185	(0.264)	0.078	0.107
39	3.25	1.10	0.185	(0.264)	0.078	0.107
40	3.33	1.10	0.185	(0.264)	0.078	0.107
41	3.42	1.20	0.202	(0.264)	0.085	0.117
42	3.50	1.30	0.218	(0.264)	0.092	0.127
43	3.58	1.40	0.235	(0.264)	0.099	0.136
44	3.67	1.40	0.235	(0.264)	0.099	0.136
45	3.75	1.50	0.252	(0.264)	0.106	0.146
46	3.83	1.50	0.252	(0.264)	0.106	0.146
47	3.92	1.60	0.269	(0.264)	0.113	0.156
48	4.00	1.60	0.269	(0.264)	0.113	0.156
49	4.08	1.70	0.286	(0.264)	0.120	0.166
50	4.17	1.80	0.302	(0.264)	0.127	0.175
51	4.25	1.90	0.319	(0.264)	0.134	0.185
52	4.33	2.00	0.336	(0.264)	0.141	0.195
53	4.42	2.10	0.353	(0.264)	0.148	0.205
54	4.50	2.10	0.353	(0.264)	0.148	0.205
55	4.58	2.20	0.370	(0.264)	0.155	0.214
56	4.67	2.30	0.386	(0.264)	0.162	0.224
57	4.75	2.40	0.403	(0.264)	0.169	0.234
58	4.83	2.40	0.403	(0.264)	0.169	0.234
59	4.92	2.50	0.420	(0.264)	0.176	0.244
60	5.00	2.60	0.437	(0.264)	0.183	0.253
61	5.08	3.10	0.521	(0.264)	0.219	0.302
62	5.17	3.60	0.605	(0.264)	0.254	0.351
63	5.25	3.90	0.655	0.264	(0.275)	0.391
64	5.33	4.20	0.706	0.264	(0.296)	0.442
65	5.42	4.70	0.790	0.264	(0.332)	0.526
66	5.50	5.60	0.941	0.264	(0.395)	0.677
67	5.58	1.90	0.319	(0.264)	0.134	0.185
68	5.67	0.90	0.151	(0.264)	0.064	0.088
69	5.75	0.60	0.101	(0.264)	0.042	0.058
70	5.83	0.50	0.084	(0.264)	0.035	0.049
71	5.92	0.30	0.050	(0.264)	0.021	0.029
72	6.00	0.20	0.034	(0.264)	0.014	0.019

(Loss Rate Not Used)

Sum = 100.0 Sum = 10.0

Flood volume = Effective rainfall 0.83(In)
times area 7.2(Ac.)/[(In)/(Ft.)] = 0.5(Ac.Ft)
Total soil loss = 0.57(In)
Total soil loss = 0.339(Ac.Ft)
Total rainfall = 1.40(In)
Flood volume = 21658.8 Cubic Feet
Total soil loss = 14778.3 Cubic Feet

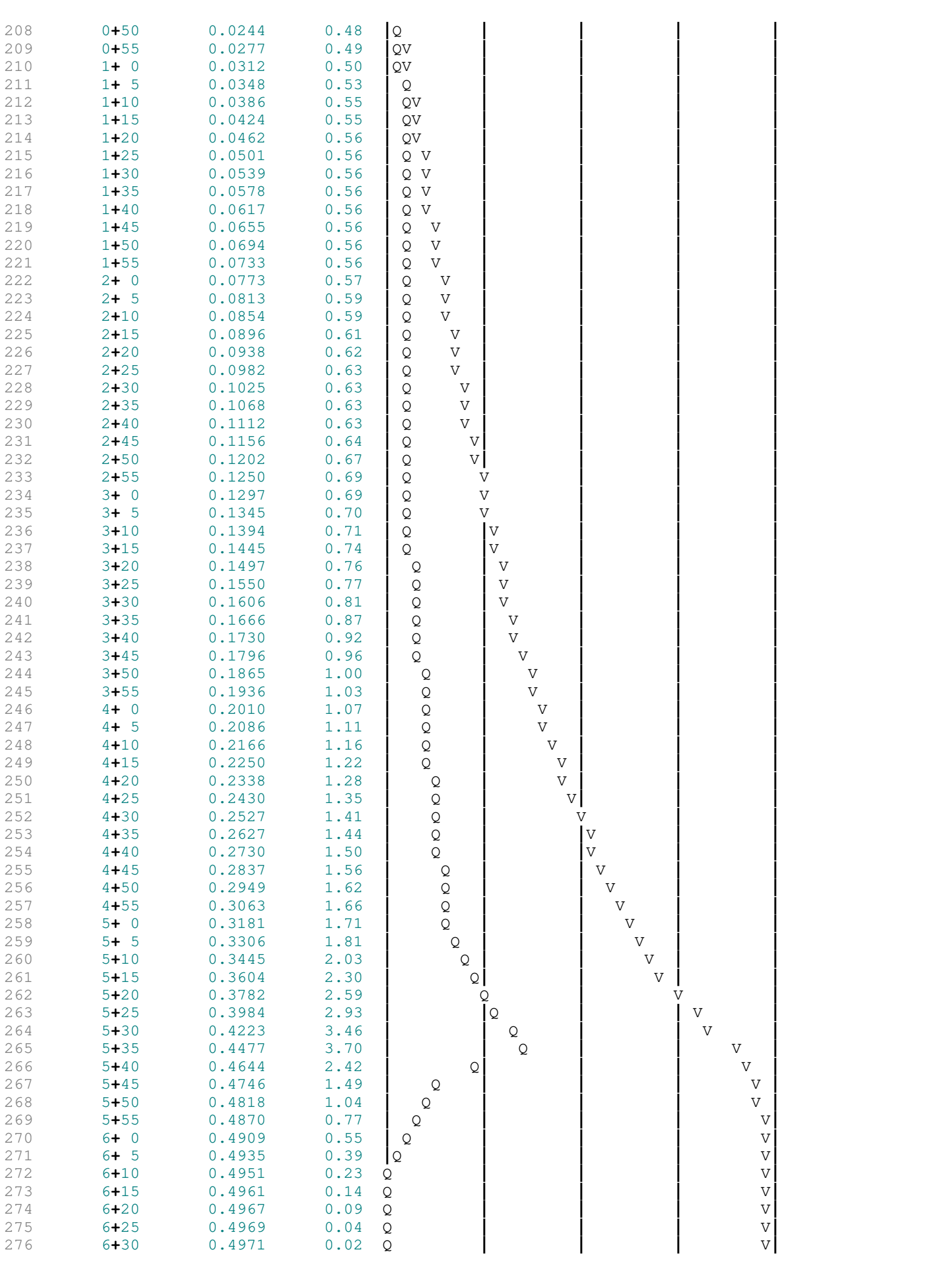
Peak flow rate of this hydrograph = 3.696(CFS)

++

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0003	0.04	Q				
0+10	0.0017	0.20	Q				
0+15	0.0038	0.31	VQ				
0+20	0.0062	0.35	VQ				
0+25	0.0088	0.38	VQ				
0+30	0.0116	0.40	VQ				
0+35	0.0146	0.44	|Q				
0+40	0.0178	0.46	|Q				
0+45	0.0211	0.47	|Q				



```
      6+35        0.4971       0.01  Q          |          |          |          V|
      6+40        0.4972       0.01  Q          |          |          |          V|
      6+45        0.4972       0.00  Q          |          |          |          V|
      6+50        0.4972       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

    Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018, Version 9.0
        Study date  02/27/24 File: tcal2242.out


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------------------------------------------------------------------------------

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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
Temescal Canyon Existing Area B
2 Year 24 Hour
Kimley-Horn

------------------------------------------------------------------------
Drainage Area =       7.17(Ac.)  =      0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       7.17(Ac.)  =      0.011 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.110 Hr.
Lag time =     6.60 Min.
25% of lag time =     1.65 Min.
40% of lag time =     2.64 Min.
Unit time =     5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.17            2.50               17.93

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.17            7.00               50.19

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    2.500(In)
Area Averaged 100-Year Rainfall =    7.000(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 %
     7.170           69.00          0.600
 Total Area Entered =      7.17(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

69.0	49.8	0.574	0.600	0.264	1.000	0.264

Sum (F) = 0.264

Area averaged **mean** soil loss (F) (In/Hr) = 0.264

Minimum soil loss rate ((In/Hr)) = 0.132

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.420

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	75.758	12.137	0.877
2	0.167	151.515	42.806	3.093
3	0.250	227.273	21.225	1.534
4	0.333	303.030	8.541	0.617
5	0.417	378.788	5.158	0.373
6	0.500	454.545	3.330	0.241
7	0.583	530.303	2.327	0.168
8	0.667	606.061	1.692	0.122
9	0.750	681.818	1.172	0.085
10	0.833	757.576	0.809	0.058
11	0.917	833.333	0.803	0.058
		Sum = 100.000	Sum=	7.226

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.020	(0.468)	0.008	0.012
2	0.17	0.07	0.020	(0.466)	0.008	0.012
3	0.25	0.07	0.020	(0.464)	0.008	0.012
4	0.33	0.10	0.030	(0.463)	0.013	0.017
5	0.42	0.10	0.030	(0.461)	0.013	0.017
6	0.50	0.10	0.030	(0.459)	0.013	0.017
7	0.58	0.10	0.030	(0.457)	0.013	0.017
8	0.67	0.10	0.030	(0.455)	0.013	0.017
9	0.75	0.10	0.030	(0.454)	0.013	0.017
10	0.83	0.13	0.040	(0.452)	0.017	0.023
11	0.92	0.13	0.040	(0.450)	0.017	0.023
12	1.00	0.13	0.040	(0.448)	0.017	0.023
13	1.08	0.10	0.030	(0.447)	0.013	0.017
14	1.17	0.10	0.030	(0.445)	0.013	0.017
15	1.25	0.10	0.030	(0.443)	0.013	0.017
16	1.33	0.10	0.030	(0.441)	0.013	0.017
17	1.42	0.10	0.030	(0.439)	0.013	0.017
18	1.50	0.10	0.030	(0.438)	0.013	0.017
19	1.58	0.10	0.030	(0.436)	0.013	0.017
20	1.67	0.10	0.030	(0.434)	0.013	0.017
21	1.75	0.10	0.030	(0.433)	0.013	0.017
22	1.83	0.13	0.040	(0.431)	0.017	0.023
23	1.92	0.13	0.040	(0.429)	0.017	0.023
24	2.00	0.13	0.040	(0.427)	0.017	0.023
25	2.08	0.13	0.040	(0.426)	0.017	0.023
26	2.17	0.13	0.040	(0.424)	0.017	0.023
27	2.25	0.13	0.040	(0.422)	0.017	0.023
28	2.33	0.13	0.040	(0.420)	0.017	0.023
29	2.42	0.13	0.040	(0.419)	0.017	0.023
30	2.50	0.13	0.040	(0.417)	0.017	0.023
31	2.58	0.17	0.050	(0.415)	0.021	0.029
32	2.67	0.17	0.050	(0.414)	0.021	0.029
33	2.75	0.17	0.050	(0.412)	0.021	0.029

139	34	2.83	0.17	0.050	(0.410)	0.021	0.029
140	35	2.92	0.17	0.050	(0.408)	0.021	0.029
141	36	3.00	0.17	0.050	(0.407)	0.021	0.029
142	37	3.08	0.17	0.050	(0.405)	0.021	0.029
143	38	3.17	0.17	0.050	(0.403)	0.021	0.029
144	39	3.25	0.17	0.050	(0.402)	0.021	0.029
145	40	3.33	0.17	0.050	(0.400)	0.021	0.029
146	41	3.42	0.17	0.050	(0.398)	0.021	0.029
147	42	3.50	0.17	0.050	(0.397)	0.021	0.029
148	43	3.58	0.17	0.050	(0.395)	0.021	0.029
149	44	3.67	0.17	0.050	(0.393)	0.021	0.029
150	45	3.75	0.17	0.050	(0.392)	0.021	0.029
151	46	3.83	0.20	0.060	(0.390)	0.025	0.035
152	47	3.92	0.20	0.060	(0.388)	0.025	0.035
153	48	4.00	0.20	0.060	(0.387)	0.025	0.035
154	49	4.08	0.20	0.060	(0.385)	0.025	0.035
155	50	4.17	0.20	0.060	(0.384)	0.025	0.035
156	51	4.25	0.20	0.060	(0.382)	0.025	0.035
157	52	4.33	0.23	0.070	(0.380)	0.029	0.041
158	53	4.42	0.23	0.070	(0.379)	0.029	0.041
159	54	4.50	0.23	0.070	(0.377)	0.029	0.041
160	55	4.58	0.23	0.070	(0.375)	0.029	0.041
161	56	4.67	0.23	0.070	(0.374)	0.029	0.041
162	57	4.75	0.23	0.070	(0.372)	0.029	0.041
163	58	4.83	0.27	0.080	(0.371)	0.034	0.046
164	59	4.92	0.27	0.080	(0.369)	0.034	0.046
165	60	5.00	0.27	0.080	(0.367)	0.034	0.046
166	61	5.08	0.20	0.060	(0.366)	0.025	0.035
167	62	5.17	0.20	0.060	(0.364)	0.025	0.035
168	63	5.25	0.20	0.060	(0.363)	0.025	0.035
169	64	5.33	0.23	0.070	(0.361)	0.029	0.041
170	65	5.42	0.23	0.070	(0.359)	0.029	0.041
171	66	5.50	0.23	0.070	(0.358)	0.029	0.041
172	67	5.58	0.27	0.080	(0.356)	0.034	0.046
173	68	5.67	0.27	0.080	(0.355)	0.034	0.046
174	69	5.75	0.27	0.080	(0.353)	0.034	0.046
175	70	5.83	0.27	0.080	(0.352)	0.034	0.046
176	71	5.92	0.27	0.080	(0.350)	0.034	0.046
177	72	6.00	0.27	0.080	(0.349)	0.034	0.046
178	73	6.08	0.30	0.090	(0.347)	0.038	0.052
179	74	6.17	0.30	0.090	(0.345)	0.038	0.052
180	75	6.25	0.30	0.090	(0.344)	0.038	0.052
181	76	6.33	0.30	0.090	(0.342)	0.038	0.052
182	77	6.42	0.30	0.090	(0.341)	0.038	0.052
183	78	6.50	0.30	0.090	(0.339)	0.038	0.052
184	79	6.58	0.33	0.100	(0.338)	0.042	0.058
185	80	6.67	0.33	0.100	(0.336)	0.042	0.058
186	81	6.75	0.33	0.100	(0.335)	0.042	0.058
187	82	6.83	0.33	0.100	(0.333)	0.042	0.058
188	83	6.92	0.33	0.100	(0.332)	0.042	0.058
189	84	7.00	0.33	0.100	(0.330)	0.042	0.058
190	85	7.08	0.33	0.100	(0.329)	0.042	0.058
191	86	7.17	0.33	0.100	(0.327)	0.042	0.058
192	87	7.25	0.33	0.100	(0.326)	0.042	0.058
193	88	7.33	0.37	0.110	(0.324)	0.046	0.064
194	89	7.42	0.37	0.110	(0.323)	0.046	0.064
195	90	7.50	0.37	0.110	(0.321)	0.046	0.064
196	91	7.58	0.40	0.120	(0.320)	0.050	0.070
197	92	7.67	0.40	0.120	(0.318)	0.050	0.070
198	93	7.75	0.40	0.120	(0.317)	0.050	0.070
199	94	7.83	0.43	0.130	(0.315)	0.055	0.075
200	95	7.92	0.43	0.130	(0.314)	0.055	0.075
201	96	8.00	0.43	0.130	(0.312)	0.055	0.075
202	97	8.08	0.50	0.150	(0.311)	0.063	0.087
203	98	8.17	0.50	0.150	(0.310)	0.063	0.087
204	99	8.25	0.50	0.150	(0.308)	0.063	0.087
205	100	8.33	0.50	0.150	(0.307)	0.063	0.087
206	101	8.42	0.50	0.150	(0.305)	0.063	0.087
207	102	8.50	0.50	0.150	(0.304)	0.063	0.087

208	103	8.58	0.53	0.160	(0.302)	0.067	0.093
209	104	8.67	0.53	0.160	(0.301)	0.067	0.093
210	105	8.75	0.53	0.160	(0.300)	0.067	0.093
211	106	8.83	0.57	0.170	(0.298)	0.071	0.099
212	107	8.92	0.57	0.170	(0.297)	0.071	0.099
213	108	9.00	0.57	0.170	(0.295)	0.071	0.099
214	109	9.08	0.63	0.190	(0.294)	0.080	0.110
215	110	9.17	0.63	0.190	(0.293)	0.080	0.110
216	111	9.25	0.63	0.190	(0.291)	0.080	0.110
217	112	9.33	0.67	0.200	(0.290)	0.084	0.116
218	113	9.42	0.67	0.200	(0.288)	0.084	0.116
219	114	9.50	0.67	0.200	(0.287)	0.084	0.116
220	115	9.58	0.70	0.210	(0.286)	0.088	0.122
221	116	9.67	0.70	0.210	(0.284)	0.088	0.122
222	117	9.75	0.70	0.210	(0.283)	0.088	0.122
223	118	9.83	0.73	0.220	(0.282)	0.092	0.128
224	119	9.92	0.73	0.220	(0.280)	0.092	0.128
225	120	10.00	0.73	0.220	(0.279)	0.092	0.128
226	121	10.08	0.50	0.150	(0.277)	0.063	0.087
227	122	10.17	0.50	0.150	(0.276)	0.063	0.087
228	123	10.25	0.50	0.150	(0.275)	0.063	0.087
229	124	10.33	0.50	0.150	(0.273)	0.063	0.087
230	125	10.42	0.50	0.150	(0.272)	0.063	0.087
231	126	10.50	0.50	0.150	(0.271)	0.063	0.087
232	127	10.58	0.67	0.200	(0.269)	0.084	0.116
233	128	10.67	0.67	0.200	(0.268)	0.084	0.116
234	129	10.75	0.67	0.200	(0.267)	0.084	0.116
235	130	10.83	0.67	0.200	(0.266)	0.084	0.116
236	131	10.92	0.67	0.200	(0.264)	0.084	0.116
237	132	11.00	0.67	0.200	(0.263)	0.084	0.116
238	133	11.08	0.63	0.190	(0.262)	0.080	0.110
239	134	11.17	0.63	0.190	(0.260)	0.080	0.110
240	135	11.25	0.63	0.190	(0.259)	0.080	0.110
241	136	11.33	0.63	0.190	(0.258)	0.080	0.110
242	137	11.42	0.63	0.190	(0.256)	0.080	0.110
243	138	11.50	0.63	0.190	(0.255)	0.080	0.110
244	139	11.58	0.57	0.170	(0.254)	0.071	0.099
245	140	11.67	0.57	0.170	(0.253)	0.071	0.099
246	141	11.75	0.57	0.170	(0.251)	0.071	0.099
247	142	11.83	0.60	0.180	(0.250)	0.076	0.104
248	143	11.92	0.60	0.180	(0.249)	0.076	0.104
249	144	12.00	0.60	0.180	(0.248)	0.076	0.104
250	145	12.08	0.83	0.250	(0.246)	0.105	0.145
251	146	12.17	0.83	0.250	(0.245)	0.105	0.145
252	147	12.25	0.83	0.250	(0.244)	0.105	0.145
253	148	12.33	0.87	0.260	(0.243)	0.109	0.151
254	149	12.42	0.87	0.260	(0.242)	0.109	0.151
255	150	12.50	0.87	0.260	(0.240)	0.109	0.151
256	151	12.58	0.93	0.280	(0.239)	0.118	0.162
257	152	12.67	0.93	0.280	(0.238)	0.118	0.162
258	153	12.75	0.93	0.280	(0.237)	0.118	0.162
259	154	12.83	0.97	0.290	(0.236)	0.122	0.168
260	155	12.92	0.97	0.290	(0.234)	0.122	0.168
261	156	13.00	0.97	0.290	(0.233)	0.122	0.168
262	157	13.08	1.13	0.340	(0.232)	0.143	0.197
263	158	13.17	1.13	0.340	(0.231)	0.143	0.197
264	159	13.25	1.13	0.340	(0.230)	0.143	0.197
265	160	13.33	1.13	0.340	(0.228)	0.143	0.197
266	161	13.42	1.13	0.340	(0.227)	0.143	0.197
267	162	13.50	1.13	0.340	(0.226)	0.143	0.197
268	163	13.58	0.77	0.230	(0.225)	0.097	0.133
269	164	13.67	0.77	0.230	(0.224)	0.097	0.133
270	165	13.75	0.77	0.230	(0.223)	0.097	0.133
271	166	13.83	0.77	0.230	(0.222)	0.097	0.133
272	167	13.92	0.77	0.230	(0.220)	0.097	0.133
273	168	14.00	0.77	0.230	(0.219)	0.097	0.133
274	169	14.08	0.90	0.270	(0.218)	0.113	0.157
275	170	14.17	0.90	0.270	(0.217)	0.113	0.157
276	171	14.25	0.90	0.270	(0.216)	0.113	0.157

277	172	14.33	0.87	0.260	(	0.215)	0.109	0.151
278	173	14.42	0.87	0.260	(	0.214)	0.109	0.151
279	174	14.50	0.87	0.260	(	0.213)	0.109	0.151
280	175	14.58	0.87	0.260	(	0.212)	0.109	0.151
281	176	14.67	0.87	0.260	(	0.210)	0.109	0.151
282	177	14.75	0.87	0.260	(	0.209)	0.109	0.151
283	178	14.83	0.83	0.250	(	0.208)	0.105	0.145
284	179	14.92	0.83	0.250	(	0.207)	0.105	0.145
285	180	15.00	0.83	0.250	(	0.206)	0.105	0.145
286	181	15.08	0.80	0.240	(	0.205)	0.101	0.139
287	182	15.17	0.80	0.240	(	0.204)	0.101	0.139
288	183	15.25	0.80	0.240	(	0.203)	0.101	0.139
289	184	15.33	0.77	0.230	(	0.202)	0.097	0.133
290	185	15.42	0.77	0.230	(	0.201)	0.097	0.133
291	186	15.50	0.77	0.230	(	0.200)	0.097	0.133
292	187	15.58	0.63	0.190	(	0.199)	0.080	0.110
293	188	15.67	0.63	0.190	(	0.198)	0.080	0.110
294	189	15.75	0.63	0.190	(	0.197)	0.080	0.110
295	190	15.83	0.63	0.190	(	0.196)	0.080	0.110
296	191	15.92	0.63	0.190	(	0.195)	0.080	0.110
297	192	16.00	0.63	0.190	(	0.194)	0.080	0.110
298	193	16.08	0.13	0.040	(	0.193)	0.017	0.023
299	194	16.17	0.13	0.040	(	0.192)	0.017	0.023
300	195	16.25	0.13	0.040	(	0.191)	0.017	0.023
301	196	16.33	0.13	0.040	(	0.190)	0.017	0.023
302	197	16.42	0.13	0.040	(	0.189)	0.017	0.023
303	198	16.50	0.13	0.040	(	0.188)	0.017	0.023
304	199	16.58	0.10	0.030	(	0.187)	0.013	0.017
305	200	16.67	0.10	0.030	(	0.186)	0.013	0.017
306	201	16.75	0.10	0.030	(	0.185)	0.013	0.017
307	202	16.83	0.10	0.030	(	0.184)	0.013	0.017
308	203	16.92	0.10	0.030	(	0.183)	0.013	0.017
309	204	17.00	0.10	0.030	(	0.182)	0.013	0.017
310	205	17.08	0.17	0.050	(	0.181)	0.021	0.029
311	206	17.17	0.17	0.050	(	0.181)	0.021	0.029
312	207	17.25	0.17	0.050	(	0.180)	0.021	0.029
313	208	17.33	0.17	0.050	(	0.179)	0.021	0.029
314	209	17.42	0.17	0.050	(	0.178)	0.021	0.029
315	210	17.50	0.17	0.050	(	0.177)	0.021	0.029
316	211	17.58	0.17	0.050	(	0.176)	0.021	0.029
317	212	17.67	0.17	0.050	(	0.175)	0.021	0.029
318	213	17.75	0.17	0.050	(	0.174)	0.021	0.029
319	214	17.83	0.13	0.040	(	0.173)	0.017	0.023
320	215	17.92	0.13	0.040	(	0.173)	0.017	0.023
321	216	18.00	0.13	0.040	(	0.172)	0.017	0.023
322	217	18.08	0.13	0.040	(	0.171)	0.017	0.023
323	218	18.17	0.13	0.040	(	0.170)	0.017	0.023
324	219	18.25	0.13	0.040	(	0.169)	0.017	0.023
325	220	18.33	0.13	0.040	(	0.168)	0.017	0.023
326	221	18.42	0.13	0.040	(	0.168)	0.017	0.023
327	222	18.50	0.13	0.040	(	0.167)	0.017	0.023
328	223	18.58	0.10	0.030	(	0.166)	0.013	0.017
329	224	18.67	0.10	0.030	(	0.165)	0.013	0.017
330	225	18.75	0.10	0.030	(	0.164)	0.013	0.017
331	226	18.83	0.07	0.020	(	0.164)	0.008	0.012
332	227	18.92	0.07	0.020	(	0.163)	0.008	0.012
333	228	19.00	0.07	0.020	(	0.162)	0.008	0.012
334	229	19.08	0.10	0.030	(	0.161)	0.013	0.017
335	230	19.17	0.10	0.030	(	0.160)	0.013	0.017
336	231	19.25	0.10	0.030	(	0.160)	0.013	0.017
337	232	19.33	0.13	0.040	(	0.159)	0.017	0.023
338	233	19.42	0.13	0.040	(	0.158)	0.017	0.023
339	234	19.50	0.13	0.040	(	0.158)	0.017	0.023
340	235	19.58	0.10	0.030	(	0.157)	0.013	0.017
341	236	19.67	0.10	0.030	(	0.156)	0.013	0.017
342	237	19.75	0.10	0.030	(	0.155)	0.013	0.017
343	238	19.83	0.07	0.020	(	0.155)	0.008	0.012
344	239	19.92	0.07	0.020	(	0.154)	0.008	0.012
345	240	20.00	0.07	0.020	(	0.153)	0.008	0.012

241	20.08	0.10	0.030	(0.153)	0.013	0.017
242	20.17	0.10	0.030	(0.152)	0.013	0.017
243	20.25	0.10	0.030	(0.151)	0.013	0.017
244	20.33	0.10	0.030	(0.151)	0.013	0.017
245	20.42	0.10	0.030	(0.150)	0.013	0.017
246	20.50	0.10	0.030	(0.149)	0.013	0.017
247	20.58	0.10	0.030	(0.149)	0.013	0.017
248	20.67	0.10	0.030	(0.148)	0.013	0.017
249	20.75	0.10	0.030	(0.148)	0.013	0.017
250	20.83	0.07	0.020	(0.147)	0.008	0.012
251	20.92	0.07	0.020	(0.146)	0.008	0.012
252	21.00	0.07	0.020	(0.146)	0.008	0.012
253	21.08	0.10	0.030	(0.145)	0.013	0.017
254	21.17	0.10	0.030	(0.145)	0.013	0.017
255	21.25	0.10	0.030	(0.144)	0.013	0.017
256	21.33	0.07	0.020	(0.143)	0.008	0.012
257	21.42	0.07	0.020	(0.143)	0.008	0.012
258	21.50	0.07	0.020	(0.142)	0.008	0.012
259	21.58	0.10	0.030	(0.142)	0.013	0.017
260	21.67	0.10	0.030	(0.141)	0.013	0.017
261	21.75	0.10	0.030	(0.141)	0.013	0.017
262	21.83	0.07	0.020	(0.140)	0.008	0.012
263	21.92	0.07	0.020	(0.140)	0.008	0.012
264	22.00	0.07	0.020	(0.139)	0.008	0.012
265	22.08	0.10	0.030	(0.139)	0.013	0.017
266	22.17	0.10	0.030	(0.138)	0.013	0.017
267	22.25	0.10	0.030	(0.138)	0.013	0.017
268	22.33	0.07	0.020	(0.138)	0.008	0.012
269	22.42	0.07	0.020	(0.137)	0.008	0.012
270	22.50	0.07	0.020	(0.137)	0.008	0.012
271	22.58	0.07	0.020	(0.136)	0.008	0.012
272	22.67	0.07	0.020	(0.136)	0.008	0.012
273	22.75	0.07	0.020	(0.136)	0.008	0.012
274	22.83	0.07	0.020	(0.135)	0.008	0.012
275	22.92	0.07	0.020	(0.135)	0.008	0.012
276	23.00	0.07	0.020	(0.135)	0.008	0.012
277	23.08	0.07	0.020	(0.134)	0.008	0.012
278	23.17	0.07	0.020	(0.134)	0.008	0.012
279	23.25	0.07	0.020	(0.134)	0.008	0.012
280	23.33	0.07	0.020	(0.133)	0.008	0.012
281	23.42	0.07	0.020	(0.133)	0.008	0.012
282	23.50	0.07	0.020	(0.133)	0.008	0.012
283	23.58	0.07	0.020	(0.133)	0.008	0.012
284	23.67	0.07	0.020	(0.133)	0.008	0.012
285	23.75	0.07	0.020	(0.132)	0.008	0.012
286	23.83	0.07	0.020	(0.132)	0.008	0.012
287	23.92	0.07	0.020	(0.132)	0.008	0.012
288	24.00	0.07	0.020	(0.132)	0.008	0.012

(Loss Rate Not Used)

Sum = 100.0 Sum = 17.4

Flood volume = Effective rainfall 1.45(In)

times area 7.2(Ac.)/[(In)/(Ft.)] = 0.9(Ac.Ft)

Total soil loss = 1.05(In)

Total soil loss = 0.627(Ac.Ft)

Total rainfall = 2.50(In)

Flood volume = 37738.8 Cubic Feet

Total soil loss = 27328.1 Cubic Feet

Peak flow rate of this hydrograph = 1.411(CFS)

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24 - H O U R S T O R M

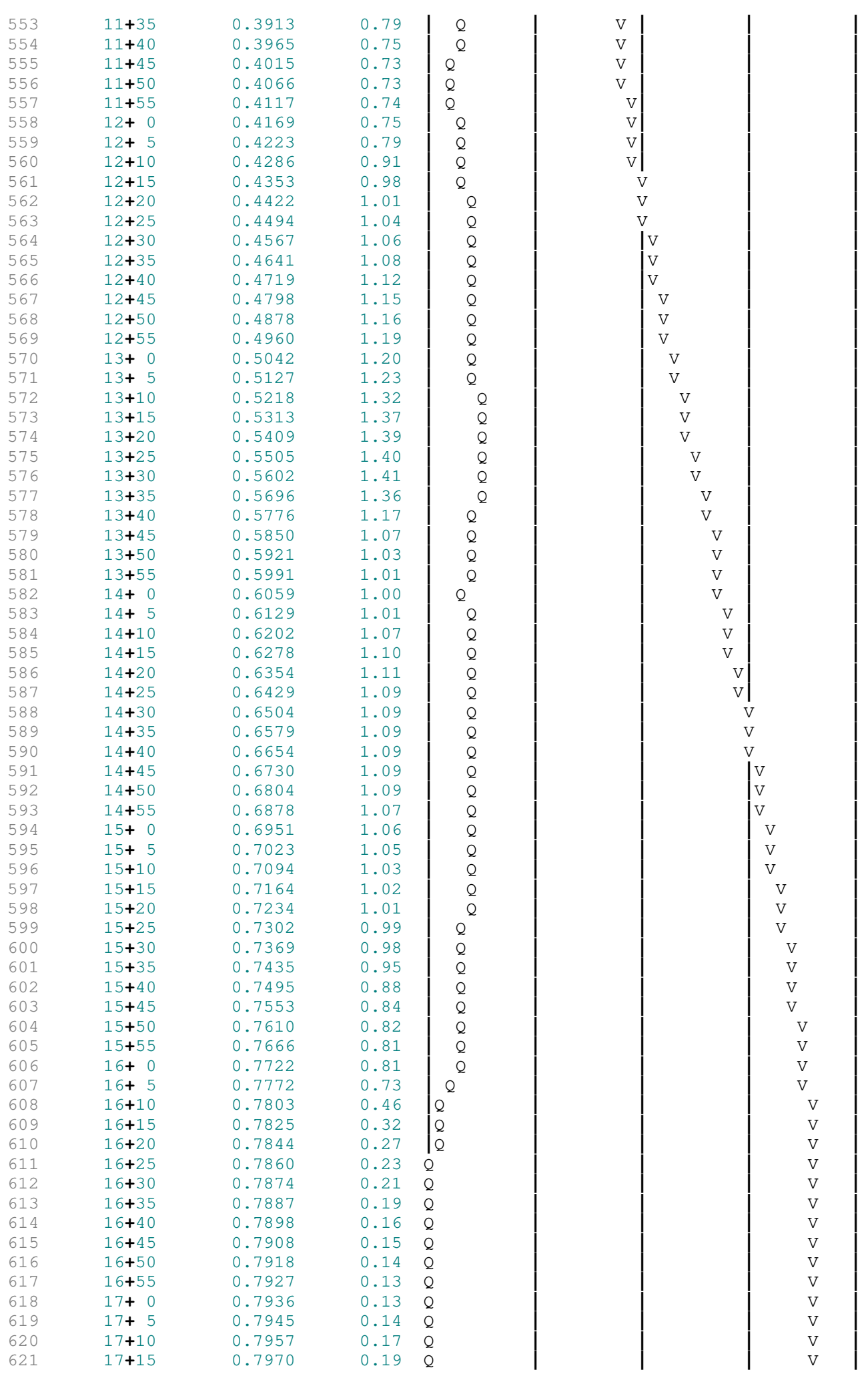
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

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

415	0+ 5	0.0001	0.01	Q				
416	0+10	0.0004	0.05	Q				
417	0+15	0.0008	0.06	Q				
418	0+20	0.0014	0.08	Q				
419	0+25	0.0020	0.10	Q				
420	0+30	0.0028	0.11	Q				
421	0+35	0.0036	0.12	Q				
422	0+40	0.0044	0.12	Q				
423	0+45	0.0052	0.12	Q				
424	0+50	0.0061	0.13	Q				
425	0+55	0.0071	0.15	Q				
426	1+ 0	0.0082	0.16	Q				
427	1+ 5	0.0093	0.16	Q				
428	1+10	0.0103	0.14	Q				
429	1+15	0.0112	0.13	Q				
430	1+20	0.0121	0.13	Q				
431	1+25	0.0130	0.13	Q				
432	1+30	0.0138	0.13	Q				
433	1+35	0.0147	0.13	Q				
434	1+40	0.0156	0.13	Q				
435	1+45	0.0165	0.13	Q				
436	1+50	0.0174	0.13	Q				
437	1+55	0.0184	0.15	Q				
438	2+ 0	0.0195	0.16	Q				
439	2+ 5	0.0206	0.16	Q				
440	2+10	0.0217	0.16	QV				
441	2+15	0.0229	0.16	QV				
442	2+20	0.0240	0.17	QV				
443	2+25	0.0251	0.17	QV				
444	2+30	0.0263	0.17	QV				
445	2+35	0.0275	0.17	QV				
446	2+40	0.0288	0.19	QV				
447	2+45	0.0302	0.20	QV				
448	2+50	0.0316	0.20	QV				
449	2+55	0.0330	0.21	QV				
450	3+ 0	0.0344	0.21	QV				
451	3+ 5	0.0358	0.21	QV				
452	3+10	0.0373	0.21	QV				
453	3+15	0.0387	0.21	QV				
454	3+20	0.0402	0.21	QV				
455	3+25	0.0416	0.21	QV				
456	3+30	0.0430	0.21	QV				
457	3+35	0.0445	0.21	Q V				
458	3+40	0.0459	0.21	Q V				
459	3+45	0.0474	0.21	Q V				
460	3+50	0.0489	0.21	Q V				
461	3+55	0.0505	0.23	Q V				
462	4+ 0	0.0521	0.24	Q V				
463	4+ 5	0.0538	0.25	Q V				
464	4+10	0.0555	0.25	Q V				
465	4+15	0.0572	0.25	Q V				
466	4+20	0.0590	0.25	QV				
467	4+25	0.0609	0.27	QV				
468	4+30	0.0628	0.28	QV				
469	4+35	0.0648	0.29	QV				
470	4+40	0.0668	0.29	Q V				
471	4+45	0.0688	0.29	Q V				
472	4+50	0.0708	0.30	Q V				
473	4+55	0.0730	0.32	Q V				
474	5+ 0	0.0752	0.32	Q V				
475	5+ 5	0.0774	0.32	Q V				
476	5+10	0.0794	0.29	Q V				
477	5+15	0.0812	0.27	Q V				
478	5+20	0.0831	0.27	Q V				
479	5+25	0.0850	0.28	Q V				
480	5+30	0.0870	0.29	Q V				
481	5+35	0.0891	0.30	Q V				
482	5+40	0.0912	0.31	Q V				
483	5+45	0.0935	0.32	Q V				

484	5+50	0.0957	0.33	Q V			
485	5+55	0.0980	0.33	Q V			
486	6+ 0	0.1003	0.33	Q V			
487	6+ 5	0.1026	0.34	Q V			
488	6+10	0.1051	0.36	Q V			
489	6+15	0.1076	0.37	Q V			
490	6+20	0.1101	0.37	Q V			
491	6+25	0.1127	0.37	Q V			
492	6+30	0.1153	0.37	Q V			
493	6+35	0.1179	0.38	Q V			
494	6+40	0.1207	0.40	Q V			
495	6+45	0.1235	0.41	Q V			
496	6+50	0.1263	0.41	Q V			
497	6+55	0.1292	0.42	Q V			
498	7+ 0	0.1320	0.42	Q V			
499	7+ 5	0.1349	0.42	Q V			
500	7+10	0.1378	0.42	Q V			
501	7+15	0.1407	0.42	Q V			
502	7+20	0.1436	0.42	Q V			
503	7+25	0.1466	0.44	Q V			
504	7+30	0.1498	0.45	Q V			
505	7+35	0.1529	0.46	Q V			
506	7+40	0.1562	0.48	Q V			
507	7+45	0.1596	0.49	Q V			
508	7+50	0.1630	0.50	Q V			
509	7+55	0.1666	0.52	Q V			
510	8+ 0	0.1703	0.53	Q V			
511	8+ 5	0.1741	0.55	Q V			
512	8+10	0.1781	0.59	Q V			
513	8+15	0.1823	0.61	Q V			
514	8+20	0.1865	0.61	Q V			
515	8+25	0.1908	0.62	Q V			
516	8+30	0.1950	0.62	Q V			
517	8+35	0.1994	0.63	Q V			
518	8+40	0.2039	0.65	Q V			
519	8+45	0.2084	0.66	Q V			
520	8+50	0.2130	0.67	Q V			
521	8+55	0.2178	0.69	Q V			
522	9+ 0	0.2226	0.70	Q V			
523	9+ 5	0.2275	0.71	Q V			
524	9+10	0.2327	0.75	Q V			
525	9+15	0.2380	0.77	Q V			
526	9+20	0.2434	0.79	Q V			
527	9+25	0.2490	0.81	Q V			
528	9+30	0.2547	0.82	Q V			
529	9+35	0.2604	0.83	Q V			
530	9+40	0.2663	0.86	Q V			
531	9+45	0.2723	0.87	Q V			
532	9+50	0.2783	0.88	Q V			
533	9+55	0.2845	0.90	Q V			
534	10+ 0	0.2908	0.91	Q V			
535	10+ 5	0.2968	0.88	Q V			
536	10+10	0.3020	0.76	Q V			
537	10+15	0.3068	0.70	Q V			
538	10+20	0.3114	0.67	Q V			
539	10+25	0.3160	0.66	Q V			
540	10+30	0.3204	0.65	Q V			
541	10+35	0.3250	0.67	Q V			
542	10+40	0.3302	0.75	Q V			
543	10+45	0.3357	0.79	Q V			
544	10+50	0.3412	0.81	Q V			
545	10+55	0.3469	0.82	Q V			
546	11+ 0	0.3525	0.82	Q V			
547	11+ 5	0.3582	0.82	Q V			
548	11+10	0.3638	0.81	Q V			
549	11+15	0.3693	0.80	Q V			
550	11+20	0.3748	0.80	Q V			
551	11+25	0.3804	0.80	Q V			
552	11+30	0.3859	0.80	Q V			



622	17+20	0.7984	0.20	Q				V
623	17+25	0.7998	0.20	Q				V
624	17+30	0.8012	0.20	Q				V
625	17+35	0.8026	0.21	Q				V
626	17+40	0.8040	0.21	Q				V
627	17+45	0.8055	0.21	Q				V
628	17+50	0.8069	0.20	Q				V
629	17+55	0.8081	0.19	Q				V
630	18+ 0	0.8094	0.18	Q				V
631	18+ 5	0.8106	0.17	Q				V
632	18+10	0.8117	0.17	Q				V
633	18+15	0.8129	0.17	Q				V
634	18+20	0.8141	0.17	Q				V
635	18+25	0.8153	0.17	Q				V
636	18+30	0.8164	0.17	Q				V
637	18+35	0.8175	0.16	Q				V
638	18+40	0.8185	0.14	Q				V
639	18+45	0.8195	0.14	Q				V
640	18+50	0.8203	0.13	Q				V
641	18+55	0.8211	0.11	Q				V
642	19+ 0	0.8217	0.10	Q				V
643	19+ 5	0.8224	0.10	Q				V
644	19+10	0.8232	0.11	Q				V
645	19+15	0.8240	0.12	Q				V
646	19+20	0.8249	0.13	Q				V
647	19+25	0.8259	0.15	Q				V
648	19+30	0.8270	0.16	Q				V
649	19+35	0.8280	0.15	Q				V
650	19+40	0.8290	0.14	Q				V
651	19+45	0.8299	0.13	Q				V
652	19+50	0.8308	0.12	Q				V
653	19+55	0.8315	0.11	Q				V
654	20+ 0	0.8321	0.10	Q				V
655	20+ 5	0.8328	0.10	Q				V
656	20+10	0.8336	0.11	Q				V
657	20+15	0.8344	0.12	Q				V
658	20+20	0.8352	0.12	Q				V
659	20+25	0.8361	0.12	Q				V
660	20+30	0.8369	0.12	Q				V
661	20+35	0.8378	0.12	Q				V
662	20+40	0.8387	0.12	Q				V
663	20+45	0.8395	0.13	Q				V
664	20+50	0.8403	0.12	Q				V
665	20+55	0.8411	0.10	Q				V
666	21+ 0	0.8417	0.09	Q				V
667	21+ 5	0.8424	0.10	Q				V
668	21+10	0.8431	0.11	Q				V
669	21+15	0.8439	0.12	Q				V
670	21+20	0.8447	0.12	Q				V
671	21+25	0.8454	0.10	Q				V
672	21+30	0.8461	0.09	Q				V
673	21+35	0.8467	0.09	Q				V
674	21+40	0.8475	0.11	Q				V
675	21+45	0.8483	0.12	Q				V
676	21+50	0.8491	0.12	Q				V
677	21+55	0.8498	0.10	Q				V
678	22+ 0	0.8504	0.09	Q				V
679	22+ 5	0.8510	0.09	Q				V
680	22+10	0.8518	0.11	Q				V
681	22+15	0.8526	0.12	Q				V
682	22+20	0.8534	0.12	Q				V
683	22+25	0.8541	0.10	Q				V
684	22+30	0.8547	0.09	Q				V
685	22+35	0.8553	0.09	Q				V
686	22+40	0.8559	0.09	Q				V
687	22+45	0.8565	0.09	Q				V
688	22+50	0.8571	0.09	Q				V
689	22+55	0.8577	0.09	Q				V
690	23+ 0	0.8583	0.08	Q				V

691	23+ 5	0.8589	0.08	Q	|	|	|	V|
692	23+10	0.8594	0.08	Q	|	|	|	V|
693	23+15	0.8600	0.08	Q	|	|	|	V|
694	23+20	0.8606	0.08	Q	|	|	|	V|
695	23+25	0.8612	0.08	Q	|	|	|	V|
696	23+30	0.8618	0.08	Q	|	|	|	V|
697	23+35	0.8623	0.08	Q	|	|	|	V|
698	23+40	0.8629	0.08	Q	|	|	|	V|
699	23+45	0.8635	0.08	Q	|	|	|	V|
700	23+50	0.8641	0.08	Q	|	|	|	V|
701	23+55	0.8646	0.08	Q	|	|	|	V|
702	24+ 0	0.8652	0.08	Q	|	|	|	V|
703	24+ 5	0.8657	0.07	Q	|	|	|	V|
704	24+10	0.8660	0.04	Q	|	|	|	V|
705	24+15	0.8661	0.02	Q	|	|	|	V|
706	24+20	0.8662	0.01	Q	|	|	|	V|
707	24+25	0.8663	0.01	Q	|	|	|	V|
708	24+30	0.8663	0.01	Q	|	|	|	V|
709	24+35	0.8663	0.00	Q	|	|	|	V|
710	24+40	0.8663	0.00	Q	|	|	|	V|
711	24+45	0.8664	0.00	Q	|	|	|	V|
712	24+50	0.8664	0.00	Q	|	|	|	V|
713	---	---	---	---	---	---	---	---
714								
715								
716								
717								

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

    Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018, Version 9.0
        Study date  08/08/24 File: ETM515.out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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON EXSITING AREA B
5 YEAR 1 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       7.17(Ac.)  =      0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       7.17(Ac.)  =      0.011 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.110 Hr.
Lag time =     6.60 Min.
25% of lag time =     1.65 Min.
40% of lag time =     2.64 Min.
Unit time =     5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.17            0.55                3.94

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.17            1.40               10.04

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    0.550(In)
Area Averaged 100-Year Rainfall =    1.400(In)

Point rain (area averaged) =    0.749(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    0.749(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     7.170           69.00          0.600
 Total Area Entered =      7.17(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

```
    69.0  49.8      0.574     0.600        0.264       1.000      0.264
                                                        Sum (F) =   0.264
    Area averaged mean soil loss (F) (In/Hr) =  0.264
    Minimum soil loss rate ((In/Hr)) =  0.132
    (for 24 hour storm duration)
    Soil low loss rate (decimal) =   0.420
    ------------------------------------------------------------------------
    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   Time % of lag   Distribution   Unit Hydrograph
        (hrs)                           Graph %           (CFS)
    ------------------------------------------------------------------------
        1   0.083         75.758         12.137             0.877
        2   0.167        151.515         42.806             3.093
        3   0.250        227.273         21.225             1.534
        4   0.333        303.030          8.541             0.617
        5   0.417        378.788          5.158             0.373
        6   0.500        454.545          3.330             0.241
        7   0.583        530.303          2.327             0.168
        8   0.667        606.061          1.692             0.122
        9   0.750        681.818          1.172             0.085
       10   0.833        757.576          0.809             0.058
       11   0.917        833.333          0.803             0.058
                                 Sum = 100.000    Sum=       7.226
------------------------------------------------------------------------


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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max    |   Low         (In/Hr)
    1   0.08     4.20      0.378       (  0.264)      0.159        0.219
    2   0.17     4.30      0.387       (  0.264)      0.162        0.224
    3   0.25     5.00      0.449       (  0.264)      0.189        0.261
    4   0.33     5.00      0.449       (  0.264)      0.189        0.261
    5   0.42     5.80      0.521       (  0.264)      0.219        0.302
    6   0.50     6.50      0.584       (  0.264)      0.245        0.339
    7   0.58     7.40      0.665          0.264    (  0.279)      0.401
    8   0.67     8.60      0.773          0.264    (  0.325)      0.509
    9   0.75    12.30      1.106          0.264    (  0.464)      0.842
   10   0.83    29.10      2.616          0.264    (  1.099)      2.352
   11   0.92     6.80      0.611       (  0.264)      0.257        0.355
   12   1.00     5.00      0.449       (  0.264)      0.189        0.261
          (Loss Rate Not Used)
     Sum =     100.0                                    Sum =     6.3
    Flood volume = Effective rainfall      0.53(In)
     times area       7.2(Ac.)/[(In)/(Ft.)] =       0.3(Ac.Ft)
    Total soil loss =      0.22(In)
    Total soil loss =     0.133(Ac.Ft)
    Total rainfall =      0.75(In)
    Flood volume =       13716.7 Cubic Feet
    Total soil loss =        5778.7 Cubic Feet
    ------------------------------------------------------------------------
     Peak flow rate of this hydrograph =      9.556(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	0.0013	0.19	Q				
0+10	0.0073	0.87	V Q				
0+15	0.0160	1.26	V Q				
0+20	0.0264	1.51	V Q				
0+25	0.0381	1.69	V Q				
0+30	0.0514	1.93	VQ				
0+35	0.0666	2.21	Q				
0+40	0.0847	2.62	Q				
0+45	0.1081	3.40	Q				
0+50	0.1495	6.00	V Q				
0+55	0.2153	9.56	V Q				
1+ 0	0.2558	5.88	Q V				
1+ 5	0.2793	3.40	Q V				
1+10	0.2923	1.89	Q V				
1+15	0.3001	1.13	Q V				
1+20	0.3054	0.77	Q V				
1+25	0.3091	0.53	Q V				
1+30	0.3116	0.37	Q V				
1+35	0.3133	0.25	Q V				
1+40	0.3145	0.18	Q V				
1+45	0.3148	0.04	Q V				
1+50	0.3149	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  08/08/24 File: ETM535.out


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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON EXSITING AREA B
5 YEAR 3 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       7.17(Ac.)  =      0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       7.17(Ac.)  =      0.011 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.110 Hr.
Lag time =     6.60 Min.
25% of lag time =     1.65 Min.
40% of lag time =     2.64 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]
        7.17            1.00                7.17

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.17            2.50               17.93

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    1.000(In)
Area Averaged 100-Year Rainfall =    2.500(In)

Point rain (area averaged) =    1.351(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.351(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     7.170           69.00          0.600
 Total Area Entered =      7.17(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

69.0	49.8	0.574	0.600	0.264	1.000	0.264

Sum (F) = 0.264

Area averaged **mean** soil loss (F) (In/Hr) = 0.264

Minimum soil loss rate ((In/Hr)) = 0.132

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.420

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	75.758	12.137	0.877
2	0.167	151.515	42.806	3.093
3	0.250	227.273	21.225	1.534
4	0.333	303.030	8.541	0.617
5	0.417	378.788	5.158	0.373
6	0.500	454.545	3.330	0.241
7	0.583	530.303	2.327	0.168
8	0.667	606.061	1.692	0.122
9	0.750	681.818	1.172	0.085
10	0.833	757.576	0.809	0.058
11	0.917	833.333	0.803	0.058
		Sum = 100.000	Sum=	7.226

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.211	(0.264)	0.089	0.122
2	0.17	1.30	0.211	(0.264)	0.089	0.122
3	0.25	1.10	0.178	(0.264)	0.075	0.103
4	0.33	1.50	0.243	(0.264)	0.102	0.141
5	0.42	1.50	0.243	(0.264)	0.102	0.141
6	0.50	1.80	0.292	(0.264)	0.123	0.169
7	0.58	1.50	0.243	(0.264)	0.102	0.141
8	0.67	1.80	0.292	(0.264)	0.123	0.169
9	0.75	1.80	0.292	(0.264)	0.123	0.169
10	0.83	1.50	0.243	(0.264)	0.102	0.141
11	0.92	1.60	0.259	(0.264)	0.109	0.150
12	1.00	1.80	0.292	(0.264)	0.123	0.169
13	1.08	2.20	0.357	(0.264)	0.150	0.207
14	1.17	2.20	0.357	(0.264)	0.150	0.207
15	1.25	2.20	0.357	(0.264)	0.150	0.207
16	1.33	2.00	0.324	(0.264)	0.136	0.188
17	1.42	2.60	0.422	(0.264)	0.177	0.245
18	1.50	2.70	0.438	(0.264)	0.184	0.254
19	1.58	2.40	0.389	(0.264)	0.163	0.226
20	1.67	2.70	0.438	(0.264)	0.184	0.254
21	1.75	3.30	0.535	(0.264)	0.225	0.310
22	1.83	3.10	0.503	(0.264)	0.211	0.292
23	1.92	2.90	0.470	(0.264)	0.198	0.273
24	2.00	3.00	0.486	(0.264)	0.204	0.282
25	2.08	3.10	0.503	(0.264)	0.211	0.292
26	2.17	4.20	0.681	0.264	(0.286)	0.417
27	2.25	5.00	0.811	0.264	(0.341)	0.547
28	2.33	3.50	0.568	(0.264)	0.238	0.329
29	2.42	6.80	1.103	0.264	(0.463)	0.839
30	2.50	7.30	1.184	0.264	(0.497)	0.920
31	2.58	8.20	1.330	0.264	(0.558)	1.066
32	2.67	5.90	0.957	0.264	(0.402)	0.693
33	2.75	2.00	0.324	(0.264)	0.136	0.188

```
    34   2.83     1.80      0.292       (  0.264)       0.123        0.169
    35   2.92     1.80      0.292       (  0.264)       0.123        0.169
    36   3.00     0.60      0.097       (  0.264)       0.041        0.056
          (Loss Rate Not Used)
     Sum =     100.0                                    Sum =     10.4
    Flood volume = Effective rainfall      0.86(In)
     times area       7.2(Ac.)/[(In)/(Ft.)] =       0.5(Ac.Ft)
    Total soil loss =      0.49(In)
    Total soil loss =     0.291(Ac.Ft)
    Total rainfall =      1.35(In)
    Flood volume =       22487.4 Cubic Feet
    Total soil loss =       12682.8 Cubic Feet
    ------------------------------------------------------------------------
     Peak flow rate of this hydrograph =      6.252(CFS)
    ------------------------------------------------------------------------
    ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        3 - H O U R    S T O R M
                    R u n o f f     H y d r o g r a p h
    ------------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ------------------------------------------------------------------------
  Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
  ------------------------------------------------------------------------
    0+ 5       0.0007      0.11  Q          |         |         |         |
    0+10       0.0041      0.49  VQ         |         |         |         |
    0+15       0.0086      0.66  V Q        |         |         |         |
    0+20       0.0135      0.71  |VQ        |         |         |         |
    0+25       0.0193      0.84  |V Q       |         |         |         |
    0+30       0.0257      0.94  |V Q       |         |         |         |
    0+35       0.0329      1.04  | V Q      |         |         |         |
    0+40       0.0401      1.05  |  VQ      |         |         |         |
    0+45       0.0478      1.12  |  VQ      |         |         |         |
    0+50       0.0557      1.15  |   Q      |         |         |         |
    0+55       0.0632      1.09  |   Q      |         |         |         |
    1+ 0       0.0708      1.10  |   QV     |         |         |         |
    1+ 5       0.0791      1.20  |   Q V    |         |         |         |
    1+10       0.0883      1.34  |    QV    |         |         |         |
    1+15       0.0981      1.41  |    Q V   |         |         |         |
    1+20       0.1079      1.43  |    Q  V  |         |         |         |
    1+25       0.1178      1.43  |    Q   V |         |         |         |
    1+30       0.1288      1.60  |     Q  V |         |         |         |
    1+35       0.1404      1.69  |     Q   V|         |         |         |
    1+40       0.1520      1.67  |     Q    |V        |         |         |
    1+45       0.1643      1.79  |      Q   | V       |         |         |
    1+50       0.1781      2.00  |      Q   |  V      |         |         |
    1+55       0.1920      2.03  |       Q  |   V     |         |         |
    2+ 0       0.2057      1.99  |      Q   |    V    |         |         |
    2+ 5       0.2196      2.02  |       Q  |      V  |         |         |
    2+10       0.2346      2.17  |       Q  |       V |         |         |
    2+15       0.2531      2.70  |          Q         V|         |         |
    2+20       0.2745      3.11  |          | Q       |V        |         |
    2+25       0.2963      3.16  |          | Q       | V       |         |
    2+30       0.3281      4.61  |          |       Q |    V    |         |
    2+35       0.3675      5.72  |          |         | Q     V |         |
    2+40       0.4105      6.25  |          |         |    Q    V         |
    2+45       0.4457      5.10  |          |        Q|         |    V    |
    2+50       0.4676      3.19  |          | Q       |         |      V  |
    2+55       0.4833      2.28  |        Q |         |         |       V |
    3+ 0       0.4957      1.81  |      Q   |         |         |        V|
    3+ 5       0.5039      1.19  |   Q      |         |         |         V|
    3+10       0.5087      0.69  |  Q       |         |         |         V|
    3+15       0.5118      0.45  |Q         |         |         |         V|
    3+20       0.5138      0.29  |Q         |         |         |         V|
    3+25       0.5150      0.18  Q          |         |         |         V|
    3+30       0.5157      0.10  Q          |         |         |         V|
    3+35       0.5160      0.04  Q          |         |         |         V|
    3+40       0.5161      0.02  Q          |         |         |         V|
    3+45       0.5162      0.01  Q          |         |         |         V|
```

```
    3+50       0.5162      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  08/08/24 File: ETM565.out


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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON EXSITING AREA B
5 YEAR 6 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       7.17(Ac.)  =      0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       7.17(Ac.)  =      0.011 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.110 Hr.
Lag time =     6.60 Min.
25% of lag time =     1.65 Min.
40% of lag time =     2.64 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]
        7.17            1.40                10.04

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.17            3.50                25.09

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    1.400(In)
Area Averaged 100-Year Rainfall =    3.500(In)

Point rain (area averaged) =    1.892(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.892(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     7.170           69.00          0.600
 Total Area Entered =      7.17(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

69.0	49.8	0.574	0.600	0.264	1.000	0.264

Sum (F) = 0.264

Area averaged **mean** soil loss (F) (In/Hr) = 0.264

Minimum soil loss rate ((In/Hr)) = 0.132

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.420

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	75.758	12.137	0.877
2	0.167	151.515	42.806	3.093
3	0.250	227.273	21.225	1.534
4	0.333	303.030	8.541	0.617
5	0.417	378.788	5.158	0.373
6	0.500	454.545	3.330	0.241
7	0.583	530.303	2.327	0.168
8	0.667	606.061	1.692	0.122
9	0.750	681.818	1.172	0.085
10	0.833	757.576	0.809	0.058
11	0.917	833.333	0.803	0.058
		Sum = 100.000	Sum=	7.226

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.114	(0.264)	0.048	0.066
2	0.17	0.60	0.136	(0.264)	0.057	0.079
3	0.25	0.60	0.136	(0.264)	0.057	0.079
4	0.33	0.60	0.136	(0.264)	0.057	0.079
5	0.42	0.60	0.136	(0.264)	0.057	0.079
6	0.50	0.70	0.159	(0.264)	0.067	0.092
7	0.58	0.70	0.159	(0.264)	0.067	0.092
8	0.67	0.70	0.159	(0.264)	0.067	0.092
9	0.75	0.70	0.159	(0.264)	0.067	0.092
10	0.83	0.70	0.159	(0.264)	0.067	0.092
11	0.92	0.70	0.159	(0.264)	0.067	0.092
12	1.00	0.80	0.182	(0.264)	0.076	0.105
13	1.08	0.80	0.182	(0.264)	0.076	0.105
14	1.17	0.80	0.182	(0.264)	0.076	0.105
15	1.25	0.80	0.182	(0.264)	0.076	0.105
16	1.33	0.80	0.182	(0.264)	0.076	0.105
17	1.42	0.80	0.182	(0.264)	0.076	0.105
18	1.50	0.80	0.182	(0.264)	0.076	0.105
19	1.58	0.80	0.182	(0.264)	0.076	0.105
20	1.67	0.80	0.182	(0.264)	0.076	0.105
21	1.75	0.80	0.182	(0.264)	0.076	0.105
22	1.83	0.80	0.182	(0.264)	0.076	0.105
23	1.92	0.80	0.182	(0.264)	0.076	0.105
24	2.00	0.90	0.204	(0.264)	0.086	0.119
25	2.08	0.80	0.182	(0.264)	0.076	0.105
26	2.17	0.90	0.204	(0.264)	0.086	0.119
27	2.25	0.90	0.204	(0.264)	0.086	0.119
28	2.33	0.90	0.204	(0.264)	0.086	0.119
29	2.42	0.90	0.204	(0.264)	0.086	0.119
30	2.50	0.90	0.204	(0.264)	0.086	0.119
31	2.58	0.90	0.204	(0.264)	0.086	0.119
32	2.67	0.90	0.204	(0.264)	0.086	0.119
33	2.75	1.00	0.227	(0.264)	0.095	0.132

34	2.83	1.00	0.227	(0.264)	0.095	0.132
35	2.92	1.00	0.227	(0.264)	0.095	0.132
36	3.00	1.00	0.227	(0.264)	0.095	0.132
37	3.08	1.00	0.227	(0.264)	0.095	0.132
38	3.17	1.10	0.250	(0.264)	0.105	0.145
39	3.25	1.10	0.250	(0.264)	0.105	0.145
40	3.33	1.10	0.250	(0.264)	0.105	0.145
41	3.42	1.20	0.272	(0.264)	0.114	0.158
42	3.50	1.30	0.295	(0.264)	0.124	0.171
43	3.58	1.40	0.318	(0.264)	0.133	0.184
44	3.67	1.40	0.318	(0.264)	0.133	0.184
45	3.75	1.50	0.341	(0.264)	0.143	0.198
46	3.83	1.50	0.341	(0.264)	0.143	0.198
47	3.92	1.60	0.363	(0.264)	0.153	0.211
48	4.00	1.60	0.363	(0.264)	0.153	0.211
49	4.08	1.70	0.386	(0.264)	0.162	0.224
50	4.17	1.80	0.409	(0.264)	0.172	0.237
51	4.25	1.90	0.431	(0.264)	0.181	0.250
52	4.33	2.00	0.454	(0.264)	0.191	0.263
53	4.42	2.10	0.477	(0.264)	0.200	0.277
54	4.50	2.10	0.477	(0.264)	0.200	0.277
55	4.58	2.20	0.499	(0.264)	0.210	0.290
56	4.67	2.30	0.522	(0.264)	0.219	0.303
57	4.75	2.40	0.545	(0.264)	0.229	0.316
58	4.83	2.40	0.545	(0.264)	0.229	0.316
59	4.92	2.50	0.568	(0.264)	0.238	0.329
60	5.00	2.60	0.590	(0.264)	0.248	0.342
61	5.08	3.10	0.704	0.264	(0.296)	0.440
62	5.17	3.60	0.817	0.264	(0.343)	0.553
63	5.25	3.90	0.885	0.264	(0.372)	0.621
64	5.33	4.20	0.953	0.264	(0.400)	0.689
65	5.42	4.70	1.067	0.264	(0.448)	0.803
66	5.50	5.60	1.271	0.264	(0.534)	1.007
67	5.58	1.90	0.431	(0.264)	0.181	0.250
68	5.67	0.90	0.204	(0.264)	0.086	0.119
69	5.75	0.60	0.136	(0.264)	0.057	0.079
70	5.83	0.50	0.114	(0.264)	0.048	0.066
71	5.92	0.30	0.068	(0.264)	0.029	0.040
72	6.00	0.20	0.045	(0.264)	0.019	0.026

(Loss Rate Not Used)

Sum = 100.0 Sum = 14.0

Flood volume = Effective rainfall 1.16(In)
times area 7.2(Ac.)/[(In)/(Ft.)] = 0.7(Ac.Ft)
Total soil loss = 0.73(In)
Total soil loss = 0.434(Ac.Ft)
Total rainfall = 1.89(In)
Flood volume = 30313.3 Cubic Feet
Total soil loss = 18925.4 Cubic Feet

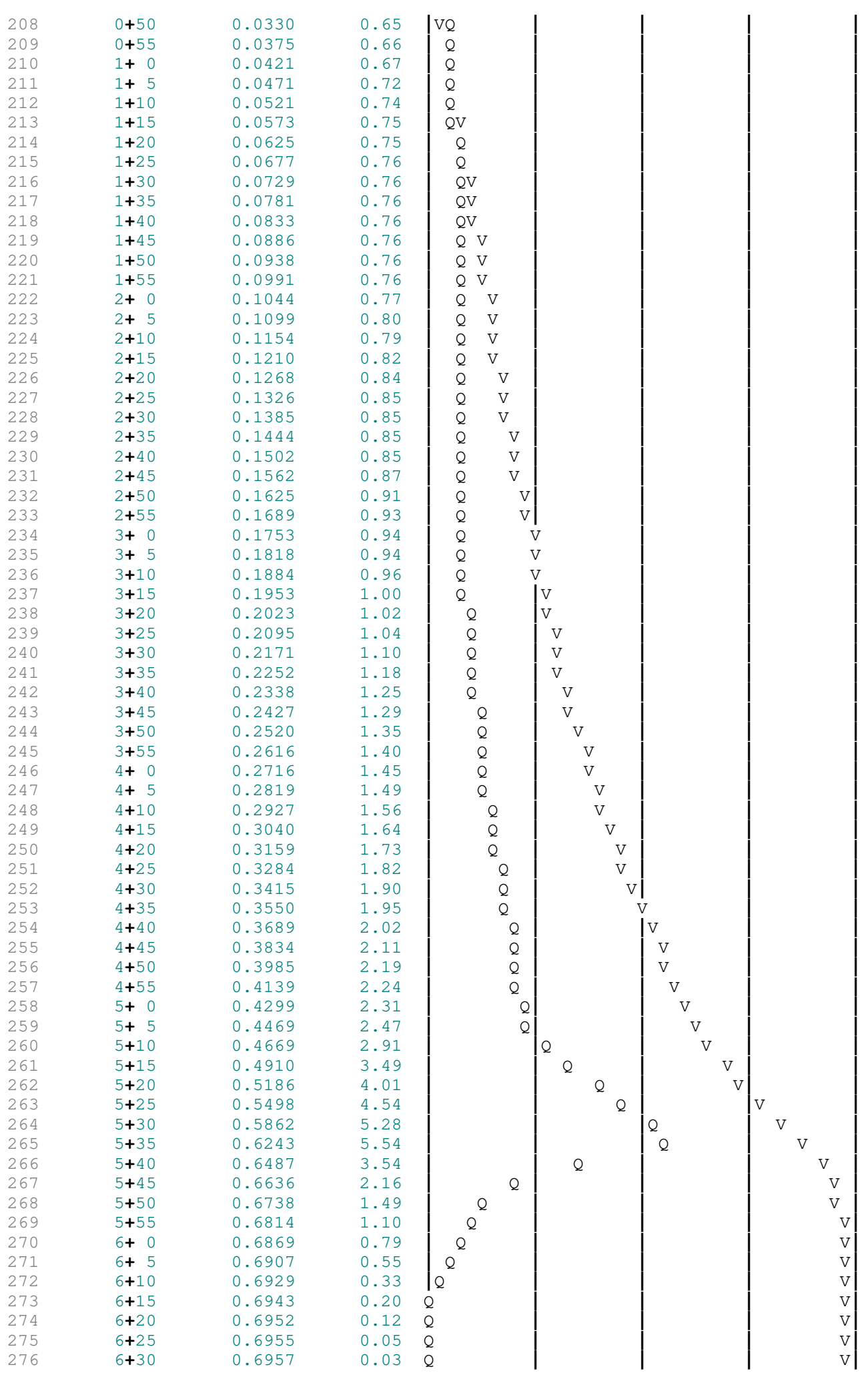
Peak flow rate of this hydrograph = 5.540(CFS)

++

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0004	0.06	Q	|	|	|	|
0+10	0.0023	0.27	VQ	|	|	|	|
0+15	0.0051	0.41	VQ	|	|	|	|
0+20	0.0084	0.48	VQ	|	|	|	|
0+25	0.0119	0.51	V Q	|	|	|	|
0+30	0.0156	0.54	V Q	|	|	|	|
0+35	0.0197	0.60	|VQ	|	|	|	|
0+40	0.0241	0.63	|VQ	|	|	|	|
0+45	0.0285	0.64	|VQ	|	|	|	|



```
      6+35        0.6958       0.02  Q          |          |          |          V|
      6+40        0.6959       0.01  Q          |          |          |          V|
      6+45        0.6959       0.00  Q          |          |          |          V|
      6+50        0.6959       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  08/08/24 File: ETM5245.out


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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON EXSITING AREA B
5 YEAR 24 HOUR
KIMLEY HORN

----------------------------------------------------------------------
Drainage Area =       7.17(Ac.)  =      0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       7.17(Ac.)  =      0.011 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.110 Hr.
Lag time =     6.60 Min.
25% of lag time =     1.65 Min.
40% of lag time =     2.64 Min.
Unit time =     5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.17            2.50               17.93

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.17            7.00               50.19

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    2.500(In)
Area Averaged 100-Year Rainfall =    7.000(In)

Point rain (area averaged) =    3.554(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    3.554(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     7.170           69.00          0.600
 Total Area Entered =      7.17(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

69.0	49.8	0.574	0.600	0.264	1.000	0.264

Sum (F) = 0.264

Area averaged **mean** soil loss (F) (In/Hr) = 0.264

Minimum soil loss rate ((In/Hr)) = 0.132

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.420

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	75.758	12.137	0.877
2	0.167	151.515	42.806	3.093
3	0.250	227.273	21.225	1.534
4	0.333	303.030	8.541	0.617
5	0.417	378.788	5.158	0.373
6	0.500	454.545	3.330	0.241
7	0.583	530.303	2.327	0.168
8	0.667	606.061	1.692	0.122
9	0.750	681.818	1.172	0.085
10	0.833	757.576	0.809	0.058
11	0.917	833.333	0.803	0.058
		Sum = 100.000	Sum=	7.226

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.028	(0.468)	0.012	0.016
2	0.17	0.07	0.028	(0.466)	0.012	0.016
3	0.25	0.07	0.028	(0.464)	0.012	0.016
4	0.33	0.10	0.043	(0.463)	0.018	0.025
5	0.42	0.10	0.043	(0.461)	0.018	0.025
6	0.50	0.10	0.043	(0.459)	0.018	0.025
7	0.58	0.10	0.043	(0.457)	0.018	0.025
8	0.67	0.10	0.043	(0.455)	0.018	0.025
9	0.75	0.10	0.043	(0.454)	0.018	0.025
10	0.83	0.13	0.057	(0.452)	0.024	0.033
11	0.92	0.13	0.057	(0.450)	0.024	0.033
12	1.00	0.13	0.057	(0.448)	0.024	0.033
13	1.08	0.10	0.043	(0.447)	0.018	0.025
14	1.17	0.10	0.043	(0.445)	0.018	0.025
15	1.25	0.10	0.043	(0.443)	0.018	0.025
16	1.33	0.10	0.043	(0.441)	0.018	0.025
17	1.42	0.10	0.043	(0.439)	0.018	0.025
18	1.50	0.10	0.043	(0.438)	0.018	0.025
19	1.58	0.10	0.043	(0.436)	0.018	0.025
20	1.67	0.10	0.043	(0.434)	0.018	0.025
21	1.75	0.10	0.043	(0.433)	0.018	0.025
22	1.83	0.13	0.057	(0.431)	0.024	0.033
23	1.92	0.13	0.057	(0.429)	0.024	0.033
24	2.00	0.13	0.057	(0.427)	0.024	0.033
25	2.08	0.13	0.057	(0.426)	0.024	0.033
26	2.17	0.13	0.057	(0.424)	0.024	0.033
27	2.25	0.13	0.057	(0.422)	0.024	0.033
28	2.33	0.13	0.057	(0.420)	0.024	0.033
29	2.42	0.13	0.057	(0.419)	0.024	0.033
30	2.50	0.13	0.057	(0.417)	0.024	0.033
31	2.58	0.17	0.071	(0.415)	0.030	0.041
32	2.67	0.17	0.071	(0.414)	0.030	0.041
33	2.75	0.17	0.071	(0.412)	0.030	0.041

139	34	2.83	0.17	0.071	(	0.410)	0.030	0.041
140	35	2.92	0.17	0.071	(	0.408)	0.030	0.041
141	36	3.00	0.17	0.071	(	0.407)	0.030	0.041
142	37	3.08	0.17	0.071	(	0.405)	0.030	0.041
143	38	3.17	0.17	0.071	(	0.403)	0.030	0.041
144	39	3.25	0.17	0.071	(	0.402)	0.030	0.041
145	40	3.33	0.17	0.071	(	0.400)	0.030	0.041
146	41	3.42	0.17	0.071	(	0.398)	0.030	0.041
147	42	3.50	0.17	0.071	(	0.397)	0.030	0.041
148	43	3.58	0.17	0.071	(	0.395)	0.030	0.041
149	44	3.67	0.17	0.071	(	0.393)	0.030	0.041
150	45	3.75	0.17	0.071	(	0.392)	0.030	0.041
151	46	3.83	0.20	0.085	(	0.390)	0.036	0.049
152	47	3.92	0.20	0.085	(	0.388)	0.036	0.049
153	48	4.00	0.20	0.085	(	0.387)	0.036	0.049
154	49	4.08	0.20	0.085	(	0.385)	0.036	0.049
155	50	4.17	0.20	0.085	(	0.384)	0.036	0.049
156	51	4.25	0.20	0.085	(	0.382)	0.036	0.049
157	52	4.33	0.23	0.100	(	0.380)	0.042	0.058
158	53	4.42	0.23	0.100	(	0.379)	0.042	0.058
159	54	4.50	0.23	0.100	(	0.377)	0.042	0.058
160	55	4.58	0.23	0.100	(	0.375)	0.042	0.058
161	56	4.67	0.23	0.100	(	0.374)	0.042	0.058
162	57	4.75	0.23	0.100	(	0.372)	0.042	0.058
163	58	4.83	0.27	0.114	(	0.371)	0.048	0.066
164	59	4.92	0.27	0.114	(	0.369)	0.048	0.066
165	60	5.00	0.27	0.114	(	0.367)	0.048	0.066
166	61	5.08	0.20	0.085	(	0.366)	0.036	0.049
167	62	5.17	0.20	0.085	(	0.364)	0.036	0.049
168	63	5.25	0.20	0.085	(	0.363)	0.036	0.049
169	64	5.33	0.23	0.100	(	0.361)	0.042	0.058
170	65	5.42	0.23	0.100	(	0.359)	0.042	0.058
171	66	5.50	0.23	0.100	(	0.358)	0.042	0.058
172	67	5.58	0.27	0.114	(	0.356)	0.048	0.066
173	68	5.67	0.27	0.114	(	0.355)	0.048	0.066
174	69	5.75	0.27	0.114	(	0.353)	0.048	0.066
175	70	5.83	0.27	0.114	(	0.352)	0.048	0.066
176	71	5.92	0.27	0.114	(	0.350)	0.048	0.066
177	72	6.00	0.27	0.114	(	0.349)	0.048	0.066
178	73	6.08	0.30	0.128	(	0.347)	0.054	0.074
179	74	6.17	0.30	0.128	(	0.345)	0.054	0.074
180	75	6.25	0.30	0.128	(	0.344)	0.054	0.074
181	76	6.33	0.30	0.128	(	0.342)	0.054	0.074
182	77	6.42	0.30	0.128	(	0.341)	0.054	0.074
183	78	6.50	0.30	0.128	(	0.339)	0.054	0.074
184	79	6.58	0.33	0.142	(	0.338)	0.060	0.082
185	80	6.67	0.33	0.142	(	0.336)	0.060	0.082
186	81	6.75	0.33	0.142	(	0.335)	0.060	0.082
187	82	6.83	0.33	0.142	(	0.333)	0.060	0.082
188	83	6.92	0.33	0.142	(	0.332)	0.060	0.082
189	84	7.00	0.33	0.142	(	0.330)	0.060	0.082
190	85	7.08	0.33	0.142	(	0.329)	0.060	0.082
191	86	7.17	0.33	0.142	(	0.327)	0.060	0.082
192	87	7.25	0.33	0.142	(	0.326)	0.060	0.082
193	88	7.33	0.37	0.156	(	0.324)	0.066	0.091
194	89	7.42	0.37	0.156	(	0.323)	0.066	0.091
195	90	7.50	0.37	0.156	(	0.321)	0.066	0.091
196	91	7.58	0.40	0.171	(	0.320)	0.072	0.099
197	92	7.67	0.40	0.171	(	0.318)	0.072	0.099
198	93	7.75	0.40	0.171	(	0.317)	0.072	0.099
199	94	7.83	0.43	0.185	(	0.315)	0.078	0.107
200	95	7.92	0.43	0.185	(	0.314)	0.078	0.107
201	96	8.00	0.43	0.185	(	0.312)	0.078	0.107
202	97	8.08	0.50	0.213	(	0.311)	0.090	0.124
203	98	8.17	0.50	0.213	(	0.310)	0.090	0.124
204	99	8.25	0.50	0.213	(	0.308)	0.090	0.124
205	100	8.33	0.50	0.213	(	0.307)	0.090	0.124
206	101	8.42	0.50	0.213	(	0.305)	0.090	0.124
207	102	8.50	0.50	0.213	(	0.304)	0.090	0.124

208	103	8.58	0.53	0.227	(0.302)	0.096	0.132
209	104	8.67	0.53	0.227	(0.301)	0.096	0.132
210	105	8.75	0.53	0.227	(0.300)	0.096	0.132
211	106	8.83	0.57	0.242	(0.298)	0.102	0.140
212	107	8.92	0.57	0.242	(0.297)	0.102	0.140
213	108	9.00	0.57	0.242	(0.295)	0.102	0.140
214	109	9.08	0.63	0.270	(0.294)	0.113	0.157
215	110	9.17	0.63	0.270	(0.293)	0.113	0.157
216	111	9.25	0.63	0.270	(0.291)	0.113	0.157
217	112	9.33	0.67	0.284	(0.290)	0.119	0.165
218	113	9.42	0.67	0.284	(0.288)	0.119	0.165
219	114	9.50	0.67	0.284	(0.287)	0.119	0.165
220	115	9.58	0.70	0.299	(0.286)	0.125	0.173
221	116	9.67	0.70	0.299	(0.284)	0.125	0.173
222	117	9.75	0.70	0.299	(0.283)	0.125	0.173
223	118	9.83	0.73	0.313	(0.282)	0.131	0.181
224	119	9.92	0.73	0.313	(0.280)	0.131	0.181
225	120	10.00	0.73	0.313	(0.279)	0.131	0.181
226	121	10.08	0.50	0.213	(0.277)	0.090	0.124
227	122	10.17	0.50	0.213	(0.276)	0.090	0.124
228	123	10.25	0.50	0.213	(0.275)	0.090	0.124
229	124	10.33	0.50	0.213	(0.273)	0.090	0.124
230	125	10.42	0.50	0.213	(0.272)	0.090	0.124
231	126	10.50	0.50	0.213	(0.271)	0.090	0.124
232	127	10.58	0.67	0.284	(0.269)	0.119	0.165
233	128	10.67	0.67	0.284	(0.268)	0.119	0.165
234	129	10.75	0.67	0.284	(0.267)	0.119	0.165
235	130	10.83	0.67	0.284	(0.266)	0.119	0.165
236	131	10.92	0.67	0.284	(0.264)	0.119	0.165
237	132	11.00	0.67	0.284	(0.263)	0.119	0.165
238	133	11.08	0.63	0.270	(0.262)	0.113	0.157
239	134	11.17	0.63	0.270	(0.260)	0.113	0.157
240	135	11.25	0.63	0.270	(0.259)	0.113	0.157
241	136	11.33	0.63	0.270	(0.258)	0.113	0.157
242	137	11.42	0.63	0.270	(0.256)	0.113	0.157
243	138	11.50	0.63	0.270	(0.255)	0.113	0.157
244	139	11.58	0.57	0.242	(0.254)	0.102	0.140
245	140	11.67	0.57	0.242	(0.253)	0.102	0.140
246	141	11.75	0.57	0.242	(0.251)	0.102	0.140
247	142	11.83	0.60	0.256	(0.250)	0.107	0.148
248	143	11.92	0.60	0.256	(0.249)	0.107	0.148
249	144	12.00	0.60	0.256	(0.248)	0.107	0.148
250	145	12.08	0.83	0.355	(0.246)	0.149	0.206
251	146	12.17	0.83	0.355	(0.245)	0.149	0.206
252	147	12.25	0.83	0.355	(0.244)	0.149	0.206
253	148	12.33	0.87	0.370	(0.243)	0.155	0.214
254	149	12.42	0.87	0.370	(0.242)	0.155	0.214
255	150	12.50	0.87	0.370	(0.240)	0.155	0.214
256	151	12.58	0.93	0.398	(0.239)	0.167	0.231
257	152	12.67	0.93	0.398	(0.238)	0.167	0.231
258	153	12.75	0.93	0.398	(0.237)	0.167	0.231
259	154	12.83	0.97	0.412	(0.236)	0.173	0.239
260	155	12.92	0.97	0.412	(0.234)	0.173	0.239
261	156	13.00	0.97	0.412	(0.233)	0.173	0.239
262	157	13.08	1.13	0.483	(0.232)	0.203	0.280
263	158	13.17	1.13	0.483	(0.231)	0.203	0.280
264	159	13.25	1.13	0.483	(0.230)	0.203	0.280
265	160	13.33	1.13	0.483	(0.228)	0.203	0.280
266	161	13.42	1.13	0.483	(0.227)	0.203	0.280
267	162	13.50	1.13	0.483	(0.226)	0.203	0.280
268	163	13.58	0.77	0.327	(0.225)	0.137	0.190
269	164	13.67	0.77	0.327	(0.224)	0.137	0.190
270	165	13.75	0.77	0.327	(0.223)	0.137	0.190
271	166	13.83	0.77	0.327	(0.222)	0.137	0.190
272	167	13.92	0.77	0.327	(0.220)	0.137	0.190
273	168	14.00	0.77	0.327	(0.219)	0.137	0.190
274	169	14.08	0.90	0.384	(0.218)	0.161	0.223
275	170	14.17	0.90	0.384	(0.217)	0.161	0.223
276	171	14.25	0.90	0.384	(0.216)	0.161	0.223

277	172	14.33	0.87	0.370	(0.215)	0.155	0.214
278	173	14.42	0.87	0.370	(0.214)	0.155	0.214
279	174	14.50	0.87	0.370	(0.213)	0.155	0.214
280	175	14.58	0.87	0.370	(0.212)	0.155	0.214
281	176	14.67	0.87	0.370	(0.210)	0.155	0.214
282	177	14.75	0.87	0.370	(0.209)	0.155	0.214
283	178	14.83	0.83	0.355	(0.208)	0.149	0.206
284	179	14.92	0.83	0.355	(0.207)	0.149	0.206
285	180	15.00	0.83	0.355	(0.206)	0.149	0.206
286	181	15.08	0.80	0.341	(0.205)	0.143	0.198
287	182	15.17	0.80	0.341	(0.204)	0.143	0.198
288	183	15.25	0.80	0.341	(0.203)	0.143	0.198
289	184	15.33	0.77	0.327	(0.202)	0.137	0.190
290	185	15.42	0.77	0.327	(0.201)	0.137	0.190
291	186	15.50	0.77	0.327	(0.200)	0.137	0.190
292	187	15.58	0.63	0.270	(0.199)	0.113	0.157
293	188	15.67	0.63	0.270	(0.198)	0.113	0.157
294	189	15.75	0.63	0.270	(0.197)	0.113	0.157
295	190	15.83	0.63	0.270	(0.196)	0.113	0.157
296	191	15.92	0.63	0.270	(0.195)	0.113	0.157
297	192	16.00	0.63	0.270	(0.194)	0.113	0.157
298	193	16.08	0.13	0.057	(0.193)	0.024	0.033
299	194	16.17	0.13	0.057	(0.192)	0.024	0.033
300	195	16.25	0.13	0.057	(0.191)	0.024	0.033
301	196	16.33	0.13	0.057	(0.190)	0.024	0.033
302	197	16.42	0.13	0.057	(0.189)	0.024	0.033
303	198	16.50	0.13	0.057	(0.188)	0.024	0.033
304	199	16.58	0.10	0.043	(0.187)	0.018	0.025
305	200	16.67	0.10	0.043	(0.186)	0.018	0.025
306	201	16.75	0.10	0.043	(0.185)	0.018	0.025
307	202	16.83	0.10	0.043	(0.184)	0.018	0.025
308	203	16.92	0.10	0.043	(0.183)	0.018	0.025
309	204	17.00	0.10	0.043	(0.182)	0.018	0.025
310	205	17.08	0.17	0.071	(0.181)	0.030	0.041
311	206	17.17	0.17	0.071	(0.181)	0.030	0.041
312	207	17.25	0.17	0.071	(0.180)	0.030	0.041
313	208	17.33	0.17	0.071	(0.179)	0.030	0.041
314	209	17.42	0.17	0.071	(0.178)	0.030	0.041
315	210	17.50	0.17	0.071	(0.177)	0.030	0.041
316	211	17.58	0.17	0.071	(0.176)	0.030	0.041
317	212	17.67	0.17	0.071	(0.175)	0.030	0.041
318	213	17.75	0.17	0.071	(0.174)	0.030	0.041
319	214	17.83	0.13	0.057	(0.173)	0.024	0.033
320	215	17.92	0.13	0.057	(0.173)	0.024	0.033
321	216	18.00	0.13	0.057	(0.172)	0.024	0.033
322	217	18.08	0.13	0.057	(0.171)	0.024	0.033
323	218	18.17	0.13	0.057	(0.170)	0.024	0.033
324	219	18.25	0.13	0.057	(0.169)	0.024	0.033
325	220	18.33	0.13	0.057	(0.168)	0.024	0.033
326	221	18.42	0.13	0.057	(0.168)	0.024	0.033
327	222	18.50	0.13	0.057	(0.167)	0.024	0.033
328	223	18.58	0.10	0.043	(0.166)	0.018	0.025
329	224	18.67	0.10	0.043	(0.165)	0.018	0.025
330	225	18.75	0.10	0.043	(0.164)	0.018	0.025
331	226	18.83	0.07	0.028	(0.164)	0.012	0.016
332	227	18.92	0.07	0.028	(0.163)	0.012	0.016
333	228	19.00	0.07	0.028	(0.162)	0.012	0.016
334	229	19.08	0.10	0.043	(0.161)	0.018	0.025
335	230	19.17	0.10	0.043	(0.160)	0.018	0.025
336	231	19.25	0.10	0.043	(0.160)	0.018	0.025
337	232	19.33	0.13	0.057	(0.159)	0.024	0.033
338	233	19.42	0.13	0.057	(0.158)	0.024	0.033
339	234	19.50	0.13	0.057	(0.158)	0.024	0.033
340	235	19.58	0.10	0.043	(0.157)	0.018	0.025
341	236	19.67	0.10	0.043	(0.156)	0.018	0.025
342	237	19.75	0.10	0.043	(0.155)	0.018	0.025
343	238	19.83	0.07	0.028	(0.155)	0.012	0.016
344	239	19.92	0.07	0.028	(0.154)	0.012	0.016
345	240	20.00	0.07	0.028	(0.153)	0.012	0.016

241	20.08	0.10	0.043	(0.153)	0.018	0.025
242	20.17	0.10	0.043	(0.152)	0.018	0.025
243	20.25	0.10	0.043	(0.151)	0.018	0.025
244	20.33	0.10	0.043	(0.151)	0.018	0.025
245	20.42	0.10	0.043	(0.150)	0.018	0.025
246	20.50	0.10	0.043	(0.149)	0.018	0.025
247	20.58	0.10	0.043	(0.149)	0.018	0.025
248	20.67	0.10	0.043	(0.148)	0.018	0.025
249	20.75	0.10	0.043	(0.148)	0.018	0.025
250	20.83	0.07	0.028	(0.147)	0.012	0.016
251	20.92	0.07	0.028	(0.146)	0.012	0.016
252	21.00	0.07	0.028	(0.146)	0.012	0.016
253	21.08	0.10	0.043	(0.145)	0.018	0.025
254	21.17	0.10	0.043	(0.145)	0.018	0.025
255	21.25	0.10	0.043	(0.144)	0.018	0.025
256	21.33	0.07	0.028	(0.143)	0.012	0.016
257	21.42	0.07	0.028	(0.143)	0.012	0.016
258	21.50	0.07	0.028	(0.142)	0.012	0.016
259	21.58	0.10	0.043	(0.142)	0.018	0.025
260	21.67	0.10	0.043	(0.141)	0.018	0.025
261	21.75	0.10	0.043	(0.141)	0.018	0.025
262	21.83	0.07	0.028	(0.140)	0.012	0.016
263	21.92	0.07	0.028	(0.140)	0.012	0.016
264	22.00	0.07	0.028	(0.139)	0.012	0.016
265	22.08	0.10	0.043	(0.139)	0.018	0.025
266	22.17	0.10	0.043	(0.138)	0.018	0.025
267	22.25	0.10	0.043	(0.138)	0.018	0.025
268	22.33	0.07	0.028	(0.138)	0.012	0.016
269	22.42	0.07	0.028	(0.137)	0.012	0.016
270	22.50	0.07	0.028	(0.137)	0.012	0.016
271	22.58	0.07	0.028	(0.136)	0.012	0.016
272	22.67	0.07	0.028	(0.136)	0.012	0.016
273	22.75	0.07	0.028	(0.136)	0.012	0.016
274	22.83	0.07	0.028	(0.135)	0.012	0.016
275	22.92	0.07	0.028	(0.135)	0.012	0.016
276	23.00	0.07	0.028	(0.135)	0.012	0.016
277	23.08	0.07	0.028	(0.134)	0.012	0.016
278	23.17	0.07	0.028	(0.134)	0.012	0.016
279	23.25	0.07	0.028	(0.134)	0.012	0.016
280	23.33	0.07	0.028	(0.133)	0.012	0.016
281	23.42	0.07	0.028	(0.133)	0.012	0.016
282	23.50	0.07	0.028	(0.133)	0.012	0.016
283	23.58	0.07	0.028	(0.133)	0.012	0.016
284	23.67	0.07	0.028	(0.133)	0.012	0.016
285	23.75	0.07	0.028	(0.132)	0.012	0.016
286	23.83	0.07	0.028	(0.132)	0.012	0.016
287	23.92	0.07	0.028	(0.132)	0.012	0.016
288	24.00	0.07	0.028	(0.132)	0.012	0.016

(Loss Rate Not Used)

Sum = 100.0 Sum = 24.7

Flood volume = Effective rainfall 2.06(In)

times area 7.2(Ac.)/[(In)/(Ft.)] = 1.2(Ac.Ft)

Total soil loss = 1.49(In)

Total soil loss = 0.892(Ac.Ft)

Total rainfall = 3.55(In)

Flood volume = 53649.6 Cubic Feet

Total soil loss = 38849.7 Cubic Feet

Peak flow rate of this hydrograph = 2.006(CFS)

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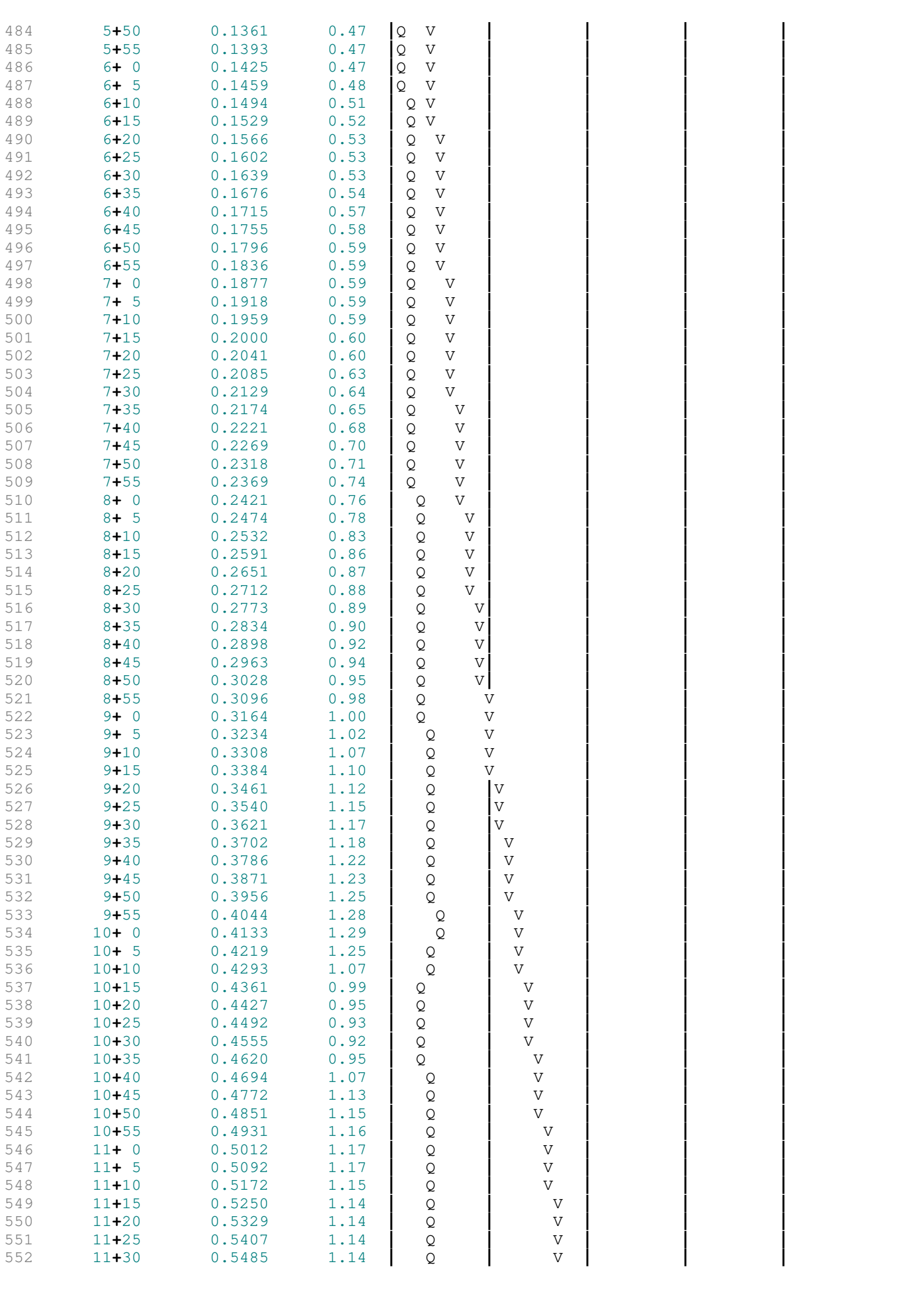
24 - H O U R S T O R M

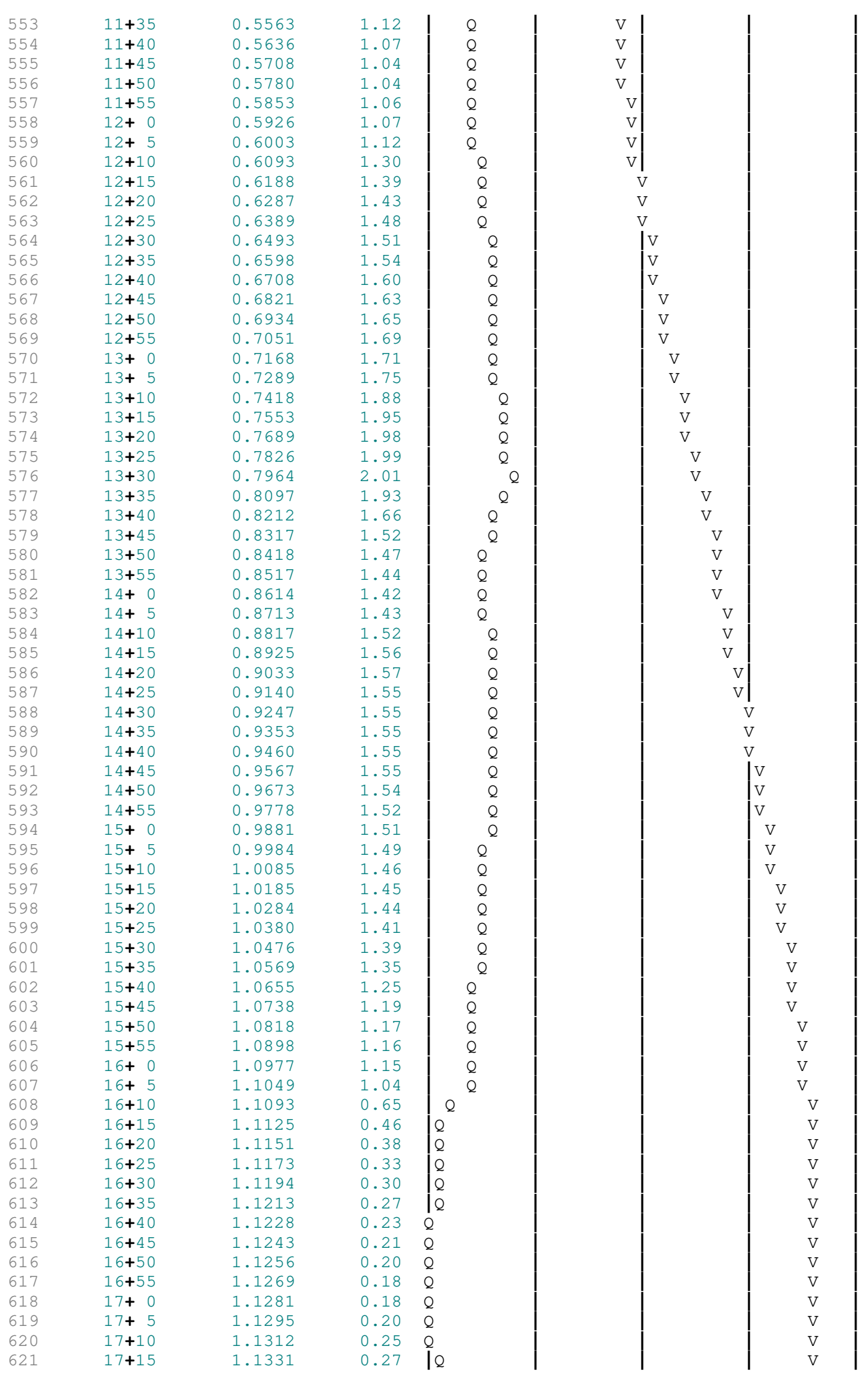
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

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

415	0+ 5	0.0001	0.01	Q				
416	0+10	0.0006	0.07	Q				
417	0+15	0.0012	0.09	Q				
418	0+20	0.0019	0.11	Q				
419	0+25	0.0029	0.14	Q				
420	0+30	0.0040	0.16	Q				
421	0+35	0.0051	0.16	Q				
422	0+40	0.0063	0.17	Q				
423	0+45	0.0075	0.17	Q				
424	0+50	0.0087	0.18	Q				
425	0+55	0.0102	0.21	Q				
426	1+ 0	0.0117	0.22	Q				
427	1+ 5	0.0132	0.22	Q				
428	1+10	0.0146	0.20	Q				
429	1+15	0.0159	0.19	Q				
430	1+20	0.0172	0.19	Q				
431	1+25	0.0184	0.18	Q				
432	1+30	0.0197	0.18	Q				
433	1+35	0.0209	0.18	Q				
434	1+40	0.0222	0.18	Q				
435	1+45	0.0234	0.18	Q				
436	1+50	0.0247	0.19	Q				
437	1+55	0.0262	0.21	Q				
438	2+ 0	0.0277	0.22	Q				
439	2+ 5	0.0293	0.23	Q				
440	2+10	0.0309	0.23	QV				
441	2+15	0.0325	0.23	QV				
442	2+20	0.0341	0.24	QV				
443	2+25	0.0357	0.24	QV				
444	2+30	0.0374	0.24	QV				
445	2+35	0.0391	0.25	QV				
446	2+40	0.0409	0.27	|Q				
447	2+45	0.0429	0.28	|Q				
448	2+50	0.0449	0.29	|Q				
449	2+55	0.0469	0.29	|Q				
450	3+ 0	0.0489	0.29	|Q				
451	3+ 5	0.0510	0.30	|Q				
452	3+10	0.0530	0.30	|Q				
453	3+15	0.0550	0.30	|Q				
454	3+20	0.0571	0.30	|Q				
455	3+25	0.0591	0.30	|Q				
456	3+30	0.0612	0.30	|Q				
457	3+35	0.0633	0.30	|QV				
458	3+40	0.0653	0.30	|QV				
459	3+45	0.0674	0.30	|QV				
460	3+50	0.0695	0.31	|QV				
461	3+55	0.0717	0.33	|QV				
462	4+ 0	0.0741	0.34	|QV				
463	4+ 5	0.0765	0.35	|QV				
464	4+10	0.0789	0.35	|QV				
465	4+15	0.0814	0.35	|QV				
466	4+20	0.0839	0.36	|QV				
467	4+25	0.0865	0.39	|QV				
468	4+30	0.0893	0.40	|QV				
469	4+35	0.0921	0.41	|QV				
470	4+40	0.0949	0.41	|Q V				
471	4+45	0.0978	0.41	|Q V				
472	4+50	0.1007	0.42	|Q V				
473	4+55	0.1038	0.45	|Q V				
474	5+ 0	0.1070	0.46	|Q V				
475	5+ 5	0.1101	0.45	|Q V				
476	5+10	0.1129	0.41	|Q V				
477	5+15	0.1155	0.38	|Q V				
478	5+20	0.1181	0.38	|Q V				
479	5+25	0.1209	0.40	|Q V				
480	5+30	0.1237	0.41	|Q V				
481	5+35	0.1266	0.42	|Q V				
482	5+40	0.1297	0.45	|Q V				
483	5+45	0.1329	0.46	|Q V				





622	17+20	1.1350	0.28	Q			V	
623	17+25	1.1370	0.29	Q			V	
624	17+30	1.1389	0.29	Q			V	
625	17+35	1.1410	0.29	Q			V	
626	17+40	1.1430	0.29	Q			V	
627	17+45	1.1450	0.30	Q			V	
628	17+50	1.1470	0.29	Q			V	
629	17+55	1.1489	0.27	Q			V	
630	18+ 0	1.1506	0.25	Q			V	
631	18+ 5	1.1523	0.25	Q			V	
632	18+10	1.1540	0.24	Q			V	
633	18+15	1.1557	0.24	Q			V	
634	18+20	1.1573	0.24	Q			V	
635	18+25	1.1590	0.24	Q			V	
636	18+30	1.1606	0.24	Q			V	
637	18+35	1.1622	0.23	Q			V	
638	18+40	1.1636	0.21	Q			V	
639	18+45	1.1650	0.19	Q			V	
640	18+50	1.1662	0.18	Q			V	
641	18+55	1.1673	0.15	Q			V	
642	19+ 0	1.1682	0.14	Q			V	
643	19+ 5	1.1692	0.14	Q			V	
644	19+10	1.1703	0.16	Q			V	
645	19+15	1.1714	0.17	Q			V	
646	19+20	1.1727	0.18	Q			V	
647	19+25	1.1741	0.21	Q			V	
648	19+30	1.1756	0.22	Q			V	
649	19+35	1.1771	0.22	Q			V	
650	19+40	1.1785	0.20	Q			V	
651	19+45	1.1798	0.19	Q			V	
652	19+50	1.1810	0.18	Q			V	
653	19+55	1.1820	0.15	Q			V	
654	20+ 0	1.1830	0.14	Q			V	
655	20+ 5	1.1839	0.14	Q			V	
656	20+10	1.1850	0.16	Q			V	
657	20+15	1.1862	0.17	Q			V	
658	20+20	1.1874	0.17	Q			V	
659	20+25	1.1886	0.17	Q			V	
660	20+30	1.1898	0.18	Q			V	
661	20+35	1.1910	0.18	Q			V	
662	20+40	1.1922	0.18	Q			V	
663	20+45	1.1935	0.18	Q			V	
664	20+50	1.1946	0.17	Q			V	
665	20+55	1.1956	0.15	Q			V	
666	21+ 0	1.1966	0.13	Q			V	
667	21+ 5	1.1975	0.14	Q			V	
668	21+10	1.1986	0.16	Q			V	
669	21+15	1.1998	0.17	Q			V	
670	21+20	1.2009	0.17	Q			V	
671	21+25	1.2019	0.14	Q			V	
672	21+30	1.2028	0.13	Q			V	
673	21+35	1.2037	0.13	Q			V	
674	21+40	1.2048	0.16	Q			V	
675	21+45	1.2059	0.17	Q			V	
676	21+50	1.2070	0.16	Q			V	
677	21+55	1.2080	0.14	Q			V	
678	22+ 0	1.2089	0.13	Q			V	
679	22+ 5	1.2098	0.13	Q			V	
680	22+10	1.2109	0.16	Q			V	
681	22+15	1.2121	0.17	Q			V	
682	22+20	1.2132	0.16	Q			V	
683	22+25	1.2142	0.14	Q			V	
684	22+30	1.2151	0.13	Q			V	
685	22+35	1.2159	0.13	Q			V	
686	22+40	1.2168	0.12	Q			V	
687	22+45	1.2176	0.12	Q			V	
688	22+50	1.2185	0.12	Q			V	
689	22+55	1.2193	0.12	Q			V	
690	23+ 0	1.2201	0.12	Q			V	

```
    23+ 5       1.2210      0.12  Q          |          |          |          V|
    23+10       1.2218      0.12  Q          |          |          |          V|
    23+15       1.2226      0.12  Q          |          |          |          V|
    23+20       1.2234      0.12  Q          |          |          |          V|
    23+25       1.2242      0.12  Q          |          |          |          V|
    23+30       1.2251      0.12  Q          |          |          |          V|
    23+35       1.2259      0.12  Q          |          |          |          V|
    23+40       1.2267      0.12  Q          |          |          |          V|
    23+45       1.2275      0.12  Q          |          |          |          V|
    23+50       1.2284      0.12  Q          |          |          |          V|
    23+55       1.2292      0.12  Q          |          |          |          V|
    24+ 0       1.2300      0.12  Q          |          |          |          V|
    24+ 5       1.2307      0.10  Q          |          |          |          V|
    24+10       1.2311      0.05  Q          |          |          |          V|
    24+15       1.2313      0.03  Q          |          |          |          V|
    24+20       1.2314      0.02  Q          |          |          |          V|
    24+25       1.2315      0.01  Q          |          |          |          V|
    24+30       1.2315      0.01  Q          |          |          |          V|
    24+35       1.2316      0.01  Q          |          |          |          V|
    24+40       1.2316      0.00  Q          |          |          |          V|
    24+45       1.2316      0.00  Q          |          |          |          V|
    24+50       1.2316      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  08/08/24 File: ETC10110.out


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------------------------------------------------------------------------------

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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL EXISTING AREA B
10 YEAR 1 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       7.17(Ac.)  =      0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       7.17(Ac.)  =      0.011 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.110 Hr.
Lag time =     6.60 Min.
25% of lag time =     1.65 Min.
40% of lag time =     2.64 Min.
Unit time =     5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.17            0.55                3.94

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.17            1.40               10.04

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.550(In)
Area Averaged 100-Year Rainfall =    1.400(In)

Point rain (area averaged) =    0.900(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    0.900(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     7.170           69.00          0.600
 Total Area Entered =      7.17(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

```
    69.0  69.0      0.373     0.600        0.171       1.000      0.171
                                                        Sum (F) =   0.171
    Area averaged mean soil loss (F) (In/Hr) =  0.171
    Minimum soil loss rate ((In/Hr)) =  0.086
    (for 24 hour storm duration)
    Soil low loss rate (decimal) =   0.420
    ------------------------------------------------------------------------
    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   Time % of lag   Distribution   Unit Hydrograph
        (hrs)                           Graph %           (CFS)
    ------------------------------------------------------------------------
        1   0.083         75.758         12.137             0.877
        2   0.167        151.515         42.806             3.093
        3   0.250        227.273         21.225             1.534
        4   0.333        303.030          8.541             0.617
        5   0.417        378.788          5.158             0.373
        6   0.500        454.545          3.330             0.241
        7   0.583        530.303          2.327             0.168
        8   0.667        606.061          1.692             0.122
        9   0.750        681.818          1.172             0.085
       10   0.833        757.576          0.809             0.058
       11   0.917        833.333          0.803             0.058
                                  Sum = 100.000    Sum=       7.226
------------------------------------------------------------------------


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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)      Effective
       (Hr.)  Percent   (In/Hr)         Max    |    Low         (In/Hr)
    1   0.08     4.20      0.453         0.171     (  0.190)        0.282
    2   0.17     4.30      0.464         0.171     (  0.195)        0.293
    3   0.25     5.00      0.540         0.171     (  0.227)        0.368
    4   0.33     5.00      0.540         0.171     (  0.227)        0.368
    5   0.42     5.80      0.626         0.171     (  0.263)        0.455
    6   0.50     6.50      0.702         0.171     (  0.295)        0.530
    7   0.58     7.40      0.799         0.171     (  0.336)        0.627
    8   0.67     8.60      0.928         0.171     (  0.390)        0.757
    9   0.75    12.30      1.328         0.171     (  0.558)        1.156
   10   0.83    29.10      3.142         0.171     (  1.319)        2.970
   11   0.92     6.80      0.734         0.171     (  0.308)        0.563
   12   1.00     5.00      0.540         0.171     (  0.227)        0.368
          (Loss Rate Not Used)
     Sum =     100.0                                    Sum =      8.7
    Flood volume = Effective rainfall      0.73(In)
     times area       7.2(Ac.)/[(In)/(Ft.)] =       0.4(Ac.Ft)
    Total soil loss =      0.17(In)
    Total soil loss =     0.102(Ac.Ft)
    Total rainfall =      0.90(In)
    Flood volume =       18951.6 Cubic Feet
    Total soil loss =        4463.3 Cubic Feet
    ------------------------------------------------------------------------
     Peak flow rate of this hydrograph =     12.475(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	0.0017	0.25	Q
0+10	0.0095	1.13	V Q
0+15	0.0209	1.66	V Q
0+20	0.0353	2.09	VQ
0+25	0.0518	2.39	Q
0+30	0.0713	2.84	QV
0+35	0.0945	3.37	Q V
0+40	0.1222	4.01	Q V
0+45	0.1568	5.03	Q V
0+50	0.2132	8.19	Q V
0+55	0.2991	12.48	Q V
1+ 0	0.3541	7.98	Q V
1+ 5	0.3865	4.70	Q V
1+10	0.4044	2.60	Q V
1+15	0.4150	1.55	Q V
1+20	0.4222	1.05	Q V
1+25	0.4272	0.73	Q V
1+30	0.4306	0.49	Q V
1+35	0.4329	0.33	Q V
1+40	0.4345	0.24	Q V
1+45	0.4349	0.05	Q V
1+50	0.4351	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  08/08/24 File: ETC10310.out


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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL EXISTING AREA B
10 YEAR 3 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       7.17(Ac.)  =      0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       7.17(Ac.)  =      0.011 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.110 Hr.
Lag time =     6.60 Min.
25% of lag time =     1.65 Min.
40% of lag time =     2.64 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]
        7.17            1.00                7.17

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.17            2.50               17.93

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    1.000(In)
Area Averaged 100-Year Rainfall =    2.500(In)

Point rain (area averaged) =    1.617(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.617(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     7.170           69.00          0.600
 Total Area Entered =      7.17(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

69.0	69.0	0.373	0.600	0.171	1.000	0.171

Sum (F) = 0.171

Area averaged **mean** soil loss (F) (In/Hr) = 0.171

Minimum soil loss rate ((In/Hr)) = 0.086

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.420

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	75.758	12.137	0.877
2	0.167	151.515	42.806	3.093
3	0.250	227.273	21.225	1.534
4	0.333	303.030	8.541	0.617
5	0.417	378.788	5.158	0.373
6	0.500	454.545	3.330	0.241
7	0.583	530.303	2.327	0.168
8	0.667	606.061	1.692	0.122
9	0.750	681.818	1.172	0.085
10	0.833	757.576	0.809	0.058
11	0.917	833.333	0.803	0.058
		Sum = 100.000	Sum=	7.226

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.252	(0.171)	0.106	0.146
2	0.17	1.30	0.252	(0.171)	0.106	0.146
3	0.25	1.10	0.213	(0.171)	0.090	0.124
4	0.33	1.50	0.291	(0.171)	0.122	0.169
5	0.42	1.50	0.291	(0.171)	0.122	0.169
6	0.50	1.80	0.349	(0.171)	0.147	0.203
7	0.58	1.50	0.291	(0.171)	0.122	0.169
8	0.67	1.80	0.349	(0.171)	0.147	0.203
9	0.75	1.80	0.349	(0.171)	0.147	0.203
10	0.83	1.50	0.291	(0.171)	0.122	0.169
11	0.92	1.60	0.310	(0.171)	0.130	0.180
12	1.00	1.80	0.349	(0.171)	0.147	0.203
13	1.08	2.20	0.427	0.171	(0.179)	0.255
14	1.17	2.20	0.427	0.171	(0.179)	0.255
15	1.25	2.20	0.427	0.171	(0.179)	0.255
16	1.33	2.00	0.388	(0.171)	0.163	0.225
17	1.42	2.60	0.505	0.171	(0.212)	0.333
18	1.50	2.70	0.524	0.171	(0.220)	0.352
19	1.58	2.40	0.466	0.171	(0.196)	0.294
20	1.67	2.70	0.524	0.171	(0.220)	0.352
21	1.75	3.30	0.640	0.171	(0.269)	0.469
22	1.83	3.10	0.602	0.171	(0.253)	0.430
23	1.92	2.90	0.563	0.171	(0.236)	0.391
24	2.00	3.00	0.582	0.171	(0.244)	0.411
25	2.08	3.10	0.602	0.171	(0.253)	0.430
26	2.17	4.20	0.815	0.171	(0.342)	0.644
27	2.25	5.00	0.970	0.171	(0.407)	0.799
28	2.33	3.50	0.679	0.171	(0.285)	0.508
29	2.42	6.80	1.320	0.171	(0.554)	1.148
30	2.50	7.30	1.417	0.171	(0.595)	1.245
31	2.58	8.20	1.591	0.171	(0.668)	1.420
32	2.67	5.90	1.145	0.171	(0.481)	0.973
33	2.75	2.00	0.388	(0.171)	0.163	0.225

```
34   2.83     1.80      0.349       (  0.171)       0.147        0.203
35   2.92     1.80      0.349       (  0.171)       0.147        0.203
36   3.00     0.60      0.116       (  0.171)       0.049        0.068
       (Loss Rate Not Used)
   Sum =     100.0                                   Sum =    14.0
  Flood volume = Effective rainfall      1.16(In)
   times area       7.2(Ac.)/[(In)/(Ft.)] =       0.7(Ac.Ft)
  Total soil loss =      0.45(In)
  Total soil loss =     0.271(Ac.Ft)
  Total rainfall =      1.62(In)
  Flood volume =       30300.8 Cubic Feet
  Total soil loss =       11786.6 Cubic Feet
  ---------------------------------------------------------------------
   Peak flow rate of this hydrograph =      8.492(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       0.0009      0.13  Q         |         |         |         |
  0+10       0.0049      0.58  V Q       |         |         |         |
  0+15       0.0103      0.79  V  Q      |         |         |         |
  0+20       0.0161      0.85  V  Q      |         |         |         |
  0+25       0.0231      1.01  |V  Q     |         |         |         |
  0+30       0.0308      1.13  |V  Q     |         |         |         |
  0+35       0.0394      1.24  | V Q     |         |         |         |
  0+40       0.0480      1.25  | V  Q    |         |         |         |
  0+45       0.0572      1.34  |  V Q    |         |         |         |
  0+50       0.0667      1.37  |  V Q    |         |         |         |
  0+55       0.0757      1.30  |   VQ    |         |         |         |
  1+ 0       0.0848      1.32  |   VQ    |         |         |         |
  1+ 5       0.0947      1.44  |    Q    |         |         |         |
  1+10       0.1060      1.64  |     Q   |         |         |         |
  1+15       0.1179      1.73  |     Q   |         |         |         |
  1+20       0.1300      1.75  |     QV  |         |         |         |
  1+25       0.1422      1.77  |      QV |         |         |         |
  1+30       0.1566      2.09  |       QV|         |         |         |
  1+35       0.1722      2.26  |        Q|         |         |         |
  1+40       0.1875      2.22  |       Q V         |         |         |
  1+45       0.2045      2.47  |        Q|V        |         |         |
  1+50       0.2243      2.88  |         |QV       |         |         |
  1+55       0.2446      2.94  |         |Q  V     |         |         |
  2+ 0       0.2643      2.87  |         |Q   V    |         |         |
  2+ 5       0.2845      2.92  |         |Q    V   |         |         |
  2+10       0.3065      3.20  |         | Q    V  |         |         |
  2+15       0.3343      4.04  |         |     Q  V|         |         |
  2+20       0.3661      4.62  |         |       Q |V        |         |
  2+25       0.3982      4.66  |         |       Q | V       |         |
  2+30       0.4427      6.46  |         |         |    Q    |         |
  2+35       0.4966      7.83  |         |         |       V |Q        |
  2+40       0.5551      8.49  |         |         |         |V Q      |
  2+45       0.6034      7.00  |         |         |       Q |   V     |
  2+50       0.6328      4.27  |         |      Q  |         |     V   |
  2+55       0.6532      2.97  |         |Q        |         |      V  |
  3+ 0       0.6692      2.32  |        Q|         |         |       V |
  3+ 5       0.6797      1.53  |     Q   |         |         |        V|
  3+10       0.6859      0.90  |  Q      |         |         |        V|
  3+15       0.6899      0.58  | Q       |         |         |        V|
  3+20       0.6925      0.37  |Q        |         |         |        V|
  3+25       0.6941      0.23  Q         |         |         |        V|
  3+30       0.6949      0.12  Q         |         |         |        V|
  3+35       0.6953      0.05  Q         |         |         |        V|
  3+40       0.6955      0.03  Q         |         |         |        V|
  3+45       0.6956      0.02  Q         |         |         |        V|
```

```
    3+50       0.6956      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  08/08/24 File: ETC10610.out


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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL EXISTING AREA B
10 YEAR 6 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       7.17(Ac.)  =      0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       7.17(Ac.)  =      0.011 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.110 Hr.
Lag time =     6.60 Min.
25% of lag time =     1.65 Min.
40% of lag time =     2.64 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]
        7.17            1.40               10.04

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.17            3.50               25.09

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    1.400(In)
Area Averaged 100-Year Rainfall =    3.500(In)

Point rain (area averaged) =    2.264(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    2.264(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     7.170           69.00          0.600
 Total Area Entered =      7.17(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

69.0	69.0	0.373	0.600	0.171	1.000	0.171

Sum (F) = 0.171

Area averaged **mean** soil loss (F) (In/Hr) = 0.171

Minimum soil loss rate ((In/Hr)) = 0.086

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.420

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	75.758	12.137	0.877
2	0.167	151.515	42.806	3.093
3	0.250	227.273	21.225	1.534
4	0.333	303.030	8.541	0.617
5	0.417	378.788	5.158	0.373
6	0.500	454.545	3.330	0.241
7	0.583	530.303	2.327	0.168
8	0.667	606.061	1.692	0.122
9	0.750	681.818	1.172	0.085
10	0.833	757.576	0.809	0.058
11	0.917	833.333	0.803	0.058
		Sum = 100.000	Sum=	7.226

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.136	(0.171)	0.057	0.079
2	0.17	0.60	0.163	(0.171)	0.068	0.095
3	0.25	0.60	0.163	(0.171)	0.068	0.095
4	0.33	0.60	0.163	(0.171)	0.068	0.095
5	0.42	0.60	0.163	(0.171)	0.068	0.095
6	0.50	0.70	0.190	(0.171)	0.080	0.110
7	0.58	0.70	0.190	(0.171)	0.080	0.110
8	0.67	0.70	0.190	(0.171)	0.080	0.110
9	0.75	0.70	0.190	(0.171)	0.080	0.110
10	0.83	0.70	0.190	(0.171)	0.080	0.110
11	0.92	0.70	0.190	(0.171)	0.080	0.110
12	1.00	0.80	0.217	(0.171)	0.091	0.126
13	1.08	0.80	0.217	(0.171)	0.091	0.126
14	1.17	0.80	0.217	(0.171)	0.091	0.126
15	1.25	0.80	0.217	(0.171)	0.091	0.126
16	1.33	0.80	0.217	(0.171)	0.091	0.126
17	1.42	0.80	0.217	(0.171)	0.091	0.126
18	1.50	0.80	0.217	(0.171)	0.091	0.126
19	1.58	0.80	0.217	(0.171)	0.091	0.126
20	1.67	0.80	0.217	(0.171)	0.091	0.126
21	1.75	0.80	0.217	(0.171)	0.091	0.126
22	1.83	0.80	0.217	(0.171)	0.091	0.126
23	1.92	0.80	0.217	(0.171)	0.091	0.126
24	2.00	0.90	0.245	(0.171)	0.103	0.142
25	2.08	0.80	0.217	(0.171)	0.091	0.126
26	2.17	0.90	0.245	(0.171)	0.103	0.142
27	2.25	0.90	0.245	(0.171)	0.103	0.142
28	2.33	0.90	0.245	(0.171)	0.103	0.142
29	2.42	0.90	0.245	(0.171)	0.103	0.142
30	2.50	0.90	0.245	(0.171)	0.103	0.142
31	2.58	0.90	0.245	(0.171)	0.103	0.142
32	2.67	0.90	0.245	(0.171)	0.103	0.142
33	2.75	1.00	0.272	(0.171)	0.114	0.158

34	2.83	1.00	0.272	(0.171)	0.114	0.158	
35	2.92	1.00	0.272	(0.171)	0.114	0.158	
36	3.00	1.00	0.272	(0.171)	0.114	0.158	
37	3.08	1.00	0.272	(0.171)	0.114	0.158	
38	3.17	1.10	0.299	(0.171)	0.126	0.173	
39	3.25	1.10	0.299	(0.171)	0.126	0.173	
40	3.33	1.10	0.299	(0.171)	0.126	0.173	
41	3.42	1.20	0.326	(0.171)	0.137	0.189	
42	3.50	1.30	0.353	(0.171)	0.148	0.205	
43	3.58	1.40	0.380	(0.171)	0.160	0.221	
44	3.67	1.40	0.380	(0.171)	0.160	0.221	
45	3.75	1.50	0.408	(0.171)	0.171	0.236	
46	3.83	1.50	0.408	(0.171)	0.171	0.236	
47	3.92	1.60	0.435	0.171	(0.183)	0.263	
48	4.00	1.60	0.435	0.171	(0.183)	0.263	
49	4.08	1.70	0.462	0.171	(0.194)	0.290	
50	4.17	1.80	0.489	0.171	(0.205)	0.318	
51	4.25	1.90	0.516	0.171	(0.217)	0.345	
52	4.33	2.00	0.543	0.171	(0.228)	0.372	
53	4.42	2.10	0.571	0.171	(0.240)	0.399	
54	4.50	2.10	0.571	0.171	(0.240)	0.399	
55	4.58	2.20	0.598	0.171	(0.251)	0.426	
56	4.67	2.30	0.625	0.171	(0.262)	0.453	
57	4.75	2.40	0.652	0.171	(0.274)	0.481	
58	4.83	2.40	0.652	0.171	(0.274)	0.481	
59	4.92	2.50	0.679	0.171	(0.285)	0.508	
60	5.00	2.60	0.706	0.171	(0.297)	0.535	
61	5.08	3.10	0.842	0.171	(0.354)	0.671	
62	5.17	3.60	0.978	0.171	(0.411)	0.807	
63	5.25	3.90	1.060	0.171	(0.445)	0.888	
64	5.33	4.20	1.141	0.171	(0.479)	0.970	
65	5.42	4.70	1.277	0.171	(0.536)	1.105	
66	5.50	5.60	1.521	0.171	(0.639)	1.350	
67	5.58	1.90	0.516	0.171	(0.217)	0.345	
68	5.67	0.90	0.245	(0.171)	0.103	0.142	
69	5.75	0.60	0.163	(0.171)	0.068	0.095	
70	5.83	0.50	0.136	(0.171)	0.057	0.079	
71	5.92	0.30	0.082	(0.171)	0.034	0.047	
72	6.00	0.20	0.054	(0.171)	0.023	0.032	

(Loss Rate Not Used)

Sum = 100.0 Sum = 18.6

Flood volume = Effective rainfall 1.55(In)
times area 7.2(Ac.)/[(In)/(Ft.)] = 0.9(Ac.Ft)
Total soil loss = 0.72(In)
Total soil loss = 0.428(Ac.Ft)
Total rainfall = 2.26(In)
Flood volume = 40272.5 Cubic Feet
Total soil loss = 18650.3 Cubic Feet

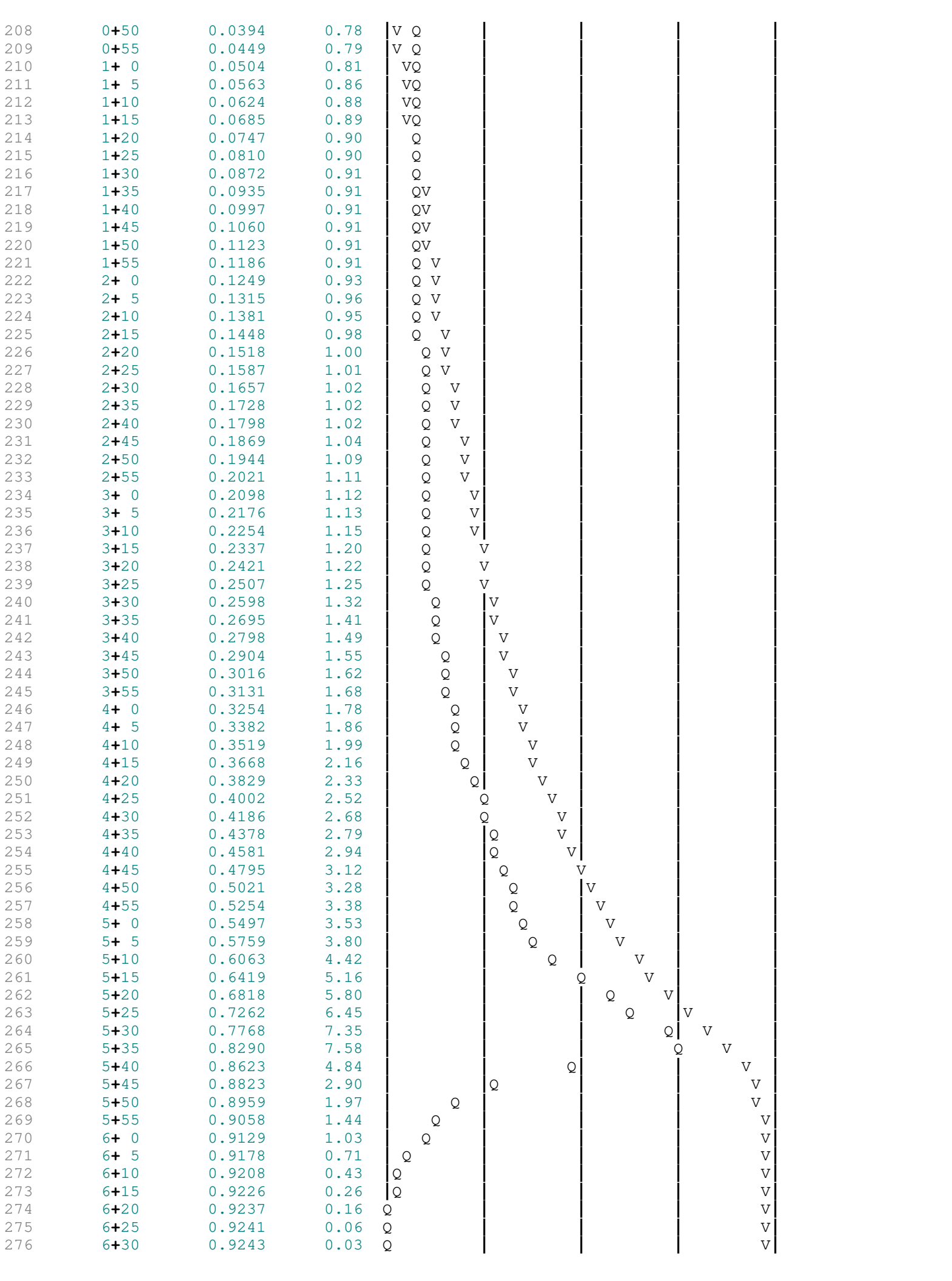
Peak flow rate of this hydrograph = 7.577(CFS)

++

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0005	0.07	Q	|	|	|	|
0+10	0.0027	0.33	VQ	|	|	|	|
0+15	0.0061	0.50	VQ	|	|	|	|
0+20	0.0101	0.57	V Q	|	|	|	|
0+25	0.0143	0.61	V Q	|	|	|	|
0+30	0.0187	0.65	V Q	|	|	|	|
0+35	0.0236	0.71	|VQ	|	|	|	|
0+40	0.0288	0.75	|VQ	|	|	|	|
0+45	0.0341	0.77	|V Q	|	|	|	|



```
      6+35        0.9244       0.02  Q          |          |          |          V|
      6+40        0.9245       0.01  Q          |          |          |          V|
      6+45        0.9245       0.00  Q          |          |          |          V|
      6+50        0.9245       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

    Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018, Version 9.0
        Study date  08/08/24 File: ETC102410.out


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------------------------------------------------------------------------------

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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL EXISTING AREA B
10 YEAR 24 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       7.17(Ac.)  =      0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       7.17(Ac.)  =      0.011 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.110 Hr.
Lag time =     6.60 Min.
25% of lag time =     1.65 Min.
40% of lag time =     2.64 Min.
Unit time =     5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.17            2.50               17.93

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.17            7.00               50.19

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    2.500(In)
Area Averaged 100-Year Rainfall =    7.000(In)

Point rain (area averaged) =    4.351(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    4.351(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     7.170           69.00          0.600
 Total Area Entered =      7.17(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

69.0	69.0	0.373	0.600	0.171	1.000	0.171

Sum (F) = 0.171

Area averaged **mean** soil loss (F) (In/Hr) = 0.171

Minimum soil loss rate ((In/Hr)) = 0.086

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.420

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	75.758	12.137	0.877
2	0.167	151.515	42.806	3.093
3	0.250	227.273	21.225	1.534
4	0.333	303.030	8.541	0.617
5	0.417	378.788	5.158	0.373
6	0.500	454.545	3.330	0.241
7	0.583	530.303	2.327	0.168
8	0.667	606.061	1.692	0.122
9	0.750	681.818	1.172	0.085
10	0.833	757.576	0.809	0.058
11	0.917	833.333	0.803	0.058
		Sum = 100.000	Sum=	7.226

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.035	(0.304)	0.015	0.020
2	0.17	0.07	0.035	(0.303)	0.015	0.020
3	0.25	0.07	0.035	(0.302)	0.015	0.020
4	0.33	0.10	0.052	(0.300)	0.022	0.030
5	0.42	0.10	0.052	(0.299)	0.022	0.030
6	0.50	0.10	0.052	(0.298)	0.022	0.030
7	0.58	0.10	0.052	(0.297)	0.022	0.030
8	0.67	0.10	0.052	(0.296)	0.022	0.030
9	0.75	0.10	0.052	(0.295)	0.022	0.030
10	0.83	0.13	0.070	(0.294)	0.029	0.040
11	0.92	0.13	0.070	(0.292)	0.029	0.040
12	1.00	0.13	0.070	(0.291)	0.029	0.040
13	1.08	0.10	0.052	(0.290)	0.022	0.030
14	1.17	0.10	0.052	(0.289)	0.022	0.030
15	1.25	0.10	0.052	(0.288)	0.022	0.030
16	1.33	0.10	0.052	(0.287)	0.022	0.030
17	1.42	0.10	0.052	(0.285)	0.022	0.030
18	1.50	0.10	0.052	(0.284)	0.022	0.030
19	1.58	0.10	0.052	(0.283)	0.022	0.030
20	1.67	0.10	0.052	(0.282)	0.022	0.030
21	1.75	0.10	0.052	(0.281)	0.022	0.030
22	1.83	0.13	0.070	(0.280)	0.029	0.040
23	1.92	0.13	0.070	(0.279)	0.029	0.040
24	2.00	0.13	0.070	(0.278)	0.029	0.040
25	2.08	0.13	0.070	(0.276)	0.029	0.040
26	2.17	0.13	0.070	(0.275)	0.029	0.040
27	2.25	0.13	0.070	(0.274)	0.029	0.040
28	2.33	0.13	0.070	(0.273)	0.029	0.040
29	2.42	0.13	0.070	(0.272)	0.029	0.040
30	2.50	0.13	0.070	(0.271)	0.029	0.040
31	2.58	0.17	0.087	(0.270)	0.037	0.050
32	2.67	0.17	0.087	(0.269)	0.037	0.050
33	2.75	0.17	0.087	(0.268)	0.037	0.050

139	34	2.83	0.17	0.087	(0.266)	0.037	0.050
140	35	2.92	0.17	0.087	(0.265)	0.037	0.050
141	36	3.00	0.17	0.087	(0.264)	0.037	0.050
142	37	3.08	0.17	0.087	(0.263)	0.037	0.050
143	38	3.17	0.17	0.087	(0.262)	0.037	0.050
144	39	3.25	0.17	0.087	(0.261)	0.037	0.050
145	40	3.33	0.17	0.087	(0.260)	0.037	0.050
146	41	3.42	0.17	0.087	(0.259)	0.037	0.050
147	42	3.50	0.17	0.087	(0.258)	0.037	0.050
148	43	3.58	0.17	0.087	(0.257)	0.037	0.050
149	44	3.67	0.17	0.087	(0.256)	0.037	0.050
150	45	3.75	0.17	0.087	(0.254)	0.037	0.050
151	46	3.83	0.20	0.104	(0.253)	0.044	0.061
152	47	3.92	0.20	0.104	(0.252)	0.044	0.061
153	48	4.00	0.20	0.104	(0.251)	0.044	0.061
154	49	4.08	0.20	0.104	(0.250)	0.044	0.061
155	50	4.17	0.20	0.104	(0.249)	0.044	0.061
156	51	4.25	0.20	0.104	(0.248)	0.044	0.061
157	52	4.33	0.23	0.122	(0.247)	0.051	0.071
158	53	4.42	0.23	0.122	(0.246)	0.051	0.071
159	54	4.50	0.23	0.122	(0.245)	0.051	0.071
160	55	4.58	0.23	0.122	(0.244)	0.051	0.071
161	56	4.67	0.23	0.122	(0.243)	0.051	0.071
162	57	4.75	0.23	0.122	(0.242)	0.051	0.071
163	58	4.83	0.27	0.139	(0.241)	0.058	0.081
164	59	4.92	0.27	0.139	(0.240)	0.058	0.081
165	60	5.00	0.27	0.139	(0.239)	0.058	0.081
166	61	5.08	0.20	0.104	(0.238)	0.044	0.061
167	62	5.17	0.20	0.104	(0.237)	0.044	0.061
168	63	5.25	0.20	0.104	(0.236)	0.044	0.061
169	64	5.33	0.23	0.122	(0.234)	0.051	0.071
170	65	5.42	0.23	0.122	(0.233)	0.051	0.071
171	66	5.50	0.23	0.122	(0.232)	0.051	0.071
172	67	5.58	0.27	0.139	(0.231)	0.058	0.081
173	68	5.67	0.27	0.139	(0.230)	0.058	0.081
174	69	5.75	0.27	0.139	(0.229)	0.058	0.081
175	70	5.83	0.27	0.139	(0.228)	0.058	0.081
176	71	5.92	0.27	0.139	(0.227)	0.058	0.081
177	72	6.00	0.27	0.139	(0.226)	0.058	0.081
178	73	6.08	0.30	0.157	(0.225)	0.066	0.091
179	74	6.17	0.30	0.157	(0.224)	0.066	0.091
180	75	6.25	0.30	0.157	(0.223)	0.066	0.091
181	76	6.33	0.30	0.157	(0.222)	0.066	0.091
182	77	6.42	0.30	0.157	(0.221)	0.066	0.091
183	78	6.50	0.30	0.157	(0.220)	0.066	0.091
184	79	6.58	0.33	0.174	(0.219)	0.073	0.101
185	80	6.67	0.33	0.174	(0.218)	0.073	0.101
186	81	6.75	0.33	0.174	(0.217)	0.073	0.101
187	82	6.83	0.33	0.174	(0.216)	0.073	0.101
188	83	6.92	0.33	0.174	(0.215)	0.073	0.101
189	84	7.00	0.33	0.174	(0.214)	0.073	0.101
190	85	7.08	0.33	0.174	(0.213)	0.073	0.101
191	86	7.17	0.33	0.174	(0.213)	0.073	0.101
192	87	7.25	0.33	0.174	(0.212)	0.073	0.101
193	88	7.33	0.37	0.191	(0.211)	0.080	0.111
194	89	7.42	0.37	0.191	(0.210)	0.080	0.111
195	90	7.50	0.37	0.191	(0.209)	0.080	0.111
196	91	7.58	0.40	0.209	(0.208)	0.088	0.121
197	92	7.67	0.40	0.209	(0.207)	0.088	0.121
198	93	7.75	0.40	0.209	(0.206)	0.088	0.121
199	94	7.83	0.43	0.226	(0.205)	0.095	0.131
200	95	7.92	0.43	0.226	(0.204)	0.095	0.131
201	96	8.00	0.43	0.226	(0.203)	0.095	0.131
202	97	8.08	0.50	0.261	(0.202)	0.110	0.151
203	98	8.17	0.50	0.261	(0.201)	0.110	0.151
204	99	8.25	0.50	0.261	(0.200)	0.110	0.151
205	100	8.33	0.50	0.261	(0.199)	0.110	0.151
206	101	8.42	0.50	0.261	(0.198)	0.110	0.151
207	102	8.50	0.50	0.261	(0.197)	0.110	0.151

208	103	8.58	0.53	0.278	(	0.196)	0.117	0.162
209	104	8.67	0.53	0.278	(	0.195)	0.117	0.162
210	105	8.75	0.53	0.278	(	0.195)	0.117	0.162
211	106	8.83	0.57	0.296	(	0.194)	0.124	0.172
212	107	8.92	0.57	0.296	(	0.193)	0.124	0.172
213	108	9.00	0.57	0.296	(	0.192)	0.124	0.172
214	109	9.08	0.63	0.331	(	0.191)	0.139	0.192
215	110	9.17	0.63	0.331	(	0.190)	0.139	0.192
216	111	9.25	0.63	0.331	(	0.189)	0.139	0.192
217	112	9.33	0.67	0.348	(	0.188)	0.146	0.202
218	113	9.42	0.67	0.348	(	0.187)	0.146	0.202
219	114	9.50	0.67	0.348	(	0.186)	0.146	0.202
220	115	9.58	0.70	0.366	(	0.186)	0.154	0.212
221	116	9.67	0.70	0.366	(	0.185)	0.154	0.212
222	117	9.75	0.70	0.366	(	0.184)	0.154	0.212
223	118	9.83	0.73	0.383	(	0.183)	0.161	0.222
224	119	9.92	0.73	0.383	(	0.182)	0.161	0.222
225	120	10.00	0.73	0.383	(	0.181)	0.161	0.222
226	121	10.08	0.50	0.261	(	0.180)	0.110	0.151
227	122	10.17	0.50	0.261	(	0.179)	0.110	0.151
228	123	10.25	0.50	0.261	(	0.178)	0.110	0.151
229	124	10.33	0.50	0.261	(	0.178)	0.110	0.151
230	125	10.42	0.50	0.261	(	0.177)	0.110	0.151
231	126	10.50	0.50	0.261	(	0.176)	0.110	0.151
232	127	10.58	0.67	0.348	(	0.175)	0.146	0.202
233	128	10.67	0.67	0.348	(	0.174)	0.146	0.202
234	129	10.75	0.67	0.348	(	0.173)	0.146	0.202
235	130	10.83	0.67	0.348	(	0.172)	0.146	0.202
236	131	10.92	0.67	0.348	(	0.172)	0.146	0.202
237	132	11.00	0.67	0.348	(	0.171)	0.146	0.202
238	133	11.08	0.63	0.331	(	0.170)	0.139	0.192
239	134	11.17	0.63	0.331	(	0.169)	0.139	0.192
240	135	11.25	0.63	0.331	(	0.168)	0.139	0.192
241	136	11.33	0.63	0.331	(	0.167)	0.139	0.192
242	137	11.42	0.63	0.331	(	0.167)	0.139	0.192
243	138	11.50	0.63	0.331	(	0.166)	0.139	0.192
244	139	11.58	0.57	0.296	(	0.165)	0.124	0.172
245	140	11.67	0.57	0.296	(	0.164)	0.124	0.172
246	141	11.75	0.57	0.296	(	0.163)	0.124	0.172
247	142	11.83	0.60	0.313	(	0.163)	0.132	0.182
248	143	11.92	0.60	0.313	(	0.162)	0.132	0.182
249	144	12.00	0.60	0.313	(	0.161)	0.132	0.182
250	145	12.08	0.83	0.435		0.160	(0.183)	0.275
251	146	12.17	0.83	0.435		0.159	(0.183)	0.276
252	147	12.25	0.83	0.435		0.158	(0.183)	0.277
253	148	12.33	0.87	0.453		0.158	(0.190)	0.295
254	149	12.42	0.87	0.453		0.157	(0.190)	0.296
255	150	12.50	0.87	0.453		0.156	(0.190)	0.296
256	151	12.58	0.93	0.487		0.155	(0.205)	0.332
257	152	12.67	0.93	0.487		0.155	(0.205)	0.333
258	153	12.75	0.93	0.487		0.154	(0.205)	0.334
259	154	12.83	0.97	0.505		0.153	(0.212)	0.352
260	155	12.92	0.97	0.505		0.152	(0.212)	0.353
261	156	13.00	0.97	0.505		0.151	(0.212)	0.353
262	157	13.08	1.13	0.592		0.151	(0.249)	0.441
263	158	13.17	1.13	0.592		0.150	(0.249)	0.442
264	159	13.25	1.13	0.592		0.149	(0.249)	0.443
265	160	13.33	1.13	0.592		0.148	(0.249)	0.443
266	161	13.42	1.13	0.592		0.148	(0.249)	0.444
267	162	13.50	1.13	0.592		0.147	(0.249)	0.445
268	163	13.58	0.77	0.400		0.146	(0.168)	0.254
269	164	13.67	0.77	0.400		0.145	(0.168)	0.255
270	165	13.75	0.77	0.400		0.145	(0.168)	0.256
271	166	13.83	0.77	0.400		0.144	(0.168)	0.256
272	167	13.92	0.77	0.400		0.143	(0.168)	0.257
273	168	14.00	0.77	0.400		0.142	(0.168)	0.258
274	169	14.08	0.90	0.470		0.142	(0.197)	0.328
275	170	14.17	0.90	0.470		0.141	(0.197)	0.329
276	171	14.25	0.90	0.470		0.140	(0.197)	0.330

277	172	14.33	0.87	0.453		0.140	(0.190)	0.313
278	173	14.42	0.87	0.453		0.139	(0.190)	0.314
279	174	14.50	0.87	0.453		0.138	(0.190)	0.314
280	175	14.58	0.87	0.453		0.137	(0.190)	0.315
281	176	14.67	0.87	0.453		0.137	(0.190)	0.316
282	177	14.75	0.87	0.453		0.136	(0.190)	0.317
283	178	14.83	0.83	0.435		0.135	(0.183)	0.300
284	179	14.92	0.83	0.435		0.135	(0.183)	0.300
285	180	15.00	0.83	0.435		0.134	(0.183)	0.301
286	181	15.08	0.80	0.418		0.133	(0.175)	0.284
287	182	15.17	0.80	0.418		0.133	(0.175)	0.285
288	183	15.25	0.80	0.418		0.132	(0.175)	0.286
289	184	15.33	0.77	0.400		0.131	(0.168)	0.269
290	185	15.42	0.77	0.400		0.131	(0.168)	0.270
291	186	15.50	0.77	0.400		0.130	(0.168)	0.270
292	187	15.58	0.63	0.331		0.129	(0.139)	0.201
293	188	15.67	0.63	0.331		0.129	(0.139)	0.202
294	189	15.75	0.63	0.331		0.128	(0.139)	0.203
295	190	15.83	0.63	0.331		0.127	(0.139)	0.203
296	191	15.92	0.63	0.331		0.127	(0.139)	0.204
297	192	16.00	0.63	0.331		0.126	(0.139)	0.205
298	193	16.08	0.13	0.070	(0.125)		0.029	0.040
299	194	16.17	0.13	0.070	(0.125)		0.029	0.040
300	195	16.25	0.13	0.070	(0.124)		0.029	0.040
301	196	16.33	0.13	0.070	(0.123)		0.029	0.040
302	197	16.42	0.13	0.070	(0.123)		0.029	0.040
303	198	16.50	0.13	0.070	(0.122)		0.029	0.040
304	199	16.58	0.10	0.052	(0.122)		0.022	0.030
305	200	16.67	0.10	0.052	(0.121)		0.022	0.030
306	201	16.75	0.10	0.052	(0.120)		0.022	0.030
307	202	16.83	0.10	0.052	(0.120)		0.022	0.030
308	203	16.92	0.10	0.052	(0.119)		0.022	0.030
309	204	17.00	0.10	0.052	(0.118)		0.022	0.030
310	205	17.08	0.17	0.087	(0.118)		0.037	0.050
311	206	17.17	0.17	0.087	(0.117)		0.037	0.050
312	207	17.25	0.17	0.087	(0.117)		0.037	0.050
313	208	17.33	0.17	0.087	(0.116)		0.037	0.050
314	209	17.42	0.17	0.087	(0.116)		0.037	0.050
315	210	17.50	0.17	0.087	(0.115)		0.037	0.050
316	211	17.58	0.17	0.087	(0.114)		0.037	0.050
317	212	17.67	0.17	0.087	(0.114)		0.037	0.050
318	213	17.75	0.17	0.087	(0.113)		0.037	0.050
319	214	17.83	0.13	0.070	(0.113)		0.029	0.040
320	215	17.92	0.13	0.070	(0.112)		0.029	0.040
321	216	18.00	0.13	0.070	(0.112)		0.029	0.040
322	217	18.08	0.13	0.070	(0.111)		0.029	0.040
323	218	18.17	0.13	0.070	(0.110)		0.029	0.040
324	219	18.25	0.13	0.070	(0.110)		0.029	0.040
325	220	18.33	0.13	0.070	(0.109)		0.029	0.040
326	221	18.42	0.13	0.070	(0.109)		0.029	0.040
327	222	18.50	0.13	0.070	(0.108)		0.029	0.040
328	223	18.58	0.10	0.052	(0.108)		0.022	0.030
329	224	18.67	0.10	0.052	(0.107)		0.022	0.030
330	225	18.75	0.10	0.052	(0.107)		0.022	0.030
331	226	18.83	0.07	0.035	(0.106)		0.015	0.020
332	227	18.92	0.07	0.035	(0.106)		0.015	0.020
333	228	19.00	0.07	0.035	(0.105)		0.015	0.020
334	229	19.08	0.10	0.052	(0.105)		0.022	0.030
335	230	19.17	0.10	0.052	(0.104)		0.022	0.030
336	231	19.25	0.10	0.052	(0.104)		0.022	0.030
337	232	19.33	0.13	0.070	(0.103)		0.029	0.040
338	233	19.42	0.13	0.070	(0.103)		0.029	0.040
339	234	19.50	0.13	0.070	(0.102)		0.029	0.040
340	235	19.58	0.10	0.052	(0.102)		0.022	0.030
341	236	19.67	0.10	0.052	(0.101)		0.022	0.030
342	237	19.75	0.10	0.052	(0.101)		0.022	0.030
343	238	19.83	0.07	0.035	(0.100)		0.015	0.020
344	239	19.92	0.07	0.035	(0.100)		0.015	0.020
345	240	20.00	0.07	0.035	(0.100)		0.015	0.020

241	20.08	0.10	0.052	(0.099)	0.022	0.030
242	20.17	0.10	0.052	(0.099)	0.022	0.030
243	20.25	0.10	0.052	(0.098)	0.022	0.030
244	20.33	0.10	0.052	(0.098)	0.022	0.030
245	20.42	0.10	0.052	(0.097)	0.022	0.030
246	20.50	0.10	0.052	(0.097)	0.022	0.030
247	20.58	0.10	0.052	(0.097)	0.022	0.030
248	20.67	0.10	0.052	(0.096)	0.022	0.030
249	20.75	0.10	0.052	(0.096)	0.022	0.030
250	20.83	0.07	0.035	(0.095)	0.015	0.020
251	20.92	0.07	0.035	(0.095)	0.015	0.020
252	21.00	0.07	0.035	(0.095)	0.015	0.020
253	21.08	0.10	0.052	(0.094)	0.022	0.030
254	21.17	0.10	0.052	(0.094)	0.022	0.030
255	21.25	0.10	0.052	(0.094)	0.022	0.030
256	21.33	0.07	0.035	(0.093)	0.015	0.020
257	21.42	0.07	0.035	(0.093)	0.015	0.020
258	21.50	0.07	0.035	(0.092)	0.015	0.020
259	21.58	0.10	0.052	(0.092)	0.022	0.030
260	21.67	0.10	0.052	(0.092)	0.022	0.030
261	21.75	0.10	0.052	(0.091)	0.022	0.030
262	21.83	0.07	0.035	(0.091)	0.015	0.020
263	21.92	0.07	0.035	(0.091)	0.015	0.020
264	22.00	0.07	0.035	(0.091)	0.015	0.020
265	22.08	0.10	0.052	(0.090)	0.022	0.030
266	22.17	0.10	0.052	(0.090)	0.022	0.030
267	22.25	0.10	0.052	(0.090)	0.022	0.030
268	22.33	0.07	0.035	(0.089)	0.015	0.020
269	22.42	0.07	0.035	(0.089)	0.015	0.020
270	22.50	0.07	0.035	(0.089)	0.015	0.020
271	22.58	0.07	0.035	(0.089)	0.015	0.020
272	22.67	0.07	0.035	(0.088)	0.015	0.020
273	22.75	0.07	0.035	(0.088)	0.015	0.020
274	22.83	0.07	0.035	(0.088)	0.015	0.020
275	22.92	0.07	0.035	(0.088)	0.015	0.020
276	23.00	0.07	0.035	(0.087)	0.015	0.020
277	23.08	0.07	0.035	(0.087)	0.015	0.020
278	23.17	0.07	0.035	(0.087)	0.015	0.020
279	23.25	0.07	0.035	(0.087)	0.015	0.020
280	23.33	0.07	0.035	(0.087)	0.015	0.020
281	23.42	0.07	0.035	(0.087)	0.015	0.020
282	23.50	0.07	0.035	(0.086)	0.015	0.020
283	23.58	0.07	0.035	(0.086)	0.015	0.020
284	23.67	0.07	0.035	(0.086)	0.015	0.020
285	23.75	0.07	0.035	(0.086)	0.015	0.020
286	23.83	0.07	0.035	(0.086)	0.015	0.020
287	23.92	0.07	0.035	(0.086)	0.015	0.020
288	24.00	0.07	0.035	(0.086)	0.015	0.020

(Loss Rate Not Used)

Sum = 100.0 Sum = 32.5

Flood volume = Effective rainfall 2.71(In)

times area 7.2(Ac.)/[(In)/(Ft.)] = 1.6(Ac.Ft)

Total soil loss = 1.65(In)

Total soil loss = 0.984(Ac.Ft)

Total rainfall = 4.35(In)

Flood volume = 70409.6 Cubic Feet

Total soil loss = 42841.5 Cubic Feet

Peak flow rate of this hydrograph = 3.161(CFS)

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24 - H O U R S T O R M

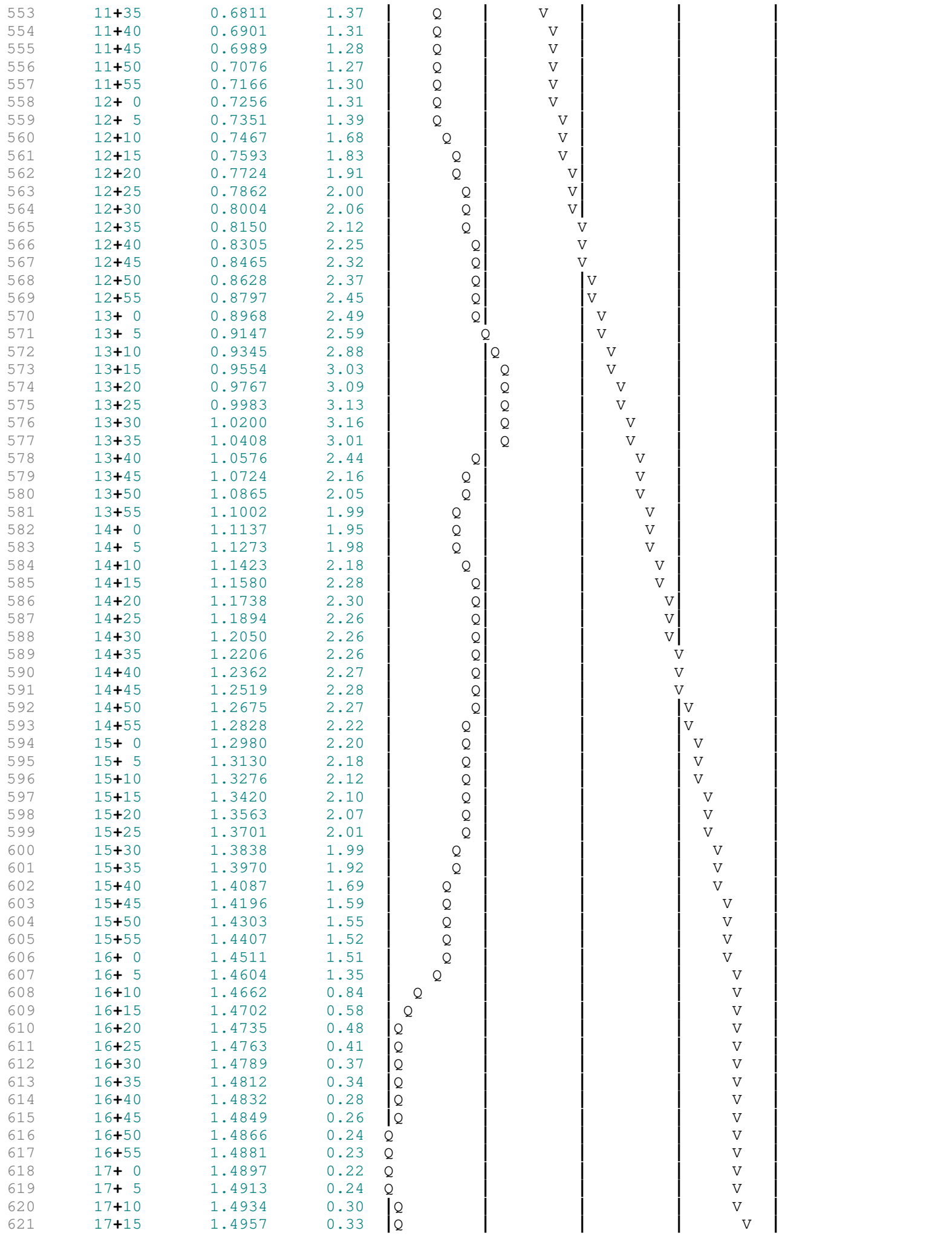
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

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

415	0+ 5	0.0001	0.02	Q	|	|	|	|
416	0+10	0.0007	0.08	Q	|	|	|	|
417	0+15	0.0014	0.11	Q	|	|	|	|
418	0+20	0.0024	0.13	Q	|	|	|	|
419	0+25	0.0035	0.17	Q	|	|	|	|
420	0+30	0.0049	0.19	Q	|	|	|	|
421	0+35	0.0062	0.20	Q	|	|	|	|
422	0+40	0.0077	0.21	Q	|	|	|	|
423	0+45	0.0091	0.21	Q	|	|	|	|
424	0+50	0.0107	0.22	Q	|	|	|	|
425	0+55	0.0124	0.26	VQ	|	|	|	|
426	1+ 0	0.0143	0.27	VQ	|	|	|	|
427	1+ 5	0.0162	0.27	VQ	|	|	|	|
428	1+10	0.0179	0.24	Q	|	|	|	|
429	1+15	0.0195	0.23	Q	|	|	|	|
430	1+20	0.0210	0.23	Q	|	|	|	|
431	1+25	0.0226	0.22	Q	|	|	|	|
432	1+30	0.0241	0.22	Q	|	|	|	|
433	1+35	0.0256	0.22	Q	|	|	|	|
434	1+40	0.0272	0.22	Q	|	|	|	|
435	1+45	0.0287	0.22	Q	|	|	|	|
436	1+50	0.0302	0.23	Q	|	|	|	|
437	1+55	0.0320	0.26	VQ	|	|	|	|
438	2+ 0	0.0339	0.27	VQ	|	|	|	|
439	2+ 5	0.0358	0.28	VQ	|	|	|	|
440	2+10	0.0378	0.28	VQ	|	|	|	|
441	2+15	0.0398	0.29	VQ	|	|	|	|
442	2+20	0.0418	0.29	|Q	|	|	|	|
443	2+25	0.0438	0.29	|Q	|	|	|	|
444	2+30	0.0458	0.29	|Q	|	|	|	|
445	2+35	0.0478	0.30	|Q	|	|	|	|
446	2+40	0.0501	0.33	|Q	|	|	|	|
447	2+45	0.0525	0.35	|Q	|	|	|	|
448	2+50	0.0550	0.35	|Q	|	|	|	|
449	2+55	0.0574	0.36	|Q	|	|	|	|
450	3+ 0	0.0599	0.36	|Q	|	|	|	|
451	3+ 5	0.0624	0.36	|Q	|	|	|	|
452	3+10	0.0649	0.36	|Q	|	|	|	|
453	3+15	0.0674	0.36	|Q	|	|	|	|
454	3+20	0.0699	0.36	|Q	|	|	|	|
455	3+25	0.0724	0.36	|Q	|	|	|	|
456	3+30	0.0749	0.36	|Q	|	|	|	|
457	3+35	0.0774	0.36	|Q	|	|	|	|
458	3+40	0.0800	0.36	|Q	|	|	|	|
459	3+45	0.0825	0.36	|QV	|	|	|	|
460	3+50	0.0850	0.37	|QV	|	|	|	|
461	3+55	0.0878	0.41	|QV	|	|	|	|
462	4+ 0	0.0907	0.42	|QV	|	|	|	|
463	4+ 5	0.0937	0.43	|QV	|	|	|	|
464	4+10	0.0966	0.43	|QV	|	|	|	|
465	4+15	0.0996	0.43	|QV	|	|	|	|
466	4+20	0.1027	0.44	|QV	|	|	|	|
467	4+25	0.1059	0.48	|QV	|	|	|	|
468	4+30	0.1093	0.49	|QV	|	|	|	|
469	4+35	0.1128	0.50	|QV	|	|	|	|
470	4+40	0.1162	0.50	| Q	|	|	|	|
471	4+45	0.1197	0.51	| Q	|	|	|	|
472	4+50	0.1233	0.52	| QV	|	|	|	|
473	4+55	0.1271	0.55	| QV	|	|	|	|
474	5+ 0	0.1310	0.57	| QV	|	|	|	|
475	5+ 5	0.1348	0.55	| QV	|	|	|	|
476	5+10	0.1382	0.50	|Q V	|	|	|	|
477	5+15	0.1414	0.47	|Q V	|	|	|	|
478	5+20	0.1446	0.47	|Q V	|	|	|	|
479	5+25	0.1480	0.49	|Q V	|	|	|	|
480	5+30	0.1515	0.50	| QV	|	|	|	|
481	5+35	0.1550	0.51	| QV	|	|	|	|
482	5+40	0.1588	0.55	| QV	|	|	|	|
483	5+45	0.1627	0.56	| Q V	|	|	|	|

484	5+50	0.1666	0.57	Q V				
485	5+55	0.1705	0.57	Q V				
486	6+ 0	0.1745	0.58	Q V				
487	6+ 5	0.1786	0.59	Q V				
488	6+10	0.1829	0.62	Q V				
489	6+15	0.1873	0.64	Q V				
490	6+20	0.1917	0.65	Q V				
491	6+25	0.1962	0.65	Q V				
492	6+30	0.2007	0.65	Q V				
493	6+35	0.2052	0.66	Q V				
494	6+40	0.2100	0.69	Q V				
495	6+45	0.2149	0.71	Q V				
496	6+50	0.2199	0.72	Q V				
497	6+55	0.2248	0.72	Q V				
498	7+ 0	0.2298	0.72	Q V				
499	7+ 5	0.2348	0.73	Q V				
500	7+10	0.2398	0.73	Q V				
501	7+15	0.2449	0.73	Q V				
502	7+20	0.2499	0.74	Q V				
503	7+25	0.2552	0.77	Q V				
504	7+30	0.2607	0.79	Q V				
505	7+35	0.2662	0.80	Q V				
506	7+40	0.2719	0.84	Q V				
507	7+45	0.2778	0.85	Q V				
508	7+50	0.2838	0.87	Q V				
509	7+55	0.2900	0.91	Q V				
510	8+ 0	0.2964	0.93	Q V				
511	8+ 5	0.3030	0.95	Q V				
512	8+10	0.3100	1.02	Q V				
513	8+15	0.3172	1.05	Q V				
514	8+20	0.3246	1.07	Q V				
515	8+25	0.3320	1.08	Q V				
516	8+30	0.3395	1.08	Q V				
517	8+35	0.3470	1.10	Q V				
518	8+40	0.3548	1.13	Q V				
519	8+45	0.3627	1.15	Q V				
520	8+50	0.3708	1.16	Q V				
521	8+55	0.3790	1.20	Q V				
522	9+ 0	0.3874	1.22	Q V				
523	9+ 5	0.3960	1.24	Q V				
524	9+10	0.4050	1.31	Q V				
525	9+15	0.4143	1.35	Q V				
526	9+20	0.4237	1.37	Q V				
527	9+25	0.4334	1.41	Q V				
528	9+30	0.4433	1.43	Q V				
529	9+35	0.4533	1.45	Q V				
530	9+40	0.4635	1.49	Q V				
531	9+45	0.4739	1.51	Q V				
532	9+50	0.4844	1.53	Q V				
533	9+55	0.4952	1.56	Q V				
534	10+ 0	0.5061	1.58	Q V				
535	10+ 5	0.5166	1.53	Q V				
536	10+10	0.5257	1.32	Q V				
537	10+15	0.5340	1.21	Q V				
538	10+20	0.5420	1.17	Q V				
539	10+25	0.5499	1.14	Q V				
540	10+30	0.5577	1.13	Q V				
541	10+35	0.5657	1.16	Q V				
542	10+40	0.5747	1.31	Q V				
543	10+45	0.5842	1.38	Q V				
544	10+50	0.5939	1.41	Q V				
545	10+55	0.6037	1.42	Q V				
546	11+ 0	0.6136	1.43	Q V				
547	11+ 5	0.6235	1.43	Q V				
548	11+10	0.6332	1.41	Q V				
549	11+15	0.6428	1.40	Q V				
550	11+20	0.6524	1.39	Q V				
551	11+25	0.6620	1.39	Q V				
552	11+30	0.6716	1.39	Q V				



622	17+20	1.4981	0.34	|Q	|	|	|	V |
623	17+25	1.5005	0.35	|Q	|	|	|	V |
624	17+30	1.5029	0.35	|Q	|	|	|	V |
625	17+35	1.5054	0.36	|Q	|	|	|	V |
626	17+40	1.5079	0.36	|Q	|	|	|	V |
627	17+45	1.5104	0.36	|Q	|	|	|	V |
628	17+50	1.5128	0.35	|Q	|	|	|	V |
629	17+55	1.5150	0.32	|Q	|	|	|	V |
630	18+ 0	1.5172	0.31	|Q	|	|	|	V |
631	18+ 5	1.5193	0.30	|Q	|	|	|	V |
632	18+10	1.5213	0.30	|Q	|	|	|	V |
633	18+15	1.5234	0.30	|Q	|	|	|	V |
634	18+20	1.5254	0.30	|Q	|	|	|	V |
635	18+25	1.5274	0.29	|Q	|	|	|	V |
636	18+30	1.5294	0.29	|Q	|	|	|	V |
637	18+35	1.5314	0.28	|Q	|	|	|	V |
638	18+40	1.5331	0.25	|Q	|	|	|	V |
639	18+45	1.5348	0.24	Q	|	|	|	V |
640	18+50	1.5363	0.22	Q	|	|	|	V |
641	18+55	1.5376	0.19	Q	|	|	|	V |
642	19+ 0	1.5387	0.17	Q	|	|	|	V |
643	19+ 5	1.5399	0.17	Q	|	|	|	V |
644	19+10	1.5412	0.20	Q	|	|	|	V |
645	19+15	1.5427	0.21	Q	|	|	|	V |
646	19+20	1.5442	0.22	Q	|	|	|	V |
647	19+25	1.5459	0.25	|Q	|	|	|	V |
648	19+30	1.5478	0.27	|Q	|	|	|	V |
649	19+35	1.5497	0.27	|Q	|	|	|	V |
650	19+40	1.5513	0.24	Q	|	|	|	V |
651	19+45	1.5529	0.23	Q	|	|	|	V |
652	19+50	1.5544	0.22	Q	|	|	|	V |
653	19+55	1.5557	0.18	Q	|	|	|	V |
654	20+ 0	1.5568	0.17	Q	|	|	|	V |
655	20+ 5	1.5580	0.17	Q	|	|	|	V |
656	20+10	1.5593	0.20	Q	|	|	|	V |
657	20+15	1.5608	0.21	Q	|	|	|	V |
658	20+20	1.5622	0.21	Q	|	|	|	V |
659	20+25	1.5637	0.21	Q	|	|	|	V |
660	20+30	1.5652	0.22	Q	|	|	|	V |
661	20+35	1.5667	0.22	Q	|	|	|	V |
662	20+40	1.5682	0.22	Q	|	|	|	V |
663	20+45	1.5697	0.22	Q	|	|	|	V |
664	20+50	1.5711	0.21	Q	|	|	|	V |
665	20+55	1.5723	0.18	Q	|	|	|	V |
666	21+ 0	1.5735	0.16	Q	|	|	|	V |
667	21+ 5	1.5746	0.17	Q	|	|	|	V |
668	21+10	1.5759	0.19	Q	|	|	|	V |
669	21+15	1.5774	0.21	Q	|	|	|	V |
670	21+20	1.5788	0.20	Q	|	|	|	V |
671	21+25	1.5799	0.17	Q	|	|	|	V |
672	21+30	1.5810	0.16	Q	|	|	|	V |
673	21+35	1.5822	0.16	Q	|	|	|	V |
674	21+40	1.5835	0.19	Q	|	|	|	V |
675	21+45	1.5849	0.21	Q	|	|	|	V |
676	21+50	1.5863	0.20	Q	|	|	|	V |
677	21+55	1.5875	0.17	Q	|	|	|	V |
678	22+ 0	1.5886	0.16	Q	|	|	|	V |
679	22+ 5	1.5897	0.16	Q	|	|	|	V |
680	22+10	1.5910	0.19	Q	|	|	|	V |
681	22+15	1.5924	0.21	Q	|	|	|	V |
682	22+20	1.5938	0.20	Q	|	|	|	V |
683	22+25	1.5950	0.17	Q	|	|	|	V |
684	22+30	1.5961	0.16	Q	|	|	|	V |
685	22+35	1.5972	0.15	Q	|	|	|	V |
686	22+40	1.5982	0.15	Q	|	|	|	V |
687	22+45	1.5993	0.15	Q	|	|	|	V |
688	22+50	1.6003	0.15	Q	|	|	|	V |
689	22+55	1.6013	0.15	Q	|	|	|	V |
690	23+ 0	1.6023	0.15	Q	|	|	|	V |

691	23+ 5	1.6033	0.15	Q	|	|	|	V|
692	23+10	1.6043	0.15	Q	|	|	|	V|
693	23+15	1.6053	0.15	Q	|	|	|	V|
694	23+20	1.6063	0.15	Q	|	|	|	V|
695	23+25	1.6073	0.15	Q	|	|	|	V|
696	23+30	1.6084	0.15	Q	|	|	|	V|
697	23+35	1.6094	0.15	Q	|	|	|	V|
698	23+40	1.6104	0.15	Q	|	|	|	V|
699	23+45	1.6114	0.15	Q	|	|	|	V|
700	23+50	1.6124	0.15	Q	|	|	|	V|
701	23+55	1.6134	0.15	Q	|	|	|	V|
702	24+ 0	1.6144	0.15	Q	|	|	|	V|
703	24+ 5	1.6153	0.13	Q	|	|	|	V|
704	24+10	1.6157	0.07	Q	|	|	|	V|
705	24+15	1.6160	0.03	Q	|	|	|	V|
706	24+20	1.6161	0.02	Q	|	|	|	V|
707	24+25	1.6162	0.01	Q	|	|	|	V|
708	24+30	1.6163	0.01	Q	|	|	|	V|
709	24+35	1.6163	0.01	Q	|	|	|	V|
710	24+40	1.6164	0.00	Q	|	|	|	V|
711	24+45	1.6164	0.00	Q	|	|	|	V|
712	24+50	1.6164	0.00	Q	|	|	|	V|
713	----------							
714								
715								
716								
717								

```
    U n 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  02/27/24 File: tcal21100.out


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------------------------------------------------------------------------------

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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
Temescal Canyon Existing Area B
100 Year 1 Hour
Kimley-Horn

------------------------------------------------------------------------
Drainage Area =       7.17(Ac.)  =      0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       7.17(Ac.)  =      0.011 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.110 Hr.
Lag time =     6.60 Min.
25% of lag time =     1.65 Min.
40% of lag time =     2.64 Min.
Unit time =     5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.17            0.55                3.94

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.17            1.40               10.04

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.550(In)
Area Averaged 100-Year Rainfall =    1.400(In)

Point rain (area averaged) =    1.400(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    1.400(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     7.170           69.00          0.600
 Total Area Entered =      7.17(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
```

```
    69.0  84.4      0.194     0.600        0.089       1.000      0.089
                                                        Sum (F) =   0.089
 Area averaged mean soil loss (F) (In/Hr) =  0.089
 Minimum soil loss rate ((In/Hr)) =  0.045
 (for 24 hour storm duration)
 Soil low loss rate (decimal) =   0.420
 ------------------------------------------------------------------------
 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   Time % of lag   Distribution   Unit Hydrograph
     (hrs)                          Graph %            (CFS)
 ------------------------------------------------------------------------
      1   0.083         75.758         12.137             0.877
      2   0.167        151.515         42.806             3.093
      3   0.250        227.273         21.225             1.534
      4   0.333        303.030          8.541             0.617
      5   0.417        378.788          5.158             0.373
      6   0.500        454.545          3.330             0.241
      7   0.583        530.303          2.327             0.168
      8   0.667        606.061          1.692             0.122
      9   0.750        681.818          1.172             0.085
     10   0.833        757.576          0.809             0.058
     11   0.917        833.333          0.803             0.058
                              Sum = 100.000    Sum=        7.226
------------------------------------------------------------------------


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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)      Effective
       (Hr.)  Percent   (In/Hr)         Max    |    Low         (In/Hr)
   1   0.08     4.40      0.739          0.089    (  0.310)        0.650
   2   0.17     4.50      0.756          0.089    (  0.317)        0.667
   3   0.25     5.40      0.907          0.089    (  0.381)        0.818
   4   0.33     5.40      0.907          0.089    (  0.381)        0.818
   5   0.42     5.70      0.958          0.089    (  0.402)        0.868
   6   0.50     6.40      1.075          0.089    (  0.452)        0.986
   7   0.58     7.90      1.327          0.089    (  0.557)        1.238
   8   0.67     9.10      1.529          0.089    (  0.642)        1.440
   9   0.75    12.80      2.150          0.089    (  0.903)        2.061
  10   0.83    25.60      4.301          0.089    (  1.806)        4.211
  11   0.92     7.90      1.327          0.089    (  0.557)        1.238
  12   1.00     4.90      0.823          0.089    (  0.346)        0.734
         (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    15.7
   Flood volume = Effective rainfall      1.31(In)
    times area       7.2(Ac.)/[(In)/(Ft.)] =       0.8(Ac.Ft)
   Total soil loss =      0.09(In)
   Total soil loss =     0.053(Ac.Ft)
   Total rainfall =      1.40(In)
   Flood volume =       34114.8 Cubic Feet
   Total soil loss =        2320.7 Cubic Feet
   ------------------------------------------------------------------------
    Peak flow rate of this hydrograph =     19.262(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	0.0039	0.57	VQ | | | |
0+10	0.0218	2.60	|V Q | | | |
0+15	0.0478	3.78	| V Q | | | |
0+20	0.0800	4.67	| V Q| | | |
0+25	0.1159	5.20	| V Q | | |
0+30	0.1552	5.72	| V |Q | | |
0+35	0.2003	6.55	| V Q | | |
0+40	0.2543	7.84	| | V Q | | |
0+45	0.3202	9.57	| | V Q| | |
0+50	0.4163	13.96	| | |V Q | |
0+55	0.5490	19.26	| | | V | Q |
1+ 0	0.6418	13.47	| | | Q V | |
1+ 5	0.6995	8.38	| | Q | V | |
1+10	0.7307	4.53	| Q| | | V |
1+15	0.7491	2.66	| Q | | | V |
1+20	0.7614	1.78	| Q | | | V |
1+25	0.7699	1.23	| Q | | | V|
1+30	0.7756	0.84	|Q | | | V|
1+35	0.7795	0.56	|Q | | | V|
1+40	0.7821	0.38	Q | | | V|
1+45	0.7829	0.11	Q | | | V|
1+50	0.7832	0.04	Q | | | V|

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

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        Study date  02/27/24 File: tcal23100.out


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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
Temescal Canyon Existing Area B
100 Year 3 Hour
Kimley-Horn

------------------------------------------------------------------------
Drainage Area =       7.17(Ac.)  =      0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       7.17(Ac.)  =      0.011 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.110 Hr.
Lag time =     6.60 Min.
25% of lag time =     1.65 Min.
40% of lag time =     2.64 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]
        7.17            1.00                7.17

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.17            2.50               17.93

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 %
     7.170           69.00          0.600
 Total Area Entered =      7.17(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

69.0	84.4	0.194	0.600	0.089	1.000	0.089

Sum (F) = 0.089

Area averaged **mean** soil loss (F) (In/Hr) = 0.089

Minimum soil loss rate ((In/Hr)) = 0.045

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.420

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	75.758	12.137	0.877
2	0.167	151.515	42.806	3.093
3	0.250	227.273	21.225	1.534
4	0.333	303.030	8.541	0.617
5	0.417	378.788	5.158	0.373
6	0.500	454.545	3.330	0.241
7	0.583	530.303	2.327	0.168
8	0.667	606.061	1.692	0.122
9	0.750	681.818	1.172	0.085
10	0.833	757.576	0.809	0.058
11	0.917	833.333	0.803	0.058
		Sum = 100.000	Sum=	7.226

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.390	0.089	(0.164)	0.301
2	0.17	1.30	0.390	0.089	(0.164)	0.301
3	0.25	1.10	0.330	0.089	(0.139)	0.241
4	0.33	1.50	0.450	0.089	(0.189)	0.361
5	0.42	1.50	0.450	0.089	(0.189)	0.361
6	0.50	1.80	0.540	0.089	(0.227)	0.451
7	0.58	1.50	0.450	0.089	(0.189)	0.361
8	0.67	1.80	0.540	0.089	(0.227)	0.451
9	0.75	1.80	0.540	0.089	(0.227)	0.451
10	0.83	1.50	0.450	0.089	(0.189)	0.361
11	0.92	1.60	0.480	0.089	(0.202)	0.391
12	1.00	1.80	0.540	0.089	(0.227)	0.451
13	1.08	2.20	0.660	0.089	(0.277)	0.571
14	1.17	2.20	0.660	0.089	(0.277)	0.571
15	1.25	2.20	0.660	0.089	(0.277)	0.571
16	1.33	2.00	0.600	0.089	(0.252)	0.511
17	1.42	2.60	0.780	0.089	(0.328)	0.691
18	1.50	2.70	0.810	0.089	(0.340)	0.721
19	1.58	2.40	0.720	0.089	(0.302)	0.631
20	1.67	2.70	0.810	0.089	(0.340)	0.721
21	1.75	3.30	0.990	0.089	(0.416)	0.901
22	1.83	3.10	0.930	0.089	(0.391)	0.841
23	1.92	2.90	0.870	0.089	(0.365)	0.781
24	2.00	3.00	0.900	0.089	(0.378)	0.811
25	2.08	3.10	0.930	0.089	(0.391)	0.841
26	2.17	4.20	1.260	0.089	(0.529)	1.171
27	2.25	5.00	1.500	0.089	(0.630)	1.411
28	2.33	3.50	1.050	0.089	(0.441)	0.961
29	2.42	6.80	2.040	0.089	(0.857)	1.951
30	2.50	7.30	2.190	0.089	(0.920)	2.101
31	2.58	8.20	2.460	0.089	(1.033)	2.371
32	2.67	5.90	1.770	0.089	(0.743)	1.681
33	2.75	2.00	0.600	0.089	(0.252)	0.511

```
    34   2.83     1.80      0.540          0.089    (  0.227)        0.451
    35   2.92     1.80      0.540          0.089    (  0.227)        0.451
    36   3.00     0.60      0.180       (  0.089)       0.076        0.104
          (Loss Rate Not Used)
     Sum =     100.0                                      Sum =    26.8
    Flood volume = Effective rainfall      2.23(In)
     times area       7.2(Ac.)/[(In)/(Ft.)] =       1.3(Ac.Ft)
    Total soil loss =      0.27(In)
    Total soil loss =     0.159(Ac.Ft)
    Total rainfall =      2.50(In)
    Flood volume =       58132.9 Cubic Feet
    Total soil loss =        6932.8 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =     14.401(CFS)
    ---------------------------------------------------------------------
    +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        3 - H O U R    S T O R M
                    R u n o f f     H y d r o g r a p h
    ---------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ---------------------------------------------------------------------
  Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
  ------------------------------------------------------------------------
    0+ 5        0.0018      0.26  Q          |         |         |         |
    0+10        0.0100      1.19  V Q        |         |         |         |
    0+15        0.0211      1.60  V  Q       |         |         |         |
    0+20        0.0329      1.71  V  Q       |         |         |         |
    0+25        0.0473      2.10  |V  Q       |         |         |         |
    0+30        0.0639      2.40  |V  Q       |         |         |         |
    0+35        0.0825      2.70  | V  Q      |         |         |         |
    0+40        0.1011      2.71  |  V Q      |         |         |         |
    0+45        0.1214      2.95  |  V Q      |         |         |         |
    0+50        0.1422      3.01  |   V Q     |         |         |         |
    0+55        0.1617      2.83  |   VQ      |         |         |         |
    1+ 0        0.1815      2.87  |    Q      |         |         |         |
    1+ 5        0.2033      3.18  |     Q     |         |         |         |
    1+10        0.2284      3.64  |     VQ    |         |         |         |
    1+15        0.2550      3.86  |      Q    |         |         |         |
    1+20        0.2820      3.91  |      QV   |         |         |         |
    1+25        0.3090      3.93  |      Q V  |         |         |         |
    1+30        0.3398      4.46  |       Q V |         |         |         |
    1+35        0.3724      4.74  |        Q|V |         |         |         |
    1+40        0.4048      4.69  |        Q| V |         |         |         |
    1+45        0.4397      5.08  |         Q  V |         |         |         |
    1+50        0.4791      5.72  |          Q  V |         |         |         |
    1+55        0.5192      5.82  |          Q   V |         |         |         |
    2+ 0        0.5585      5.71  |          Q    V |         |         |         |
    2+ 5        0.5984      5.79  |          Q     V |         |         |         |
    2+10        0.6412      6.22  |           Q      V|         |         |         |
    2+15        0.6930      7.52  |              Q    V         |         |         |
    2+20        0.7509      8.41  |               Q    | V      |         |         |
    2+25        0.8092      8.47  |               Q    |  V     |         |         |
    2+30        0.8868     11.26  |                    | Q  V   |         |         |
    2+35        0.9790     13.38  |                    |    Q  V|         |         |
    2+40        1.0782     14.40  |                    |       Q|  V      |         |
    2+45        1.1614     12.09  |                    |  Q     |    V    |         |
    2+50        1.2151      7.80  |                 Q  |        |      V  |         |
    2+55        1.2543      5.68  |              Q     |        |       V |         |
    3+ 0        1.2854      4.52  |           Q|       |        |        V|         |
    3+ 5        1.3050      2.85  |     Q      |       |        |         V|         |
    3+10        1.3164      1.65  |  Q         |       |        |         V|         |
    3+15        1.3237      1.07  | Q          |       |        |         V|         |
    3+20        1.3285      0.69  |Q           |       |        |         V|         |
    3+25        1.3315      0.44  Q            |       |        |         V|         |
    3+30        1.3331      0.24  Q            |       |        |         V|         |
    3+35        1.3339      0.11  Q            |       |        |         V|         |
    3+40        1.3343      0.06  Q            |       |        |         V|         |
    3+45        1.3345      0.03  Q            |       |        |         V|         |
```

```
    3+50       1.3345      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  02/27/24 File: tcal26100.out


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------------------------------------------------------------------------------

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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
Temescal Canyon Existing Area B
100 Year 6 Hour
Kimley-Horn

------------------------------------------------------------------------
Drainage Area =       7.17(Ac.)  =      0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       7.17(Ac.)  =      0.011 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.110 Hr.
Lag time =     6.60 Min.
25% of lag time =     1.65 Min.
40% of lag time =     2.64 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]
        7.17            1.40                10.04

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.17            3.50                25.09

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    1.400(In)
Area Averaged 100-Year Rainfall =    3.500(In)

Point rain (area averaged) =    3.500(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    3.500(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     7.170           69.00          0.600
 Total Area Entered =      7.17(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

69.0	84.4	0.194	0.600	0.089	1.000	0.089

Sum (F) = 0.089

Area averaged **mean** soil loss (F) (In/Hr) = 0.089

Minimum soil loss rate ((In/Hr)) = 0.045

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.420

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	75.758	12.137	0.877
2	0.167	151.515	42.806	3.093
3	0.250	227.273	21.225	1.534
4	0.333	303.030	8.541	0.617
5	0.417	378.788	5.158	0.373
6	0.500	454.545	3.330	0.241
7	0.583	530.303	2.327	0.168
8	0.667	606.061	1.692	0.122
9	0.750	681.818	1.172	0.085
10	0.833	757.576	0.809	0.058
11	0.917	833.333	0.803	0.058
		Sum = 100.000	Sum=	7.226

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.210	(0.089)	0.088	0.122
2	0.17	0.60	0.252	0.089	(0.106)	0.163
3	0.25	0.60	0.252	0.089	(0.106)	0.163
4	0.33	0.60	0.252	0.089	(0.106)	0.163
5	0.42	0.60	0.252	0.089	(0.106)	0.163
6	0.50	0.70	0.294	0.089	(0.123)	0.205
7	0.58	0.70	0.294	0.089	(0.123)	0.205
8	0.67	0.70	0.294	0.089	(0.123)	0.205
9	0.75	0.70	0.294	0.089	(0.123)	0.205
10	0.83	0.70	0.294	0.089	(0.123)	0.205
11	0.92	0.70	0.294	0.089	(0.123)	0.205
12	1.00	0.80	0.336	0.089	(0.141)	0.247
13	1.08	0.80	0.336	0.089	(0.141)	0.247
14	1.17	0.80	0.336	0.089	(0.141)	0.247
15	1.25	0.80	0.336	0.089	(0.141)	0.247
16	1.33	0.80	0.336	0.089	(0.141)	0.247
17	1.42	0.80	0.336	0.089	(0.141)	0.247
18	1.50	0.80	0.336	0.089	(0.141)	0.247
19	1.58	0.80	0.336	0.089	(0.141)	0.247
20	1.67	0.80	0.336	0.089	(0.141)	0.247
21	1.75	0.80	0.336	0.089	(0.141)	0.247
22	1.83	0.80	0.336	0.089	(0.141)	0.247
23	1.92	0.80	0.336	0.089	(0.141)	0.247
24	2.00	0.90	0.378	0.089	(0.159)	0.289
25	2.08	0.80	0.336	0.089	(0.141)	0.247
26	2.17	0.90	0.378	0.089	(0.159)	0.289
27	2.25	0.90	0.378	0.089	(0.159)	0.289
28	2.33	0.90	0.378	0.089	(0.159)	0.289
29	2.42	0.90	0.378	0.089	(0.159)	0.289
30	2.50	0.90	0.378	0.089	(0.159)	0.289
31	2.58	0.90	0.378	0.089	(0.159)	0.289
32	2.67	0.90	0.378	0.089	(0.159)	0.289
33	2.75	1.00	0.420	0.089	(0.176)	0.331

34	2.83	1.00	0.420	0.089	(0.176)	0.331
35	2.92	1.00	0.420	0.089	(0.176)	0.331
36	3.00	1.00	0.420	0.089	(0.176)	0.331
37	3.08	1.00	0.420	0.089	(0.176)	0.331
38	3.17	1.10	0.462	0.089	(0.194)	0.373
39	3.25	1.10	0.462	0.089	(0.194)	0.373
40	3.33	1.10	0.462	0.089	(0.194)	0.373
41	3.42	1.20	0.504	0.089	(0.212)	0.415
42	3.50	1.30	0.546	0.089	(0.229)	0.457
43	3.58	1.40	0.588	0.089	(0.247)	0.499
44	3.67	1.40	0.588	0.089	(0.247)	0.499
45	3.75	1.50	0.630	0.089	(0.265)	0.541
46	3.83	1.50	0.630	0.089	(0.265)	0.541
47	3.92	1.60	0.672	0.089	(0.282)	0.583
48	4.00	1.60	0.672	0.089	(0.282)	0.583
49	4.08	1.70	0.714	0.089	(0.300)	0.625
50	4.17	1.80	0.756	0.089	(0.318)	0.667
51	4.25	1.90	0.798	0.089	(0.335)	0.709
52	4.33	2.00	0.840	0.089	(0.353)	0.751
53	4.42	2.10	0.882	0.089	(0.370)	0.793
54	4.50	2.10	0.882	0.089	(0.370)	0.793
55	4.58	2.20	0.924	0.089	(0.388)	0.835
56	4.67	2.30	0.966	0.089	(0.406)	0.877
57	4.75	2.40	1.008	0.089	(0.423)	0.919
58	4.83	2.40	1.008	0.089	(0.423)	0.919
59	4.92	2.50	1.050	0.089	(0.441)	0.961
60	5.00	2.60	1.092	0.089	(0.459)	1.003
61	5.08	3.10	1.302	0.089	(0.547)	1.213
62	5.17	3.60	1.512	0.089	(0.635)	1.423
63	5.25	3.90	1.638	0.089	(0.688)	1.549
64	5.33	4.20	1.764	0.089	(0.741)	1.675
65	5.42	4.70	1.974	0.089	(0.829)	1.885
66	5.50	5.60	2.352	0.089	(0.988)	2.263
67	5.58	1.90	0.798	0.089	(0.335)	0.709
68	5.67	0.90	0.378	0.089	(0.159)	0.289
69	5.75	0.60	0.252	0.089	(0.106)	0.163
70	5.83	0.50	0.210	(0.089)	0.088	0.122
71	5.92	0.30	0.126	(0.089)	0.053	0.073
72	6.00	0.20	0.084	(0.089)	0.035	0.049

(Loss Rate Not Used)

Sum = 100.0 Sum = 35.7

Flood volume = Effective rainfall 2.97(In)
times area 7.2(Ac.)/[(In)/(Ft.)] = 1.8(Ac.Ft)
Total soil loss = 0.53(In)
Total soil loss = 0.315(Ac.Ft)
Total rainfall = 3.50(In)
Flood volume = 77367.8 Cubic Feet
Total soil loss = 13724.8 Cubic Feet

Peak flow rate of this hydrograph = 12.986(CFS)

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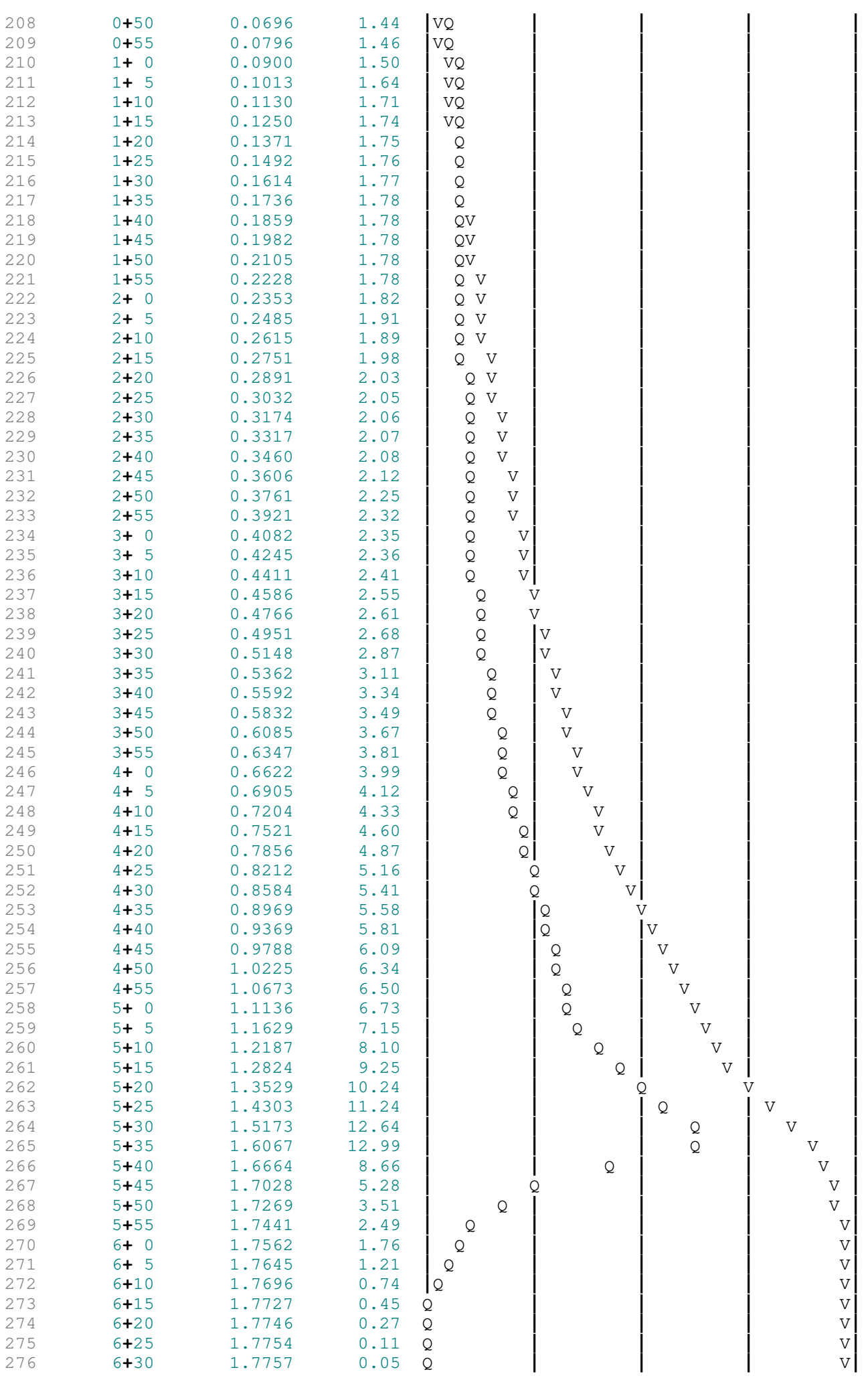
6 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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	0.0007	0.11	Q	|	|	|	|
0+10	0.0043	0.52	VQ	|	|	|	|
0+15	0.0101	0.83	VQ	|	|	|	|
0+20	0.0168	0.97	VQ	|	|	|	|
0+25	0.0239	1.04	V Q	|	|	|	|
0+30	0.0317	1.12	V Q	|	|	|	|
0+35	0.0405	1.28	V Q	|	|	|	|
0+40	0.0500	1.37	|VQ	|	|	|	|
0+45	0.0597	1.41	|VQ	|	|	|	|



```
      6+35        1.7759       0.03  Q          |          |          |          V|
      6+40        1.7761       0.02  Q          |          |          |          V|
      6+45        1.7761       0.01  Q          |          |          |          V|
      6+50        1.7761       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  02/27/24 File: tcal224100.out


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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
Temescal Canyon Existing Area B
100 Year 24 Hour
Kimley-Horn

------------------------------------------------------------------------
Drainage Area =       7.17(Ac.)  =      0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       7.17(Ac.)  =      0.011 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.110 Hr.
Lag time =     6.60 Min.
25% of lag time =     1.65 Min.
40% of lag time =     2.64 Min.
Unit time =     5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.17            2.50               17.93

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.17            7.00               50.19

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    2.500(In)
Area Averaged 100-Year Rainfall =    7.000(In)

Point rain (area averaged) =    7.000(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    7.000(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     7.170           69.00          0.600
 Total Area Entered =      7.17(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

69.0	84.4	0.194	0.600	0.089	1.000	0.089

Sum (F) = 0.089

Area averaged **mean** soil loss (F) (In/Hr) = 0.089

Minimum soil loss rate ((In/Hr)) = 0.045

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.420

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	75.758	12.137	0.877
2	0.167	151.515	42.806	3.093
3	0.250	227.273	21.225	1.534
4	0.333	303.030	8.541	0.617
5	0.417	378.788	5.158	0.373
6	0.500	454.545	3.330	0.241
7	0.583	530.303	2.327	0.168
8	0.667	606.061	1.692	0.122
9	0.750	681.818	1.172	0.085
10	0.833	757.576	0.809	0.058
11	0.917	833.333	0.803	0.058
		Sum = 100.000	Sum=	7.226

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.056	(0.158)	0.024	0.032
2	0.17	0.07	0.056	(0.157)	0.024	0.032
3	0.25	0.07	0.056	(0.157)	0.024	0.032
4	0.33	0.10	0.084	(0.156)	0.035	0.049
5	0.42	0.10	0.084	(0.156)	0.035	0.049
6	0.50	0.10	0.084	(0.155)	0.035	0.049
7	0.58	0.10	0.084	(0.154)	0.035	0.049
8	0.67	0.10	0.084	(0.154)	0.035	0.049
9	0.75	0.10	0.084	(0.153)	0.035	0.049
10	0.83	0.13	0.112	(0.153)	0.047	0.065
11	0.92	0.13	0.112	(0.152)	0.047	0.065
12	1.00	0.13	0.112	(0.151)	0.047	0.065
13	1.08	0.10	0.084	(0.151)	0.035	0.049
14	1.17	0.10	0.084	(0.150)	0.035	0.049
15	1.25	0.10	0.084	(0.150)	0.035	0.049
16	1.33	0.10	0.084	(0.149)	0.035	0.049
17	1.42	0.10	0.084	(0.148)	0.035	0.049
18	1.50	0.10	0.084	(0.148)	0.035	0.049
19	1.58	0.10	0.084	(0.147)	0.035	0.049
20	1.67	0.10	0.084	(0.147)	0.035	0.049
21	1.75	0.10	0.084	(0.146)	0.035	0.049
22	1.83	0.13	0.112	(0.145)	0.047	0.065
23	1.92	0.13	0.112	(0.145)	0.047	0.065
24	2.00	0.13	0.112	(0.144)	0.047	0.065
25	2.08	0.13	0.112	(0.144)	0.047	0.065
26	2.17	0.13	0.112	(0.143)	0.047	0.065
27	2.25	0.13	0.112	(0.143)	0.047	0.065
28	2.33	0.13	0.112	(0.142)	0.047	0.065
29	2.42	0.13	0.112	(0.141)	0.047	0.065
30	2.50	0.13	0.112	(0.141)	0.047	0.065
31	2.58	0.17	0.140	(0.140)	0.059	0.081
32	2.67	0.17	0.140	(0.140)	0.059	0.081
33	2.75	0.17	0.140	(0.139)	0.059	0.081

139	34	2.83	0.17	0.140	(	0.139)	0.059	0.081
140	35	2.92	0.17	0.140	(	0.138)	0.059	0.081
141	36	3.00	0.17	0.140	(	0.137)	0.059	0.081
142	37	3.08	0.17	0.140	(	0.137)	0.059	0.081
143	38	3.17	0.17	0.140	(	0.136)	0.059	0.081
144	39	3.25	0.17	0.140	(	0.136)	0.059	0.081
145	40	3.33	0.17	0.140	(	0.135)	0.059	0.081
146	41	3.42	0.17	0.140	(	0.135)	0.059	0.081
147	42	3.50	0.17	0.140	(	0.134)	0.059	0.081
148	43	3.58	0.17	0.140	(	0.133)	0.059	0.081
149	44	3.67	0.17	0.140	(	0.133)	0.059	0.081
150	45	3.75	0.17	0.140	(	0.132)	0.059	0.081
151	46	3.83	0.20	0.168	(	0.132)	0.071	0.097
152	47	3.92	0.20	0.168	(	0.131)	0.071	0.097
153	48	4.00	0.20	0.168	(	0.131)	0.071	0.097
154	49	4.08	0.20	0.168	(	0.130)	0.071	0.097
155	50	4.17	0.20	0.168	(	0.130)	0.071	0.097
156	51	4.25	0.20	0.168	(	0.129)	0.071	0.097
157	52	4.33	0.23	0.196	(	0.128)	0.082	0.114
158	53	4.42	0.23	0.196	(	0.128)	0.082	0.114
159	54	4.50	0.23	0.196	(	0.127)	0.082	0.114
160	55	4.58	0.23	0.196	(	0.127)	0.082	0.114
161	56	4.67	0.23	0.196	(	0.126)	0.082	0.114
162	57	4.75	0.23	0.196	(	0.126)	0.082	0.114
163	58	4.83	0.27	0.224	(	0.125)	0.094	0.130
164	59	4.92	0.27	0.224	(	0.125)	0.094	0.130
165	60	5.00	0.27	0.224	(	0.124)	0.094	0.130
166	61	5.08	0.20	0.168	(	0.124)	0.071	0.097
167	62	5.17	0.20	0.168	(	0.123)	0.071	0.097
168	63	5.25	0.20	0.168	(	0.122)	0.071	0.097
169	64	5.33	0.23	0.196	(	0.122)	0.082	0.114
170	65	5.42	0.23	0.196	(	0.121)	0.082	0.114
171	66	5.50	0.23	0.196	(	0.121)	0.082	0.114
172	67	5.58	0.27	0.224	(	0.120)	0.094	0.130
173	68	5.67	0.27	0.224	(	0.120)	0.094	0.130
174	69	5.75	0.27	0.224	(	0.119)	0.094	0.130
175	70	5.83	0.27	0.224	(	0.119)	0.094	0.130
176	71	5.92	0.27	0.224	(	0.118)	0.094	0.130
177	72	6.00	0.27	0.224	(	0.118)	0.094	0.130
178	73	6.08	0.30	0.252	(	0.117)	0.106	0.146
179	74	6.17	0.30	0.252	(	0.117)	0.106	0.146
180	75	6.25	0.30	0.252	(	0.116)	0.106	0.146
181	76	6.33	0.30	0.252	(	0.116)	0.106	0.146
182	77	6.42	0.30	0.252	(	0.115)	0.106	0.146
183	78	6.50	0.30	0.252	(	0.115)	0.106	0.146
184	79	6.58	0.33	0.280		0.114	(0.118)	0.166
185	80	6.67	0.33	0.280		0.114	(0.118)	0.166
186	81	6.75	0.33	0.280		0.113	(0.118)	0.167
187	82	6.83	0.33	0.280		0.113	(0.118)	0.167
188	83	6.92	0.33	0.280		0.112	(0.118)	0.168
189	84	7.00	0.33	0.280		0.112	(0.118)	0.168
190	85	7.08	0.33	0.280		0.111	(0.118)	0.169
191	86	7.17	0.33	0.280		0.111	(0.118)	0.169
192	87	7.25	0.33	0.280		0.110	(0.118)	0.170
193	88	7.33	0.37	0.308		0.109	(0.129)	0.199
194	89	7.42	0.37	0.308		0.109	(0.129)	0.199
195	90	7.50	0.37	0.308		0.108	(0.129)	0.200
196	91	7.58	0.40	0.336		0.108	(0.141)	0.228
197	92	7.67	0.40	0.336		0.107	(0.141)	0.228
198	93	7.75	0.40	0.336		0.107	(0.141)	0.229
199	94	7.83	0.43	0.364		0.107	(0.153)	0.257
200	95	7.92	0.43	0.364		0.106	(0.153)	0.258
201	96	8.00	0.43	0.364		0.106	(0.153)	0.258
202	97	8.08	0.50	0.420		0.105	(0.176)	0.315
203	98	8.17	0.50	0.420		0.105	(0.176)	0.315
204	99	8.25	0.50	0.420		0.104	(0.176)	0.316
205	100	8.33	0.50	0.420		0.104	(0.176)	0.316
206	101	8.42	0.50	0.420		0.103	(0.176)	0.317
207	102	8.50	0.50	0.420		0.103	(0.176)	0.317

208	103	8.58	0.53	0.448	0.102	(	0.188)	0.346
209	104	8.67	0.53	0.448	0.102	(	0.188)	0.346
210	105	8.75	0.53	0.448	0.101	(	0.188)	0.347
211	106	8.83	0.57	0.476	0.101	(	0.200)	0.375
212	107	8.92	0.57	0.476	0.100	(	0.200)	0.376
213	108	9.00	0.57	0.476	0.100	(	0.200)	0.376
214	109	9.08	0.63	0.532	0.099	(	0.223)	0.433
215	110	9.17	0.63	0.532	0.099	(	0.223)	0.433
216	111	9.25	0.63	0.532	0.098	(	0.223)	0.434
217	112	9.33	0.67	0.560	0.098	(	0.235)	0.462
218	113	9.42	0.67	0.560	0.097	(	0.235)	0.463
219	114	9.50	0.67	0.560	0.097	(	0.235)	0.463
220	115	9.58	0.70	0.588	0.096	(	0.247)	0.492
221	116	9.67	0.70	0.588	0.096	(	0.247)	0.492
222	117	9.75	0.70	0.588	0.096	(	0.247)	0.492
223	118	9.83	0.73	0.616	0.095	(	0.259)	0.521
224	119	9.92	0.73	0.616	0.095	(	0.259)	0.521
225	120	10.00	0.73	0.616	0.094	(	0.259)	0.522
226	121	10.08	0.50	0.420	0.094	(	0.176)	0.326
227	122	10.17	0.50	0.420	0.093	(	0.176)	0.327
228	123	10.25	0.50	0.420	0.093	(	0.176)	0.327
229	124	10.33	0.50	0.420	0.092	(	0.176)	0.328
230	125	10.42	0.50	0.420	0.092	(	0.176)	0.328
231	126	10.50	0.50	0.420	0.091	(	0.176)	0.329
232	127	10.58	0.67	0.560	0.091	(	0.235)	0.469
233	128	10.67	0.67	0.560	0.091	(	0.235)	0.469
234	129	10.75	0.67	0.560	0.090	(	0.235)	0.470
235	130	10.83	0.67	0.560	0.090	(	0.235)	0.470
236	131	10.92	0.67	0.560	0.089	(	0.235)	0.471
237	132	11.00	0.67	0.560	0.089	(	0.235)	0.471
238	133	11.08	0.63	0.532	0.088	(	0.223)	0.444
239	134	11.17	0.63	0.532	0.088	(	0.223)	0.444
240	135	11.25	0.63	0.532	0.087	(	0.223)	0.445
241	136	11.33	0.63	0.532	0.087	(	0.223)	0.445
242	137	11.42	0.63	0.532	0.087	(	0.223)	0.445
243	138	11.50	0.63	0.532	0.086	(	0.223)	0.446
244	139	11.58	0.57	0.476	0.086	(	0.200)	0.390
245	140	11.67	0.57	0.476	0.085	(	0.200)	0.391
246	141	11.75	0.57	0.476	0.085	(	0.200)	0.391
247	142	11.83	0.60	0.504	0.084	(	0.212)	0.419
248	143	11.92	0.60	0.504	0.084	(	0.212)	0.420
249	144	12.00	0.60	0.504	0.084	(	0.212)	0.420
250	145	12.08	0.83	0.700	0.083	(	0.294)	0.617
251	146	12.17	0.83	0.700	0.083	(	0.294)	0.617
252	147	12.25	0.83	0.700	0.082	(	0.294)	0.618
253	148	12.33	0.87	0.728	0.082	(	0.306)	0.646
254	149	12.42	0.87	0.728	0.082	(	0.306)	0.646
255	150	12.50	0.87	0.728	0.081	(	0.306)	0.647
256	151	12.58	0.93	0.784	0.081	(	0.329)	0.703
257	152	12.67	0.93	0.784	0.080	(	0.329)	0.704
258	153	12.75	0.93	0.784	0.080	(	0.329)	0.704
259	154	12.83	0.97	0.812	0.080	(	0.341)	0.732
260	155	12.92	0.97	0.812	0.079	(	0.341)	0.733
261	156	13.00	0.97	0.812	0.079	(	0.341)	0.733
262	157	13.08	1.13	0.952	0.078	(	0.400)	0.874
263	158	13.17	1.13	0.952	0.078	(	0.400)	0.874
264	159	13.25	1.13	0.952	0.078	(	0.400)	0.874
265	160	13.33	1.13	0.952	0.077	(	0.400)	0.875
266	161	13.42	1.13	0.952	0.077	(	0.400)	0.875
267	162	13.50	1.13	0.952	0.076	(	0.400)	0.876
268	163	13.58	0.77	0.644	0.076	(	0.270)	0.568
269	164	13.67	0.77	0.644	0.076	(	0.270)	0.568
270	165	13.75	0.77	0.644	0.075	(	0.270)	0.569
271	166	13.83	0.77	0.644	0.075	(	0.270)	0.569
272	167	13.92	0.77	0.644	0.074	(	0.270)	0.570
273	168	14.00	0.77	0.644	0.074	(	0.270)	0.570
274	169	14.08	0.90	0.756	0.074	(	0.318)	0.682
275	170	14.17	0.90	0.756	0.073	(	0.318)	0.683
276	171	14.25	0.90	0.756	0.073	(	0.318)	0.683

277	172	14.33	0.87	0.728	0.073	(0.306)	0.655
278	173	14.42	0.87	0.728	0.072	(0.306)	0.656
279	174	14.50	0.87	0.728	0.072	(0.306)	0.656
280	175	14.58	0.87	0.728	0.071	(0.306)	0.657
281	176	14.67	0.87	0.728	0.071	(0.306)	0.657
282	177	14.75	0.87	0.728	0.071	(0.306)	0.657
283	178	14.83	0.83	0.700	0.070	(0.294)	0.630
284	179	14.92	0.83	0.700	0.070	(0.294)	0.630
285	180	15.00	0.83	0.700	0.070	(0.294)	0.630
286	181	15.08	0.80	0.672	0.069	(0.282)	0.603
287	182	15.17	0.80	0.672	0.069	(0.282)	0.603
288	183	15.25	0.80	0.672	0.069	(0.282)	0.603
289	184	15.33	0.77	0.644	0.068	(0.270)	0.576
290	185	15.42	0.77	0.644	0.068	(0.270)	0.576
291	186	15.50	0.77	0.644	0.068	(0.270)	0.576
292	187	15.58	0.63	0.532	0.067	(0.223)	0.465
293	188	15.67	0.63	0.532	0.067	(0.223)	0.465
294	189	15.75	0.63	0.532	0.066	(0.223)	0.465
295	190	15.83	0.63	0.532	0.066	(0.223)	0.466
296	191	15.92	0.63	0.532	0.066	(0.223)	0.466
297	192	16.00	0.63	0.532	0.065	(0.223)	0.467
298	193	16.08	0.13	0.112	(0.065)	0.047	0.065
299	194	16.17	0.13	0.112	(0.065)	0.047	0.065
300	195	16.25	0.13	0.112	(0.064)	0.047	0.065
301	196	16.33	0.13	0.112	(0.064)	0.047	0.065
302	197	16.42	0.13	0.112	(0.064)	0.047	0.065
303	198	16.50	0.13	0.112	(0.064)	0.047	0.065
304	199	16.58	0.10	0.084	(0.063)	0.035	0.049
305	200	16.67	0.10	0.084	(0.063)	0.035	0.049
306	201	16.75	0.10	0.084	(0.063)	0.035	0.049
307	202	16.83	0.10	0.084	(0.062)	0.035	0.049
308	203	16.92	0.10	0.084	(0.062)	0.035	0.049
309	204	17.00	0.10	0.084	(0.062)	0.035	0.049
310	205	17.08	0.17	0.140	(0.061)	0.059	0.081
311	206	17.17	0.17	0.140	(0.061)	0.059	0.081
312	207	17.25	0.17	0.140	(0.061)	0.059	0.081
313	208	17.33	0.17	0.140	(0.060)	0.059	0.081
314	209	17.42	0.17	0.140	(0.060)	0.059	0.081
315	210	17.50	0.17	0.140	(0.060)	0.059	0.081
316	211	17.58	0.17	0.140	(0.059)	0.059	0.081
317	212	17.67	0.17	0.140	(0.059)	0.059	0.081
318	213	17.75	0.17	0.140	(0.059)	0.059	0.081
319	214	17.83	0.13	0.112	(0.059)	0.047	0.065
320	215	17.92	0.13	0.112	(0.058)	0.047	0.065
321	216	18.00	0.13	0.112	(0.058)	0.047	0.065
322	217	18.08	0.13	0.112	(0.058)	0.047	0.065
323	218	18.17	0.13	0.112	(0.057)	0.047	0.065
324	219	18.25	0.13	0.112	(0.057)	0.047	0.065
325	220	18.33	0.13	0.112	(0.057)	0.047	0.065
326	221	18.42	0.13	0.112	(0.057)	0.047	0.065
327	222	18.50	0.13	0.112	(0.056)	0.047	0.065
328	223	18.58	0.10	0.084	(0.056)	0.035	0.049
329	224	18.67	0.10	0.084	(0.056)	0.035	0.049
330	225	18.75	0.10	0.084	(0.056)	0.035	0.049
331	226	18.83	0.07	0.056	(0.055)	0.024	0.032
332	227	18.92	0.07	0.056	(0.055)	0.024	0.032
333	228	19.00	0.07	0.056	(0.055)	0.024	0.032
334	229	19.08	0.10	0.084	(0.054)	0.035	0.049
335	230	19.17	0.10	0.084	(0.054)	0.035	0.049
336	231	19.25	0.10	0.084	(0.054)	0.035	0.049
337	232	19.33	0.13	0.112	(0.054)	0.047	0.065
338	233	19.42	0.13	0.112	(0.053)	0.047	0.065
339	234	19.50	0.13	0.112	(0.053)	0.047	0.065
340	235	19.58	0.10	0.084	(0.053)	0.035	0.049
341	236	19.67	0.10	0.084	(0.053)	0.035	0.049
342	237	19.75	0.10	0.084	(0.052)	0.035	0.049
343	238	19.83	0.07	0.056	(0.052)	0.024	0.032
344	239	19.92	0.07	0.056	(0.052)	0.024	0.032
345	240	20.00	0.07	0.056	(0.052)	0.024	0.032

241	20.08	0.10	0.084	(0.052)	0.035	0.049
242	20.17	0.10	0.084	(0.051)	0.035	0.049
243	20.25	0.10	0.084	(0.051)	0.035	0.049
244	20.33	0.10	0.084	(0.051)	0.035	0.049
245	20.42	0.10	0.084	(0.051)	0.035	0.049
246	20.50	0.10	0.084	(0.050)	0.035	0.049
247	20.58	0.10	0.084	(0.050)	0.035	0.049
248	20.67	0.10	0.084	(0.050)	0.035	0.049
249	20.75	0.10	0.084	(0.050)	0.035	0.049
250	20.83	0.07	0.056	(0.050)	0.024	0.032
251	20.92	0.07	0.056	(0.049)	0.024	0.032
252	21.00	0.07	0.056	(0.049)	0.024	0.032
253	21.08	0.10	0.084	(0.049)	0.035	0.049
254	21.17	0.10	0.084	(0.049)	0.035	0.049
255	21.25	0.10	0.084	(0.049)	0.035	0.049
256	21.33	0.07	0.056	(0.048)	0.024	0.032
257	21.42	0.07	0.056	(0.048)	0.024	0.032
258	21.50	0.07	0.056	(0.048)	0.024	0.032
259	21.58	0.10	0.084	(0.048)	0.035	0.049
260	21.67	0.10	0.084	(0.048)	0.035	0.049
261	21.75	0.10	0.084	(0.048)	0.035	0.049
262	21.83	0.07	0.056	(0.047)	0.024	0.032
263	21.92	0.07	0.056	(0.047)	0.024	0.032
264	22.00	0.07	0.056	(0.047)	0.024	0.032
265	22.08	0.10	0.084	(0.047)	0.035	0.049
266	22.17	0.10	0.084	(0.047)	0.035	0.049
267	22.25	0.10	0.084	(0.047)	0.035	0.049
268	22.33	0.07	0.056	(0.046)	0.024	0.032
269	22.42	0.07	0.056	(0.046)	0.024	0.032
270	22.50	0.07	0.056	(0.046)	0.024	0.032
271	22.58	0.07	0.056	(0.046)	0.024	0.032
272	22.67	0.07	0.056	(0.046)	0.024	0.032
273	22.75	0.07	0.056	(0.046)	0.024	0.032
274	22.83	0.07	0.056	(0.046)	0.024	0.032
275	22.92	0.07	0.056	(0.046)	0.024	0.032
276	23.00	0.07	0.056	(0.045)	0.024	0.032
277	23.08	0.07	0.056	(0.045)	0.024	0.032
278	23.17	0.07	0.056	(0.045)	0.024	0.032
279	23.25	0.07	0.056	(0.045)	0.024	0.032
280	23.33	0.07	0.056	(0.045)	0.024	0.032
281	23.42	0.07	0.056	(0.045)	0.024	0.032
282	23.50	0.07	0.056	(0.045)	0.024	0.032
283	23.58	0.07	0.056	(0.045)	0.024	0.032
284	23.67	0.07	0.056	(0.045)	0.024	0.032
285	23.75	0.07	0.056	(0.045)	0.024	0.032
286	23.83	0.07	0.056	(0.045)	0.024	0.032
287	23.92	0.07	0.056	(0.045)	0.024	0.032
288	24.00	0.07	0.056	(0.045)	0.024	0.032

(Loss Rate Not Used)

Sum = 100.0 Sum = 65.7

Flood volume = Effective rainfall 5.47(In)

times area 7.2(Ac.)/[(In)/(Ft.)] = 3.3(Ac.Ft)

Total soil loss = 1.53(In)

Total soil loss = 0.913(Ac.Ft)

Total rainfall = 7.00(In)

Flood volume = 142417.4 Cubic Feet

Total soil loss = 39769.7 Cubic Feet

Peak flow rate of this hydrograph = 6.253(CFS)

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24 - H O U R S T O R M

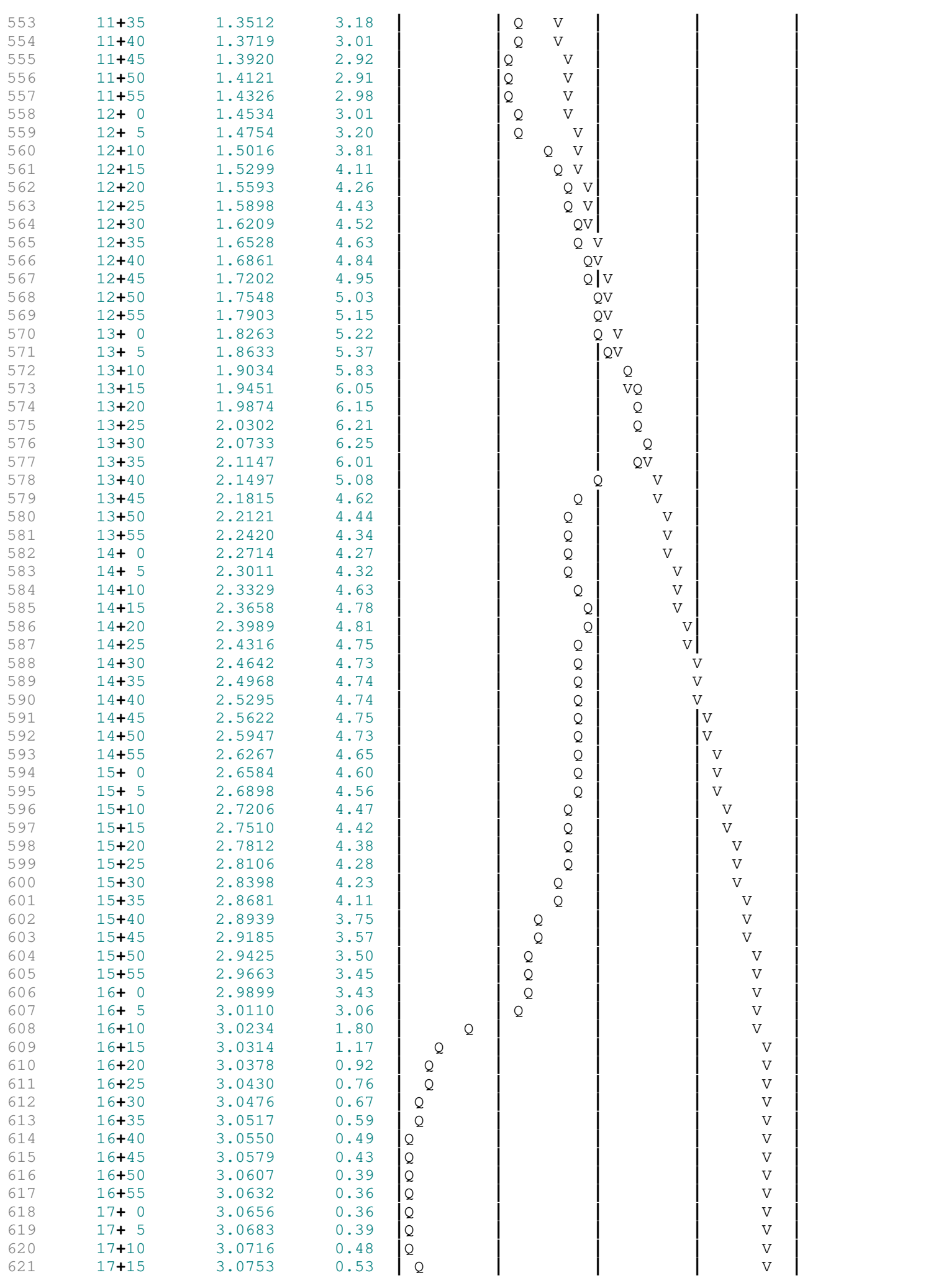
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

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

415	0+ 5	0.0002	0.03	Q				
416	0+10	0.0011	0.13	Q				
417	0+15	0.0023	0.18	Q				
418	0+20	0.0038	0.21	Q				
419	0+25	0.0057	0.28	VQ				
420	0+30	0.0078	0.31	VQ				
421	0+35	0.0100	0.32	VQ				
422	0+40	0.0123	0.33	VQ				
423	0+45	0.0147	0.34	VQ				
424	0+50	0.0172	0.36	VQ				
425	0+55	0.0200	0.41	VQ				
426	1+ 0	0.0230	0.44	VQ				
427	1+ 5	0.0260	0.44	VQ				
428	1+10	0.0287	0.39	VQ				
429	1+15	0.0313	0.37	VQ				
430	1+20	0.0338	0.36	VQ				
431	1+25	0.0363	0.36	VQ				
432	1+30	0.0388	0.36	VQ				
433	1+35	0.0412	0.36	VQ				
434	1+40	0.0437	0.36	VQ				
435	1+45	0.0461	0.35	VQ				
436	1+50	0.0486	0.37	VQ				
437	1+55	0.0515	0.42	VQ				
438	2+ 0	0.0546	0.44	VQ				
439	2+ 5	0.0577	0.45	VQ				
440	2+10	0.0608	0.46	VQ				
441	2+15	0.0640	0.46	VQ				
442	2+20	0.0672	0.46	VQ				
443	2+25	0.0704	0.47	VQ				
444	2+30	0.0736	0.47	VQ				
445	2+35	0.0770	0.48	VQ				
446	2+40	0.0806	0.53	V Q				
447	2+45	0.0845	0.56	|VQ				
448	2+50	0.0884	0.57	|VQ				
449	2+55	0.0924	0.58	|VQ				
450	3+ 0	0.0964	0.58	|VQ				
451	3+ 5	0.1004	0.58	|VQ				
452	3+10	0.1044	0.58	|VQ				
453	3+15	0.1084	0.59	|VQ				
454	3+20	0.1125	0.59	|VQ				
455	3+25	0.1165	0.59	|VQ				
456	3+30	0.1205	0.59	|VQ				
457	3+35	0.1246	0.59	|VQ				
458	3+40	0.1286	0.59	|VQ				
459	3+45	0.1327	0.59	|VQ				
460	3+50	0.1368	0.60	|VQ				
461	3+55	0.1413	0.65	|VQ				
462	4+ 0	0.1460	0.68	|VQ				
463	4+ 5	0.1507	0.69	|VQ				
464	4+10	0.1555	0.69	|VQ				
465	4+15	0.1602	0.70	|VQ				
466	4+20	0.1652	0.71	| Q				
467	4+25	0.1704	0.77	| VQ				
468	4+30	0.1759	0.79	| VQ				
469	4+35	0.1814	0.80	| VQ				
470	4+40	0.1870	0.81	| VQ				
471	4+45	0.1926	0.81	| VQ				
472	4+50	0.1983	0.83	| VQ				
473	4+55	0.2044	0.88	| VQ				
474	5+ 0	0.2107	0.91	| VQ				
475	5+ 5	0.2168	0.89	| VQ				
476	5+10	0.2223	0.80	| VQ				
477	5+15	0.2275	0.75	| VQ				
478	5+20	0.2327	0.75	| Q				
479	5+25	0.2381	0.79	| VQ				
480	5+30	0.2437	0.81	| VQ				
481	5+35	0.2494	0.83	| Q				
482	5+40	0.2554	0.88	| Q				
483	5+45	0.2617	0.91	| Q				

484	5+50	0.2680	0.92	Q				
485	5+55	0.2744	0.92	Q				
486	6+ 0	0.2808	0.93	Q				
487	6+ 5	0.2873	0.95	Q				
488	6+10	0.2942	1.00	VQ				
489	6+15	0.3012	1.03	VQ				
490	6+20	0.3084	1.04	VQ				
491	6+25	0.3156	1.04	VQ				
492	6+30	0.3228	1.05	VQ				
493	6+35	0.3302	1.07	Q				
494	6+40	0.3380	1.13	Q				
495	6+45	0.3460	1.17	Q				
496	6+50	0.3541	1.18	Q				
497	6+55	0.3624	1.19	Q				
498	7+ 0	0.3706	1.20	Q				
499	7+ 5	0.3790	1.21	Q				
500	7+10	0.3873	1.21	Q				
501	7+15	0.3957	1.22	Q				
502	7+20	0.4043	1.25	Q				
503	7+25	0.4136	1.34	Q				
504	7+30	0.4231	1.39	Q				
505	7+35	0.4330	1.43	Q				
506	7+40	0.4435	1.53	VQ				
507	7+45	0.4545	1.59	VQ				
508	7+50	0.4657	1.64	VQ				
509	7+55	0.4777	1.74	VQ				
510	8+ 0	0.4901	1.80	V Q				
511	8+ 5	0.5030	1.87	VQ				
512	8+10	0.5172	2.06	V Q				
513	8+15	0.5321	2.16	V Q				
514	8+20	0.5473	2.21	V Q				
515	8+25	0.5627	2.24	V Q				
516	8+30	0.5783	2.26	V Q				
517	8+35	0.5941	2.30	V Q				
518	8+40	0.6106	2.39	V Q				
519	8+45	0.6274	2.45	V Q				
520	8+50	0.6446	2.49	V Q				
521	8+55	0.6625	2.60	V Q				
522	9+ 0	0.6807	2.65	V Q				
523	9+ 5	0.6995	2.73	V Q				
524	9+10	0.7196	2.92	V Q				
525	9+15	0.7404	3.02	V Q				
526	9+20	0.7616	3.08	V Q				
527	9+25	0.7836	3.20	V Q				
528	9+30	0.8061	3.26	V Q				
529	9+35	0.8290	3.32	V Q				
530	9+40	0.8526	3.43	V Q				
531	9+45	0.8766	3.49	V Q				
532	9+50	0.9009	3.54	V Q				
533	9+55	0.9261	3.65	V Q				
534	10+ 0	0.9515	3.70	V Q				
535	10+ 5	0.9760	3.56	V Q				
536	10+10	0.9965	2.97	QV				
537	10+15	1.0149	2.68	Q V				
538	10+20	1.0326	2.57	Q V				
539	10+25	1.0499	2.50	Q V				
540	10+30	1.0668	2.46	Q V				
541	10+35	1.0844	2.56	Q V				
542	10+40	1.1049	2.97	Q V				
543	10+45	1.1267	3.17	QV				
544	10+50	1.1491	3.25	QV				
545	10+55	1.1718	3.29	QV				
546	11+ 0	1.1947	3.33	QV				
547	11+ 5	1.2177	3.33	QV				
548	11+10	1.2402	3.27	Q V				
549	11+15	1.2625	3.24	Q V				
550	11+20	1.2848	3.23	Q V				
551	11+25	1.3071	3.23	Q V				
552	11+30	1.3293	3.23	Q V				



622	17+20	3.0791	0.55	Q			V	
623	17+25	3.0830	0.56	Q			V	
624	17+30	3.0869	0.57	Q			V	
625	17+35	3.0909	0.58	Q			V	
626	17+40	3.0949	0.58	Q			V	
627	17+45	3.0989	0.58	Q			V	
628	17+50	3.1028	0.57	Q			V	
629	17+55	3.1064	0.52	Q			V	
630	18+ 0	3.1099	0.50	Q			V	
631	18+ 5	3.1132	0.49	Q			V	
632	18+10	3.1165	0.48	Q			V	
633	18+15	3.1198	0.48	Q			V	
634	18+20	3.1231	0.47	Q			V	
635	18+25	3.1264	0.47	Q			V	
636	18+30	3.1296	0.47	Q			V	
637	18+35	3.1327	0.46	Q			V	
638	18+40	3.1355	0.41	Q			V	
639	18+45	3.1382	0.38	Q			V	
640	18+50	3.1406	0.36	Q			V	
641	18+55	3.1427	0.30	Q			V	
642	19+ 0	3.1445	0.27	Q			V	
643	19+ 5	3.1464	0.27	Q			V	
644	19+10	3.1486	0.31	Q			V	
645	19+15	3.1509	0.33	Q			V	
646	19+20	3.1533	0.35	Q			V	
647	19+25	3.1561	0.41	Q			V	
648	19+30	3.1591	0.44	Q			V	
649	19+35	3.1621	0.43	Q			V	
650	19+40	3.1648	0.39	Q			V	
651	19+45	3.1673	0.37	Q			V	
652	19+50	3.1698	0.35	Q			V	
653	19+55	3.1718	0.30	Q			V	
654	20+ 0	3.1736	0.27	Q			V	
655	20+ 5	3.1755	0.27	Q			V	
656	20+10	3.1777	0.31	Q			V	
657	20+15	3.1800	0.33	Q			V	
658	20+20	3.1823	0.34	Q			V	
659	20+25	3.1847	0.34	Q			V	
660	20+30	3.1871	0.35	Q			V	
661	20+35	3.1895	0.35	Q			V	
662	20+40	3.1919	0.35	Q			V	
663	20+45	3.1943	0.35	Q			V	
664	20+50	3.1966	0.34	Q			V	
665	20+55	3.1986	0.29	Q			V	
666	21+ 0	3.2004	0.26	Q			V	
667	21+ 5	3.2022	0.27	Q			V	
668	21+10	3.2044	0.31	Q			V	
669	21+15	3.2067	0.33	Q			V	
670	21+20	3.2089	0.33	Q			V	
671	21+25	3.2108	0.28	Q			V	
672	21+30	3.2126	0.26	Q			V	
673	21+35	3.2144	0.26	Q			V	
674	21+40	3.2165	0.31	Q			V	
675	21+45	3.2188	0.33	Q			V	
676	21+50	3.2210	0.32	Q			V	
677	21+55	3.2230	0.28	Q			V	
678	22+ 0	3.2247	0.26	Q			V	
679	22+ 5	3.2265	0.26	Q			V	
680	22+10	3.2287	0.31	Q			V	
681	22+15	3.2309	0.33	Q			V	
682	22+20	3.2332	0.32	Q			V	
683	22+25	3.2351	0.28	Q			V	
684	22+30	3.2369	0.26	Q			V	
685	22+35	3.2386	0.25	Q			V	
686	22+40	3.2403	0.24	Q			V	
687	22+45	3.2419	0.24	Q			V	
688	22+50	3.2436	0.24	Q			V	
689	22+55	3.2452	0.24	Q			V	
690	23+ 0	3.2468	0.24	Q			V	

```
    23+ 5       3.2485      0.24  Q          |          |          |          V|
    23+10       3.2501      0.23  Q          |          |          |          V|
    23+15       3.2517      0.23  Q          |          |          |          V|
    23+20       3.2533      0.23  Q          |          |          |          V|
    23+25       3.2549      0.23  Q          |          |          |          V|
    23+30       3.2565      0.23  Q          |          |          |          V|
    23+35       3.2582      0.23  Q          |          |          |          V|
    23+40       3.2598      0.23  Q          |          |          |          V|
    23+45       3.2614      0.23  Q          |          |          |          V|
    23+50       3.2630      0.23  Q          |          |          |          V|
    23+55       3.2646      0.23  Q          |          |          |          V|
    24+ 0       3.2662      0.23  Q          |          |          |          V|
    24+ 5       3.2677      0.21  Q          |          |          |          V|
    24+10       3.2684      0.11  Q          |          |          |          V|
    24+15       3.2688      0.06  Q          |          |          |          V|
    24+20       3.2690      0.04  Q          |          |          |          V|
    24+25       3.2692      0.02  Q          |          |          |          V|
    24+30       3.2693      0.02  Q          |          |          |          V|
    24+35       3.2694      0.01  Q          |          |          |          V|
    24+40       3.2694      0.01  Q          |          |          |          V|
    24+45       3.2694      0.00  Q          |          |          |          V|
    24+50       3.2695      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  02/27/24 File: temd112.out


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------------------------------------------------------------------------------

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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
Temescal Canyon Existing Area D
2 Year 1 Hour
Kimley-Horn

------------------------------------------------------------------------
Drainage Area =       9.45(Ac.)  =      0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       9.45(Ac.)  =      0.015 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.120 Hr.
Lag time =     7.20 Min.
25% of lag time =     1.80 Min.
40% of lag time =     2.88 Min.
Unit time =     5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        9.45            0.55                5.20

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        9.45            1.40               13.23

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    0.550(In)
Area Averaged 100-Year Rainfall =    1.400(In)

Point rain (area averaged) =    0.550(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    0.550(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     9.450           69.00          0.500
 Total Area Entered =      9.45(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

```
    69.0  49.8      0.574     0.500        0.316       1.000      0.316
                                                        Sum (F) =   0.316
    Area averaged mean soil loss (F) (In/Hr) =  0.316
    Minimum soil loss rate ((In/Hr)) =  0.158
    (for 24 hour storm duration)
    Soil low loss rate (decimal) =   0.500
    ------------------------------------------------------------------------
    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   Time % of lag   Distribution   Unit Hydrograph
        (hrs)                           Graph %            (CFS)
    ------------------------------------------------------------------------
        1   0.083         69.444         10.484              0.998
        2   0.167        138.889         39.811              3.792
        3   0.250        208.333         23.342              2.223
        4   0.333        277.778          9.061              0.863
        5   0.417        347.222          5.509              0.525
        6   0.500        416.667          3.673              0.350
        7   0.583        486.111          2.445              0.233
        8   0.667        555.556          1.921              0.183
        9   0.750        625.000          1.361              0.130
       10   0.833        694.444          0.972              0.093
       11   0.917        763.889          0.712              0.068
       12   1.000        833.333          0.708              0.067
                                  Sum = 100.000    Sum=       9.524
------------------------------------------------------------------------


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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)      Effective
       (Hr.)  Percent   (In/Hr)          Max    |    Low         (In/Hr)
    1   0.08     4.40      0.290       (  0.316)       0.145        0.145
    2   0.17     4.50      0.297       (  0.316)       0.148        0.148
    3   0.25     5.40      0.356       (  0.316)       0.178        0.178
    4   0.33     5.40      0.356       (  0.316)       0.178        0.178
    5   0.42     5.70      0.376       (  0.316)       0.188        0.188
    6   0.50     6.40      0.422       (  0.316)       0.211        0.211
    7   0.58     7.90      0.521       (  0.316)       0.261        0.261
    8   0.67     9.10      0.601       (  0.316)       0.300        0.300
    9   0.75    12.80      0.845          0.316    (  0.422)        0.529
   10   0.83    25.60      1.689          0.316    (  0.845)        1.374
   11   0.92     7.90      0.521       (  0.316)       0.261        0.261
   12   1.00     4.90      0.323       (  0.316)       0.162        0.162
          (Loss Rate Not Used)
     Sum =     100.0                                    Sum =      3.9
    Flood volume = Effective rainfall      0.33(In)
     times area       9.4(Ac.)/[(In)/(Ft.)] =       0.3(Ac.Ft)
    Total soil loss =      0.22(In)
    Total soil loss =     0.175(Ac.Ft)
    Total rainfall =      0.55(In)
    Flood volume =       11250.0 Cubic Feet
    Total soil loss =        7615.3 Cubic Feet
    ------------------------------------------------------------------------
     Peak flow rate of this hydrograph =      7.242(CFS)
    ------------------------------------------------------------------------
    ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                      1 - H O U R    S T O R M
                  R u n o f f     H y d r o g r a p h
    ------------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))
```

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0010	0.15	Q				
0+10	0.0058	0.70	V Q				
0+15	0.0131	1.06	| V Q				
0+20	0.0222	1.31	| V Q				
0+25	0.0322	1.46	| VQ				
0+30	0.0433	1.60	| Q				
0+35	0.0558	1.81	| QV				
0+40	0.0705	2.14	| Q V				
0+45	0.0889	2.68	| Q V				
0+50	0.1203	4.56	| Q				
0+55	0.1702	7.24	| V Q				
1+ 0	0.2050	5.05	| Q	V			
1+ 5	0.2252	2.92	| Q	V			
1+10	0.2367	1.68	| Q	V			
1+15	0.2437	1.01	| Q	V			
1+20	0.2484	0.68	| Q	V			
1+25	0.2518	0.50	| Q	V			
1+30	0.2542	0.35	| Q	V			
1+35	0.2559	0.25	Q |	V			
1+40	0.2571	0.17	Q |	V			
1+45	0.2580	0.13	Q |	V			
1+50	0.2582	0.03	Q |	V			
1+55	0.2583	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  02/27/24 File: temd11100.out


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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
Temescal Canyon Existing Area D
100 Year 1 Hour
Kimley-Horn

------------------------------------------------------------------------
Drainage Area =       9.45(Ac.)  =      0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       9.45(Ac.)  =      0.015 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.120 Hr.
Lag time =     7.20 Min.
25% of lag time =     1.80 Min.
40% of lag time =     2.88 Min.
Unit time =     5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        9.45            0.55                5.20

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        9.45            1.40               13.23

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.550(In)
Area Averaged 100-Year Rainfall =    1.400(In)

Point rain (area averaged) =    1.400(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    1.400(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     9.450           69.00          0.500
 Total Area Entered =      9.45(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

```
    69.0  84.4      0.194     0.500        0.107       1.000      0.107
                                                        Sum (F) =   0.107
    Area averaged mean soil loss (F) (In/Hr) =  0.107
    Minimum soil loss rate ((In/Hr)) =  0.053
    (for 24 hour storm duration)
    Soil low loss rate (decimal) =   0.500
    ------------------------------------------------------------------------
    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   Time % of lag   Distribution   Unit Hydrograph
        (hrs)                           Graph %           (CFS)
    ------------------------------------------------------------------------
        1   0.083         69.444         10.484             0.998
        2   0.167        138.889         39.811             3.792
        3   0.250        208.333         23.342             2.223
        4   0.333        277.778          9.061             0.863
        5   0.417        347.222          5.509             0.525
        6   0.500        416.667          3.673             0.350
        7   0.583        486.111          2.445             0.233
        8   0.667        555.556          1.921             0.183
        9   0.750        625.000          1.361             0.130
       10   0.833        694.444          0.972             0.093
       11   0.917        763.889          0.712             0.068
       12   1.000        833.333          0.708             0.067
                                  Sum = 100.000    Sum=       9.524
------------------------------------------------------------------------


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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)      Effective
       (Hr.)  Percent   (In/Hr)         Max    |    Low         (In/Hr)
   1   0.08     4.40      0.739          0.107    (  0.370)        0.633
   2   0.17     4.50      0.756          0.107    (  0.378)        0.649
   3   0.25     5.40      0.907          0.107    (  0.454)        0.801
   4   0.33     5.40      0.907          0.107    (  0.454)        0.801
   5   0.42     5.70      0.958          0.107    (  0.479)        0.851
   6   0.50     6.40      1.075          0.107    (  0.538)        0.968
   7   0.58     7.90      1.327          0.107    (  0.664)        1.220
   8   0.67     9.10      1.529          0.107    (  0.764)        1.422
   9   0.75    12.80      2.150          0.107    (  1.075)        2.044
  10   0.83    25.60      4.300          0.107    (  2.150)        4.194
  11   0.92     7.90      1.327          0.107    (  0.664)        1.220
  12   1.00     4.90      0.823          0.107    (  0.412)        0.717
         (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    15.5
    Flood volume = Effective rainfall      1.29(In)
     times area       9.4(Ac.)/[(In)/(Ft.)] =       1.0(Ac.Ft)
    Total soil loss =      0.11(In)
    Total soil loss =     0.084(Ac.Ft)
    Total rainfall =      1.40(In)
    Flood volume =       44363.6 Cubic Feet
    Total soil loss =        3657.2 Cubic Feet
    ------------------------------------------------------------------------
     Peak flow rate of this hydrograph =     24.433(CFS)
    ------------------------------------------------------------------------
    ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                      1 - H O U R    S T O R M
                  R u n o f f     H y d r o g r a p h
    ------------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))
```

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0044	0.63	Q				
0+10	0.0253	3.05	V Q				
0+15	0.0575	4.67	V Q				
0+20	0.0976	5.83	V Q				
0+25	0.1428	6.56	V Q				
0+30	0.1926	7.23	V Q				
0+35	0.2496	8.27	V Q				
0+40	0.3178	9.91	VQ				
0+45	0.4011	12.10	VQ				
0+50	0.5213	17.44	V Q				
0+55	0.6895	24.43	V	Q			
1+ 0	0.8153	18.26	Q	V			
1+ 5	0.8936	11.37	Q	V			
1+10	0.9379	6.43	Q	V			
1+15	0.9642	3.82	Q	V			
1+20	0.9819	2.58	Q	V			
1+25	0.9947	1.85	Q	V			
1+30	1.0036	1.30	Q	V			
1+35	1.0099	0.91	Q	V			
1+40	1.0142	0.63	Q	V			
1+45	1.0172	0.43	Q	V			
1+50	1.0181	0.13	Q	V			
1+55	1.0184	0.05	Q	V			

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

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        Study date  08/08/24 File: PTC2A12.out


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
------------------------------------------------------------------------------

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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUTLFOW A
2 YEARH 1 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =      11.12(Ac.)  =      0.018 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =      11.27(Ac.)  =      0.018 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.237 Hr.
Lag time =    14.22 Min.
25% of lag time =     3.55 Min.
40% of lag time =     5.69 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]
       11.12            0.55                6.20

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       11.12            1.40               15.78

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    0.550(In)
Area Averaged 100-Year Rainfall =    1.400(In)

Point rain (area averaged) =    0.550(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    0.550(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    11.120           69.00         0.100
 Total Area Entered =     11.27(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

69.0	49.8	0.574	0.100	0.522	1.000	0.522

Sum (F) = 0.522

Area averaged **mean** soil loss (F) (In/Hr) = 0.522
Minimum soil loss rate ((In/Hr)) = 0.261
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.824

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	35.162	3.609	0.410
2	0.167	70.323	14.198	1.613
3	0.250	105.485	23.408	2.659
4	0.333	140.647	19.529	2.218
5	0.417	175.809	10.317	1.172
6	0.500	210.970	5.913	0.672
7	0.583	246.132	4.325	0.491
8	0.667	281.294	3.396	0.386
9	0.750	316.456	2.678	0.304
10	0.833	351.617	2.169	0.246
11	0.917	386.779	1.803	0.205
12	1.000	421.941	1.465	0.166
13	1.083	457.103	1.154	0.131
14	1.167	492.264	1.077	0.122
15	1.250	527.426	0.969	0.110
16	1.333	562.588	0.771	0.088
17	1.417	597.750	0.662	0.075
18	1.500	632.911	0.571	0.065
19	1.583	668.073	0.474	0.054
20	1.667	703.235	0.368	0.042
21	1.750	738.397	0.352	0.040
22	1.833	773.558	0.352	0.040
23	1.917	808.720	0.440	0.050
		Sum = 100.000	Sum=	11.358

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.277	(0.522)	0.228	0.049
2	0.17	4.30	0.284	(0.522)	0.234	0.050
3	0.25	5.00	0.330	(0.522)	0.272	0.058
4	0.33	5.00	0.330	(0.522)	0.272	0.058
5	0.42	5.80	0.383	(0.522)	0.315	0.067
6	0.50	6.50	0.429	(0.522)	0.353	0.075
7	0.58	7.40	0.488	(0.522)	0.402	0.086
8	0.67	8.60	0.568	(0.522)	0.468	0.100
9	0.75	12.30	0.812	0.522	(0.669)	0.289
10	0.83	29.10	1.920	0.522	(1.582)	1.398
11	0.92	6.80	0.449	(0.522)	0.370	0.079
12	1.00	5.00	0.330	(0.522)	0.272	0.058
	(Loss Rate Not Used)					
Sum =	100.0				Sum =	2.4

Flood volume = Effective rainfall 0.20(In)
times area 11.3(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.35(In)
Total soil loss = 0.331(Ac.Ft)
Total rainfall = 0.55(In)

Flood volume = 8073.4 Cubic Feet
Total soil loss = 14424.8 Cubic Feet

Peak flow rate of this hydrograph = 4.801(CFS)

++

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.02	Q				
0+10	0.0008	0.10	Q				
0+15	0.0024	0.23	Q				
0+20	0.0049	0.36	Q				
0+25	0.0080	0.44	Q				
0+30	0.0115	0.51	Q				
0+35	0.0156	0.59	QV				
0+40	0.0203	0.68	Q V				
0+45	0.0262	0.86	Q V				
0+50	0.0379	1.71	Q V				
0+55	0.0622	3.53	VQ				
1+ 0	0.0953	4.80	QV				
1+ 5	0.1225	3.95	Q	V			
1+10	0.1384	2.32	Q	V			
1+15	0.1483	1.43	Q	V			
1+20	0.1553	1.02	Q	V			
1+25	0.1608	0.79	Q	V			
1+30	0.1651	0.63	Q	V			
1+35	0.1686	0.51	Q	V			
1+40	0.1715	0.42	Q	V			
1+45	0.1739	0.35	Q	V			
1+50	0.1758	0.28	Q	V			
1+55	0.1776	0.26	Q	V			
2+ 0	0.1791	0.22	Q	V			
2+ 5	0.1804	0.18	Q	V			
2+10	0.1814	0.15	Q	V			
2+15	0.1824	0.13	Q	V			
2+20	0.1831	0.11	Q	V			
2+25	0.1837	0.09	Q	V			
2+30	0.1842	0.08	Q	V			
2+35	0.1848	0.08	Q	V			
2+40	0.1853	0.08	Q	V			
2+45	0.1853	0.01	Q	V			
2+50	0.1853	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  08/09/24 File: PTC100A1100.out


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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUTFLOW A
100 YEAR 1 HOUR
KIMLEY HORN

----------------------------------------------------------------------
Drainage Area =      11.12(Ac.)  =      0.017 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =      11.12(Ac.)  =      0.017 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.212 Hr.
Lag time =    12.72 Min.
25% of lag time =     3.18 Min.
40% of lag time =     5.09 Min.
Unit time =     5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       11.12            0.55                6.12

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
       11.12            1.40               15.57

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.550(In)
Area Averaged 100-Year Rainfall =    1.400(In)

Point rain (area averaged) =    1.400(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    1.400(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
    11.120           69.00          0.100
 Total Area Entered =     11.12(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

```
    69.0  84.4      0.194     0.100        0.176       1.000      0.176
                                                        Sum (F) =   0.176
 Area averaged mean soil loss (F) (In/Hr) =  0.176
 Minimum soil loss rate ((In/Hr)) =  0.088
 (for 24 hour storm duration)
 Soil low loss rate (decimal) =   0.824
 ------------------------------------------------------------------------
 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   Time % of lag   Distribution   Unit Hydrograph
     (hrs)                          Graph %            (CFS)
 ------------------------------------------------------------------------
        1   0.083         39.308          4.244              0.476
        2   0.167         78.616         17.345              1.944
        3   0.250        117.925         26.363              2.954
        4   0.333        157.233         17.785              1.993
        5   0.417        196.541          8.726              0.978
        6   0.500        235.849          5.446              0.610
        7   0.583        275.157          4.045              0.453
        8   0.667        314.465          3.141              0.352
        9   0.750        353.774          2.450              0.275
       10   0.833        393.082          1.987              0.223
       11   0.917        432.390          1.569              0.176
       12   1.000        471.698          1.253              0.140
       13   1.083        511.006          1.175              0.132
       14   1.167        550.314          0.946              0.106
       15   1.250        589.623          0.785              0.088
       16   1.333        628.931          0.665              0.075
       17   1.417        668.239          0.539              0.060
       18   1.500        707.547          0.416              0.047
       19   1.583        746.855          0.393              0.044
       20   1.667        786.164          0.393              0.044
       21   1.750        825.472          0.335              0.038
                                 Sum = 100.000    Sum=      11.207
------------------------------------------------------------------------


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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)      Effective
       (Hr.)  Percent   (In/Hr)         Max    |    Low         (In/Hr)
   1   0.08     4.20      0.706          0.176    (  0.581)        0.529
   2   0.17     4.30      0.722          0.176    (  0.595)        0.546
   3   0.25     5.00      0.840          0.176    (  0.692)        0.664
   4   0.33     5.00      0.840          0.176    (  0.692)        0.664
   5   0.42     5.80      0.974          0.176    (  0.803)        0.798
   6   0.50     6.50      1.092          0.176    (  0.900)        0.915
   7   0.58     7.40      1.243          0.176    (  1.024)        1.067
   8   0.67     8.60      1.445          0.176    (  1.190)        1.268
   9   0.75    12.30      2.066          0.176    (  1.703)        1.890
  10   0.83    29.10      4.888          0.176    (  4.028)        4.712
  11   0.92     6.80      1.142          0.176    (  0.941)        0.966
  12   1.00     5.00      0.840          0.176    (  0.692)        0.664
         (Loss Rate Not Used)
    Sum =     100.0                                    Sum =    14.7
   Flood volume = Effective rainfall      1.22(In)
    times area      11.1(Ac.)/[(In)/(Ft.)] =       1.1(Ac.Ft)
   Total soil loss =      0.18(In)
   Total soil loss =     0.163(Ac.Ft)
   Total rainfall =      1.40(In)
   Flood volume =       49385.9 Cubic Feet
   Total soil loss =        7120.3 Cubic Feet
```

Peak flow rate of this hydrograph = 22.980(CFS)

++

1 - H O U R S T O R M

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	7.5	15.0	22.5	30.0
0+ 5	0.0017	0.25	Q				
0+10	0.0106	1.29	VQ				
0+15	0.0309	2.94	V Q				
0+20	0.0603	4.28	V Q				
0+25	0.0964	5.24	V Q				
0+30	0.1386	6.13	V Q				
0+35	0.1881	7.19	V Q				
0+40	0.2464	8.46	V Q				
0+45	0.3165	10.17	V Q				
0+50	0.4127	13.98	V Q				
0+55	0.5528	20.33	V Q				
1+ 0	0.7110	22.98	V Q				
1+ 5	0.8323	17.60	Q V				
1+10	0.9106	11.37	Q V				
1+15	0.9613	7.37	Q V				
1+20	0.9968	5.15	Q V				
1+25	1.0238	3.93	Q V				
1+30	1.0452	3.10	Q V				
1+35	1.0624	2.51	Q V				
1+40	1.0764	2.03	Q V				
1+45	1.0880	1.68	Q V				
1+50	1.0979	1.44	Q V				
1+55	1.1060	1.18	Q V				
2+ 0	1.1127	0.97	Q V				
2+ 5	1.1182	0.80	Q V				
2+10	1.1226	0.64	Q V				
2+15	1.1261	0.51	Q V				
2+20	1.1290	0.42	Q V				
2+25	1.1314	0.35	Q V				
2+30	1.1331	0.25	Q V				
2+35	1.1336	0.07	Q V				
2+40	1.1337	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  08/08/24 File: PTC2B112.out


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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUTFLOW B1
2 YEAR 1 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       3.65(Ac.)  =      0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       3.65(Ac.)  =      0.006 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.076 Hr.
Lag time =     4.56 Min.
25% of lag time =     1.14 Min.
40% of lag time =     1.82 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]
        3.65            0.55                2.01

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.65            1.40                5.11

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    0.550(In)
Area Averaged 100-Year Rainfall =    1.400(In)

Point rain (area averaged) =    0.550(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.550(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.650           56.00          0.722
 Total Area Entered =      3.65(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

```
    56.0  36.0      0.706     0.722        0.247       1.000      0.247
                                                        Sum (F) =   0.247
    Area averaged mean soil loss (F) (In/Hr) =  0.247
    Minimum soil loss rate ((In/Hr)) =  0.124
    (for 24 hour storm duration)
    Soil low loss rate (decimal) =   0.322
    ------------------------------------------------------------------------
    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   Time % of lag   Distribution   Unit Hydrograph
        (hrs)                           Graph %           (CFS)
    ------------------------------------------------------------------------
        1   0.083        109.649         22.134             0.814
        2   0.167        219.298         48.828             1.796
        3   0.250        328.947         14.348             0.528
        4   0.333        438.596          6.562             0.241
        5   0.417        548.246          3.644             0.134
        6   0.500        657.895          2.276             0.084
        7   0.583        767.544          1.334             0.049
        8   0.667        877.193          0.873             0.032
                                 Sum = 100.000    Sum=       3.679
-------------------------------------------------------------------------


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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max    |   Low         (In/Hr)
   1   0.08     4.20      0.277       (  0.247)      0.089        0.188
   2   0.17     4.30      0.284       (  0.247)      0.091        0.192
   3   0.25     5.00      0.330       (  0.247)      0.106        0.224
   4   0.33     5.00      0.330       (  0.247)      0.106        0.224
   5   0.42     5.80      0.383       (  0.247)      0.123        0.260
   6   0.50     6.50      0.429       (  0.247)      0.138        0.291
   7   0.58     7.40      0.488       (  0.247)      0.157        0.331
   8   0.67     8.60      0.568       (  0.247)      0.183        0.385
   9   0.75    12.30      0.812          0.247    (  0.261)        0.565
  10   0.83    29.10      1.921          0.247    (  0.618)        1.673
  11   0.92     6.80      0.449       (  0.247)      0.145        0.304
  12   1.00     5.00      0.330       (  0.247)      0.106        0.224
         (Loss Rate Not Used)
     Sum =     100.0                                  Sum =      4.9
    Flood volume = Effective rainfall      0.40(In)
     times area       3.6(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
    Total soil loss =      0.14(In)
    Total soil loss =     0.044(Ac.Ft)
    Total rainfall =      0.55(In)
    Flood volume =        5366.0 Cubic Feet
    Total soil loss =        1921.0 Cubic Feet
    ------------------------------------------------------------------------
     Peak flow rate of this hydrograph =      3.735(CFS)
    ------------------------------------------------------------------------
    ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                    R u n o f f     H y d r o g r a p h
    ------------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ------------------------------------------------------------------------
  Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
  ------------------------------------------------------------------------
    0+ 5       0.0011      0.15  Q         |         |         |         |
```

```
      0+10       0.0045      0.49  |Q          |           |           |           |
      0+15       0.0088      0.63  | Q         |           |           |           |
      0+20       0.0138      0.73  | Q V       |           |           |           |
      0+25       0.0193      0.80  |  Q  V     |           |           |           |
      0+30       0.0257      0.92  |  Q    V   |           |           |           |
      0+35       0.0328      1.04  |    Q      V           |           |           |
      0+40       0.0410      1.19  |    Q      |  V        |           |           |
      0+45       0.0511      1.47  |     Q     |     V     |           |           |
      0+50       0.0700      2.74  |           Q           |  V        |           |
      0+55       0.0957      3.73  |           |    Q      |           |V          |
      1+ 0       0.1085      1.85  |       Q   |           |           |    V      |
      1+ 5       0.1160      1.10  |    Q      |           |           |       V   |
      1+10       0.1194      0.49  |Q          |           |           |        V  |
      1+15       0.1213      0.28  |Q          |           |           |         V |
      1+20       0.1224      0.16  Q           |           |           |         V |
      1+25       0.1230      0.09  Q           |           |           |         V |
      1+30       0.1231      0.02  Q           |           |           |         V |
      1+35       0.1232      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  08/08/24 File: PTC2B132.out


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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUTFLOW B1
2 YEAR 3 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       3.65(Ac.)  =      0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       3.65(Ac.)  =      0.006 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.076 Hr.
Lag time =     4.56 Min.
25% of lag time =     1.14 Min.
40% of lag time =     1.82 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]
        3.65            1.00                3.65

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.65            2.50                9.13

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    1.000(In)
Area Averaged 100-Year Rainfall =    2.500(In)

Point rain (area averaged) =    1.000(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.000(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.650           56.00          0.722
 Total Area Entered =      3.65(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

56.0	36.0	0.706	0.722	0.247	1.000	0.247

Sum (F) = 0.247

Area averaged **mean** soil loss (F) (In/Hr) = 0.247

Minimum soil loss rate ((In/Hr)) = 0.124

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.322

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	109.649	22.134	0.814
2	0.167	219.298	48.828	1.796
3	0.250	328.947	14.348	0.528
4	0.333	438.596	6.562	0.241
5	0.417	548.246	3.644	0.134
6	0.500	657.895	2.276	0.084
7	0.583	767.544	1.334	0.049
8	0.667	877.193	0.873	0.032
		Sum = 100.000	Sum=	3.679

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.156	(0.247)	0.050	0.106
2	0.17	1.30	0.156	(0.247)	0.050	0.106
3	0.25	1.10	0.132	(0.247)	0.043	0.089
4	0.33	1.50	0.180	(0.247)	0.058	0.122
5	0.42	1.50	0.180	(0.247)	0.058	0.122
6	0.50	1.80	0.216	(0.247)	0.070	0.146
7	0.58	1.50	0.180	(0.247)	0.058	0.122
8	0.67	1.80	0.216	(0.247)	0.070	0.146
9	0.75	1.80	0.216	(0.247)	0.070	0.146
10	0.83	1.50	0.180	(0.247)	0.058	0.122
11	0.92	1.60	0.192	(0.247)	0.062	0.130
12	1.00	1.80	0.216	(0.247)	0.070	0.146
13	1.08	2.20	0.264	(0.247)	0.085	0.179
14	1.17	2.20	0.264	(0.247)	0.085	0.179
15	1.25	2.20	0.264	(0.247)	0.085	0.179
16	1.33	2.00	0.240	(0.247)	0.077	0.163
17	1.42	2.60	0.312	(0.247)	0.100	0.212
18	1.50	2.70	0.324	(0.247)	0.104	0.220
19	1.58	2.40	0.288	(0.247)	0.093	0.195
20	1.67	2.70	0.324	(0.247)	0.104	0.220
21	1.75	3.30	0.396	(0.247)	0.128	0.268
22	1.83	3.10	0.372	(0.247)	0.120	0.252
23	1.92	2.90	0.348	(0.247)	0.112	0.236
24	2.00	3.00	0.360	(0.247)	0.116	0.244
25	2.08	3.10	0.372	(0.247)	0.120	0.252
26	2.17	4.20	0.504	(0.247)	0.162	0.342
27	2.25	5.00	0.600	(0.247)	0.193	0.407
28	2.33	3.50	0.420	(0.247)	0.135	0.285
29	2.42	6.80	0.816	0.247	(0.263)	0.569
30	2.50	7.30	0.876	0.247	(0.282)	0.629
31	2.58	8.20	0.984	0.247	(0.317)	0.737
32	2.67	5.90	0.708	(0.247)	0.228	0.480
33	2.75	2.00	0.240	(0.247)	0.077	0.163
34	2.83	1.80	0.216	(0.247)	0.070	0.146
35	2.92	1.80	0.216	(0.247)	0.070	0.146
36	3.00	0.60	0.072	(0.247)	0.023	0.049

```
        (Loss Rate Not Used)
     Sum =     100.0                                    Sum =     8.3
    Flood volume = Effective rainfall      0.69(In)
     times area       3.6(Ac.)/[(In)/(Ft.)] =       0.2(Ac.Ft)
    Total soil loss =      0.31(In)
    Total soil loss =     0.095(Ac.Ft)
    Total rainfall =      1.00(In)
    Flood volume =        9115.4 Cubic Feet
    Total soil loss =        4133.8 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      2.282(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       0.0006      0.09  Q         |         |         |         |
    0+10       0.0025      0.28  VQ        |         |         |         |
    0+15       0.0047      0.32  VQ        |         |         |         |
    0+20       0.0070      0.34  |Q        |         |         |         |
    0+25       0.0098      0.41  |Q        |         |         |         |
    0+30       0.0129      0.45  |QV       |         |         |         |
    0+35       0.0162      0.48  |Q V      |         |         |         |
    0+40       0.0195      0.48  |Q V      |         |         |         |
    0+45       0.0231      0.52  | Q V     |         |         |         |
    0+50       0.0266      0.51  | Q  V    |         |         |         |
    0+55       0.0299      0.48  |Q   V    |         |         |         |
    1+ 0       0.0333      0.49  |Q    V   |         |         |         |
    1+ 5       0.0371      0.55  | Q    V  |         |         |         |
    1+10       0.0413      0.62  | Q    V  |         |         |         |
    1+15       0.0457      0.64  | Q     V |         |         |         |
    1+20       0.0501      0.63  | Q      V|         |         |         |
    1+25       0.0545      0.65  | Q       V         |         |         |
    1+30       0.0596      0.74  | Q       |V        |         |         |
    1+35       0.0648      0.76  |  Q      | V       |         |         |
    1+40       0.0700      0.75  | Q       |  V      |         |         |
    1+45       0.0757      0.83  |  Q      |   V     |         |         |
    1+50       0.0820      0.91  |  Q      |    V    |         |         |
    1+55       0.0882      0.90  |  Q      |     V   |         |         |
    2+ 0       0.0942      0.88  |  Q      |       V |         |         |
    2+ 5       0.1004      0.90  |  Q      |        V|         |         |
    2+10       0.1073      0.99  |  Q      |         V         |         |
    2+15       0.1156      1.21  |   Q     |         | V       |         |
    2+20       0.1244      1.28  |    Q    |         |  V      |         |
    2+25       0.1337      1.35  |    Q    |         |    V    |         |
    2+30       0.1466      1.87  |      Q  |         |       V |         |
    2+35       0.1617      2.20  |       Q |         |         V         |
    2+40       0.1774      2.28  |        Q|         |         |  V      |
    2+45       0.1889      1.67  |     Q   |         |         |     V   |
    2+50       0.1958      1.00  |   Q     |         |         |      V  |
    2+55       0.2011      0.77  |  Q      |         |         |       V |
    3+ 0       0.2052      0.59  | Q       |         |         |        V|
    3+ 5       0.2074      0.32  |Q        |         |         |        V|
    3+10       0.2084      0.14  Q         |         |         |        V|
    3+15       0.2089      0.07  Q         |         |         |        V|
    3+20       0.2091      0.03  Q         |         |         |        V|
    3+25       0.2092      0.02  Q         |         |         |        V|
    3+30       0.2093      0.01  Q         |         |         |        V|
    3+35       0.2093      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  08/08/24 File: PTC2B162.out


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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUTFLOW B1
2 YEAR 6 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       3.65(Ac.)  =      0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       3.65(Ac.)  =      0.006 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.076 Hr.
Lag time =     4.56 Min.
25% of lag time =     1.14 Min.
40% of lag time =     1.82 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]
        3.65            1.40                5.11

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.65            3.50               12.78

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    1.400(In)
Area Averaged 100-Year Rainfall =    3.500(In)

Point rain (area averaged) =    1.400(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.400(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.650           56.00          0.722
 Total Area Entered =      3.65(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

56.0	36.0	0.706	0.722	0.247	1.000	0.247

Sum (F) = 0.247

Area averaged **mean** soil loss (F) (In/Hr) = 0.247

Minimum soil loss rate ((In/Hr)) = 0.124

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.322

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	109.649	22.134	0.814
2	0.167	219.298	48.828	1.796
3	0.250	328.947	14.348	0.528
4	0.333	438.596	6.562	0.241
5	0.417	548.246	3.644	0.134
6	0.500	657.895	2.276	0.084
7	0.583	767.544	1.334	0.049
8	0.667	877.193	0.873	0.032
		Sum = 100.000	Sum=	3.679

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.084	(0.247)	0.027	0.057
2	0.17	0.60	0.101	(0.247)	0.032	0.068
3	0.25	0.60	0.101	(0.247)	0.032	0.068
4	0.33	0.60	0.101	(0.247)	0.032	0.068
5	0.42	0.60	0.101	(0.247)	0.032	0.068
6	0.50	0.70	0.118	(0.247)	0.038	0.080
7	0.58	0.70	0.118	(0.247)	0.038	0.080
8	0.67	0.70	0.118	(0.247)	0.038	0.080
9	0.75	0.70	0.118	(0.247)	0.038	0.080
10	0.83	0.70	0.118	(0.247)	0.038	0.080
11	0.92	0.70	0.118	(0.247)	0.038	0.080
12	1.00	0.80	0.134	(0.247)	0.043	0.091
13	1.08	0.80	0.134	(0.247)	0.043	0.091
14	1.17	0.80	0.134	(0.247)	0.043	0.091
15	1.25	0.80	0.134	(0.247)	0.043	0.091
16	1.33	0.80	0.134	(0.247)	0.043	0.091
17	1.42	0.80	0.134	(0.247)	0.043	0.091
18	1.50	0.80	0.134	(0.247)	0.043	0.091
19	1.58	0.80	0.134	(0.247)	0.043	0.091
20	1.67	0.80	0.134	(0.247)	0.043	0.091
21	1.75	0.80	0.134	(0.247)	0.043	0.091
22	1.83	0.80	0.134	(0.247)	0.043	0.091
23	1.92	0.80	0.134	(0.247)	0.043	0.091
24	2.00	0.90	0.151	(0.247)	0.049	0.103
25	2.08	0.80	0.134	(0.247)	0.043	0.091
26	2.17	0.90	0.151	(0.247)	0.049	0.103
27	2.25	0.90	0.151	(0.247)	0.049	0.103
28	2.33	0.90	0.151	(0.247)	0.049	0.103
29	2.42	0.90	0.151	(0.247)	0.049	0.103
30	2.50	0.90	0.151	(0.247)	0.049	0.103
31	2.58	0.90	0.151	(0.247)	0.049	0.103
32	2.67	0.90	0.151	(0.247)	0.049	0.103
33	2.75	1.00	0.168	(0.247)	0.054	0.114
34	2.83	1.00	0.168	(0.247)	0.054	0.114
35	2.92	1.00	0.168	(0.247)	0.054	0.114
36	3.00	1.00	0.168	(0.247)	0.054	0.114

37	3.08	1.00	0.168	(0.247)	0.054	0.114
38	3.17	1.10	0.185	(0.247)	0.060	0.125
39	3.25	1.10	0.185	(0.247)	0.060	0.125
40	3.33	1.10	0.185	(0.247)	0.060	0.125
41	3.42	1.20	0.202	(0.247)	0.065	0.137
42	3.50	1.30	0.218	(0.247)	0.070	0.148
43	3.58	1.40	0.235	(0.247)	0.076	0.159
44	3.67	1.40	0.235	(0.247)	0.076	0.159
45	3.75	1.50	0.252	(0.247)	0.081	0.171
46	3.83	1.50	0.252	(0.247)	0.081	0.171
47	3.92	1.60	0.269	(0.247)	0.087	0.182
48	4.00	1.60	0.269	(0.247)	0.087	0.182
49	4.08	1.70	0.286	(0.247)	0.092	0.194
50	4.17	1.80	0.302	(0.247)	0.097	0.205
51	4.25	1.90	0.319	(0.247)	0.103	0.216
52	4.33	2.00	0.336	(0.247)	0.108	0.228
53	4.42	2.10	0.353	(0.247)	0.114	0.239
54	4.50	2.10	0.353	(0.247)	0.114	0.239
55	4.58	2.20	0.370	(0.247)	0.119	0.251
56	4.67	2.30	0.386	(0.247)	0.124	0.262
57	4.75	2.40	0.403	(0.247)	0.130	0.273
58	4.83	2.40	0.403	(0.247)	0.130	0.273
59	4.92	2.50	0.420	(0.247)	0.135	0.285
60	5.00	2.60	0.437	(0.247)	0.141	0.296
61	5.08	3.10	0.521	(0.247)	0.168	0.353
62	5.17	3.60	0.605	(0.247)	0.195	0.410
63	5.25	3.90	0.655	(0.247)	0.211	0.444
64	5.33	4.20	0.706	(0.247)	0.227	0.478
65	5.42	4.70	0.790	0.247	(0.254)	0.542
66	5.50	5.60	0.941	0.247	(0.303)	0.694
67	5.58	1.90	0.319	(0.247)	0.103	0.216
68	5.67	0.90	0.151	(0.247)	0.049	0.103
69	5.75	0.60	0.101	(0.247)	0.032	0.068
70	5.83	0.50	0.084	(0.247)	0.027	0.057
71	5.92	0.30	0.050	(0.247)	0.016	0.034
72	6.00	0.20	0.034	(0.247)	0.011	0.023

(Loss Rate Not Used)

Sum = 100.0 Sum = 11.5

Flood volume = Effective rainfall 0.95(In)
times area 3.6(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)
Total soil loss = 0.45(In)
Total soil loss = 0.136(Ac.Ft)
Total rainfall = 1.40(In)
Flood volume = 12645.5 Cubic Feet
Total soil loss = 5903.6 Cubic Feet

Peak flow rate of this hydrograph = 2.008(CFS)

++

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0003	0.05	Q	|	|	|	|
0+10	0.0014	0.16	Q	|	|	|	|
0+15	0.0028	0.21	Q	|	|	|	|
0+20	0.0044	0.23	Q	|	|	|	|
0+25	0.0061	0.24	Q	|	|	|	|
0+30	0.0078	0.25	|Q	|	|	|	|
0+35	0.0097	0.28	|Q	|	|	|	|
0+40	0.0117	0.29	|Q	|	|	|	|
0+45	0.0137	0.29	|Q	|	|	|	|
0+50	0.0157	0.29	|QV	|	|	|	|
0+55	0.0177	0.29	|QV	|	|	|	|
1+ 0	0.0198	0.30	|QV	|	|	|	|

208	1+ 5	0.0220	0.32	
209	1+10	0.0243	0.33	
210	1+15	0.0266	0.33	
211	1+20	0.0289	0.33	
212	1+25	0.0312	0.33	
213	1+30	0.0335	0.34	
214	1+35	0.0358	0.34	
215	1+40	0.0381	0.34	
216	1+45	0.0404	0.34	
217	1+50	0.0427	0.34	
218	1+55	0.0450	0.34	
219	2+ 0	0.0474	0.34	
220	2+ 5	0.0499	0.36	
221	2+10	0.0523	0.35	
222	2+15	0.0548	0.37	
223	2+20	0.0574	0.37	
224	2+25	0.0600	0.37	
225	2+30	0.0626	0.38	
226	2+35	0.0651	0.38	
227	2+40	0.0677	0.38	
228	2+45	0.0704	0.39	
229	2+50	0.0732	0.41	
230	2+55	0.0761	0.41	
231	3+ 0	0.0789	0.42	
232	3+ 5	0.0818	0.42	
233	3+10	0.0847	0.43	
234	3+15	0.0878	0.45	
235	3+20	0.0910	0.45	
236	3+25	0.0942	0.47	
237	3+30	0.0976	0.50	
238	3+35	0.1013	0.53	
239	3+40	0.1052	0.56	
240	3+45	0.1092	0.58	
241	3+50	0.1134	0.61	
242	3+55	0.1177	0.63	
243	4+ 0	0.1222	0.65	
244	4+ 5	0.1269	0.67	
245	4+10	0.1317	0.71	
246	4+15	0.1368	0.74	
247	4+20	0.1422	0.78	
248	4+25	0.1479	0.82	
249	4+30	0.1538	0.86	
250	4+35	0.1598	0.88	
251	4+40	0.1661	0.91	
252	4+45	0.1727	0.95	
253	4+50	0.1795	0.98	
254	4+55	0.1864	1.00	
255	5+ 0	0.1935	1.04	
256	5+ 5	0.2012	1.11	
257	5+10	0.2100	1.27	
258	5+15	0.2199	1.44	
259	5+20	0.2307	1.58	
260	5+25	0.2427	1.73	
261	5+30	0.2565	2.01	
262	5+35	0.2699	1.95	
263	5+40	0.2775	1.10	
264	5+45	0.2821	0.67	
265	5+50	0.2852	0.45	
266	5+55	0.2874	0.32	
267	6+ 0	0.2889	0.21	
268	6+ 5	0.2897	0.12	
269	6+10	0.2900	0.05	
270	6+15	0.2902	0.02	
271	6+20	0.2902	0.01	
272	6+25	0.2903	0.01	
273	6+30	0.2903	0.00	
274	6+35	0.2903	0.00	
275				
276				

```
    U n 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  08/08/24 File: PTC2B1242.out


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------------------------------------------------------------------------------

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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUTFLOW B1
2 YEAR 24 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       3.65(Ac.)  =      0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       3.65(Ac.)  =      0.006 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.076 Hr.
Lag time =     4.56 Min.
25% of lag time =     1.14 Min.
40% of lag time =     1.82 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]
        3.65            2.50                9.13

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.65            7.00               25.55

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    2.500(In)
Area Averaged 100-Year Rainfall =    7.000(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 %
     3.650           56.00          0.722
 Total Area Entered =      3.65(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

56.0	36.0	0.706	0.722	0.247	1.000	0.247

Sum (F) = 0.247

Area averaged **mean** soil loss (F) (In/Hr) = 0.247

Minimum soil loss rate ((In/Hr)) = 0.124

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.322

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	109.649	22.134	0.814
2	0.167	219.298	48.828	1.796
3	0.250	328.947	14.348	0.528
4	0.333	438.596	6.562	0.241
5	0.417	548.246	3.644	0.134
6	0.500	657.895	2.276	0.084
7	0.583	767.544	1.334	0.049
8	0.667	877.193	0.873	0.032
		Sum = 100.000	Sum=	3.679

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.020	(0.438)	0.006	0.014
2	0.17	0.07	0.020	(0.437)	0.006	0.014
3	0.25	0.07	0.020	(0.435)	0.006	0.014
4	0.33	0.10	0.030	(0.433)	0.010	0.020
5	0.42	0.10	0.030	(0.432)	0.010	0.020
6	0.50	0.10	0.030	(0.430)	0.010	0.020
7	0.58	0.10	0.030	(0.428)	0.010	0.020
8	0.67	0.10	0.030	(0.426)	0.010	0.020
9	0.75	0.10	0.030	(0.425)	0.010	0.020
10	0.83	0.13	0.040	(0.423)	0.013	0.027
11	0.92	0.13	0.040	(0.421)	0.013	0.027
12	1.00	0.13	0.040	(0.420)	0.013	0.027
13	1.08	0.10	0.030	(0.418)	0.010	0.020
14	1.17	0.10	0.030	(0.417)	0.010	0.020
15	1.25	0.10	0.030	(0.415)	0.010	0.020
16	1.33	0.10	0.030	(0.413)	0.010	0.020
17	1.42	0.10	0.030	(0.412)	0.010	0.020
18	1.50	0.10	0.030	(0.410)	0.010	0.020
19	1.58	0.10	0.030	(0.408)	0.010	0.020
20	1.67	0.10	0.030	(0.407)	0.010	0.020
21	1.75	0.10	0.030	(0.405)	0.010	0.020
22	1.83	0.13	0.040	(0.403)	0.013	0.027
23	1.92	0.13	0.040	(0.402)	0.013	0.027
24	2.00	0.13	0.040	(0.400)	0.013	0.027
25	2.08	0.13	0.040	(0.399)	0.013	0.027
26	2.17	0.13	0.040	(0.397)	0.013	0.027
27	2.25	0.13	0.040	(0.395)	0.013	0.027
28	2.33	0.13	0.040	(0.394)	0.013	0.027
29	2.42	0.13	0.040	(0.392)	0.013	0.027
30	2.50	0.13	0.040	(0.390)	0.013	0.027
31	2.58	0.17	0.050	(0.389)	0.016	0.034
32	2.67	0.17	0.050	(0.387)	0.016	0.034
33	2.75	0.17	0.050	(0.386)	0.016	0.034
34	2.83	0.17	0.050	(0.384)	0.016	0.034
35	2.92	0.17	0.050	(0.383)	0.016	0.034
36	3.00	0.17	0.050	(0.381)	0.016	0.034

139	37	3.08	0.17	0.050	(0.379)	0.016	0.034
140	38	3.17	0.17	0.050	(0.378)	0.016	0.034
141	39	3.25	0.17	0.050	(0.376)	0.016	0.034
142	40	3.33	0.17	0.050	(0.375)	0.016	0.034
143	41	3.42	0.17	0.050	(0.373)	0.016	0.034
144	42	3.50	0.17	0.050	(0.372)	0.016	0.034
145	43	3.58	0.17	0.050	(0.370)	0.016	0.034
146	44	3.67	0.17	0.050	(0.368)	0.016	0.034
147	45	3.75	0.17	0.050	(0.367)	0.016	0.034
148	46	3.83	0.20	0.060	(0.365)	0.019	0.041
149	47	3.92	0.20	0.060	(0.364)	0.019	0.041
150	48	4.00	0.20	0.060	(0.362)	0.019	0.041
151	49	4.08	0.20	0.060	(0.361)	0.019	0.041
152	50	4.17	0.20	0.060	(0.359)	0.019	0.041
153	51	4.25	0.20	0.060	(0.358)	0.019	0.041
154	52	4.33	0.23	0.070	(0.356)	0.023	0.047
155	53	4.42	0.23	0.070	(0.355)	0.023	0.047
156	54	4.50	0.23	0.070	(0.353)	0.023	0.047
157	55	4.58	0.23	0.070	(0.352)	0.023	0.047
158	56	4.67	0.23	0.070	(0.350)	0.023	0.047
159	57	4.75	0.23	0.070	(0.349)	0.023	0.047
160	58	4.83	0.27	0.080	(0.347)	0.026	0.054
161	59	4.92	0.27	0.080	(0.346)	0.026	0.054
162	60	5.00	0.27	0.080	(0.344)	0.026	0.054
163	61	5.08	0.20	0.060	(0.343)	0.019	0.041
164	62	5.17	0.20	0.060	(0.341)	0.019	0.041
165	63	5.25	0.20	0.060	(0.340)	0.019	0.041
166	64	5.33	0.23	0.070	(0.338)	0.023	0.047
167	65	5.42	0.23	0.070	(0.337)	0.023	0.047
168	66	5.50	0.23	0.070	(0.335)	0.023	0.047
169	67	5.58	0.27	0.080	(0.334)	0.026	0.054
170	68	5.67	0.27	0.080	(0.332)	0.026	0.054
171	69	5.75	0.27	0.080	(0.331)	0.026	0.054
172	70	5.83	0.27	0.080	(0.329)	0.026	0.054
173	71	5.92	0.27	0.080	(0.328)	0.026	0.054
174	72	6.00	0.27	0.080	(0.326)	0.026	0.054
175	73	6.08	0.30	0.090	(0.325)	0.029	0.061
176	74	6.17	0.30	0.090	(0.323)	0.029	0.061
177	75	6.25	0.30	0.090	(0.322)	0.029	0.061
178	76	6.33	0.30	0.090	(0.321)	0.029	0.061
179	77	6.42	0.30	0.090	(0.319)	0.029	0.061
180	78	6.50	0.30	0.090	(0.318)	0.029	0.061
181	79	6.58	0.33	0.100	(0.316)	0.032	0.068
182	80	6.67	0.33	0.100	(0.315)	0.032	0.068
183	81	6.75	0.33	0.100	(0.313)	0.032	0.068
184	82	6.83	0.33	0.100	(0.312)	0.032	0.068
185	83	6.92	0.33	0.100	(0.311)	0.032	0.068
186	84	7.00	0.33	0.100	(0.309)	0.032	0.068
187	85	7.08	0.33	0.100	(0.308)	0.032	0.068
188	86	7.17	0.33	0.100	(0.306)	0.032	0.068
189	87	7.25	0.33	0.100	(0.305)	0.032	0.068
190	88	7.33	0.37	0.110	(0.304)	0.035	0.075
191	89	7.42	0.37	0.110	(0.302)	0.035	0.075
192	90	7.50	0.37	0.110	(0.301)	0.035	0.075
193	91	7.58	0.40	0.120	(0.299)	0.039	0.081
194	92	7.67	0.40	0.120	(0.298)	0.039	0.081
195	93	7.75	0.40	0.120	(0.297)	0.039	0.081
196	94	7.83	0.43	0.130	(0.295)	0.042	0.088
197	95	7.92	0.43	0.130	(0.294)	0.042	0.088
198	96	8.00	0.43	0.130	(0.293)	0.042	0.088
199	97	8.08	0.50	0.150	(0.291)	0.048	0.102
200	98	8.17	0.50	0.150	(0.290)	0.048	0.102
201	99	8.25	0.50	0.150	(0.289)	0.048	0.102
202	100	8.33	0.50	0.150	(0.287)	0.048	0.102
203	101	8.42	0.50	0.150	(0.286)	0.048	0.102
204	102	8.50	0.50	0.150	(0.285)	0.048	0.102
205	103	8.58	0.53	0.160	(0.283)	0.052	0.108
206	104	8.67	0.53	0.160	(0.282)	0.052	0.108
207	105	8.75	0.53	0.160	(0.281)	0.052	0.108

208	106	8.83	0.57	0.170	(0.279)	0.055	0.115
209	107	8.92	0.57	0.170	(0.278)	0.055	0.115
210	108	9.00	0.57	0.170	(0.277)	0.055	0.115
211	109	9.08	0.63	0.190	(0.275)	0.061	0.129
212	110	9.17	0.63	0.190	(0.274)	0.061	0.129
213	111	9.25	0.63	0.190	(0.273)	0.061	0.129
214	112	9.33	0.67	0.200	(0.271)	0.064	0.136
215	113	9.42	0.67	0.200	(0.270)	0.064	0.136
216	114	9.50	0.67	0.200	(0.269)	0.064	0.136
217	115	9.58	0.70	0.210	(0.267)	0.068	0.142
218	116	9.67	0.70	0.210	(0.266)	0.068	0.142
219	117	9.75	0.70	0.210	(0.265)	0.068	0.142
220	118	9.83	0.73	0.220	(0.264)	0.071	0.149
221	119	9.92	0.73	0.220	(0.262)	0.071	0.149
222	120	10.00	0.73	0.220	(0.261)	0.071	0.149
223	121	10.08	0.50	0.150	(0.260)	0.048	0.102
224	122	10.17	0.50	0.150	(0.259)	0.048	0.102
225	123	10.25	0.50	0.150	(0.257)	0.048	0.102
226	124	10.33	0.50	0.150	(0.256)	0.048	0.102
227	125	10.42	0.50	0.150	(0.255)	0.048	0.102
228	126	10.50	0.50	0.150	(0.254)	0.048	0.102
229	127	10.58	0.67	0.200	(0.252)	0.064	0.136
230	128	10.67	0.67	0.200	(0.251)	0.064	0.136
231	129	10.75	0.67	0.200	(0.250)	0.064	0.136
232	130	10.83	0.67	0.200	(0.249)	0.064	0.136
233	131	10.92	0.67	0.200	(0.247)	0.064	0.136
234	132	11.00	0.67	0.200	(0.246)	0.064	0.136
235	133	11.08	0.63	0.190	(0.245)	0.061	0.129
236	134	11.17	0.63	0.190	(0.244)	0.061	0.129
237	135	11.25	0.63	0.190	(0.243)	0.061	0.129
238	136	11.33	0.63	0.190	(0.241)	0.061	0.129
239	137	11.42	0.63	0.190	(0.240)	0.061	0.129
240	138	11.50	0.63	0.190	(0.239)	0.061	0.129
241	139	11.58	0.57	0.170	(0.238)	0.055	0.115
242	140	11.67	0.57	0.170	(0.237)	0.055	0.115
243	141	11.75	0.57	0.170	(0.235)	0.055	0.115
244	142	11.83	0.60	0.180	(0.234)	0.058	0.122
245	143	11.92	0.60	0.180	(0.233)	0.058	0.122
246	144	12.00	0.60	0.180	(0.232)	0.058	0.122
247	145	12.08	0.83	0.250	(0.231)	0.080	0.169
248	146	12.17	0.83	0.250	(0.230)	0.080	0.169
249	147	12.25	0.83	0.250	(0.228)	0.080	0.169
250	148	12.33	0.87	0.260	(0.227)	0.084	0.176
251	149	12.42	0.87	0.260	(0.226)	0.084	0.176
252	150	12.50	0.87	0.260	(0.225)	0.084	0.176
253	151	12.58	0.93	0.280	(0.224)	0.090	0.190
254	152	12.67	0.93	0.280	(0.223)	0.090	0.190
255	153	12.75	0.93	0.280	(0.222)	0.090	0.190
256	154	12.83	0.97	0.290	(0.221)	0.093	0.197
257	155	12.92	0.97	0.290	(0.219)	0.093	0.197
258	156	13.00	0.97	0.290	(0.218)	0.093	0.197
259	157	13.08	1.13	0.340	(0.217)	0.109	0.231
260	158	13.17	1.13	0.340	(0.216)	0.109	0.231
261	159	13.25	1.13	0.340	(0.215)	0.109	0.231
262	160	13.33	1.13	0.340	(0.214)	0.109	0.231
263	161	13.42	1.13	0.340	(0.213)	0.109	0.231
264	162	13.50	1.13	0.340	(0.212)	0.109	0.231
265	163	13.58	0.77	0.230	(0.211)	0.074	0.156
266	164	13.67	0.77	0.230	(0.210)	0.074	0.156
267	165	13.75	0.77	0.230	(0.209)	0.074	0.156
268	166	13.83	0.77	0.230	(0.207)	0.074	0.156
269	167	13.92	0.77	0.230	(0.206)	0.074	0.156
270	168	14.00	0.77	0.230	(0.205)	0.074	0.156
271	169	14.08	0.90	0.270	(0.204)	0.087	0.183
272	170	14.17	0.90	0.270	(0.203)	0.087	0.183
273	171	14.25	0.90	0.270	(0.202)	0.087	0.183
274	172	14.33	0.87	0.260	(0.201)	0.084	0.176
275	173	14.42	0.87	0.260	(0.200)	0.084	0.176
276	174	14.50	0.87	0.260	(0.199)	0.084	0.176

277	175	14.58	0.87	0.260	(	0.198)	0.084	0.176
278	176	14.67	0.87	0.260	(	0.197)	0.084	0.176
279	177	14.75	0.87	0.260	(	0.196)	0.084	0.176
280	178	14.83	0.83	0.250	(	0.195)	0.080	0.169
281	179	14.92	0.83	0.250	(	0.194)	0.080	0.169
282	180	15.00	0.83	0.250	(	0.193)	0.080	0.169
283	181	15.08	0.80	0.240	(	0.192)	0.077	0.163
284	182	15.17	0.80	0.240	(	0.191)	0.077	0.163
285	183	15.25	0.80	0.240	(	0.190)	0.077	0.163
286	184	15.33	0.77	0.230	(	0.189)	0.074	0.156
287	185	15.42	0.77	0.230	(	0.188)	0.074	0.156
288	186	15.50	0.77	0.230	(	0.187)	0.074	0.156
289	187	15.58	0.63	0.190	(	0.186)	0.061	0.129
290	188	15.67	0.63	0.190	(	0.185)	0.061	0.129
291	189	15.75	0.63	0.190	(	0.184)	0.061	0.129
292	190	15.83	0.63	0.190	(	0.183)	0.061	0.129
293	191	15.92	0.63	0.190	(	0.182)	0.061	0.129
294	192	16.00	0.63	0.190	(	0.182)	0.061	0.129
295	193	16.08	0.13	0.040	(	0.181)	0.013	0.027
296	194	16.17	0.13	0.040	(	0.180)	0.013	0.027
297	195	16.25	0.13	0.040	(	0.179)	0.013	0.027
298	196	16.33	0.13	0.040	(	0.178)	0.013	0.027
299	197	16.42	0.13	0.040	(	0.177)	0.013	0.027
300	198	16.50	0.13	0.040	(	0.176)	0.013	0.027
301	199	16.58	0.10	0.030	(	0.175)	0.010	0.020
302	200	16.67	0.10	0.030	(	0.174)	0.010	0.020
303	201	16.75	0.10	0.030	(	0.173)	0.010	0.020
304	202	16.83	0.10	0.030	(	0.173)	0.010	0.020
305	203	16.92	0.10	0.030	(	0.172)	0.010	0.020
306	204	17.00	0.10	0.030	(	0.171)	0.010	0.020
307	205	17.08	0.17	0.050	(	0.170)	0.016	0.034
308	206	17.17	0.17	0.050	(	0.169)	0.016	0.034
309	207	17.25	0.17	0.050	(	0.168)	0.016	0.034
310	208	17.33	0.17	0.050	(	0.167)	0.016	0.034
311	209	17.42	0.17	0.050	(	0.167)	0.016	0.034
312	210	17.50	0.17	0.050	(	0.166)	0.016	0.034
313	211	17.58	0.17	0.050	(	0.165)	0.016	0.034
314	212	17.67	0.17	0.050	(	0.164)	0.016	0.034
315	213	17.75	0.17	0.050	(	0.163)	0.016	0.034
316	214	17.83	0.13	0.040	(	0.162)	0.013	0.027
317	215	17.92	0.13	0.040	(	0.162)	0.013	0.027
318	216	18.00	0.13	0.040	(	0.161)	0.013	0.027
319	217	18.08	0.13	0.040	(	0.160)	0.013	0.027
320	218	18.17	0.13	0.040	(	0.159)	0.013	0.027
321	219	18.25	0.13	0.040	(	0.158)	0.013	0.027
322	220	18.33	0.13	0.040	(	0.158)	0.013	0.027
323	221	18.42	0.13	0.040	(	0.157)	0.013	0.027
324	222	18.50	0.13	0.040	(	0.156)	0.013	0.027
325	223	18.58	0.10	0.030	(	0.155)	0.010	0.020
326	224	18.67	0.10	0.030	(	0.155)	0.010	0.020
327	225	18.75	0.10	0.030	(	0.154)	0.010	0.020
328	226	18.83	0.07	0.020	(	0.153)	0.006	0.014
329	227	18.92	0.07	0.020	(	0.152)	0.006	0.014
330	228	19.00	0.07	0.020	(	0.152)	0.006	0.014
331	229	19.08	0.10	0.030	(	0.151)	0.010	0.020
332	230	19.17	0.10	0.030	(	0.150)	0.010	0.020
333	231	19.25	0.10	0.030	(	0.150)	0.010	0.020
334	232	19.33	0.13	0.040	(	0.149)	0.013	0.027
335	233	19.42	0.13	0.040	(	0.148)	0.013	0.027
336	234	19.50	0.13	0.040	(	0.148)	0.013	0.027
337	235	19.58	0.10	0.030	(	0.147)	0.010	0.020
338	236	19.67	0.10	0.030	(	0.146)	0.010	0.020
339	237	19.75	0.10	0.030	(	0.146)	0.010	0.020
340	238	19.83	0.07	0.020	(	0.145)	0.006	0.014
341	239	19.92	0.07	0.020	(	0.144)	0.006	0.014
342	240	20.00	0.07	0.020	(	0.144)	0.006	0.014
343	241	20.08	0.10	0.030	(	0.143)	0.010	0.020
344	242	20.17	0.10	0.030	(	0.142)	0.010	0.020
345	243	20.25	0.10	0.030	(	0.142)	0.010	0.020

244	20.33	0.10	0.030	(	0.141)	0.010	0.020
245	20.42	0.10	0.030	(	0.140)	0.010	0.020
246	20.50	0.10	0.030	(	0.140)	0.010	0.020
247	20.58	0.10	0.030	(	0.139)	0.010	0.020
248	20.67	0.10	0.030	(	0.139)	0.010	0.020
249	20.75	0.10	0.030	(	0.138)	0.010	0.020
250	20.83	0.07	0.020	(	0.138)	0.006	0.014
251	20.92	0.07	0.020	(	0.137)	0.006	0.014
252	21.00	0.07	0.020	(	0.136)	0.006	0.014
253	21.08	0.10	0.030	(	0.136)	0.010	0.020
254	21.17	0.10	0.030	(	0.135)	0.010	0.020
255	21.25	0.10	0.030	(	0.135)	0.010	0.020
256	21.33	0.07	0.020	(	0.134)	0.006	0.014
257	21.42	0.07	0.020	(	0.134)	0.006	0.014
258	21.50	0.07	0.020	(	0.133)	0.006	0.014
259	21.58	0.10	0.030	(	0.133)	0.010	0.020
260	21.67	0.10	0.030	(	0.132)	0.010	0.020
261	21.75	0.10	0.030	(	0.132)	0.010	0.020
262	21.83	0.07	0.020	(	0.131)	0.006	0.014
263	21.92	0.07	0.020	(	0.131)	0.006	0.014
264	22.00	0.07	0.020	(	0.131)	0.006	0.014
265	22.08	0.10	0.030	(	0.130)	0.010	0.020
266	22.17	0.10	0.030	(	0.130)	0.010	0.020
267	22.25	0.10	0.030	(	0.129)	0.010	0.020
268	22.33	0.07	0.020	(	0.129)	0.006	0.014
269	22.42	0.07	0.020	(	0.128)	0.006	0.014
270	22.50	0.07	0.020	(	0.128)	0.006	0.014
271	22.58	0.07	0.020	(	0.128)	0.006	0.014
272	22.67	0.07	0.020	(	0.127)	0.006	0.014
273	22.75	0.07	0.020	(	0.127)	0.006	0.014
274	22.83	0.07	0.020	(	0.127)	0.006	0.014
275	22.92	0.07	0.020	(	0.126)	0.006	0.014
276	23.00	0.07	0.020	(	0.126)	0.006	0.014
277	23.08	0.07	0.020	(	0.126)	0.006	0.014
278	23.17	0.07	0.020	(	0.125)	0.006	0.014
279	23.25	0.07	0.020	(	0.125)	0.006	0.014
280	23.33	0.07	0.020	(	0.125)	0.006	0.014
281	23.42	0.07	0.020	(	0.125)	0.006	0.014
282	23.50	0.07	0.020	(	0.125)	0.006	0.014
283	23.58	0.07	0.020	(	0.124)	0.006	0.014
284	23.67	0.07	0.020	(	0.124)	0.006	0.014
285	23.75	0.07	0.020	(	0.124)	0.006	0.014
286	23.83	0.07	0.020	(	0.124)	0.006	0.014
287	23.92	0.07	0.020	(	0.124)	0.006	0.014
288	24.00	0.07	0.020	(	0.124)	0.006	0.014

(Loss Rate Not Used)

Sum = 100.0 Sum = 20.3

Flood volume = Effective rainfall 1.69(In)

times area 3.6(Ac.)/[(In)/(Ft.)] = 0.5(Ac.Ft)

Total soil loss = 0.80(In)

Total soil loss = 0.245(Ac.Ft)

Total rainfall = 2.50(In)

Flood volume = 22457.7 Cubic Feet

Total soil loss = 10665.8 Cubic Feet

Peak flow rate of this hydrograph = 0.846(CFS)

++

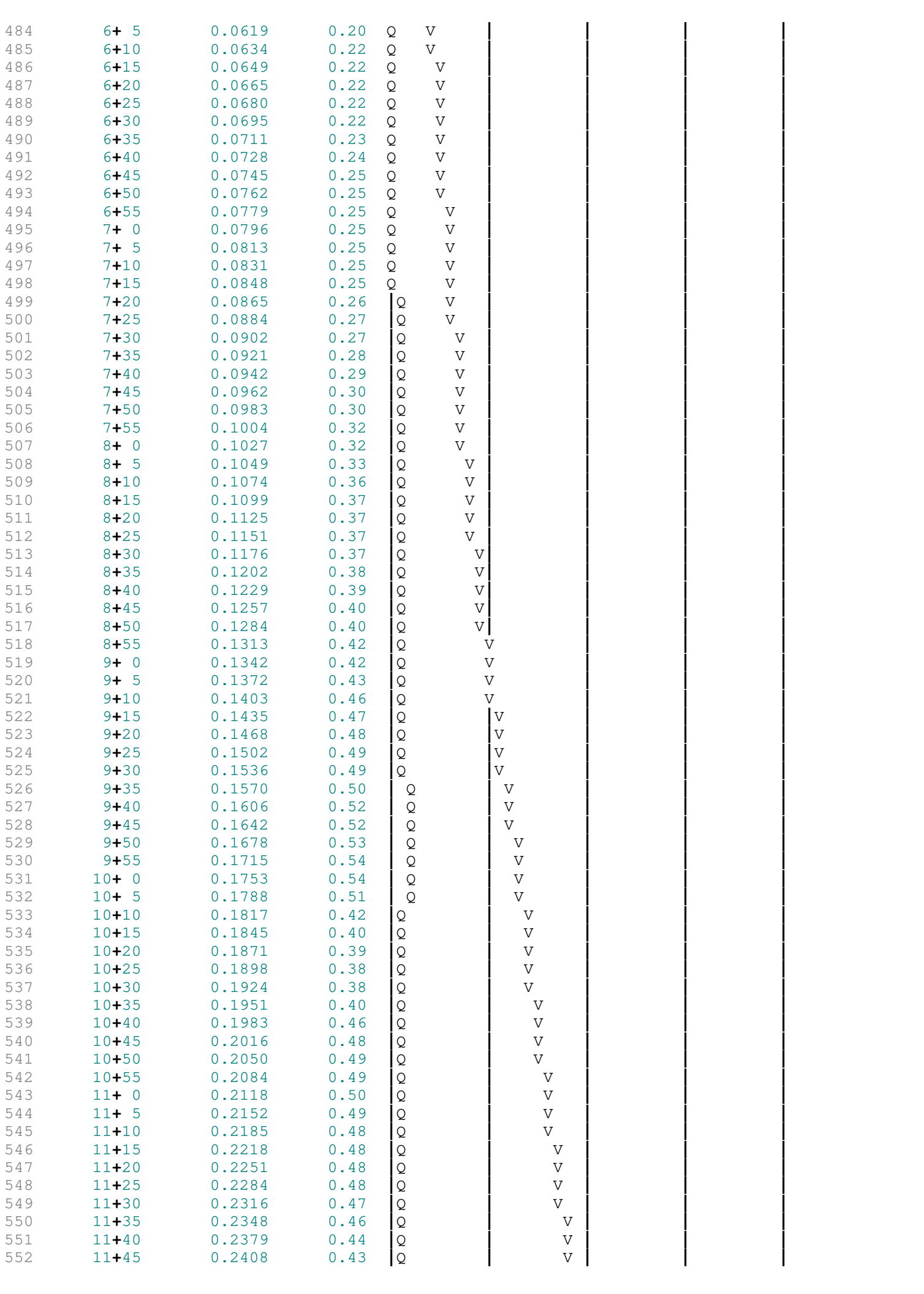
24 - H O U R S T O R M

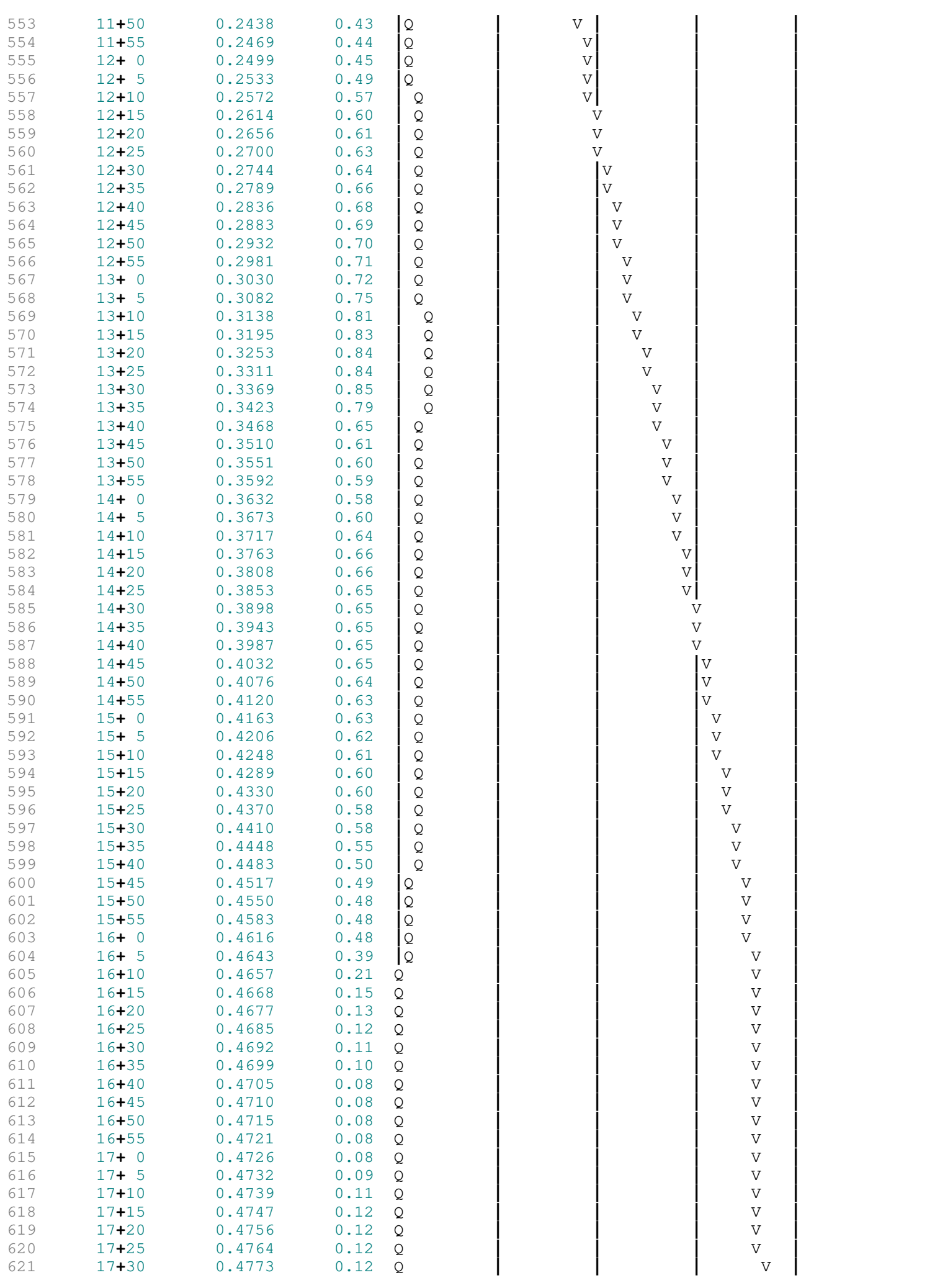
R u n o f f H y d r o g r a p h

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	0.0003	0.04	Q	|	|	|	|
0+15	0.0006	0.04	Q	|	|	|	|

415	0+20	0.0010	0.05	Q				
416	0+25	0.0014	0.07	Q				
417	0+30	0.0019	0.07	Q				
418	0+35	0.0024	0.07	Q				
419	0+40	0.0029	0.07	Q				
420	0+45	0.0034	0.07	Q				
421	0+50	0.0040	0.08	Q				
422	0+55	0.0046	0.09	Q				
423	1+ 0	0.0053	0.10	Q				
424	1+ 5	0.0059	0.09	Q				
425	1+10	0.0065	0.08	Q				
426	1+15	0.0070	0.08	Q				
427	1+20	0.0075	0.08	Q				
428	1+25	0.0081	0.08	Q				
429	1+30	0.0086	0.08	Q				
430	1+35	0.0091	0.08	Q				
431	1+40	0.0096	0.07	Q				
432	1+45	0.0101	0.07	Q				
433	1+50	0.0107	0.08	Q				
434	1+55	0.0113	0.09	Q				
435	2+ 0	0.0120	0.10	Q				
436	2+ 5	0.0126	0.10	Q				
437	2+10	0.0133	0.10	QV				
438	2+15	0.0140	0.10	QV				
439	2+20	0.0147	0.10	QV				
440	2+25	0.0154	0.10	QV				
441	2+30	0.0161	0.10	QV				
442	2+35	0.0168	0.11	QV				
443	2+40	0.0176	0.12	QV				
444	2+45	0.0184	0.12	QV				
445	2+50	0.0193	0.12	QV				
446	2+55	0.0201	0.12	QV				
447	3+ 0	0.0210	0.12	QV				
448	3+ 5	0.0218	0.12	QV				
449	3+10	0.0227	0.12	QV				
450	3+15	0.0236	0.12	QV				
451	3+20	0.0244	0.12	QV				
452	3+25	0.0253	0.12	QV				
453	3+30	0.0261	0.12	Q V				
454	3+35	0.0270	0.12	Q V				
455	3+40	0.0279	0.12	Q V				
456	3+45	0.0287	0.12	Q V				
457	3+50	0.0296	0.13	Q V				
458	3+55	0.0306	0.14	Q V				
459	4+ 0	0.0316	0.15	Q V				
460	4+ 5	0.0326	0.15	Q V				
461	4+10	0.0336	0.15	Q V				
462	4+15	0.0347	0.15	Q V				
463	4+20	0.0357	0.16	Q V				
464	4+25	0.0369	0.17	Q V				
465	4+30	0.0381	0.17	Q V				
466	4+35	0.0393	0.17	Q V				
467	4+40	0.0405	0.17	Q V				
468	4+45	0.0417	0.17	Q V				
469	4+50	0.0429	0.18	Q V				
470	4+55	0.0442	0.19	Q V				
471	5+ 0	0.0456	0.20	Q V				
472	5+ 5	0.0469	0.19	Q V				
473	5+10	0.0480	0.16	Q V				
474	5+15	0.0491	0.16	Q V				
475	5+20	0.0502	0.16	Q V				
476	5+25	0.0513	0.17	Q V				
477	5+30	0.0525	0.17	Q V				
478	5+35	0.0537	0.18	Q V				
479	5+40	0.0551	0.19	Q V				
480	5+45	0.0564	0.20	Q V				
481	5+50	0.0578	0.20	Q V				
482	5+55	0.0591	0.20	Q V				
483	6+ 0	0.0605	0.20	Q V				





622	17+35	0.4781	0.12	Q	|	|	|	V |
623	17+40	0.4790	0.12	Q	|	|	|	V |
624	17+45	0.4798	0.12	Q	|	|	|	V |
625	17+50	0.4807	0.12	Q	|	|	|	V |
626	17+55	0.4814	0.11	Q	|	|	|	V |
627	18+ 0	0.4821	0.10	Q	|	|	|	V |
628	18+ 5	0.4828	0.10	Q	|	|	|	V |
629	18+10	0.4835	0.10	Q	|	|	|	V |
630	18+15	0.4842	0.10	Q	|	|	|	V |
631	18+20	0.4849	0.10	Q	|	|	|	V |
632	18+25	0.4856	0.10	Q	|	|	|	V |
633	18+30	0.4863	0.10	Q	|	|	|	V |
634	18+35	0.4869	0.09	Q	|	|	|	V |
635	18+40	0.4875	0.08	Q	|	|	|	V |
636	18+45	0.4880	0.08	Q	|	|	|	V |
637	18+50	0.4885	0.07	Q	|	|	|	V |
638	18+55	0.4889	0.06	Q	|	|	|	V |
639	19+ 0	0.4893	0.05	Q	|	|	|	V |
640	19+ 5	0.4897	0.06	Q	|	|	|	V |
641	19+10	0.4902	0.07	Q	|	|	|	V |
642	19+15	0.4906	0.07	Q	|	|	|	V |
643	19+20	0.4912	0.08	Q	|	|	|	V |
644	19+25	0.4918	0.09	Q	|	|	|	V |
645	19+30	0.4925	0.10	Q	|	|	|	V |
646	19+35	0.4931	0.09	Q	|	|	|	V |
647	19+40	0.4937	0.08	Q	|	|	|	V |
648	19+45	0.4942	0.08	Q	|	|	|	V |
649	19+50	0.4947	0.07	Q	|	|	|	V |
650	19+55	0.4951	0.06	Q	|	|	|	V |
651	20+ 0	0.4955	0.05	Q	|	|	|	V |
652	20+ 5	0.4959	0.06	Q	|	|	|	V |
653	20+10	0.4963	0.07	Q	|	|	|	V |
654	20+15	0.4968	0.07	Q	|	|	|	V |
655	20+20	0.4973	0.07	Q	|	|	|	V |
656	20+25	0.4978	0.07	Q	|	|	|	V |
657	20+30	0.4984	0.07	Q	|	|	|	V |
658	20+35	0.4989	0.07	Q	|	|	|	V |
659	20+40	0.4994	0.07	Q	|	|	|	V |
660	20+45	0.4999	0.07	Q	|	|	|	V |
661	20+50	0.5004	0.07	Q	|	|	|	V |
662	20+55	0.5008	0.06	Q	|	|	|	V |
663	21+ 0	0.5011	0.05	Q	|	|	|	V |
664	21+ 5	0.5015	0.06	Q	|	|	|	V |
665	21+10	0.5020	0.07	Q	|	|	|	V |
666	21+15	0.5025	0.07	Q	|	|	|	V |
667	21+20	0.5030	0.07	Q	|	|	|	V |
668	21+25	0.5034	0.06	Q	|	|	|	V |
669	21+30	0.5037	0.05	Q	|	|	|	V |
670	21+35	0.5041	0.06	Q	|	|	|	V |
671	21+40	0.5046	0.07	Q	|	|	|	V |
672	21+45	0.5051	0.07	Q	|	|	|	V |
673	21+50	0.5055	0.07	Q	|	|	|	V |
674	21+55	0.5059	0.06	Q	|	|	|	V |
675	22+ 0	0.5063	0.05	Q	|	|	|	V |
676	22+ 5	0.5067	0.06	Q	|	|	|	V |
677	22+10	0.5072	0.07	Q	|	|	|	V |
678	22+15	0.5077	0.07	Q	|	|	|	V |
679	22+20	0.5081	0.07	Q	|	|	|	V |
680	22+25	0.5085	0.06	Q	|	|	|	V |
681	22+30	0.5089	0.05	Q	|	|	|	V |
682	22+35	0.5092	0.05	Q	|	|	|	V |
683	22+40	0.5096	0.05	Q	|	|	|	V |
684	22+45	0.5099	0.05	Q	|	|	|	V |
685	22+50	0.5103	0.05	Q	|	|	|	V |
686	22+55	0.5106	0.05	Q	|	|	|	V |
687	23+ 0	0.5110	0.05	Q	|	|	|	V |
688	23+ 5	0.5113	0.05	Q	|	|	|	V |
689	23+10	0.5116	0.05	Q	|	|	|	V |
690	23+15	0.5120	0.05	Q	|	|	|	V |

```
    23+20       0.5123      0.05  Q          |          |          |          V|
    23+25       0.5127      0.05  Q          |          |          |          V|
    23+30       0.5130      0.05  Q          |          |          |          V|
    23+35       0.5134      0.05  Q          |          |          |          V|
    23+40       0.5137      0.05  Q          |          |          |          V|
    23+45       0.5141      0.05  Q          |          |          |          V|
    23+50       0.5144      0.05  Q          |          |          |          V|
    23+55       0.5147      0.05  Q          |          |          |          V|
    24+ 0       0.5151      0.05  Q          |          |          |          V|
    24+ 5       0.5154      0.04  Q          |          |          |          V|
    24+10       0.5155      0.01  Q          |          |          |          V|
    24+15       0.5155      0.01  Q          |          |          |          V|
    24+20       0.5155      0.00  Q          |          |          |          V|
    24+25       0.5155      0.00  Q          |          |          |          V|
    24+30       0.5156      0.00  Q          |          |          |          V|
    24+35       0.5156      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

    Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018, Version 9.0
        Study date  08/08/24 File: PTC5B115.out


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------------------------------------------------------------------------------

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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUTFLOW B1
5 YEAR 1 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       3.65(Ac.)  =      0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       3.65(Ac.)  =      0.006 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.075 Hr.
Lag time =     4.50 Min.
25% of lag time =     1.13 Min.
40% of lag time =     1.80 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]
        3.65            0.55                2.01

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.65            1.40                5.11

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    0.550(In)
Area Averaged 100-Year Rainfall =    1.400(In)

Point rain (area averaged) =    0.749(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.749(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.650           56.00          0.722
 Total Area Entered =      3.65(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

```
    56.0  36.0      0.706     0.722        0.247       1.000      0.247
                                                        Sum (F) =   0.247
    Area averaged mean soil loss (F) (In/Hr) =  0.247
    Minimum soil loss rate ((In/Hr)) =  0.124
    (for 24 hour storm duration)
    Soil low loss rate (decimal) =   0.322
    ------------------------------------------------------------------------
    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   Time % of lag   Distribution   Unit Hydrograph
        (hrs)                           Graph %           (CFS)
    ------------------------------------------------------------------------
        1   0.083        111.111         22.573             0.830
        2   0.167        222.222         48.844             1.797
        3   0.250        333.333         14.181             0.522
        4   0.333        444.444          6.487             0.239
        5   0.417        555.556          3.604             0.133
        6   0.500        666.667          2.227             0.082
        7   0.583        777.778          1.307             0.048
        8   0.667        888.889          0.778             0.029
                                 Sum = 100.000    Sum=       3.679
-------------------------------------------------------------------------


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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
       (Hr.)  Percent   (In/Hr)         Max    |   Low         (In/Hr)
   1   0.08     4.20      0.378       (  0.247)      0.122        0.256
   2   0.17     4.30      0.387       (  0.247)      0.124        0.262
   3   0.25     5.00      0.449       (  0.247)      0.145        0.305
   4   0.33     5.00      0.449       (  0.247)      0.145        0.305
   5   0.42     5.80      0.521       (  0.247)      0.168        0.353
   6   0.50     6.50      0.584       (  0.247)      0.188        0.396
   7   0.58     7.40      0.665       (  0.247)      0.214        0.451
   8   0.67     8.60      0.773          0.247    (  0.249)        0.526
   9   0.75    12.30      1.106          0.247    (  0.356)        0.858
  10   0.83    29.10      2.616          0.247    (  0.842)        2.368
  11   0.92     6.80      0.611       (  0.247)      0.197        0.414
  12   1.00     5.00      0.449       (  0.247)      0.145        0.305
         (Loss Rate Not Used)
     Sum =     100.0                                  Sum =     6.8
    Flood volume = Effective rainfall      0.57(In)
     times area       3.6(Ac.)/[(In)/(Ft.)] =       0.2(Ac.Ft)
    Total soil loss =      0.18(In)
    Total soil loss =     0.055(Ac.Ft)
    Total rainfall =      0.75(In)
    Flood volume =        7507.9 Cubic Feet
    Total soil loss =        2416.8 Cubic Feet
    ------------------------------------------------------------------------
     Peak flow rate of this hydrograph =      5.294(CFS)
    ------------------------------------------------------------------------
    ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                   R u n o f f     H y d r o g r a p h
    ------------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ------------------------------------------------------------------------
  Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
  ------------------------------------------------------------------------
    0+ 5       0.0015      0.21  Q         |         |         |         |
```

```
     0+10       0.0061      0.68  |VQ       |         |         |         |
     0+15       0.0120      0.86  | VQ      |         |         |         |
     0+20       0.0189      1.00  |  QV     |         |         |         |
     0+25       0.0265      1.10  |   Q V   |         |         |         |
     0+30       0.0351      1.25  |    Q  V |         |         |         |
     0+35       0.0449      1.42  |    Q    V         |         |         |
     0+40       0.0560      1.62  |     Q   |  V      |         |         |
     0+45       0.0704      2.08  |       Q |     V   |         |         |
     0+50       0.0979      4.00  |         |    Q    | V       |         |
     0+55       0.1344      5.29  |         |         |Q        |V        |
     1+ 0       0.1521      2.58  |         Q         |         |    V    |
     1+ 5       0.1626      1.52  |     Q   |         |         |      V  |
     1+10       0.1673      0.68  | Q       |         |         |       V |
     1+15       0.1699      0.38  |Q        |         |         |        V|
     1+20       0.1713      0.21  Q         |         |         |        V|
     1+25       0.1721      0.11  Q         |         |         |        V|
     1+30       0.1723      0.03  Q         |         |         |        V|
     1+35       0.1724      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  08/08/24 File: PTC5B135.out


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
------------------------------------------------------------------------------

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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUTFLOW B1
5 YEAR 3 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       3.65(Ac.)  =      0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       3.65(Ac.)  =      0.006 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.075 Hr.
Lag time =     4.50 Min.
25% of lag time =     1.13 Min.
40% of lag time =     1.80 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]
        3.65            1.00                3.65

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.65            2.50                9.13

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    1.000(In)
Area Averaged 100-Year Rainfall =    2.500(In)

Point rain (area averaged) =    1.351(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.351(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.650           56.00          0.722
 Total Area Entered =      3.65(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

56.0	36.0	0.706	0.722	0.247	1.000	0.247

Sum (F) = 0.247

Area averaged **mean** soil loss (F) (In/Hr) = 0.247

Minimum soil loss rate ((In/Hr)) = 0.124

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.322

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	111.111	22.573	0.830
2	0.167	222.222	48.844	1.797
3	0.250	333.333	14.181	0.522
4	0.333	444.444	6.487	0.239
5	0.417	555.556	3.604	0.133
6	0.500	666.667	2.227	0.082
7	0.583	777.778	1.307	0.048
8	0.667	888.889	0.778	0.029
		Sum = 100.000	Sum=	3.679

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.211	(0.247)	0.068	0.143
2	0.17	1.30	0.211	(0.247)	0.068	0.143
3	0.25	1.10	0.178	(0.247)	0.057	0.121
4	0.33	1.50	0.243	(0.247)	0.078	0.165
5	0.42	1.50	0.243	(0.247)	0.078	0.165
6	0.50	1.80	0.292	(0.247)	0.094	0.198
7	0.58	1.50	0.243	(0.247)	0.078	0.165
8	0.67	1.80	0.292	(0.247)	0.094	0.198
9	0.75	1.80	0.292	(0.247)	0.094	0.198
10	0.83	1.50	0.243	(0.247)	0.078	0.165
11	0.92	1.60	0.259	(0.247)	0.084	0.176
12	1.00	1.80	0.292	(0.247)	0.094	0.198
13	1.08	2.20	0.357	(0.247)	0.115	0.242
14	1.17	2.20	0.357	(0.247)	0.115	0.242
15	1.25	2.20	0.357	(0.247)	0.115	0.242
16	1.33	2.00	0.324	(0.247)	0.104	0.220
17	1.42	2.60	0.422	(0.247)	0.136	0.286
18	1.50	2.70	0.438	(0.247)	0.141	0.297
19	1.58	2.40	0.389	(0.247)	0.125	0.264
20	1.67	2.70	0.438	(0.247)	0.141	0.297
21	1.75	3.30	0.535	(0.247)	0.172	0.363
22	1.83	3.10	0.503	(0.247)	0.162	0.341
23	1.92	2.90	0.470	(0.247)	0.151	0.319
24	2.00	3.00	0.486	(0.247)	0.157	0.330
25	2.08	3.10	0.503	(0.247)	0.162	0.341
26	2.17	4.20	0.681	(0.247)	0.219	0.462
27	2.25	5.00	0.811	0.247	(0.261)	0.564
28	2.33	3.50	0.568	(0.247)	0.183	0.385
29	2.42	6.80	1.103	0.247	(0.355)	0.855
30	2.50	7.30	1.184	0.247	(0.381)	0.937
31	2.58	8.20	1.330	0.247	(0.428)	1.082
32	2.67	5.90	0.957	0.247	(0.308)	0.709
33	2.75	2.00	0.324	(0.247)	0.104	0.220
34	2.83	1.80	0.292	(0.247)	0.094	0.198
35	2.92	1.80	0.292	(0.247)	0.094	0.198
36	3.00	0.60	0.097	(0.247)	0.031	0.066

```
        (Loss Rate Not Used)
     Sum =     100.0                                    Sum =    11.5
    Flood volume = Effective rainfall      0.96(In)
     times area       3.6(Ac.)/[(In)/(Ft.)] =       0.3(Ac.Ft)
    Total soil loss =      0.39(In)
    Total soil loss =     0.120(Ac.Ft)
    Total rainfall =      1.35(In)
    Flood volume =       12688.2 Cubic Feet
    Total soil loss =        5216.1 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      3.358(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       0.0008      0.12  Q         |         |         |         |
    0+10       0.0034      0.38  VQ        |         |         |         |
    0+15       0.0064      0.43  VQ        |         |         |         |
    0+20       0.0096      0.46  |Q        |         |         |         |
    0+25       0.0134      0.55  |VQ       |         |         |         |
    0+30       0.0175      0.61  | Q       |         |         |         |
    0+35       0.0220      0.65  | QV      |         |         |         |
    0+40       0.0265      0.65  | QV      |         |         |         |
    0+45       0.0313      0.70  | Q V     |         |         |         |
    0+50       0.0360      0.69  | Q V     |         |         |         |
    0+55       0.0405      0.64  | Q  V    |         |         |         |
    1+ 0       0.0451      0.67  | Q   V   |         |         |         |
    1+ 5       0.0502      0.74  | Q   V   |         |         |         |
    1+10       0.0559      0.83  |  Q   V  |         |         |         |
    1+15       0.0618      0.86  |  Q    V |         |         |         |
    1+20       0.0677      0.86  |  Q     V|         |         |         |
    1+25       0.0738      0.88  |  Q      V         |         |         |
    1+30       0.0807      1.00  |  Q      |V        |         |         |
    1+35       0.0877      1.02  |   Q     | V       |         |         |
    1+40       0.0947      1.01  |   Q     |  V      |         |         |
    1+45       0.1024      1.12  |   Q     |   V     |         |         |
    1+50       0.1109      1.23  |   Q     |    V    |         |         |
    1+55       0.1193      1.22  |   Q     |     V   |         |         |
    2+ 0       0.1275      1.20  |   Q     |      V  |         |         |
    2+ 5       0.1359      1.22  |   Q     |       V |         |         |
    2+10       0.1451      1.34  |    Q    |        V|         |         |
    2+15       0.1565      1.65  |     Q   |         |V        |         |
    2+20       0.1686      1.75  |      Q  |         |  V      |         |
    2+25       0.1817      1.90  |      Q  |         |   V     |         |
    2+30       0.2007      2.77  |         |Q        |      V  |         |
    2+35       0.2232      3.26  |         |  Q      |         V         |
    2+40       0.2463      3.36  |         |  Q      |         |  V      |
    2+45       0.2630      2.43  |        Q|         |         |     V   |
    2+50       0.2728      1.42  |    Q    |         |         |      V  |
    2+55       0.2802      1.08  |   Q     |         |         |       V |
    3+ 0       0.2859      0.82  |  Q      |         |         |        V|
    3+ 5       0.2889      0.44  |Q        |         |         |        V|
    3+10       0.2902      0.19  Q         |         |         |        V|
    3+15       0.2908      0.09  Q         |         |         |        V|
    3+20       0.2911      0.04  Q         |         |         |        V|
    3+25       0.2912      0.02  Q         |         |         |        V|
    3+30       0.2913      0.01  Q         |         |         |        V|
    3+35       0.2913      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  08/08/24 File: PTC5B165.out


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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUTFLOW B1
5 YEAR 6 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       3.65(Ac.)  =      0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       3.65(Ac.)  =      0.006 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.075 Hr.
Lag time =     4.50 Min.
25% of lag time =     1.13 Min.
40% of lag time =     1.80 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]
        3.65            1.40                5.11

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.65            3.50               12.78

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    1.400(In)
Area Averaged 100-Year Rainfall =    3.500(In)

Point rain (area averaged) =    1.892(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.892(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.650           56.00          0.722
 Total Area Entered =      3.65(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

56.0	36.0	0.706	0.722	0.247	1.000	0.247

Sum (F) = 0.247

Area averaged **mean** soil loss (F) (In/Hr) = 0.247

Minimum soil loss rate ((In/Hr)) = 0.124

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.322

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	111.111	22.573	0.830
2	0.167	222.222	48.844	1.797
3	0.250	333.333	14.181	0.522
4	0.333	444.444	6.487	0.239
5	0.417	555.556	3.604	0.133
6	0.500	666.667	2.227	0.082
7	0.583	777.778	1.307	0.048
8	0.667	888.889	0.778	0.029
		Sum = 100.000	Sum=	3.679

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.114	(0.247)	0.037	0.077
2	0.17	0.60	0.136	(0.247)	0.044	0.092
3	0.25	0.60	0.136	(0.247)	0.044	0.092
4	0.33	0.60	0.136	(0.247)	0.044	0.092
5	0.42	0.60	0.136	(0.247)	0.044	0.092
6	0.50	0.70	0.159	(0.247)	0.051	0.108
7	0.58	0.70	0.159	(0.247)	0.051	0.108
8	0.67	0.70	0.159	(0.247)	0.051	0.108
9	0.75	0.70	0.159	(0.247)	0.051	0.108
10	0.83	0.70	0.159	(0.247)	0.051	0.108
11	0.92	0.70	0.159	(0.247)	0.051	0.108
12	1.00	0.80	0.182	(0.247)	0.058	0.123
13	1.08	0.80	0.182	(0.247)	0.058	0.123
14	1.17	0.80	0.182	(0.247)	0.058	0.123
15	1.25	0.80	0.182	(0.247)	0.058	0.123
16	1.33	0.80	0.182	(0.247)	0.058	0.123
17	1.42	0.80	0.182	(0.247)	0.058	0.123
18	1.50	0.80	0.182	(0.247)	0.058	0.123
19	1.58	0.80	0.182	(0.247)	0.058	0.123
20	1.67	0.80	0.182	(0.247)	0.058	0.123
21	1.75	0.80	0.182	(0.247)	0.058	0.123
22	1.83	0.80	0.182	(0.247)	0.058	0.123
23	1.92	0.80	0.182	(0.247)	0.058	0.123
24	2.00	0.90	0.204	(0.247)	0.066	0.139
25	2.08	0.80	0.182	(0.247)	0.058	0.123
26	2.17	0.90	0.204	(0.247)	0.066	0.139
27	2.25	0.90	0.204	(0.247)	0.066	0.139
28	2.33	0.90	0.204	(0.247)	0.066	0.139
29	2.42	0.90	0.204	(0.247)	0.066	0.139
30	2.50	0.90	0.204	(0.247)	0.066	0.139
31	2.58	0.90	0.204	(0.247)	0.066	0.139
32	2.67	0.90	0.204	(0.247)	0.066	0.139
33	2.75	1.00	0.227	(0.247)	0.073	0.154
34	2.83	1.00	0.227	(0.247)	0.073	0.154
35	2.92	1.00	0.227	(0.247)	0.073	0.154
36	3.00	1.00	0.227	(0.247)	0.073	0.154

37	3.08	1.00	0.227	(0.247)	0.073	0.154
38	3.17	1.10	0.250	(0.247)	0.080	0.169
39	3.25	1.10	0.250	(0.247)	0.080	0.169
40	3.33	1.10	0.250	(0.247)	0.080	0.169
41	3.42	1.20	0.272	(0.247)	0.088	0.185
42	3.50	1.30	0.295	(0.247)	0.095	0.200
43	3.58	1.40	0.318	(0.247)	0.102	0.215
44	3.67	1.40	0.318	(0.247)	0.102	0.215
45	3.75	1.50	0.341	(0.247)	0.110	0.231
46	3.83	1.50	0.341	(0.247)	0.110	0.231
47	3.92	1.60	0.363	(0.247)	0.117	0.246
48	4.00	1.60	0.363	(0.247)	0.117	0.246
49	4.08	1.70	0.386	(0.247)	0.124	0.262
50	4.17	1.80	0.409	(0.247)	0.132	0.277
51	4.25	1.90	0.431	(0.247)	0.139	0.292
52	4.33	2.00	0.454	(0.247)	0.146	0.308
53	4.42	2.10	0.477	(0.247)	0.154	0.323
54	4.50	2.10	0.477	(0.247)	0.154	0.323
55	4.58	2.20	0.499	(0.247)	0.161	0.339
56	4.67	2.30	0.522	(0.247)	0.168	0.354
57	4.75	2.40	0.545	(0.247)	0.175	0.369
58	4.83	2.40	0.545	(0.247)	0.175	0.369
59	4.92	2.50	0.568	(0.247)	0.183	0.385
60	5.00	2.60	0.590	(0.247)	0.190	0.400
61	5.08	3.10	0.704	(0.247)	0.227	0.477
62	5.17	3.60	0.817	0.247	(0.263)	0.570
63	5.25	3.90	0.885	0.247	(0.285)	0.638
64	5.33	4.20	0.953	0.247	(0.307)	0.706
65	5.42	4.70	1.067	0.247	(0.344)	0.820
66	5.50	5.60	1.271	0.247	(0.409)	1.024
67	5.58	1.90	0.431	(0.247)	0.139	0.292
68	5.67	0.90	0.204	(0.247)	0.066	0.139
69	5.75	0.60	0.136	(0.247)	0.044	0.092
70	5.83	0.50	0.114	(0.247)	0.037	0.077
71	5.92	0.30	0.068	(0.247)	0.022	0.046
72	6.00	0.20	0.045	(0.247)	0.015	0.031

(Loss Rate Not Used)

Sum = 100.0 Sum = 15.8

Flood volume = Effective rainfall 1.31(In)
times area 3.6(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)
Total soil loss = 0.58(In)
Total soil loss = 0.176(Ac.Ft)
Total rainfall = 1.89(In)
Flood volume = 17405.5 Cubic Feet
Total soil loss = 7660.5 Cubic Feet

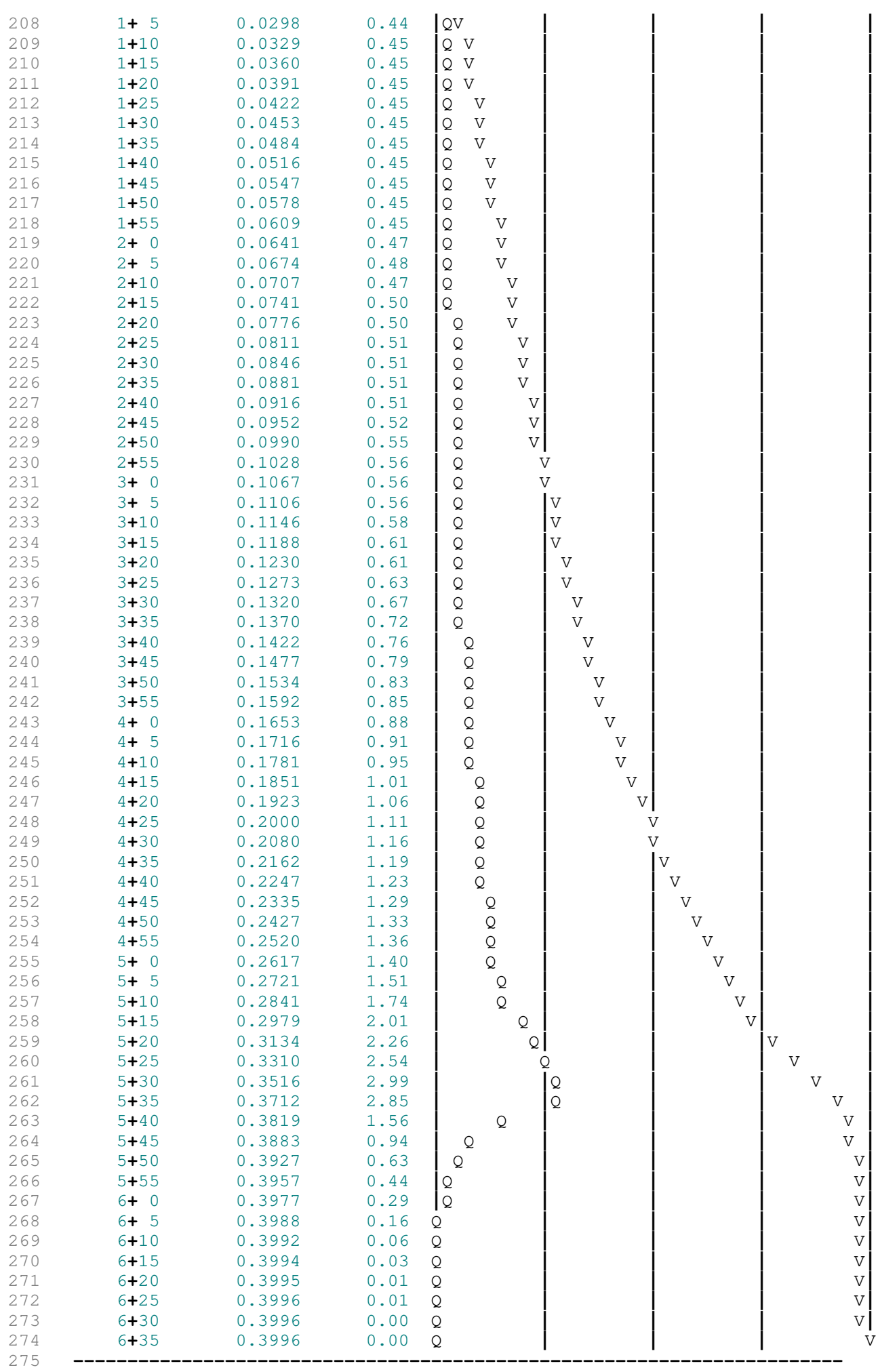
Peak flow rate of this hydrograph = 2.990(CFS)

++

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0004	0.06	Q	|	|	|	|
0+10	0.0019	0.22	Q	|	|	|	|
0+15	0.0039	0.28	VQ	|	|	|	|
0+20	0.0060	0.31	VQ	|	|	|	|
0+25	0.0082	0.32	VQ	|	|	|	|
0+30	0.0106	0.34	|Q	|	|	|	|
0+35	0.0132	0.38	|Q	|	|	|	|
0+40	0.0159	0.39	|Q	|	|	|	|
0+45	0.0186	0.39	|Q	|	|	|	|
0+50	0.0213	0.39	|QV	|	|	|	|
0+55	0.0240	0.40	|QV	|	|	|	|
1+ 0	0.0268	0.41	|QV	|	|	|	|



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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  08/08/24 File: PTC5B1245.out


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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUTFLOW B1
5 YEAR 24 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       3.65(Ac.)  =      0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       3.65(Ac.)  =      0.006 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.075 Hr.
Lag time =     4.50 Min.
25% of lag time =     1.13 Min.
40% of lag time =     1.80 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]
        3.65            2.50                9.13

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.65            7.00               25.55

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    2.500(In)
Area Averaged 100-Year Rainfall =    7.000(In)

Point rain (area averaged) =    3.554(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    3.554(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.650           56.00          0.722
 Total Area Entered =      3.65(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
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56.0	36.0	0.706	0.722	0.247	1.000	0.247

Sum (F) = 0.247

Area averaged **mean** soil loss (F) (In/Hr) = 0.247

Minimum soil loss rate ((In/Hr)) = 0.124

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.322

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	111.111	22.573	0.830
2	0.167	222.222	48.844	1.797
3	0.250	333.333	14.181	0.522
4	0.333	444.444	6.487	0.239
5	0.417	555.556	3.604	0.133
6	0.500	666.667	2.227	0.082
7	0.583	777.778	1.307	0.048
8	0.667	888.889	0.778	0.029
		Sum = 100.000	Sum=	3.679

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

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.028	(0.438)	0.009	0.019
2	0.17	0.07	0.028	(0.437)	0.009	0.019
3	0.25	0.07	0.028	(0.435)	0.009	0.019
4	0.33	0.10	0.043	(0.433)	0.014	0.029
5	0.42	0.10	0.043	(0.432)	0.014	0.029
6	0.50	0.10	0.043	(0.430)	0.014	0.029
7	0.58	0.10	0.043	(0.428)	0.014	0.029
8	0.67	0.10	0.043	(0.426)	0.014	0.029
9	0.75	0.10	0.043	(0.425)	0.014	0.029
10	0.83	0.13	0.057	(0.423)	0.018	0.039
11	0.92	0.13	0.057	(0.421)	0.018	0.039
12	1.00	0.13	0.057	(0.420)	0.018	0.039
13	1.08	0.10	0.043	(0.418)	0.014	0.029
14	1.17	0.10	0.043	(0.417)	0.014	0.029
15	1.25	0.10	0.043	(0.415)	0.014	0.029
16	1.33	0.10	0.043	(0.413)	0.014	0.029
17	1.42	0.10	0.043	(0.412)	0.014	0.029
18	1.50	0.10	0.043	(0.410)	0.014	0.029
19	1.58	0.10	0.043	(0.408)	0.014	0.029
20	1.67	0.10	0.043	(0.407)	0.014	0.029
21	1.75	0.10	0.043	(0.405)	0.014	0.029
22	1.83	0.13	0.057	(0.403)	0.018	0.039
23	1.92	0.13	0.057	(0.402)	0.018	0.039
24	2.00	0.13	0.057	(0.400)	0.018	0.039
25	2.08	0.13	0.057	(0.399)	0.018	0.039
26	2.17	0.13	0.057	(0.397)	0.018	0.039
27	2.25	0.13	0.057	(0.395)	0.018	0.039
28	2.33	0.13	0.057	(0.394)	0.018	0.039
29	2.42	0.13	0.057	(0.392)	0.018	0.039
30	2.50	0.13	0.057	(0.390)	0.018	0.039
31	2.58	0.17	0.071	(0.389)	0.023	0.048
32	2.67	0.17	0.071	(0.387)	0.023	0.048
33	2.75	0.17	0.071	(0.386)	0.023	0.048
34	2.83	0.17	0.071	(0.384)	0.023	0.048
35	2.92	0.17	0.071	(0.383)	0.023	0.048
36	3.00	0.17	0.071	(0.381)	0.023	0.048

139	37	3.08	0.17	0.071	(0.379)	0.023	0.048
140	38	3.17	0.17	0.071	(0.378)	0.023	0.048
141	39	3.25	0.17	0.071	(0.376)	0.023	0.048
142	40	3.33	0.17	0.071	(0.375)	0.023	0.048
143	41	3.42	0.17	0.071	(0.373)	0.023	0.048
144	42	3.50	0.17	0.071	(0.372)	0.023	0.048
145	43	3.58	0.17	0.071	(0.370)	0.023	0.048
146	44	3.67	0.17	0.071	(0.368)	0.023	0.048
147	45	3.75	0.17	0.071	(0.367)	0.023	0.048
148	46	3.83	0.20	0.085	(0.365)	0.027	0.058
149	47	3.92	0.20	0.085	(0.364)	0.027	0.058
150	48	4.00	0.20	0.085	(0.362)	0.027	0.058
151	49	4.08	0.20	0.085	(0.361)	0.027	0.058
152	50	4.17	0.20	0.085	(0.359)	0.027	0.058
153	51	4.25	0.20	0.085	(0.358)	0.027	0.058
154	52	4.33	0.23	0.100	(0.356)	0.032	0.067
155	53	4.42	0.23	0.100	(0.355)	0.032	0.067
156	54	4.50	0.23	0.100	(0.353)	0.032	0.067
157	55	4.58	0.23	0.100	(0.352)	0.032	0.067
158	56	4.67	0.23	0.100	(0.350)	0.032	0.067
159	57	4.75	0.23	0.100	(0.349)	0.032	0.067
160	58	4.83	0.27	0.114	(0.347)	0.037	0.077
161	59	4.92	0.27	0.114	(0.346)	0.037	0.077
162	60	5.00	0.27	0.114	(0.344)	0.037	0.077
163	61	5.08	0.20	0.085	(0.343)	0.027	0.058
164	62	5.17	0.20	0.085	(0.341)	0.027	0.058
165	63	5.25	0.20	0.085	(0.340)	0.027	0.058
166	64	5.33	0.23	0.100	(0.338)	0.032	0.067
167	65	5.42	0.23	0.100	(0.337)	0.032	0.067
168	66	5.50	0.23	0.100	(0.335)	0.032	0.067
169	67	5.58	0.27	0.114	(0.334)	0.037	0.077
170	68	5.67	0.27	0.114	(0.332)	0.037	0.077
171	69	5.75	0.27	0.114	(0.331)	0.037	0.077
172	70	5.83	0.27	0.114	(0.329)	0.037	0.077
173	71	5.92	0.27	0.114	(0.328)	0.037	0.077
174	72	6.00	0.27	0.114	(0.326)	0.037	0.077
175	73	6.08	0.30	0.128	(0.325)	0.041	0.087
176	74	6.17	0.30	0.128	(0.323)	0.041	0.087
177	75	6.25	0.30	0.128	(0.322)	0.041	0.087
178	76	6.33	0.30	0.128	(0.321)	0.041	0.087
179	77	6.42	0.30	0.128	(0.319)	0.041	0.087
180	78	6.50	0.30	0.128	(0.318)	0.041	0.087
181	79	6.58	0.33	0.142	(0.316)	0.046	0.096
182	80	6.67	0.33	0.142	(0.315)	0.046	0.096
183	81	6.75	0.33	0.142	(0.313)	0.046	0.096
184	82	6.83	0.33	0.142	(0.312)	0.046	0.096
185	83	6.92	0.33	0.142	(0.311)	0.046	0.096
186	84	7.00	0.33	0.142	(0.309)	0.046	0.096
187	85	7.08	0.33	0.142	(0.308)	0.046	0.096
188	86	7.17	0.33	0.142	(0.306)	0.046	0.096
189	87	7.25	0.33	0.142	(0.305)	0.046	0.096
190	88	7.33	0.37	0.156	(0.304)	0.050	0.106
191	89	7.42	0.37	0.156	(0.302)	0.050	0.106
192	90	7.50	0.37	0.156	(0.301)	0.050	0.106
193	91	7.58	0.40	0.171	(0.299)	0.055	0.116
194	92	7.67	0.40	0.171	(0.298)	0.055	0.116
195	93	7.75	0.40	0.171	(0.297)	0.055	0.116
196	94	7.83	0.43	0.185	(0.295)	0.060	0.125
197	95	7.92	0.43	0.185	(0.294)	0.060	0.125
198	96	8.00	0.43	0.185	(0.293)	0.060	0.125
199	97	8.08	0.50	0.213	(0.291)	0.069	0.145
200	98	8.17	0.50	0.213	(0.290)	0.069	0.145
201	99	8.25	0.50	0.213	(0.289)	0.069	0.145
202	100	8.33	0.50	0.213	(0.287)	0.069	0.145
203	101	8.42	0.50	0.213	(0.286)	0.069	0.145
204	102	8.50	0.50	0.213	(0.285)	0.069	0.145
205	103	8.58	0.53	0.227	(0.283)	0.073	0.154
206	104	8.67	0.53	0.227	(0.282)	0.073	0.154
207	105	8.75	0.53	0.227	(0.281)	0.073	0.154

208	106	8.83	0.57	0.242	(0.279)	0.078	0.164
209	107	8.92	0.57	0.242	(0.278)	0.078	0.164
210	108	9.00	0.57	0.242	(0.277)	0.078	0.164
211	109	9.08	0.63	0.270	(0.275)	0.087	0.183
212	110	9.17	0.63	0.270	(0.274)	0.087	0.183
213	111	9.25	0.63	0.270	(0.273)	0.087	0.183
214	112	9.33	0.67	0.284	(0.271)	0.092	0.193
215	113	9.42	0.67	0.284	(0.270)	0.092	0.193
216	114	9.50	0.67	0.284	(0.269)	0.092	0.193
217	115	9.58	0.70	0.299	(0.267)	0.096	0.202
218	116	9.67	0.70	0.299	(0.266)	0.096	0.202
219	117	9.75	0.70	0.299	(0.265)	0.096	0.202
220	118	9.83	0.73	0.313	(0.264)	0.101	0.212
221	119	9.92	0.73	0.313	(0.262)	0.101	0.212
222	120	10.00	0.73	0.313	(0.261)	0.101	0.212
223	121	10.08	0.50	0.213	(0.260)	0.069	0.145
224	122	10.17	0.50	0.213	(0.259)	0.069	0.145
225	123	10.25	0.50	0.213	(0.257)	0.069	0.145
226	124	10.33	0.50	0.213	(0.256)	0.069	0.145
227	125	10.42	0.50	0.213	(0.255)	0.069	0.145
228	126	10.50	0.50	0.213	(0.254)	0.069	0.145
229	127	10.58	0.67	0.284	(0.252)	0.092	0.193
230	128	10.67	0.67	0.284	(0.251)	0.092	0.193
231	129	10.75	0.67	0.284	(0.250)	0.092	0.193
232	130	10.83	0.67	0.284	(0.249)	0.092	0.193
233	131	10.92	0.67	0.284	(0.247)	0.092	0.193
234	132	11.00	0.67	0.284	(0.246)	0.092	0.193
235	133	11.08	0.63	0.270	(0.245)	0.087	0.183
236	134	11.17	0.63	0.270	(0.244)	0.087	0.183
237	135	11.25	0.63	0.270	(0.243)	0.087	0.183
238	136	11.33	0.63	0.270	(0.241)	0.087	0.183
239	137	11.42	0.63	0.270	(0.240)	0.087	0.183
240	138	11.50	0.63	0.270	(0.239)	0.087	0.183
241	139	11.58	0.57	0.242	(0.238)	0.078	0.164
242	140	11.67	0.57	0.242	(0.237)	0.078	0.164
243	141	11.75	0.57	0.242	(0.235)	0.078	0.164
244	142	11.83	0.60	0.256	(0.234)	0.082	0.173
245	143	11.92	0.60	0.256	(0.233)	0.082	0.173
246	144	12.00	0.60	0.256	(0.232)	0.082	0.173
247	145	12.08	0.83	0.355	(0.231)	0.114	0.241
248	146	12.17	0.83	0.355	(0.230)	0.114	0.241
249	147	12.25	0.83	0.355	(0.228)	0.114	0.241
250	148	12.33	0.87	0.370	(0.227)	0.119	0.251
251	149	12.42	0.87	0.370	(0.226)	0.119	0.251
252	150	12.50	0.87	0.370	(0.225)	0.119	0.251
253	151	12.58	0.93	0.398	(0.224)	0.128	0.270
254	152	12.67	0.93	0.398	(0.223)	0.128	0.270
255	153	12.75	0.93	0.398	(0.222)	0.128	0.270
256	154	12.83	0.97	0.412	(0.221)	0.133	0.280
257	155	12.92	0.97	0.412	(0.219)	0.133	0.280
258	156	13.00	0.97	0.412	(0.218)	0.133	0.280
259	157	13.08	1.13	0.483	(0.217)	0.156	0.328
260	158	13.17	1.13	0.483	(0.216)	0.156	0.328
261	159	13.25	1.13	0.483	(0.215)	0.156	0.328
262	160	13.33	1.13	0.483	(0.214)	0.156	0.328
263	161	13.42	1.13	0.483	(0.213)	0.156	0.328
264	162	13.50	1.13	0.483	(0.212)	0.156	0.328
265	163	13.58	0.77	0.327	(0.211)	0.105	0.222
266	164	13.67	0.77	0.327	(0.210)	0.105	0.222
267	165	13.75	0.77	0.327	(0.209)	0.105	0.222
268	166	13.83	0.77	0.327	(0.207)	0.105	0.222
269	167	13.92	0.77	0.327	(0.206)	0.105	0.222
270	168	14.00	0.77	0.327	(0.205)	0.105	0.222
271	169	14.08	0.90	0.384	(0.204)	0.124	0.260
272	170	14.17	0.90	0.384	(0.203)	0.124	0.260
273	171	14.25	0.90	0.384	(0.202)	0.124	0.260
274	172	14.33	0.87	0.370	(0.201)	0.119	0.251
275	173	14.42	0.87	0.370	(0.200)	0.119	0.251
276	174	14.50	0.87	0.370	(0.199)	0.119	0.251

277	175	14.58	0.87	0.370	(	0.198)	0.119	0.251
278	176	14.67	0.87	0.370	(	0.197)	0.119	0.251
279	177	14.75	0.87	0.370	(	0.196)	0.119	0.251
280	178	14.83	0.83	0.355	(	0.195)	0.114	0.241
281	179	14.92	0.83	0.355	(	0.194)	0.114	0.241
282	180	15.00	0.83	0.355	(	0.193)	0.114	0.241
283	181	15.08	0.80	0.341	(	0.192)	0.110	0.231
284	182	15.17	0.80	0.341	(	0.191)	0.110	0.231
285	183	15.25	0.80	0.341	(	0.190)	0.110	0.231
286	184	15.33	0.77	0.327	(	0.189)	0.105	0.222
287	185	15.42	0.77	0.327	(	0.188)	0.105	0.222
288	186	15.50	0.77	0.327	(	0.187)	0.105	0.222
289	187	15.58	0.63	0.270	(	0.186)	0.087	0.183
290	188	15.67	0.63	0.270	(	0.185)	0.087	0.183
291	189	15.75	0.63	0.270	(	0.184)	0.087	0.183
292	190	15.83	0.63	0.270	(	0.183)	0.087	0.183
293	191	15.92	0.63	0.270	(	0.182)	0.087	0.183
294	192	16.00	0.63	0.270	(	0.182)	0.087	0.183
295	193	16.08	0.13	0.057	(	0.181)	0.018	0.039
296	194	16.17	0.13	0.057	(	0.180)	0.018	0.039
297	195	16.25	0.13	0.057	(	0.179)	0.018	0.039
298	196	16.33	0.13	0.057	(	0.178)	0.018	0.039
299	197	16.42	0.13	0.057	(	0.177)	0.018	0.039
300	198	16.50	0.13	0.057	(	0.176)	0.018	0.039
301	199	16.58	0.10	0.043	(	0.175)	0.014	0.029
302	200	16.67	0.10	0.043	(	0.174)	0.014	0.029
303	201	16.75	0.10	0.043	(	0.173)	0.014	0.029
304	202	16.83	0.10	0.043	(	0.173)	0.014	0.029
305	203	16.92	0.10	0.043	(	0.172)	0.014	0.029
306	204	17.00	0.10	0.043	(	0.171)	0.014	0.029
307	205	17.08	0.17	0.071	(	0.170)	0.023	0.048
308	206	17.17	0.17	0.071	(	0.169)	0.023	0.048
309	207	17.25	0.17	0.071	(	0.168)	0.023	0.048
310	208	17.33	0.17	0.071	(	0.167)	0.023	0.048
311	209	17.42	0.17	0.071	(	0.167)	0.023	0.048
312	210	17.50	0.17	0.071	(	0.166)	0.023	0.048
313	211	17.58	0.17	0.071	(	0.165)	0.023	0.048
314	212	17.67	0.17	0.071	(	0.164)	0.023	0.048
315	213	17.75	0.17	0.071	(	0.163)	0.023	0.048
316	214	17.83	0.13	0.057	(	0.162)	0.018	0.039
317	215	17.92	0.13	0.057	(	0.162)	0.018	0.039
318	216	18.00	0.13	0.057	(	0.161)	0.018	0.039
319	217	18.08	0.13	0.057	(	0.160)	0.018	0.039
320	218	18.17	0.13	0.057	(	0.159)	0.018	0.039
321	219	18.25	0.13	0.057	(	0.158)	0.018	0.039
322	220	18.33	0.13	0.057	(	0.158)	0.018	0.039
323	221	18.42	0.13	0.057	(	0.157)	0.018	0.039
324	222	18.50	0.13	0.057	(	0.156)	0.018	0.039
325	223	18.58	0.10	0.043	(	0.155)	0.014	0.029
326	224	18.67	0.10	0.043	(	0.155)	0.014	0.029
327	225	18.75	0.10	0.043	(	0.154)	0.014	0.029
328	226	18.83	0.07	0.028	(	0.153)	0.009	0.019
329	227	18.92	0.07	0.028	(	0.152)	0.009	0.019
330	228	19.00	0.07	0.028	(	0.152)	0.009	0.019
331	229	19.08	0.10	0.043	(	0.151)	0.014	0.029
332	230	19.17	0.10	0.043	(	0.150)	0.014	0.029
333	231	19.25	0.10	0.043	(	0.150)	0.014	0.029
334	232	19.33	0.13	0.057	(	0.149)	0.018	0.039
335	233	19.42	0.13	0.057	(	0.148)	0.018	0.039
336	234	19.50	0.13	0.057	(	0.148)	0.018	0.039
337	235	19.58	0.10	0.043	(	0.147)	0.014	0.029
338	236	19.67	0.10	0.043	(	0.146)	0.014	0.029
339	237	19.75	0.10	0.043	(	0.146)	0.014	0.029
340	238	19.83	0.07	0.028	(	0.145)	0.009	0.019
341	239	19.92	0.07	0.028	(	0.144)	0.009	0.019
342	240	20.00	0.07	0.028	(	0.144)	0.009	0.019
343	241	20.08	0.10	0.043	(	0.143)	0.014	0.029
344	242	20.17	0.10	0.043	(	0.142)	0.014	0.029
345	243	20.25	0.10	0.043	(	0.142)	0.014	0.029

244	20.33	0.10	0.043	(0.141)	0.014	0.029	
245	20.42	0.10	0.043	(0.140)	0.014	0.029	
246	20.50	0.10	0.043	(0.140)	0.014	0.029	
247	20.58	0.10	0.043	(0.139)	0.014	0.029	
248	20.67	0.10	0.043	(0.139)	0.014	0.029	
249	20.75	0.10	0.043	(0.138)	0.014	0.029	
250	20.83	0.07	0.028	(0.138)	0.009	0.019	
251	20.92	0.07	0.028	(0.137)	0.009	0.019	
252	21.00	0.07	0.028	(0.136)	0.009	0.019	
253	21.08	0.10	0.043	(0.136)	0.014	0.029	
254	21.17	0.10	0.043	(0.135)	0.014	0.029	
255	21.25	0.10	0.043	(0.135)	0.014	0.029	
256	21.33	0.07	0.028	(0.134)	0.009	0.019	
257	21.42	0.07	0.028	(0.134)	0.009	0.019	
258	21.50	0.07	0.028	(0.133)	0.009	0.019	
259	21.58	0.10	0.043	(0.133)	0.014	0.029	
260	21.67	0.10	0.043	(0.132)	0.014	0.029	
261	21.75	0.10	0.043	(0.132)	0.014	0.029	
262	21.83	0.07	0.028	(0.131)	0.009	0.019	
263	21.92	0.07	0.028	(0.131)	0.009	0.019	
264	22.00	0.07	0.028	(0.131)	0.009	0.019	
265	22.08	0.10	0.043	(0.130)	0.014	0.029	
266	22.17	0.10	0.043	(0.130)	0.014	0.029	
267	22.25	0.10	0.043	(0.129)	0.014	0.029	
268	22.33	0.07	0.028	(0.129)	0.009	0.019	
269	22.42	0.07	0.028	(0.128)	0.009	0.019	
270	22.50	0.07	0.028	(0.128)	0.009	0.019	
271	22.58	0.07	0.028	(0.128)	0.009	0.019	
272	22.67	0.07	0.028	(0.127)	0.009	0.019	
273	22.75	0.07	0.028	(0.127)	0.009	0.019	
274	22.83	0.07	0.028	(0.127)	0.009	0.019	
275	22.92	0.07	0.028	(0.126)	0.009	0.019	
276	23.00	0.07	0.028	(0.126)	0.009	0.019	
277	23.08	0.07	0.028	(0.126)	0.009	0.019	
278	23.17	0.07	0.028	(0.125)	0.009	0.019	
279	23.25	0.07	0.028	(0.125)	0.009	0.019	
280	23.33	0.07	0.028	(0.125)	0.009	0.019	
281	23.42	0.07	0.028	(0.125)	0.009	0.019	
282	23.50	0.07	0.028	(0.125)	0.009	0.019	
283	23.58	0.07	0.028	(0.124)	0.009	0.019	
284	23.67	0.07	0.028	(0.124)	0.009	0.019	
285	23.75	0.07	0.028	(0.124)	0.009	0.019	
286	23.83	0.07	0.028	(0.124)	0.009	0.019	
287	23.92	0.07	0.028	(0.124)	0.009	0.019	
288	24.00	0.07	0.028	(0.124)	0.009	0.019	

(Loss Rate Not Used)

Sum = 100.0 Sum = 28.9

Flood volume = Effective rainfall 2.41(In)

times area 3.6(Ac.)/[(In)/(Ft.)] = 0.7(Ac.Ft)

Total soil loss = 1.14(In)

Total soil loss = 0.348(Ac.Ft)

Total rainfall = 3.55(In)

Flood volume = 31926.0 Cubic Feet

Total soil loss = 15162.5 Cubic Feet

Peak flow rate of this hydrograph = 1.202(CFS)

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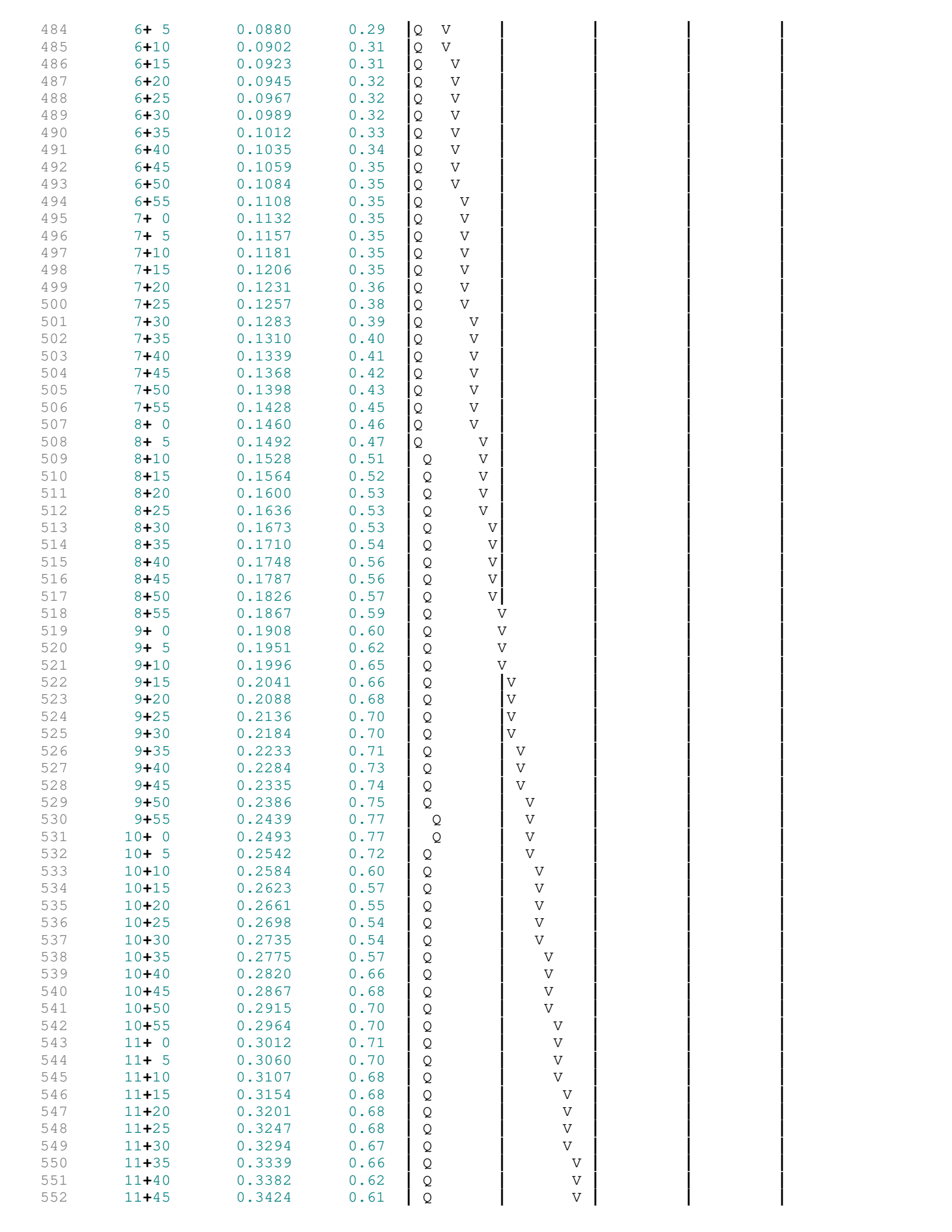
24 - H O U R S T O R M

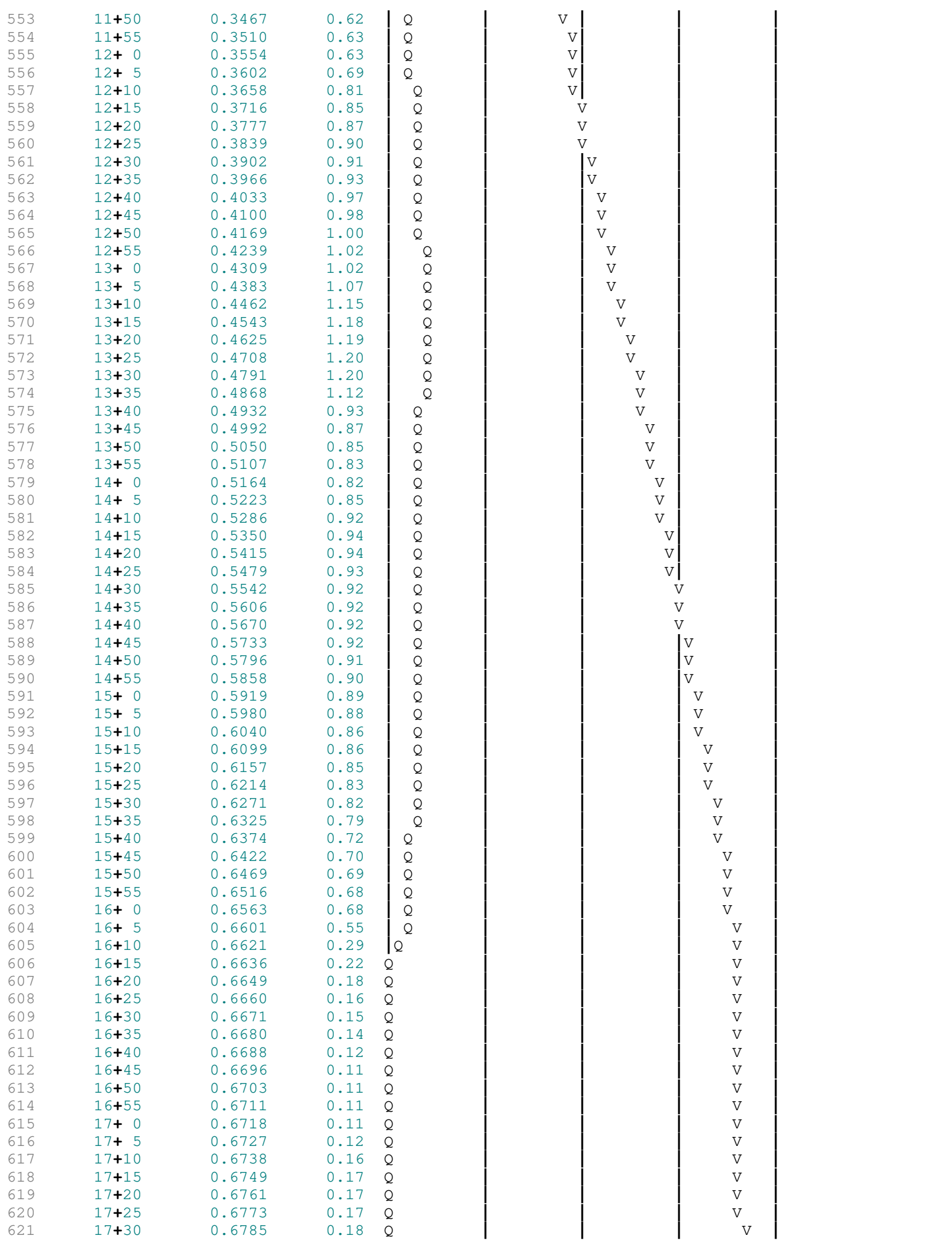
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.02	Q	|	|	|	|
0+10	0.0005	0.05	Q	|	|	|	|
0+15	0.0009	0.06	Q	|	|	|	|

415	0+20	0.0014	0.07	Q	|	|	|	|
416	0+25	0.0020	0.09	Q	|	|	|	|
417	0+30	0.0027	0.10	Q	|	|	|	|
418	0+35	0.0034	0.10	Q	|	|	|	|
419	0+40	0.0041	0.10	Q	|	|	|	|
420	0+45	0.0049	0.11	Q	|	|	|	|
421	0+50	0.0057	0.11	Q	|	|	|	|
422	0+55	0.0066	0.13	Q	|	|	|	|
423	1+ 0	0.0075	0.14	Q	|	|	|	|
424	1+ 5	0.0084	0.13	Q	|	|	|	|
425	1+10	0.0092	0.12	Q	|	|	|	|
426	1+15	0.0100	0.11	Q	|	|	|	|
427	1+20	0.0107	0.11	Q	|	|	|	|
428	1+25	0.0115	0.11	Q	|	|	|	|
429	1+30	0.0122	0.11	Q	|	|	|	|
430	1+35	0.0129	0.11	Q	|	|	|	|
431	1+40	0.0137	0.11	Q	|	|	|	|
432	1+45	0.0144	0.11	Q	|	|	|	|
433	1+50	0.0152	0.11	Q	|	|	|	|
434	1+55	0.0161	0.13	Q	|	|	|	|
435	2+ 0	0.0170	0.14	Q	|	|	|	|
436	2+ 5	0.0180	0.14	Q	|	|	|	|
437	2+10	0.0190	0.14	QV	|	|	|	|
438	2+15	0.0199	0.14	QV	|	|	|	|
439	2+20	0.0209	0.14	QV	|	|	|	|
440	2+25	0.0219	0.14	QV	|	|	|	|
441	2+30	0.0229	0.14	QV	|	|	|	|
442	2+35	0.0239	0.15	QV	|	|	|	|
443	2+40	0.0250	0.17	QV	|	|	|	|
444	2+45	0.0262	0.17	QV	|	|	|	|
445	2+50	0.0274	0.17	QV	|	|	|	|
446	2+55	0.0286	0.18	QV	|	|	|	|
447	3+ 0	0.0299	0.18	QV	|	|	|	|
448	3+ 5	0.0311	0.18	QV	|	|	|	|
449	3+10	0.0323	0.18	QV	|	|	|	|
450	3+15	0.0335	0.18	QV	|	|	|	|
451	3+20	0.0347	0.18	QV	|	|	|	|
452	3+25	0.0360	0.18	QV	|	|	|	|
453	3+30	0.0372	0.18	Q V	|	|	|	|
454	3+35	0.0384	0.18	Q V	|	|	|	|
455	3+40	0.0396	0.18	Q V	|	|	|	|
456	3+45	0.0409	0.18	Q V	|	|	|	|
457	3+50	0.0421	0.19	Q V	|	|	|	|
458	3+55	0.0435	0.20	Q V	|	|	|	|
459	4+ 0	0.0450	0.21	Q V	|	|	|	|
460	4+ 5	0.0464	0.21	Q V	|	|	|	|
461	4+10	0.0479	0.21	Q V	|	|	|	|
462	4+15	0.0493	0.21	Q V	|	|	|	|
463	4+20	0.0508	0.22	Q V	|	|	|	|
464	4+25	0.0525	0.24	Q V	|	|	|	|
465	4+30	0.0542	0.24	Q V	|	|	|	|
466	4+35	0.0558	0.25	Q V	|	|	|	|
467	4+40	0.0575	0.25	Q V	|	|	|	|
468	4+45	0.0592	0.25	Q V	|	|	|	|
469	4+50	0.0610	0.26	|Q V	|	|	|	|
470	4+55	0.0629	0.27	|Q V	|	|	|	|
471	5+ 0	0.0648	0.28	|Q V	|	|	|	|
472	5+ 5	0.0666	0.26	|Q V	|	|	|	|
473	5+10	0.0682	0.23	Q V	|	|	|	|
474	5+15	0.0698	0.22	Q V	|	|	|	|
475	5+20	0.0713	0.23	Q V	|	|	|	|
476	5+25	0.0730	0.24	Q V	|	|	|	|
477	5+30	0.0747	0.24	Q V	|	|	|	|
478	5+35	0.0764	0.25	|Q V	|	|	|	|
479	5+40	0.0783	0.27	|Q V	|	|	|	|
480	5+45	0.0802	0.28	|Q V	|	|	|	|
481	5+50	0.0821	0.28	|Q V	|	|	|	|
482	5+55	0.0841	0.28	|Q V	|	|	|	|
483	6+ 0	0.0860	0.28	|Q V	|	|	|	|





622	17+35	0.6797	0.18	Q	|	|	|	V |
623	17+40	0.6809	0.18	Q	|	|	|	V |
624	17+45	0.6822	0.18	Q	|	|	|	V |
625	17+50	0.6833	0.17	Q	|	|	|	V |
626	17+55	0.6844	0.15	Q	|	|	|	V |
627	18+ 0	0.6854	0.15	Q	|	|	|	V |
628	18+ 5	0.6864	0.14	Q	|	|	|	V |
629	18+10	0.6874	0.14	Q	|	|	|	V |
630	18+15	0.6884	0.14	Q	|	|	|	V |
631	18+20	0.6893	0.14	Q	|	|	|	V |
632	18+25	0.6903	0.14	Q	|	|	|	V |
633	18+30	0.6913	0.14	Q	|	|	|	V |
634	18+35	0.6922	0.13	Q	|	|	|	V |
635	18+40	0.6930	0.12	Q	|	|	|	V |
636	18+45	0.6938	0.11	Q	|	|	|	V |
637	18+50	0.6945	0.10	Q	|	|	|	V |
638	18+55	0.6950	0.08	Q	|	|	|	V |
639	19+ 0	0.6956	0.08	Q	|	|	|	V |
640	19+ 5	0.6961	0.08	Q	|	|	|	V |
641	19+10	0.6968	0.10	Q	|	|	|	V |
642	19+15	0.6975	0.10	Q	|	|	|	V |
643	19+20	0.6983	0.11	Q	|	|	|	V |
644	19+25	0.6992	0.13	Q	|	|	|	V |
645	19+30	0.7001	0.14	Q	|	|	|	V |
646	19+35	0.7010	0.13	Q	|	|	|	V |
647	19+40	0.7018	0.12	Q	|	|	|	V |
648	19+45	0.7026	0.11	Q	|	|	|	V |
649	19+50	0.7033	0.10	Q	|	|	|	V |
650	19+55	0.7038	0.08	Q	|	|	|	V |
651	20+ 0	0.7044	0.08	Q	|	|	|	V |
652	20+ 5	0.7049	0.08	Q	|	|	|	V |
653	20+10	0.7056	0.10	Q	|	|	|	V |
654	20+15	0.7063	0.10	Q	|	|	|	V |
655	20+20	0.7070	0.10	Q	|	|	|	V |
656	20+25	0.7077	0.10	Q	|	|	|	V |
657	20+30	0.7085	0.11	Q	|	|	|	V |
658	20+35	0.7092	0.11	Q	|	|	|	V |
659	20+40	0.7099	0.11	Q	|	|	|	V |
660	20+45	0.7107	0.11	Q	|	|	|	V |
661	20+50	0.7114	0.10	Q	|	|	|	V |
662	20+55	0.7119	0.08	Q	|	|	|	V |
663	21+ 0	0.7124	0.08	Q	|	|	|	V |
664	21+ 5	0.7130	0.08	Q	|	|	|	V |
665	21+10	0.7137	0.10	Q	|	|	|	V |
666	21+15	0.7144	0.10	Q	|	|	|	V |
667	21+20	0.7150	0.10	Q	|	|	|	V |
668	21+25	0.7156	0.08	Q	|	|	|	V |
669	21+30	0.7161	0.08	Q	|	|	|	V |
670	21+35	0.7167	0.08	Q	|	|	|	V |
671	21+40	0.7173	0.10	Q	|	|	|	V |
672	21+45	0.7180	0.10	Q	|	|	|	V |
673	21+50	0.7187	0.10	Q	|	|	|	V |
674	21+55	0.7192	0.08	Q	|	|	|	V |
675	22+ 0	0.7198	0.08	Q	|	|	|	V |
676	22+ 5	0.7203	0.08	Q	|	|	|	V |
677	22+10	0.7210	0.10	Q	|	|	|	V |
678	22+15	0.7217	0.10	Q	|	|	|	V |
679	22+20	0.7224	0.10	Q	|	|	|	V |
680	22+25	0.7229	0.08	Q	|	|	|	V |
681	22+30	0.7234	0.08	Q	|	|	|	V |
682	22+35	0.7239	0.07	Q	|	|	|	V |
683	22+40	0.7244	0.07	Q	|	|	|	V |
684	22+45	0.7249	0.07	Q	|	|	|	V |
685	22+50	0.7254	0.07	Q	|	|	|	V |
686	22+55	0.7259	0.07	Q	|	|	|	V |
687	23+ 0	0.7264	0.07	Q	|	|	|	V |
688	23+ 5	0.7269	0.07	Q	|	|	|	V |
689	23+10	0.7274	0.07	Q	|	|	|	V |
690	23+15	0.7279	0.07	Q	|	|	|	V |

691	23+20	0.7283	0.07	Q	|	|	|	V|
692	23+25	0.7288	0.07	Q	|	|	|	V|
693	23+30	0.7293	0.07	Q	|	|	|	V|
694	23+35	0.7298	0.07	Q	|	|	|	V|
695	23+40	0.7303	0.07	Q	|	|	|	V|
696	23+45	0.7308	0.07	Q	|	|	|	V|
697	23+50	0.7313	0.07	Q	|	|	|	V|
698	23+55	0.7318	0.07	Q	|	|	|	V|
699	24+ 0	0.7323	0.07	Q	|	|	|	V|
700	24+ 5	0.7326	0.05	Q	|	|	|	V|
701	24+10	0.7328	0.02	Q	|	|	|	V|
702	24+15	0.7328	0.01	Q	|	|	|	V|
703	24+20	0.7329	0.01	Q	|	|	Q	V|
704	24+25	0.7329	0.00	Q	|	|	|	V|
705	24+30	0.7329	0.00	Q	|	|	|	V|
706	24+35	0.7329	0.00	Q	|	|	|	V|
707	----------							
708								
709								
710								
711								

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

    Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018, Version 9.0
        Study date  08/08/24 File: PTCB110110.out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------------------------------------------------------------------------------

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


Program License Serial Number 6443

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

 English Units used in output format

 TEMESCAL CANYON PROPOSED OUTFLOW B1
 10 YEAR 1 HOUR
 KIMLEY HORN

------------------------------------------------------------------------
------------------------------------------------------------------------
Drainage Area =       3.65(Ac.)  =      0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       3.65(Ac.)  =      0.006 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.075 Hr.
Lag time =     4.50 Min.
25% of lag time =     1.13 Min.
40% of lag time =     1.80 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]
        3.65            0.55                2.01

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.65            1.40                5.11

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.550(In)
Area Averaged 100-Year Rainfall =    1.400(In)

Point rain (area averaged) =    0.900(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    0.900(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.650           56.00         0.722
 Total Area Entered =      3.65(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
56.0  56.0      0.511     0.722        0.179       1.000      0.179
                                                    Sum (F) =   0.179
```

Area averaged **mean** soil loss **(F) (In/Hr) =** 0.179
Minimum soil loss rate **((In/Hr)) =** 0.089
(for 24 hour storm duration**)**
Soil low loss rate **(decimal) =** 0.322

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	111.111	22.573	0.830
2	0.167	222.222	48.844	1.797
3	0.250	333.333	14.181	0.522
4	0.333	444.444	6.487	0.239
5	0.417	555.556	3.604	0.133
6	0.500	666.667	2.227	0.082
7	0.583	777.778	1.307	0.048
8	0.667	888.889	0.778	0.029
		Sum = 100.000	Sum=	3.679

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.453	(0.179)	0.146	0.307
2	0.17	4.30	0.464	(0.179)	0.149	0.315
3	0.25	5.00	0.540	(0.179)	0.174	0.366
4	0.33	5.00	0.540	(0.179)	0.174	0.366
5	0.42	5.80	0.626	0.179	(0.202)	0.447
6	0.50	6.50	0.702	0.179	(0.226)	0.523
7	0.58	7.40	0.799	0.179	(0.257)	0.620
8	0.67	8.60	0.928	0.179	(0.299)	0.750
9	0.75	12.30	1.328	0.179	(0.428)	1.149
10	0.83	29.10	3.142	0.179	(1.012)	2.963
11	0.92	6.80	0.734	0.179	(0.236)	0.555
12	1.00	5.00	0.540	(0.179)	0.174	0.366
	(Loss Rate Not Used)					
Sum =	100.0				Sum =	8.7

Flood volume = Effective rainfall 0.73(In)
times area 3.6(Ac.)/[(In)/(Ft.)] = 0.2(Ac.Ft)
Total soil loss = 0.17(In)
Total soil loss = 0.052(Ac.Ft)
Total rainfall = 0.90(In)
Flood volume = 9635.6 Cubic Feet
Total soil loss = 2284.6 Cubic Feet

Peak flow rate of this hydrograph = 6.723(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0018	0.26	VQ				
0+10	0.0074	0.81	|V Q				
0+15	0.0145	1.03	| V Q				

0+20	0.0227	1.20	Q	
0+25	0.0319	1.34	Q	
0+30	0.0428	1.58	QV	
0+35	0.0557	1.86	Q V	
0+40	0.0710	2.22	Q V	
0+45	0.0907	2.87	Q V	
0+50	0.1265	5.20	Q V	
0+55	0.1728	6.72	Q V	
1+ 0	0.1956	3.31	Q V	
1+ 5	0.2088	1.91	Q V	
1+10	0.2148	0.86	Q V	
1+15	0.2181	0.48	Q V	
1+20	0.2199	0.27	Q V	
1+25	0.2209	0.14	Q V	
1+30	0.2211	0.03	Q V	
1+35	0.2212	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  08/08/24 File: PTCB110310.out


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------------------------------------------------------------------------------

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


Program License Serial Number 6443

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

 English Units used in output format

 TEMESCAL CANYON PROPOSED OUTFLOW B1
 10 YEAR 3 HOUR
 KIMLEY HORN

------------------------------------------------------------------------
------------------------------------------------------------------------
Drainage Area =       3.65(Ac.)  =      0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       3.65(Ac.)  =      0.006 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.075 Hr.
Lag time =     4.50 Min.
25% of lag time =     1.13 Min.
40% of lag time =     1.80 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]
        3.65            1.00                3.65

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.65            2.50                9.13

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    1.000(In)
Area Averaged 100-Year Rainfall =    2.500(In)

Point rain (area averaged) =    1.617(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.617(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.650           56.00         0.722
 Total Area Entered =      3.65(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
56.0  56.0      0.511     0.722        0.179       1.000       0.179
                                                    Sum (F) =   0.179
```

Area averaged **mean** soil loss **(F) (In/Hr) =** 0.247
Minimum soil loss rate **((In/Hr)) =** 0.124
(for 24 hour storm duration**)**
Note: User entry of the fm value
Note: User entry of the f value
Soil low loss rate **(**decimal**) =** 0.322

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	111.111	22.573	0.830
2	0.167	222.222	48.844	1.797
3	0.250	333.333	14.181	0.522
4	0.333	444.444	6.487	0.239
5	0.417	555.556	3.604	0.133
6	0.500	666.667	2.227	0.082
7	0.583	777.778	1.307	0.048
8	0.667	888.889	0.778	0.029
		Sum = 100.000	Sum=	3.679

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.252	(0.247)	0.081	0.171
2	0.17	1.30	0.252	(0.247)	0.081	0.171
3	0.25	1.10	0.213	(0.247)	0.069	0.145
4	0.33	1.50	0.291	(0.247)	0.094	0.197
5	0.42	1.50	0.291	(0.247)	0.094	0.197
6	0.50	1.80	0.349	(0.247)	0.112	0.237
7	0.58	1.50	0.291	(0.247)	0.094	0.197
8	0.67	1.80	0.349	(0.247)	0.112	0.237
9	0.75	1.80	0.349	(0.247)	0.112	0.237
10	0.83	1.50	0.291	(0.247)	0.094	0.197
11	0.92	1.60	0.310	(0.247)	0.100	0.211
12	1.00	1.80	0.349	(0.247)	0.112	0.237
13	1.08	2.20	0.427	(0.247)	0.137	0.289
14	1.17	2.20	0.427	(0.247)	0.137	0.289
15	1.25	2.20	0.427	(0.247)	0.137	0.289
16	1.33	2.00	0.388	(0.247)	0.125	0.263
17	1.42	2.60	0.505	(0.247)	0.162	0.342
18	1.50	2.70	0.524	(0.247)	0.169	0.355
19	1.58	2.40	0.466	(0.247)	0.150	0.316
20	1.67	2.70	0.524	(0.247)	0.169	0.355
21	1.75	3.30	0.640	(0.247)	0.206	0.434
22	1.83	3.10	0.602	(0.247)	0.194	0.408
23	1.92	2.90	0.563	(0.247)	0.181	0.382
24	2.00	3.00	0.582	(0.247)	0.187	0.395
25	2.08	3.10	0.602	(0.247)	0.194	0.408
26	2.17	4.20	0.815	0.247	(0.262)	0.568
27	2.25	5.00	0.970	0.247	(0.312)	0.723
28	2.33	3.50	0.679	(0.247)	0.219	0.460
29	2.42	6.80	1.320	0.247	(0.425)	1.073
30	2.50	7.30	1.417	0.247	(0.456)	1.170
31	2.58	8.20	1.591	0.247	(0.512)	1.344
32	2.67	5.90	1.145	0.247	(0.369)	0.898
33	2.75	2.00	0.388	(0.247)	0.125	0.263
34	2.83	1.80	0.349	(0.247)	0.112	0.237
35	2.92	1.80	0.349	(0.247)	0.112	0.237
36	3.00	0.60	0.116	(0.247)	0.037	0.079

```
        (Loss Rate Not Used)
     Sum =     100.0                                    Sum =    14.0
    Flood volume = Effective rainfall      1.17(In)
     times area       3.6(Ac.)/[(In)/(Ft.)] =       0.4(Ac.Ft)
    Total soil loss =      0.45(In)
    Total soil loss =     0.137(Ac.Ft)
    Total rainfall =      1.62(In)
    Flood volume =       15470.5 Cubic Feet
    Total soil loss =        5955.1 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      4.188(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       0.0010      0.14  Q         |         |         |         |
    0+10       0.0041      0.45  VQ        |         |         |         |
    0+15       0.0076      0.52  V Q       |         |         |         |
    0+20       0.0115      0.55  |VQ       |         |         |         |
    0+25       0.0160      0.66  |VQ       |         |         |         |
    0+30       0.0210      0.73  | Q       |         |         |         |
    0+35       0.0264      0.78  | VQ      |         |         |         |
    0+40       0.0317      0.77  |  Q      |         |         |         |
    0+45       0.0374      0.84  |  QV     |         |         |         |
    0+50       0.0431      0.82  |  QV     |         |         |         |
    0+55       0.0484      0.77  |  Q V    |         |         |         |
    1+ 0       0.0539      0.80  |  Q  V   |         |         |         |
    1+ 5       0.0600      0.89  |  Q  V   |         |         |         |
    1+10       0.0669      1.00  |  Q   V  |         |         |         |
    1+15       0.0740      1.03  |   Q   V |         |         |         |
    1+20       0.0811      1.02  |   Q    V|         |         |         |
    1+25       0.0883      1.05  |   Q    V|         |         |         |
    1+30       0.0965      1.20  |   Q     V         |         |         |
    1+35       0.1050      1.23  |   Q     |V        |         |         |
    1+40       0.1133      1.21  |   Q     | V       |         |         |
    1+45       0.1225      1.34  |    Q    |  V      |         |         |
    1+50       0.1327      1.48  |    Q    |   V     |         |         |
    1+55       0.1427      1.46  |    Q    |     V   |         |         |
    2+ 0       0.1526      1.43  |    Q    |      V  |         |         |
    2+ 5       0.1626      1.46  |    Q    |       V |         |         |
    2+10       0.1738      1.62  |     Q   |        V|         |         |
    2+15       0.1878      2.04  |       Q |         |V        |         |
    2+20       0.2029      2.19  |       Q |         | V       |         |
    2+25       0.2191      2.35  |        Q|         |   V     |         |
    2+30       0.2429      3.45  |         |  Q      |      V  |         |
    2+35       0.2709      4.06  |         |     Q   |         V         |
    2+40       0.2997      4.19  |         |     Q   |         |  V      |
    2+45       0.3207      3.04  |         | Q       |         |     V   |
    2+50       0.3327      1.75  |     Q   |         |         |      V  |
    2+55       0.3417      1.31  |    Q    |         |         |       V |
    3+ 0       0.3486      0.99  |  Q      |         |         |        V|
    3+ 5       0.3522      0.53  | Q       |         |         |        V|
    3+10       0.3538      0.23  Q         |         |         |        V|
    3+15       0.3546      0.11  Q         |         |         |        V|
    3+20       0.3549      0.05  Q         |         |         |        V|
    3+25       0.3551      0.02  Q         |         |         |        V|
    3+30       0.3551      0.01  Q         |         |         |        V|
    3+35       0.3552      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  08/08/24 File: PTCB110610.out


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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUTFLOW B1
10 YEAR 6 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       3.65(Ac.)  =      0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       3.65(Ac.)  =      0.006 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.075 Hr.
Lag time =     4.50 Min.
25% of lag time =     1.13 Min.
40% of lag time =     1.80 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]
        3.65            1.40                5.11

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.65            3.50               12.78

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    1.400(In)
Area Averaged 100-Year Rainfall =    3.500(In)

Point rain (area averaged) =    2.264(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    2.264(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.650           56.00          0.722
 Total Area Entered =      3.65(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

56.0	56.0	0.511	0.722	0.179	1.000	0.179

Sum (F) = 0.179

Area averaged **mean** soil loss (F) (In/Hr) = 0.247

Minimum soil loss rate ((In/Hr)) = 0.124

(for 24 hour storm duration)

Note: User entry of the fm value

Note: User entry of the f value

Soil low loss rate (decimal) = 0.322

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	111.111	22.573	0.830
2	0.167	222.222	48.844	1.797
3	0.250	333.333	14.181	0.522
4	0.333	444.444	6.487	0.239
5	0.417	555.556	3.604	0.133
6	0.500	666.667	2.227	0.082
7	0.583	777.778	1.307	0.048
8	0.667	888.889	0.778	0.029
		Sum = 100.000	Sum=	3.679

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.136	(0.247)	0.044	0.092
2	0.17	0.60	0.163	(0.247)	0.052	0.111
3	0.25	0.60	0.163	(0.247)	0.052	0.111
4	0.33	0.60	0.163	(0.247)	0.052	0.111
5	0.42	0.60	0.163	(0.247)	0.052	0.111
6	0.50	0.70	0.190	(0.247)	0.061	0.129
7	0.58	0.70	0.190	(0.247)	0.061	0.129
8	0.67	0.70	0.190	(0.247)	0.061	0.129
9	0.75	0.70	0.190	(0.247)	0.061	0.129
10	0.83	0.70	0.190	(0.247)	0.061	0.129
11	0.92	0.70	0.190	(0.247)	0.061	0.129
12	1.00	0.80	0.217	(0.247)	0.070	0.147
13	1.08	0.80	0.217	(0.247)	0.070	0.147
14	1.17	0.80	0.217	(0.247)	0.070	0.147
15	1.25	0.80	0.217	(0.247)	0.070	0.147
16	1.33	0.80	0.217	(0.247)	0.070	0.147
17	1.42	0.80	0.217	(0.247)	0.070	0.147
18	1.50	0.80	0.217	(0.247)	0.070	0.147
19	1.58	0.80	0.217	(0.247)	0.070	0.147
20	1.67	0.80	0.217	(0.247)	0.070	0.147
21	1.75	0.80	0.217	(0.247)	0.070	0.147
22	1.83	0.80	0.217	(0.247)	0.070	0.147
23	1.92	0.80	0.217	(0.247)	0.070	0.147
24	2.00	0.90	0.245	(0.247)	0.079	0.166
25	2.08	0.80	0.217	(0.247)	0.070	0.147
26	2.17	0.90	0.245	(0.247)	0.079	0.166
27	2.25	0.90	0.245	(0.247)	0.079	0.166
28	2.33	0.90	0.245	(0.247)	0.079	0.166
29	2.42	0.90	0.245	(0.247)	0.079	0.166
30	2.50	0.90	0.245	(0.247)	0.079	0.166
31	2.58	0.90	0.245	(0.247)	0.079	0.166
32	2.67	0.90	0.245	(0.247)	0.079	0.166
33	2.75	1.00	0.272	(0.247)	0.087	0.184
34	2.83	1.00	0.272	(0.247)	0.087	0.184

35	2.92	1.00	0.272	(0.247)	0.087	0.184
36	3.00	1.00	0.272	(0.247)	0.087	0.184
37	3.08	1.00	0.272	(0.247)	0.087	0.184
38	3.17	1.10	0.299	(0.247)	0.096	0.203
39	3.25	1.10	0.299	(0.247)	0.096	0.203
40	3.33	1.10	0.299	(0.247)	0.096	0.203
41	3.42	1.20	0.326	(0.247)	0.105	0.221
42	3.50	1.30	0.353	(0.247)	0.114	0.239
43	3.58	1.40	0.380	(0.247)	0.122	0.258
44	3.67	1.40	0.380	(0.247)	0.122	0.258
45	3.75	1.50	0.408	(0.247)	0.131	0.276
46	3.83	1.50	0.408	(0.247)	0.131	0.276
47	3.92	1.60	0.435	(0.247)	0.140	0.295
48	4.00	1.60	0.435	(0.247)	0.140	0.295
49	4.08	1.70	0.462	(0.247)	0.149	0.313
50	4.17	1.80	0.489	(0.247)	0.157	0.332
51	4.25	1.90	0.516	(0.247)	0.166	0.350
52	4.33	2.00	0.543	(0.247)	0.175	0.368
53	4.42	2.10	0.571	(0.247)	0.184	0.387
54	4.50	2.10	0.571	(0.247)	0.184	0.387
55	4.58	2.20	0.598	(0.247)	0.192	0.405
56	4.67	2.30	0.625	(0.247)	0.201	0.424
57	4.75	2.40	0.652	(0.247)	0.210	0.442
58	4.83	2.40	0.652	(0.247)	0.210	0.442
59	4.92	2.50	0.679	(0.247)	0.219	0.460
60	5.00	2.60	0.706	(0.247)	0.227	0.479
61	5.08	3.10	0.842	0.247	(0.271)	0.595
62	5.17	3.60	0.978	0.247	(0.315)	0.731
63	5.25	3.90	1.060	0.247	(0.341)	0.813
64	5.33	4.20	1.141	0.247	(0.367)	0.894
65	5.42	4.70	1.277	0.247	(0.411)	1.030
66	5.50	5.60	1.521	0.247	(0.490)	1.274
67	5.58	1.90	0.516	(0.247)	0.166	0.350
68	5.67	0.90	0.245	(0.247)	0.079	0.166
69	5.75	0.60	0.163	(0.247)	0.052	0.111
70	5.83	0.50	0.136	(0.247)	0.044	0.092
71	5.92	0.30	0.082	(0.247)	0.026	0.055
72	6.00	0.20	0.054	(0.247)	0.017	0.037

(Loss Rate Not Used)

Sum = 100.0 Sum = 19.1

Flood volume = Effective rainfall 1.59(In)
times area 3.6(Ac.)/[(In)/(Ft.)] = 0.5(Ac.Ft)
Total soil loss = 0.67(In)
Total soil loss = 0.204(Ac.Ft)
Total rainfall = 2.26(In)
Flood volume = 21125.3 Cubic Feet
Total soil loss = 8870.7 Cubic Feet

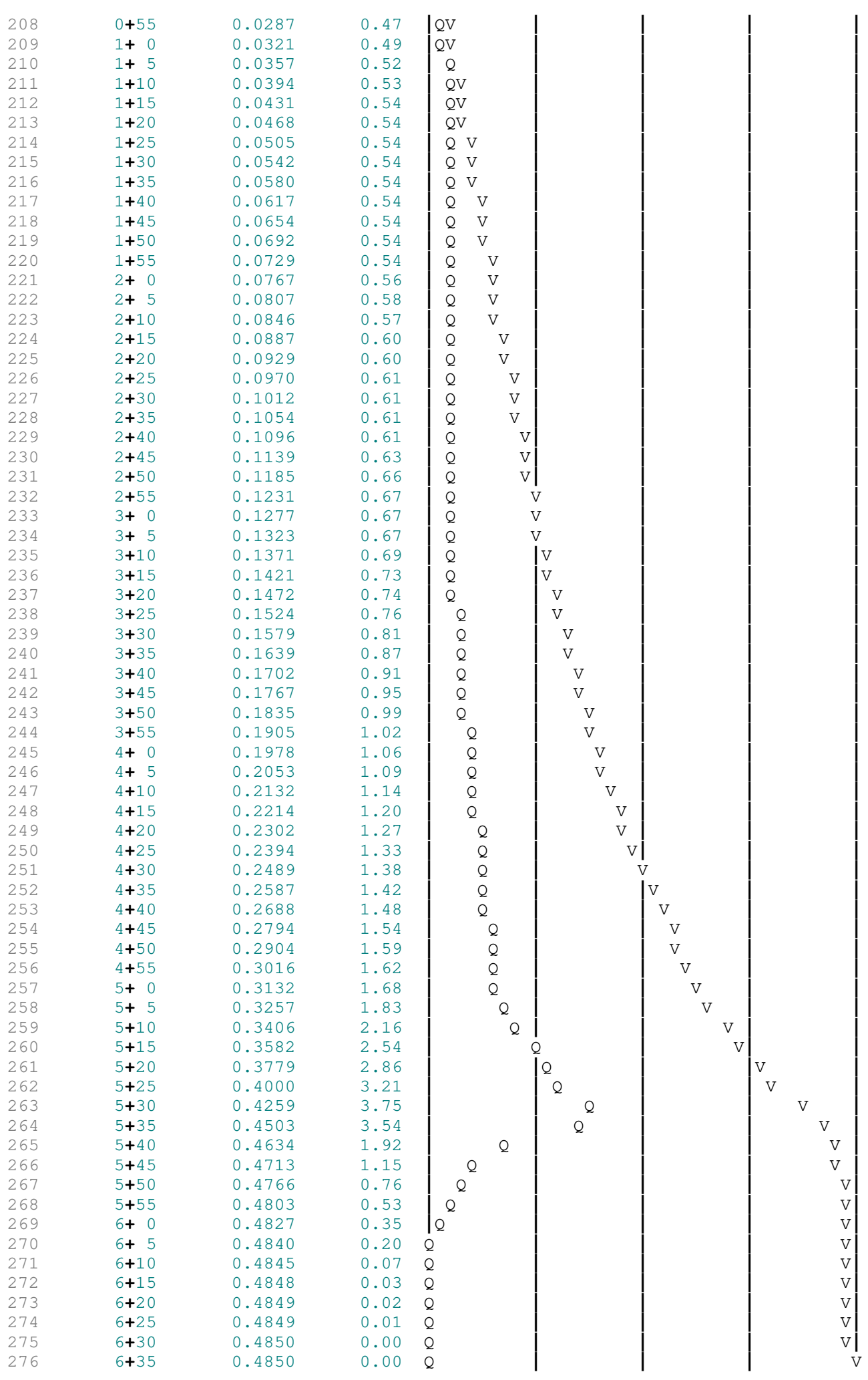
Peak flow rate of this hydrograph = 3.753(CFS)

++

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0005	0.08	Q	|	|	|	|
0+10	0.0023	0.26	VQ	|	|	|	|
0+15	0.0046	0.34	VQ	|	|	|	|
0+20	0.0072	0.37	VQ	|	|	|	|
0+25	0.0098	0.39	VQ	|	|	|	|
0+30	0.0127	0.41	|Q	|	|	|	|
0+35	0.0158	0.45	|Q	|	|	|	|
0+40	0.0190	0.46	|Q	|	|	|	|
0+45	0.0222	0.47	|Q	|	|	|	|
0+50	0.0255	0.47	|QV	|	|	|	|



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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  08/08/24 File: PTCB1102410.out


      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
      ------------------------------------------------------------------------

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


      Program License Serial Number 6443

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

       English Units used in output format


       TEMESCAL CANYON PROPOSED OUTFLOW B1
       10 YEAR 24 HOUR
       KIMLEY HORN
      ------------------------------------------------------------------------
      ------------------------------------------------------------------------
      Drainage Area =       3.65(Ac.)  =      0.006 Sq. Mi.
      Drainage Area for Depth-Area Areal Adjustment =       3.65(Ac.)  =      0.006 Sq. Mi.
      USER Entry of lag time in hours
      Lag time =    0.075 Hr.
      Lag time =     4.50 Min.
      25% of lag time =     1.13 Min.
      40% of lag time =     1.80 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]
              3.65            2.50                9.13

      100 YEAR Area rainfall data:


      Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
              3.65            7.00               25.55

      STORM EVENT (YEAR) =   10.00
      Area Averaged 2-Year Rainfall =    2.500(In)
      Area Averaged 100-Year Rainfall =    7.000(In)

      Point rain (area averaged) =    4.351(In)
      Areal adjustment factor =  100.00 %
      Adjusted average point rain =    4.351(In)

      Sub-Area Data:
      Area(Ac.)         Runoff Index   Impervious %
           3.650           56.00         0.722
       Total Area Entered =      3.65(Ac.)


      RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
      AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
      56.0  56.0      0.511     0.722        0.179       1.000      0.179
                                                          Sum (F) =   0.179
```

Area averaged **mean** soil loss **(F) (In/Hr) =** 0.247
Minimum soil loss rate **((In/Hr)) =** 0.124
(for 24 hour storm duration**)**
Note: User entry of the fm value
Note: User entry of the f value
Soil low loss rate **(**decimal**) =** 0.322

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	111.111	22.573	0.830
2	0.167	222.222	48.844	1.797
3	0.250	333.333	14.181	0.522
4	0.333	444.444	6.487	0.239
5	0.417	555.556	3.604	0.133
6	0.500	666.667	2.227	0.082
7	0.583	777.778	1.307	0.048
8	0.667	888.889	0.778	0.029
		Sum = 100.000	Sum=	3.679

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.035	(0.437)	0.011	0.024
2	0.17	0.07	0.035	(0.435)	0.011	0.024
3	0.25	0.07	0.035	(0.434)	0.011	0.024
4	0.33	0.10	0.052	(0.432)	0.017	0.035
5	0.42	0.10	0.052	(0.430)	0.017	0.035
6	0.50	0.10	0.052	(0.429)	0.017	0.035
7	0.58	0.10	0.052	(0.427)	0.017	0.035
8	0.67	0.10	0.052	(0.425)	0.017	0.035
9	0.75	0.10	0.052	(0.424)	0.017	0.035
10	0.83	0.13	0.070	(0.422)	0.022	0.047
11	0.92	0.13	0.070	(0.420)	0.022	0.047
12	1.00	0.13	0.070	(0.419)	0.022	0.047
13	1.08	0.10	0.052	(0.417)	0.017	0.035
14	1.17	0.10	0.052	(0.415)	0.017	0.035
15	1.25	0.10	0.052	(0.414)	0.017	0.035
16	1.33	0.10	0.052	(0.412)	0.017	0.035
17	1.42	0.10	0.052	(0.410)	0.017	0.035
18	1.50	0.10	0.052	(0.409)	0.017	0.035
19	1.58	0.10	0.052	(0.407)	0.017	0.035
20	1.67	0.10	0.052	(0.406)	0.017	0.035
21	1.75	0.10	0.052	(0.404)	0.017	0.035
22	1.83	0.13	0.070	(0.402)	0.022	0.047
23	1.92	0.13	0.070	(0.401)	0.022	0.047
24	2.00	0.13	0.070	(0.399)	0.022	0.047
25	2.08	0.13	0.070	(0.398)	0.022	0.047
26	2.17	0.13	0.070	(0.396)	0.022	0.047
27	2.25	0.13	0.070	(0.394)	0.022	0.047
28	2.33	0.13	0.070	(0.393)	0.022	0.047
29	2.42	0.13	0.070	(0.391)	0.022	0.047
30	2.50	0.13	0.070	(0.390)	0.022	0.047
31	2.58	0.17	0.087	(0.388)	0.028	0.059
32	2.67	0.17	0.087	(0.386)	0.028	0.059
33	2.75	0.17	0.087	(0.385)	0.028	0.059
34	2.83	0.17	0.087	(0.383)	0.028	0.059
35	2.92	0.17	0.087	(0.382)	0.028	0.059
36	3.00	0.17	0.087	(0.380)	0.028	0.059

139	37	3.08	0.17	0.087	(0.378)	0.028	0.059
140	38	3.17	0.17	0.087	(0.377)	0.028	0.059
141	39	3.25	0.17	0.087	(0.375)	0.028	0.059
142	40	3.33	0.17	0.087	(0.374)	0.028	0.059
143	41	3.42	0.17	0.087	(0.372)	0.028	0.059
144	42	3.50	0.17	0.087	(0.371)	0.028	0.059
145	43	3.58	0.17	0.087	(0.369)	0.028	0.059
146	44	3.67	0.17	0.087	(0.368)	0.028	0.059
147	45	3.75	0.17	0.087	(0.366)	0.028	0.059
148	46	3.83	0.20	0.104	(0.364)	0.034	0.071
149	47	3.92	0.20	0.104	(0.363)	0.034	0.071
150	48	4.00	0.20	0.104	(0.361)	0.034	0.071
151	49	4.08	0.20	0.104	(0.360)	0.034	0.071
152	50	4.17	0.20	0.104	(0.358)	0.034	0.071
153	51	4.25	0.20	0.104	(0.357)	0.034	0.071
154	52	4.33	0.23	0.122	(0.355)	0.039	0.083
155	53	4.42	0.23	0.122	(0.354)	0.039	0.083
156	54	4.50	0.23	0.122	(0.352)	0.039	0.083
157	55	4.58	0.23	0.122	(0.351)	0.039	0.083
158	56	4.67	0.23	0.122	(0.349)	0.039	0.083
159	57	4.75	0.23	0.122	(0.348)	0.039	0.083
160	58	4.83	0.27	0.139	(0.346)	0.045	0.094
161	59	4.92	0.27	0.139	(0.345)	0.045	0.094
162	60	5.00	0.27	0.139	(0.343)	0.045	0.094
163	61	5.08	0.20	0.104	(0.342)	0.034	0.071
164	62	5.17	0.20	0.104	(0.340)	0.034	0.071
165	63	5.25	0.20	0.104	(0.339)	0.034	0.071
166	64	5.33	0.23	0.122	(0.337)	0.039	0.083
167	65	5.42	0.23	0.122	(0.336)	0.039	0.083
168	66	5.50	0.23	0.122	(0.334)	0.039	0.083
169	67	5.58	0.27	0.139	(0.333)	0.045	0.094
170	68	5.67	0.27	0.139	(0.332)	0.045	0.094
171	69	5.75	0.27	0.139	(0.330)	0.045	0.094
172	70	5.83	0.27	0.139	(0.329)	0.045	0.094
173	71	5.92	0.27	0.139	(0.327)	0.045	0.094
174	72	6.00	0.27	0.139	(0.326)	0.045	0.094
175	73	6.08	0.30	0.157	(0.324)	0.050	0.106
176	74	6.17	0.30	0.157	(0.323)	0.050	0.106
177	75	6.25	0.30	0.157	(0.321)	0.050	0.106
178	76	6.33	0.30	0.157	(0.320)	0.050	0.106
179	77	6.42	0.30	0.157	(0.319)	0.050	0.106
180	78	6.50	0.30	0.157	(0.317)	0.050	0.106
181	79	6.58	0.33	0.174	(0.316)	0.056	0.118
182	80	6.67	0.33	0.174	(0.314)	0.056	0.118
183	81	6.75	0.33	0.174	(0.313)	0.056	0.118
184	82	6.83	0.33	0.174	(0.311)	0.056	0.118
185	83	6.92	0.33	0.174	(0.310)	0.056	0.118
186	84	7.00	0.33	0.174	(0.309)	0.056	0.118
187	85	7.08	0.33	0.174	(0.307)	0.056	0.118
188	86	7.17	0.33	0.174	(0.306)	0.056	0.118
189	87	7.25	0.33	0.174	(0.304)	0.056	0.118
190	88	7.33	0.37	0.191	(0.303)	0.062	0.130
191	89	7.42	0.37	0.191	(0.302)	0.062	0.130
192	90	7.50	0.37	0.191	(0.300)	0.062	0.130
193	91	7.58	0.40	0.209	(0.299)	0.067	0.142
194	92	7.67	0.40	0.209	(0.298)	0.067	0.142
195	93	7.75	0.40	0.209	(0.296)	0.067	0.142
196	94	7.83	0.43	0.226	(0.295)	0.073	0.153
197	95	7.92	0.43	0.226	(0.293)	0.073	0.153
198	96	8.00	0.43	0.226	(0.292)	0.073	0.153
199	97	8.08	0.50	0.261	(0.291)	0.084	0.177
200	98	8.17	0.50	0.261	(0.289)	0.084	0.177
201	99	8.25	0.50	0.261	(0.288)	0.084	0.177
202	100	8.33	0.50	0.261	(0.287)	0.084	0.177
203	101	8.42	0.50	0.261	(0.285)	0.084	0.177
204	102	8.50	0.50	0.261	(0.284)	0.084	0.177
205	103	8.58	0.53	0.278	(0.283)	0.090	0.189
206	104	8.67	0.53	0.278	(0.281)	0.090	0.189
207	105	8.75	0.53	0.278	(0.280)	0.090	0.189

208	106	8.83	0.57	0.296	(0.279)	0.095	0.201
209	107	8.92	0.57	0.296	(0.277)	0.095	0.201
210	108	9.00	0.57	0.296	(0.276)	0.095	0.201
211	109	9.08	0.63	0.331	(0.275)	0.106	0.224
212	110	9.17	0.63	0.331	(0.274)	0.106	0.224
213	111	9.25	0.63	0.331	(0.272)	0.106	0.224
214	112	9.33	0.67	0.348	(0.271)	0.112	0.236
215	113	9.42	0.67	0.348	(0.270)	0.112	0.236
216	114	9.50	0.67	0.348	(0.268)	0.112	0.236
217	115	9.58	0.70	0.366	(0.267)	0.118	0.248
218	116	9.67	0.70	0.366	(0.266)	0.118	0.248
219	117	9.75	0.70	0.366	(0.265)	0.118	0.248
220	118	9.83	0.73	0.383	(0.263)	0.123	0.260
221	119	9.92	0.73	0.383	(0.262)	0.123	0.260
222	120	10.00	0.73	0.383	(0.261)	0.123	0.260
223	121	10.08	0.50	0.261	(0.260)	0.084	0.177
224	122	10.17	0.50	0.261	(0.258)	0.084	0.177
225	123	10.25	0.50	0.261	(0.257)	0.084	0.177
226	124	10.33	0.50	0.261	(0.256)	0.084	0.177
227	125	10.42	0.50	0.261	(0.255)	0.084	0.177
228	126	10.50	0.50	0.261	(0.253)	0.084	0.177
229	127	10.58	0.67	0.348	(0.252)	0.112	0.236
230	128	10.67	0.67	0.348	(0.251)	0.112	0.236
231	129	10.75	0.67	0.348	(0.250)	0.112	0.236
232	130	10.83	0.67	0.348	(0.248)	0.112	0.236
233	131	10.92	0.67	0.348	(0.247)	0.112	0.236
234	132	11.00	0.67	0.348	(0.246)	0.112	0.236
235	133	11.08	0.63	0.331	(0.245)	0.106	0.224
236	134	11.17	0.63	0.331	(0.244)	0.106	0.224
237	135	11.25	0.63	0.331	(0.242)	0.106	0.224
238	136	11.33	0.63	0.331	(0.241)	0.106	0.224
239	137	11.42	0.63	0.331	(0.240)	0.106	0.224
240	138	11.50	0.63	0.331	(0.239)	0.106	0.224
241	139	11.58	0.57	0.296	(0.238)	0.095	0.201
242	140	11.67	0.57	0.296	(0.236)	0.095	0.201
243	141	11.75	0.57	0.296	(0.235)	0.095	0.201
244	142	11.83	0.60	0.313	(0.234)	0.101	0.212
245	143	11.92	0.60	0.313	(0.233)	0.101	0.212
246	144	12.00	0.60	0.313	(0.232)	0.101	0.212
247	145	12.08	0.83	0.435	(0.231)	0.140	0.295
248	146	12.17	0.83	0.435	(0.229)	0.140	0.295
249	147	12.25	0.83	0.435	(0.228)	0.140	0.295
250	148	12.33	0.87	0.453	(0.227)	0.146	0.307
251	149	12.42	0.87	0.453	(0.226)	0.146	0.307
252	150	12.50	0.87	0.453	(0.225)	0.146	0.307
253	151	12.58	0.93	0.487	(0.224)	0.157	0.330
254	152	12.67	0.93	0.487	(0.223)	0.157	0.330
255	153	12.75	0.93	0.487	(0.222)	0.157	0.330
256	154	12.83	0.97	0.505	(0.220)	0.163	0.342
257	155	12.92	0.97	0.505	(0.219)	0.163	0.342
258	156	13.00	0.97	0.505	(0.218)	0.163	0.342
259	157	13.08	1.13	0.592	(0.217)	0.191	0.401
260	158	13.17	1.13	0.592	(0.216)	0.191	0.401
261	159	13.25	1.13	0.592	(0.215)	0.191	0.401
262	160	13.33	1.13	0.592	(0.214)	0.191	0.401
263	161	13.42	1.13	0.592	(0.213)	0.191	0.401
264	162	13.50	1.13	0.592	(0.212)	0.191	0.401
265	163	13.58	0.77	0.400	(0.211)	0.129	0.271
266	164	13.67	0.77	0.400	(0.210)	0.129	0.271
267	165	13.75	0.77	0.400	(0.209)	0.129	0.271
268	166	13.83	0.77	0.400	(0.207)	0.129	0.271
269	167	13.92	0.77	0.400	(0.206)	0.129	0.271
270	168	14.00	0.77	0.400	(0.205)	0.129	0.271
271	169	14.08	0.90	0.470	(0.204)	0.151	0.319
272	170	14.17	0.90	0.470	(0.203)	0.151	0.319
273	171	14.25	0.90	0.470	(0.202)	0.151	0.319
274	172	14.33	0.87	0.453	(0.201)	0.146	0.307
275	173	14.42	0.87	0.453	(0.200)	0.146	0.307
276	174	14.50	0.87	0.453	(0.199)	0.146	0.307

277	175	14.58	0.87	0.453	(	0.198)	0.146	0.307
278	176	14.67	0.87	0.453	(	0.197)	0.146	0.307
279	177	14.75	0.87	0.453	(	0.196)	0.146	0.307
280	178	14.83	0.83	0.435	(	0.195)	0.140	0.295
281	179	14.92	0.83	0.435	(	0.194)	0.140	0.295
282	180	15.00	0.83	0.435	(	0.193)	0.140	0.295
283	181	15.08	0.80	0.418	(	0.192)	0.135	0.283
284	182	15.17	0.80	0.418	(	0.191)	0.135	0.283
285	183	15.25	0.80	0.418	(	0.190)	0.135	0.283
286	184	15.33	0.77	0.400	(	0.189)	0.129	0.271
287	185	15.42	0.77	0.400	(	0.188)	0.129	0.271
288	186	15.50	0.77	0.400	(	0.187)	0.129	0.271
289	187	15.58	0.63	0.331	(	0.186)	0.106	0.224
290	188	15.67	0.63	0.331	(	0.185)	0.106	0.224
291	189	15.75	0.63	0.331	(	0.184)	0.106	0.224
292	190	15.83	0.63	0.331	(	0.184)	0.106	0.224
293	191	15.92	0.63	0.331	(	0.183)	0.106	0.224
294	192	16.00	0.63	0.331	(	0.182)	0.106	0.224
295	193	16.08	0.13	0.070	(	0.181)	0.022	0.047
296	194	16.17	0.13	0.070	(	0.180)	0.022	0.047
297	195	16.25	0.13	0.070	(	0.179)	0.022	0.047
298	196	16.33	0.13	0.070	(	0.178)	0.022	0.047
299	197	16.42	0.13	0.070	(	0.177)	0.022	0.047
300	198	16.50	0.13	0.070	(	0.176)	0.022	0.047
301	199	16.58	0.10	0.052	(	0.175)	0.017	0.035
302	200	16.67	0.10	0.052	(	0.174)	0.017	0.035
303	201	16.75	0.10	0.052	(	0.174)	0.017	0.035
304	202	16.83	0.10	0.052	(	0.173)	0.017	0.035
305	203	16.92	0.10	0.052	(	0.172)	0.017	0.035
306	204	17.00	0.10	0.052	(	0.171)	0.017	0.035
307	205	17.08	0.17	0.087	(	0.170)	0.028	0.059
308	206	17.17	0.17	0.087	(	0.169)	0.028	0.059
309	207	17.25	0.17	0.087	(	0.168)	0.028	0.059
310	208	17.33	0.17	0.087	(	0.168)	0.028	0.059
311	209	17.42	0.17	0.087	(	0.167)	0.028	0.059
312	210	17.50	0.17	0.087	(	0.166)	0.028	0.059
313	211	17.58	0.17	0.087	(	0.165)	0.028	0.059
314	212	17.67	0.17	0.087	(	0.164)	0.028	0.059
315	213	17.75	0.17	0.087	(	0.163)	0.028	0.059
316	214	17.83	0.13	0.070	(	0.163)	0.022	0.047
317	215	17.92	0.13	0.070	(	0.162)	0.022	0.047
318	216	18.00	0.13	0.070	(	0.161)	0.022	0.047
319	217	18.08	0.13	0.070	(	0.160)	0.022	0.047
320	218	18.17	0.13	0.070	(	0.159)	0.022	0.047
321	219	18.25	0.13	0.070	(	0.159)	0.022	0.047
322	220	18.33	0.13	0.070	(	0.158)	0.022	0.047
323	221	18.42	0.13	0.070	(	0.157)	0.022	0.047
324	222	18.50	0.13	0.070	(	0.156)	0.022	0.047
325	223	18.58	0.10	0.052	(	0.156)	0.017	0.035
326	224	18.67	0.10	0.052	(	0.155)	0.017	0.035
327	225	18.75	0.10	0.052	(	0.154)	0.017	0.035
328	226	18.83	0.07	0.035	(	0.153)	0.011	0.024
329	227	18.92	0.07	0.035	(	0.153)	0.011	0.024
330	228	19.00	0.07	0.035	(	0.152)	0.011	0.024
331	229	19.08	0.10	0.052	(	0.151)	0.017	0.035
332	230	19.17	0.10	0.052	(	0.151)	0.017	0.035
333	231	19.25	0.10	0.052	(	0.150)	0.017	0.035
334	232	19.33	0.13	0.070	(	0.149)	0.022	0.047
335	233	19.42	0.13	0.070	(	0.148)	0.022	0.047
336	234	19.50	0.13	0.070	(	0.148)	0.022	0.047
337	235	19.58	0.10	0.052	(	0.147)	0.017	0.035
338	236	19.67	0.10	0.052	(	0.146)	0.017	0.035
339	237	19.75	0.10	0.052	(	0.146)	0.017	0.035
340	238	19.83	0.07	0.035	(	0.145)	0.011	0.024
341	239	19.92	0.07	0.035	(	0.144)	0.011	0.024
342	240	20.00	0.07	0.035	(	0.144)	0.011	0.024
343	241	20.08	0.10	0.052	(	0.143)	0.017	0.035
344	242	20.17	0.10	0.052	(	0.143)	0.017	0.035
345	243	20.25	0.10	0.052	(	0.142)	0.017	0.035

244	20.33	0.10	0.052	(0.141)	0.017	0.035	
245	20.42	0.10	0.052	(0.141)	0.017	0.035	
246	20.50	0.10	0.052	(0.140)	0.017	0.035	
247	20.58	0.10	0.052	(0.140)	0.017	0.035	
248	20.67	0.10	0.052	(0.139)	0.017	0.035	
249	20.75	0.10	0.052	(0.138)	0.017	0.035	
250	20.83	0.07	0.035	(0.138)	0.011	0.024	
251	20.92	0.07	0.035	(0.137)	0.011	0.024	
252	21.00	0.07	0.035	(0.137)	0.011	0.024	
253	21.08	0.10	0.052	(0.136)	0.017	0.035	
254	21.17	0.10	0.052	(0.136)	0.017	0.035	
255	21.25	0.10	0.052	(0.135)	0.017	0.035	
256	21.33	0.07	0.035	(0.135)	0.011	0.024	
257	21.42	0.07	0.035	(0.134)	0.011	0.024	
258	21.50	0.07	0.035	(0.134)	0.011	0.024	
259	21.58	0.10	0.052	(0.133)	0.017	0.035	
260	21.67	0.10	0.052	(0.133)	0.017	0.035	
261	21.75	0.10	0.052	(0.132)	0.017	0.035	
262	21.83	0.07	0.035	(0.132)	0.011	0.024	
263	21.92	0.07	0.035	(0.131)	0.011	0.024	
264	22.00	0.07	0.035	(0.131)	0.011	0.024	
265	22.08	0.10	0.052	(0.130)	0.017	0.035	
266	22.17	0.10	0.052	(0.130)	0.017	0.035	
267	22.25	0.10	0.052	(0.130)	0.017	0.035	
268	22.33	0.07	0.035	(0.129)	0.011	0.024	
269	22.42	0.07	0.035	(0.129)	0.011	0.024	
270	22.50	0.07	0.035	(0.128)	0.011	0.024	
271	22.58	0.07	0.035	(0.128)	0.011	0.024	
272	22.67	0.07	0.035	(0.128)	0.011	0.024	
273	22.75	0.07	0.035	(0.127)	0.011	0.024	
274	22.83	0.07	0.035	(0.127)	0.011	0.024	
275	22.92	0.07	0.035	(0.127)	0.011	0.024	
276	23.00	0.07	0.035	(0.126)	0.011	0.024	
277	23.08	0.07	0.035	(0.126)	0.011	0.024	
278	23.17	0.07	0.035	(0.126)	0.011	0.024	
279	23.25	0.07	0.035	(0.126)	0.011	0.024	
280	23.33	0.07	0.035	(0.125)	0.011	0.024	
281	23.42	0.07	0.035	(0.125)	0.011	0.024	
282	23.50	0.07	0.035	(0.125)	0.011	0.024	
283	23.58	0.07	0.035	(0.125)	0.011	0.024	
284	23.67	0.07	0.035	(0.124)	0.011	0.024	
285	23.75	0.07	0.035	(0.124)	0.011	0.024	
286	23.83	0.07	0.035	(0.124)	0.011	0.024	
287	23.92	0.07	0.035	(0.124)	0.011	0.024	
288	24.00	0.07	0.035	(0.124)	0.011	0.024	

(Loss Rate Not Used)

Sum = 100.0 Sum = 35.4

Flood volume = Effective rainfall 2.95(In)

times area 3.6(Ac.)/[(In)/(Ft.)] = 0.9(Ac.Ft)

Total soil loss = 1.40(In)

Total soil loss = 0.426(Ac.Ft)

Total rainfall = 4.35(In)

Flood volume = 39088.5 Cubic Feet

Total soil loss = 18564.1 Cubic Feet

Peak flow rate of this hydrograph = 1.472(CFS)

++

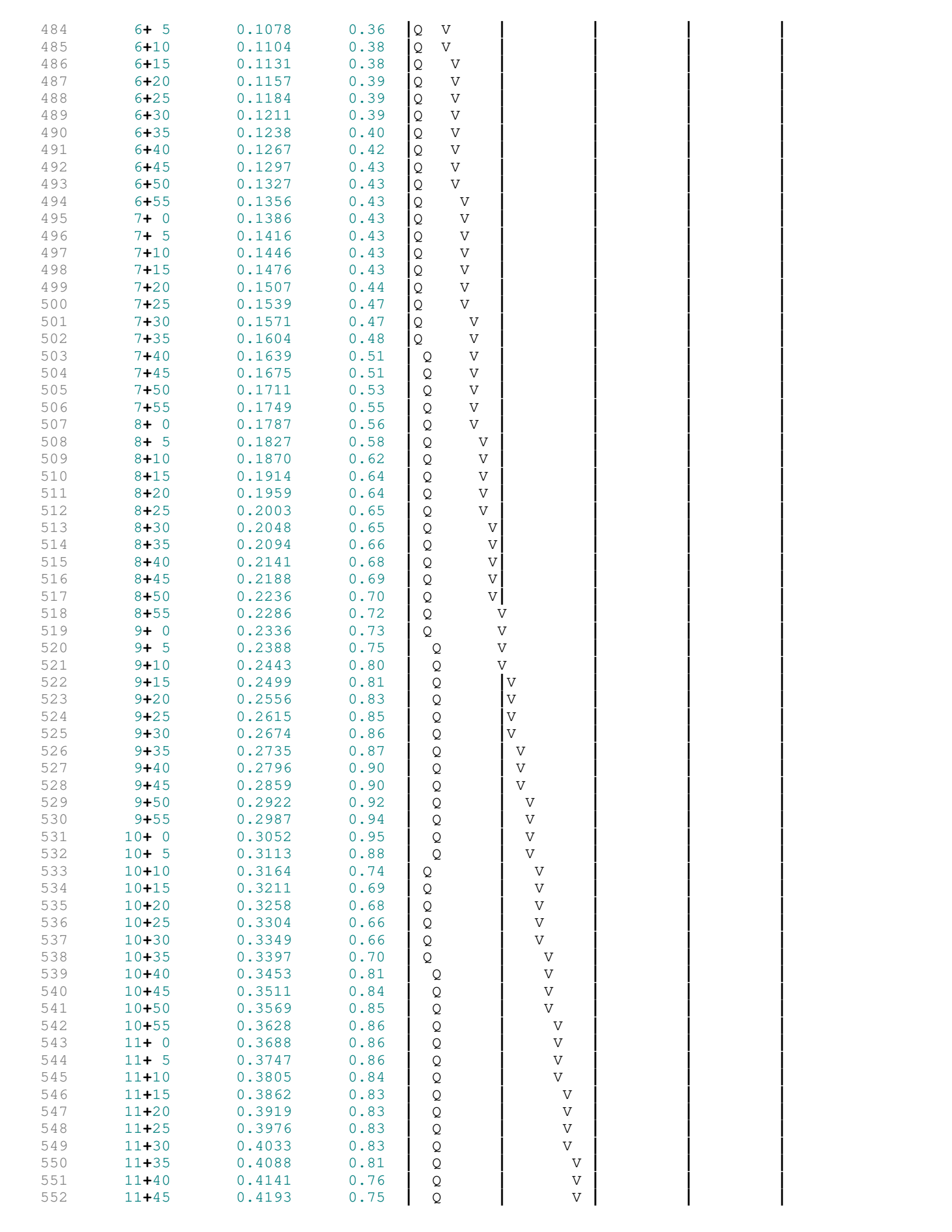
24 - H O U R S T O R M

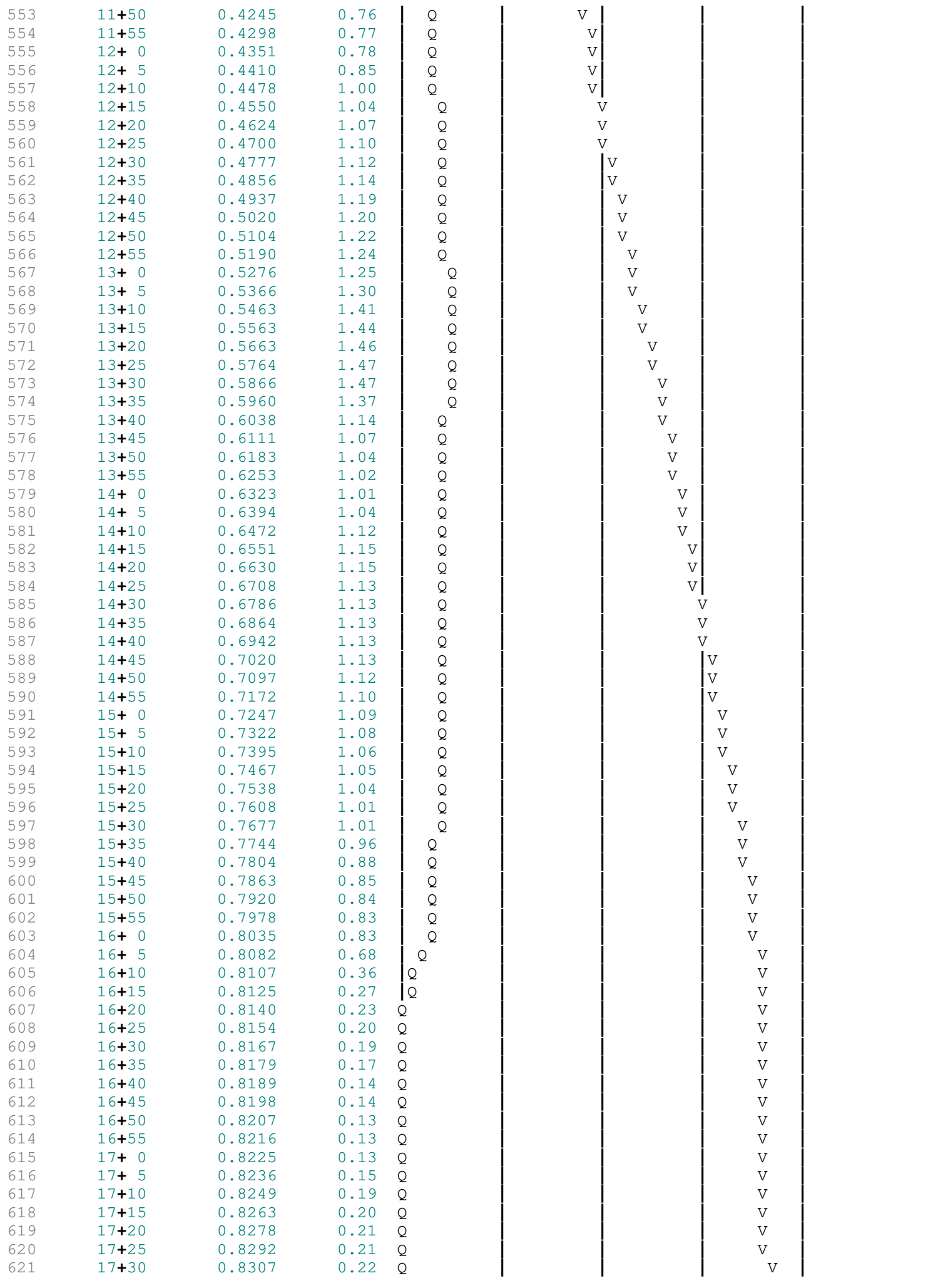
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.02	Q	|	|	|	|
0+10	0.0006	0.06	Q	|	|	|	|
0+15	0.0011	0.07	Q	|	|	|	|

415	0+20	0.0017	0.09	Q				
416	0+25	0.0025	0.11	Q				
417	0+30	0.0033	0.12	Q				
418	0+35	0.0042	0.13	Q				
419	0+40	0.0051	0.13	Q				
420	0+45	0.0060	0.13	Q				
421	0+50	0.0069	0.14	Q				
422	0+55	0.0080	0.16	Q				
423	1+ 0	0.0092	0.17	Q				
424	1+ 5	0.0103	0.16	Q				
425	1+10	0.0113	0.14	Q				
426	1+15	0.0122	0.14	Q				
427	1+20	0.0131	0.13	Q				
428	1+25	0.0140	0.13	Q				
429	1+30	0.0149	0.13	Q				
430	1+35	0.0158	0.13	Q				
431	1+40	0.0167	0.13	Q				
432	1+45	0.0176	0.13	Q				
433	1+50	0.0186	0.14	Q				
434	1+55	0.0197	0.16	Q				
435	2+ 0	0.0209	0.17	Q				
436	2+ 5	0.0220	0.17	Q				
437	2+10	0.0232	0.17	QV				
438	2+15	0.0244	0.17	QV				
439	2+20	0.0256	0.17	QV				
440	2+25	0.0268	0.17	QV				
441	2+30	0.0280	0.17	QV				
442	2+35	0.0293	0.18	QV				
443	2+40	0.0307	0.20	QV				
444	2+45	0.0321	0.21	QV				
445	2+50	0.0336	0.21	QV				
446	2+55	0.0351	0.22	QV				
447	3+ 0	0.0366	0.22	QV				
448	3+ 5	0.0381	0.22	QV				
449	3+10	0.0396	0.22	QV				
450	3+15	0.0410	0.22	QV				
451	3+20	0.0425	0.22	QV				
452	3+25	0.0440	0.22	QV				
453	3+30	0.0455	0.22	Q V				
454	3+35	0.0470	0.22	Q V				
455	3+40	0.0485	0.22	Q V				
456	3+45	0.0500	0.22	Q V				
457	3+50	0.0516	0.23	Q V				
458	3+55	0.0533	0.25	Q V				
459	4+ 0	0.0550	0.25	|QV				
460	4+ 5	0.0568	0.26	|QV				
461	4+10	0.0586	0.26	|QV				
462	4+15	0.0604	0.26	|QV				
463	4+20	0.0622	0.27	|QV				
464	4+25	0.0643	0.29	|QV				
465	4+30	0.0663	0.30	|QV				
466	4+35	0.0684	0.30	|Q V				
467	4+40	0.0705	0.30	|Q V				
468	4+45	0.0725	0.30	|Q V				
469	4+50	0.0747	0.31	|Q V				
470	4+55	0.0770	0.34	|Q V				
471	5+ 0	0.0794	0.34	|Q V				
472	5+ 5	0.0816	0.32	|Q V				
473	5+10	0.0835	0.28	|Q V				
474	5+15	0.0854	0.27	|Q V				
475	5+20	0.0873	0.28	|Q V				
476	5+25	0.0894	0.30	|Q V				
477	5+30	0.0914	0.30	|Q V				
478	5+35	0.0936	0.31	|Q V				
479	5+40	0.0959	0.33	|Q V				
480	5+45	0.0982	0.34	|Q V				
481	5+50	0.1006	0.34	|Q V				
482	5+55	0.1030	0.35	|Q V				
483	6+ 0	0.1053	0.35	|Q V				





622	17+35	0.8322	0.22	Q	|	|	|	V |
623	17+40	0.8337	0.22	Q	|	|	|	V |
624	17+45	0.8352	0.22	Q	|	|	|	V |
625	17+50	0.8366	0.21	Q	|	|	|	V |
626	17+55	0.8379	0.19	Q	|	|	|	V |
627	18+ 0	0.8391	0.18	Q	|	|	|	V |
628	18+ 5	0.8404	0.18	Q	|	|	|	V |
629	18+10	0.8416	0.18	Q	|	|	|	V |
630	18+15	0.8428	0.17	Q	|	|	|	V |
631	18+20	0.8440	0.17	Q	|	|	|	V |
632	18+25	0.8452	0.17	Q	|	|	|	V |
633	18+30	0.8464	0.17	Q	|	|	|	V |
634	18+35	0.8475	0.16	Q	|	|	|	V |
635	18+40	0.8485	0.14	Q	|	|	|	V |
636	18+45	0.8494	0.14	Q	|	|	|	V |
637	18+50	0.8503	0.12	Q	|	|	|	V |
638	18+55	0.8510	0.10	Q	|	|	|	V |
639	19+ 0	0.8516	0.09	Q	|	|	|	V |
640	19+ 5	0.8523	0.10	Q	|	|	|	V |
641	19+10	0.8531	0.12	Q	|	|	|	V |
642	19+15	0.8540	0.12	Q	|	|	|	V |
643	19+20	0.8549	0.14	Q	|	|	|	V |
644	19+25	0.8560	0.16	Q	|	|	|	V |
645	19+30	0.8572	0.17	Q	|	|	|	V |
646	19+35	0.8583	0.16	Q	|	|	|	V |
647	19+40	0.8593	0.14	Q	|	|	|	V |
648	19+45	0.8602	0.14	Q	|	|	|	V |
649	19+50	0.8610	0.12	Q	|	|	|	V |
650	19+55	0.8617	0.10	Q	|	|	|	V |
651	20+ 0	0.8624	0.09	Q	|	|	|	V |
652	20+ 5	0.8631	0.10	Q	|	|	|	V |
653	20+10	0.8639	0.12	Q	|	|	|	V |
654	20+15	0.8648	0.12	Q	|	|	|	V |
655	20+20	0.8656	0.13	Q	|	|	|	V |
656	20+25	0.8665	0.13	Q	|	|	|	V |
657	20+30	0.8674	0.13	Q	|	|	|	V |
658	20+35	0.8683	0.13	Q	|	|	|	V |
659	20+40	0.8692	0.13	Q	|	|	|	V |
660	20+45	0.8701	0.13	Q	|	|	|	V |
661	20+50	0.8709	0.12	Q	|	|	|	V |
662	20+55	0.8716	0.10	Q	|	|	|	V |
663	21+ 0	0.8723	0.09	Q	|	|	|	V |
664	21+ 5	0.8730	0.10	Q	|	|	|	V |
665	21+10	0.8738	0.12	Q	|	|	|	V |
666	21+15	0.8746	0.12	Q	|	|	|	V |
667	21+20	0.8754	0.12	Q	|	|	|	V |
668	21+25	0.8761	0.10	Q	|	|	|	V |
669	21+30	0.8768	0.09	Q	|	|	|	V |
670	21+35	0.8774	0.10	Q	|	|	|	V |
671	21+40	0.8783	0.12	Q	|	|	|	V |
672	21+45	0.8791	0.12	Q	|	|	|	V |
673	21+50	0.8799	0.12	Q	|	|	|	V |
674	21+55	0.8806	0.10	Q	|	|	|	V |
675	22+ 0	0.8812	0.09	Q	|	|	|	V |
676	22+ 5	0.8819	0.10	Q	|	|	|	V |
677	22+10	0.8828	0.12	Q	|	|	|	V |
678	22+15	0.8836	0.12	Q	|	|	|	V |
679	22+20	0.8844	0.12	Q	|	|	|	V |
680	22+25	0.8851	0.10	Q	|	|	|	V |
681	22+30	0.8857	0.09	Q	|	|	|	V |
682	22+35	0.8863	0.09	Q	|	|	|	V |
683	22+40	0.8870	0.09	Q	|	|	|	V |
684	22+45	0.8876	0.09	Q	|	|	|	V |
685	22+50	0.8882	0.09	Q	|	|	|	V |
686	22+55	0.8888	0.09	Q	|	|	|	V |
687	23+ 0	0.8894	0.09	Q	|	|	|	V |
688	23+ 5	0.8900	0.09	Q	|	|	|	V |
689	23+10	0.8906	0.09	Q	|	|	|	V |
690	23+15	0.8912	0.09	Q	|	|	|	V |

23+20	0.8918	0.09	Q	|	|	|	V|
23+25	0.8923	0.09	Q	|	|	|	V|
23+30	0.8929	0.09	Q	|	|	|	V|
23+35	0.8935	0.09	Q	|	|	|	V|
23+40	0.8941	0.09	Q	|	|	|	V|
23+45	0.8947	0.09	Q	|	|	|	V|
23+50	0.8953	0.09	Q	|	|	|	V|
23+55	0.8959	0.09	Q	|	|	|	V|
24+ 0	0.8965	0.09	Q	|	|	|	V|
24+ 5	0.8970	0.07	Q	|	|	|	V|
24+10	0.8972	0.02	Q	|	|	|	V|
24+15	0.8973	0.01	Q	|	|	|	V|
24+20	0.8973	0.01	Q	|	|	Q	V|
24+25	0.8973	0.00	Q	|	|	|	V|
24+30	0.8973	0.00	Q	|	|	|	V|
24+35	0.8973	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  08/08/24 File: PTC100B11100.out


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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUTFLOW B1
100 YEAR 1 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       3.65(Ac.)  =      0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       3.65(Ac.)  =      0.006 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.074 Hr.
Lag time =     4.44 Min.
25% of lag time =     1.11 Min.
40% of lag time =     1.78 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]
        3.65            0.55                2.01

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.65            1.40                5.11

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.550(In)
Area Averaged 100-Year Rainfall =    1.400(In)

Point rain (area averaged) =    1.400(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.400(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.650           56.00          0.722
 Total Area Entered =      3.65(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

```
    56.0  74.8      0.305     0.722        0.107       1.000      0.107
                                                        Sum (F) =   0.107
  Area averaged mean soil loss (F) (In/Hr) =  0.107
  Minimum soil loss rate ((In/Hr)) =  0.053
  (for 24 hour storm duration)
  Soil low loss rate (decimal) =   0.322
  ------------------------------------------------------------------------
  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   Time % of lag   Distribution    Unit Hydrograph
      (hrs)                          Graph %            (CFS)
  ------------------------------------------------------------------------
       1   0.083        112.613         23.022             0.847
       2   0.167        225.225         48.848             1.797
       3   0.250        337.838         14.015             0.516
       4   0.333        450.450          6.411             0.236
       5   0.417        563.063          3.562             0.131
       6   0.500        675.676          2.177             0.080
       7   0.583        788.288          1.285             0.047
       8   0.667        900.901          0.680             0.025
                               Sum = 100.000    Sum=        3.679
-------------------------------------------------------------------------


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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)      Effective
       (Hr.)  Percent   (In/Hr)         Max    |   Low          (In/Hr)
   1   0.08     4.20      0.706          0.107    (  0.227)        0.599
   2   0.17     4.30      0.722          0.107    (  0.233)        0.615
   3   0.25     5.00      0.840          0.107    (  0.270)        0.733
   4   0.33     5.00      0.840          0.107    (  0.270)        0.733
   5   0.42     5.80      0.974          0.107    (  0.314)        0.867
   6   0.50     6.50      1.092          0.107    (  0.352)        0.985
   7   0.58     7.40      1.243          0.107    (  0.400)        1.136
   8   0.67     8.60      1.445          0.107    (  0.465)        1.338
   9   0.75    12.30      2.066          0.107    (  0.665)        1.959
  10   0.83    29.10      4.889          0.107    (  1.574)        4.782
  11   0.92     6.80      1.142          0.107    (  0.368)        1.035
  12   1.00     5.00      0.840          0.107    (  0.270)        0.733
         (Loss Rate Not Used)
     Sum =     100.0                                  Sum =    15.5
    Flood volume = Effective rainfall      1.29(In)
     times area       3.6(Ac.)/[(In)/(Ft.)] =       0.4(Ac.Ft)
    Total soil loss =      0.11(In)
    Total soil loss =     0.033(Ac.Ft)
    Total rainfall =      1.40(In)
    Flood volume =       17131.8 Cubic Feet
    Total soil loss =        1416.9 Cubic Feet
    ------------------------------------------------------------------------
     Peak flow rate of this hydrograph =     11.088(CFS)
    ------------------------------------------------------------------------
    ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        1 - H O U R    S T O R M
                   R u n o f f     H y d r o g r a p h
    ------------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ------------------------------------------------------------------------
  Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
  ------------------------------------------------------------------------
    0+ 5       0.0035      0.51  VQ        |         |         |         |
```

0+10	0.0145	1.60	V Q	
0+15	0.0285	2.04	V Q	
0+20	0.0450	2.40	Q	
0+25	0.0633	2.65	QV	
0+30	0.0845	3.07	Q V	
0+35	0.1088	3.53	Q V	
0+40	0.1369	4.09	Q V	
0+45	0.1721	5.11	Q V	
0+50	0.2326	8.78	Q V	
0+55	0.3090	11.09	Q V	
1+ 0	0.3485	5.75	Q V	
1+ 5	0.3721	3.42	Q V	
1+10	0.3824	1.50	Q V	
1+15	0.3881	0.82	Q V	
1+20	0.3912	0.45	Q V	
1+25	0.3927	0.23	Q V	
1+30	0.3932	0.06	Q V	
1+35	0.3933	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  08/08/24 File: PTC100B13100.out


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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUTFLOW B1
100 YEAR 3 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       3.65(Ac.)  =      0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       3.65(Ac.)  =      0.006 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.074 Hr.
Lag time =     4.44 Min.
25% of lag time =     1.11 Min.
40% of lag time =     1.78 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]
        3.65            1.00                3.65

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.65            2.50                9.13

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 %
     3.650           56.00          0.722
 Total Area Entered =      3.65(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

56.0	74.8	0.305	0.722	0.107	1.000	0.107

Sum (F) = 0.107

Area averaged **mean** soil loss (F) (In/Hr) = 0.107

Minimum soil loss rate ((In/Hr)) = 0.053

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.322

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	112.613	23.022	0.847
2	0.167	225.225	48.848	1.797
3	0.250	337.838	14.015	0.516
4	0.333	450.450	6.411	0.236
5	0.417	563.063	3.562	0.131
6	0.500	675.676	2.177	0.080
7	0.583	788.288	1.285	0.047
8	0.667	900.901	0.680	0.025
		Sum = 100.000	Sum=	3.679

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.390	0.107	(0.126)	0.283
2	0.17	1.30	0.390	0.107	(0.126)	0.283
3	0.25	1.10	0.330	(0.107)	0.106	0.224
4	0.33	1.50	0.450	0.107	(0.145)	0.343
5	0.42	1.50	0.450	0.107	(0.145)	0.343
6	0.50	1.80	0.540	0.107	(0.174)	0.433
7	0.58	1.50	0.450	0.107	(0.145)	0.343
8	0.67	1.80	0.540	0.107	(0.174)	0.433
9	0.75	1.80	0.540	0.107	(0.174)	0.433
10	0.83	1.50	0.450	0.107	(0.145)	0.343
11	0.92	1.60	0.480	0.107	(0.155)	0.373
12	1.00	1.80	0.540	0.107	(0.174)	0.433
13	1.08	2.20	0.660	0.107	(0.213)	0.553
14	1.17	2.20	0.660	0.107	(0.213)	0.553
15	1.25	2.20	0.660	0.107	(0.213)	0.553
16	1.33	2.00	0.600	0.107	(0.193)	0.493
17	1.42	2.60	0.780	0.107	(0.251)	0.673
18	1.50	2.70	0.810	0.107	(0.261)	0.703
19	1.58	2.40	0.720	0.107	(0.232)	0.613
20	1.67	2.70	0.810	0.107	(0.261)	0.703
21	1.75	3.30	0.990	0.107	(0.319)	0.883
22	1.83	3.10	0.930	0.107	(0.299)	0.823
23	1.92	2.90	0.870	0.107	(0.280)	0.763
24	2.00	3.00	0.900	0.107	(0.290)	0.793
25	2.08	3.10	0.930	0.107	(0.299)	0.823
26	2.17	4.20	1.260	0.107	(0.406)	1.153
27	2.25	5.00	1.500	0.107	(0.483)	1.393
28	2.33	3.50	1.050	0.107	(0.338)	0.943
29	2.42	6.80	2.040	0.107	(0.657)	1.933
30	2.50	7.30	2.190	0.107	(0.705)	2.083
31	2.58	8.20	2.460	0.107	(0.792)	2.353
32	2.67	5.90	1.770	0.107	(0.570)	1.663
33	2.75	2.00	0.600	0.107	(0.193)	0.493
34	2.83	1.80	0.540	0.107	(0.174)	0.433
35	2.92	1.80	0.540	0.107	(0.174)	0.433
36	3.00	0.60	0.180	(0.107)	0.058	0.122

```
        (Loss Rate Not Used)
     Sum =     100.0                                    Sum =    26.2
    Flood volume = Effective rainfall      2.18(In)
     times area       3.6(Ac.)/[(In)/(Ft.)] =       0.7(Ac.Ft)
    Total soil loss =      0.32(In)
    Total soil loss =     0.096(Ac.Ft)
    Total rainfall =      2.50(In)
    Flood volume =       28927.5 Cubic Feet
    Total soil loss =        4195.8 Cubic Feet
    ---------------------------------------------------------------------
     Peak flow rate of this hydrograph =      7.480(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       0.0017      0.24  Q         |         |         |         |
    0+10       0.0068      0.75  V Q       |         |         |         |
    0+15       0.0126      0.84  V  Q      |         |         |         |
    0+20       0.0189      0.91  |V Q      |         |         |         |
    0+25       0.0266      1.13  |V  Q     |         |         |         |
    0+30       0.0354      1.27  | V  Q    |         |         |         |
    0+35       0.0450      1.39  | V  Q    |         |         |         |
    0+40       0.0544      1.37  |  V Q    |         |         |         |
    0+45       0.0649      1.51  |  V  Q   |         |         |         |
    0+50       0.0750      1.48  |   VQ    |         |         |         |
    0+55       0.0844      1.36  |    Q    |         |         |         |
    1+ 0       0.0943      1.43  |    Q    |         |         |         |
    1+ 5       0.1056      1.64  |     Q   |         |         |         |
    1+10       0.1185      1.88  |      Q  |         |         |         |
    1+15       0.1320      1.96  |      Q  |         |         |         |
    1+20       0.1454      1.94  |      QV |         |         |         |
    1+25       0.1592      2.01  |       QV|         |         |         |
    1+30       0.1753      2.34  |        QV         |         |         |
    1+35       0.1918      2.40  |        Q|V        |         |         |
    1+40       0.2082      2.37  |        Q| V       |         |         |
    1+45       0.2265      2.66  |         Q  V      |         |         |
    1+50       0.2470      2.98  |         |Q  V     |         |         |
    1+55       0.2671      2.93  |         |Q    V   |         |         |
    2+ 0       0.2869      2.87  |         |Q     V  |         |         |
    2+ 5       0.3071      2.93  |         |Q      V |         |         |
    2+10       0.3296      3.27  |         |  Q     V|         |         |
    2+15       0.3578      4.09  |         |     Q   |V        |         |
    2+20       0.3875      4.32  |         |      Q  |  V      |         |
    2+25       0.4189      4.55  |         |       Q |    V    |         |
    2+30       0.4625      6.33  |         |         |    Q V  |         |
    2+35       0.5127      7.29  |         |         |        QV         |
    2+40       0.5642      7.48  |         |         |        Q|  V      |
    2+45       0.6023      5.54  |         |         | Q       |     V   |
    2+50       0.6242      3.17  |         | Q       |         |      V  |
    2+55       0.6406      2.38  |        Q|         |         |       V |
    3+ 0       0.6528      1.78  |      Q  |         |         |        V|
    3+ 5       0.6591      0.91  |  Q      |         |         |        V|
    3+10       0.6618      0.40  |Q        |         |         |        V|
    3+15       0.6631      0.19  Q         |         |         |        V|
    3+20       0.6637      0.08  Q         |         |         |        V|
    3+25       0.6639      0.04  Q         |         |         |        V|
    3+30       0.6641      0.02  Q         |         |         |        V|
    3+35       0.6641      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  08/08/24 File: PTC100B16100.out


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------------------------------------------------------------------------------

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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUTFLOW B1
100 YEAR 6 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       3.65(Ac.)  =      0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       3.65(Ac.)  =      0.006 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.074 Hr.
Lag time =     4.44 Min.
25% of lag time =     1.11 Min.
40% of lag time =     1.78 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]
        3.65            1.40                5.11

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.65            3.50               12.78

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    1.400(In)
Area Averaged 100-Year Rainfall =    3.500(In)

Point rain (area averaged) =    3.500(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    3.500(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.650           56.00          0.722
 Total Area Entered =      3.65(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

56.0	74.8	0.305	0.722	0.107	1.000	0.107

Sum (F) = 0.107

Area averaged **mean** soil loss (F) (In/Hr) = 0.107

Minimum soil loss rate ((In/Hr)) = 0.053

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.322

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	112.613	23.022	0.847
2	0.167	225.225	48.848	1.797
3	0.250	337.838	14.015	0.516
4	0.333	450.450	6.411	0.236
5	0.417	563.063	3.562	0.131
6	0.500	675.676	2.177	0.080
7	0.583	788.288	1.285	0.047
8	0.667	900.901	0.680	0.025
		Sum = 100.000	Sum=	3.679

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.210	(0.107)	0.068	0.142
2	0.17	0.60	0.252	(0.107)	0.081	0.171
3	0.25	0.60	0.252	(0.107)	0.081	0.171
4	0.33	0.60	0.252	(0.107)	0.081	0.171
5	0.42	0.60	0.252	(0.107)	0.081	0.171
6	0.50	0.70	0.294	(0.107)	0.095	0.199
7	0.58	0.70	0.294	(0.107)	0.095	0.199
8	0.67	0.70	0.294	(0.107)	0.095	0.199
9	0.75	0.70	0.294	(0.107)	0.095	0.199
10	0.83	0.70	0.294	(0.107)	0.095	0.199
11	0.92	0.70	0.294	(0.107)	0.095	0.199
12	1.00	0.80	0.336	0.107	(0.108)	0.229
13	1.08	0.80	0.336	0.107	(0.108)	0.229
14	1.17	0.80	0.336	0.107	(0.108)	0.229
15	1.25	0.80	0.336	0.107	(0.108)	0.229
16	1.33	0.80	0.336	0.107	(0.108)	0.229
17	1.42	0.80	0.336	0.107	(0.108)	0.229
18	1.50	0.80	0.336	0.107	(0.108)	0.229
19	1.58	0.80	0.336	0.107	(0.108)	0.229
20	1.67	0.80	0.336	0.107	(0.108)	0.229
21	1.75	0.80	0.336	0.107	(0.108)	0.229
22	1.83	0.80	0.336	0.107	(0.108)	0.229
23	1.92	0.80	0.336	0.107	(0.108)	0.229
24	2.00	0.90	0.378	0.107	(0.122)	0.271
25	2.08	0.80	0.336	0.107	(0.108)	0.229
26	2.17	0.90	0.378	0.107	(0.122)	0.271
27	2.25	0.90	0.378	0.107	(0.122)	0.271
28	2.33	0.90	0.378	0.107	(0.122)	0.271
29	2.42	0.90	0.378	0.107	(0.122)	0.271
30	2.50	0.90	0.378	0.107	(0.122)	0.271
31	2.58	0.90	0.378	0.107	(0.122)	0.271
32	2.67	0.90	0.378	0.107	(0.122)	0.271
33	2.75	1.00	0.420	0.107	(0.135)	0.313
34	2.83	1.00	0.420	0.107	(0.135)	0.313
35	2.92	1.00	0.420	0.107	(0.135)	0.313
36	3.00	1.00	0.420	0.107	(0.135)	0.313

37	3.08	1.00	0.420	0.107	(0.135)	0.313
38	3.17	1.10	0.462	0.107	(0.149)	0.355
39	3.25	1.10	0.462	0.107	(0.149)	0.355
40	3.33	1.10	0.462	0.107	(0.149)	0.355
41	3.42	1.20	0.504	0.107	(0.162)	0.397
42	3.50	1.30	0.546	0.107	(0.176)	0.439
43	3.58	1.40	0.588	0.107	(0.189)	0.481
44	3.67	1.40	0.588	0.107	(0.189)	0.481
45	3.75	1.50	0.630	0.107	(0.203)	0.523
46	3.83	1.50	0.630	0.107	(0.203)	0.523
47	3.92	1.60	0.672	0.107	(0.216)	0.565
48	4.00	1.60	0.672	0.107	(0.216)	0.565
49	4.08	1.70	0.714	0.107	(0.230)	0.607
50	4.17	1.80	0.756	0.107	(0.243)	0.649
51	4.25	1.90	0.798	0.107	(0.257)	0.691
52	4.33	2.00	0.840	0.107	(0.270)	0.733
53	4.42	2.10	0.882	0.107	(0.284)	0.775
54	4.50	2.10	0.882	0.107	(0.284)	0.775
55	4.58	2.20	0.924	0.107	(0.298)	0.817
56	4.67	2.30	0.966	0.107	(0.311)	0.859
57	4.75	2.40	1.008	0.107	(0.325)	0.901
58	4.83	2.40	1.008	0.107	(0.325)	0.901
59	4.92	2.50	1.050	0.107	(0.338)	0.943
60	5.00	2.60	1.092	0.107	(0.352)	0.985
61	5.08	3.10	1.302	0.107	(0.419)	1.195
62	5.17	3.60	1.512	0.107	(0.487)	1.405
63	5.25	3.90	1.638	0.107	(0.527)	1.531
64	5.33	4.20	1.764	0.107	(0.568)	1.657
65	5.42	4.70	1.974	0.107	(0.636)	1.867
66	5.50	5.60	2.352	0.107	(0.757)	2.245
67	5.58	1.90	0.798	0.107	(0.257)	0.691
68	5.67	0.90	0.378	0.107	(0.122)	0.271
69	5.75	0.60	0.252	(0.107)	0.081	0.171
70	5.83	0.50	0.210	(0.107)	0.068	0.142
71	5.92	0.30	0.126	(0.107)	0.041	0.085
72	6.00	0.20	0.084	(0.107)	0.027	0.057

(Loss Rate Not Used)

Sum = 100.0 Sum = 34.7

Flood volume = Effective rainfall 2.89(In)
times area 3.6(Ac.)/[(In)/(Ft.)] = 0.9(Ac.Ft)
Total soil loss = 0.61(In)
Total soil loss = 0.184(Ac.Ft)
Total rainfall = 3.50(In)
Flood volume = 38343.5 Cubic Feet
Total soil loss = 8029.2 Cubic Feet

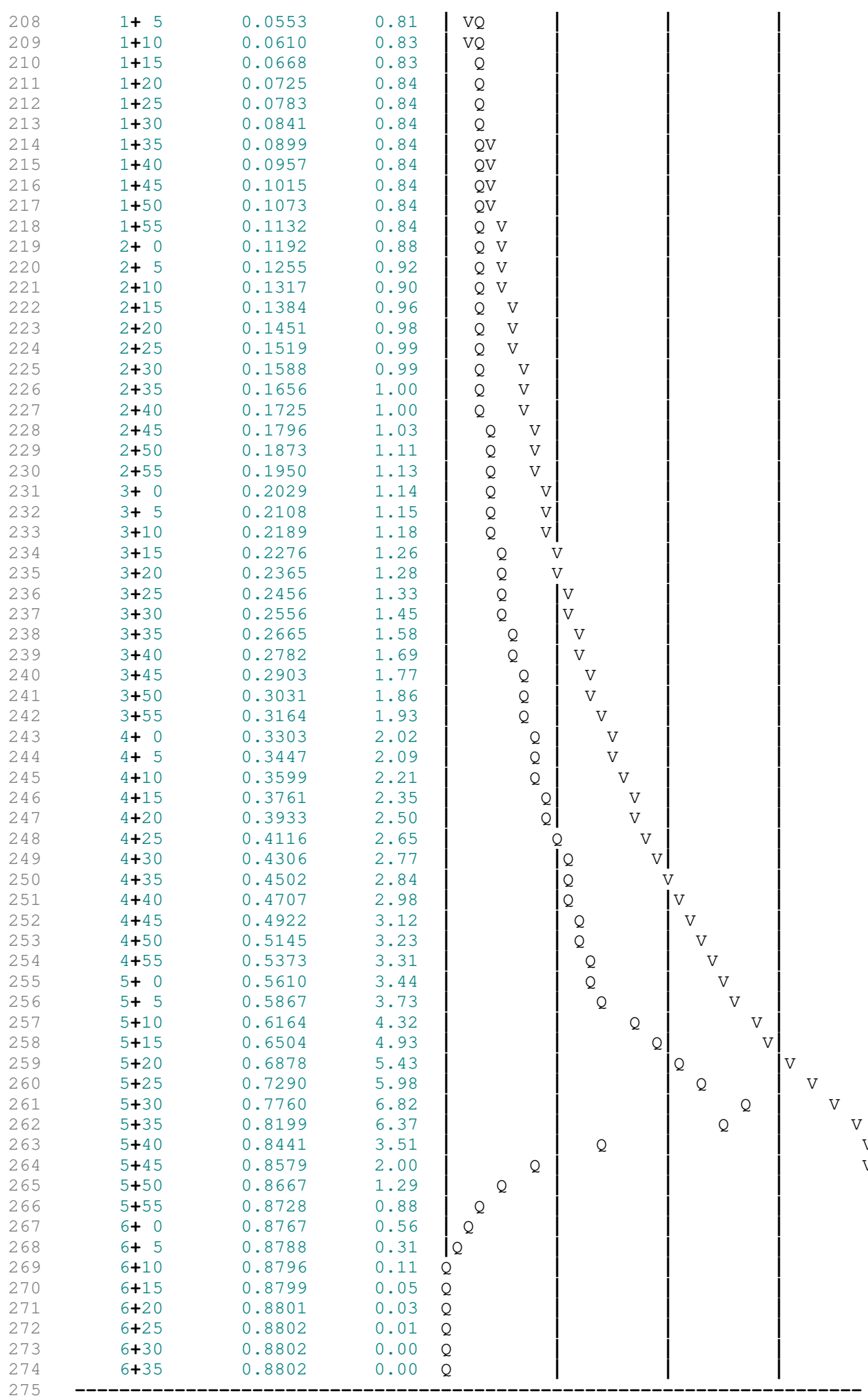
Peak flow rate of this hydrograph = 6.825(CFS)

++

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	0.0036	0.40	VQ				
0+15	0.0072	0.53	V Q				
0+20	0.0112	0.57	V Q				
0+25	0.0153	0.60	V Q				
0+30	0.0197	0.64	V Q				
0+35	0.0245	0.70	|VQ				
0+40	0.0294	0.72	|VQ				
0+45	0.0344	0.73	|VQ				
0+50	0.0395	0.73	|VQ				
0+55	0.0445	0.73	| Q				
1+ 0	0.0497	0.76	| VQ				



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

    Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018, Version 9.0
        Study date  08/08/24 File: PTC100B124100.out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------------------------------------------------------------------------------

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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUTFLOW B1
100 YEAR 24 HOUR
KIMLEY HORN

----------------------------------------------------------------------
Drainage Area =       3.65(Ac.)  =      0.006 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       3.65(Ac.)  =      0.006 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.074 Hr.
Lag time =     4.44 Min.
25% of lag time =     1.11 Min.
40% of lag time =     1.78 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]
        3.65            2.50                9.13

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        3.65            7.00               25.55

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    2.500(In)
Area Averaged 100-Year Rainfall =    7.000(In)

Point rain (area averaged) =    7.000(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    7.000(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     3.650           56.00          0.722
 Total Area Entered =      3.65(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

56.0	74.8	0.305	0.722	0.107	1.000	0.107

Sum (F) = 0.107

Area averaged **mean** soil loss (F) (In/Hr) = 0.107

Minimum soil loss rate ((In/Hr)) = 0.053

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.322

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	112.613	23.022	0.847
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4	0.333	450.450	6.411	0.236
5	0.417	563.063	3.562	0.131
6	0.500	675.676	2.177	0.080
7	0.583	788.288	1.285	0.047
8	0.667	900.901	0.680	0.025
		Sum = 100.000	Sum=	3.679

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.056	(0.190)	0.018	0.038
2	0.17	0.07	0.056	(0.189)	0.018	0.038
3	0.25	0.07	0.056	(0.188)	0.018	0.038
4	0.33	0.10	0.084	(0.187)	0.027	0.057
5	0.42	0.10	0.084	(0.187)	0.027	0.057
6	0.50	0.10	0.084	(0.186)	0.027	0.057
7	0.58	0.10	0.084	(0.185)	0.027	0.057
8	0.67	0.10	0.084	(0.184)	0.027	0.057
9	0.75	0.10	0.084	(0.184)	0.027	0.057
10	0.83	0.13	0.112	(0.183)	0.036	0.076
11	0.92	0.13	0.112	(0.182)	0.036	0.076
12	1.00	0.13	0.112	(0.182)	0.036	0.076
13	1.08	0.10	0.084	(0.181)	0.027	0.057
14	1.17	0.10	0.084	(0.180)	0.027	0.057
15	1.25	0.10	0.084	(0.179)	0.027	0.057
16	1.33	0.10	0.084	(0.179)	0.027	0.057
17	1.42	0.10	0.084	(0.178)	0.027	0.057
18	1.50	0.10	0.084	(0.177)	0.027	0.057
19	1.58	0.10	0.084	(0.177)	0.027	0.057
20	1.67	0.10	0.084	(0.176)	0.027	0.057
21	1.75	0.10	0.084	(0.175)	0.027	0.057
22	1.83	0.13	0.112	(0.174)	0.036	0.076
23	1.92	0.13	0.112	(0.174)	0.036	0.076
24	2.00	0.13	0.112	(0.173)	0.036	0.076
25	2.08	0.13	0.112	(0.172)	0.036	0.076
26	2.17	0.13	0.112	(0.172)	0.036	0.076
27	2.25	0.13	0.112	(0.171)	0.036	0.076
28	2.33	0.13	0.112	(0.170)	0.036	0.076
29	2.42	0.13	0.112	(0.170)	0.036	0.076
30	2.50	0.13	0.112	(0.169)	0.036	0.076
31	2.58	0.17	0.140	(0.168)	0.045	0.095
32	2.67	0.17	0.140	(0.168)	0.045	0.095
33	2.75	0.17	0.140	(0.167)	0.045	0.095
34	2.83	0.17	0.140	(0.166)	0.045	0.095
35	2.92	0.17	0.140	(0.165)	0.045	0.095
36	3.00	0.17	0.140	(0.165)	0.045	0.095

139	37	3.08	0.17	0.140	(0.164)	0.045	0.095
140	38	3.17	0.17	0.140	(0.163)	0.045	0.095
141	39	3.25	0.17	0.140	(0.163)	0.045	0.095
142	40	3.33	0.17	0.140	(0.162)	0.045	0.095
143	41	3.42	0.17	0.140	(0.161)	0.045	0.095
144	42	3.50	0.17	0.140	(0.161)	0.045	0.095
145	43	3.58	0.17	0.140	(0.160)	0.045	0.095
146	44	3.67	0.17	0.140	(0.159)	0.045	0.095
147	45	3.75	0.17	0.140	(0.159)	0.045	0.095
148	46	3.83	0.20	0.168	(0.158)	0.054	0.114
149	47	3.92	0.20	0.168	(0.157)	0.054	0.114
150	48	4.00	0.20	0.168	(0.157)	0.054	0.114
151	49	4.08	0.20	0.168	(0.156)	0.054	0.114
152	50	4.17	0.20	0.168	(0.155)	0.054	0.114
153	51	4.25	0.20	0.168	(0.155)	0.054	0.114
154	52	4.33	0.23	0.196	(0.154)	0.063	0.133
155	53	4.42	0.23	0.196	(0.153)	0.063	0.133
156	54	4.50	0.23	0.196	(0.153)	0.063	0.133
157	55	4.58	0.23	0.196	(0.152)	0.063	0.133
158	56	4.67	0.23	0.196	(0.151)	0.063	0.133
159	57	4.75	0.23	0.196	(0.151)	0.063	0.133
160	58	4.83	0.27	0.224	(0.150)	0.072	0.152
161	59	4.92	0.27	0.224	(0.149)	0.072	0.152
162	60	5.00	0.27	0.224	(0.149)	0.072	0.152
163	61	5.08	0.20	0.168	(0.148)	0.054	0.114
164	62	5.17	0.20	0.168	(0.148)	0.054	0.114
165	63	5.25	0.20	0.168	(0.147)	0.054	0.114
166	64	5.33	0.23	0.196	(0.146)	0.063	0.133
167	65	5.42	0.23	0.196	(0.146)	0.063	0.133
168	66	5.50	0.23	0.196	(0.145)	0.063	0.133
169	67	5.58	0.27	0.224	(0.144)	0.072	0.152
170	68	5.67	0.27	0.224	(0.144)	0.072	0.152
171	69	5.75	0.27	0.224	(0.143)	0.072	0.152
172	70	5.83	0.27	0.224	(0.142)	0.072	0.152
173	71	5.92	0.27	0.224	(0.142)	0.072	0.152
174	72	6.00	0.27	0.224	(0.141)	0.072	0.152
175	73	6.08	0.30	0.252	(0.141)	0.081	0.171
176	74	6.17	0.30	0.252	(0.140)	0.081	0.171
177	75	6.25	0.30	0.252	(0.139)	0.081	0.171
178	76	6.33	0.30	0.252	(0.139)	0.081	0.171
179	77	6.42	0.30	0.252	(0.138)	0.081	0.171
180	78	6.50	0.30	0.252	(0.137)	0.081	0.171
181	79	6.58	0.33	0.280	(0.137)	0.090	0.190
182	80	6.67	0.33	0.280	(0.136)	0.090	0.190
183	81	6.75	0.33	0.280	(0.136)	0.090	0.190
184	82	6.83	0.33	0.280	(0.135)	0.090	0.190
185	83	6.92	0.33	0.280	(0.134)	0.090	0.190
186	84	7.00	0.33	0.280	(0.134)	0.090	0.190
187	85	7.08	0.33	0.280	(0.133)	0.090	0.190
188	86	7.17	0.33	0.280	(0.133)	0.090	0.190
189	87	7.25	0.33	0.280	(0.132)	0.090	0.190
190	88	7.33	0.37	0.308	(0.131)	0.099	0.209
191	89	7.42	0.37	0.308	(0.131)	0.099	0.209
192	90	7.50	0.37	0.308	(0.130)	0.099	0.209
193	91	7.58	0.40	0.336	(0.130)	0.108	0.228
194	92	7.67	0.40	0.336	(0.129)	0.108	0.228
195	93	7.75	0.40	0.336	(0.128)	0.108	0.228
196	94	7.83	0.43	0.364	(0.128)	0.117	0.247
197	95	7.92	0.43	0.364	(0.127)	0.117	0.247
198	96	8.00	0.43	0.364	(0.127)	0.117	0.247
199	97	8.08	0.50	0.420	0.126	(0.135)	0.294
200	98	8.17	0.50	0.420	0.125	(0.135)	0.295
201	99	8.25	0.50	0.420	0.125	(0.135)	0.295
202	100	8.33	0.50	0.420	0.124	(0.135)	0.296
203	101	8.42	0.50	0.420	0.124	(0.135)	0.296
204	102	8.50	0.50	0.420	0.123	(0.135)	0.297
205	103	8.58	0.53	0.448	0.122	(0.144)	0.326
206	104	8.67	0.53	0.448	0.122	(0.144)	0.326
207	105	8.75	0.53	0.448	0.121	(0.144)	0.327

208	106	8.83	0.57	0.476	0.121	(	0.153)	0.355
209	107	8.92	0.57	0.476	0.120	(	0.153)	0.356
210	108	9.00	0.57	0.476	0.120	(	0.153)	0.356
211	109	9.08	0.63	0.532	0.119	(	0.171)	0.413
212	110	9.17	0.63	0.532	0.118	(	0.171)	0.414
213	111	9.25	0.63	0.532	0.118	(	0.171)	0.414
214	112	9.33	0.67	0.560	0.117	(	0.180)	0.443
215	113	9.42	0.67	0.560	0.117	(	0.180)	0.443
216	114	9.50	0.67	0.560	0.116	(	0.180)	0.444
217	115	9.58	0.70	0.588	0.116	(	0.189)	0.472
218	116	9.67	0.70	0.588	0.115	(	0.189)	0.473
219	117	9.75	0.70	0.588	0.115	(	0.189)	0.473
220	118	9.83	0.73	0.616	0.114	(	0.198)	0.502
221	119	9.92	0.73	0.616	0.113	(	0.198)	0.503
222	120	10.00	0.73	0.616	0.113	(	0.198)	0.503
223	121	10.08	0.50	0.420	0.112	(	0.135)	0.308
224	122	10.17	0.50	0.420	0.112	(	0.135)	0.308
225	123	10.25	0.50	0.420	0.111	(	0.135)	0.309
226	124	10.33	0.50	0.420	0.111	(	0.135)	0.309
227	125	10.42	0.50	0.420	0.110	(	0.135)	0.310
228	126	10.50	0.50	0.420	0.110	(	0.135)	0.310
229	127	10.58	0.67	0.560	0.109	(	0.180)	0.451
230	128	10.67	0.67	0.560	0.109	(	0.180)	0.451
231	129	10.75	0.67	0.560	0.108	(	0.180)	0.452
232	130	10.83	0.67	0.560	0.108	(	0.180)	0.452
233	131	10.92	0.67	0.560	0.107	(	0.180)	0.453
234	132	11.00	0.67	0.560	0.106	(	0.180)	0.454
235	133	11.08	0.63	0.532	0.106	(	0.171)	0.426
236	134	11.17	0.63	0.532	0.105	(	0.171)	0.427
237	135	11.25	0.63	0.532	0.105	(	0.171)	0.427
238	136	11.33	0.63	0.532	0.104	(	0.171)	0.428
239	137	11.42	0.63	0.532	0.104	(	0.171)	0.428
240	138	11.50	0.63	0.532	0.103	(	0.171)	0.429
241	139	11.58	0.57	0.476	0.103	(	0.153)	0.373
242	140	11.67	0.57	0.476	0.102	(	0.153)	0.374
243	141	11.75	0.57	0.476	0.102	(	0.153)	0.374
244	142	11.83	0.60	0.504	0.101	(	0.162)	0.403
245	143	11.92	0.60	0.504	0.101	(	0.162)	0.403
246	144	12.00	0.60	0.504	0.100	(	0.162)	0.404
247	145	12.08	0.83	0.700	0.100	(	0.225)	0.600
248	146	12.17	0.83	0.700	0.099	(	0.225)	0.601
249	147	12.25	0.83	0.700	0.099	(	0.225)	0.601
250	148	12.33	0.87	0.728	0.098	(	0.234)	0.630
251	149	12.42	0.87	0.728	0.098	(	0.234)	0.630
252	150	12.50	0.87	0.728	0.097	(	0.234)	0.631
253	151	12.58	0.93	0.784	0.097	(	0.252)	0.687
254	152	12.67	0.93	0.784	0.096	(	0.252)	0.688
255	153	12.75	0.93	0.784	0.096	(	0.252)	0.688
256	154	12.83	0.97	0.812	0.095	(	0.261)	0.717
257	155	12.92	0.97	0.812	0.095	(	0.261)	0.717
258	156	13.00	0.97	0.812	0.094	(	0.261)	0.718
259	157	13.08	1.13	0.952	0.094	(	0.307)	0.858
260	158	13.17	1.13	0.952	0.093	(	0.307)	0.859
261	159	13.25	1.13	0.952	0.093	(	0.307)	0.859
262	160	13.33	1.13	0.952	0.093	(	0.307)	0.859
263	161	13.42	1.13	0.952	0.092	(	0.307)	0.860
264	162	13.50	1.13	0.952	0.092	(	0.307)	0.860
265	163	13.58	0.77	0.644	0.091	(	0.207)	0.553
266	164	13.67	0.77	0.644	0.091	(	0.207)	0.553
267	165	13.75	0.77	0.644	0.090	(	0.207)	0.554
268	166	13.83	0.77	0.644	0.090	(	0.207)	0.554
269	167	13.92	0.77	0.644	0.089	(	0.207)	0.555
270	168	14.00	0.77	0.644	0.089	(	0.207)	0.555
271	169	14.08	0.90	0.756	0.088	(	0.243)	0.668
272	170	14.17	0.90	0.756	0.088	(	0.243)	0.668
273	171	14.25	0.90	0.756	0.087	(	0.243)	0.669
274	172	14.33	0.87	0.728	0.087	(	0.234)	0.641
275	173	14.42	0.87	0.728	0.087	(	0.234)	0.641
276	174	14.50	0.87	0.728	0.086	(	0.234)	0.642

277	175	14.58	0.87	0.728		0.086	(0.234)	0.642
278	176	14.67	0.87	0.728		0.085	(0.234)	0.643
279	177	14.75	0.87	0.728		0.085	(0.234)	0.643
280	178	14.83	0.83	0.700		0.084	(0.225)	0.616
281	179	14.92	0.83	0.700		0.084	(0.225)	0.616
282	180	15.00	0.83	0.700		0.084	(0.225)	0.616
283	181	15.08	0.80	0.672		0.083	(0.216)	0.589
284	182	15.17	0.80	0.672		0.083	(0.216)	0.589
285	183	15.25	0.80	0.672		0.082	(0.216)	0.590
286	184	15.33	0.77	0.644		0.082	(0.207)	0.562
287	185	15.42	0.77	0.644		0.081	(0.207)	0.563
288	186	15.50	0.77	0.644		0.081	(0.207)	0.563
289	187	15.58	0.63	0.532		0.081	(0.171)	0.451
290	188	15.67	0.63	0.532		0.080	(0.171)	0.452
291	189	15.75	0.63	0.532		0.080	(0.171)	0.452
292	190	15.83	0.63	0.532		0.079	(0.171)	0.453
293	191	15.92	0.63	0.532		0.079	(0.171)	0.453
294	192	16.00	0.63	0.532		0.079	(0.171)	0.453
295	193	16.08	0.13	0.112	(0.078)		0.036	0.076
296	194	16.17	0.13	0.112	(0.078)		0.036	0.076
297	195	16.25	0.13	0.112	(0.077)		0.036	0.076
298	196	16.33	0.13	0.112	(0.077)		0.036	0.076
299	197	16.42	0.13	0.112	(0.077)		0.036	0.076
300	198	16.50	0.13	0.112	(0.076)		0.036	0.076
301	199	16.58	0.10	0.084	(0.076)		0.027	0.057
302	200	16.67	0.10	0.084	(0.075)		0.027	0.057
303	201	16.75	0.10	0.084	(0.075)		0.027	0.057
304	202	16.83	0.10	0.084	(0.075)		0.027	0.057
305	203	16.92	0.10	0.084	(0.074)		0.027	0.057
306	204	17.00	0.10	0.084	(0.074)		0.027	0.057
307	205	17.08	0.17	0.140	(0.073)		0.045	0.095
308	206	17.17	0.17	0.140	(0.073)		0.045	0.095
309	207	17.25	0.17	0.140	(0.073)		0.045	0.095
310	208	17.33	0.17	0.140	(0.072)		0.045	0.095
311	209	17.42	0.17	0.140	(0.072)		0.045	0.095
312	210	17.50	0.17	0.140	(0.072)		0.045	0.095
313	211	17.58	0.17	0.140	(0.071)		0.045	0.095
314	212	17.67	0.17	0.140	(0.071)		0.045	0.095
315	213	17.75	0.17	0.140	(0.071)		0.045	0.095
316	214	17.83	0.13	0.112	(0.070)		0.036	0.076
317	215	17.92	0.13	0.112	(0.070)		0.036	0.076
318	216	18.00	0.13	0.112	(0.070)		0.036	0.076
319	217	18.08	0.13	0.112	(0.069)		0.036	0.076
320	218	18.17	0.13	0.112	(0.069)		0.036	0.076
321	219	18.25	0.13	0.112	(0.069)		0.036	0.076
322	220	18.33	0.13	0.112	(0.068)		0.036	0.076
323	221	18.42	0.13	0.112	(0.068)		0.036	0.076
324	222	18.50	0.13	0.112	(0.068)		0.036	0.076
325	223	18.58	0.10	0.084	(0.067)		0.027	0.057
326	224	18.67	0.10	0.084	(0.067)		0.027	0.057
327	225	18.75	0.10	0.084	(0.067)		0.027	0.057
328	226	18.83	0.07	0.056	(0.066)		0.018	0.038
329	227	18.92	0.07	0.056	(0.066)		0.018	0.038
330	228	19.00	0.07	0.056	(0.066)		0.018	0.038
331	229	19.08	0.10	0.084	(0.065)		0.027	0.057
332	230	19.17	0.10	0.084	(0.065)		0.027	0.057
333	231	19.25	0.10	0.084	(0.065)		0.027	0.057
334	232	19.33	0.13	0.112	(0.064)		0.036	0.076
335	233	19.42	0.13	0.112	(0.064)		0.036	0.076
336	234	19.50	0.13	0.112	(0.064)		0.036	0.076
337	235	19.58	0.10	0.084	(0.064)		0.027	0.057
338	236	19.67	0.10	0.084	(0.063)		0.027	0.057
339	237	19.75	0.10	0.084	(0.063)		0.027	0.057
340	238	19.83	0.07	0.056	(0.063)		0.018	0.038
341	239	19.92	0.07	0.056	(0.062)		0.018	0.038
342	240	20.00	0.07	0.056	(0.062)		0.018	0.038
343	241	20.08	0.10	0.084	(0.062)		0.027	0.057
344	242	20.17	0.10	0.084	(0.062)		0.027	0.057
345	243	20.25	0.10	0.084	(0.061)		0.027	0.057

244	20.33	0.10	0.084	(0.061)	0.027	0.057	
245	20.42	0.10	0.084	(0.061)	0.027	0.057	
246	20.50	0.10	0.084	(0.060)	0.027	0.057	
247	20.58	0.10	0.084	(0.060)	0.027	0.057	
248	20.67	0.10	0.084	(0.060)	0.027	0.057	
249	20.75	0.10	0.084	(0.060)	0.027	0.057	
250	20.83	0.07	0.056	(0.060)	0.018	0.038	
251	20.92	0.07	0.056	(0.059)	0.018	0.038	
252	21.00	0.07	0.056	(0.059)	0.018	0.038	
253	21.08	0.10	0.084	(0.059)	0.027	0.057	
254	21.17	0.10	0.084	(0.059)	0.027	0.057	
255	21.25	0.10	0.084	(0.058)	0.027	0.057	
256	21.33	0.07	0.056	(0.058)	0.018	0.038	
257	21.42	0.07	0.056	(0.058)	0.018	0.038	
258	21.50	0.07	0.056	(0.058)	0.018	0.038	
259	21.58	0.10	0.084	(0.057)	0.027	0.057	
260	21.67	0.10	0.084	(0.057)	0.027	0.057	
261	21.75	0.10	0.084	(0.057)	0.027	0.057	
262	21.83	0.07	0.056	(0.057)	0.018	0.038	
263	21.92	0.07	0.056	(0.057)	0.018	0.038	
264	22.00	0.07	0.056	(0.056)	0.018	0.038	
265	22.08	0.10	0.084	(0.056)	0.027	0.057	
266	22.17	0.10	0.084	(0.056)	0.027	0.057	
267	22.25	0.10	0.084	(0.056)	0.027	0.057	
268	22.33	0.07	0.056	(0.056)	0.018	0.038	
269	22.42	0.07	0.056	(0.056)	0.018	0.038	
270	22.50	0.07	0.056	(0.055)	0.018	0.038	
271	22.58	0.07	0.056	(0.055)	0.018	0.038	
272	22.67	0.07	0.056	(0.055)	0.018	0.038	
273	22.75	0.07	0.056	(0.055)	0.018	0.038	
274	22.83	0.07	0.056	(0.055)	0.018	0.038	
275	22.92	0.07	0.056	(0.055)	0.018	0.038	
276	23.00	0.07	0.056	(0.055)	0.018	0.038	
277	23.08	0.07	0.056	(0.054)	0.018	0.038	
278	23.17	0.07	0.056	(0.054)	0.018	0.038	
279	23.25	0.07	0.056	(0.054)	0.018	0.038	
280	23.33	0.07	0.056	(0.054)	0.018	0.038	
281	23.42	0.07	0.056	(0.054)	0.018	0.038	
282	23.50	0.07	0.056	(0.054)	0.018	0.038	
283	23.58	0.07	0.056	(0.054)	0.018	0.038	
284	23.67	0.07	0.056	(0.054)	0.018	0.038	
285	23.75	0.07	0.056	(0.054)	0.018	0.038	
286	23.83	0.07	0.056	(0.054)	0.018	0.038	
287	23.92	0.07	0.056	(0.054)	0.018	0.038	
288	24.00	0.07	0.056	(0.053)	0.018	0.038	

(Loss Rate Not Used)

Sum = 100.0 Sum = 66.2

Flood volume = Effective rainfall 5.52(In)

times area 3.6(Ac.)/[(In)/(Ft.)] = 1.7(Ac.Ft)

Total soil loss = 1.48(In)

Total soil loss = 0.452(Ac.Ft)

Total rainfall = 7.00(In)

Flood volume = 73071.0 Cubic Feet

Total soil loss = 19674.8 Cubic Feet

Peak flow rate of this hydrograph = 3.154(CFS)

++

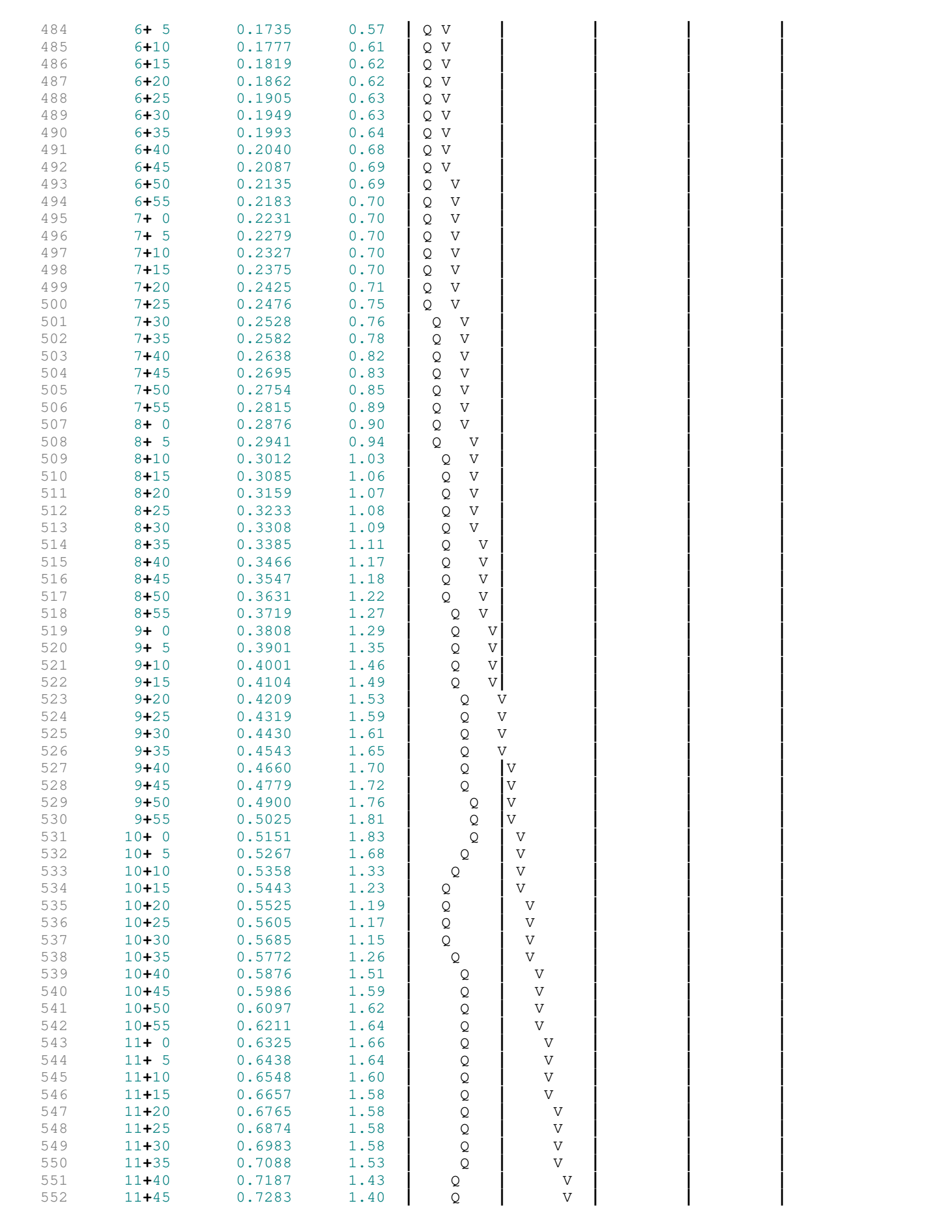
24 - H O U R S T O R M

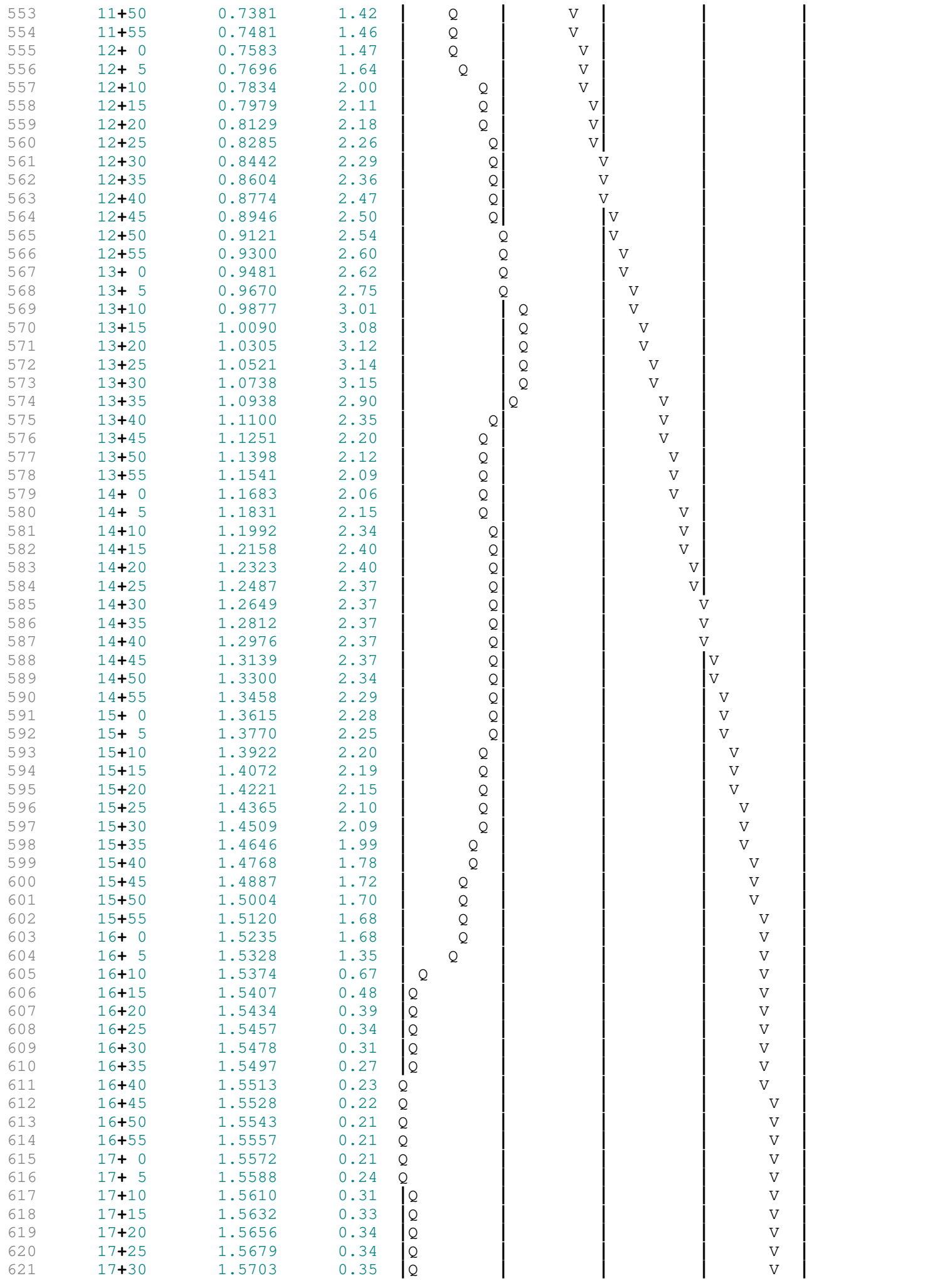
R u n o f f H y d r o g r a p h

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	0.0009	0.10	Q	|	|	|	|
0+15	0.0017	0.12	Q	|	|	|	|

415	0+20	0.0027	0.15	Q	|	|	|	|
416	0+25	0.0040	0.18	Q	|	|	|	|
417	0+30	0.0054	0.20	Q	|	|	|	|
418	0+35	0.0068	0.20	Q	|	|	|	|
419	0+40	0.0082	0.21	Q	|	|	|	|
420	0+45	0.0096	0.21	Q	|	|	|	|
421	0+50	0.0112	0.23	Q	|	|	|	|
422	0+55	0.0130	0.26	VQ	|	|	|	|
423	1+ 0	0.0148	0.27	VQ	|	|	|	|
424	1+ 5	0.0166	0.26	VQ	|	|	|	|
425	1+10	0.0182	0.23	Q	|	|	|	|
426	1+15	0.0197	0.22	Q	|	|	|	|
427	1+20	0.0211	0.21	Q	|	|	|	|
428	1+25	0.0226	0.21	Q	|	|	|	|
429	1+30	0.0241	0.21	Q	|	|	|	|
430	1+35	0.0255	0.21	Q	|	|	|	|
431	1+40	0.0269	0.21	Q	|	|	|	|
432	1+45	0.0284	0.21	Q	|	|	|	|
433	1+50	0.0299	0.23	Q	|	|	|	|
434	1+55	0.0317	0.26	VQ	|	|	|	|
435	2+ 0	0.0336	0.27	VQ	|	|	|	|
436	2+ 5	0.0355	0.27	VQ	|	|	|	|
437	2+10	0.0374	0.28	VQ	|	|	|	|
438	2+15	0.0393	0.28	VQ	|	|	|	|
439	2+20	0.0412	0.28	VQ	|	|	|	|
440	2+25	0.0431	0.28	|Q	|	|	|	|
441	2+30	0.0451	0.28	|Q	|	|	|	|
442	2+35	0.0471	0.30	|Q	|	|	|	|
443	2+40	0.0494	0.33	|Q	|	|	|	|
444	2+45	0.0517	0.34	|Q	|	|	|	|
445	2+50	0.0541	0.34	|Q	|	|	|	|
446	2+55	0.0565	0.35	|Q	|	|	|	|
447	3+ 0	0.0589	0.35	|Q	|	|	|	|
448	3+ 5	0.0613	0.35	|Q	|	|	|	|
449	3+10	0.0637	0.35	|Q	|	|	|	|
450	3+15	0.0661	0.35	|Q	|	|	|	|
451	3+20	0.0685	0.35	|Q	|	|	|	|
452	3+25	0.0709	0.35	|Q	|	|	|	|
453	3+30	0.0733	0.35	|Q	|	|	|	|
454	3+35	0.0757	0.35	|Q	|	|	|	|
455	3+40	0.0781	0.35	|Q	|	|	|	|
456	3+45	0.0805	0.35	|Q	|	|	|	|
457	3+50	0.0830	0.37	|Q	|	|	|	|
458	3+55	0.0858	0.40	|QV	|	|	|	|
459	4+ 0	0.0886	0.41	|QV	|	|	|	|
460	4+ 5	0.0914	0.41	|QV	|	|	|	|
461	4+10	0.0943	0.42	|QV	|	|	|	|
462	4+15	0.0972	0.42	|QV	|	|	|	|
463	4+20	0.1002	0.43	|QV	|	|	|	|
464	4+25	0.1034	0.47	|QV	|	|	|	|
465	4+30	0.1067	0.48	|QV	|	|	|	|
466	4+35	0.1101	0.48	|QV	|	|	|	|
467	4+40	0.1134	0.49	|QV	|	|	|	|
468	4+45	0.1168	0.49	|QV	|	|	|	|
469	4+50	0.1202	0.50	| Q	|	|	|	|
470	4+55	0.1239	0.54	| Q	|	|	|	|
471	5+ 0	0.1277	0.55	| QV	|	|	|	|
472	5+ 5	0.1313	0.52	| QV	|	|	|	|
473	5+10	0.1345	0.46	|Q V	|	|	|	|
474	5+15	0.1375	0.44	|Q V	|	|	|	|
475	5+20	0.1405	0.45	|Q V	|	|	|	|
476	5+25	0.1438	0.48	|Q V	|	|	|	|
477	5+30	0.1471	0.48	|Q V	|	|	|	|
478	5+35	0.1506	0.50	| QV	|	|	|	|
479	5+40	0.1543	0.54	| QV	|	|	|	|
480	5+45	0.1580	0.55	| QV	|	|	|	|
481	5+50	0.1619	0.55	| QV	|	|	|	|
482	5+55	0.1657	0.56	| QV	|	|	|	|
483	6+ 0	0.1695	0.56	| Q V	|	|	|	|





622	17+35	1.5727	0.35	|Q	|	|	|	V |
623	17+40	1.5751	0.35	|Q	|	|	|	V |
624	17+45	1.5775	0.35	|Q	|	|	|	V |
625	17+50	1.5798	0.33	|Q	|	|	|	V |
626	17+55	1.5819	0.30	|Q	|	|	|	V |
627	18+ 0	1.5839	0.29	|Q	|	|	|	V |
628	18+ 5	1.5859	0.28	|Q	|	|	|	V |
629	18+10	1.5878	0.28	|Q	|	|	|	V |
630	18+15	1.5897	0.28	|Q	|	|	|	V |
631	18+20	1.5917	0.28	|Q	|	|	|	V |
632	18+25	1.5936	0.28	|Q	|	|	|	V |
633	18+30	1.5955	0.28	|Q	|	|	|	V |
634	18+35	1.5973	0.26	|Q	|	|	|	V |
635	18+40	1.5989	0.23	Q	|	|	|	V |
636	18+45	1.6004	0.22	Q	|	|	|	V |
637	18+50	1.6018	0.20	Q	|	|	|	V |
638	18+55	1.6029	0.16	Q	|	|	|	V |
639	19+ 0	1.6039	0.15	Q	|	|	|	V |
640	19+ 5	1.6051	0.16	Q	|	|	|	V |
641	19+10	1.6064	0.19	Q	|	|	|	V |
642	19+15	1.6078	0.20	Q	|	|	|	V |
643	19+20	1.6093	0.22	Q	|	|	|	V |
644	19+25	1.6111	0.26	|Q	|	|	|	V |
645	19+30	1.6129	0.27	|Q	|	|	|	V |
646	19+35	1.6147	0.26	|Q	|	|	|	V |
647	19+40	1.6162	0.23	Q	|	|	|	V |
648	19+45	1.6177	0.22	Q	|	|	|	V |
649	19+50	1.6191	0.20	Q	|	|	|	V |
650	19+55	1.6202	0.16	Q	|	|	|	V |
651	20+ 0	1.6213	0.15	Q	|	|	|	V |
652	20+ 5	1.6224	0.16	Q	|	|	|	V |
653	20+10	1.6237	0.19	Q	|	|	|	V |
654	20+15	1.6251	0.20	Q	|	|	|	V |
655	20+20	1.6265	0.20	Q	|	|	|	V |
656	20+25	1.6279	0.21	Q	|	|	|	V |
657	20+30	1.6294	0.21	Q	|	|	|	V |
658	20+35	1.6308	0.21	Q	|	|	|	V |
659	20+40	1.6322	0.21	Q	|	|	|	V |
660	20+45	1.6337	0.21	Q	|	|	|	V |
661	20+50	1.6350	0.19	Q	|	|	|	V |
662	20+55	1.6361	0.16	Q	|	|	|	V|
663	21+ 0	1.6371	0.15	Q	|	|	|	V|
664	21+ 5	1.6383	0.16	Q	|	|	|	V|
665	21+10	1.6396	0.19	Q	|	|	|	V|
666	21+15	1.6410	0.20	Q	|	|	|	V|
667	21+20	1.6423	0.19	Q	|	|	|	V|
668	21+25	1.6433	0.16	Q	|	|	|	V|
669	21+30	1.6444	0.15	Q	|	|	|	V|
670	21+35	1.6455	0.16	Q	|	|	|	V|
671	21+40	1.6468	0.19	Q	|	|	|	V|
672	21+45	1.6482	0.20	Q	|	|	|	V|
673	21+50	1.6495	0.19	Q	|	|	|	V|
674	21+55	1.6506	0.16	Q	|	|	|	V|
675	22+ 0	1.6516	0.15	Q	|	|	|	V|
676	22+ 5	1.6527	0.16	Q	|	|	|	V|
677	22+10	1.6540	0.19	Q	|	|	|	V|
678	22+15	1.6554	0.20	Q	|	|	|	V|
679	22+20	1.6567	0.19	Q	|	|	|	V|
680	22+25	1.6578	0.16	Q	|	|	|	V|
681	22+30	1.6588	0.15	Q	|	|	|	V|
682	22+35	1.6598	0.14	Q	|	|	|	V|
683	22+40	1.6608	0.14	Q	|	|	|	V|
684	22+45	1.6618	0.14	Q	|	|	|	V|
685	22+50	1.6627	0.14	Q	|	|	|	V|
686	22+55	1.6637	0.14	Q	|	|	|	V|
687	23+ 0	1.6646	0.14	Q	|	|	|	V|
688	23+ 5	1.6656	0.14	Q	|	|	|	V|
689	23+10	1.6666	0.14	Q	|	|	|	V|
690	23+15	1.6675	0.14	Q	|	|	|	V|

```
    23+20       1.6685      0.14  Q          |          |          |          V|
    23+25       1.6695      0.14  Q          |          |          |          V|
    23+30       1.6704      0.14  Q          |          |          |          V|
    23+35       1.6714      0.14  Q          |          |          |          V|
    23+40       1.6723      0.14  Q          |          |          |          V|
    23+45       1.6733      0.14  Q          |          |          |          V|
    23+50       1.6743      0.14  Q          |          |          |          V|
    23+55       1.6752      0.14  Q          |          |          |          V|
    24+ 0       1.6762      0.14  Q          |          |          |          V|
    24+ 5       1.6769      0.11  Q          |          |          |          V|
    24+10       1.6772      0.04  Q          |          |          |          V|
    24+15       1.6773      0.02  Q          |          |          |          V|
    24+20       1.6774      0.01  Q          |          |          |          V|
    24+25       1.6775      0.01  Q          |          |          |          V|
    24+30       1.6775      0.00  Q          |          |          |          V|
    24+35       1.6775      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  08/08/24 File: PTC2B212.out


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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUFLOW B2
2 YEAR 1 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       8.00(Ac.)  =      0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       8.00(Ac.)  =      0.013 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.176 Hr.
Lag time =    10.56 Min.
25% of lag time =     2.64 Min.
40% of lag time =     4.22 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]
        8.00            0.55                4.40

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        8.00            1.40               11.20

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    0.550(In)
Area Averaged 100-Year Rainfall =    1.400(In)

Point rain (area averaged) =    0.550(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    0.550(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     8.000           56.00          0.900
 Total Area Entered =      8.00(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

56.0 36.0 0.706 0.900 0.134 1.000 0.134

Sum (F) = 0.134

Area averaged **mean** soil loss (F) (In/Hr) = 0.134

Minimum soil loss rate ((In/Hr)) = 0.067

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.188

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	47.348	5.634	0.454
2	0.167	94.697	23.896	1.927
3	0.250	142.045	28.909	2.331
4	0.333	189.394	13.989	1.128
5	0.417	236.742	7.078	0.571
6	0.500	284.091	4.875	0.393
7	0.583	331.439	3.553	0.286
8	0.667	378.788	2.733	0.220
9	0.750	426.136	2.055	0.166
10	0.833	473.485	1.561	0.126
11	0.917	520.833	1.396	0.113
12	1.000	568.182	1.087	0.088
13	1.083	615.530	0.878	0.071
14	1.167	662.879	0.699	0.056
15	1.250	710.227	0.524	0.042
16	1.333	757.576	0.473	0.038
17	1.417	804.924	0.661	0.053
		Sum = 100.000	Sum=	8.063

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.277	(0.134)	0.052	0.225
2	0.17	4.30	0.284	(0.134)	0.053	0.230
3	0.25	5.00	0.330	(0.134)	0.062	0.268
4	0.33	5.00	0.330	(0.134)	0.062	0.268
5	0.42	5.80	0.383	(0.134)	0.072	0.311
6	0.50	6.50	0.429	(0.134)	0.081	0.348
7	0.58	7.40	0.488	(0.134)	0.092	0.397
8	0.67	8.60	0.568	(0.134)	0.107	0.461
9	0.75	12.30	0.812	0.134	(0.153)	0.678
10	0.83	29.10	1.920	0.134	(0.361)	1.786
11	0.92	6.80	0.449	(0.134)	0.084	0.364
12	1.00	5.00	0.330	(0.134)	0.062	0.268
	(Loss Rate Not Used)					
Sum =	100.0				Sum =	5.6

Flood volume = Effective rainfall 0.47(In)

times area 8.0(Ac.)/[(In)/(Ft.)] = 0.3(Ac.Ft)

Total soil loss = 0.08(In)

Total soil loss = 0.055(Ac.Ft)

Total rainfall = 0.55(In)

Flood volume = 13562.1 Cubic Feet

Total soil loss = 2408.7 Cubic Feet

Peak flow rate of this hydrograph = 6.466(CFS)

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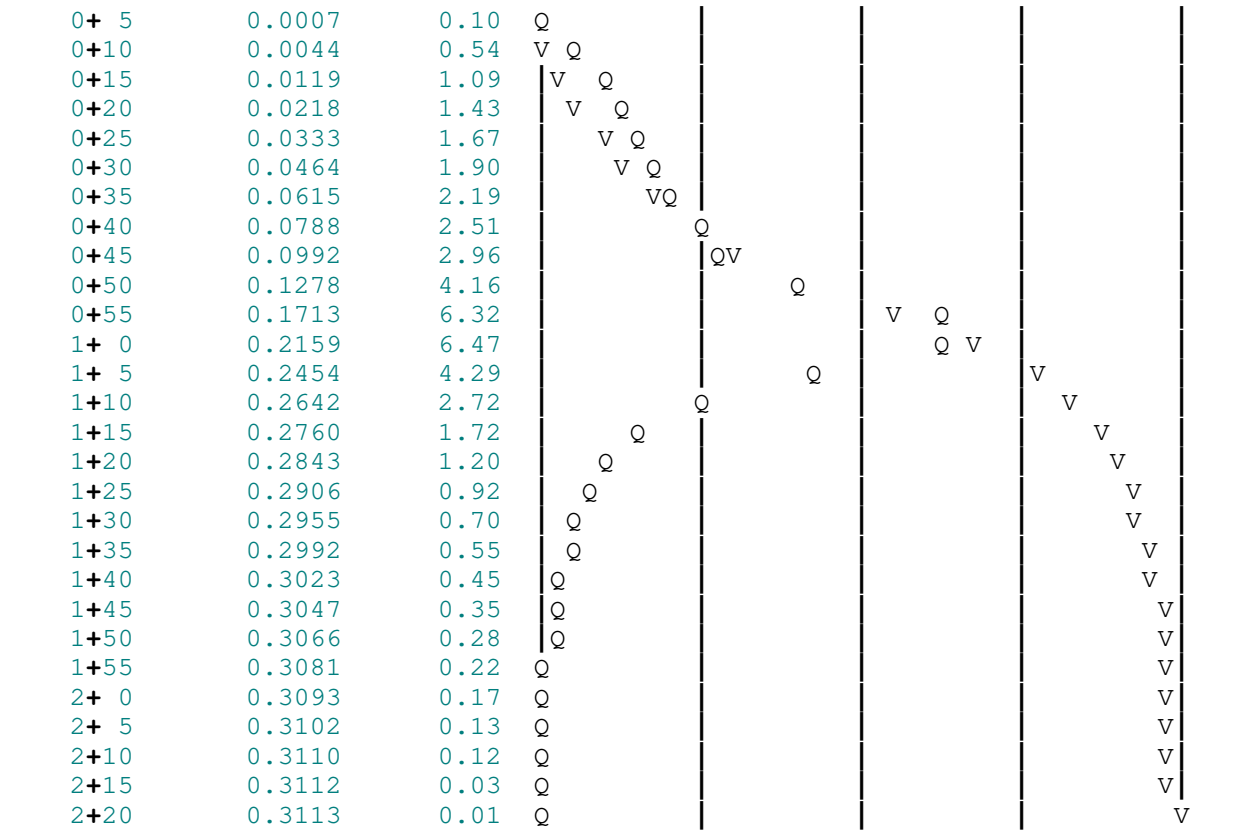
1 - H O U R S T O R M

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

Hydrograph in 5 Minute intervals ((CFS))



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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  08/08/24 File: PTC2B232.out


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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUFLOW B2
2 YEAR 3 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       8.00(Ac.)  =      0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       8.00(Ac.)  =      0.013 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.176 Hr.
Lag time =    10.56 Min.
25% of lag time =     2.64 Min.
40% of lag time =     4.22 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]
        8.00            1.00                8.00

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        8.00            2.50               20.00

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    1.000(In)
Area Averaged 100-Year Rainfall =    2.500(In)

Point rain (area averaged) =    1.000(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.000(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     8.000           56.00          0.900
 Total Area Entered =      8.00(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

56.0	36.0	0.706	0.900	0.134	1.000	0.134

Sum (F) = 0.134

Area averaged **mean** soil loss (F) (In/Hr) = 0.134

Minimum soil loss rate ((In/Hr)) = 0.067

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.188

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	47.348	5.634	0.454
2	0.167	94.697	23.896	1.927
3	0.250	142.045	28.909	2.331
4	0.333	189.394	13.989	1.128
5	0.417	236.742	7.078	0.571
6	0.500	284.091	4.875	0.393
7	0.583	331.439	3.553	0.286
8	0.667	378.788	2.733	0.220
9	0.750	426.136	2.055	0.166
10	0.833	473.485	1.561	0.126
11	0.917	520.833	1.396	0.113
12	1.000	568.182	1.087	0.088
13	1.083	615.530	0.878	0.071
14	1.167	662.879	0.699	0.056
15	1.250	710.227	0.524	0.042
16	1.333	757.576	0.473	0.038
17	1.417	804.924	0.661	0.053
		Sum = 100.000	Sum=	8.063

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.156	(0.134)	0.029	0.127
2	0.17	1.30	0.156	(0.134)	0.029	0.127
3	0.25	1.10	0.132	(0.134)	0.025	0.107
4	0.33	1.50	0.180	(0.134)	0.034	0.146
5	0.42	1.50	0.180	(0.134)	0.034	0.146
6	0.50	1.80	0.216	(0.134)	0.041	0.175
7	0.58	1.50	0.180	(0.134)	0.034	0.146
8	0.67	1.80	0.216	(0.134)	0.041	0.175
9	0.75	1.80	0.216	(0.134)	0.041	0.175
10	0.83	1.50	0.180	(0.134)	0.034	0.146
11	0.92	1.60	0.192	(0.134)	0.036	0.156
12	1.00	1.80	0.216	(0.134)	0.041	0.175
13	1.08	2.20	0.264	(0.134)	0.050	0.214
14	1.17	2.20	0.264	(0.134)	0.050	0.214
15	1.25	2.20	0.264	(0.134)	0.050	0.214
16	1.33	2.00	0.240	(0.134)	0.045	0.195
17	1.42	2.60	0.312	(0.134)	0.059	0.253
18	1.50	2.70	0.324	(0.134)	0.061	0.263
19	1.58	2.40	0.288	(0.134)	0.054	0.234
20	1.67	2.70	0.324	(0.134)	0.061	0.263
21	1.75	3.30	0.396	(0.134)	0.074	0.322
22	1.83	3.10	0.372	(0.134)	0.070	0.302
23	1.92	2.90	0.348	(0.134)	0.065	0.283
24	2.00	3.00	0.360	(0.134)	0.068	0.292
25	2.08	3.10	0.372	(0.134)	0.070	0.302
26	2.17	4.20	0.504	(0.134)	0.095	0.409
27	2.25	5.00	0.600	(0.134)	0.113	0.487

28	2.33	3.50	0.420	(0.134)	0.079	0.341
29	2.42	6.80	0.816	0.134	(0.153)	0.682
30	2.50	7.30	0.876	0.134	(0.165)	0.742
31	2.58	8.20	0.984	0.134	(0.185)	0.850
32	2.67	5.90	0.708	(0.134)	0.133	0.575
33	2.75	2.00	0.240	(0.134)	0.045	0.195
34	2.83	1.80	0.216	(0.134)	0.041	0.175
35	2.92	1.80	0.216	(0.134)	0.041	0.175
36	3.00	0.60	0.072	(0.134)	0.014	0.058

(Loss Rate Not Used)

Sum = 100.0 Sum = 9.8

Flood volume = Effective rainfall 0.82(In)

times area 8.0(Ac.)/[(In)/(Ft.)] = 0.5(Ac.Ft)

Total soil loss = 0.18(In)

Total soil loss = 0.120(Ac.Ft)

Total rainfall = 1.00(In)

Flood volume = 23823.2 Cubic Feet

Total soil loss = 5215.8 Cubic Feet

Peak flow rate of this hydrograph = 5.178(CFS)

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3 - H O U R S T O R M

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0004	0.06	Q				
0+10	0.0025	0.30	VQ				
0+15	0.0065	0.59	V Q				
0+20	0.0114	0.71	V Q				
0+25	0.0170	0.81	V Q				
0+30	0.0235	0.95	V Q				
0+35	0.0308	1.06	V Q				
0+40	0.0386	1.13	V Q				
0+45	0.0467	1.18	VQ				
0+50	0.0552	1.24	Q				
0+55	0.0637	1.23	Q				
1+ 0	0.0721	1.22	QV				
1+ 5	0.0810	1.29	Q				
1+10	0.0908	1.42	QV				
1+15	0.1014	1.54	QV				
1+20	0.1123	1.59	Q V				
1+25	0.1235	1.62	Q V				
1+30	0.1353	1.71	Q V				
1+35	0.1480	1.85	Q V				
1+40	0.1611	1.90	Q V				
1+45	0.1745	1.96	Q V				
1+50	0.1892	2.13	Q V				
1+55	0.2047	2.25	Q V				
2+ 0	0.2203	2.26	Q V				
2+ 5	0.2359	2.27	Q V				
2+10	0.2522	2.36	Q V				
2+15	0.2704	2.64	Q V				
2+20	0.2910	3.00	Q V				
2+25	0.3130	3.19	Q V				
2+30	0.3385	3.70	Q V				
2+35	0.3701	4.59	Q V				
2+40	0.4057	5.18	Q V				
2+45	0.4401	4.99	Q V				
2+50	0.4669	3.89	Q V				
2+55	0.4864	2.83	Q V				
3+ 0	0.5021	2.29	Q V				
3+ 5	0.5144	1.79	Q V				
3+10	0.5230	1.24	Q V				
3+15	0.5288	0.86	Q V				

```
     3+20       0.5332      0.64  | Q       |         |         |         V|
     3+25       0.5367      0.50  |Q        |         |         |         V|
     3+30       0.5394      0.39  |Q        |         |         |         V|
     3+35       0.5415      0.31  |Q        |         |         |         V|
     3+40       0.5431      0.23  Q         |         |         |         V|
     3+45       0.5444      0.19  Q         |         |         |         V|
     3+50       0.5454      0.14  Q         |         |         |         V|
     3+55       0.5461      0.10  Q         |         |         |         V|
     4+ 0       0.5465      0.06  Q         |         |         |         V|
     4+ 5       0.5467      0.03  Q         |         |         |         V|
     4+10       0.5468      0.02  Q         |         |         |         V|
     4+15       0.5469      0.01  Q         |         |         |         V|
     4+20       0.5469      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  08/08/24 File: PTC2B262.out


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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUFLOW B2
2 YEAR 6 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       8.00(Ac.)  =      0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       8.00(Ac.)  =      0.013 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.176 Hr.
Lag time =    10.56 Min.
25% of lag time =     2.64 Min.
40% of lag time =     4.22 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]
        8.00            1.40                11.20

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        8.00            3.50                28.00

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    1.400(In)
Area Averaged 100-Year Rainfall =    3.500(In)

Point rain (area averaged) =    1.400(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.400(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     8.000           56.00          0.900
 Total Area Entered =      8.00(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

56.0	36.0	0.706	0.900	0.134	1.000	0.134

Sum (F) = 0.134

Area averaged **mean** soil loss (F) (In/Hr) = 0.134

Minimum soil loss rate ((In/Hr)) = 0.067

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.188

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	47.348	5.634	0.454
2	0.167	94.697	23.896	1.927
3	0.250	142.045	28.909	2.331
4	0.333	189.394	13.989	1.128
5	0.417	236.742	7.078	0.571
6	0.500	284.091	4.875	0.393
7	0.583	331.439	3.553	0.286
8	0.667	378.788	2.733	0.220
9	0.750	426.136	2.055	0.166
10	0.833	473.485	1.561	0.126
11	0.917	520.833	1.396	0.113
12	1.000	568.182	1.087	0.088
13	1.083	615.530	0.878	0.071
14	1.167	662.879	0.699	0.056
15	1.250	710.227	0.524	0.042
16	1.333	757.576	0.473	0.038
17	1.417	804.924	0.661	0.053
		Sum = 100.000	Sum=	8.063

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.084	(0.134)	0.016	0.068
2	0.17	0.60	0.101	(0.134)	0.019	0.082
3	0.25	0.60	0.101	(0.134)	0.019	0.082
4	0.33	0.60	0.101	(0.134)	0.019	0.082
5	0.42	0.60	0.101	(0.134)	0.019	0.082
6	0.50	0.70	0.118	(0.134)	0.022	0.095
7	0.58	0.70	0.118	(0.134)	0.022	0.095
8	0.67	0.70	0.118	(0.134)	0.022	0.095
9	0.75	0.70	0.118	(0.134)	0.022	0.095
10	0.83	0.70	0.118	(0.134)	0.022	0.095
11	0.92	0.70	0.118	(0.134)	0.022	0.095
12	1.00	0.80	0.134	(0.134)	0.025	0.109
13	1.08	0.80	0.134	(0.134)	0.025	0.109
14	1.17	0.80	0.134	(0.134)	0.025	0.109
15	1.25	0.80	0.134	(0.134)	0.025	0.109
16	1.33	0.80	0.134	(0.134)	0.025	0.109
17	1.42	0.80	0.134	(0.134)	0.025	0.109
18	1.50	0.80	0.134	(0.134)	0.025	0.109
19	1.58	0.80	0.134	(0.134)	0.025	0.109
20	1.67	0.80	0.134	(0.134)	0.025	0.109
21	1.75	0.80	0.134	(0.134)	0.025	0.109
22	1.83	0.80	0.134	(0.134)	0.025	0.109
23	1.92	0.80	0.134	(0.134)	0.025	0.109
24	2.00	0.90	0.151	(0.134)	0.028	0.123
25	2.08	0.80	0.134	(0.134)	0.025	0.109
26	2.17	0.90	0.151	(0.134)	0.028	0.123
27	2.25	0.90	0.151	(0.134)	0.028	0.123

28	2.33	0.90	0.151	(0.134)	0.028	0.123
29	2.42	0.90	0.151	(0.134)	0.028	0.123
30	2.50	0.90	0.151	(0.134)	0.028	0.123
31	2.58	0.90	0.151	(0.134)	0.028	0.123
32	2.67	0.90	0.151	(0.134)	0.028	0.123
33	2.75	1.00	0.168	(0.134)	0.032	0.136
34	2.83	1.00	0.168	(0.134)	0.032	0.136
35	2.92	1.00	0.168	(0.134)	0.032	0.136
36	3.00	1.00	0.168	(0.134)	0.032	0.136
37	3.08	1.00	0.168	(0.134)	0.032	0.136
38	3.17	1.10	0.185	(0.134)	0.035	0.150
39	3.25	1.10	0.185	(0.134)	0.035	0.150
40	3.33	1.10	0.185	(0.134)	0.035	0.150
41	3.42	1.20	0.202	(0.134)	0.038	0.164
42	3.50	1.30	0.218	(0.134)	0.041	0.177
43	3.58	1.40	0.235	(0.134)	0.044	0.191
44	3.67	1.40	0.235	(0.134)	0.044	0.191
45	3.75	1.50	0.252	(0.134)	0.047	0.205
46	3.83	1.50	0.252	(0.134)	0.047	0.205
47	3.92	1.60	0.269	(0.134)	0.051	0.218
48	4.00	1.60	0.269	(0.134)	0.051	0.218
49	4.08	1.70	0.286	(0.134)	0.054	0.232
50	4.17	1.80	0.302	(0.134)	0.057	0.246
51	4.25	1.90	0.319	(0.134)	0.060	0.259
52	4.33	2.00	0.336	(0.134)	0.063	0.273
53	4.42	2.10	0.353	(0.134)	0.066	0.286
54	4.50	2.10	0.353	(0.134)	0.066	0.286
55	4.58	2.20	0.370	(0.134)	0.069	0.300
56	4.67	2.30	0.386	(0.134)	0.073	0.314
57	4.75	2.40	0.403	(0.134)	0.076	0.327
58	4.83	2.40	0.403	(0.134)	0.076	0.327
59	4.92	2.50	0.420	(0.134)	0.079	0.341
60	5.00	2.60	0.437	(0.134)	0.082	0.355
61	5.08	3.10	0.521	(0.134)	0.098	0.423
62	5.17	3.60	0.605	(0.134)	0.114	0.491
63	5.25	3.90	0.655	(0.134)	0.123	0.532
64	5.33	4.20	0.706	(0.134)	0.133	0.573
65	5.42	4.70	0.790	0.134	(0.148)	0.655
66	5.50	5.60	0.941	0.134	(0.177)	0.807
67	5.58	1.90	0.319	(0.134)	0.060	0.259
68	5.67	0.90	0.151	(0.134)	0.028	0.123
69	5.75	0.60	0.101	(0.134)	0.019	0.082
70	5.83	0.50	0.084	(0.134)	0.016	0.068
71	5.92	0.30	0.050	(0.134)	0.009	0.041
72	6.00	0.20	0.034	(0.134)	0.006	0.027

(Loss Rate Not Used)

Sum = 100.0 Sum = 13.7

Flood volume = Effective rainfall 1.14(In)

times area 8.0(Ac.)/[(In)/(Ft.)] = 0.8(Ac.Ft)

Total soil loss = 0.26(In)

Total soil loss = 0.172(Ac.Ft)

Total rainfall = 1.40(In)

Flood volume = 33149.8 Cubic Feet

Total soil loss = 7505.1 Cubic Feet

Peak flow rate of this hydrograph = 4.780(CFS)

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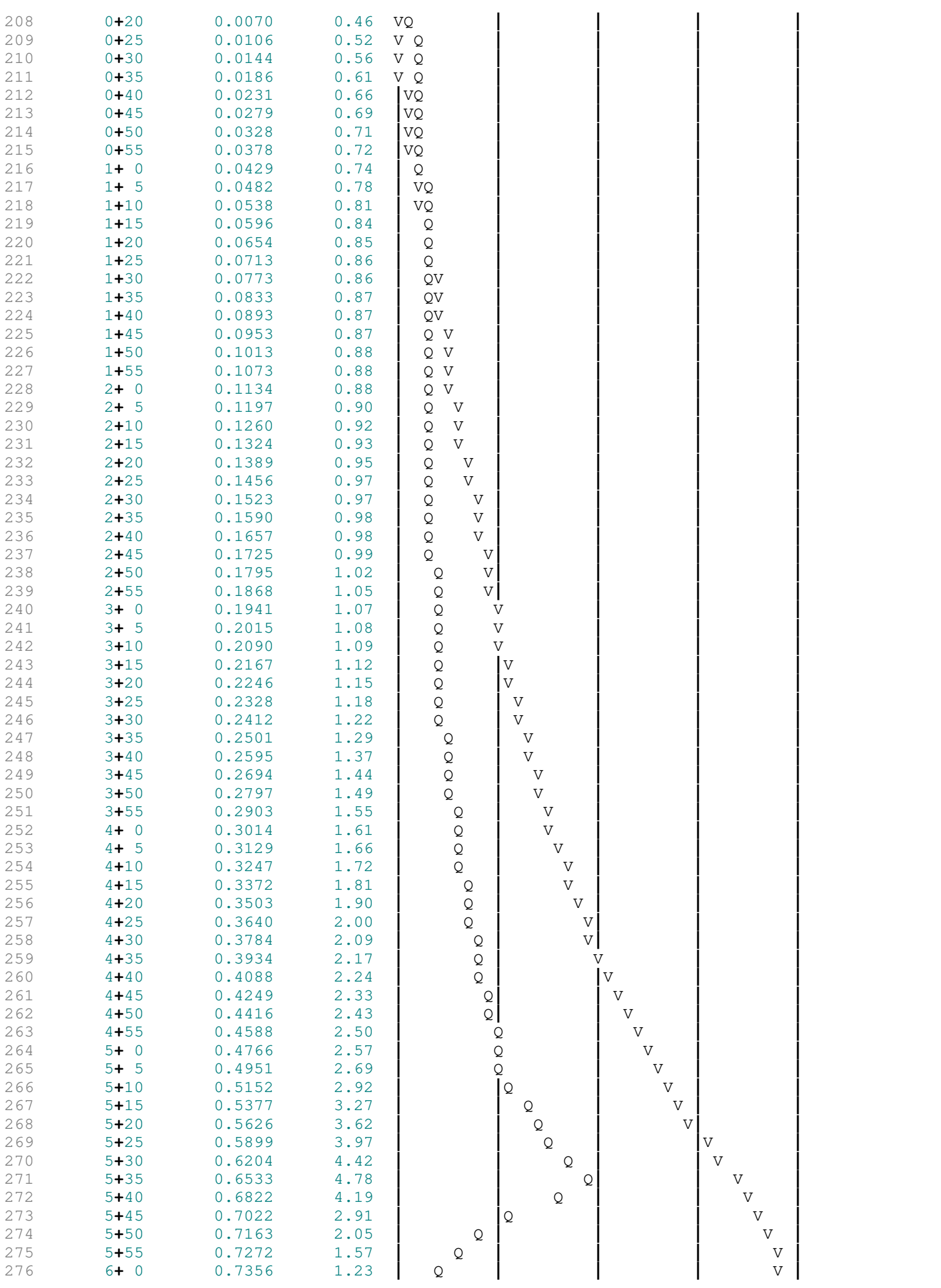
6 - H O U R S T O R M

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.03	Q	|	|	|	|
0+10	0.0014	0.17	Q	|	|	|	|
0+15	0.0038	0.35	VQ	|	|	|	|



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     6+ 5       0.7422      0.95  |  Q      |         |         |         V|
     6+10       0.7470      0.70  | Q       |         |         |         V|
     6+15       0.7506      0.51  | Q       |         |         |         V|
     6+20       0.7533      0.40  |Q        |         |         |         V|
     6+25       0.7555      0.31  |Q        |         |         |         V|
     6+30       0.7571      0.24  Q         |         |         |         V|
     6+35       0.7584      0.18  Q         |         |         |         V|
     6+40       0.7593      0.14  Q         |         |         |         V|
     6+45       0.7600      0.10  Q         |         |         |         V|
     6+50       0.7605      0.07  Q         |         |         |         V|
     6+55       0.7608      0.03  Q         |         |         |         V|
     7+ 0       0.7609      0.02  Q         |         |         |         V|
     7+ 5       0.7609      0.01  Q         |         |         |         V|
     7+10       0.7610      0.01  Q         |         |         |         V|
     7+15       0.7610      0.00  Q         |         |         |         V|
     7+20       0.7610      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

    Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018, Version 9.0
        Study date  08/08/24 File: PTC2B2242.out


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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUFLOW B2
2 YEAR 24 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       8.00(Ac.)  =      0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       8.00(Ac.)  =      0.013 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.176 Hr.
Lag time =    10.56 Min.
25% of lag time =     2.64 Min.
40% of lag time =     4.22 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]
        8.00            2.50                20.00

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        8.00            7.00                56.00

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    2.500(In)
Area Averaged 100-Year Rainfall =    7.000(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 %
     8.000           56.00          0.900
 Total Area Entered =      8.00(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

56.0	36.0	0.706	0.900	0.134	1.000	0.134

Sum (F) = 0.134

Area averaged **mean** soil loss (F) (In/Hr) = 0.134
Minimum soil loss rate ((In/Hr)) = 0.067
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.188

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	47.348	5.634	0.454
2	0.167	94.697	23.896	1.927
3	0.250	142.045	28.909	2.331
4	0.333	189.394	13.989	1.128
5	0.417	236.742	7.078	0.571
6	0.500	284.091	4.875	0.393
7	0.583	331.439	3.553	0.286
8	0.667	378.788	2.733	0.220
9	0.750	426.136	2.055	0.166
10	0.833	473.485	1.561	0.126
11	0.917	520.833	1.396	0.113
12	1.000	568.182	1.087	0.088
13	1.083	615.530	0.878	0.071
14	1.167	662.879	0.699	0.056
15	1.250	710.227	0.524	0.042
16	1.333	757.576	0.473	0.038
17	1.417	804.924	0.661	0.053
		Sum = 100.000	Sum=	8.063

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.020	(0.238)	0.004	0.016
2	0.17	0.07	0.020	(0.237)	0.004	0.016
3	0.25	0.07	0.020	(0.236)	0.004	0.016
4	0.33	0.10	0.030	(0.235)	0.006	0.024
5	0.42	0.10	0.030	(0.234)	0.006	0.024
6	0.50	0.10	0.030	(0.233)	0.006	0.024
7	0.58	0.10	0.030	(0.232)	0.006	0.024
8	0.67	0.10	0.030	(0.231)	0.006	0.024
9	0.75	0.10	0.030	(0.230)	0.006	0.024
10	0.83	0.13	0.040	(0.230)	0.008	0.032
11	0.92	0.13	0.040	(0.229)	0.008	0.032
12	1.00	0.13	0.040	(0.228)	0.008	0.032
13	1.08	0.10	0.030	(0.227)	0.006	0.024
14	1.17	0.10	0.030	(0.226)	0.006	0.024
15	1.25	0.10	0.030	(0.225)	0.006	0.024
16	1.33	0.10	0.030	(0.224)	0.006	0.024
17	1.42	0.10	0.030	(0.223)	0.006	0.024
18	1.50	0.10	0.030	(0.222)	0.006	0.024
19	1.58	0.10	0.030	(0.222)	0.006	0.024
20	1.67	0.10	0.030	(0.221)	0.006	0.024
21	1.75	0.10	0.030	(0.220)	0.006	0.024
22	1.83	0.13	0.040	(0.219)	0.008	0.032
23	1.92	0.13	0.040	(0.218)	0.008	0.032
24	2.00	0.13	0.040	(0.217)	0.008	0.032
25	2.08	0.13	0.040	(0.216)	0.008	0.032
26	2.17	0.13	0.040	(0.215)	0.008	0.032
27	2.25	0.13	0.040	(0.214)	0.008	0.032

139	28	2.33	0.13	0.040	(	0.214)	0.008	0.032
140	29	2.42	0.13	0.040	(	0.213)	0.008	0.032
141	30	2.50	0.13	0.040	(	0.212)	0.008	0.032
142	31	2.58	0.17	0.050	(	0.211)	0.009	0.041
143	32	2.67	0.17	0.050	(	0.210)	0.009	0.041
144	33	2.75	0.17	0.050	(	0.209)	0.009	0.041
145	34	2.83	0.17	0.050	(	0.208)	0.009	0.041
146	35	2.92	0.17	0.050	(	0.208)	0.009	0.041
147	36	3.00	0.17	0.050	(	0.207)	0.009	0.041
148	37	3.08	0.17	0.050	(	0.206)	0.009	0.041
149	38	3.17	0.17	0.050	(	0.205)	0.009	0.041
150	39	3.25	0.17	0.050	(	0.204)	0.009	0.041
151	40	3.33	0.17	0.050	(	0.203)	0.009	0.041
152	41	3.42	0.17	0.050	(	0.202)	0.009	0.041
153	42	3.50	0.17	0.050	(	0.202)	0.009	0.041
154	43	3.58	0.17	0.050	(	0.201)	0.009	0.041
155	44	3.67	0.17	0.050	(	0.200)	0.009	0.041
156	45	3.75	0.17	0.050	(	0.199)	0.009	0.041
157	46	3.83	0.20	0.060	(	0.198)	0.011	0.049
158	47	3.92	0.20	0.060	(	0.197)	0.011	0.049
159	48	4.00	0.20	0.060	(	0.197)	0.011	0.049
160	49	4.08	0.20	0.060	(	0.196)	0.011	0.049
161	50	4.17	0.20	0.060	(	0.195)	0.011	0.049
162	51	4.25	0.20	0.060	(	0.194)	0.011	0.049
163	52	4.33	0.23	0.070	(	0.193)	0.013	0.057
164	53	4.42	0.23	0.070	(	0.192)	0.013	0.057
165	54	4.50	0.23	0.070	(	0.192)	0.013	0.057
166	55	4.58	0.23	0.070	(	0.191)	0.013	0.057
167	56	4.67	0.23	0.070	(	0.190)	0.013	0.057
168	57	4.75	0.23	0.070	(	0.189)	0.013	0.057
169	58	4.83	0.27	0.080	(	0.188)	0.015	0.065
170	59	4.92	0.27	0.080	(	0.187)	0.015	0.065
171	60	5.00	0.27	0.080	(	0.187)	0.015	0.065
172	61	5.08	0.20	0.060	(	0.186)	0.011	0.049
173	62	5.17	0.20	0.060	(	0.185)	0.011	0.049
174	63	5.25	0.20	0.060	(	0.184)	0.011	0.049
175	64	5.33	0.23	0.070	(	0.183)	0.013	0.057
176	65	5.42	0.23	0.070	(	0.183)	0.013	0.057
177	66	5.50	0.23	0.070	(	0.182)	0.013	0.057
178	67	5.58	0.27	0.080	(	0.181)	0.015	0.065
179	68	5.67	0.27	0.080	(	0.180)	0.015	0.065
180	69	5.75	0.27	0.080	(	0.179)	0.015	0.065
181	70	5.83	0.27	0.080	(	0.179)	0.015	0.065
182	71	5.92	0.27	0.080	(	0.178)	0.015	0.065
183	72	6.00	0.27	0.080	(	0.177)	0.015	0.065
184	73	6.08	0.30	0.090	(	0.176)	0.017	0.073
185	74	6.17	0.30	0.090	(	0.175)	0.017	0.073
186	75	6.25	0.30	0.090	(	0.175)	0.017	0.073
187	76	6.33	0.30	0.090	(	0.174)	0.017	0.073
188	77	6.42	0.30	0.090	(	0.173)	0.017	0.073
189	78	6.50	0.30	0.090	(	0.172)	0.017	0.073
190	79	6.58	0.33	0.100	(	0.172)	0.019	0.081
191	80	6.67	0.33	0.100	(	0.171)	0.019	0.081
192	81	6.75	0.33	0.100	(	0.170)	0.019	0.081
193	82	6.83	0.33	0.100	(	0.169)	0.019	0.081
194	83	6.92	0.33	0.100	(	0.169)	0.019	0.081
195	84	7.00	0.33	0.100	(	0.168)	0.019	0.081
196	85	7.08	0.33	0.100	(	0.167)	0.019	0.081
197	86	7.17	0.33	0.100	(	0.166)	0.019	0.081
198	87	7.25	0.33	0.100	(	0.165)	0.019	0.081
199	88	7.33	0.37	0.110	(	0.165)	0.021	0.089
200	89	7.42	0.37	0.110	(	0.164)	0.021	0.089
201	90	7.50	0.37	0.110	(	0.163)	0.021	0.089
202	91	7.58	0.40	0.120	(	0.162)	0.023	0.097
203	92	7.67	0.40	0.120	(	0.162)	0.023	0.097
204	93	7.75	0.40	0.120	(	0.161)	0.023	0.097
205	94	7.83	0.43	0.130	(	0.160)	0.024	0.106
206	95	7.92	0.43	0.130	(	0.159)	0.024	0.106
207	96	8.00	0.43	0.130	(	0.159)	0.024	0.106

208	97	8.08	0.50	0.150	(0.158)	0.028	0.122
209	98	8.17	0.50	0.150	(0.157)	0.028	0.122
210	99	8.25	0.50	0.150	(0.157)	0.028	0.122
211	100	8.33	0.50	0.150	(0.156)	0.028	0.122
212	101	8.42	0.50	0.150	(0.155)	0.028	0.122
213	102	8.50	0.50	0.150	(0.154)	0.028	0.122
214	103	8.58	0.53	0.160	(0.154)	0.030	0.130
215	104	8.67	0.53	0.160	(0.153)	0.030	0.130
216	105	8.75	0.53	0.160	(0.152)	0.030	0.130
217	106	8.83	0.57	0.170	(0.151)	0.032	0.138
218	107	8.92	0.57	0.170	(0.151)	0.032	0.138
219	108	9.00	0.57	0.170	(0.150)	0.032	0.138
220	109	9.08	0.63	0.190	(0.149)	0.036	0.154
221	110	9.17	0.63	0.190	(0.149)	0.036	0.154
222	111	9.25	0.63	0.190	(0.148)	0.036	0.154
223	112	9.33	0.67	0.200	(0.147)	0.038	0.162
224	113	9.42	0.67	0.200	(0.147)	0.038	0.162
225	114	9.50	0.67	0.200	(0.146)	0.038	0.162
226	115	9.58	0.70	0.210	(0.145)	0.039	0.171
227	116	9.67	0.70	0.210	(0.144)	0.039	0.171
228	117	9.75	0.70	0.210	(0.144)	0.039	0.171
229	118	9.83	0.73	0.220	(0.143)	0.041	0.179
230	119	9.92	0.73	0.220	(0.142)	0.041	0.179
231	120	10.00	0.73	0.220	(0.142)	0.041	0.179
232	121	10.08	0.50	0.150	(0.141)	0.028	0.122
233	122	10.17	0.50	0.150	(0.140)	0.028	0.122
234	123	10.25	0.50	0.150	(0.140)	0.028	0.122
235	124	10.33	0.50	0.150	(0.139)	0.028	0.122
236	125	10.42	0.50	0.150	(0.138)	0.028	0.122
237	126	10.50	0.50	0.150	(0.138)	0.028	0.122
238	127	10.58	0.67	0.200	(0.137)	0.038	0.162
239	128	10.67	0.67	0.200	(0.136)	0.038	0.162
240	129	10.75	0.67	0.200	(0.136)	0.038	0.162
241	130	10.83	0.67	0.200	(0.135)	0.038	0.162
242	131	10.92	0.67	0.200	(0.134)	0.038	0.162
243	132	11.00	0.67	0.200	(0.134)	0.038	0.162
244	133	11.08	0.63	0.190	(0.133)	0.036	0.154
245	134	11.17	0.63	0.190	(0.132)	0.036	0.154
246	135	11.25	0.63	0.190	(0.132)	0.036	0.154
247	136	11.33	0.63	0.190	(0.131)	0.036	0.154
248	137	11.42	0.63	0.190	(0.130)	0.036	0.154
249	138	11.50	0.63	0.190	(0.130)	0.036	0.154
250	139	11.58	0.57	0.170	(0.129)	0.032	0.138
251	140	11.67	0.57	0.170	(0.128)	0.032	0.138
252	141	11.75	0.57	0.170	(0.128)	0.032	0.138
253	142	11.83	0.60	0.180	(0.127)	0.034	0.146
254	143	11.92	0.60	0.180	(0.126)	0.034	0.146
255	144	12.00	0.60	0.180	(0.126)	0.034	0.146
256	145	12.08	0.83	0.250	(0.125)	0.047	0.203
257	146	12.17	0.83	0.250	(0.125)	0.047	0.203
258	147	12.25	0.83	0.250	(0.124)	0.047	0.203
259	148	12.33	0.87	0.260	(0.123)	0.049	0.211
260	149	12.42	0.87	0.260	(0.123)	0.049	0.211
261	150	12.50	0.87	0.260	(0.122)	0.049	0.211
262	151	12.58	0.93	0.280	(0.121)	0.053	0.227
263	152	12.67	0.93	0.280	(0.121)	0.053	0.227
264	153	12.75	0.93	0.280	(0.120)	0.053	0.227
265	154	12.83	0.97	0.290	(0.120)	0.055	0.235
266	155	12.92	0.97	0.290	(0.119)	0.055	0.235
267	156	13.00	0.97	0.290	(0.118)	0.055	0.235
268	157	13.08	1.13	0.340	(0.118)	0.064	0.276
269	158	13.17	1.13	0.340	(0.117)	0.064	0.276
270	159	13.25	1.13	0.340	(0.117)	0.064	0.276
271	160	13.33	1.13	0.340	(0.116)	0.064	0.276
272	161	13.42	1.13	0.340	(0.115)	0.064	0.276
273	162	13.50	1.13	0.340	(0.115)	0.064	0.276
274	163	13.58	0.77	0.230	(0.114)	0.043	0.187
275	164	13.67	0.77	0.230	(0.114)	0.043	0.187
276	165	13.75	0.77	0.230	(0.113)	0.043	0.187

277	166	13.83	0.77	0.230	(0.113)	0.043	0.187
278	167	13.92	0.77	0.230	(0.112)	0.043	0.187
279	168	14.00	0.77	0.230	(0.111)	0.043	0.187
280	169	14.08	0.90	0.270	(0.111)	0.051	0.219
281	170	14.17	0.90	0.270	(0.110)	0.051	0.219
282	171	14.25	0.90	0.270	(0.110)	0.051	0.219
283	172	14.33	0.87	0.260	(0.109)	0.049	0.211
284	173	14.42	0.87	0.260	(0.109)	0.049	0.211
285	174	14.50	0.87	0.260	(0.108)	0.049	0.211
286	175	14.58	0.87	0.260	(0.107)	0.049	0.211
287	176	14.67	0.87	0.260	(0.107)	0.049	0.211
288	177	14.75	0.87	0.260	(0.106)	0.049	0.211
289	178	14.83	0.83	0.250	(0.106)	0.047	0.203
290	179	14.92	0.83	0.250	(0.105)	0.047	0.203
291	180	15.00	0.83	0.250	(0.105)	0.047	0.203
292	181	15.08	0.80	0.240	(0.104)	0.045	0.195
293	182	15.17	0.80	0.240	(0.104)	0.045	0.195
294	183	15.25	0.80	0.240	(0.103)	0.045	0.195
295	184	15.33	0.77	0.230	(0.103)	0.043	0.187
296	185	15.42	0.77	0.230	(0.102)	0.043	0.187
297	186	15.50	0.77	0.230	(0.102)	0.043	0.187
298	187	15.58	0.63	0.190	(0.101)	0.036	0.154
299	188	15.67	0.63	0.190	(0.101)	0.036	0.154
300	189	15.75	0.63	0.190	(0.100)	0.036	0.154
301	190	15.83	0.63	0.190	(0.100)	0.036	0.154
302	191	15.92	0.63	0.190	(0.099)	0.036	0.154
303	192	16.00	0.63	0.190	(0.099)	0.036	0.154
304	193	16.08	0.13	0.040	(0.098)	0.008	0.032
305	194	16.17	0.13	0.040	(0.098)	0.008	0.032
306	195	16.25	0.13	0.040	(0.097)	0.008	0.032
307	196	16.33	0.13	0.040	(0.097)	0.008	0.032
308	197	16.42	0.13	0.040	(0.096)	0.008	0.032
309	198	16.50	0.13	0.040	(0.096)	0.008	0.032
310	199	16.58	0.10	0.030	(0.095)	0.006	0.024
311	200	16.67	0.10	0.030	(0.095)	0.006	0.024
312	201	16.75	0.10	0.030	(0.094)	0.006	0.024
313	202	16.83	0.10	0.030	(0.094)	0.006	0.024
314	203	16.92	0.10	0.030	(0.093)	0.006	0.024
315	204	17.00	0.10	0.030	(0.093)	0.006	0.024
316	205	17.08	0.17	0.050	(0.092)	0.009	0.041
317	206	17.17	0.17	0.050	(0.092)	0.009	0.041
318	207	17.25	0.17	0.050	(0.091)	0.009	0.041
319	208	17.33	0.17	0.050	(0.091)	0.009	0.041
320	209	17.42	0.17	0.050	(0.090)	0.009	0.041
321	210	17.50	0.17	0.050	(0.090)	0.009	0.041
322	211	17.58	0.17	0.050	(0.089)	0.009	0.041
323	212	17.67	0.17	0.050	(0.089)	0.009	0.041
324	213	17.75	0.17	0.050	(0.089)	0.009	0.041
325	214	17.83	0.13	0.040	(0.088)	0.008	0.032
326	215	17.92	0.13	0.040	(0.088)	0.008	0.032
327	216	18.00	0.13	0.040	(0.087)	0.008	0.032
328	217	18.08	0.13	0.040	(0.087)	0.008	0.032
329	218	18.17	0.13	0.040	(0.086)	0.008	0.032
330	219	18.25	0.13	0.040	(0.086)	0.008	0.032
331	220	18.33	0.13	0.040	(0.086)	0.008	0.032
332	221	18.42	0.13	0.040	(0.085)	0.008	0.032
333	222	18.50	0.13	0.040	(0.085)	0.008	0.032
334	223	18.58	0.10	0.030	(0.084)	0.006	0.024
335	224	18.67	0.10	0.030	(0.084)	0.006	0.024
336	225	18.75	0.10	0.030	(0.084)	0.006	0.024
337	226	18.83	0.07	0.020	(0.083)	0.004	0.016
338	227	18.92	0.07	0.020	(0.083)	0.004	0.016
339	228	19.00	0.07	0.020	(0.082)	0.004	0.016
340	229	19.08	0.10	0.030	(0.082)	0.006	0.024
341	230	19.17	0.10	0.030	(0.082)	0.006	0.024
342	231	19.25	0.10	0.030	(0.081)	0.006	0.024
343	232	19.33	0.13	0.040	(0.081)	0.008	0.032
344	233	19.42	0.13	0.040	(0.080)	0.008	0.032
345	234	19.50	0.13	0.040	(0.080)	0.008	0.032

235	19.58	0.10	0.030	(	0.080)	0.006	0.024
236	19.67	0.10	0.030	(	0.079)	0.006	0.024
237	19.75	0.10	0.030	(	0.079)	0.006	0.024
238	19.83	0.07	0.020	(	0.079)	0.004	0.016
239	19.92	0.07	0.020	(	0.078)	0.004	0.016
240	20.00	0.07	0.020	(	0.078)	0.004	0.016
241	20.08	0.10	0.030	(	0.078)	0.006	0.024
242	20.17	0.10	0.030	(	0.077)	0.006	0.024
243	20.25	0.10	0.030	(	0.077)	0.006	0.024
244	20.33	0.10	0.030	(	0.077)	0.006	0.024
245	20.42	0.10	0.030	(	0.076)	0.006	0.024
246	20.50	0.10	0.030	(	0.076)	0.006	0.024
247	20.58	0.10	0.030	(	0.076)	0.006	0.024
248	20.67	0.10	0.030	(	0.075)	0.006	0.024
249	20.75	0.10	0.030	(	0.075)	0.006	0.024
250	20.83	0.07	0.020	(	0.075)	0.004	0.016
251	20.92	0.07	0.020	(	0.074)	0.004	0.016
252	21.00	0.07	0.020	(	0.074)	0.004	0.016
253	21.08	0.10	0.030	(	0.074)	0.006	0.024
254	21.17	0.10	0.030	(	0.073)	0.006	0.024
255	21.25	0.10	0.030	(	0.073)	0.006	0.024
256	21.33	0.07	0.020	(	0.073)	0.004	0.016
257	21.42	0.07	0.020	(	0.073)	0.004	0.016
258	21.50	0.07	0.020	(	0.072)	0.004	0.016
259	21.58	0.10	0.030	(	0.072)	0.006	0.024
260	21.67	0.10	0.030	(	0.072)	0.006	0.024
261	21.75	0.10	0.030	(	0.072)	0.006	0.024
262	21.83	0.07	0.020	(	0.071)	0.004	0.016
263	21.92	0.07	0.020	(	0.071)	0.004	0.016
264	22.00	0.07	0.020	(	0.071)	0.004	0.016
265	22.08	0.10	0.030	(	0.071)	0.006	0.024
266	22.17	0.10	0.030	(	0.070)	0.006	0.024
267	22.25	0.10	0.030	(	0.070)	0.006	0.024
268	22.33	0.07	0.020	(	0.070)	0.004	0.016
269	22.42	0.07	0.020	(	0.070)	0.004	0.016
270	22.50	0.07	0.020	(	0.069)	0.004	0.016
271	22.58	0.07	0.020	(	0.069)	0.004	0.016
272	22.67	0.07	0.020	(	0.069)	0.004	0.016
273	22.75	0.07	0.020	(	0.069)	0.004	0.016
274	22.83	0.07	0.020	(	0.069)	0.004	0.016
275	22.92	0.07	0.020	(	0.069)	0.004	0.016
276	23.00	0.07	0.020	(	0.068)	0.004	0.016
277	23.08	0.07	0.020	(	0.068)	0.004	0.016
278	23.17	0.07	0.020	(	0.068)	0.004	0.016
279	23.25	0.07	0.020	(	0.068)	0.004	0.016
280	23.33	0.07	0.020	(	0.068)	0.004	0.016
281	23.42	0.07	0.020	(	0.068)	0.004	0.016
282	23.50	0.07	0.020	(	0.068)	0.004	0.016
283	23.58	0.07	0.020	(	0.067)	0.004	0.016
284	23.67	0.07	0.020	(	0.067)	0.004	0.016
285	23.75	0.07	0.020	(	0.067)	0.004	0.016
286	23.83	0.07	0.020	(	0.067)	0.004	0.016
287	23.92	0.07	0.020	(	0.067)	0.004	0.016
288	24.00	0.07	0.020	(	0.067)	0.004	0.016

(Loss Rate Not Used)

Sum = 100.0 Sum = 24.4

Flood volume = Effective rainfall 2.03(In)

times area 8.0(Ac.)/[(In)/(Ft.)] = 1.4(Ac.Ft)

Total soil loss = 0.47(In)

Total soil loss = 0.313(Ac.Ft)

Total rainfall = 2.50(In)

Flood volume = 58950.3 Cubic Feet

Total soil loss = 13648.6 Cubic Feet

Peak flow rate of this hydrograph = 2.166(CFS)

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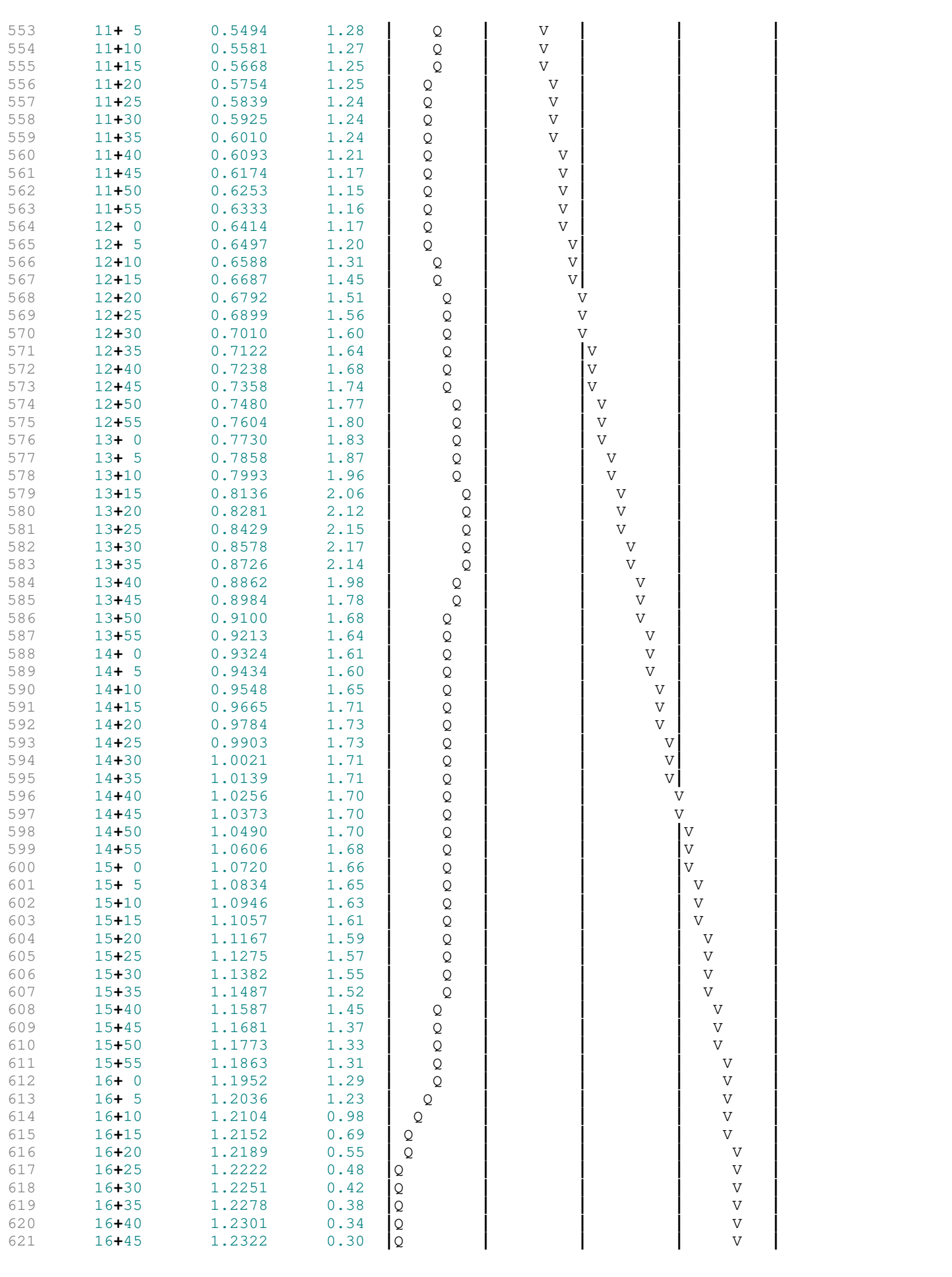
24 - H O U R S T O R M

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.01	Q				
0+10	0.0003	0.04	Q				
0+15	0.0008	0.08	Q				
0+20	0.0015	0.10	Q				
0+25	0.0024	0.12	Q				
0+30	0.0034	0.15	Q				
0+35	0.0045	0.16	Q				
0+40	0.0057	0.17	Q				
0+45	0.0069	0.18	Q				
0+50	0.0082	0.18	Q				
0+55	0.0096	0.20	Q				
1+ 0	0.0111	0.23	Q				
1+ 5	0.0128	0.23	Q				
1+10	0.0143	0.22	Q				
1+15	0.0157	0.21	Q				
1+20	0.0171	0.20	Q				
1+25	0.0185	0.20	Q				
1+30	0.0199	0.20	Q				
1+35	0.0213	0.20	Q				
1+40	0.0227	0.20	Q				
1+45	0.0241	0.20	Q				
1+50	0.0255	0.20	Q				
1+55	0.0270	0.22	Q				
2+ 0	0.0286	0.24	Q				
2+ 5	0.0303	0.25	Q				
2+10	0.0320	0.25	Q				
2+15	0.0337	0.25	VQ				
2+20	0.0355	0.25	|Q				
2+25	0.0372	0.26	|Q				
2+30	0.0390	0.26	|Q				
2+35	0.0408	0.26	|Q				
2+40	0.0427	0.28	|Q				
2+45	0.0448	0.30	|Q				
2+50	0.0469	0.31	|Q				
2+55	0.0491	0.31	|Q				
3+ 0	0.0512	0.32	|Q				
3+ 5	0.0534	0.32	|Q				
3+10	0.0557	0.32	|Q				
3+15	0.0579	0.32	|Q				
3+20	0.0601	0.32	|Q				
3+25	0.0623	0.32	|Q				
3+30	0.0646	0.33	|Q				
3+35	0.0668	0.33	|Q				
3+40	0.0691	0.33	|QV				
3+45	0.0713	0.33	|QV				
3+50	0.0736	0.33	|QV				
3+55	0.0760	0.35	|QV				
4+ 0	0.0785	0.37	|QV				
4+ 5	0.0811	0.37	|QV				
4+10	0.0837	0.38	|QV				
4+15	0.0863	0.38	|QV				
4+20	0.0890	0.39	|QV				
4+25	0.0918	0.41	|QV				
4+30	0.0948	0.43	|QV				
4+35	0.0978	0.44	|QV				
4+40	0.1008	0.44	|QV				
4+45	0.1039	0.45	|Q V				
4+50	0.1070	0.45	|Q V				
4+55	0.1102	0.47	|Q V				
5+ 0	0.1136	0.49	|Q V				
5+ 5	0.1170	0.49	|Q V				
5+10	0.1203	0.47	|Q V				
5+15	0.1233	0.44	|Q V				

484	5+20	0.1262	0.42	Q V			
485	5+25	0.1291	0.43	Q V			
486	5+30	0.1322	0.45	Q V			
487	5+35	0.1354	0.46	Q V			
488	5+40	0.1386	0.47	Q V			
489	5+45	0.1420	0.49	Q V			
490	5+50	0.1455	0.50	Q V			
491	5+55	0.1490	0.51	Q V			
492	6+ 0	0.1525	0.51	Q V			
493	6+ 5	0.1561	0.52	Q V			
494	6+10	0.1598	0.54	Q V			
495	6+15	0.1636	0.56	Q V			
496	6+20	0.1675	0.57	Q V			
497	6+25	0.1715	0.57	Q V			
498	6+30	0.1755	0.58	Q V			
499	6+35	0.1795	0.58	Q V			
500	6+40	0.1836	0.60	Q V			
501	6+45	0.1879	0.62	Q V			
502	6+50	0.1923	0.63	Q V			
503	6+55	0.1967	0.64	Q V			
504	7+ 0	0.2011	0.64	Q V			
505	7+ 5	0.2055	0.65	Q V			
506	7+10	0.2100	0.65	Q V			
507	7+15	0.2145	0.65	Q V			
508	7+20	0.2190	0.65	Q V			
509	7+25	0.2236	0.67	Q V			
510	7+30	0.2284	0.69	Q V			
511	7+35	0.2332	0.70	Q V			
512	7+40	0.2382	0.73	Q V			
513	7+45	0.2434	0.75	Q V			
514	7+50	0.2486	0.76	Q V			
515	7+55	0.2540	0.79	Q V			
516	8+ 0	0.2596	0.81	Q V			
517	8+ 5	0.2653	0.83	Q V			
518	8+10	0.2713	0.87	Q V			
519	8+15	0.2776	0.91	Q V			
520	8+20	0.2840	0.93	Q V			
521	8+25	0.2905	0.95	Q V			
522	8+30	0.2971	0.95	Q V			
523	8+35	0.3037	0.96	Q V			
524	8+40	0.3105	0.99	Q V			
525	8+45	0.3174	1.01	Q V			
526	8+50	0.3245	1.02	Q V			
527	8+55	0.3317	1.05	Q V			
528	9+ 0	0.3391	1.07	Q V			
529	9+ 5	0.3466	1.09	Q V			
530	9+10	0.3544	1.13	Q V			
531	9+15	0.3625	1.17	Q V			
532	9+20	0.3707	1.20	Q V			
533	9+25	0.3792	1.23	Q V			
534	9+30	0.3878	1.26	Q V			
535	9+35	0.3966	1.27	Q V			
536	9+40	0.4056	1.30	Q V			
537	9+45	0.4147	1.33	Q V			
538	9+50	0.4240	1.34	Q V			
539	9+55	0.4334	1.37	Q V			
540	10+ 0	0.4430	1.39	Q V			
541	10+ 5	0.4525	1.38	Q V			
542	10+10	0.4613	1.28	Q V			
543	10+15	0.4693	1.15	Q V			
544	10+20	0.4768	1.09	Q V			
545	10+25	0.4842	1.07	Q V			
546	10+30	0.4914	1.05	Q V			
547	10+35	0.4986	1.05	Q V			
548	10+40	0.5063	1.12	Q V			
549	10+45	0.5146	1.20	Q V			
550	10+50	0.5232	1.24	Q V			
551	10+55	0.5318	1.26	Q V			
552	11+ 0	0.5406	1.27	Q V			



622	16+50	1.2340	0.27	Q			V	
623	16+55	1.2358	0.25	Q			V	
624	17+ 0	1.2374	0.24	Q			V	
625	17+ 5	1.2390	0.23	Q			V	
626	17+10	1.2408	0.26	Q			V	
627	17+15	1.2428	0.29	Q			V	
628	17+20	1.2449	0.30	Q			V	
629	17+25	1.2470	0.30	Q			V	
630	17+30	1.2491	0.31	Q			V	
631	17+35	1.2513	0.31	Q			V	
632	17+40	1.2534	0.32	Q			V	
633	17+45	1.2556	0.32	Q			V	
634	17+50	1.2578	0.32	Q			V	
635	17+55	1.2599	0.30	Q			V	
636	18+ 0	1.2619	0.28	Q			V	
637	18+ 5	1.2638	0.28	Q			V	
638	18+10	1.2657	0.27	Q			V	
639	18+15	1.2675	0.27	Q			V	
640	18+20	1.2694	0.27	Q			V	
641	18+25	1.2712	0.27	Q			V	
642	18+30	1.2731	0.27	Q			V	
643	18+35	1.2749	0.26	Q			V	
644	18+40	1.2766	0.25	Q			V	
645	18+45	1.2781	0.23	Q			V	
646	18+50	1.2796	0.21	Q			V	
647	18+55	1.2809	0.19	Q			V	
648	19+ 0	1.2821	0.17	Q			V	
649	19+ 5	1.2832	0.16	Q			V	
650	19+10	1.2843	0.17	Q			V	
651	19+15	1.2856	0.18	Q			V	
652	19+20	1.2869	0.19	Q			V	
653	19+25	1.2884	0.21	Q			V	
654	19+30	1.2900	0.23	Q			V	
655	19+35	1.2916	0.24	Q			V	
656	19+40	1.2932	0.23	Q			V	
657	19+45	1.2946	0.21	Q			V	
658	19+50	1.2960	0.20	Q			V	
659	19+55	1.2973	0.18	Q			V	
660	20+ 0	1.2984	0.16	Q			V	
661	20+ 5	1.2995	0.16	Q			V	
662	20+10	1.3006	0.17	Q			V	
663	20+15	1.3019	0.18	Q			V	
664	20+20	1.3032	0.19	Q			V	
665	20+25	1.3045	0.19	Q			V	
666	20+30	1.3058	0.19	Q			V	
667	20+35	1.3071	0.19	Q			V	
668	20+40	1.3085	0.19	Q			V	
669	20+45	1.3098	0.19	Q			V	
670	20+50	1.3111	0.19	Q			V	
671	20+55	1.3123	0.18	Q			V	
672	21+ 0	1.3134	0.16	Q			V	
673	21+ 5	1.3145	0.15	Q			V	
674	21+10	1.3156	0.16	Q			V	
675	21+15	1.3168	0.18	Q			V	
676	21+20	1.3181	0.18	Q			V	
677	21+25	1.3192	0.17	Q			V	
678	21+30	1.3203	0.15	Q			V	
679	21+35	1.3213	0.15	Q			V	
680	21+40	1.3224	0.16	Q			V	
681	21+45	1.3236	0.18	Q			V	
682	21+50	1.3249	0.18	Q			V	
683	21+55	1.3260	0.17	Q			V	
684	22+ 0	1.3271	0.15	Q			V	
685	22+ 5	1.3281	0.15	Q			V	
686	22+10	1.3292	0.16	Q			V	
687	22+15	1.3304	0.18	Q			V	
688	22+20	1.3317	0.18	Q			V	
689	22+25	1.3328	0.17	Q			V	
690	22+30	1.3339	0.15	Q			V	

22+35	1.3348	0.14	Q					V
22+40	1.3358	0.14	Q					V
22+45	1.3368	0.14	Q					V
22+50	1.3377	0.14	Q					V
22+55	1.3386	0.14	Q					V
23+ 0	1.3396	0.13	Q					V
23+ 5	1.3405	0.13	Q					V
23+10	1.3414	0.13	Q					V
23+15	1.3423	0.13	Q					V
23+20	1.3432	0.13	Q					V
23+25	1.3441	0.13	Q					V
23+30	1.3450	0.13	Q					V
23+35	1.3459	0.13	Q					V
23+40	1.3468	0.13	Q					V
23+45	1.3477	0.13	Q					V
23+50	1.3486	0.13	Q					V
23+55	1.3495	0.13	Q					V
24+ 0	1.3504	0.13	Q					V
24+ 5	1.3513	0.12	Q					V
24+10	1.3519	0.09	Q					V
24+15	1.3523	0.05	Q					V
24+20	1.3526	0.04	Q					V
24+25	1.3527	0.03	Q					V
24+30	1.3529	0.02	Q					V
24+35	1.3530	0.02	Q					V
24+40	1.3531	0.01	Q					V
24+45	1.3531	0.01	Q					V
24+50	1.3532	0.01	Q					V
24+55	1.3532	0.01	Q					V
25+ 0	1.3533	0.00	Q					V
25+ 5	1.3533	0.00	Q					V
25+10	1.3533	0.00	Q					V
25+15	1.3533	0.00	Q					V
25+20	1.3533	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  08/08/24 File: PTC5B215.out


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------------------------------------------------------------------------------

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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUTFLOW B2
2 YEAR 1 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       8.00(Ac.)  =      0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       8.00(Ac.)  =      0.013 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.170 Hr.
Lag time =    10.20 Min.
25% of lag time =     2.55 Min.
40% of lag time =     4.08 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]
        8.00            0.55                4.40

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        8.00            1.40               11.20

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    0.550(In)
Area Averaged 100-Year Rainfall =    1.400(In)

Point rain (area averaged) =    0.749(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    0.749(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     8.000           56.00          0.900
 Total Area Entered =      8.00(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

56.0 36.0 0.706 0.900 0.134 1.000 0.134

Sum (F) = 0.134

Area averaged **mean** soil loss (F) (In/Hr) = 0.134

Minimum soil loss rate ((In/Hr)) = 0.067

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.188

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	49.020	5.942	0.479
2	0.167	98.039	25.312	2.041
3	0.250	147.059	28.919	2.332
4	0.333	196.078	13.318	1.074
5	0.417	245.098	6.893	0.556
6	0.500	294.118	4.779	0.385
7	0.583	343.137	3.451	0.278
8	0.667	392.157	2.655	0.214
9	0.750	441.176	1.957	0.158
10	0.833	490.196	1.543	0.124
11	0.917	539.216	1.347	0.109
12	1.000	588.235	1.027	0.083
13	1.083	637.255	0.830	0.067
14	1.167	686.275	0.638	0.051
15	1.250	735.294	0.497	0.040
16	1.333	784.314	0.490	0.040
17	1.417	833.333	0.402	0.032
		Sum = 100.000	Sum=	8.063

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.378	(0.134)	0.071	0.307
2	0.17	4.30	0.387	(0.134)	0.073	0.314
3	0.25	5.00	0.449	(0.134)	0.084	0.365
4	0.33	5.00	0.449	(0.134)	0.084	0.365
5	0.42	5.80	0.521	(0.134)	0.098	0.423
6	0.50	6.50	0.584	(0.134)	0.110	0.474
7	0.58	7.40	0.665	(0.134)	0.125	0.540
8	0.67	8.60	0.773	0.134	(0.145)	0.639
9	0.75	12.30	1.106	0.134	(0.208)	0.971
10	0.83	29.10	2.616	0.134	(0.492)	2.481
11	0.92	6.80	0.611	(0.134)	0.115	0.496
12	1.00	5.00	0.449	(0.134)	0.084	0.365

(Loss Rate Not Used)

Sum = 100.0 Sum = 7.7

Flood volume = Effective rainfall 0.65(In)

times area 8.0(Ac.)/[(In)/(Ft.)] = 0.4(Ac.Ft)

Total soil loss = 0.10(In)

Total soil loss = 0.069(Ac.Ft)

Total rainfall = 0.75(In)

Flood volume = 18733.5 Cubic Feet

Total soil loss = 3018.5 Cubic Feet

Peak flow rate of this hydrograph = 9.066(CFS)

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1 - H O U R S T O R M

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0010	0.15	Q				
0+10	0.0064	0.78	V Q				
0+15	0.0169	1.53	V Q				
0+20	0.0305	1.98	V Q				
0+25	0.0464	2.31	V Q				
0+30	0.0645	2.63	V Q				
0+35	0.0853	3.02	V Q				
0+40	0.1092	3.47	V Q				
0+45	0.1376	4.13	V Q				
0+50	0.1785	5.94	V Q				
0+55	0.2410	9.07	V Q				
1+ 0	0.3028	8.97	V Q				
1+ 5	0.3427	5.81	V Q				
1+10	0.3680	3.67	V Q				
1+15	0.3839	2.31	V Q				
1+20	0.3950	1.62	V Q				
1+25	0.4034	1.23	V Q				
1+30	0.4098	0.93	V Q				
1+35	0.4148	0.73	V Q				
1+40	0.4189	0.59	V Q				
1+45	0.4220	0.46	V Q				
1+50	0.4245	0.36	V Q				
1+55	0.4264	0.27	V Q				
2+ 0	0.4278	0.21	V Q				
2+ 5	0.4290	0.17	V Q				
2+10	0.4298	0.11	V Q				
2+15	0.4300	0.03	V Q				
2+20	0.4301	0.01	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  08/08/24 File: PTC5B235.out


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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUTFLOW B2
2 YEAR 3 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       8.00(Ac.)  =      0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       8.00(Ac.)  =      0.013 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.170 Hr.
Lag time =    10.20 Min.
25% of lag time =     2.55 Min.
40% of lag time =     4.08 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]
        8.00            1.00                8.00

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        8.00            2.50               20.00

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    1.000(In)
Area Averaged 100-Year Rainfall =    2.500(In)

Point rain (area averaged) =    1.351(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.351(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     8.000           56.00          0.900
 Total Area Entered =      8.00(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

56.0	36.0	0.706	0.900	0.134	1.000	0.134

Sum (F) = 0.134

Area averaged **mean** soil loss (F) (In/Hr) = 0.134

Minimum soil loss rate ((In/Hr)) = 0.067

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.188

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	49.020	5.942	0.479
2	0.167	98.039	25.312	2.041
3	0.250	147.059	28.919	2.332
4	0.333	196.078	13.318	1.074
5	0.417	245.098	6.893	0.556
6	0.500	294.118	4.779	0.385
7	0.583	343.137	3.451	0.278
8	0.667	392.157	2.655	0.214
9	0.750	441.176	1.957	0.158
10	0.833	490.196	1.543	0.124
11	0.917	539.216	1.347	0.109
12	1.000	588.235	1.027	0.083
13	1.083	637.255	0.830	0.067
14	1.167	686.275	0.638	0.051
15	1.250	735.294	0.497	0.040
16	1.333	784.314	0.490	0.040
17	1.417	833.333	0.402	0.032
		Sum = 100.000	Sum=	8.063

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.211	(0.134)	0.040	0.171
2	0.17	1.30	0.211	(0.134)	0.040	0.171
3	0.25	1.10	0.178	(0.134)	0.034	0.145
4	0.33	1.50	0.243	(0.134)	0.046	0.198
5	0.42	1.50	0.243	(0.134)	0.046	0.198
6	0.50	1.80	0.292	(0.134)	0.055	0.237
7	0.58	1.50	0.243	(0.134)	0.046	0.198
8	0.67	1.80	0.292	(0.134)	0.055	0.237
9	0.75	1.80	0.292	(0.134)	0.055	0.237
10	0.83	1.50	0.243	(0.134)	0.046	0.198
11	0.92	1.60	0.259	(0.134)	0.049	0.211
12	1.00	1.80	0.292	(0.134)	0.055	0.237
13	1.08	2.20	0.357	(0.134)	0.067	0.290
14	1.17	2.20	0.357	(0.134)	0.067	0.290
15	1.25	2.20	0.357	(0.134)	0.067	0.290
16	1.33	2.00	0.324	(0.134)	0.061	0.263
17	1.42	2.60	0.422	(0.134)	0.079	0.342
18	1.50	2.70	0.438	(0.134)	0.082	0.356
19	1.58	2.40	0.389	(0.134)	0.073	0.316
20	1.67	2.70	0.438	(0.134)	0.082	0.356
21	1.75	3.30	0.535	(0.134)	0.101	0.435
22	1.83	3.10	0.503	(0.134)	0.095	0.408
23	1.92	2.90	0.470	(0.134)	0.088	0.382
24	2.00	3.00	0.486	(0.134)	0.091	0.395
25	2.08	3.10	0.503	(0.134)	0.095	0.408
26	2.17	4.20	0.681	(0.134)	0.128	0.553
27	2.25	5.00	0.811	0.134	(0.152)	0.677

28	2.33	3.50	0.568	(0.134)	0.107	0.461
29	2.42	6.80	1.103	0.134	(0.207)	0.969
30	2.50	7.30	1.184	0.134	(0.223)	1.050
31	2.58	8.20	1.330	0.134	(0.250)	1.196
32	2.67	5.90	0.957	0.134	(0.180)	0.823
33	2.75	2.00	0.324	(0.134)	0.061	0.263
34	2.83	1.80	0.292	(0.134)	0.055	0.237
35	2.92	1.80	0.292	(0.134)	0.055	0.237
36	3.00	0.60	0.097	(0.134)	0.018	0.079

(Loss Rate Not Used)

Sum = 100.0 Sum = 13.5

Flood volume = Effective rainfall 1.13(In)

times area 8.0(Ac.)/[(In)/(Ft.)] = 0.8(Ac.Ft)

Total soil loss = 0.23(In)

Total soil loss = 0.150(Ac.Ft)

Total rainfall = 1.35(In)

Flood volume = 32690.2 Cubic Feet

Total soil loss = 6551.2 Cubic Feet

Peak flow rate of this hydrograph = 7.349(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	0.0006	0.08	Q
0+10	0.0035	0.43	VQ
0+15	0.0092	0.82	V Q
0+20	0.0159	0.97	V Q
0+25	0.0236	1.11	V Q
0+30	0.0325	1.29	V Q
0+35	0.0424	1.45	V Q
0+40	0.0530	1.53	V Q
0+45	0.0640	1.60	V Q
0+50	0.0756	1.69	V Q
0+55	0.0871	1.67	V Q
1+ 0	0.0986	1.66	VQ
1+ 5	0.1106	1.75	V Q
1+10	0.1240	1.93	VQ
1+15	0.1384	2.09	VQ
1+20	0.1533	2.16	Q
1+25	0.1684	2.19	Q
1+30	0.1844	2.33	Q
1+35	0.2017	2.51	Q
1+40	0.2194	2.57	QV
1+45	0.2377	2.65	Q V
1+50	0.2576	2.89	Q V
1+55	0.2786	3.06	Q V
2+ 0	0.2997	3.06	Q V
2+ 5	0.3209	3.07	Q V
2+10	0.3429	3.20	Q V
2+15	0.3678	3.61	Q V
2+20	0.3963	4.13	Q V
2+25	0.4265	4.40	Q V
2+30	0.4623	5.20	Q V
2+35	0.5072	6.52	QV
2+40	0.5578	7.35	Q
2+45	0.6062	7.02	Q V
2+50	0.6433	5.39	Q V
2+55	0.6700	3.87	Q V
3+ 0	0.6914	3.12	Q V
3+ 5	0.7080	2.41	Q V
3+10	0.7194	1.65	Q V
3+15	0.7273	1.14	Q V

```
     3+20       0.7331      0.85  |  Q      |         |         |         V|
     3+25       0.7376      0.66  | Q       |         |         |         V|
     3+30       0.7412      0.51  | Q       |         |         |         V|
     3+35       0.7439      0.39  |Q        |         |         |         V|
     3+40       0.7460      0.30  |Q        |         |         |         V|
     3+45       0.7476      0.24  Q         |         |         |         V|
     3+50       0.7488      0.17  Q         |         |         |         V|
     3+55       0.7496      0.12  Q         |         |         |         V|
     4+ 0       0.7500      0.06  Q         |         |         |         V|
     4+ 5       0.7502      0.03  Q         |         |         |         V|
     4+10       0.7504      0.02  Q         |         |         |         V|
     4+15       0.7504      0.01  Q         |         |         |         V|
     4+20       0.7505      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  08/08/24 File: PTC5B265.out


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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUTFLOW B2
2 YEAR 6 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       8.00(Ac.)  =      0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       8.00(Ac.)  =      0.013 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.170 Hr.
Lag time =    10.20 Min.
25% of lag time =     2.55 Min.
40% of lag time =     4.08 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]
        8.00            1.40                11.20

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        8.00            3.50                28.00

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    1.400(In)
Area Averaged 100-Year Rainfall =    3.500(In)

Point rain (area averaged) =    1.892(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.892(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     8.000           56.00          0.900
 Total Area Entered =      8.00(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

56.0	36.0	0.706	0.900	0.134	1.000	0.134

Sum (F) = 0.134

Area averaged **mean** soil loss (F) (In/Hr) = 0.134
Minimum soil loss rate ((In/Hr)) = 0.067
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.188

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	49.020	5.942	0.479
2	0.167	98.039	25.312	2.041
3	0.250	147.059	28.919	2.332
4	0.333	196.078	13.318	1.074
5	0.417	245.098	6.893	0.556
6	0.500	294.118	4.779	0.385
7	0.583	343.137	3.451	0.278
8	0.667	392.157	2.655	0.214
9	0.750	441.176	1.957	0.158
10	0.833	490.196	1.543	0.124
11	0.917	539.216	1.347	0.109
12	1.000	588.235	1.027	0.083
13	1.083	637.255	0.830	0.067
14	1.167	686.275	0.638	0.051
15	1.250	735.294	0.497	0.040
16	1.333	784.314	0.490	0.040
17	1.417	833.333	0.402	0.032
		Sum = 100.000	Sum=	8.063

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.114	(0.134)	0.021	0.092
2	0.17	0.60	0.136	(0.134)	0.026	0.111
3	0.25	0.60	0.136	(0.134)	0.026	0.111
4	0.33	0.60	0.136	(0.134)	0.026	0.111
5	0.42	0.60	0.136	(0.134)	0.026	0.111
6	0.50	0.70	0.159	(0.134)	0.030	0.129
7	0.58	0.70	0.159	(0.134)	0.030	0.129
8	0.67	0.70	0.159	(0.134)	0.030	0.129
9	0.75	0.70	0.159	(0.134)	0.030	0.129
10	0.83	0.70	0.159	(0.134)	0.030	0.129
11	0.92	0.70	0.159	(0.134)	0.030	0.129
12	1.00	0.80	0.182	(0.134)	0.034	0.147
13	1.08	0.80	0.182	(0.134)	0.034	0.147
14	1.17	0.80	0.182	(0.134)	0.034	0.147
15	1.25	0.80	0.182	(0.134)	0.034	0.147
16	1.33	0.80	0.182	(0.134)	0.034	0.147
17	1.42	0.80	0.182	(0.134)	0.034	0.147
18	1.50	0.80	0.182	(0.134)	0.034	0.147
19	1.58	0.80	0.182	(0.134)	0.034	0.147
20	1.67	0.80	0.182	(0.134)	0.034	0.147
21	1.75	0.80	0.182	(0.134)	0.034	0.147
22	1.83	0.80	0.182	(0.134)	0.034	0.147
23	1.92	0.80	0.182	(0.134)	0.034	0.147
24	2.00	0.90	0.204	(0.134)	0.038	0.166
25	2.08	0.80	0.182	(0.134)	0.034	0.147
26	2.17	0.90	0.204	(0.134)	0.038	0.166
27	2.25	0.90	0.204	(0.134)	0.038	0.166

28	2.33	0.90	0.204	(0.134)	0.038	0.166
29	2.42	0.90	0.204	(0.134)	0.038	0.166
30	2.50	0.90	0.204	(0.134)	0.038	0.166
31	2.58	0.90	0.204	(0.134)	0.038	0.166
32	2.67	0.90	0.204	(0.134)	0.038	0.166
33	2.75	1.00	0.227	(0.134)	0.043	0.184
34	2.83	1.00	0.227	(0.134)	0.043	0.184
35	2.92	1.00	0.227	(0.134)	0.043	0.184
36	3.00	1.00	0.227	(0.134)	0.043	0.184
37	3.08	1.00	0.227	(0.134)	0.043	0.184
38	3.17	1.10	0.250	(0.134)	0.047	0.203
39	3.25	1.10	0.250	(0.134)	0.047	0.203
40	3.33	1.10	0.250	(0.134)	0.047	0.203
41	3.42	1.20	0.272	(0.134)	0.051	0.221
42	3.50	1.30	0.295	(0.134)	0.055	0.240
43	3.58	1.40	0.318	(0.134)	0.060	0.258
44	3.67	1.40	0.318	(0.134)	0.060	0.258
45	3.75	1.50	0.341	(0.134)	0.064	0.277
46	3.83	1.50	0.341	(0.134)	0.064	0.277
47	3.92	1.60	0.363	(0.134)	0.068	0.295
48	4.00	1.60	0.363	(0.134)	0.068	0.295
49	4.08	1.70	0.386	(0.134)	0.073	0.313
50	4.17	1.80	0.409	(0.134)	0.077	0.332
51	4.25	1.90	0.431	(0.134)	0.081	0.350
52	4.33	2.00	0.454	(0.134)	0.085	0.369
53	4.42	2.10	0.477	(0.134)	0.090	0.387
54	4.50	2.10	0.477	(0.134)	0.090	0.387
55	4.58	2.20	0.499	(0.134)	0.094	0.406
56	4.67	2.30	0.522	(0.134)	0.098	0.424
57	4.75	2.40	0.545	(0.134)	0.102	0.442
58	4.83	2.40	0.545	(0.134)	0.102	0.442
59	4.92	2.50	0.568	(0.134)	0.107	0.461
60	5.00	2.60	0.590	(0.134)	0.111	0.479
61	5.08	3.10	0.704	(0.134)	0.132	0.571
62	5.17	3.60	0.817	0.134	(0.154)	0.683
63	5.25	3.90	0.885	0.134	(0.166)	0.751
64	5.33	4.20	0.953	0.134	(0.179)	0.819
65	5.42	4.70	1.067	0.134	(0.201)	0.933
66	5.50	5.60	1.271	0.134	(0.239)	1.137
67	5.58	1.90	0.431	(0.134)	0.081	0.350
68	5.67	0.90	0.204	(0.134)	0.038	0.166
69	5.75	0.60	0.136	(0.134)	0.026	0.111
70	5.83	0.50	0.114	(0.134)	0.021	0.092
71	5.92	0.30	0.068	(0.134)	0.013	0.055
72	6.00	0.20	0.045	(0.134)	0.009	0.037

(Loss Rate Not Used)

Sum = 100.0 Sum = 18.7

Flood volume = Effective rainfall 1.56(In)

times area 8.0(Ac.)/[(In)/(Ft.)] = 1.0(Ac.Ft)

Total soil loss = 0.33(In)

Total soil loss = 0.222(Ac.Ft)

Total rainfall = 1.89(In)

Flood volume = 45259.2 Cubic Feet

Total soil loss = 9679.3 Cubic Feet

Peak flow rate of this hydrograph = 6.788(CFS)

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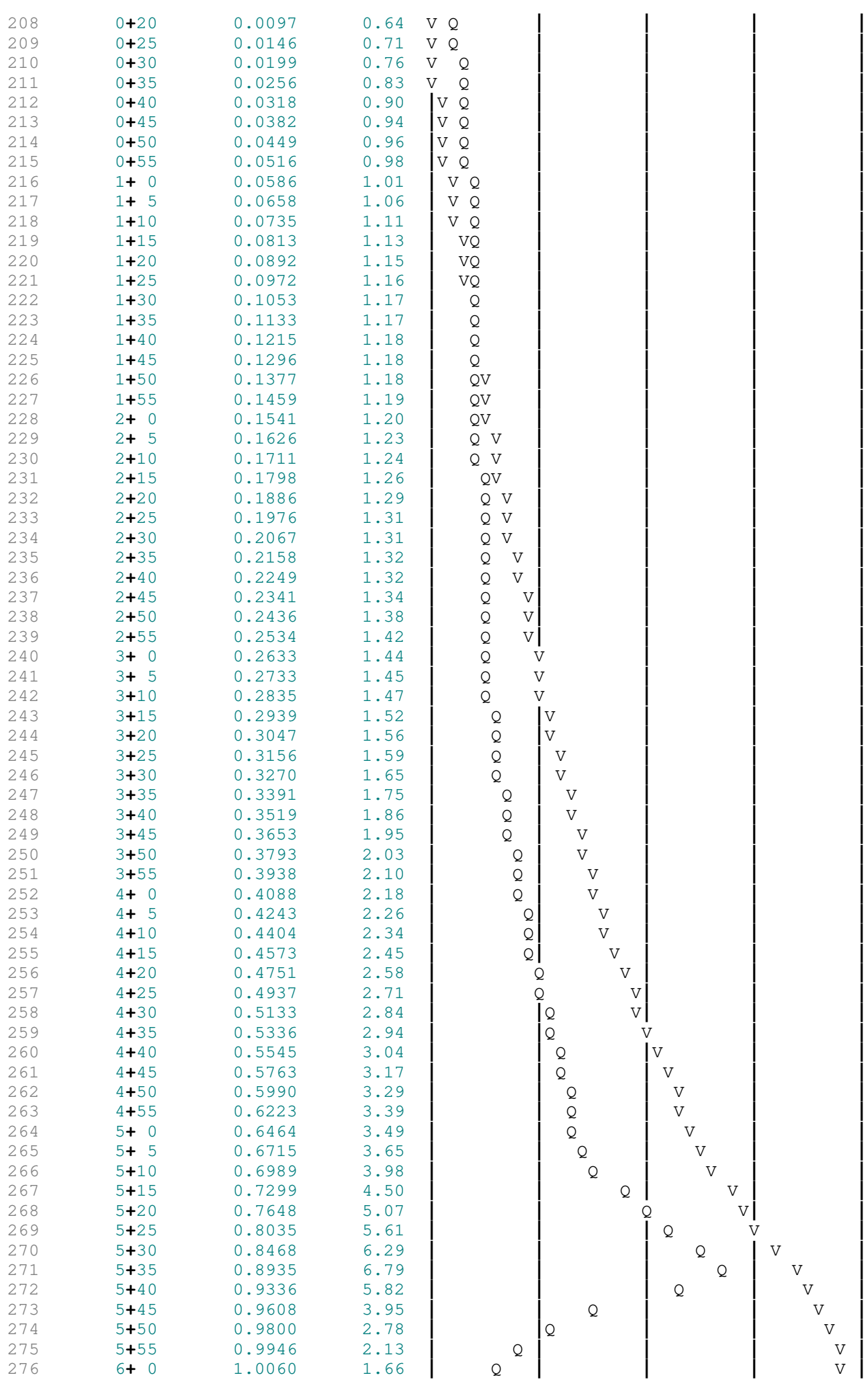
6 - H O U R S T O R M

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	0.0020	0.24	Q	|	|	|	|
0+15	0.0054	0.49	VQ	|	|	|	|



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      6+ 5       1.0148      1.27  |     Q     |           |           |          V|
      6+10       1.0212      0.93  |   Q       |           |           |          V|
      6+15       1.0259      0.68  |  Q        |           |           |          V|
      6+20       1.0295      0.52  |  Q        |           |           |          V|
      6+25       1.0322      0.40  | Q         |           |           |          V|
      6+30       1.0343      0.31  | Q         |           |           |          V|
      6+35       1.0359      0.23  Q           |           |           |          V|
      6+40       1.0371      0.17  Q           |           |           |          V|
      6+45       1.0380      0.12  Q           |           |           |          V|
      6+50       1.0385      0.08  Q           |           |           |          V|
      6+55       1.0387      0.03  Q           |           |           |          V|
      7+ 0       1.0389      0.02  Q           |           |           |          V|
      7+ 5       1.0389      0.01  Q           |           |           |          V|
      7+10       1.0390      0.01  Q           |           |           |          V|
      7+15       1.0390      0.00  Q           |           |           |          V|
      7+20       1.0390      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  08/08/24 File: PTC5B2245.out


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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUTFLOW B2
2 YEAR 24 HOUR
KIMLEY HORN

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Drainage Area =       8.00(Ac.)  =      0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       8.00(Ac.)  =      0.013 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.170 Hr.
Lag time =    10.20 Min.
25% of lag time =     2.55 Min.
40% of lag time =     4.08 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]
        8.00            2.50                20.00

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        8.00            7.00                56.00

STORM EVENT (YEAR) =    5.00
Area Averaged 2-Year Rainfall =    2.500(In)
Area Averaged 100-Year Rainfall =    7.000(In)

Point rain (area averaged) =    3.554(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    3.554(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     8.000           56.00          0.900
 Total Area Entered =      8.00(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
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56.0	36.0	0.706	0.900	0.134	1.000	0.134

Sum (F) = 0.134

Area averaged **mean** soil loss (F) (In/Hr) = 0.134
Minimum soil loss rate ((In/Hr)) = 0.067
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.188

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	49.020	5.942	0.479
2	0.167	98.039	25.312	2.041
3	0.250	147.059	28.919	2.332
4	0.333	196.078	13.318	1.074
5	0.417	245.098	6.893	0.556
6	0.500	294.118	4.779	0.385
7	0.583	343.137	3.451	0.278
8	0.667	392.157	2.655	0.214
9	0.750	441.176	1.957	0.158
10	0.833	490.196	1.543	0.124
11	0.917	539.216	1.347	0.109
12	1.000	588.235	1.027	0.083
13	1.083	637.255	0.830	0.067
14	1.167	686.275	0.638	0.051
15	1.250	735.294	0.497	0.040
16	1.333	784.314	0.490	0.040
17	1.417	833.333	0.402	0.032
		Sum = 100.000	Sum=	8.063

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

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.028	(0.238)	0.005	0.023
2	0.17	0.07	0.028	(0.237)	0.005	0.023
3	0.25	0.07	0.028	(0.236)	0.005	0.023
4	0.33	0.10	0.043	(0.235)	0.008	0.035
5	0.42	0.10	0.043	(0.234)	0.008	0.035
6	0.50	0.10	0.043	(0.233)	0.008	0.035
7	0.58	0.10	0.043	(0.232)	0.008	0.035
8	0.67	0.10	0.043	(0.231)	0.008	0.035
9	0.75	0.10	0.043	(0.230)	0.008	0.035
10	0.83	0.13	0.057	(0.230)	0.011	0.046
11	0.92	0.13	0.057	(0.229)	0.011	0.046
12	1.00	0.13	0.057	(0.228)	0.011	0.046
13	1.08	0.10	0.043	(0.227)	0.008	0.035
14	1.17	0.10	0.043	(0.226)	0.008	0.035
15	1.25	0.10	0.043	(0.225)	0.008	0.035
16	1.33	0.10	0.043	(0.224)	0.008	0.035
17	1.42	0.10	0.043	(0.223)	0.008	0.035
18	1.50	0.10	0.043	(0.222)	0.008	0.035
19	1.58	0.10	0.043	(0.222)	0.008	0.035
20	1.67	0.10	0.043	(0.221)	0.008	0.035
21	1.75	0.10	0.043	(0.220)	0.008	0.035
22	1.83	0.13	0.057	(0.219)	0.011	0.046
23	1.92	0.13	0.057	(0.218)	0.011	0.046
24	2.00	0.13	0.057	(0.217)	0.011	0.046
25	2.08	0.13	0.057	(0.216)	0.011	0.046
26	2.17	0.13	0.057	(0.215)	0.011	0.046
27	2.25	0.13	0.057	(0.214)	0.011	0.046

139	28	2.33	0.13	0.057	(0.214)	0.011	0.046
140	29	2.42	0.13	0.057	(0.213)	0.011	0.046
141	30	2.50	0.13	0.057	(0.212)	0.011	0.046
142	31	2.58	0.17	0.071	(0.211)	0.013	0.058
143	32	2.67	0.17	0.071	(0.210)	0.013	0.058
144	33	2.75	0.17	0.071	(0.209)	0.013	0.058
145	34	2.83	0.17	0.071	(0.208)	0.013	0.058
146	35	2.92	0.17	0.071	(0.208)	0.013	0.058
147	36	3.00	0.17	0.071	(0.207)	0.013	0.058
148	37	3.08	0.17	0.071	(0.206)	0.013	0.058
149	38	3.17	0.17	0.071	(0.205)	0.013	0.058
150	39	3.25	0.17	0.071	(0.204)	0.013	0.058
151	40	3.33	0.17	0.071	(0.203)	0.013	0.058
152	41	3.42	0.17	0.071	(0.202)	0.013	0.058
153	42	3.50	0.17	0.071	(0.202)	0.013	0.058
154	43	3.58	0.17	0.071	(0.201)	0.013	0.058
155	44	3.67	0.17	0.071	(0.200)	0.013	0.058
156	45	3.75	0.17	0.071	(0.199)	0.013	0.058
157	46	3.83	0.20	0.085	(0.198)	0.016	0.069
158	47	3.92	0.20	0.085	(0.197)	0.016	0.069
159	48	4.00	0.20	0.085	(0.197)	0.016	0.069
160	49	4.08	0.20	0.085	(0.196)	0.016	0.069
161	50	4.17	0.20	0.085	(0.195)	0.016	0.069
162	51	4.25	0.20	0.085	(0.194)	0.016	0.069
163	52	4.33	0.23	0.100	(0.193)	0.019	0.081
164	53	4.42	0.23	0.100	(0.192)	0.019	0.081
165	54	4.50	0.23	0.100	(0.192)	0.019	0.081
166	55	4.58	0.23	0.100	(0.191)	0.019	0.081
167	56	4.67	0.23	0.100	(0.190)	0.019	0.081
168	57	4.75	0.23	0.100	(0.189)	0.019	0.081
169	58	4.83	0.27	0.114	(0.188)	0.021	0.092
170	59	4.92	0.27	0.114	(0.187)	0.021	0.092
171	60	5.00	0.27	0.114	(0.187)	0.021	0.092
172	61	5.08	0.20	0.085	(0.186)	0.016	0.069
173	62	5.17	0.20	0.085	(0.185)	0.016	0.069
174	63	5.25	0.20	0.085	(0.184)	0.016	0.069
175	64	5.33	0.23	0.100	(0.183)	0.019	0.081
176	65	5.42	0.23	0.100	(0.183)	0.019	0.081
177	66	5.50	0.23	0.100	(0.182)	0.019	0.081
178	67	5.58	0.27	0.114	(0.181)	0.021	0.092
179	68	5.67	0.27	0.114	(0.180)	0.021	0.092
180	69	5.75	0.27	0.114	(0.179)	0.021	0.092
181	70	5.83	0.27	0.114	(0.179)	0.021	0.092
182	71	5.92	0.27	0.114	(0.178)	0.021	0.092
183	72	6.00	0.27	0.114	(0.177)	0.021	0.092
184	73	6.08	0.30	0.128	(0.176)	0.024	0.104
185	74	6.17	0.30	0.128	(0.175)	0.024	0.104
186	75	6.25	0.30	0.128	(0.175)	0.024	0.104
187	76	6.33	0.30	0.128	(0.174)	0.024	0.104
188	77	6.42	0.30	0.128	(0.173)	0.024	0.104
189	78	6.50	0.30	0.128	(0.172)	0.024	0.104
190	79	6.58	0.33	0.142	(0.172)	0.027	0.115
191	80	6.67	0.33	0.142	(0.171)	0.027	0.115
192	81	6.75	0.33	0.142	(0.170)	0.027	0.115
193	82	6.83	0.33	0.142	(0.169)	0.027	0.115
194	83	6.92	0.33	0.142	(0.169)	0.027	0.115
195	84	7.00	0.33	0.142	(0.168)	0.027	0.115
196	85	7.08	0.33	0.142	(0.167)	0.027	0.115
197	86	7.17	0.33	0.142	(0.166)	0.027	0.115
198	87	7.25	0.33	0.142	(0.165)	0.027	0.115
199	88	7.33	0.37	0.156	(0.165)	0.029	0.127
200	89	7.42	0.37	0.156	(0.164)	0.029	0.127
201	90	7.50	0.37	0.156	(0.163)	0.029	0.127
202	91	7.58	0.40	0.171	(0.162)	0.032	0.139
203	92	7.67	0.40	0.171	(0.162)	0.032	0.139
204	93	7.75	0.40	0.171	(0.161)	0.032	0.139
205	94	7.83	0.43	0.185	(0.160)	0.035	0.150
206	95	7.92	0.43	0.185	(0.159)	0.035	0.150
207	96	8.00	0.43	0.185	(0.159)	0.035	0.150

208	97	8.08	0.50	0.213	(0.158)	0.040	0.173
209	98	8.17	0.50	0.213	(0.157)	0.040	0.173
210	99	8.25	0.50	0.213	(0.157)	0.040	0.173
211	100	8.33	0.50	0.213	(0.156)	0.040	0.173
212	101	8.42	0.50	0.213	(0.155)	0.040	0.173
213	102	8.50	0.50	0.213	(0.154)	0.040	0.173
214	103	8.58	0.53	0.227	(0.154)	0.043	0.185
215	104	8.67	0.53	0.227	(0.153)	0.043	0.185
216	105	8.75	0.53	0.227	(0.152)	0.043	0.185
217	106	8.83	0.57	0.242	(0.151)	0.045	0.196
218	107	8.92	0.57	0.242	(0.151)	0.045	0.196
219	108	9.00	0.57	0.242	(0.150)	0.045	0.196
220	109	9.08	0.63	0.270	(0.149)	0.051	0.219
221	110	9.17	0.63	0.270	(0.149)	0.051	0.219
222	111	9.25	0.63	0.270	(0.148)	0.051	0.219
223	112	9.33	0.67	0.284	(0.147)	0.053	0.231
224	113	9.42	0.67	0.284	(0.147)	0.053	0.231
225	114	9.50	0.67	0.284	(0.146)	0.053	0.231
226	115	9.58	0.70	0.299	(0.145)	0.056	0.242
227	116	9.67	0.70	0.299	(0.144)	0.056	0.242
228	117	9.75	0.70	0.299	(0.144)	0.056	0.242
229	118	9.83	0.73	0.313	(0.143)	0.059	0.254
230	119	9.92	0.73	0.313	(0.142)	0.059	0.254
231	120	10.00	0.73	0.313	(0.142)	0.059	0.254
232	121	10.08	0.50	0.213	(0.141)	0.040	0.173
233	122	10.17	0.50	0.213	(0.140)	0.040	0.173
234	123	10.25	0.50	0.213	(0.140)	0.040	0.173
235	124	10.33	0.50	0.213	(0.139)	0.040	0.173
236	125	10.42	0.50	0.213	(0.138)	0.040	0.173
237	126	10.50	0.50	0.213	(0.138)	0.040	0.173
238	127	10.58	0.67	0.284	(0.137)	0.053	0.231
239	128	10.67	0.67	0.284	(0.136)	0.053	0.231
240	129	10.75	0.67	0.284	(0.136)	0.053	0.231
241	130	10.83	0.67	0.284	(0.135)	0.053	0.231
242	131	10.92	0.67	0.284	(0.134)	0.053	0.231
243	132	11.00	0.67	0.284	(0.134)	0.053	0.231
244	133	11.08	0.63	0.270	(0.133)	0.051	0.219
245	134	11.17	0.63	0.270	(0.132)	0.051	0.219
246	135	11.25	0.63	0.270	(0.132)	0.051	0.219
247	136	11.33	0.63	0.270	(0.131)	0.051	0.219
248	137	11.42	0.63	0.270	(0.130)	0.051	0.219
249	138	11.50	0.63	0.270	(0.130)	0.051	0.219
250	139	11.58	0.57	0.242	(0.129)	0.045	0.196
251	140	11.67	0.57	0.242	(0.128)	0.045	0.196
252	141	11.75	0.57	0.242	(0.128)	0.045	0.196
253	142	11.83	0.60	0.256	(0.127)	0.048	0.208
254	143	11.92	0.60	0.256	(0.126)	0.048	0.208
255	144	12.00	0.60	0.256	(0.126)	0.048	0.208
256	145	12.08	0.83	0.355	(0.125)	0.067	0.289
257	146	12.17	0.83	0.355	(0.125)	0.067	0.289
258	147	12.25	0.83	0.355	(0.124)	0.067	0.289
259	148	12.33	0.87	0.370	(0.123)	0.069	0.300
260	149	12.42	0.87	0.370	(0.123)	0.069	0.300
261	150	12.50	0.87	0.370	(0.122)	0.069	0.300
262	151	12.58	0.93	0.398	(0.121)	0.075	0.323
263	152	12.67	0.93	0.398	(0.121)	0.075	0.323
264	153	12.75	0.93	0.398	(0.120)	0.075	0.323
265	154	12.83	0.97	0.412	(0.120)	0.078	0.335
266	155	12.92	0.97	0.412	(0.119)	0.078	0.335
267	156	13.00	0.97	0.412	(0.118)	0.078	0.335
268	157	13.08	1.13	0.483	(0.118)	0.091	0.392
269	158	13.17	1.13	0.483	(0.117)	0.091	0.392
270	159	13.25	1.13	0.483	(0.117)	0.091	0.392
271	160	13.33	1.13	0.483	(0.116)	0.091	0.392
272	161	13.42	1.13	0.483	(0.115)	0.091	0.392
273	162	13.50	1.13	0.483	(0.115)	0.091	0.392
274	163	13.58	0.77	0.327	(0.114)	0.061	0.265
275	164	13.67	0.77	0.327	(0.114)	0.061	0.265
276	165	13.75	0.77	0.327	(0.113)	0.061	0.265

277	166	13.83	0.77	0.327	(0.113)	0.061	0.265
278	167	13.92	0.77	0.327	(0.112)	0.061	0.265
279	168	14.00	0.77	0.327	(0.111)	0.061	0.265
280	169	14.08	0.90	0.384	(0.111)	0.072	0.312
281	170	14.17	0.90	0.384	(0.110)	0.072	0.312
282	171	14.25	0.90	0.384	(0.110)	0.072	0.312
283	172	14.33	0.87	0.370	(0.109)	0.069	0.300
284	173	14.42	0.87	0.370	(0.109)	0.069	0.300
285	174	14.50	0.87	0.370	(0.108)	0.069	0.300
286	175	14.58	0.87	0.370	(0.107)	0.069	0.300
287	176	14.67	0.87	0.370	(0.107)	0.069	0.300
288	177	14.75	0.87	0.370	(0.106)	0.069	0.300
289	178	14.83	0.83	0.355	(0.106)	0.067	0.289
290	179	14.92	0.83	0.355	(0.105)	0.067	0.289
291	180	15.00	0.83	0.355	(0.105)	0.067	0.289
292	181	15.08	0.80	0.341	(0.104)	0.064	0.277
293	182	15.17	0.80	0.341	(0.104)	0.064	0.277
294	183	15.25	0.80	0.341	(0.103)	0.064	0.277
295	184	15.33	0.77	0.327	(0.103)	0.061	0.265
296	185	15.42	0.77	0.327	(0.102)	0.061	0.265
297	186	15.50	0.77	0.327	(0.102)	0.061	0.265
298	187	15.58	0.63	0.270	(0.101)	0.051	0.219
299	188	15.67	0.63	0.270	(0.101)	0.051	0.219
300	189	15.75	0.63	0.270	(0.100)	0.051	0.219
301	190	15.83	0.63	0.270	(0.100)	0.051	0.219
302	191	15.92	0.63	0.270	(0.099)	0.051	0.219
303	192	16.00	0.63	0.270	(0.099)	0.051	0.219
304	193	16.08	0.13	0.057	(0.098)	0.011	0.046
305	194	16.17	0.13	0.057	(0.098)	0.011	0.046
306	195	16.25	0.13	0.057	(0.097)	0.011	0.046
307	196	16.33	0.13	0.057	(0.097)	0.011	0.046
308	197	16.42	0.13	0.057	(0.096)	0.011	0.046
309	198	16.50	0.13	0.057	(0.096)	0.011	0.046
310	199	16.58	0.10	0.043	(0.095)	0.008	0.035
311	200	16.67	0.10	0.043	(0.095)	0.008	0.035
312	201	16.75	0.10	0.043	(0.094)	0.008	0.035
313	202	16.83	0.10	0.043	(0.094)	0.008	0.035
314	203	16.92	0.10	0.043	(0.093)	0.008	0.035
315	204	17.00	0.10	0.043	(0.093)	0.008	0.035
316	205	17.08	0.17	0.071	(0.092)	0.013	0.058
317	206	17.17	0.17	0.071	(0.092)	0.013	0.058
318	207	17.25	0.17	0.071	(0.091)	0.013	0.058
319	208	17.33	0.17	0.071	(0.091)	0.013	0.058
320	209	17.42	0.17	0.071	(0.090)	0.013	0.058
321	210	17.50	0.17	0.071	(0.090)	0.013	0.058
322	211	17.58	0.17	0.071	(0.089)	0.013	0.058
323	212	17.67	0.17	0.071	(0.089)	0.013	0.058
324	213	17.75	0.17	0.071	(0.089)	0.013	0.058
325	214	17.83	0.13	0.057	(0.088)	0.011	0.046
326	215	17.92	0.13	0.057	(0.088)	0.011	0.046
327	216	18.00	0.13	0.057	(0.087)	0.011	0.046
328	217	18.08	0.13	0.057	(0.087)	0.011	0.046
329	218	18.17	0.13	0.057	(0.086)	0.011	0.046
330	219	18.25	0.13	0.057	(0.086)	0.011	0.046
331	220	18.33	0.13	0.057	(0.086)	0.011	0.046
332	221	18.42	0.13	0.057	(0.085)	0.011	0.046
333	222	18.50	0.13	0.057	(0.085)	0.011	0.046
334	223	18.58	0.10	0.043	(0.084)	0.008	0.035
335	224	18.67	0.10	0.043	(0.084)	0.008	0.035
336	225	18.75	0.10	0.043	(0.084)	0.008	0.035
337	226	18.83	0.07	0.028	(0.083)	0.005	0.023
338	227	18.92	0.07	0.028	(0.083)	0.005	0.023
339	228	19.00	0.07	0.028	(0.082)	0.005	0.023
340	229	19.08	0.10	0.043	(0.082)	0.008	0.035
341	230	19.17	0.10	0.043	(0.082)	0.008	0.035
342	231	19.25	0.10	0.043	(0.081)	0.008	0.035
343	232	19.33	0.13	0.057	(0.081)	0.011	0.046
344	233	19.42	0.13	0.057	(0.080)	0.011	0.046
345	234	19.50	0.13	0.057	(0.080)	0.011	0.046

235	19.58	0.10	0.043	(	0.080)	0.008	0.035
236	19.67	0.10	0.043	(	0.079)	0.008	0.035
237	19.75	0.10	0.043	(	0.079)	0.008	0.035
238	19.83	0.07	0.028	(	0.079)	0.005	0.023
239	19.92	0.07	0.028	(	0.078)	0.005	0.023
240	20.00	0.07	0.028	(	0.078)	0.005	0.023
241	20.08	0.10	0.043	(	0.078)	0.008	0.035
242	20.17	0.10	0.043	(	0.077)	0.008	0.035
243	20.25	0.10	0.043	(	0.077)	0.008	0.035
244	20.33	0.10	0.043	(	0.077)	0.008	0.035
245	20.42	0.10	0.043	(	0.076)	0.008	0.035
246	20.50	0.10	0.043	(	0.076)	0.008	0.035
247	20.58	0.10	0.043	(	0.076)	0.008	0.035
248	20.67	0.10	0.043	(	0.075)	0.008	0.035
249	20.75	0.10	0.043	(	0.075)	0.008	0.035
250	20.83	0.07	0.028	(	0.075)	0.005	0.023
251	20.92	0.07	0.028	(	0.074)	0.005	0.023
252	21.00	0.07	0.028	(	0.074)	0.005	0.023
253	21.08	0.10	0.043	(	0.074)	0.008	0.035
254	21.17	0.10	0.043	(	0.073)	0.008	0.035
255	21.25	0.10	0.043	(	0.073)	0.008	0.035
256	21.33	0.07	0.028	(	0.073)	0.005	0.023
257	21.42	0.07	0.028	(	0.073)	0.005	0.023
258	21.50	0.07	0.028	(	0.072)	0.005	0.023
259	21.58	0.10	0.043	(	0.072)	0.008	0.035
260	21.67	0.10	0.043	(	0.072)	0.008	0.035
261	21.75	0.10	0.043	(	0.072)	0.008	0.035
262	21.83	0.07	0.028	(	0.071)	0.005	0.023
263	21.92	0.07	0.028	(	0.071)	0.005	0.023
264	22.00	0.07	0.028	(	0.071)	0.005	0.023
265	22.08	0.10	0.043	(	0.071)	0.008	0.035
266	22.17	0.10	0.043	(	0.070)	0.008	0.035
267	22.25	0.10	0.043	(	0.070)	0.008	0.035
268	22.33	0.07	0.028	(	0.070)	0.005	0.023
269	22.42	0.07	0.028	(	0.070)	0.005	0.023
270	22.50	0.07	0.028	(	0.069)	0.005	0.023
271	22.58	0.07	0.028	(	0.069)	0.005	0.023
272	22.67	0.07	0.028	(	0.069)	0.005	0.023
273	22.75	0.07	0.028	(	0.069)	0.005	0.023
274	22.83	0.07	0.028	(	0.069)	0.005	0.023
275	22.92	0.07	0.028	(	0.069)	0.005	0.023
276	23.00	0.07	0.028	(	0.068)	0.005	0.023
277	23.08	0.07	0.028	(	0.068)	0.005	0.023
278	23.17	0.07	0.028	(	0.068)	0.005	0.023
279	23.25	0.07	0.028	(	0.068)	0.005	0.023
280	23.33	0.07	0.028	(	0.068)	0.005	0.023
281	23.42	0.07	0.028	(	0.068)	0.005	0.023
282	23.50	0.07	0.028	(	0.068)	0.005	0.023
283	23.58	0.07	0.028	(	0.067)	0.005	0.023
284	23.67	0.07	0.028	(	0.067)	0.005	0.023
285	23.75	0.07	0.028	(	0.067)	0.005	0.023
286	23.83	0.07	0.028	(	0.067)	0.005	0.023
287	23.92	0.07	0.028	(	0.067)	0.005	0.023
288	24.00	0.07	0.028	(	0.067)	0.005	0.023

(Loss Rate Not Used)

Sum = 100.0 Sum = 34.6

Flood volume = Effective rainfall 2.89(In)

times area 8.0(Ac.)/[(In)/(Ft.)] = 1.9(Ac.Ft)

Total soil loss = 0.67(In)

Total soil loss = 0.445(Ac.Ft)

Total rainfall = 3.55(In)

Flood volume = 83803.9 Cubic Feet

Total soil loss = 19402.9 Cubic Feet

Peak flow rate of this hydrograph = 3.084(CFS)

++

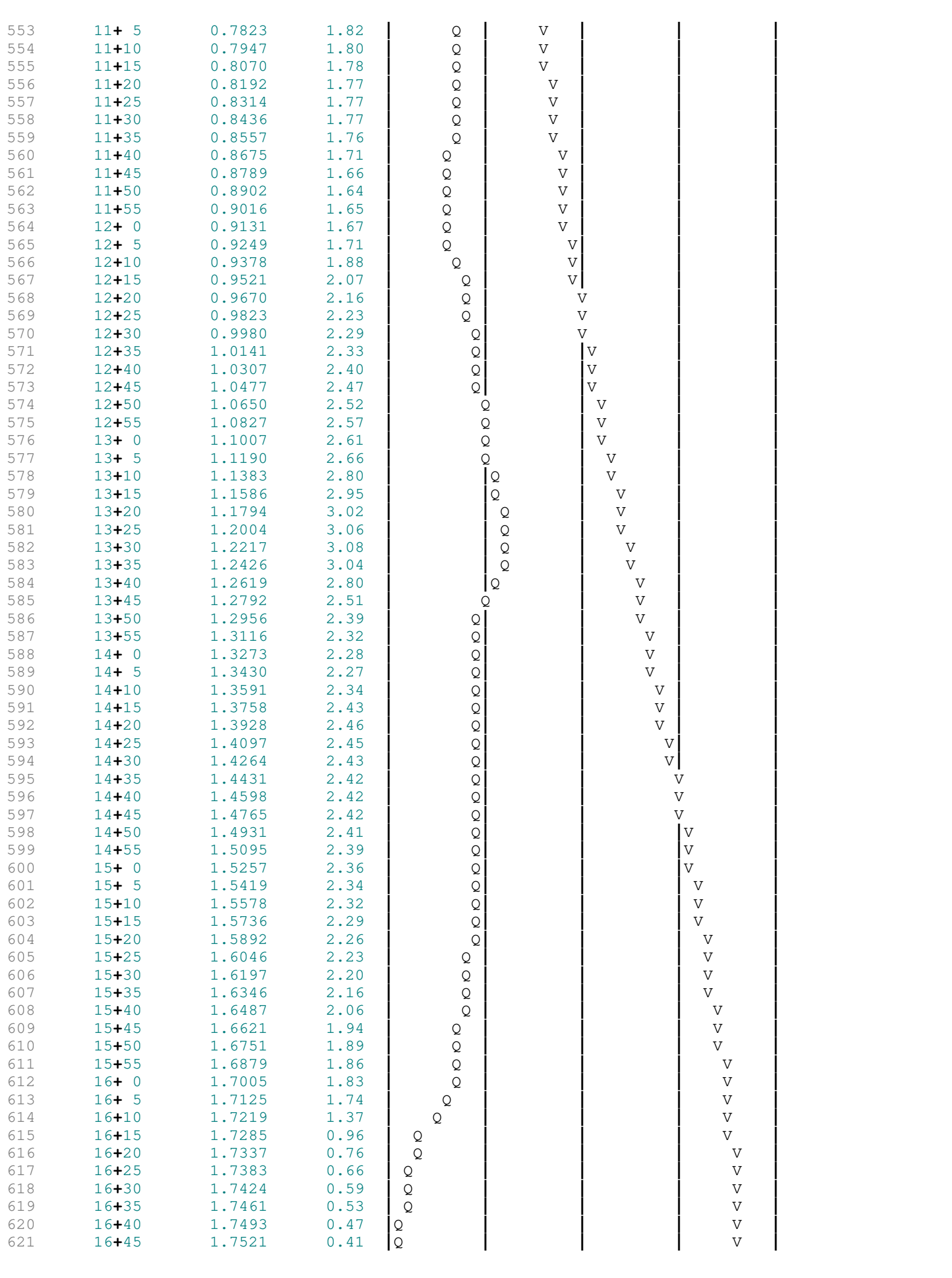
24 - H O U R S T O R M

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0001	0.01	Q				
0+10	0.0005	0.06	Q				
0+15	0.0012	0.11	Q				
0+20	0.0022	0.14	Q				
0+25	0.0035	0.18	Q				
0+30	0.0049	0.21	Q				
0+35	0.0065	0.23	Q				
0+40	0.0082	0.24	Q				
0+45	0.0100	0.25	VQ				
0+50	0.0118	0.26	VQ				
0+55	0.0138	0.29	VQ				
1+ 0	0.0160	0.32	VQ				
1+ 5	0.0183	0.33	VQ				
1+10	0.0205	0.32	VQ				
1+15	0.0226	0.30	VQ				
1+20	0.0246	0.29	VQ				
1+25	0.0266	0.29	VQ				
1+30	0.0286	0.29	VQ				
1+35	0.0305	0.28	VQ				
1+40	0.0325	0.28	VQ				
1+45	0.0344	0.28	VQ				
1+50	0.0364	0.29	VQ				
1+55	0.0385	0.31	VQ				
2+ 0	0.0409	0.34	VQ				
2+ 5	0.0433	0.35	VQ				
2+10	0.0457	0.36	VQ				
2+15	0.0482	0.36	|Q				
2+20	0.0507	0.36	|Q				
2+25	0.0532	0.36	|Q				
2+30	0.0557	0.37	|Q				
2+35	0.0583	0.37	|Q				
2+40	0.0610	0.40	|Q				
2+45	0.0640	0.43	|Q				
2+50	0.0670	0.44	|Q				
2+55	0.0701	0.45	|Q				
3+ 0	0.0732	0.45	|Q				
3+ 5	0.0763	0.45	|Q				
3+10	0.0794	0.46	|Q				
3+15	0.0826	0.46	|Q				
3+20	0.0858	0.46	|Q				
3+25	0.0890	0.46	|Q				
3+30	0.0921	0.46	|Q				
3+35	0.0953	0.46	|Q				
3+40	0.0985	0.46	|QV				
3+45	0.1017	0.46	|QV				
3+50	0.1050	0.47	|QV				
3+55	0.1084	0.49	|QV				
4+ 0	0.1120	0.52	| Q				
4+ 5	0.1157	0.53	| Q				
4+10	0.1194	0.54	| Q				
4+15	0.1231	0.54	| Q				
4+20	0.1269	0.55	| Q				
4+25	0.1309	0.58	| Q				
4+30	0.1351	0.61	| Q				
4+35	0.1394	0.62	| Q				
4+40	0.1438	0.63	| Q				
4+45	0.1481	0.64	| QV				
4+50	0.1526	0.64	| QV				
4+55	0.1572	0.67	| QV				
5+ 0	0.1620	0.70	| QV				
5+ 5	0.1669	0.70	| QV				
5+10	0.1714	0.66	| QV				
5+15	0.1757	0.62	| QV				

484	5+20	0.1798	0.60	QV			
485	5+25	0.1841	0.61	QV			
486	5+30	0.1884	0.64	QV			
487	5+35	0.1929	0.65	Q V			
488	5+40	0.1976	0.68	Q V			
489	5+45	0.2024	0.70	Q V			
490	5+50	0.2073	0.72	Q V			
491	5+55	0.2123	0.72	Q V			
492	6+ 0	0.2174	0.73	Q V			
493	6+ 5	0.2224	0.74	Q V			
494	6+10	0.2277	0.76	QV			
495	6+15	0.2332	0.79	QV			
496	6+20	0.2387	0.81	QV			
497	6+25	0.2443	0.81	Q V			
498	6+30	0.2500	0.82	Q V			
499	6+35	0.2557	0.83	Q V			
500	6+40	0.2616	0.86	Q V			
501	6+45	0.2677	0.89	Q V			
502	6+50	0.2739	0.90	Q V			
503	6+55	0.2802	0.91	Q V			
504	7+ 0	0.2865	0.91	Q V			
505	7+ 5	0.2928	0.92	Q V			
506	7+10	0.2992	0.92	Q V			
507	7+15	0.3055	0.92	Q V			
508	7+20	0.3120	0.93	Q V			
509	7+25	0.3185	0.96	Q V			
510	7+30	0.3253	0.98	Q V			
511	7+35	0.3322	1.00	Q V			
512	7+40	0.3394	1.03	Q V			
513	7+45	0.3467	1.07	Q V			
514	7+50	0.3542	1.09	Q V			
515	7+55	0.3619	1.12	Q V			
516	8+ 0	0.3698	1.15	Q V			
517	8+ 5	0.3780	1.18	Q V			
518	8+10	0.3865	1.24	Q V			
519	8+15	0.3955	1.30	Q V			
520	8+20	0.4046	1.33	Q V			
521	8+25	0.4139	1.35	Q V			
522	8+30	0.4233	1.36	Q V			
523	8+35	0.4327	1.37	Q V			
524	8+40	0.4424	1.40	Q V			
525	8+45	0.4523	1.44	Q V			
526	8+50	0.4623	1.46	Q V			
527	8+55	0.4726	1.49	Q V			
528	9+ 0	0.4831	1.53	Q V			
529	9+ 5	0.4938	1.55	Q V			
530	9+10	0.5049	1.61	Q V			
531	9+15	0.5165	1.67	Q V			
532	9+20	0.5282	1.71	Q V			
533	9+25	0.5403	1.75	Q V			
534	9+30	0.5526	1.79	Q V			
535	9+35	0.5651	1.82	Q V			
536	9+40	0.5779	1.85	Q V			
537	9+45	0.5909	1.89	Q V			
538	9+50	0.6040	1.91	Q V			
539	9+55	0.6175	1.95	Q V			
540	10+ 0	0.6311	1.99	Q V			
541	10+ 5	0.6447	1.97	Q V			
542	10+10	0.6572	1.81	Q V			
543	10+15	0.6684	1.63	Q V			
544	10+20	0.6791	1.55	Q V			
545	10+25	0.6895	1.51	Q V			
546	10+30	0.6997	1.48	Q V			
547	10+35	0.7100	1.49	Q V			
548	10+40	0.7210	1.59	Q V			
549	10+45	0.7328	1.72	Q V			
550	10+50	0.7450	1.77	Q V			
551	10+55	0.7573	1.80	Q V			
552	11+ 0	0.7698	1.81	Q V			



622	16+50	1.7548	0.38	Q			V	
623	16+55	1.7572	0.35	Q			V	
624	17+ 0	1.7595	0.33	Q			V	
625	17+ 5	1.7617	0.33	Q			V	
626	17+10	1.7643	0.37	Q			V	
627	17+15	1.7671	0.41	Q			V	
628	17+20	1.7700	0.43	Q			V	
629	17+25	1.7730	0.43	Q			V	
630	17+30	1.7760	0.44	Q			V	
631	17+35	1.7791	0.45	Q			V	
632	17+40	1.7822	0.45	Q			V	
633	17+45	1.7853	0.45	Q			V	
634	17+50	1.7884	0.45	Q			V	
635	17+55	1.7914	0.43	Q			V	
636	18+ 0	1.7942	0.40	Q			V	
637	18+ 5	1.7969	0.39	Q			V	
638	18+10	1.7996	0.39	Q			V	
639	18+15	1.8022	0.38	Q			V	
640	18+20	1.8048	0.38	Q			V	
641	18+25	1.8075	0.38	Q			V	
642	18+30	1.8101	0.38	Q			V	
643	18+35	1.8126	0.37	Q			V	
644	18+40	1.8150	0.35	Q			V	
645	18+45	1.8172	0.32	Q			V	
646	18+50	1.8193	0.30	Q			V	
647	18+55	1.8211	0.27	Q			V	
648	19+ 0	1.8228	0.24	Q			V	
649	19+ 5	1.8244	0.23	Q			V	
650	19+10	1.8260	0.24	Q			V	
651	19+15	1.8278	0.26	Q			V	
652	19+20	1.8297	0.28	Q			V	
653	19+25	1.8318	0.30	Q			V	
654	19+30	1.8341	0.33	Q			V	
655	19+35	1.8364	0.34	Q			V	
656	19+40	1.8386	0.32	Q			V	
657	19+45	1.8407	0.30	Q			V	
658	19+50	1.8427	0.29	Q			V	
659	19+55	1.8444	0.26	Q			V	
660	20+ 0	1.8460	0.23	Q			V	
661	20+ 5	1.8475	0.22	Q			V	
662	20+10	1.8492	0.24	Q			V	
663	20+15	1.8509	0.26	Q			V	
664	20+20	1.8528	0.27	Q			V	
665	20+25	1.8547	0.27	Q			V	
666	20+30	1.8565	0.27	Q			V	
667	20+35	1.8584	0.28	Q			V	
668	20+40	1.8603	0.28	Q			V	
669	20+45	1.8622	0.28	Q			V	
670	20+50	1.8641	0.27	Q			V	
671	20+55	1.8658	0.25	Q			V	
672	21+ 0	1.8673	0.22	Q			V	
673	21+ 5	1.8688	0.21	Q			V	
674	21+10	1.8704	0.23	Q			V	
675	21+15	1.8722	0.26	Q			V	
676	21+20	1.8740	0.26	Q			V	
677	21+25	1.8756	0.24	Q			V	
678	21+30	1.8771	0.22	Q			V	
679	21+35	1.8786	0.21	Q			V	
680	21+40	1.8801	0.23	Q			V	
681	21+45	1.8819	0.25	Q			V	
682	21+50	1.8836	0.26	Q			V	
683	21+55	1.8853	0.24	Q			V	
684	22+ 0	1.8868	0.21	Q			V	
685	22+ 5	1.8882	0.21	Q			V	
686	22+10	1.8898	0.23	Q			V	
687	22+15	1.8915	0.25	Q			V	
688	22+20	1.8933	0.26	Q			V	
689	22+25	1.8949	0.24	Q			V	
690	22+30	1.8964	0.21	Q			V	

22+35	1.8978	0.20	Q					V
22+40	1.8991	0.20	Q					V
22+45	1.9005	0.20	Q					V
22+50	1.9018	0.19	Q					V
22+55	1.9032	0.19	Q					V
23+ 0	1.9045	0.19	Q					V
23+ 5	1.9058	0.19	Q					V
23+10	1.9071	0.19	Q					V
23+15	1.9084	0.19	Q					V
23+20	1.9097	0.19	Q					V
23+25	1.9109	0.19	Q					V
23+30	1.9122	0.19	Q					V
23+35	1.9135	0.19	Q					V
23+40	1.9148	0.19	Q					V
23+45	1.9161	0.19	Q					V
23+50	1.9174	0.19	Q					V
23+55	1.9187	0.19	Q					V
24+ 0	1.9199	0.19	Q					V
24+ 5	1.9211	0.18	Q					V
24+10	1.9220	0.13	Q					V
24+15	1.9225	0.07	Q					V
24+20	1.9229	0.05	Q					V
24+25	1.9231	0.04	Q					V
24+30	1.9233	0.03	Q					V
24+35	1.9235	0.02	Q					V
24+40	1.9236	0.02	Q					V
24+45	1.9237	0.01	Q					V
24+50	1.9237	0.01	Q					V
24+55	1.9238	0.01	Q					V
25+ 0	1.9238	0.01	Q					V
25+ 5	1.9238	0.00	Q					V
25+10	1.9239	0.00	Q					V
25+15	1.9239	0.00	Q					V
25+20	1.9239	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  08/08/24 File: PTCB210110.out


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------------------------------------------------------------------------------

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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUTFLOW B2
10 YEAR 1 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       8.00(Ac.)  =      0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       8.00(Ac.)  =      0.013 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.168 Hr.
Lag time =    10.08 Min.
25% of lag time =     2.52 Min.
40% of lag time =     4.03 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]
        8.00            0.55                4.40

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        8.00            1.40               11.20

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    0.550(In)
Area Averaged 100-Year Rainfall =    1.400(In)

Point rain (area averaged) =    0.900(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    0.900(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     8.000           56.00          0.900
 Total Area Entered =      8.00(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

```
    56.0  56.0      0.511     0.900        0.097       1.000      0.097
                                                        Sum (F) =    0.097
   Area averaged mean soil loss (F) (In/Hr) =  0.140
   Minimum soil loss rate ((In/Hr)) =  0.070
   (for 24 hour storm duration)
   Note: User entry of the fm value
   Note: User entry of the f value
   Soil low loss rate (decimal) =   0.188
   ------------------------------------------------------------------------
   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   Time % of lag   Distribution   Unit Hydrograph
       (hrs)                          Graph %            (CFS)
   ------------------------------------------------------------------------
        1   0.083         49.603          6.051              0.488
        2   0.167         99.206         25.810              2.081
        3   0.250        148.810         28.884              2.329
        4   0.333        198.413         13.099              1.056
        5   0.417        248.016          6.834              0.551
        6   0.500        297.619          4.747              0.383
        7   0.583        347.222          3.420              0.276
        8   0.667        396.825          2.623              0.211
        9   0.750        446.429          1.923              0.155
       10   0.833        496.032          1.546              0.125
       11   0.917        545.635          1.320              0.106
       12   1.000        595.238          1.010              0.081
       13   1.083        644.841          0.813              0.066
       14   1.167        694.444          0.616              0.050
       15   1.250        744.048          0.497              0.040
       16   1.333        793.651          0.496              0.040
       17   1.417        843.254          0.312              0.025
                                 Sum = 100.000    Sum=        8.063
  ------------------------------------------------------------------------


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

   Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)      Effective
        (Hr.)  Percent   (In/Hr)         Max    |   Low          (In/Hr)
    1   0.08     4.20      0.453       (  0.140)      0.085         0.368
    2   0.17     4.30      0.464       (  0.140)      0.087         0.377
    3   0.25     5.00      0.540       (  0.140)      0.101         0.438
    4   0.33     5.00      0.540       (  0.140)      0.101         0.438
    5   0.42     5.80      0.626       (  0.140)      0.118         0.508
    6   0.50     6.50      0.702       (  0.140)      0.132         0.570
    7   0.58     7.40      0.799          0.140    (  0.150)        0.659
    8   0.67     8.60      0.928          0.140    (  0.175)        0.788
    9   0.75    12.30      1.328          0.140    (  0.250)        1.188
   10   0.83    29.10      3.142          0.140    (  0.591)        3.002
   11   0.92     6.80      0.734       (  0.140)      0.138         0.596
   12   1.00     5.00      0.540       (  0.140)      0.101         0.438
          (Loss Rate Not Used)
     Sum =     100.0                                   Sum =      9.4
    Flood volume = Effective rainfall      0.78(In)
     times area       8.0(Ac.)/[(In)/(Ft.)] =       0.5(Ac.Ft)
    Total soil loss =      0.12(In)
    Total soil loss =     0.079(Ac.Ft)
    Total rainfall =      0.90(In)
    Flood volume =       22677.8 Cubic Feet
    Total soil loss =        3447.5 Cubic Feet
    ------------------------------------------------------------------------
     Peak flow rate of this hydrograph =     11.110(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	0.0012	0.18	Q
0+10	0.0078	0.95	VQ
0+15	0.0206	1.86	V Q
0+20	0.0371	2.39	V Q
0+25	0.0562	2.78	VQ
0+30	0.0781	3.17	VQ
0+35	0.1031	3.64	Q
0+40	0.1322	4.21	Q V
0+45	0.1670	5.06	Q V
0+50	0.2173	7.30	Q V
0+55	0.2938	11.11	Q
1+ 0	0.3685	10.85	Q V
1+ 5	0.4165	6.97	Q V
1+10	0.4468	4.39	Q V
1+15	0.4658	2.76	Q V
1+20	0.4791	1.94	Q V
1+25	0.4892	1.46	Q V
1+30	0.4968	1.11	Q V
1+35	0.5028	0.87	Q V
1+40	0.5076	0.70	Q V
1+45	0.5113	0.54	Q V
1+50	0.5143	0.42	Q V
1+55	0.5165	0.32	Q V
2+ 0	0.5182	0.25	Q V
2+ 5	0.5195	0.20	Q V
2+10	0.5203	0.12	Q V
2+15	0.5205	0.03	Q V
2+20	0.5206	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  08/08/24 File: PTCB210310.out


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------------------------------------------------------------------------------

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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUTFLOW B2
10 YEAR 3 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       8.00(Ac.)  =      0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       8.00(Ac.)  =      0.013 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.168 Hr.
Lag time =    10.08 Min.
25% of lag time =     2.52 Min.
40% of lag time =     4.03 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]
        8.00            1.00                8.00

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        8.00            2.50               20.00

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    1.000(In)
Area Averaged 100-Year Rainfall =    2.500(In)

Point rain (area averaged) =    1.617(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.617(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     8.000           56.00          0.900
 Total Area Entered =      8.00(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

56.0	56.0	0.511	0.900	0.097	1.000	0.097

Sum (F) = 0.097

Area averaged **mean** soil loss (F) (In/Hr) = 0.140

Minimum soil loss rate ((In/Hr)) = 0.070

(for 24 hour storm duration)

Note: User entry of the fm value

Note: User entry of the f value

Soil low loss rate (decimal) = 0.188

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	49.603	6.051	0.488
2	0.167	99.206	25.810	2.081
3	0.250	148.810	28.884	2.329
4	0.333	198.413	13.099	1.056
5	0.417	248.016	6.834	0.551
6	0.500	297.619	4.747	0.383
7	0.583	347.222	3.420	0.276
8	0.667	396.825	2.623	0.211
9	0.750	446.429	1.923	0.155
10	0.833	496.032	1.546	0.125
11	0.917	545.635	1.320	0.106
12	1.000	595.238	1.010	0.081
13	1.083	644.841	0.813	0.066
14	1.167	694.444	0.616	0.050
15	1.250	744.048	0.497	0.040
16	1.333	793.651	0.496	0.040
17	1.417	843.254	0.312	0.025
		Sum = 100.000	Sum=	8.063

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.252	(0.140)	0.047	0.205
2	0.17	1.30	0.252	(0.140)	0.047	0.205
3	0.25	1.10	0.213	(0.140)	0.040	0.173
4	0.33	1.50	0.291	(0.140)	0.055	0.236
5	0.42	1.50	0.291	(0.140)	0.055	0.236
6	0.50	1.80	0.349	(0.140)	0.066	0.284
7	0.58	1.50	0.291	(0.140)	0.055	0.236
8	0.67	1.80	0.349	(0.140)	0.066	0.284
9	0.75	1.80	0.349	(0.140)	0.066	0.284
10	0.83	1.50	0.291	(0.140)	0.055	0.236
11	0.92	1.60	0.310	(0.140)	0.058	0.252
12	1.00	1.80	0.349	(0.140)	0.066	0.284
13	1.08	2.20	0.427	(0.140)	0.080	0.347
14	1.17	2.20	0.427	(0.140)	0.080	0.347
15	1.25	2.20	0.427	(0.140)	0.080	0.347
16	1.33	2.00	0.388	(0.140)	0.073	0.315
17	1.42	2.60	0.505	(0.140)	0.095	0.410
18	1.50	2.70	0.524	(0.140)	0.098	0.425
19	1.58	2.40	0.466	(0.140)	0.088	0.378
20	1.67	2.70	0.524	(0.140)	0.098	0.425
21	1.75	3.30	0.640	(0.140)	0.120	0.520
22	1.83	3.10	0.602	(0.140)	0.113	0.488
23	1.92	2.90	0.563	(0.140)	0.106	0.457
24	2.00	3.00	0.582	(0.140)	0.109	0.473
25	2.08	3.10	0.602	(0.140)	0.113	0.488

```
    26   2.17     4.20      0.815          0.140    (  0.153)        0.675
    27   2.25     5.00      0.970          0.140    (  0.182)        0.830
    28   2.33     3.50      0.679       (  0.140)       0.128        0.551
    29   2.42     6.80      1.320          0.140    (  0.248)        1.180
    30   2.50     7.30      1.417          0.140    (  0.266)        1.277
    31   2.58     8.20      1.591          0.140    (  0.299)        1.451
    32   2.67     5.90      1.145          0.140    (  0.215)        1.005
    33   2.75     2.00      0.388       (  0.140)       0.073        0.315
    34   2.83     1.80      0.349       (  0.140)       0.066        0.284
    35   2.92     1.80      0.349       (  0.140)       0.066        0.284
    36   3.00     0.60      0.116       (  0.140)       0.022        0.095
          (Loss Rate Not Used)
     Sum =     100.0                                      Sum =     16.3
   Flood volume = Effective rainfall      1.36(In)
    times area       8.0(Ac.)/[(In)/(Ft.)] =       0.9(Ac.Ft)
   Total soil loss =      0.26(In)
   Total soil loss =     0.174(Ac.Ft)
   Total rainfall =      1.62(In)
   Flood volume =       39399.9 Cubic Feet
   Total soil loss =        7559.3 Cubic Feet
   ------------------------------------------------------------------------
    Peak flow rate of this hydrograph =      8.957(CFS)
   ------------------------------------------------------------------------
   ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                      3 - H O U R    S T O R M
                  R u n o f f      H y d r o g r a p h
   ------------------------------------------------------------------------
              Hydrograph in   5   Minute intervals ((CFS))

   ------------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
------------------------------------------------------------------------
   0+ 5       0.0007      0.10  Q          |         |         |         |
   0+10       0.0043      0.53  V Q        |         |         |         |
   0+15       0.0111      0.99  V  Q       |         |         |         |
   0+20       0.0192      1.17  V   Q      |         |         |         |
   0+25       0.0284      1.34  |V   Q     |         |         |         |
   0+30       0.0391      1.56  |V    Q    |         |         |         |
   0+35       0.0511      1.74  | V   Q    |         |         |         |
   0+40       0.0637      1.84  | V    Q   |         |         |         |
   0+45       0.0770      1.92  |  V   Q   |         |         |         |
   0+50       0.0909      2.02  |   V   Q  |         |         |         |
   0+55       0.1047      2.00  |   V   Q  |         |         |         |
   1+ 0       0.1184      1.99  |    V Q   |         |         |         |
   1+ 5       0.1329      2.10  |    V  Q  |         |         |         |
   1+10       0.1489      2.32  |     V  Q|         |         |         |
   1+15       0.1662      2.51  |      V  Q|         |         |         |
   1+20       0.1840      2.59  |       V Q|         |         |         |
   1+25       0.2021      2.62  |       V Q|         |         |         |
   1+30       0.2213      2.79  |        V|Q         |         |         |
   1+35       0.2420      3.01  |         V Q        |         |         |
   1+40       0.2632      3.08  |          |VQ       |         |         |
   1+45       0.2851      3.18  |          | Q       |         |         |
   1+50       0.3090      3.47  |          |  Q      |         |         |
   1+55       0.3343      3.67  |          |   Q     |         |         |
   2+ 0       0.3595      3.67  |          |   QV    |         |         |
   2+ 5       0.3849      3.68  |          |   Q  V  |         |         |
   2+10       0.4113      3.84  |          |    Q  V |         |         |
   2+15       0.4414      4.37  |          |      Q V|         |         |
   2+20       0.4761      5.03  |          |         QV        |         |
   2+25       0.5129      5.34  |          |         |QV       |         |
   2+30       0.5564      6.33  |          |         |   VQ    |         |
   2+35       0.6112      7.95  |          |         |      V  |Q        |
   2+40       0.6729      8.96  |          |         |         V|     Q  |
   2+45       0.7317      8.53  |          |         |          | V Q    |
   2+50       0.7765      6.51  |          |         |       Q  |   V    |
   2+55       0.8086      4.66  |          |         Q          |    V   |
   3+ 0       0.8344      3.75  |          |    Q    |          |     V  |
   3+ 5       0.8543      2.89  |          |Q        |          |      V |
```

3+10	0.8678	1.97		Q				V
3+15	0.8772	1.36		Q				V
3+20	0.8841	1.01		Q				V
3+25	0.8895	0.78		Q				V
3+30	0.8937	0.61		Q				V
3+35	0.8969	0.46	Q					V
3+40	0.8994	0.36	Q					V
3+45	0.9013	0.27	Q					V
3+50	0.9026	0.20	Q					V
3+55	0.9035	0.13	Q					V
4+ 0	0.9040	0.07	Q					V
4+ 5	0.9043	0.04	Q					V
4+10	0.9044	0.02	Q					V
4+15	0.9045	0.01	Q					V
4+20	0.9045	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  08/08/24 File: PTCB210610.out


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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUTFLOW B2
10 YEAR 6 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       8.00(Ac.)  =      0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       8.00(Ac.)  =      0.013 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.168 Hr.
Lag time =    10.08 Min.
25% of lag time =     2.52 Min.
40% of lag time =     4.03 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]
        8.00            1.40                11.20

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        8.00            3.50                28.00

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    1.400(In)
Area Averaged 100-Year Rainfall =    3.500(In)

Point rain (area averaged) =    2.264(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    2.264(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     8.000           56.00          0.900
 Total Area Entered =      8.00(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

56.0	56.0	0.511	0.900	0.097	1.000	0.097

Sum (F) = 0.097

Area averaged **mean** soil loss (F) (In/Hr) = 0.140

Minimum soil loss rate ((In/Hr)) = 0.070

(for 24 hour storm duration)

Note: User entry of the fm value

Note: User entry of the f value

Soil low loss rate (decimal) = 0.188

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	49.603	6.051	0.488
2	0.167	99.206	25.810	2.081
3	0.250	148.810	28.884	2.329
4	0.333	198.413	13.099	1.056
5	0.417	248.016	6.834	0.551
6	0.500	297.619	4.747	0.383
7	0.583	347.222	3.420	0.276
8	0.667	396.825	2.623	0.211
9	0.750	446.429	1.923	0.155
10	0.833	496.032	1.546	0.125
11	0.917	545.635	1.320	0.106
12	1.000	595.238	1.010	0.081
13	1.083	644.841	0.813	0.066
14	1.167	694.444	0.616	0.050
15	1.250	744.048	0.497	0.040
16	1.333	793.651	0.496	0.040
17	1.417	843.254	0.312	0.025
		Sum = 100.000	Sum=	8.063

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.136	(0.140)	0.026	0.110
2	0.17	0.60	0.163	(0.140)	0.031	0.132
3	0.25	0.60	0.163	(0.140)	0.031	0.132
4	0.33	0.60	0.163	(0.140)	0.031	0.132
5	0.42	0.60	0.163	(0.140)	0.031	0.132
6	0.50	0.70	0.190	(0.140)	0.036	0.154
7	0.58	0.70	0.190	(0.140)	0.036	0.154
8	0.67	0.70	0.190	(0.140)	0.036	0.154
9	0.75	0.70	0.190	(0.140)	0.036	0.154
10	0.83	0.70	0.190	(0.140)	0.036	0.154
11	0.92	0.70	0.190	(0.140)	0.036	0.154
12	1.00	0.80	0.217	(0.140)	0.041	0.176
13	1.08	0.80	0.217	(0.140)	0.041	0.176
14	1.17	0.80	0.217	(0.140)	0.041	0.176
15	1.25	0.80	0.217	(0.140)	0.041	0.176
16	1.33	0.80	0.217	(0.140)	0.041	0.176
17	1.42	0.80	0.217	(0.140)	0.041	0.176
18	1.50	0.80	0.217	(0.140)	0.041	0.176
19	1.58	0.80	0.217	(0.140)	0.041	0.176
20	1.67	0.80	0.217	(0.140)	0.041	0.176
21	1.75	0.80	0.217	(0.140)	0.041	0.176
22	1.83	0.80	0.217	(0.140)	0.041	0.176
23	1.92	0.80	0.217	(0.140)	0.041	0.176
24	2.00	0.90	0.245	(0.140)	0.046	0.199
25	2.08	0.80	0.217	(0.140)	0.041	0.176

26	2.17	0.90	0.245	(0.140)	0.046	0.199	
27	2.25	0.90	0.245	(0.140)	0.046	0.199	
28	2.33	0.90	0.245	(0.140)	0.046	0.199	
29	2.42	0.90	0.245	(0.140)	0.046	0.199	
30	2.50	0.90	0.245	(0.140)	0.046	0.199	
31	2.58	0.90	0.245	(0.140)	0.046	0.199	
32	2.67	0.90	0.245	(0.140)	0.046	0.199	
33	2.75	1.00	0.272	(0.140)	0.051	0.221	
34	2.83	1.00	0.272	(0.140)	0.051	0.221	
35	2.92	1.00	0.272	(0.140)	0.051	0.221	
36	3.00	1.00	0.272	(0.140)	0.051	0.221	
37	3.08	1.00	0.272	(0.140)	0.051	0.221	
38	3.17	1.10	0.299	(0.140)	0.056	0.243	
39	3.25	1.10	0.299	(0.140)	0.056	0.243	
40	3.33	1.10	0.299	(0.140)	0.056	0.243	
41	3.42	1.20	0.326	(0.140)	0.061	0.265	
42	3.50	1.30	0.353	(0.140)	0.066	0.287	
43	3.58	1.40	0.380	(0.140)	0.072	0.309	
44	3.67	1.40	0.380	(0.140)	0.072	0.309	
45	3.75	1.50	0.408	(0.140)	0.077	0.331	
46	3.83	1.50	0.408	(0.140)	0.077	0.331	
47	3.92	1.60	0.435	(0.140)	0.082	0.353	
48	4.00	1.60	0.435	(0.140)	0.082	0.353	
49	4.08	1.70	0.462	(0.140)	0.087	0.375	
50	4.17	1.80	0.489	(0.140)	0.092	0.397	
51	4.25	1.90	0.516	(0.140)	0.097	0.419	
52	4.33	2.00	0.543	(0.140)	0.102	0.441	
53	4.42	2.10	0.571	(0.140)	0.107	0.463	
54	4.50	2.10	0.571	(0.140)	0.107	0.463	
55	4.58	2.20	0.598	(0.140)	0.112	0.485	
56	4.67	2.30	0.625	(0.140)	0.117	0.507	
57	4.75	2.40	0.652	(0.140)	0.123	0.529	
58	4.83	2.40	0.652	(0.140)	0.123	0.529	
59	4.92	2.50	0.679	(0.140)	0.128	0.551	
60	5.00	2.60	0.706	(0.140)	0.133	0.574	
61	5.08	3.10	0.842	0.140	(0.158)	0.702	
62	5.17	3.60	0.978	0.140	(0.184)	0.838	
63	5.25	3.90	1.060	0.140	(0.199)	0.920	
64	5.33	4.20	1.141	0.140	(0.215)	1.001	
65	5.42	4.70	1.277	0.140	(0.240)	1.137	
66	5.50	5.60	1.521	0.140	(0.286)	1.381	
67	5.58	1.90	0.516	(0.140)	0.097	0.419	
68	5.67	0.90	0.245	(0.140)	0.046	0.199	
69	5.75	0.60	0.163	(0.140)	0.031	0.132	
70	5.83	0.50	0.136	(0.140)	0.026	0.110	
71	5.92	0.30	0.082	(0.140)	0.015	0.066	
72	6.00	0.20	0.054	(0.140)	0.010	0.044	

(Loss Rate Not Used)

Sum = 100.0 Sum = 22.5

Flood volume = Effective rainfall 1.88(In)

times area 8.0(Ac.)/[(In)/(Ft.)] = 1.3(Ac.Ft)

Total soil loss = 0.39(In)

Total soil loss = 0.259(Ac.Ft)

Total rainfall = 2.26(In)

Flood volume = 54453.2 Cubic Feet

Total soil loss = 11290.3 Cubic Feet

Peak flow rate of this hydrograph = 8.281(CFS)

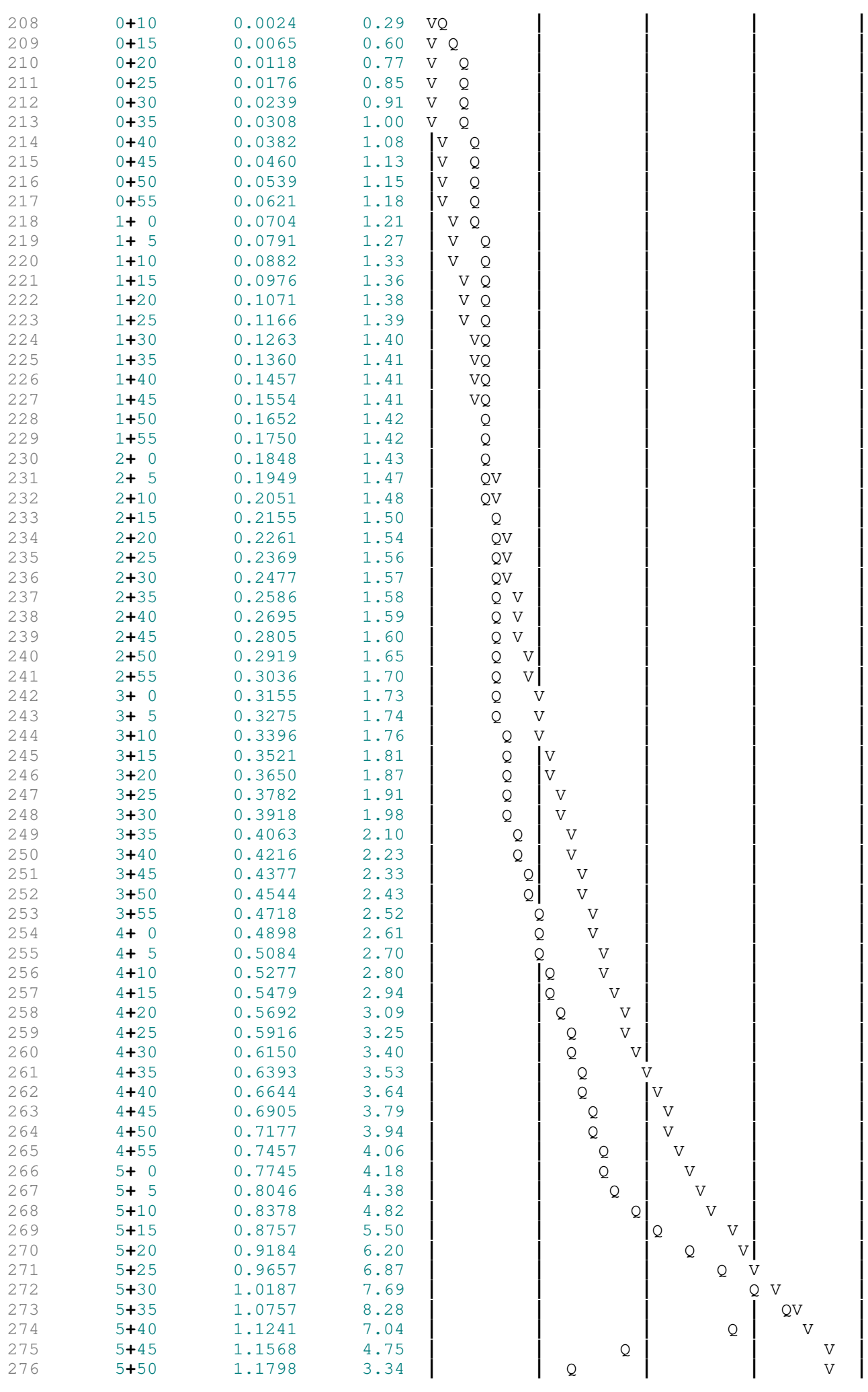
++

6 - H O U R S T O R M

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0004	0.05	Q	|	|	|	|



```
     5+55       1.1974      2.55  |         Q         |         |        V |
     6+ 0       1.2111      1.98  |      Q  |         |         |        V |
     6+ 5       1.2215      1.52  |     Q   |         |         |         V|
     6+10       1.2292      1.11  |   Q     |         |         |         V|
     6+15       1.2348      0.81  |  Q      |         |         |         V|
     6+20       1.2390      0.62  | Q       |         |         |         V|
     6+25       1.2423      0.47  |Q        |         |         |         V|
     6+30       1.2448      0.36  |Q        |         |         |         V|
     6+35       1.2466      0.27  |Q        |         |         |         V|
     6+40       1.2480      0.20  Q         |         |         |         V|
     6+45       1.2489      0.14  Q         |         |         |         V|
     6+50       1.2495      0.08  Q         |         |         |         V|
     6+55       1.2498      0.04  Q         |         |         |         V|
     7+ 0       1.2499      0.02  Q         |         |         |         V|
     7+ 5       1.2500      0.01  Q         |         |         |         V|
     7+10       1.2500      0.01  Q         |         |         |         V|
     7+15       1.2501      0.00  Q         |         |         |         V|
     7+20       1.2501      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  08/08/24 File: PTCB2102410.out


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------------------------------------------------------------------------------

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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUTFLOW B2
10 YEAR 24 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       8.00(Ac.)  =      0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       8.00(Ac.)  =      0.013 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.168 Hr.
Lag time =    10.08 Min.
25% of lag time =     2.52 Min.
40% of lag time =     4.03 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]
        8.00            2.50                20.00

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        8.00            7.00                56.00

STORM EVENT (YEAR) =   10.00
Area Averaged 2-Year Rainfall =    2.500(In)
Area Averaged 100-Year Rainfall =    7.000(In)

Point rain (area averaged) =    4.351(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    4.351(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     8.000           56.00          0.900
 Total Area Entered =      8.00(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

56.0 56.0 0.511 0.900 0.097 1.000 0.097

Sum (F) = 0.097

Area averaged mean soil loss (F) (In/Hr) = 0.140

Minimum soil loss rate ((In/Hr)) = 0.070

(for 24 hour storm duration)

Note: User entry of the fm value

Note: User entry of the f value

Soil low loss rate (decimal) = 0.188

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	49.603	6.051	0.488
2	0.167	99.206	25.810	2.081
3	0.250	148.810	28.884	2.329
4	0.333	198.413	13.099	1.056
5	0.417	248.016	6.834	0.551
6	0.500	297.619	4.747	0.383
7	0.583	347.222	3.420	0.276
8	0.667	396.825	2.623	0.211
9	0.750	446.429	1.923	0.155
10	0.833	496.032	1.546	0.125
11	0.917	545.635	1.320	0.106
12	1.000	595.238	1.010	0.081
13	1.083	644.841	0.813	0.066
14	1.167	694.444	0.616	0.050
15	1.250	744.048	0.497	0.040
16	1.333	793.651	0.496	0.040
17	1.417	843.254	0.312	0.025
		Sum = 100.000	Sum=	8.063

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.035	(0.248)	0.007	0.028
2	0.17	0.07	0.035	(0.247)	0.007	0.028
3	0.25	0.07	0.035	(0.246)	0.007	0.028
4	0.33	0.10	0.052	(0.245)	0.010	0.042
5	0.42	0.10	0.052	(0.244)	0.010	0.042
6	0.50	0.10	0.052	(0.243)	0.010	0.042
7	0.58	0.10	0.052	(0.242)	0.010	0.042
8	0.67	0.10	0.052	(0.242)	0.010	0.042
9	0.75	0.10	0.052	(0.241)	0.010	0.042
10	0.83	0.13	0.070	(0.240)	0.013	0.057
11	0.92	0.13	0.070	(0.239)	0.013	0.057
12	1.00	0.13	0.070	(0.238)	0.013	0.057
13	1.08	0.10	0.052	(0.237)	0.010	0.042
14	1.17	0.10	0.052	(0.236)	0.010	0.042
15	1.25	0.10	0.052	(0.235)	0.010	0.042
16	1.33	0.10	0.052	(0.234)	0.010	0.042
17	1.42	0.10	0.052	(0.233)	0.010	0.042
18	1.50	0.10	0.052	(0.232)	0.010	0.042
19	1.58	0.10	0.052	(0.231)	0.010	0.042
20	1.67	0.10	0.052	(0.230)	0.010	0.042
21	1.75	0.10	0.052	(0.229)	0.010	0.042
22	1.83	0.13	0.070	(0.228)	0.013	0.057
23	1.92	0.13	0.070	(0.227)	0.013	0.057
24	2.00	0.13	0.070	(0.227)	0.013	0.057
25	2.08	0.13	0.070	(0.226)	0.013	0.057

139	26	2.17	0.13	0.070	(	0.225)	0.013	0.057
140	27	2.25	0.13	0.070	(	0.224)	0.013	0.057
141	28	2.33	0.13	0.070	(	0.223)	0.013	0.057
142	29	2.42	0.13	0.070	(	0.222)	0.013	0.057
143	30	2.50	0.13	0.070	(	0.221)	0.013	0.057
144	31	2.58	0.17	0.087	(	0.220)	0.016	0.071
145	32	2.67	0.17	0.087	(	0.219)	0.016	0.071
146	33	2.75	0.17	0.087	(	0.218)	0.016	0.071
147	34	2.83	0.17	0.087	(	0.217)	0.016	0.071
148	35	2.92	0.17	0.087	(	0.217)	0.016	0.071
149	36	3.00	0.17	0.087	(	0.216)	0.016	0.071
150	37	3.08	0.17	0.087	(	0.215)	0.016	0.071
151	38	3.17	0.17	0.087	(	0.214)	0.016	0.071
152	39	3.25	0.17	0.087	(	0.213)	0.016	0.071
153	40	3.33	0.17	0.087	(	0.212)	0.016	0.071
154	41	3.42	0.17	0.087	(	0.211)	0.016	0.071
155	42	3.50	0.17	0.087	(	0.210)	0.016	0.071
156	43	3.58	0.17	0.087	(	0.209)	0.016	0.071
157	44	3.67	0.17	0.087	(	0.209)	0.016	0.071
158	45	3.75	0.17	0.087	(	0.208)	0.016	0.071
159	46	3.83	0.20	0.104	(	0.207)	0.020	0.085
160	47	3.92	0.20	0.104	(	0.206)	0.020	0.085
161	48	4.00	0.20	0.104	(	0.205)	0.020	0.085
162	49	4.08	0.20	0.104	(	0.204)	0.020	0.085
163	50	4.17	0.20	0.104	(	0.203)	0.020	0.085
164	51	4.25	0.20	0.104	(	0.203)	0.020	0.085
165	52	4.33	0.23	0.122	(	0.202)	0.023	0.099
166	53	4.42	0.23	0.122	(	0.201)	0.023	0.099
167	54	4.50	0.23	0.122	(	0.200)	0.023	0.099
168	55	4.58	0.23	0.122	(	0.199)	0.023	0.099
169	56	4.67	0.23	0.122	(	0.198)	0.023	0.099
170	57	4.75	0.23	0.122	(	0.197)	0.023	0.099
171	58	4.83	0.27	0.139	(	0.197)	0.026	0.113
172	59	4.92	0.27	0.139	(	0.196)	0.026	0.113
173	60	5.00	0.27	0.139	(	0.195)	0.026	0.113
174	61	5.08	0.20	0.104	(	0.194)	0.020	0.085
175	62	5.17	0.20	0.104	(	0.193)	0.020	0.085
176	63	5.25	0.20	0.104	(	0.192)	0.020	0.085
177	64	5.33	0.23	0.122	(	0.191)	0.023	0.099
178	65	5.42	0.23	0.122	(	0.191)	0.023	0.099
179	66	5.50	0.23	0.122	(	0.190)	0.023	0.099
180	67	5.58	0.27	0.139	(	0.189)	0.026	0.113
181	68	5.67	0.27	0.139	(	0.188)	0.026	0.113
182	69	5.75	0.27	0.139	(	0.187)	0.026	0.113
183	70	5.83	0.27	0.139	(	0.186)	0.026	0.113
184	71	5.92	0.27	0.139	(	0.186)	0.026	0.113
185	72	6.00	0.27	0.139	(	0.185)	0.026	0.113
186	73	6.08	0.30	0.157	(	0.184)	0.029	0.127
187	74	6.17	0.30	0.157	(	0.183)	0.029	0.127
188	75	6.25	0.30	0.157	(	0.182)	0.029	0.127
189	76	6.33	0.30	0.157	(	0.182)	0.029	0.127
190	77	6.42	0.30	0.157	(	0.181)	0.029	0.127
191	78	6.50	0.30	0.157	(	0.180)	0.029	0.127
192	79	6.58	0.33	0.174	(	0.179)	0.033	0.141
193	80	6.67	0.33	0.174	(	0.178)	0.033	0.141
194	81	6.75	0.33	0.174	(	0.177)	0.033	0.141
195	82	6.83	0.33	0.174	(	0.177)	0.033	0.141
196	83	6.92	0.33	0.174	(	0.176)	0.033	0.141
197	84	7.00	0.33	0.174	(	0.175)	0.033	0.141
198	85	7.08	0.33	0.174	(	0.174)	0.033	0.141
199	86	7.17	0.33	0.174	(	0.173)	0.033	0.141
200	87	7.25	0.33	0.174	(	0.173)	0.033	0.141
201	88	7.33	0.37	0.191	(	0.172)	0.036	0.155
202	89	7.42	0.37	0.191	(	0.171)	0.036	0.155
203	90	7.50	0.37	0.191	(	0.170)	0.036	0.155
204	91	7.58	0.40	0.209	(	0.170)	0.039	0.170
205	92	7.67	0.40	0.209	(	0.169)	0.039	0.170
206	93	7.75	0.40	0.209	(	0.168)	0.039	0.170
207	94	7.83	0.43	0.226	(	0.167)	0.043	0.184

208	95	7.92	0.43	0.226	(	0.166)	0.043	0.184
209	96	8.00	0.43	0.226	(	0.166)	0.043	0.184
210	97	8.08	0.50	0.261	(	0.165)	0.049	0.212
211	98	8.17	0.50	0.261	(	0.164)	0.049	0.212
212	99	8.25	0.50	0.261	(	0.163)	0.049	0.212
213	100	8.33	0.50	0.261	(	0.163)	0.049	0.212
214	101	8.42	0.50	0.261	(	0.162)	0.049	0.212
215	102	8.50	0.50	0.261	(	0.161)	0.049	0.212
216	103	8.58	0.53	0.278	(	0.160)	0.052	0.226
217	104	8.67	0.53	0.278	(	0.160)	0.052	0.226
218	105	8.75	0.53	0.278	(	0.159)	0.052	0.226
219	106	8.83	0.57	0.296	(	0.158)	0.056	0.240
220	107	8.92	0.57	0.296	(	0.157)	0.056	0.240
221	108	9.00	0.57	0.296	(	0.157)	0.056	0.240
222	109	9.08	0.63	0.331	(	0.156)	0.062	0.269
223	110	9.17	0.63	0.331	(	0.155)	0.062	0.269
224	111	9.25	0.63	0.331	(	0.154)	0.062	0.269
225	112	9.33	0.67	0.348	(	0.154)	0.065	0.283
226	113	9.42	0.67	0.348	(	0.153)	0.065	0.283
227	114	9.50	0.67	0.348	(	0.152)	0.065	0.283
228	115	9.58	0.70	0.366	(	0.151)	0.069	0.297
229	116	9.67	0.70	0.366	(	0.151)	0.069	0.297
230	117	9.75	0.70	0.366	(	0.150)	0.069	0.297
231	118	9.83	0.73	0.383	(	0.149)	0.072	0.311
232	119	9.92	0.73	0.383	(	0.149)	0.072	0.311
233	120	10.00	0.73	0.383	(	0.148)	0.072	0.311
234	121	10.08	0.50	0.261	(	0.147)	0.049	0.212
235	122	10.17	0.50	0.261	(	0.146)	0.049	0.212
236	123	10.25	0.50	0.261	(	0.146)	0.049	0.212
237	124	10.33	0.50	0.261	(	0.145)	0.049	0.212
238	125	10.42	0.50	0.261	(	0.144)	0.049	0.212
239	126	10.50	0.50	0.261	(	0.144)	0.049	0.212
240	127	10.58	0.67	0.348	(	0.143)	0.065	0.283
241	128	10.67	0.67	0.348	(	0.142)	0.065	0.283
242	129	10.75	0.67	0.348	(	0.141)	0.065	0.283
243	130	10.83	0.67	0.348	(	0.141)	0.065	0.283
244	131	10.92	0.67	0.348	(	0.140)	0.065	0.283
245	132	11.00	0.67	0.348	(	0.139)	0.065	0.283
246	133	11.08	0.63	0.331	(	0.139)	0.062	0.269
247	134	11.17	0.63	0.331	(	0.138)	0.062	0.269
248	135	11.25	0.63	0.331	(	0.137)	0.062	0.269
249	136	11.33	0.63	0.331	(	0.137)	0.062	0.269
250	137	11.42	0.63	0.331	(	0.136)	0.062	0.269
251	138	11.50	0.63	0.331	(	0.135)	0.062	0.269
252	139	11.58	0.57	0.296	(	0.135)	0.056	0.240
253	140	11.67	0.57	0.296	(	0.134)	0.056	0.240
254	141	11.75	0.57	0.296	(	0.133)	0.056	0.240
255	142	11.83	0.60	0.313	(	0.133)	0.059	0.254
256	143	11.92	0.60	0.313	(	0.132)	0.059	0.254
257	144	12.00	0.60	0.313	(	0.131)	0.059	0.254
258	145	12.08	0.83	0.435	(	0.131)	0.082	0.353
259	146	12.17	0.83	0.435	(	0.130)	0.082	0.353
260	147	12.25	0.83	0.435	(	0.129)	0.082	0.353
261	148	12.33	0.87	0.453	(	0.129)	0.085	0.367
262	149	12.42	0.87	0.453	(	0.128)	0.085	0.367
263	150	12.50	0.87	0.453	(	0.127)	0.085	0.367
264	151	12.58	0.93	0.487	(	0.127)	0.092	0.396
265	152	12.67	0.93	0.487	(	0.126)	0.092	0.396
266	153	12.75	0.93	0.487	(	0.126)	0.092	0.396
267	154	12.83	0.97	0.505	(	0.125)	0.095	0.410
268	155	12.92	0.97	0.505	(	0.124)	0.095	0.410
269	156	13.00	0.97	0.505	(	0.124)	0.095	0.410
270	157	13.08	1.13	0.592	(	0.123)	0.111	0.481
271	158	13.17	1.13	0.592	(	0.122)	0.111	0.481
272	159	13.25	1.13	0.592	(	0.122)	0.111	0.481
273	160	13.33	1.13	0.592	(	0.121)	0.111	0.481
274	161	13.42	1.13	0.592	(	0.121)	0.111	0.481
275	162	13.50	1.13	0.592	(	0.120)	0.111	0.481
276	163	13.58	0.77	0.400	(	0.119)	0.075	0.325

277	164	13.67	0.77	0.400	(0.119)	0.075	0.325
278	165	13.75	0.77	0.400	(0.118)	0.075	0.325
279	166	13.83	0.77	0.400	(0.117)	0.075	0.325
280	167	13.92	0.77	0.400	(0.117)	0.075	0.325
281	168	14.00	0.77	0.400	(0.116)	0.075	0.325
282	169	14.08	0.90	0.470	(0.116)	0.088	0.382
283	170	14.17	0.90	0.470	(0.115)	0.088	0.382
284	171	14.25	0.90	0.470	(0.115)	0.088	0.382
285	172	14.33	0.87	0.453	(0.114)	0.085	0.367
286	173	14.42	0.87	0.453	(0.113)	0.085	0.367
287	174	14.50	0.87	0.453	(0.113)	0.085	0.367
288	175	14.58	0.87	0.453	(0.112)	0.085	0.367
289	176	14.67	0.87	0.453	(0.112)	0.085	0.367
290	177	14.75	0.87	0.453	(0.111)	0.085	0.367
291	178	14.83	0.83	0.435	(0.110)	0.082	0.353
292	179	14.92	0.83	0.435	(0.110)	0.082	0.353
293	180	15.00	0.83	0.435	(0.109)	0.082	0.353
294	181	15.08	0.80	0.418	(0.109)	0.079	0.339
295	182	15.17	0.80	0.418	(0.108)	0.079	0.339
296	183	15.25	0.80	0.418	(0.108)	0.079	0.339
297	184	15.33	0.77	0.400	(0.107)	0.075	0.325
298	185	15.42	0.77	0.400	(0.107)	0.075	0.325
299	186	15.50	0.77	0.400	(0.106)	0.075	0.325
300	187	15.58	0.63	0.331	(0.105)	0.062	0.269
301	188	15.67	0.63	0.331	(0.105)	0.062	0.269
302	189	15.75	0.63	0.331	(0.104)	0.062	0.269
303	190	15.83	0.63	0.331	(0.104)	0.062	0.269
304	191	15.92	0.63	0.331	(0.103)	0.062	0.269
305	192	16.00	0.63	0.331	(0.103)	0.062	0.269
306	193	16.08	0.13	0.070	(0.102)	0.013	0.057
307	194	16.17	0.13	0.070	(0.102)	0.013	0.057
308	195	16.25	0.13	0.070	(0.101)	0.013	0.057
309	196	16.33	0.13	0.070	(0.101)	0.013	0.057
310	197	16.42	0.13	0.070	(0.100)	0.013	0.057
311	198	16.50	0.13	0.070	(0.100)	0.013	0.057
312	199	16.58	0.10	0.052	(0.099)	0.010	0.042
313	200	16.67	0.10	0.052	(0.099)	0.010	0.042
314	201	16.75	0.10	0.052	(0.098)	0.010	0.042
315	202	16.83	0.10	0.052	(0.098)	0.010	0.042
316	203	16.92	0.10	0.052	(0.097)	0.010	0.042
317	204	17.00	0.10	0.052	(0.097)	0.010	0.042
318	205	17.08	0.17	0.087	(0.096)	0.016	0.071
319	206	17.17	0.17	0.087	(0.096)	0.016	0.071
320	207	17.25	0.17	0.087	(0.095)	0.016	0.071
321	208	17.33	0.17	0.087	(0.095)	0.016	0.071
322	209	17.42	0.17	0.087	(0.094)	0.016	0.071
323	210	17.50	0.17	0.087	(0.094)	0.016	0.071
324	211	17.58	0.17	0.087	(0.093)	0.016	0.071
325	212	17.67	0.17	0.087	(0.093)	0.016	0.071
326	213	17.75	0.17	0.087	(0.092)	0.016	0.071
327	214	17.83	0.13	0.070	(0.092)	0.013	0.057
328	215	17.92	0.13	0.070	(0.092)	0.013	0.057
329	216	18.00	0.13	0.070	(0.091)	0.013	0.057
330	217	18.08	0.13	0.070	(0.091)	0.013	0.057
331	218	18.17	0.13	0.070	(0.090)	0.013	0.057
332	219	18.25	0.13	0.070	(0.090)	0.013	0.057
333	220	18.33	0.13	0.070	(0.089)	0.013	0.057
334	221	18.42	0.13	0.070	(0.089)	0.013	0.057
335	222	18.50	0.13	0.070	(0.088)	0.013	0.057
336	223	18.58	0.10	0.052	(0.088)	0.010	0.042
337	224	18.67	0.10	0.052	(0.088)	0.010	0.042
338	225	18.75	0.10	0.052	(0.087)	0.010	0.042
339	226	18.83	0.07	0.035	(0.087)	0.007	0.028
340	227	18.92	0.07	0.035	(0.086)	0.007	0.028
341	228	19.00	0.07	0.035	(0.086)	0.007	0.028
342	229	19.08	0.10	0.052	(0.086)	0.010	0.042
343	230	19.17	0.10	0.052	(0.085)	0.010	0.042
344	231	19.25	0.10	0.052	(0.085)	0.010	0.042
345	232	19.33	0.13	0.070	(0.084)	0.013	0.057

233	19.42	0.13	0.070	(0.084)	0.013	0.057
234	19.50	0.13	0.070	(0.084)	0.013	0.057
235	19.58	0.10	0.052	(0.083)	0.010	0.042
236	19.67	0.10	0.052	(0.083)	0.010	0.042
237	19.75	0.10	0.052	(0.082)	0.010	0.042
238	19.83	0.07	0.035	(0.082)	0.007	0.028
239	19.92	0.07	0.035	(0.082)	0.007	0.028
240	20.00	0.07	0.035	(0.081)	0.007	0.028
241	20.08	0.10	0.052	(0.081)	0.010	0.042
242	20.17	0.10	0.052	(0.081)	0.010	0.042
243	20.25	0.10	0.052	(0.080)	0.010	0.042
244	20.33	0.10	0.052	(0.080)	0.010	0.042
245	20.42	0.10	0.052	(0.080)	0.010	0.042
246	20.50	0.10	0.052	(0.079)	0.010	0.042
247	20.58	0.10	0.052	(0.079)	0.010	0.042
248	20.67	0.10	0.052	(0.079)	0.010	0.042
249	20.75	0.10	0.052	(0.078)	0.010	0.042
250	20.83	0.07	0.035	(0.078)	0.007	0.028
251	20.92	0.07	0.035	(0.078)	0.007	0.028
252	21.00	0.07	0.035	(0.077)	0.007	0.028
253	21.08	0.10	0.052	(0.077)	0.010	0.042
254	21.17	0.10	0.052	(0.077)	0.010	0.042
255	21.25	0.10	0.052	(0.076)	0.010	0.042
256	21.33	0.07	0.035	(0.076)	0.007	0.028
257	21.42	0.07	0.035	(0.076)	0.007	0.028
258	21.50	0.07	0.035	(0.076)	0.007	0.028
259	21.58	0.10	0.052	(0.075)	0.010	0.042
260	21.67	0.10	0.052	(0.075)	0.010	0.042
261	21.75	0.10	0.052	(0.075)	0.010	0.042
262	21.83	0.07	0.035	(0.074)	0.007	0.028
263	21.92	0.07	0.035	(0.074)	0.007	0.028
264	22.00	0.07	0.035	(0.074)	0.007	0.028
265	22.08	0.10	0.052	(0.074)	0.010	0.042
266	22.17	0.10	0.052	(0.073)	0.010	0.042
267	22.25	0.10	0.052	(0.073)	0.010	0.042
268	22.33	0.07	0.035	(0.073)	0.007	0.028
269	22.42	0.07	0.035	(0.073)	0.007	0.028
270	22.50	0.07	0.035	(0.073)	0.007	0.028
271	22.58	0.07	0.035	(0.072)	0.007	0.028
272	22.67	0.07	0.035	(0.072)	0.007	0.028
273	22.75	0.07	0.035	(0.072)	0.007	0.028
274	22.83	0.07	0.035	(0.072)	0.007	0.028
275	22.92	0.07	0.035	(0.072)	0.007	0.028
276	23.00	0.07	0.035	(0.071)	0.007	0.028
277	23.08	0.07	0.035	(0.071)	0.007	0.028
278	23.17	0.07	0.035	(0.071)	0.007	0.028
279	23.25	0.07	0.035	(0.071)	0.007	0.028
280	23.33	0.07	0.035	(0.071)	0.007	0.028
281	23.42	0.07	0.035	(0.071)	0.007	0.028
282	23.50	0.07	0.035	(0.071)	0.007	0.028
283	23.58	0.07	0.035	(0.070)	0.007	0.028
284	23.67	0.07	0.035	(0.070)	0.007	0.028
285	23.75	0.07	0.035	(0.070)	0.007	0.028
286	23.83	0.07	0.035	(0.070)	0.007	0.028
287	23.92	0.07	0.035	(0.070)	0.007	0.028
288	24.00	0.07	0.035	(0.070)	0.007	0.028

(Loss Rate Not Used)

Sum = 100.0 Sum = 42.4

Flood volume = Effective rainfall 3.53(In)
times area 8.0(Ac.)/[(In)/(Ft.)] = 2.4(Ac.Ft)
Total soil loss = 0.82(In)
Total soil loss = 0.545(Ac.Ft)
Total rainfall = 4.35(In)
Flood volume = 102605.0 Cubic Feet
Total soil loss = 23755.8 Cubic Feet

Peak flow rate of this hydrograph = 3.778(CFS)

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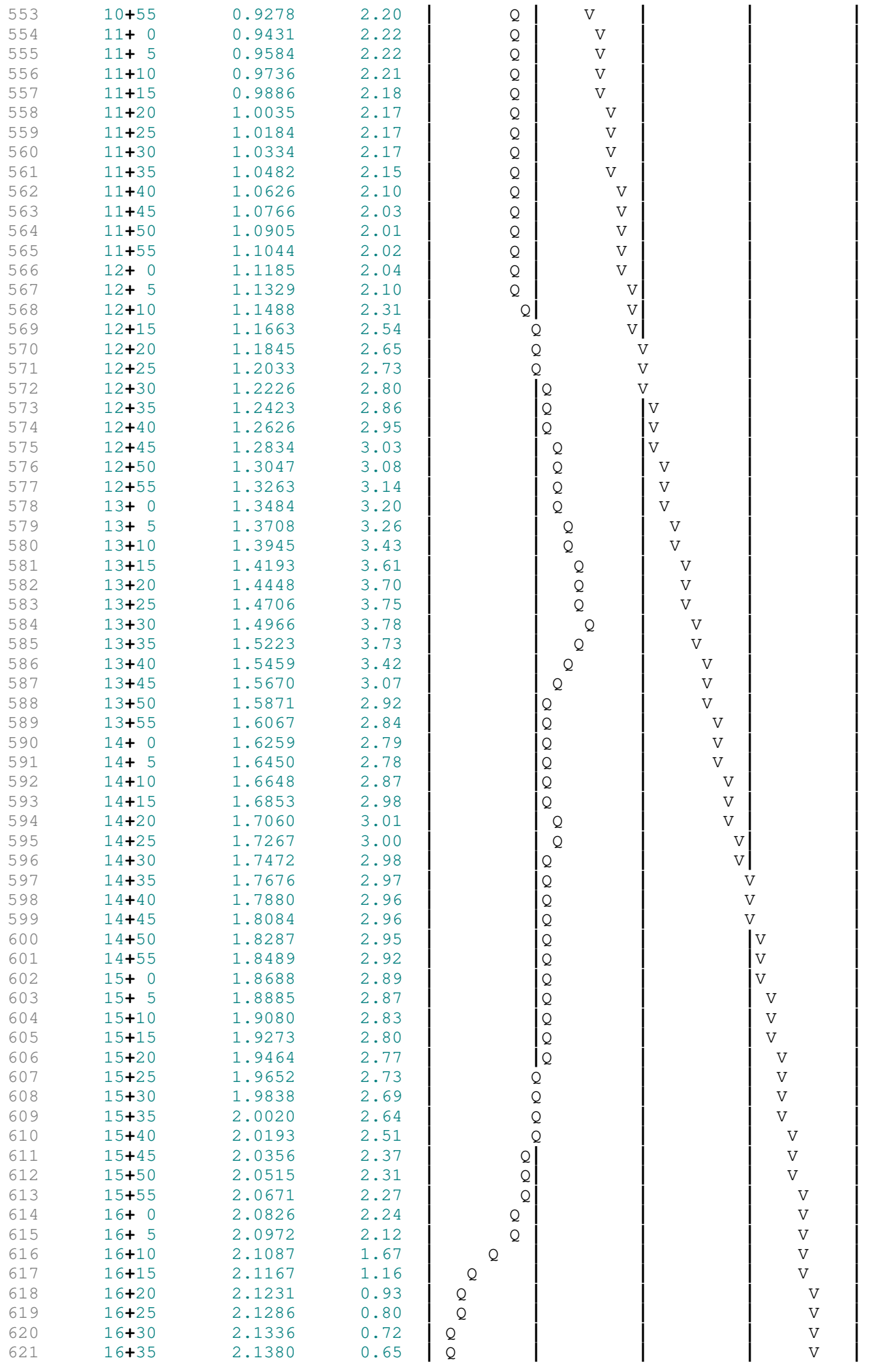
24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

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	0.0001	0.01	Q				
0+10	0.0006	0.07	Q				
0+15	0.0015	0.14	Q				
0+20	0.0028	0.18	Q				
0+25	0.0043	0.22	Q				
0+30	0.0061	0.26	VQ				
0+35	0.0081	0.29	VQ				
0+40	0.0101	0.30	VQ				
0+45	0.0123	0.31	VQ				
0+50	0.0145	0.32	VQ				
0+55	0.0170	0.36	VQ				
1+ 0	0.0197	0.40	VQ				
1+ 5	0.0225	0.41	VQ				
1+10	0.0252	0.39	VQ				
1+15	0.0277	0.37	VQ				
1+20	0.0302	0.36	VQ				
1+25	0.0326	0.35	VQ				
1+30	0.0350	0.35	VQ				
1+35	0.0374	0.35	VQ				
1+40	0.0398	0.35	VQ				
1+45	0.0422	0.35	VQ				
1+50	0.0447	0.35	VQ				
1+55	0.0473	0.38	VQ				
2+ 0	0.0501	0.41	VQ				
2+ 5	0.0531	0.43	VQ				
2+10	0.0561	0.44	VQ				
2+15	0.0591	0.44	|Q				
2+20	0.0622	0.44	|Q				
2+25	0.0652	0.45	|Q				
2+30	0.0683	0.45	|Q				
2+35	0.0715	0.46	|Q				
2+40	0.0748	0.49	|Q				
2+45	0.0784	0.52	|VQ				
2+50	0.0821	0.54	|VQ				
2+55	0.0859	0.55	|VQ				
3+ 0	0.0897	0.55	|VQ				
3+ 5	0.0935	0.56	|VQ				
3+10	0.0974	0.56	|VQ				
3+15	0.1013	0.56	|VQ				
3+20	0.1052	0.56	|VQ				
3+25	0.1091	0.57	|VQ				
3+30	0.1130	0.57	|VQ				
3+35	0.1169	0.57	|VQ				
3+40	0.1208	0.57	| Q				
3+45	0.1247	0.57	| Q				
3+50	0.1287	0.58	| Q				
3+55	0.1328	0.61	| Q				
4+ 0	0.1373	0.64	| Q				
4+ 5	0.1418	0.65	| Q				
4+10	0.1463	0.66	| Q				
4+15	0.1509	0.67	| Q				
4+20	0.1556	0.68	| Q				
4+25	0.1605	0.71	| Q				
4+30	0.1656	0.75	| Q				
4+35	0.1709	0.76	| VQ				
4+40	0.1762	0.77	| VQ				
4+45	0.1815	0.78	| Q				
4+50	0.1870	0.79	| Q				
4+55	0.1927	0.82	| Q				
5+ 0	0.1986	0.86	| Q				
5+ 5	0.2045	0.86	| Q				

484	5+10	0.2101	0.81	Q				
485	5+15	0.2153	0.75	Q				
486	5+20	0.2204	0.74	QV				
487	5+25	0.2256	0.75	Q				
488	5+30	0.2309	0.78	Q				
489	5+35	0.2364	0.79	QV				
490	5+40	0.2421	0.83	QV				
491	5+45	0.2480	0.86	QV				
492	5+50	0.2541	0.88	QV				
493	5+55	0.2602	0.89	QV				
494	6+ 0	0.2663	0.89	QV				
495	6+ 5	0.2726	0.90	QV				
496	6+10	0.2790	0.94	QV				
497	6+15	0.2857	0.97	QV				
498	6+20	0.2925	0.99	QV				
499	6+25	0.2994	1.00	Q V				
500	6+30	0.3063	1.01	QV				
501	6+35	0.3133	1.02	QV				
502	6+40	0.3206	1.05	QV				
503	6+45	0.3281	1.09	QV				
504	6+50	0.3357	1.10	QV				
505	6+55	0.3433	1.11	QV				
506	7+ 0	0.3511	1.12	QV				
507	7+ 5	0.3588	1.13	Q V				
508	7+10	0.3666	1.13	Q V				
509	7+15	0.3744	1.13	Q V				
510	7+20	0.3822	1.14	Q V				
511	7+25	0.3903	1.17	Q V				
512	7+30	0.3986	1.21	Q V				
513	7+35	0.4071	1.23	Q V				
514	7+40	0.4158	1.27	Q V				
515	7+45	0.4248	1.31	Q V				
516	7+50	0.4340	1.33	Q V				
517	7+55	0.4434	1.37	Q V				
518	8+ 0	0.4531	1.41	Q V				
519	8+ 5	0.4631	1.45	Q V				
520	8+10	0.4736	1.52	Q V				
521	8+15	0.4845	1.59	Q V				
522	8+20	0.4958	1.63	Q V				
523	8+25	0.5071	1.65	Q V				
524	8+30	0.5186	1.67	Q V				
525	8+35	0.5302	1.68	Q V				
526	8+40	0.5421	1.72	Q V				
527	8+45	0.5542	1.76	Q V				
528	8+50	0.5665	1.79	Q V				
529	8+55	0.5791	1.83	Q V				
530	9+ 0	0.5920	1.87	Q V				
531	9+ 5	0.6051	1.90	Q V				
532	9+10	0.6187	1.98	Q V				
533	9+15	0.6328	2.05	Q V				
534	9+20	0.6472	2.09	Q V				
535	9+25	0.6620	2.14	Q V				
536	9+30	0.6771	2.19	Q V				
537	9+35	0.6924	2.22	Q V				
538	9+40	0.7080	2.27	Q V				
539	9+45	0.7240	2.31	Q V				
540	9+50	0.7401	2.34	Q V				
541	9+55	0.7566	2.39	Q V				
542	10+ 0	0.7733	2.43	Q V				
543	10+ 5	0.7899	2.41	Q V				
544	10+10	0.8051	2.21	Q V				
545	10+15	0.8189	1.99	Q V				
546	10+20	0.8319	1.90	Q V				
547	10+25	0.8447	1.85	Q V				
548	10+30	0.8572	1.81	Q V				
549	10+35	0.8697	1.83	Q V				
550	10+40	0.8832	1.95	Q V				
551	10+45	0.8977	2.11	Q V				
552	10+50	0.9126	2.17	Q V				



622	16+40	2.1420	0.57	| Q	|	|	| V	|
623	16+45	2.1454	0.50	| Q	|	|	| V	|
624	16+50	2.1486	0.46	|Q	|	|	| V	|
625	16+55	2.1516	0.43	|Q	|	|	| V	|
626	17+ 0	2.1543	0.41	|Q	|	|	| V	|
627	17+ 5	2.1571	0.40	|Q	|	|	| V	|
628	17+10	2.1602	0.45	|Q	|	|	| V	|
629	17+15	2.1636	0.50	| Q	|	|	| V	|
630	17+20	2.1672	0.52	| Q	|	|	| V	|
631	17+25	2.1709	0.53	| Q	|	|	| V	|
632	17+30	2.1746	0.54	| Q	|	|	| V	|
633	17+35	2.1784	0.55	| Q	|	|	| V	|
634	17+40	2.1822	0.55	| Q	|	|	| V	|
635	17+45	2.1860	0.56	| Q	|	|	| V	|
636	17+50	2.1898	0.55	| Q	|	|	| V	|
637	17+55	2.1934	0.53	| Q	|	|	| V	|
638	18+ 0	2.1968	0.49	|Q	|	|	| V	|
639	18+ 5	2.2001	0.48	|Q	|	|	| V	|
640	18+10	2.2034	0.48	|Q	|	|	| V	|
641	18+15	2.2067	0.47	|Q	|	|	| V	|
642	18+20	2.2099	0.47	|Q	|	|	| V	|
643	18+25	2.2131	0.47	|Q	|	|	| V	|
644	18+30	2.2163	0.46	|Q	|	|	| V	|
645	18+35	2.2194	0.45	|Q	|	|	| V	|
646	18+40	2.2223	0.42	|Q	|	|	| V	|
647	18+45	2.2250	0.39	|Q	|	|	| V	|
648	18+50	2.2275	0.37	|Q	|	|	| V	|
649	18+55	2.2298	0.33	|Q	|	|	| V	|
650	19+ 0	2.2318	0.29	|Q	|	|	| V	|
651	19+ 5	2.2337	0.28	|Q	|	|	| V	|
652	19+10	2.2358	0.30	|Q	|	|	| V	|
653	19+15	2.2380	0.32	|Q	|	|	| V	|
654	19+20	2.2403	0.34	|Q	|	|	| V	|
655	19+25	2.2429	0.37	|Q	|	|	| V	|
656	19+30	2.2456	0.41	|Q	|	|	| V	|
657	19+35	2.2485	0.41	|Q	|	|	| V	|
658	19+40	2.2512	0.39	|Q	|	|	| V	|
659	19+45	2.2537	0.37	|Q	|	|	| V	|
660	19+50	2.2561	0.35	|Q	|	|	| V	|
661	19+55	2.2583	0.32	|Q	|	|	| V	|
662	20+ 0	2.2602	0.28	|Q	|	|	| V	|
663	20+ 5	2.2621	0.27	|Q	|	|	| V	|
664	20+10	2.2641	0.29	|Q	|	|	| V	|
665	20+15	2.2663	0.32	|Q	|	|	| V	|
666	20+20	2.2685	0.33	|Q	|	|	| V	|
667	20+25	2.2708	0.33	|Q	|	|	| V	|
668	20+30	2.2731	0.34	|Q	|	|	| V	|
669	20+35	2.2755	0.34	|Q	|	|	| V	|
670	20+40	2.2778	0.34	|Q	|	|	| V	|
671	20+45	2.2801	0.34	|Q	|	|	| V	|
672	20+50	2.2824	0.33	|Q	|	|	| V	|
673	20+55	2.2845	0.30	|Q	|	|	| V	|
674	21+ 0	2.2864	0.27	|Q	|	|	| V	|
675	21+ 5	2.2882	0.26	|Q	|	|	| V	|
676	21+10	2.2901	0.28	|Q	|	|	| V	|
677	21+15	2.2923	0.31	|Q	|	|	| V	|
678	21+20	2.2945	0.32	|Q	|	|	| V	|
679	21+25	2.2965	0.29	|Q	|	|	| V	|
680	21+30	2.2983	0.26	|Q	|	|	| V	|
681	21+35	2.3001	0.26	|Q	|	|	| V	|
682	21+40	2.3020	0.28	|Q	|	|	| V	|
683	21+45	2.3041	0.31	|Q	|	|	| V	|
684	21+50	2.3063	0.31	|Q	|	|	| V	|
685	21+55	2.3083	0.29	|Q	|	|	| V	|
686	22+ 0	2.3101	0.26	|Q	|	|	| V	|
687	22+ 5	2.3119	0.26	|Q	|	|	| V	|
688	22+10	2.3138	0.28	|Q	|	|	| V	|
689	22+15	2.3159	0.31	|Q	|	|	| V	|
690	22+20	2.3181	0.31	|Q	|	|	| V	|

691	22+25	2.3201	0.29	|Q	|	|	|	V|
692	22+30	2.3219	0.26	|Q	|	|	|	V|
693	22+35	2.3236	0.25	Q	|	|	|	V|
694	22+40	2.3253	0.24	Q	|	|	|	V|
695	22+45	2.3269	0.24	Q	|	|	|	V|
696	22+50	2.3286	0.24	Q	|	|	|	V|
697	22+55	2.3302	0.23	Q	|	|	|	V|
698	23+ 0	2.3318	0.23	Q	|	|	|	V|
699	23+ 5	2.3334	0.23	Q	|	|	|	V|
700	23+10	2.3350	0.23	Q	|	|	|	V|
701	23+15	2.3366	0.23	Q	|	|	|	V|
702	23+20	2.3381	0.23	Q	|	|	|	V|
703	23+25	2.3397	0.23	Q	|	|	|	V|
704	23+30	2.3413	0.23	Q	|	|	|	V|
705	23+35	2.3429	0.23	Q	|	|	|	V|
706	23+40	2.3444	0.23	Q	|	|	|	V|
707	23+45	2.3460	0.23	Q	|	|	|	V|
708	23+50	2.3476	0.23	Q	|	|	|	V|
709	23+55	2.3491	0.23	Q	|	|	|	V|
710	24+ 0	2.3507	0.23	Q	|	|	|	V|
711	24+ 5	2.3522	0.21	Q	|	|	|	V|
712	24+10	2.3533	0.16	Q	|	|	|	V|
713	24+15	2.3539	0.09	Q	|	|	|	V|
714	24+20	2.3543	0.06	Q	|	|	|	V|
715	24+25	2.3546	0.04	Q	|	|	|	V|
716	24+30	2.3548	0.03	Q	|	|	|	V|
717	24+35	2.3550	0.03	Q	|	|	|	V|
718	24+40	2.3551	0.02	Q	|	|	|	V|
719	24+45	2.3552	0.02	Q	|	|	|	V|
720	24+50	2.3553	0.01	Q	|	|	|	V|
721	24+55	2.3554	0.01	Q	|	|	|	V|
722	25+ 0	2.3554	0.01	Q	|	|	Q|	V|
723	25+ 5	2.3554	0.00	Q	|	|	|	V|
724	25+10	2.3555	0.00	Q	|	|	|	V|
725	25+15	2.3555	0.00	Q	|	|	|	V|
726	25+20	2.3555	0.00	Q	|	|	|	V
727	----------							
728								
729								
730								
731								

```
    U n 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  08/08/24 File: PTC100B21100.out


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
------------------------------------------------------------------------------

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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUTFLOW B2
100 YEAR 1 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       8.00(Ac.)  =      0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       8.00(Ac.)  =      0.013 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.162 Hr.
Lag time =     9.72 Min.
25% of lag time =     2.43 Min.
40% of lag time =     3.89 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]
        8.00            0.55                4.40

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        8.00            1.40               11.20

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.550(In)
Area Averaged 100-Year Rainfall =    1.400(In)

Point rain (area averaged) =    1.400(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    1.400(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     8.000           56.00          0.900
 Total Area Entered =      8.00(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

56.0 74.8 0.305 0.900 0.058 1.000 0.058

Sum (F) = 0.058

Area averaged **mean** soil loss (F) (In/Hr) = 0.058

Minimum soil loss rate ((In/Hr)) = 0.029

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.188

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	51.440	6.400	0.516
2	0.167	102.881	27.367	2.206
3	0.250	154.321	28.680	2.312
4	0.333	205.761	12.458	1.004
5	0.417	257.202	6.665	0.537
6	0.500	308.642	4.642	0.374
7	0.583	360.082	3.334	0.269
8	0.667	411.523	2.514	0.203
9	0.750	462.963	1.829	0.147
10	0.833	514.403	1.556	0.125
11	0.917	565.844	1.229	0.099
12	1.000	617.284	0.964	0.078
13	1.083	668.724	0.752	0.061
14	1.167	720.165	0.556	0.045
15	1.250	771.605	0.514	0.041
16	1.333	823.045	0.541	0.044
		Sum = 100.000	Sum=	8.063

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.706	0.058	(0.133)	0.648
2	0.17	4.30	0.722	0.058	(0.136)	0.664
3	0.25	5.00	0.840	0.058	(0.158)	0.782
4	0.33	5.00	0.840	0.058	(0.158)	0.782
5	0.42	5.80	0.974	0.058	(0.183)	0.916
6	0.50	6.50	1.092	0.058	(0.205)	1.034
7	0.58	7.40	1.243	0.058	(0.234)	1.185
8	0.67	8.60	1.445	0.058	(0.272)	1.387
9	0.75	12.30	2.066	0.058	(0.388)	2.008
10	0.83	29.10	4.888	0.058	(0.919)	4.830
11	0.92	6.80	1.142	0.058	(0.215)	1.084
12	1.00	5.00	0.840	0.058	(0.158)	0.782
	(Loss Rate Not Used)				
Sum =	100.0				Sum =	16.1

Flood volume = Effective rainfall 1.34(In)

times area 8.0(Ac.)/[(In)/(Ft.)] = 0.9(Ac.Ft)

Total soil loss = 0.06(In)

Total soil loss = 0.039(Ac.Ft)

Total rainfall = 1.40(In)

Flood volume = 38968.2 Cubic Feet

Total soil loss = 1684.9 Cubic Feet

Peak flow rate of this hydrograph = 18.955(CFS)

++

1 - H O U R S T O R M

Runoff Hydrograph

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0 5.0 10.0 15.0 20.0
0+ 5	0.0023	0.33	Q
0+10	0.0145	1.77	V Q
0+15	0.0377	3.37	V Q
0+20	0.0674	4.32	V Q
0+25	0.1020	5.02	V Q
0+30	0.1417	5.75	V Q
0+35	0.1874	6.64	V Q
0+40	0.2402	7.67	V Q
0+45	0.3029	9.10	V Q
0+50	0.3909	12.77	V Q
0+55	0.5214	18.96	V Q
1+ 0	0.6452	17.97	V Q
1+ 5	0.7252	11.62	Q V
1+10	0.7758	7.34	Q V
1+15	0.8072	4.56	Q V
1+20	0.8292	3.20	Q V
1+25	0.8456	2.38	Q V
1+30	0.8580	1.79	Q V
1+35	0.8678	1.42	Q V
1+40	0.8754	1.11	Q V
1+45	0.8813	0.86	Q V
1+50	0.8858	0.65	Q V
1+55	0.8892	0.49	Q V
2+ 0	0.8918	0.38	Q V
2+ 5	0.8938	0.29	Q V
2+10	0.8944	0.08	Q V
2+15	0.8946	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  08/08/24 File: PTC100B23100.out


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------------------------------------------------------------------------------

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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUTFLOW B2
100 YEAR 3 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       8.00(Ac.)  =      0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       8.00(Ac.)  =      0.013 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.162 Hr.
Lag time =     9.72 Min.
25% of lag time =     2.43 Min.
40% of lag time =     3.89 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]
        8.00            1.00                8.00

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        8.00            2.50               20.00

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 %
     8.000           56.00          0.900
 Total Area Entered =      8.00(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

56.0	74.8	0.305	0.900	0.058	1.000	0.058

Sum (F) = 0.058

Area averaged **mean** soil loss (F) (In/Hr) = 0.058

Minimum soil loss rate ((In/Hr)) = 0.029

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.188

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	51.440	6.400	0.516
2	0.167	102.881	27.367	2.206
3	0.250	154.321	28.680	2.312
4	0.333	205.761	12.458	1.004
5	0.417	257.202	6.665	0.537
6	0.500	308.642	4.642	0.374
7	0.583	360.082	3.334	0.269
8	0.667	411.523	2.514	0.203
9	0.750	462.963	1.829	0.147
10	0.833	514.403	1.556	0.125
11	0.917	565.844	1.229	0.099
12	1.000	617.284	0.964	0.078
13	1.083	668.724	0.752	0.061
14	1.167	720.165	0.556	0.045
15	1.250	771.605	0.514	0.041
16	1.333	823.045	0.541	0.044
		Sum = 100.000	Sum=	8.063

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.390	0.058	(0.073)	0.332
2	0.17	1.30	0.390	0.058	(0.073)	0.332
3	0.25	1.10	0.330	0.058	(0.062)	0.272
4	0.33	1.50	0.450	0.058	(0.085)	0.392
5	0.42	1.50	0.450	0.058	(0.085)	0.392
6	0.50	1.80	0.540	0.058	(0.102)	0.482
7	0.58	1.50	0.450	0.058	(0.085)	0.392
8	0.67	1.80	0.540	0.058	(0.102)	0.482
9	0.75	1.80	0.540	0.058	(0.102)	0.482
10	0.83	1.50	0.450	0.058	(0.085)	0.392
11	0.92	1.60	0.480	0.058	(0.090)	0.422
12	1.00	1.80	0.540	0.058	(0.102)	0.482
13	1.08	2.20	0.660	0.058	(0.124)	0.602
14	1.17	2.20	0.660	0.058	(0.124)	0.602
15	1.25	2.20	0.660	0.058	(0.124)	0.602
16	1.33	2.00	0.600	0.058	(0.113)	0.542
17	1.42	2.60	0.780	0.058	(0.147)	0.722
18	1.50	2.70	0.810	0.058	(0.152)	0.752
19	1.58	2.40	0.720	0.058	(0.135)	0.662
20	1.67	2.70	0.810	0.058	(0.152)	0.752
21	1.75	3.30	0.990	0.058	(0.186)	0.932
22	1.83	3.10	0.930	0.058	(0.175)	0.872
23	1.92	2.90	0.870	0.058	(0.164)	0.812
24	2.00	3.00	0.900	0.058	(0.169)	0.842
25	2.08	3.10	0.930	0.058	(0.175)	0.872
26	2.17	4.20	1.260	0.058	(0.237)	1.202
27	2.25	5.00	1.500	0.058	(0.282)	1.442
28	2.33	3.50	1.050	0.058	(0.197)	0.992

```
    29   2.42     6.80      2.040          0.058    (  0.384)        1.982
    30   2.50     7.30      2.190          0.058    (  0.412)        2.132
    31   2.58     8.20      2.460          0.058    (  0.462)        2.402
    32   2.67     5.90      1.770          0.058    (  0.333)        1.712
    33   2.75     2.00      0.600          0.058    (  0.113)        0.542
    34   2.83     1.80      0.540          0.058    (  0.102)        0.482
    35   2.92     1.80      0.540          0.058    (  0.102)        0.482
    36   3.00     0.60      0.180       (  0.058)       0.034        0.146
          (Loss Rate Not Used)
     Sum =     100.0                                      Sum =    27.9
    Flood volume = Effective rainfall      2.33(In)
     times area       8.0(Ac.)/[(In)/(Ft.)] =       1.6(Ac.Ft)
    Total soil loss =      0.17(In)
    Total soil loss =     0.115(Ac.Ft)
    Total rainfall =      2.50(In)
    Flood volume =       67601.4 Cubic Feet
    Total soil loss =        4996.0 Cubic Feet
    ----------------------------------------------------------------------
     Peak flow rate of this hydrograph =     15.206(CFS)
    ----------------------------------------------------------------------
    ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        3 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
    ----------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

    ----------------------------------------------------------------------
Time(h+m) Volume Ac.Ft    Q(CFS)  0         5.0       10.0       15.0       20.0
    ----------------------------------------------------------------------
    0+ 5        0.0012       0.17  Q          |          |          |          |
    0+10        0.0074       0.90  VQ         |          |          |          |
    0+15        0.0187       1.64  V  Q       |          |          |          |
    0+20        0.0318       1.90  V  Q       |          |          |          |
    0+25        0.0470       2.21  |V  Q       |          |          |          |
    0+30        0.0649       2.60  |V   Q      |          |          |          |
    0+35        0.0851       2.93  | V  Q      |          |          |          |
    0+40        0.1064       3.09  | V   Q     |          |          |          |
    0+45        0.1288       3.25  |  V  Q     |          |          |          |
    0+50        0.1524       3.43  |  V  Q     |          |          |          |
    0+55        0.1756       3.37  |   V Q     |          |          |          |
    1+ 0        0.1986       3.34  |    VQ     |          |          |          |
    1+ 5        0.2232       3.57  |    V Q    |          |          |          |
    1+10        0.2507       3.99  |     VQ    |          |          |          |
    1+15        0.2807       4.35  |      VQ   |          |          |          |
    1+20        0.3116       4.49  |       Q   |          |          |          |
    1+25        0.3428       4.54  |       VQ  |          |          |          |
    1+30        0.3764       4.88  |        Q  |          |          |          |
    1+35        0.4129       5.30  |         Q |          |          |          |
    1+40        0.4501       5.40  |         QV|          |          |          |
    1+45        0.4888       5.61  |          |QV         |          |          |
    1+50        0.5314       6.18  |          | QV        |          |          |
    1+55        0.5764       6.54  |          |  QV       |          |          |
    2+ 0        0.6214       6.53  |          |  Q  V     |          |          |
    2+ 5        0.6665       6.55  |          |  Q   V    |          |          |
    2+10        0.7138       6.87  |          |  Q    V   |          |          |
    2+15        0.7678       7.84  |          |    Q   V  |          |          |
    2+20        0.8296       8.97  |          |      Q  |V          |          |
    2+25        0.8944       9.41  |          |       Q |  V        |          |
    2+30        0.9707      11.08  |          |         | Q  V      |          |
    2+35        1.0648      13.67  |          |         |     Q     |          |
    2+40        1.1696      15.21  |          |         |        Q  |          |
    2+45        1.2685      14.36  |          |         |       Q | V        |
    2+50        1.3432      10.86  |          |         |Q          |  V       |
    2+55        1.3968       7.79  |          |    Q    |           |    V     |
    3+ 0        1.4400       6.27  |          | Q       |           |      V   |
    3+ 5        1.4727       4.75  |         Q|         |           |      V   |
    3+10        1.4947       3.19  |      Q   |         |           |       V  |
    3+15        1.5098       2.19  |   Q      |         |           |       V  |
    3+20        1.5210       1.63  |  Q       |         |           |        V |
```

```
      3+25       1.5297      1.26  | Q       |         |         |         V|
      3+30       1.5362      0.95  |Q        |         |         |         V|
      3+35       1.5412      0.71  |Q        |         |         |         V|
      3+40       1.5450      0.56  |Q        |         |         |         V|
      3+45       1.5478      0.41  Q         |         |         |         V|
      3+50       1.5497      0.28  Q         |         |         |         V|
      3+55       1.5508      0.16  Q         |         |         |         V|
      4+ 0       1.5514      0.07  Q         |         |         |         V|
      4+ 5       1.5517      0.05  Q         |         |         |         V|
      4+10       1.5519      0.03  Q         |         |         |         V|
      4+15       1.5519      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  08/08/24 File: PTC100B26100.out


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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUTFLOW B2
100 YEAR 6 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       8.00(Ac.)  =      0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       8.00(Ac.)  =      0.013 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.162 Hr.
Lag time =     9.72 Min.
25% of lag time =     2.43 Min.
40% of lag time =     3.89 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]
        8.00            1.40                11.20

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        8.00            3.50                28.00

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    1.400(In)
Area Averaged 100-Year Rainfall =    3.500(In)

Point rain (area averaged) =    3.500(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    3.500(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     8.000           56.00          0.900
 Total Area Entered =      8.00(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

56.0	74.8	0.305	0.900	0.058	1.000	0.058

Sum (F) = 0.058

Area averaged **mean** soil loss (F) (In/Hr) = 0.058

Minimum soil loss rate ((In/Hr)) = 0.029

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.188

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	51.440	6.400	0.516
2	0.167	102.881	27.367	2.206
3	0.250	154.321	28.680	2.312
4	0.333	205.761	12.458	1.004
5	0.417	257.202	6.665	0.537
6	0.500	308.642	4.642	0.374
7	0.583	360.082	3.334	0.269
8	0.667	411.523	2.514	0.203
9	0.750	462.963	1.829	0.147
10	0.833	514.403	1.556	0.125
11	0.917	565.844	1.229	0.099
12	1.000	617.284	0.964	0.078
13	1.083	668.724	0.752	0.061
14	1.167	720.165	0.556	0.045
15	1.250	771.605	0.514	0.041
16	1.333	823.045	0.541	0.044
		Sum = 100.000	Sum=	8.063

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.210	(0.058)	0.039	0.171
2	0.17	0.60	0.252	(0.058)	0.047	0.205
3	0.25	0.60	0.252	(0.058)	0.047	0.205
4	0.33	0.60	0.252	(0.058)	0.047	0.205
5	0.42	0.60	0.252	(0.058)	0.047	0.205
6	0.50	0.70	0.294	(0.058)	0.055	0.239
7	0.58	0.70	0.294	(0.058)	0.055	0.239
8	0.67	0.70	0.294	(0.058)	0.055	0.239
9	0.75	0.70	0.294	(0.058)	0.055	0.239
10	0.83	0.70	0.294	(0.058)	0.055	0.239
11	0.92	0.70	0.294	(0.058)	0.055	0.239
12	1.00	0.80	0.336	0.058	(0.063)	0.278
13	1.08	0.80	0.336	0.058	(0.063)	0.278
14	1.17	0.80	0.336	0.058	(0.063)	0.278
15	1.25	0.80	0.336	0.058	(0.063)	0.278
16	1.33	0.80	0.336	0.058	(0.063)	0.278
17	1.42	0.80	0.336	0.058	(0.063)	0.278
18	1.50	0.80	0.336	0.058	(0.063)	0.278
19	1.58	0.80	0.336	0.058	(0.063)	0.278
20	1.67	0.80	0.336	0.058	(0.063)	0.278
21	1.75	0.80	0.336	0.058	(0.063)	0.278
22	1.83	0.80	0.336	0.058	(0.063)	0.278
23	1.92	0.80	0.336	0.058	(0.063)	0.278
24	2.00	0.90	0.378	0.058	(0.071)	0.320
25	2.08	0.80	0.336	0.058	(0.063)	0.278
26	2.17	0.90	0.378	0.058	(0.071)	0.320
27	2.25	0.90	0.378	0.058	(0.071)	0.320
28	2.33	0.90	0.378	0.058	(0.071)	0.320

29	2.42	0.90	0.378	0.058	(0.071)	0.320
30	2.50	0.90	0.378	0.058	(0.071)	0.320
31	2.58	0.90	0.378	0.058	(0.071)	0.320
32	2.67	0.90	0.378	0.058	(0.071)	0.320
33	2.75	1.00	0.420	0.058	(0.079)	0.362
34	2.83	1.00	0.420	0.058	(0.079)	0.362
35	2.92	1.00	0.420	0.058	(0.079)	0.362
36	3.00	1.00	0.420	0.058	(0.079)	0.362
37	3.08	1.00	0.420	0.058	(0.079)	0.362
38	3.17	1.10	0.462	0.058	(0.087)	0.404
39	3.25	1.10	0.462	0.058	(0.087)	0.404
40	3.33	1.10	0.462	0.058	(0.087)	0.404
41	3.42	1.20	0.504	0.058	(0.095)	0.446
42	3.50	1.30	0.546	0.058	(0.103)	0.488
43	3.58	1.40	0.588	0.058	(0.111)	0.530
44	3.67	1.40	0.588	0.058	(0.111)	0.530
45	3.75	1.50	0.630	0.058	(0.118)	0.572
46	3.83	1.50	0.630	0.058	(0.118)	0.572
47	3.92	1.60	0.672	0.058	(0.126)	0.614
48	4.00	1.60	0.672	0.058	(0.126)	0.614
49	4.08	1.70	0.714	0.058	(0.134)	0.656
50	4.17	1.80	0.756	0.058	(0.142)	0.698
51	4.25	1.90	0.798	0.058	(0.150)	0.740
52	4.33	2.00	0.840	0.058	(0.158)	0.782
53	4.42	2.10	0.882	0.058	(0.166)	0.824
54	4.50	2.10	0.882	0.058	(0.166)	0.824
55	4.58	2.20	0.924	0.058	(0.174)	0.866
56	4.67	2.30	0.966	0.058	(0.182)	0.908
57	4.75	2.40	1.008	0.058	(0.189)	0.950
58	4.83	2.40	1.008	0.058	(0.189)	0.950
59	4.92	2.50	1.050	0.058	(0.197)	0.992
60	5.00	2.60	1.092	0.058	(0.205)	1.034
61	5.08	3.10	1.302	0.058	(0.245)	1.244
62	5.17	3.60	1.512	0.058	(0.284)	1.454
63	5.25	3.90	1.638	0.058	(0.308)	1.580
64	5.33	4.20	1.764	0.058	(0.332)	1.706
65	5.42	4.70	1.974	0.058	(0.371)	1.916
66	5.50	5.60	2.352	0.058	(0.442)	2.294
67	5.58	1.90	0.798	0.058	(0.150)	0.740
68	5.67	0.90	0.378	0.058	(0.071)	0.320
69	5.75	0.60	0.252	(0.058)	0.047	0.205
70	5.83	0.50	0.210	(0.058)	0.039	0.171
71	5.92	0.30	0.126	(0.058)	0.024	0.102
72	6.00	0.20	0.084	(0.058)	0.016	0.068

(Loss Rate Not Used)

Sum = 100.0 Sum = 38.0

Flood volume = Effective rainfall 3.17(In)

times area 8.0(Ac.)/[(In)/(Ft.)] = 2.1(Ac.Ft)

Total soil loss = 0.33(In)

Total soil loss = 0.222(Ac.Ft)

Total rainfall = 3.50(In)

Flood volume = 91971.8 Cubic Feet

Total soil loss = 9665.4 Cubic Feet

Peak flow rate of this hydrograph = 14.119(CFS)

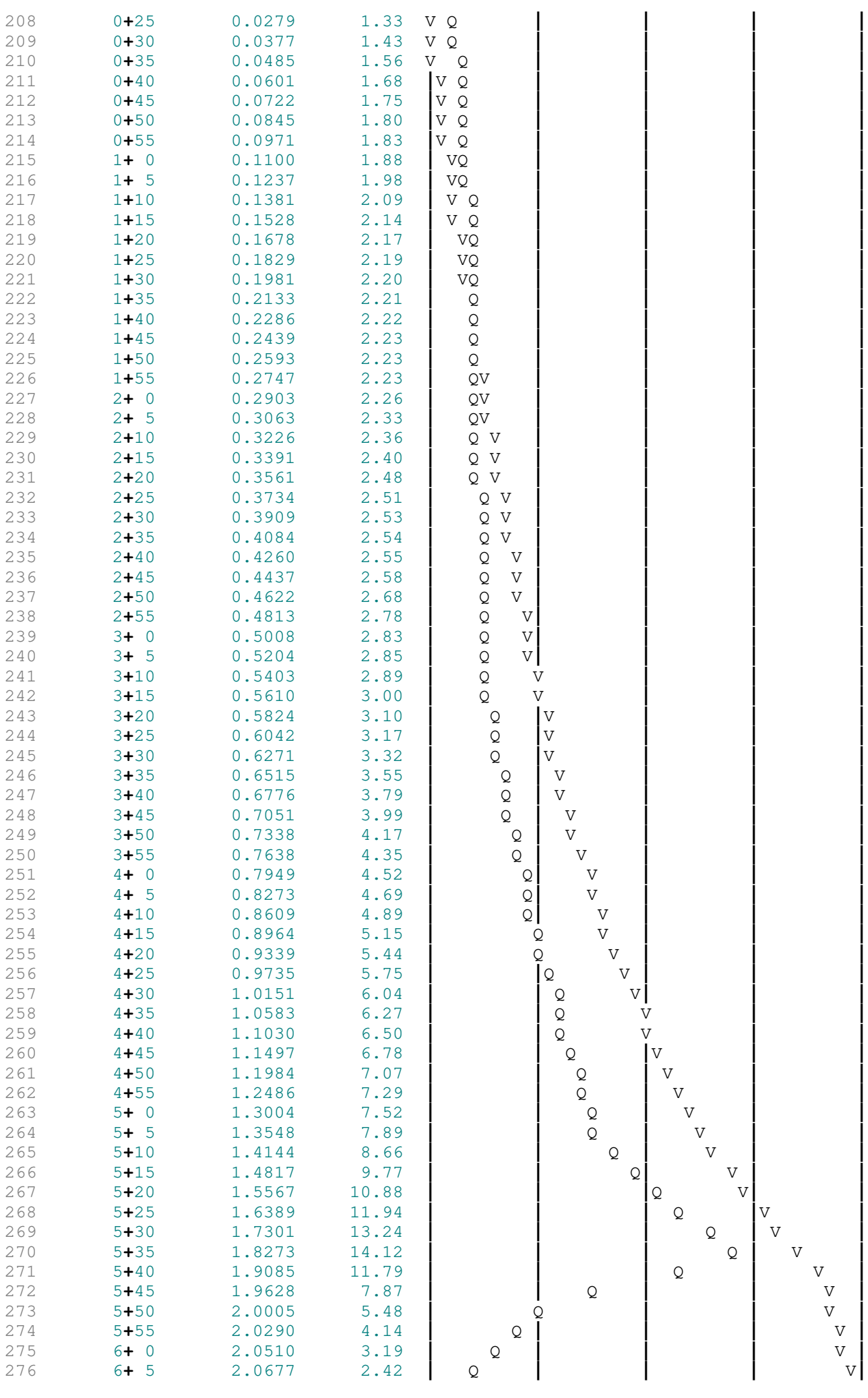
++

6 - H O U R S T O R M

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0006	0.09	Q	|	|	|	|
0+10	0.0039	0.48	Q	|	|	|	|
0+15	0.0105	0.95	VQ	|	|	|	|
0+20	0.0188	1.20	V Q	|	|	|	|



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     6+10       2.0799      1.77  |  Q      |         |         |         V|
     6+15       2.0887      1.28  | Q       |         |         |         V|
     6+20       2.0954      0.97  |Q        |         |         |         V|
     6+25       2.1004      0.73  |Q        |         |         |         V|
     6+30       2.1042      0.54  |Q        |         |         |         V|
     6+35       2.1069      0.40  Q         |         |         |         V|
     6+40       2.1089      0.29  Q         |         |         |         V|
     6+45       2.1102      0.19  Q         |         |         |         V|
     6+50       2.1108      0.08  Q         |         |         |         V|
     6+55       2.1110      0.04  Q         |         |         |         V|
     7+ 0       2.1112      0.02  Q         |         |         |         V|
     7+ 5       2.1113      0.01  Q         |         |         |         V|
     7+10       2.1114      0.01  Q         |         |         |         V|
     7+15       2.1114      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

    Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018, Version 9.0
        Study date  08/08/24 File: PTC100B224100.out


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------------------------------------------------------------------------------

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


Program License Serial Number 6443

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

 English Units used in output format



------------------------------------------------------------------------
TEMESCAL CANYON PROPOSED OUTFLOW B2
100 YEAR 24 HOUR
KIMLEY HORN

------------------------------------------------------------------------
Drainage Area =       8.00(Ac.)  =      0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       8.00(Ac.)  =      0.013 Sq. Mi.
USER Entry of lag time in hours
Lag time =    0.162 Hr.
Lag time =     9.72 Min.
25% of lag time =     2.43 Min.
40% of lag time =     3.89 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]
        8.00            2.50                20.00

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        8.00            7.00                56.00

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    2.500(In)
Area Averaged 100-Year Rainfall =    7.000(In)

Point rain (area averaged) =    7.000(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    7.000(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     8.000           56.00          0.900
 Total Area Entered =      8.00(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-3     (In/Hr)    (Dec.%)     (In/Hr)       (Dec.)    (In/Hr)
```

56.0	74.8	0.305	0.900	0.058	1.000	0.058

Sum (F) = 0.058

Area averaged mean soil loss (F) (In/Hr) = 0.058

Minimum soil loss rate ((In/Hr)) = 0.029

(for 24 hour storm duration)

Soil low loss rate (decimal) = 0.188

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	51.440	6.400	0.516
2	0.167	102.881	27.367	2.206
3	0.250	154.321	28.680	2.312
4	0.333	205.761	12.458	1.004
5	0.417	257.202	6.665	0.537
6	0.500	308.642	4.642	0.374
7	0.583	360.082	3.334	0.269
8	0.667	411.523	2.514	0.203
9	0.750	462.963	1.829	0.147
10	0.833	514.403	1.556	0.125
11	0.917	565.844	1.229	0.099
12	1.000	617.284	0.964	0.078
13	1.083	668.724	0.752	0.061
14	1.167	720.165	0.556	0.045
15	1.250	771.605	0.514	0.041
16	1.333	823.045	0.541	0.044
		Sum = 100.000	Sum=	8.063

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.056	(0.103)	0.011	0.045
2	0.17	0.07	0.056	(0.102)	0.011	0.045
3	0.25	0.07	0.056	(0.102)	0.011	0.045
4	0.33	0.10	0.084	(0.102)	0.016	0.068
5	0.42	0.10	0.084	(0.101)	0.016	0.068
6	0.50	0.10	0.084	(0.101)	0.016	0.068
7	0.58	0.10	0.084	(0.100)	0.016	0.068
8	0.67	0.10	0.084	(0.100)	0.016	0.068
9	0.75	0.10	0.084	(0.100)	0.016	0.068
10	0.83	0.13	0.112	(0.099)	0.021	0.091
11	0.92	0.13	0.112	(0.099)	0.021	0.091
12	1.00	0.13	0.112	(0.099)	0.021	0.091
13	1.08	0.10	0.084	(0.098)	0.016	0.068
14	1.17	0.10	0.084	(0.098)	0.016	0.068
15	1.25	0.10	0.084	(0.097)	0.016	0.068
16	1.33	0.10	0.084	(0.097)	0.016	0.068
17	1.42	0.10	0.084	(0.097)	0.016	0.068
18	1.50	0.10	0.084	(0.096)	0.016	0.068
19	1.58	0.10	0.084	(0.096)	0.016	0.068
20	1.67	0.10	0.084	(0.095)	0.016	0.068
21	1.75	0.10	0.084	(0.095)	0.016	0.068
22	1.83	0.13	0.112	(0.095)	0.021	0.091
23	1.92	0.13	0.112	(0.094)	0.021	0.091
24	2.00	0.13	0.112	(0.094)	0.021	0.091
25	2.08	0.13	0.112	(0.094)	0.021	0.091
26	2.17	0.13	0.112	(0.093)	0.021	0.091
27	2.25	0.13	0.112	(0.093)	0.021	0.091
28	2.33	0.13	0.112	(0.092)	0.021	0.091

139	29	2.42	0.13	0.112	(	0.092)	0.021	0.091
140	30	2.50	0.13	0.112	(	0.092)	0.021	0.091
141	31	2.58	0.17	0.140	(	0.091)	0.026	0.114
142	32	2.67	0.17	0.140	(	0.091)	0.026	0.114
143	33	2.75	0.17	0.140	(	0.091)	0.026	0.114
144	34	2.83	0.17	0.140	(	0.090)	0.026	0.114
145	35	2.92	0.17	0.140	(	0.090)	0.026	0.114
146	36	3.00	0.17	0.140	(	0.089)	0.026	0.114
147	37	3.08	0.17	0.140	(	0.089)	0.026	0.114
148	38	3.17	0.17	0.140	(	0.089)	0.026	0.114
149	39	3.25	0.17	0.140	(	0.088)	0.026	0.114
150	40	3.33	0.17	0.140	(	0.088)	0.026	0.114
151	41	3.42	0.17	0.140	(	0.088)	0.026	0.114
152	42	3.50	0.17	0.140	(	0.087)	0.026	0.114
153	43	3.58	0.17	0.140	(	0.087)	0.026	0.114
154	44	3.67	0.17	0.140	(	0.086)	0.026	0.114
155	45	3.75	0.17	0.140	(	0.086)	0.026	0.114
156	46	3.83	0.20	0.168	(	0.086)	0.032	0.136
157	47	3.92	0.20	0.168	(	0.085)	0.032	0.136
158	48	4.00	0.20	0.168	(	0.085)	0.032	0.136
159	49	4.08	0.20	0.168	(	0.085)	0.032	0.136
160	50	4.17	0.20	0.168	(	0.084)	0.032	0.136
161	51	4.25	0.20	0.168	(	0.084)	0.032	0.136
162	52	4.33	0.23	0.196	(	0.084)	0.037	0.159
163	53	4.42	0.23	0.196	(	0.083)	0.037	0.159
164	54	4.50	0.23	0.196	(	0.083)	0.037	0.159
165	55	4.58	0.23	0.196	(	0.082)	0.037	0.159
166	56	4.67	0.23	0.196	(	0.082)	0.037	0.159
167	57	4.75	0.23	0.196	(	0.082)	0.037	0.159
168	58	4.83	0.27	0.224	(	0.081)	0.042	0.182
169	59	4.92	0.27	0.224	(	0.081)	0.042	0.182
170	60	5.00	0.27	0.224	(	0.081)	0.042	0.182
171	61	5.08	0.20	0.168	(	0.080)	0.032	0.136
172	62	5.17	0.20	0.168	(	0.080)	0.032	0.136
173	63	5.25	0.20	0.168	(	0.080)	0.032	0.136
174	64	5.33	0.23	0.196	(	0.079)	0.037	0.159
175	65	5.42	0.23	0.196	(	0.079)	0.037	0.159
176	66	5.50	0.23	0.196	(	0.079)	0.037	0.159
177	67	5.58	0.27	0.224	(	0.078)	0.042	0.182
178	68	5.67	0.27	0.224	(	0.078)	0.042	0.182
179	69	5.75	0.27	0.224	(	0.078)	0.042	0.182
180	70	5.83	0.27	0.224	(	0.077)	0.042	0.182
181	71	5.92	0.27	0.224	(	0.077)	0.042	0.182
182	72	6.00	0.27	0.224	(	0.077)	0.042	0.182
183	73	6.08	0.30	0.252	(	0.076)	0.047	0.205
184	74	6.17	0.30	0.252	(	0.076)	0.047	0.205
185	75	6.25	0.30	0.252	(	0.076)	0.047	0.205
186	76	6.33	0.30	0.252	(	0.075)	0.047	0.205
187	77	6.42	0.30	0.252	(	0.075)	0.047	0.205
188	78	6.50	0.30	0.252	(	0.075)	0.047	0.205
189	79	6.58	0.33	0.280	(	0.074)	0.053	0.227
190	80	6.67	0.33	0.280	(	0.074)	0.053	0.227
191	81	6.75	0.33	0.280	(	0.074)	0.053	0.227
192	82	6.83	0.33	0.280	(	0.073)	0.053	0.227
193	83	6.92	0.33	0.280	(	0.073)	0.053	0.227
194	84	7.00	0.33	0.280	(	0.073)	0.053	0.227
195	85	7.08	0.33	0.280	(	0.072)	0.053	0.227
196	86	7.17	0.33	0.280	(	0.072)	0.053	0.227
197	87	7.25	0.33	0.280	(	0.072)	0.053	0.227
198	88	7.33	0.37	0.308	(	0.071)	0.058	0.250
199	89	7.42	0.37	0.308	(	0.071)	0.058	0.250
200	90	7.50	0.37	0.308	(	0.071)	0.058	0.250
201	91	7.58	0.40	0.336	(	0.070)	0.063	0.273
202	92	7.67	0.40	0.336	(	0.070)	0.063	0.273
203	93	7.75	0.40	0.336	(	0.070)	0.063	0.273
204	94	7.83	0.43	0.364	(	0.069)	0.068	0.296
205	95	7.92	0.43	0.364	(	0.069)	0.068	0.296
206	96	8.00	0.43	0.364	(	0.069)	0.068	0.296
207	97	8.08	0.50	0.420		0.068	(0.079)	0.352

208	98	8.17	0.50	0.420	0.068	(0.079)	0.352
209	99	8.25	0.50	0.420	0.068	(0.079)	0.352
210	100	8.33	0.50	0.420	0.067	(0.079)	0.353
211	101	8.42	0.50	0.420	0.067	(0.079)	0.353
212	102	8.50	0.50	0.420	0.067	(0.079)	0.353
213	103	8.58	0.53	0.448	0.066	(0.084)	0.382
214	104	8.67	0.53	0.448	0.066	(0.084)	0.382
215	105	8.75	0.53	0.448	0.066	(0.084)	0.382
216	106	8.83	0.57	0.476	0.066	(0.089)	0.410
217	107	8.92	0.57	0.476	0.065	(0.089)	0.411
218	108	9.00	0.57	0.476	0.065	(0.089)	0.411
219	109	9.08	0.63	0.532	0.065	(0.100)	0.467
220	110	9.17	0.63	0.532	0.064	(0.100)	0.468
221	111	9.25	0.63	0.532	0.064	(0.100)	0.468
222	112	9.33	0.67	0.560	0.064	(0.105)	0.496
223	113	9.42	0.67	0.560	0.063	(0.105)	0.497
224	114	9.50	0.67	0.560	0.063	(0.105)	0.497
225	115	9.58	0.70	0.588	0.063	(0.111)	0.525
226	116	9.67	0.70	0.588	0.062	(0.111)	0.526
227	117	9.75	0.70	0.588	0.062	(0.111)	0.526
228	118	9.83	0.73	0.616	0.062	(0.116)	0.554
229	119	9.92	0.73	0.616	0.062	(0.116)	0.554
230	120	10.00	0.73	0.616	0.061	(0.116)	0.555
231	121	10.08	0.50	0.420	0.061	(0.079)	0.359
232	122	10.17	0.50	0.420	0.061	(0.079)	0.359
233	123	10.25	0.50	0.420	0.060	(0.079)	0.360
234	124	10.33	0.50	0.420	0.060	(0.079)	0.360
235	125	10.42	0.50	0.420	0.060	(0.079)	0.360
236	126	10.50	0.50	0.420	0.060	(0.079)	0.360
237	127	10.58	0.67	0.560	0.059	(0.105)	0.501
238	128	10.67	0.67	0.560	0.059	(0.105)	0.501
239	129	10.75	0.67	0.560	0.059	(0.105)	0.501
240	130	10.83	0.67	0.560	0.058	(0.105)	0.502
241	131	10.92	0.67	0.560	0.058	(0.105)	0.502
242	132	11.00	0.67	0.560	0.058	(0.105)	0.502
243	133	11.08	0.63	0.532	0.057	(0.100)	0.474
244	134	11.17	0.63	0.532	0.057	(0.100)	0.475
245	135	11.25	0.63	0.532	0.057	(0.100)	0.475
246	136	11.33	0.63	0.532	0.057	(0.100)	0.475
247	137	11.42	0.63	0.532	0.056	(0.100)	0.476
248	138	11.50	0.63	0.532	0.056	(0.100)	0.476
249	139	11.58	0.57	0.476	0.056	(0.089)	0.420
250	140	11.67	0.57	0.476	0.056	(0.089)	0.420
251	141	11.75	0.57	0.476	0.055	(0.089)	0.421
252	142	11.83	0.60	0.504	0.055	(0.095)	0.449
253	143	11.92	0.60	0.504	0.055	(0.095)	0.449
254	144	12.00	0.60	0.504	0.054	(0.095)	0.450
255	145	12.08	0.83	0.700	0.054	(0.132)	0.646
256	146	12.17	0.83	0.700	0.054	(0.132)	0.646
257	147	12.25	0.83	0.700	0.054	(0.132)	0.646
258	148	12.33	0.87	0.728	0.053	(0.137)	0.675
259	149	12.42	0.87	0.728	0.053	(0.137)	0.675
260	150	12.50	0.87	0.728	0.053	(0.137)	0.675
261	151	12.58	0.93	0.784	0.053	(0.147)	0.731
262	152	12.67	0.93	0.784	0.052	(0.147)	0.732
263	153	12.75	0.93	0.784	0.052	(0.147)	0.732
264	154	12.83	0.97	0.812	0.052	(0.153)	0.760
265	155	12.92	0.97	0.812	0.051	(0.153)	0.760
266	156	13.00	0.97	0.812	0.051	(0.153)	0.761
267	157	13.08	1.13	0.952	0.051	(0.179)	0.901
268	158	13.17	1.13	0.952	0.051	(0.179)	0.901
269	159	13.25	1.13	0.952	0.050	(0.179)	0.902
270	160	13.33	1.13	0.952	0.050	(0.179)	0.902
271	161	13.42	1.13	0.952	0.050	(0.179)	0.902
272	162	13.50	1.13	0.952	0.050	(0.179)	0.902
273	163	13.58	0.77	0.644	0.049	(0.121)	0.595
274	164	13.67	0.77	0.644	0.049	(0.121)	0.595
275	165	13.75	0.77	0.644	0.049	(0.121)	0.595
276	166	13.83	0.77	0.644	0.049	(0.121)	0.595

277	167	13.92	0.77	0.644		0.048	(0.121)	0.596
278	168	14.00	0.77	0.644		0.048	(0.121)	0.596
279	169	14.08	0.90	0.756		0.048	(0.142)	0.708
280	170	14.17	0.90	0.756		0.048	(0.142)	0.708
281	171	14.25	0.90	0.756		0.047	(0.142)	0.709
282	172	14.33	0.87	0.728		0.047	(0.137)	0.681
283	173	14.42	0.87	0.728		0.047	(0.137)	0.681
284	174	14.50	0.87	0.728		0.047	(0.137)	0.681
285	175	14.58	0.87	0.728		0.046	(0.137)	0.681
286	176	14.67	0.87	0.728		0.046	(0.137)	0.682
287	177	14.75	0.87	0.728		0.046	(0.137)	0.682
288	178	14.83	0.83	0.700		0.046	(0.132)	0.654
289	179	14.92	0.83	0.700		0.046	(0.132)	0.654
290	180	15.00	0.83	0.700		0.045	(0.132)	0.655
291	181	15.08	0.80	0.672		0.045	(0.126)	0.627
292	182	15.17	0.80	0.672		0.045	(0.126)	0.627
293	183	15.25	0.80	0.672		0.045	(0.126)	0.627
294	184	15.33	0.77	0.644		0.044	(0.121)	0.600
295	185	15.42	0.77	0.644		0.044	(0.121)	0.600
296	186	15.50	0.77	0.644		0.044	(0.121)	0.600
297	187	15.58	0.63	0.532		0.044	(0.100)	0.488
298	188	15.67	0.63	0.532		0.043	(0.100)	0.489
299	189	15.75	0.63	0.532		0.043	(0.100)	0.489
300	190	15.83	0.63	0.532		0.043	(0.100)	0.489
301	191	15.92	0.63	0.532		0.043	(0.100)	0.489
302	192	16.00	0.63	0.532		0.043	(0.100)	0.489
303	193	16.08	0.13	0.112	(0.042)		0.021	0.091
304	194	16.17	0.13	0.112	(0.042)		0.021	0.091
305	195	16.25	0.13	0.112	(0.042)		0.021	0.091
306	196	16.33	0.13	0.112	(0.042)		0.021	0.091
307	197	16.42	0.13	0.112	(0.042)		0.021	0.091
308	198	16.50	0.13	0.112	(0.041)		0.021	0.091
309	199	16.58	0.10	0.084	(0.041)		0.016	0.068
310	200	16.67	0.10	0.084	(0.041)		0.016	0.068
311	201	16.75	0.10	0.084	(0.041)		0.016	0.068
312	202	16.83	0.10	0.084	(0.040)		0.016	0.068
313	203	16.92	0.10	0.084	(0.040)		0.016	0.068
314	204	17.00	0.10	0.084	(0.040)		0.016	0.068
315	205	17.08	0.17	0.140	(0.040)		0.026	0.114
316	206	17.17	0.17	0.140	(0.040)		0.026	0.114
317	207	17.25	0.17	0.140	(0.039)		0.026	0.114
318	208	17.33	0.17	0.140	(0.039)		0.026	0.114
319	209	17.42	0.17	0.140	(0.039)		0.026	0.114
320	210	17.50	0.17	0.140	(0.039)		0.026	0.114
321	211	17.58	0.17	0.140	(0.039)		0.026	0.114
322	212	17.67	0.17	0.140	(0.038)		0.026	0.114
323	213	17.75	0.17	0.140	(0.038)		0.026	0.114
324	214	17.83	0.13	0.112	(0.038)		0.021	0.091
325	215	17.92	0.13	0.112	(0.038)		0.021	0.091
326	216	18.00	0.13	0.112	(0.038)		0.021	0.091
327	217	18.08	0.13	0.112	(0.038)		0.021	0.091
328	218	18.17	0.13	0.112	(0.037)		0.021	0.091
329	219	18.25	0.13	0.112	(0.037)		0.021	0.091
330	220	18.33	0.13	0.112	(0.037)		0.021	0.091
331	221	18.42	0.13	0.112	(0.037)		0.021	0.091
332	222	18.50	0.13	0.112	(0.037)		0.021	0.091
333	223	18.58	0.10	0.084	(0.036)		0.016	0.068
334	224	18.67	0.10	0.084	(0.036)		0.016	0.068
335	225	18.75	0.10	0.084	(0.036)		0.016	0.068
336	226	18.83	0.07	0.056	(0.036)		0.011	0.045
337	227	18.92	0.07	0.056	(0.036)		0.011	0.045
338	228	19.00	0.07	0.056	(0.036)		0.011	0.045
339	229	19.08	0.10	0.084	(0.035)		0.016	0.068
340	230	19.17	0.10	0.084	(0.035)		0.016	0.068
341	231	19.25	0.10	0.084	(0.035)		0.016	0.068
342	232	19.33	0.13	0.112	(0.035)		0.021	0.091
343	233	19.42	0.13	0.112	(0.035)		0.021	0.091
344	234	19.50	0.13	0.112	(0.035)		0.021	0.091
345	235	19.58	0.10	0.084	(0.034)		0.016	0.068

236	19.67	0.10	0.084	(0.034)	0.016	0.068
237	19.75	0.10	0.084	(0.034)	0.016	0.068
238	19.83	0.07	0.056	(0.034)	0.011	0.045
239	19.92	0.07	0.056	(0.034)	0.011	0.045
240	20.00	0.07	0.056	(0.034)	0.011	0.045
241	20.08	0.10	0.084	(0.034)	0.016	0.068
242	20.17	0.10	0.084	(0.033)	0.016	0.068
243	20.25	0.10	0.084	(0.033)	0.016	0.068
244	20.33	0.10	0.084	(0.033)	0.016	0.068
245	20.42	0.10	0.084	(0.033)	0.016	0.068
246	20.50	0.10	0.084	(0.033)	0.016	0.068
247	20.58	0.10	0.084	(0.033)	0.016	0.068
248	20.67	0.10	0.084	(0.033)	0.016	0.068
249	20.75	0.10	0.084	(0.032)	0.016	0.068
250	20.83	0.07	0.056	(0.032)	0.011	0.045
251	20.92	0.07	0.056	(0.032)	0.011	0.045
252	21.00	0.07	0.056	(0.032)	0.011	0.045
253	21.08	0.10	0.084	(0.032)	0.016	0.068
254	21.17	0.10	0.084	(0.032)	0.016	0.068
255	21.25	0.10	0.084	(0.032)	0.016	0.068
256	21.33	0.07	0.056	(0.032)	0.011	0.045
257	21.42	0.07	0.056	(0.031)	0.011	0.045
258	21.50	0.07	0.056	(0.031)	0.011	0.045
259	21.58	0.10	0.084	(0.031)	0.016	0.068
260	21.67	0.10	0.084	(0.031)	0.016	0.068
261	21.75	0.10	0.084	(0.031)	0.016	0.068
262	21.83	0.07	0.056	(0.031)	0.011	0.045
263	21.92	0.07	0.056	(0.031)	0.011	0.045
264	22.00	0.07	0.056	(0.031)	0.011	0.045
265	22.08	0.10	0.084	(0.031)	0.016	0.068
266	22.17	0.10	0.084	(0.030)	0.016	0.068
267	22.25	0.10	0.084	(0.030)	0.016	0.068
268	22.33	0.07	0.056	(0.030)	0.011	0.045
269	22.42	0.07	0.056	(0.030)	0.011	0.045
270	22.50	0.07	0.056	(0.030)	0.011	0.045
271	22.58	0.07	0.056	(0.030)	0.011	0.045
272	22.67	0.07	0.056	(0.030)	0.011	0.045
273	22.75	0.07	0.056	(0.030)	0.011	0.045
274	22.83	0.07	0.056	(0.030)	0.011	0.045
275	22.92	0.07	0.056	(0.030)	0.011	0.045
276	23.00	0.07	0.056	(0.030)	0.011	0.045
277	23.08	0.07	0.056	(0.030)	0.011	0.045
278	23.17	0.07	0.056	(0.029)	0.011	0.045
279	23.25	0.07	0.056	(0.029)	0.011	0.045
280	23.33	0.07	0.056	(0.029)	0.011	0.045
281	23.42	0.07	0.056	(0.029)	0.011	0.045
282	23.50	0.07	0.056	(0.029)	0.011	0.045
283	23.58	0.07	0.056	(0.029)	0.011	0.045
284	23.67	0.07	0.056	(0.029)	0.011	0.045
285	23.75	0.07	0.056	(0.029)	0.011	0.045
286	23.83	0.07	0.056	(0.029)	0.011	0.045
287	23.92	0.07	0.056	(0.029)	0.011	0.045
288	24.00	0.07	0.056	(0.029)	0.011	0.045

(Loss Rate Not Used)

Sum = 100.0 Sum = 74.0

Flood volume = Effective rainfall 6.17(In)

times area 8.0(Ac.)/[(In)/(Ft.)] = 4.1(Ac.Ft)

Total soil loss = 0.83(In)

Total soil loss = 0.556(Ac.Ft)

Total rainfall = 7.00(In)

Flood volume = 179067.0 Cubic Feet

Total soil loss = 24209.9 Cubic Feet

Peak flow rate of this hydrograph = 7.091(CFS)

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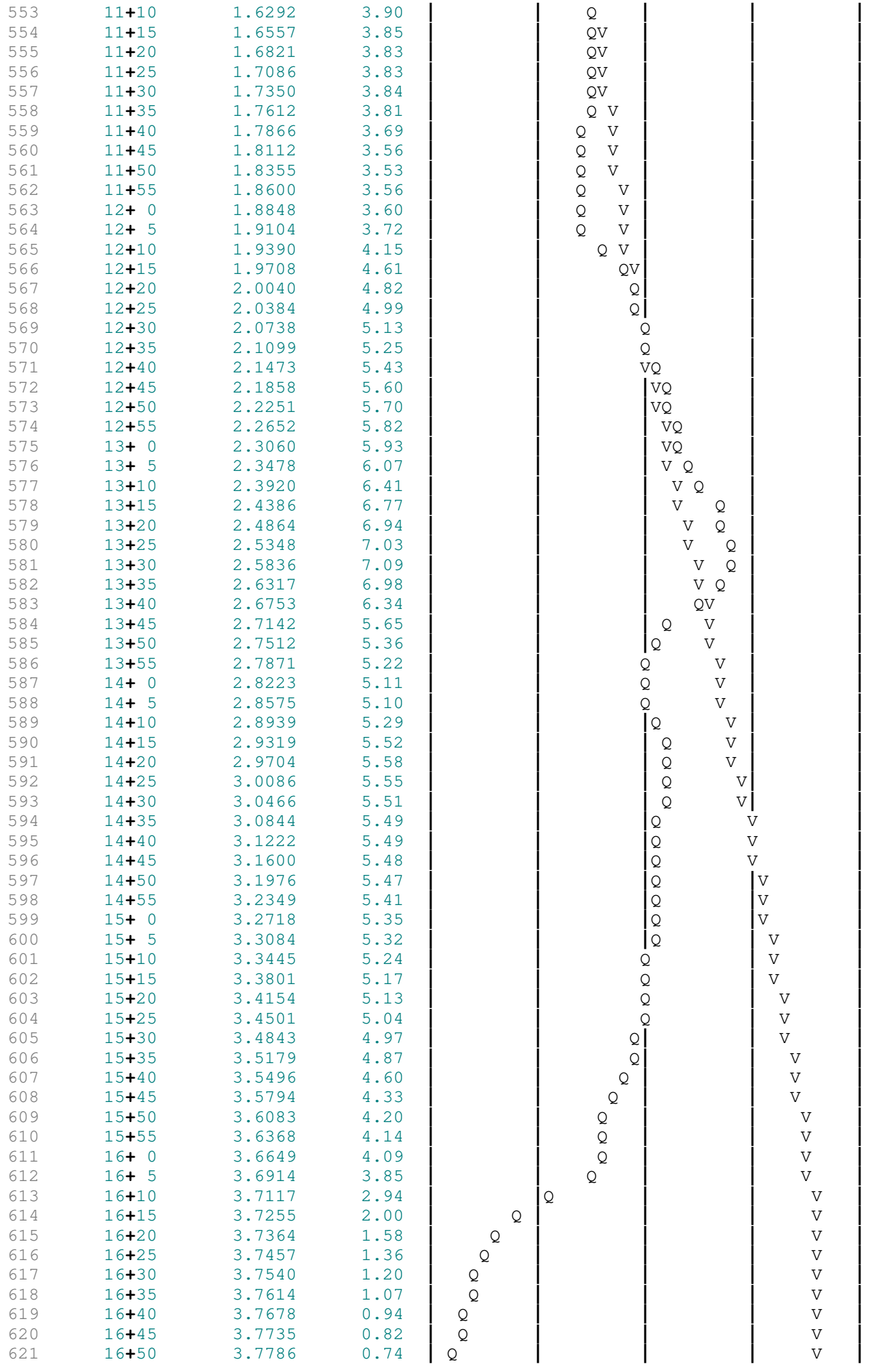
24 - H O U R S T O R M

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	0.02	Q				
0+10	0.0010	0.12	Q				
0+15	0.0026	0.23	Q				
0+20	0.0046	0.29	VQ				
0+25	0.0071	0.36	VQ				
0+30	0.0100	0.43	VQ				
0+35	0.0132	0.47	VQ				
0+40	0.0166	0.49	VQ				
0+45	0.0200	0.50	V Q				
0+50	0.0237	0.53	V Q				
0+55	0.0277	0.59	V Q				
1+ 0	0.0321	0.64	V Q				
1+ 5	0.0367	0.66	V Q				
1+10	0.0410	0.63	V Q				
1+15	0.0451	0.59	V Q				
1+20	0.0490	0.57	V Q				
1+25	0.0529	0.57	V Q				
1+30	0.0568	0.56	V Q				
1+35	0.0607	0.56	V Q				
1+40	0.0645	0.56	V Q				
1+45	0.0684	0.56	V Q				
1+50	0.0723	0.57	V Q				
1+55	0.0765	0.62	V Q				
2+ 0	0.0811	0.67	V Q				
2+ 5	0.0859	0.69	V Q				
2+10	0.0907	0.70	V Q				
2+15	0.0956	0.71	V Q				
2+20	0.1005	0.71	V Q				
2+25	0.1055	0.72	VQ				
2+30	0.1104	0.72	VQ				
2+35	0.1155	0.74	VQ				
2+40	0.1209	0.79	V Q				
2+45	0.1268	0.84	V Q				
2+50	0.1327	0.87	V Q				
2+55	0.1388	0.88	V Q				
3+ 0	0.1449	0.89	V Q				
3+ 5	0.1511	0.90	V Q				
3+10	0.1573	0.90	V Q				
3+15	0.1636	0.91	V Q				
3+20	0.1698	0.91	V Q				
3+25	0.1761	0.91	V Q				
3+30	0.1824	0.91	V Q				
3+35	0.1887	0.91	V Q				
3+40	0.1950	0.92	V Q				
3+45	0.2013	0.92	V Q				
3+50	0.2077	0.93	VQ				
3+55	0.2144	0.98	VQ				
4+ 0	0.2215	1.03	V Q				
4+ 5	0.2288	1.05	V Q				
4+10	0.2361	1.07	V Q				
4+15	0.2435	1.08	V Q				
4+20	0.2511	1.09	V Q				
4+25	0.2590	1.15	V Q				
4+30	0.2673	1.20	V Q				
4+35	0.2757	1.23	V Q				
4+40	0.2843	1.24	V Q				
4+45	0.2929	1.25	V Q				
4+50	0.3017	1.27	V Q				
4+55	0.3109	1.33	V Q				
5+ 0	0.3204	1.39	V Q				
5+ 5	0.3300	1.39	V Q				
5+10	0.3390	1.30	V Q				
5+15	0.3473	1.21	VQ				
5+20	0.3554	1.18	VQ				

484	5+25	0.3638	1.21	VQ			
485	5+30	0.3724	1.25	V Q			
486	5+35	0.3812	1.28	V Q			
487	5+40	0.3904	1.33	V Q			
488	5+45	0.4000	1.39	V Q			
489	5+50	0.4097	1.42	V Q			
490	5+55	0.4196	1.43	VQ			
491	6+ 0	0.4295	1.44	VQ			
492	6+ 5	0.4395	1.46	VQ			
493	6+10	0.4500	1.51	V Q			
494	6+15	0.4608	1.57	V Q			
495	6+20	0.4717	1.59	V Q			
496	6+25	0.4828	1.61	V Q			
497	6+30	0.4940	1.62	V Q			
498	6+35	0.5053	1.64	V Q			
499	6+40	0.5169	1.70	VQ			
500	6+45	0.5290	1.75	V Q			
501	6+50	0.5413	1.78	V Q			
502	6+55	0.5536	1.79	V Q			
503	7+ 0	0.5660	1.80	V Q			
504	7+ 5	0.5785	1.81	V Q			
505	7+10	0.5910	1.82	V Q			
506	7+15	0.6036	1.82	V Q			
507	7+20	0.6162	1.84	V Q			
508	7+25	0.6293	1.89	VQ			
509	7+30	0.6427	1.94	VQ			
510	7+35	0.6563	1.98	VQ			
511	7+40	0.6704	2.04	V Q			
512	7+45	0.6849	2.11	V Q			
513	7+50	0.6997	2.15	V Q			
514	7+55	0.7149	2.21	V Q			
515	8+ 0	0.7306	2.28	V Q			
516	8+ 5	0.7467	2.34	V Q			
517	8+10	0.7638	2.48	V Q			
518	8+15	0.7819	2.63	V Q			
519	8+20	0.8005	2.70	V Q			
520	8+25	0.8193	2.74	V Q			
521	8+30	0.8383	2.76	V Q			
522	8+35	0.8576	2.80	V Q			
523	8+40	0.8775	2.88	V Q			
524	8+45	0.8978	2.96	V Q			
525	8+50	0.9186	3.01	V Q			
526	8+55	0.9399	3.10	V Q			
527	9+ 0	0.9618	3.18	V Q			
528	9+ 5	0.9842	3.25	V Q			
529	9+10	1.0077	3.40	V Q			
530	9+15	1.0321	3.55	V Q			
531	9+20	1.0572	3.64	V Q			
532	9+25	1.0829	3.74	V Q			
533	9+30	1.1094	3.84	V Q			
534	9+35	1.1362	3.90	V Q			
535	9+40	1.1637	4.00	V Q			
536	9+45	1.1919	4.08	V Q			
537	9+50	1.2204	4.15	V Q			
538	9+55	1.2496	4.24	V Q			
539	10+ 0	1.2794	4.33	V Q			
540	10+ 5	1.3088	4.27	V Q			
541	10+10	1.3354	3.87	V Q			
542	10+15	1.3591	3.43	Q			
543	10+20	1.3815	3.26	Q			
544	10+25	1.4033	3.16	QV			
545	10+30	1.4246	3.10	QV			
546	10+35	1.4462	3.13	Q V			
547	10+40	1.4696	3.40	QV			
548	10+45	1.4951	3.70	Q			
549	10+50	1.5215	3.82	VQ			
550	10+55	1.5482	3.88	Q			
551	11+ 0	1.5752	3.92	Q			
552	11+ 5	1.6024	3.94	Q			



622	16+55	3.7833	0.69	Q			V	
623	17+ 0	3.7878	0.65	Q			V	
624	17+ 5	3.7923	0.64	Q			V	
625	17+10	3.7972	0.72	Q			V	
626	17+15	3.8028	0.81	Q			V	
627	17+20	3.8085	0.83	Q			V	
628	17+25	3.8144	0.86	Q			V	
629	17+30	3.8204	0.87	Q			V	
630	17+35	3.8265	0.88	Q			V	
631	17+40	3.8326	0.89	Q			V	
632	17+45	3.8388	0.90	Q			V	
633	17+50	3.8449	0.89	Q			V	
634	17+55	3.8507	0.84	Q			V	
635	18+ 0	3.8562	0.79	Q			V	
636	18+ 5	3.8615	0.77	Q			V	
637	18+10	3.8668	0.76	Q			V	
638	18+15	3.8720	0.76	Q			V	
639	18+20	3.8772	0.75	Q			V	
640	18+25	3.8823	0.75	Q			V	
641	18+30	3.8874	0.74	Q			V	
642	18+35	3.8925	0.73	Q			V	
643	18+40	3.8971	0.68	Q			V	
644	18+45	3.9014	0.62	Q			V	
645	18+50	3.9055	0.59	Q			V	
646	18+55	3.9091	0.52	Q			V	
647	19+ 0	3.9123	0.46	Q			V	
648	19+ 5	3.9153	0.44	Q			V	
649	19+10	3.9186	0.48	Q			V	
650	19+15	3.9222	0.52	Q			V	
651	19+20	3.9259	0.54	Q			V	
652	19+25	3.9300	0.60	Q			V	
653	19+30	3.9346	0.65	Q			V	
654	19+35	3.9392	0.67	Q			V	
655	19+40	3.9435	0.63	Q			V	
656	19+45	3.9476	0.59	Q			V	
657	19+50	3.9514	0.56	Q			V	
658	19+55	3.9549	0.50	Q			V	
659	20+ 0	3.9580	0.45	Q			V	
660	20+ 5	3.9609	0.43	Q			V	
661	20+10	3.9642	0.47	Q			V	
662	20+15	3.9677	0.51	Q			V	
663	20+20	3.9713	0.53	Q			V	
664	20+25	3.9750	0.54	Q			V	
665	20+30	3.9787	0.54	Q			V	
666	20+35	3.9825	0.54	Q			V	
667	20+40	3.9862	0.54	Q			V	
668	20+45	3.9900	0.54	Q			V	
669	20+50	3.9936	0.53	Q			V	
670	20+55	3.9970	0.48	Q			V	
671	21+ 0	3.9999	0.43	Q			V	
672	21+ 5	4.0028	0.42	Q			V	
673	21+10	4.0060	0.46	Q			V	
674	21+15	4.0095	0.51	Q			V	
675	21+20	4.0130	0.51	Q			V	
676	21+25	4.0163	0.47	Q			V	
677	21+30	4.0192	0.42	Q			V	
678	21+35	4.0220	0.41	Q			V	
679	21+40	4.0251	0.45	Q			V	
680	21+45	4.0286	0.50	Q			V	
681	21+50	4.0321	0.51	Q			V	
682	21+55	4.0353	0.46	Q			V	
683	22+ 0	4.0381	0.42	Q			V	
684	22+ 5	4.0410	0.41	Q			V	
685	22+10	4.0441	0.45	Q			V	
686	22+15	4.0475	0.50	Q			V	
687	22+20	4.0510	0.51	Q			V	
688	22+25	4.0542	0.46	Q			V	
689	22+30	4.0571	0.42	Q			V	
690	22+35	4.0598	0.40	Q			V	

691	22+40	4.0625	0.39	|Q	|	|	|	V|
692	22+45	4.0652	0.38	|Q	|	|	|	V|
693	22+50	4.0678	0.38	|Q	|	|	|	V|
694	22+55	4.0704	0.38	|Q	|	|	|	V|
695	23+ 0	4.0730	0.37	|Q	|	|	|	V|
696	23+ 5	4.0755	0.37	|Q	|	|	|	V|
697	23+10	4.0781	0.37	|Q	|	|	|	V|
698	23+15	4.0806	0.37	|Q	|	|	|	V|
699	23+20	4.0832	0.37	|Q	|	|	|	V|
700	23+25	4.0857	0.37	|Q	|	|	|	V|
701	23+30	4.0883	0.37	|Q	|	|	|	V|
702	23+35	4.0908	0.37	|Q	|	|	|	V|
703	23+40	4.0933	0.37	|Q	|	|	|	V|
704	23+45	4.0958	0.37	|Q	|	|	|	V|
705	23+50	4.0984	0.37	|Q	|	|	|	V|
706	23+55	4.1009	0.37	|Q	|	|	|	V|
707	24+ 0	4.1034	0.37	|Q	|	|	|	V|
708	24+ 5	4.1058	0.34	|Q	|	|	|	V|
709	24+10	4.1075	0.24	Q	|	|	|	V|
710	24+15	4.1084	0.14	Q	|	|	|	V|
711	24+20	4.1090	0.09	Q	|	|	|	V|
712	24+25	4.1095	0.07	Q	|	|	|	V|
713	24+30	4.1099	0.05	Q	|	|	|	V|
714	24+35	4.1101	0.04	Q	|	|	|	V|
715	24+40	4.1103	0.03	Q	|	|	|	V|
716	24+45	4.1105	0.02	Q	|	|	|	V|
717	24+50	4.1106	0.02	Q	|	|	|	V|
718	24+55	4.1107	0.01	Q	|	|	|	V|
719	25+ 0	4.1107	0.01	Q	|	|	|	V|
720	25+ 5	4.1108	0.01	Q	|	|	|	V|
721	25+10	4.1108	0.00	Q	|	|	|	V|
722	25+15	4.1108	0.00	Q	|	|	|	V|
723	----------							
724								
725								
726								
727								

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

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Study date 11/30/23 File: temright12.out

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

Program License Serial Number 6443

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

English Units used in output format

Temescal Canyon Right Off-site
2 Year X Hour
Kimley-Horn

Drainage Area = 6.33(Ac.) = 0.010 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.33(Ac.) = 0.010 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.168 Hr.
Lag time = 10.08 Min.
25% of lag time = 2.52 Min.
40% of lag time = 4.03 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]
6.33	0.55	3.48

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
6.33	1.40	8.86

STORM EVENT (YEAR) = 2.00
Area Averaged 2-Year Rainfall = 0.550(In)
Area Averaged 100-Year Rainfall = 1.400(In)

Point rain (area averaged) = 0.550(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 0.550(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
6.330	69.00	0.269

Total Area Entered = 6.33(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	0.269	0.435	1.000	0.435
					Sum (F) =	0.435

Area averaged mean soil loss (F) (In/Hr) = 0.435
Minimum soil loss rate ((In/Hr)) = 0.218
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.685

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	49.603	6.051	0.386
2	0.167	99.206	25.810	1.647
3	0.250	148.810	28.884	1.843
4	0.333	198.413	13.099	0.836
5	0.417	248.016	6.834	0.436
6	0.500	297.619	4.747	0.303
7	0.583	347.222	3.420	0.218
8	0.667	396.825	2.623	0.167
9	0.750	446.429	1.923	0.123
10	0.833	496.032	1.546	0.099
11	0.917	545.635	1.320	0.084
12	1.000	595.238	1.010	0.064
13	1.083	644.841	0.813	0.052
14	1.167	694.444	0.616	0.039
15	1.250	744.048	0.497	0.032
16	1.333	793.651	0.496	0.032
17	1.417	843.254	0.312	0.020
		Sum = 100.000	Sum=	6.379

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.290	(0.435)		0.199	0.092
2	0.17	4.50	0.297	(0.435)		0.203	0.094
3	0.25	5.40	0.356	(0.435)		0.244	0.112
4	0.33	5.40	0.356	(0.435)		0.244	0.112
5	0.42	5.70	0.376	(0.435)		0.258	0.119
6	0.50	6.40	0.422	(0.435)		0.289	0.133
7	0.58	7.90	0.521	(0.435)		0.357	0.164
8	0.67	9.10	0.601	(0.435)		0.411	0.189
9	0.75	12.80	0.845	0.435	(	0.578)	0.410
10	0.83	25.60	1.690	0.435	(	1.157)	1.254
11	0.92	7.90	0.521	(0.435)		0.357	0.164
12	1.00	4.90	0.323	(0.435)		0.221	0.102
		(Loss Rate Not Used)					
Sum =		100.0				Sum =	2.9

Flood volume = Effective rainfall 0.25(In)
times area 6.3(Ac.)/[(In)/(Ft.)] = 0.1(Ac.Ft)
Total soil loss = 0.30(In)
Total soil loss = 0.161(Ac.Ft)
Total rainfall = 0.55(In)
Flood volume = 5640.4 Cubic Feet
Total soil loss = 6996.7 Cubic Feet

Peak flow rate of this hydrograph = 3.231(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.04	Q				
0+10	0.0015	0.19	Q				
0+15	0.0041	0.37	Q				
0+20	0.0073	0.48	QV				
0+25	0.0112	0.56	QV				
0+30	0.0154	0.62	Q V				
0+35	0.0202	0.69	Q V				
0+40	0.0257	0.81	Q V				
0+45	0.0328	1.02	Q V				
0+50	0.0452	1.80	Q V				
0+55	0.0675	3.23	Q V				
1+ 0	0.0894	3.19	Q V				
1+ 5	0.1022	1.86	Q			V	
1+10	0.1099	1.12	Q			V	
1+15	0.1149	0.72	Q			V	
1+20	0.1184	0.51	Q			V	
1+25	0.1211	0.39	Q			V	
1+30	0.1231	0.29	Q			V	
1+35	0.1247	0.23	Q			V	
1+40	0.1260	0.19	Q			V	
1+45	0.1270	0.15	Q			V	
1+50	0.1277	0.11	Q			V	
1+55	0.1283	0.09	Q			V	
2+ 0	0.1288	0.07	Q			V	
2+ 5	0.1292	0.06	Q			V	
2+10	0.1294	0.03	Q			V	
2+15	0.1295	0.01	Q			V	
2+20	0.1295	0.00	Q			V	

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

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Study date 11/30/23 File: temright1100.out

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

Program License Serial Number 6443

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

English Units used in output format

Temescal Canyon Right Off-site
100 Year X Hour
Kimley-Horn

Drainage Area = 6.33(Ac.) = 0.010 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 6.33(Ac.) = 0.010 Sq. Mi.
USER Entry of lag time in hours
Lag time = 0.168 Hr.
Lag time = 10.08 Min.
25% of lag time = 2.52 Min.
40% of lag time = 4.03 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]
6.33	0.55	3.48

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
6.33	1.40	8.86

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.550(In)
Area Averaged 100-Year Rainfall = 1.400(In)

Point rain (area averaged) = 1.400(In)
Areal adjustment factor = 99.99 %
Adjusted average point rain = 1.400(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
6.330	69.00	0.269

Total Area Entered = 6.33(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	0.269	0.147	1.000	0.147
					Sum (F) =	0.147

Area averaged mean soil loss (F) (In/Hr) = 0.147
Minimum soil loss rate ((In/Hr)) = 0.073
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.685

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	49.603	6.051	0.386
2	0.167	99.206	25.810	1.647
3	0.250	148.810	28.884	1.843
4	0.333	198.413	13.099	0.836
5	0.417	248.016	6.834	0.436
6	0.500	297.619	4.747	0.303
7	0.583	347.222	3.420	0.218
8	0.667	396.825	2.623	0.167
9	0.750	446.429	1.923	0.123
10	0.833	496.032	1.546	0.099
11	0.917	545.635	1.320	0.084
12	1.000	595.238	1.010	0.064
13	1.083	644.841	0.813	0.052
14	1.167	694.444	0.616	0.039
15	1.250	744.048	0.497	0.032
16	1.333	793.651	0.496	0.032
17	1.417	843.254	0.312	0.020
		Sum = 100.000	Sum=	6.379

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum 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	0.739	0.147	(0.506)	0.592
2	0.17	4.50	0.756	0.147	(0.518)	0.609
3	0.25	5.40	0.907	0.147	(0.621)	0.760
4	0.33	5.40	0.907	0.147	(0.621)	0.760
5	0.42	5.70	0.958	0.147	(0.656)	0.811
6	0.50	6.40	1.075	0.147	(0.736)	0.928
7	0.58	7.90	1.327	0.147	(0.909)	1.180
8	0.67	9.10	1.529	0.147	(1.047)	1.382
9	0.75	12.80	2.150	0.147	(1.473)	2.003
10	0.83	25.60	4.301	0.147	(2.945)	4.154
11	0.92	7.90	1.327	0.147	(0.909)	1.180
12	1.00	4.90	0.823	0.147	(0.564)	0.676
		(Loss Rate Not Used)			
Sum =		100.0			Sum = 15.0

Flood volume = Effective rainfall 1.25(In)
times area 6.3(Ac.)/[(In)/(Ft.)] = 0.7(Ac.Ft)
Total soil loss = 0.15(In)
Total soil loss = 0.077(Ac.Ft)
Total rainfall = 1.40(In)
Flood volume = 28791.5 Cubic Feet
Total soil loss = 3375.7 Cubic Feet

Peak flow rate of this hydrograph = 13.451(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

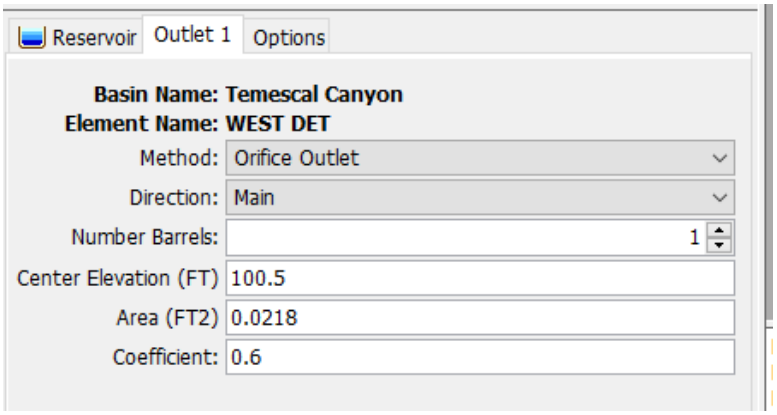
Time(h+m)	Volume Ac.Ft	Q(CFS)	0 5.0 10.0 15.0 20.0
0+ 5	0.0016	0.23	Q
0+10	0.0099	1.21	V Q
0+15	0.0264	2.39	V Q
0+20	0.0482	3.16	V Q
0+25	0.0739	3.73	V Q
0+30	0.1026	4.18	V Q
0+35	0.1354	4.76	VQ
0+40	0.1744	5.66	VQ
0+45	0.2221	6.93	Q
0+50	0.2877	9.52	V Q
0+55	0.3803	13.45	V Q
1+ 0	0.4705	13.09	Q V
1+ 5	0.5309	8.78	Q V
1+10	0.5689	5.51	Q V
1+15	0.5926	3.44	Q V
1+20	0.6093	2.42	Q V
1+25	0.6218	1.83	Q V
1+30	0.6314	1.39	Q V
1+35	0.6389	1.09	Q V
1+40	0.6448	0.87	Q V
1+45	0.6495	0.68	Q V
1+50	0.6531	0.53	Q V
1+55	0.6559	0.40	Q V
2+ 0	0.6580	0.30	Q V
2+ 5	0.6596	0.24	Q V
2+10	0.6606	0.14	Q V
2+15	0.6609	0.04	Q V
2+20	0.6610	0.01	Q V

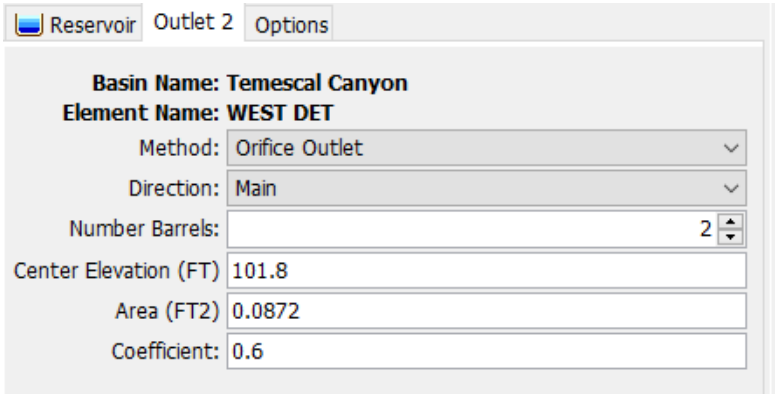
Appendix G – HEC-HMS Basin Routing

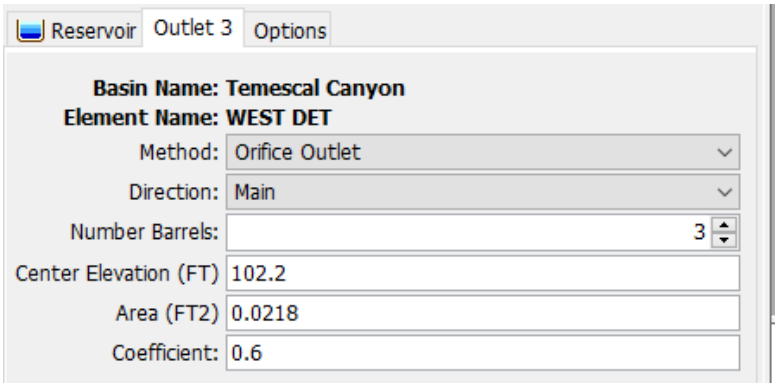
HEC-HMS Results

“WEST” Basin Outflow B1

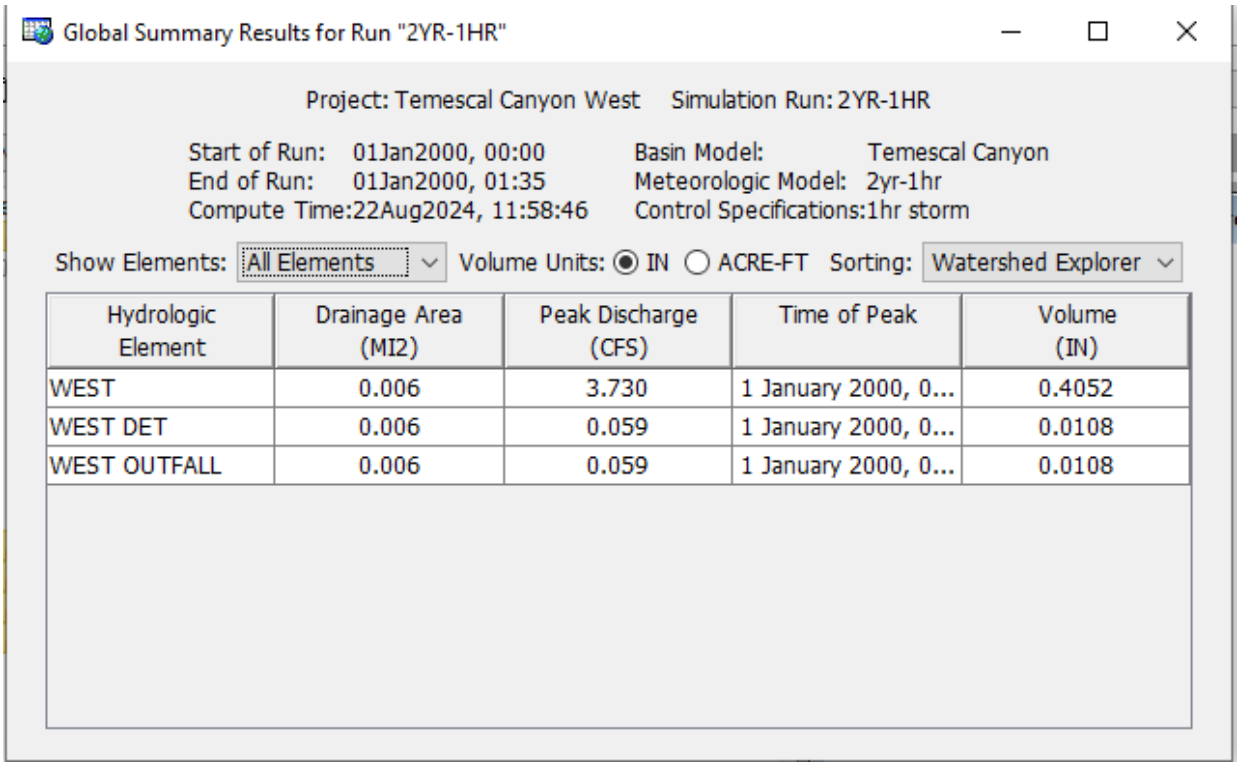
Orifice Design





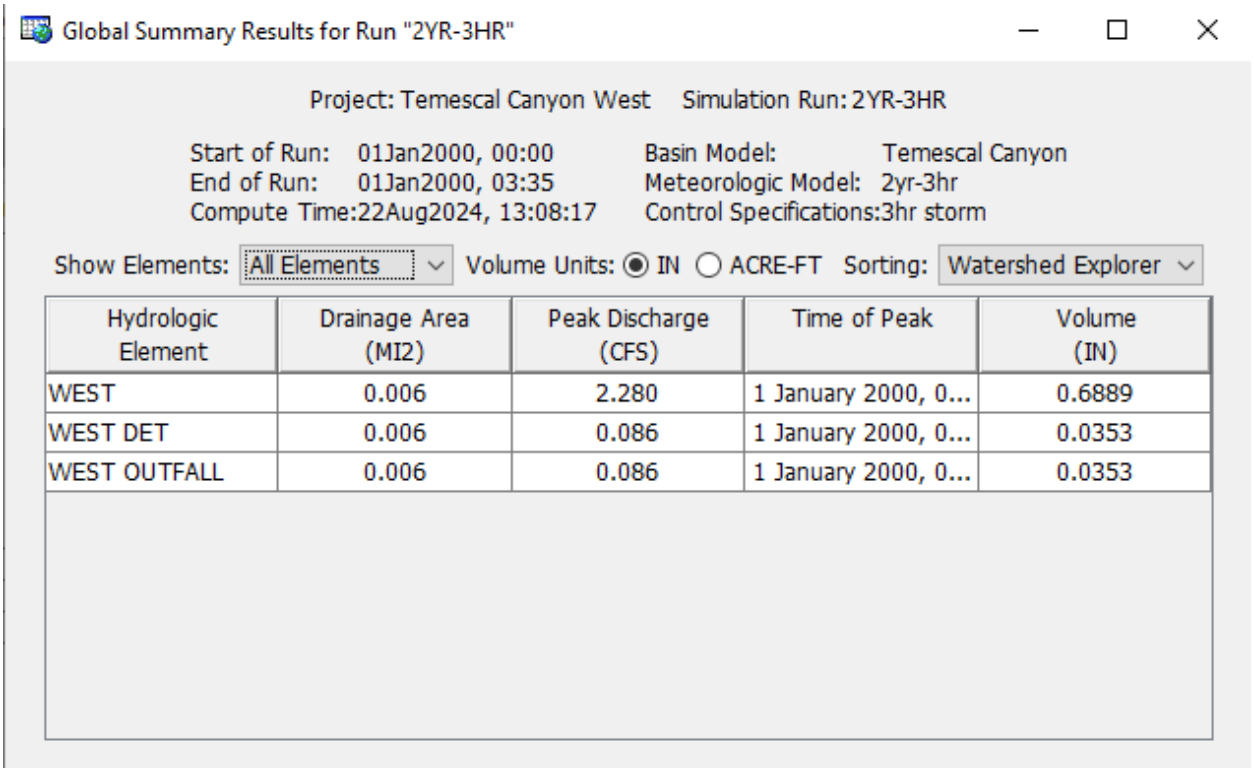


2yr-1hr Event



Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
WEST	0.006	3.730	1 January 2000, 0...	0.4052
WEST DET	0.006	0.059	1 January 2000, 0...	0.0108
WEST OUTFALL	0.006	0.059	1 January 2000, 0...	0.0108

2yr-3hr Event



Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
WEST	0.006	2.280	1 January 2000, 0...	0.6889
WEST DET	0.006	0.086	1 January 2000, 0...	0.0353
WEST OUTFALL	0.006	0.086	1 January 2000, 0...	0.0353

2yr-6hr Event

Global Summary Results for Run "2YR-6HR"

Project: Temescal Canyon West Simulation Run: 2YR-6HR

Start of Run: 01Jan2000, 00:00
End of Run: 01Jan2000, 06:35
Compute Time: 22Aug2024, 13:09:19

Basin Model: Temescal Canyon
Meteorologic Model: 2yr-6hr
Control Specifications: 6hr storm

Show Elements: All Elements | Volume Units: (•) IN ( ) ACRE-FT | Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
WEST	0.006	2.010	1 January 2000, 0...	0.9551
WEST DET	0.006	0.103	1 January 2000, 0...	0.0761
WEST OUTFALL	0.006	0.103	1 January 2000, 0...	0.0761

2yr-24hr Event

Global Summary Results for Run "2YR-24HR"

Project: Temescal Canyon West Simulation Run: 2YR-24HR

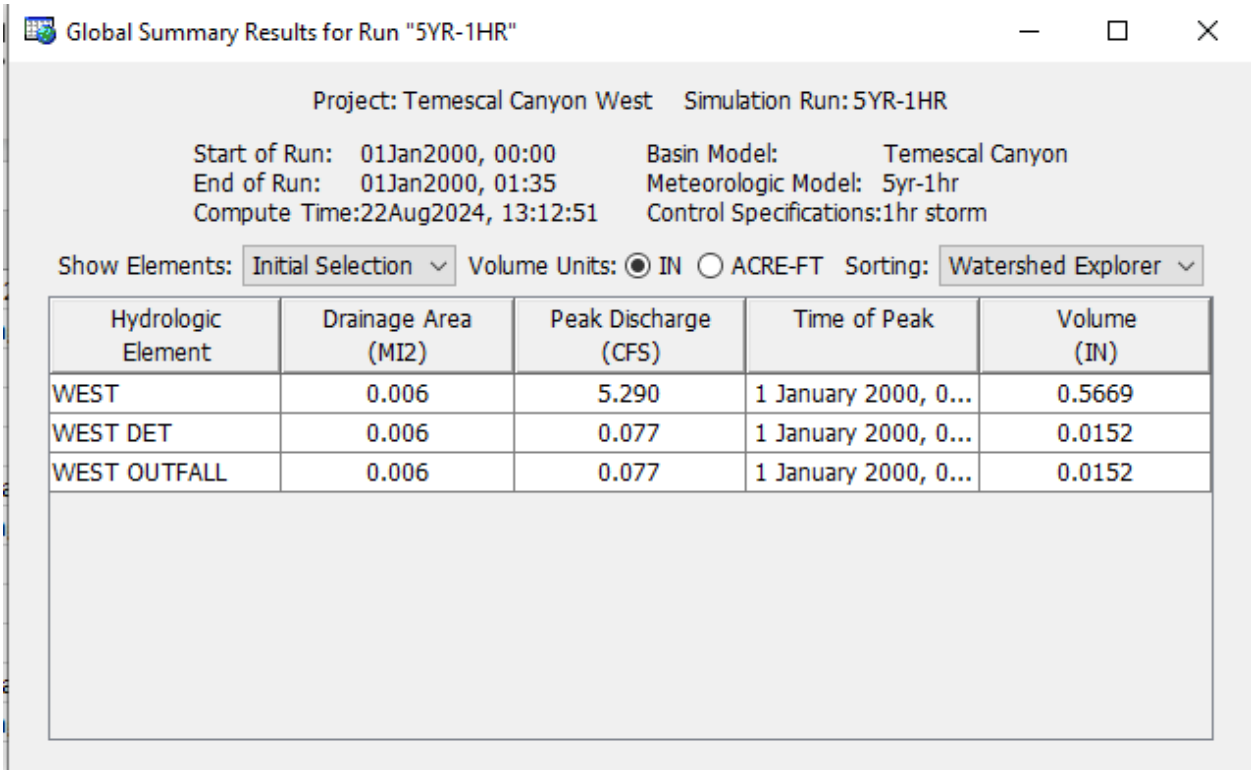
Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:35
Compute Time: 22Aug2024, 13:10:00

Basin Model: Temescal Canyon
Meteorologic Model: 2yr-24hr
Control Specifications: 24hr storm

Show Elements: All Elements | Volume Units: (•) IN ( ) ACRE-FT | Sorting: Watershed Explorer

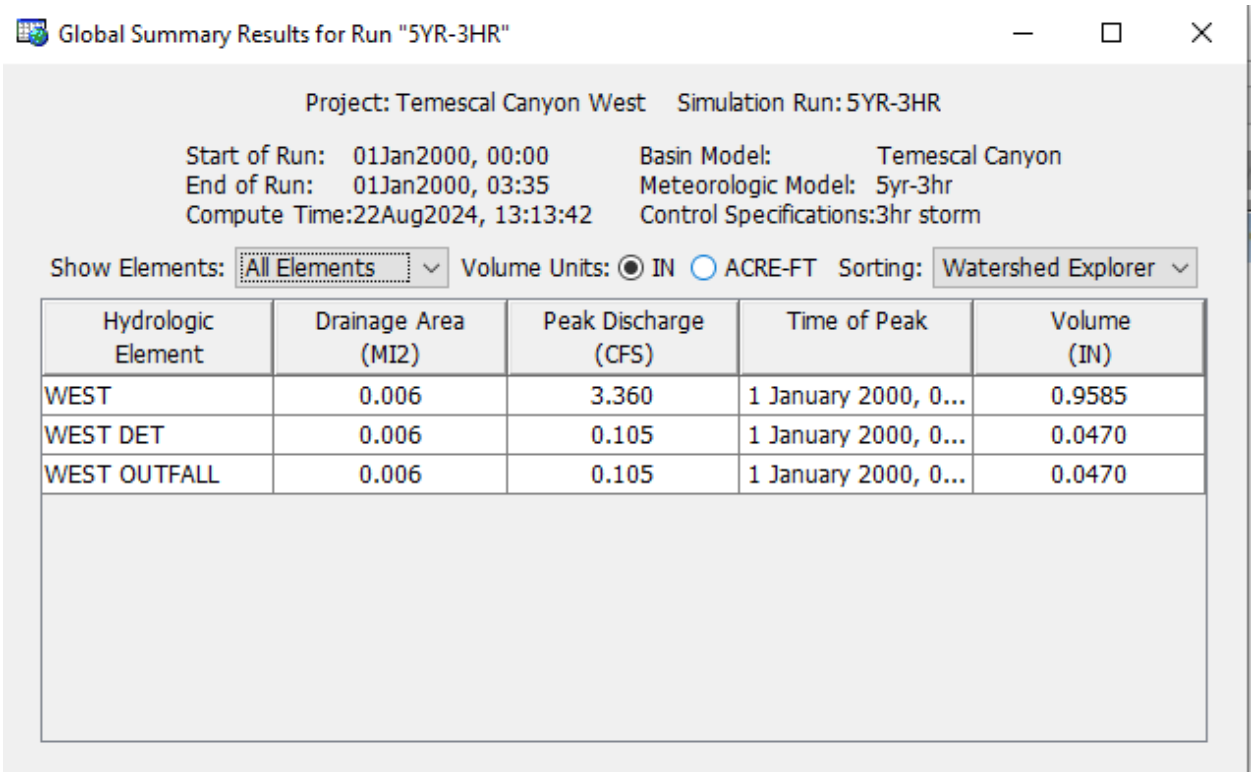
Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
WEST	0.006	0.850	1 January 2000, 1...	1.6946
WEST DET	0.006	0.372	1 January 2000, 1...	0.6237
WEST OUTFALL	0.006	0.372	1 January 2000, 1...	0.6237

5yr-1hr Event



Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
WEST	0.006	5.290	1 January 2000, 0...	0.5669
WEST DET	0.006	0.077	1 January 2000, 0...	0.0152
WEST OUTFALL	0.006	0.077	1 January 2000, 0...	0.0152

5yr-3hr Event



Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
WEST	0.006	3.360	1 January 2000, 0...	0.9585
WEST DET	0.006	0.105	1 January 2000, 0...	0.0470
WEST OUTFALL	0.006	0.105	1 January 2000, 0...	0.0470

5yr-6hr Event

Global Summary Results for Run "5YR-6HR"

Project: Temescal Canyon West Simulation Run: 5YR-6HR

Start of Run: 01Jan2000, 00:00
End of Run: 01Jan2000, 06:35
Compute Time: 22Aug2024, 13:14:17

Basin Model: Temescal Canyon
Meteorologic Model: 5yr-6hr
Control Specifications: 6hr storm

Show Elements: All Elements | Volume Units: (•) IN ( ) ACRE-FT | Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
WEST	0.006	2.990	1 January 2000, 0...	1.3140
WEST DET	0.006	0.307	1 January 2000, 0...	0.1352
WEST OUTFALL	0.006	0.307	1 January 2000, 0...	0.1352

5yr-24hr Event

Global Summary Results for Run "5YR-24HR"

Project: Temescal Canyon West Simulation Run: 5YR-24HR

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:35
Compute Time: 22Aug2024, 13:14:54

Basin Model: Temescal Canyon
Meteorologic Model: 5yr-24hr
Control Specifications: 24hr storm

Show Elements: All Elements | Volume Units: (•) IN ( ) ACRE-FT | Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
WEST	0.006	1.200	1 January 2000, 1...	2.4102
WEST DET	0.006	0.663	1 January 2000, 1...	1.2899
WEST OUTFALL	0.006	0.663	1 January 2000, 1...	1.2899

10yr-1hr Event

Global Summary Results for Run "10YR-1HR"

Project: Temescal Canyon West Simulation Run: 10YR-1HR

Start of Run: 01Jan2000, 00:00
End of Run: 01Jan2000, 01:35
Compute Time: 22Aug2024, 13:16:27

Basin Model: Temescal Canyon
Meteorologic Model: 10yr-1hr
Control Specifications: 1hr storm

Show Elements: All Elements | Volume Units: (•) IN ( ) ACRE-FT | Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
WEST	0.006	6.720	1 January 2000, 0...	0.7271
WEST DET	0.006	0.090	1 January 2000, 0...	0.0190
WEST OUTFALL	0.006	0.090	1 January 2000, 0...	0.0190

10yr-3hr Event

Global Summary Results for Run "10YR-3HR"

Project: Temescal Canyon West Simulation Run: 10YR-3HR

Start of Run: 01Jan2000, 00:00
End of Run: 01Jan2000, 03:35
Compute Time: 22Aug2024, 13:17:06

Basin Model: Temescal Canyon
Meteorologic Model: 10yr-3hr
Control Specifications: 3hr storm

Show Elements: All Elements | Volume Units: (•) IN ( ) ACRE-FT | Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
WEST	0.006	4.190	1 January 2000, 0...	1.1683
WEST DET	0.006	0.117	1 January 2000, 0...	0.0548
WEST OUTFALL	0.006	0.117	1 January 2000, 0...	0.0548

10yr-6hr Event

Global Summary Results for Run "10YR-6HR"

Project: Temescal Canyon West Simulation Run: 10YR-6HR

Start of Run: 01Jan2000, 00:00
End of Run: 01Jan2000, 06:35
Compute Time: 22Aug2024, 13:17:45

Basin Model: Temescal Canyon
Meteorologic Model: 10yr-6hr
Control Specifications: 6hr storm

Show Elements: All Elements | Volume Units: (•) IN ( ) ACRE-FT | Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
WEST	0.006	3.750	1 January 2000, 0...	1.5953
WEST DET	0.006	0.596	1 January 2000, 0...	0.2466
WEST OUTFALL	0.006	0.596	1 January 2000, 0...	0.2466

10yr-24hr Event

Global Summary Results for Run "10YR-24HR"

Project: Temescal Canyon West Simulation Run: 10YR-24HR

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:35
Compute Time: 22Aug2024, 13:18:21

Basin Model: Temescal Canyon
Meteorologic Model: 10yr-24hr
Control Specifications: 24hr storm

Show Elements: All Elements | Volume Units: (•) IN ( ) ACRE-FT | Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
WEST	0.006	1.470	1 January 2000, 1...	2.9515
WEST DET	0.006	0.916	1 January 2000, 1...	1.8109
WEST OUTFALL	0.006	0.916	1 January 2000, 1...	1.8109

100yr-1hr Event

Global Summary Results for Run "100YR-1HR"

Project: Temescal Canyon West Simulation Run: 100YR-1HR

Start of Run: 01Jan2000, 00:00
End of Run: 01Jan2000, 01:35
Compute Time: 22Aug2024, 14:41:44

Basin Model: Temescal Canyon
Meteorologic Model: 100yr-1hr
Control Specifications: 1hr storm

Show Elements: All Elements | Volume Units: (•) IN ( ) ACRE-FT | Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
WEST	0.006	11.090	1 January 2000, 0...	1.2938
WEST DET	0.006	0.375	1 January 2000, 0...	0.0602
WEST OUTFALL	0.006	0.375	1 January 2000, 0...	0.0602

100yr-3hr Event

Global Summary Results for Run "100YR-3HR"

Project: Temescal Canyon West Simulation Run: 100YR-3HR

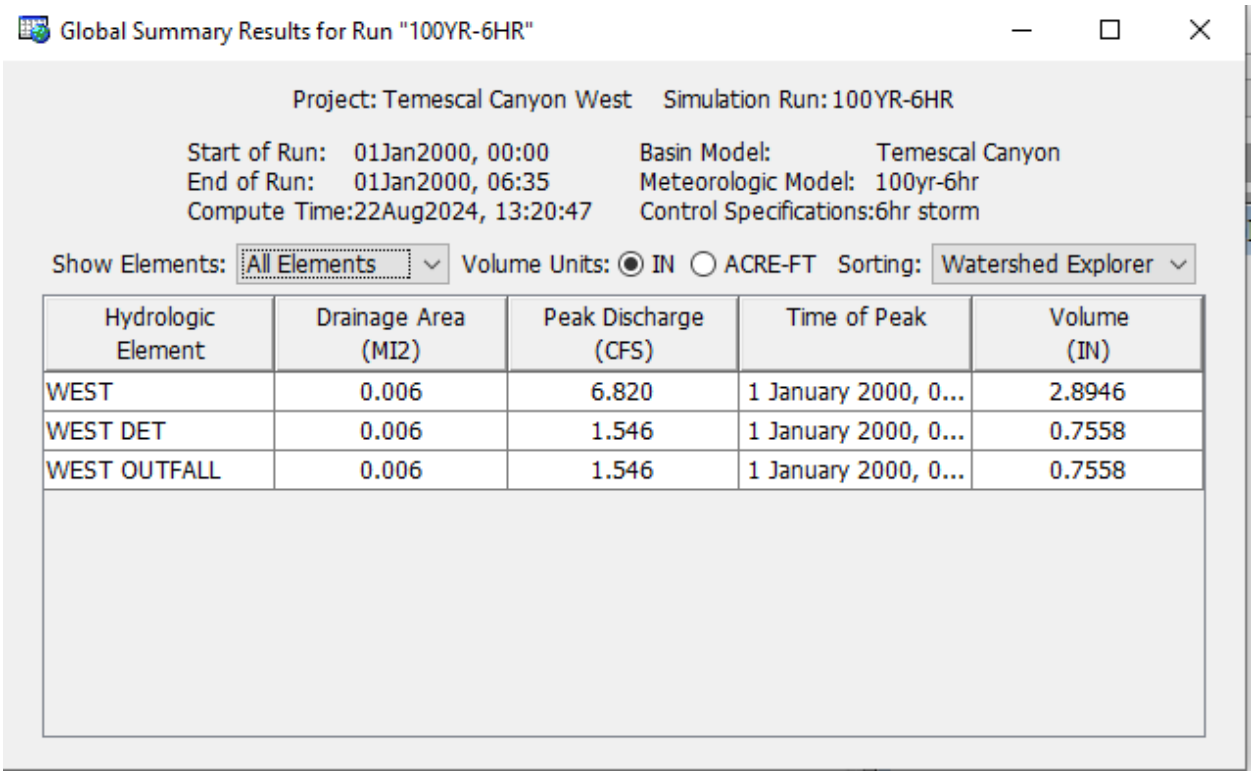
Start of Run: 01Jan2000, 00:00
End of Run: 01Jan2000, 03:35
Compute Time: 22Aug2024, 13:19:34

Basin Model: Temescal Canyon
Meteorologic Model: 100yr-3hr
Control Specifications: 3hr storm

Show Elements: All Elements | Volume Units: (•) IN ( ) ACRE-FT | Sorting: Watershed Explorer

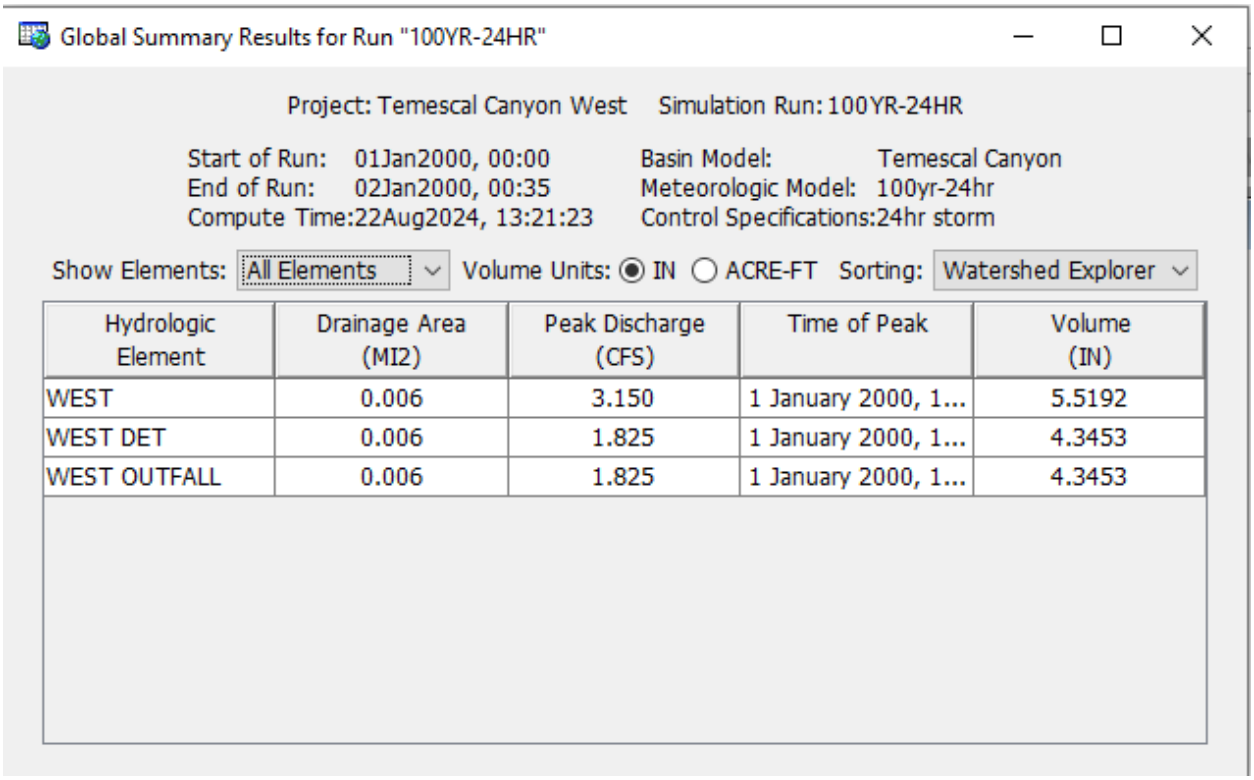
Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
WEST	0.006	7.480	1 January 2000, 0...	2.1846
WEST DET	0.006	1.191	1 January 2000, 0...	0.3694
WEST OUTFALL	0.006	1.191	1 January 2000, 0...	0.3694

100yr-6hr Event



Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
WEST	0.006	6.820	1 January 2000, 0...	2.8946
WEST DET	0.006	1.546	1 January 2000, 0...	0.7558
WEST OUTFALL	0.006	1.546	1 January 2000, 0...	0.7558

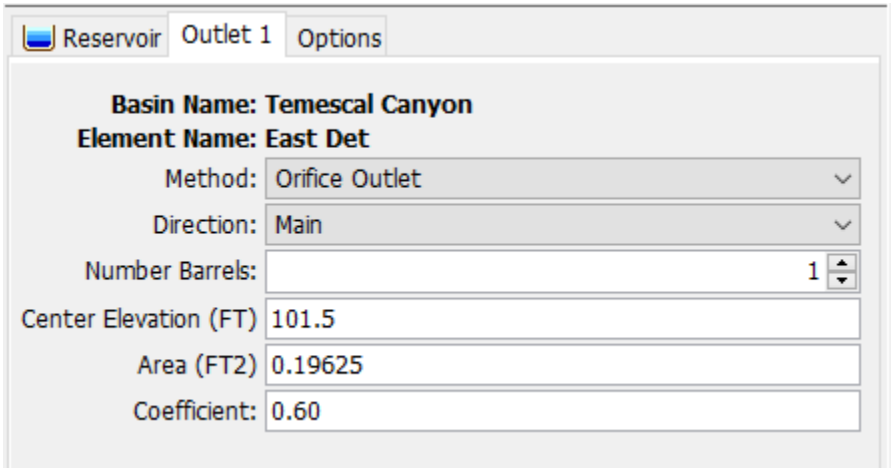
100yr-24hr Event

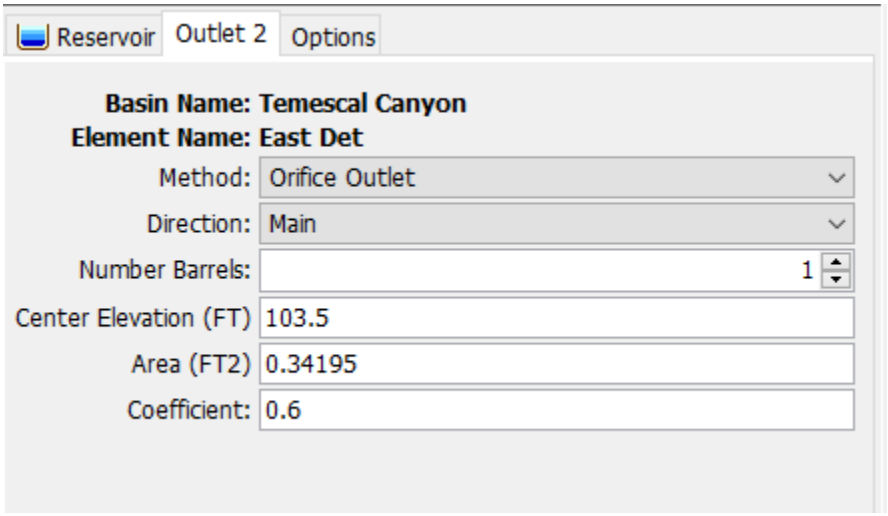


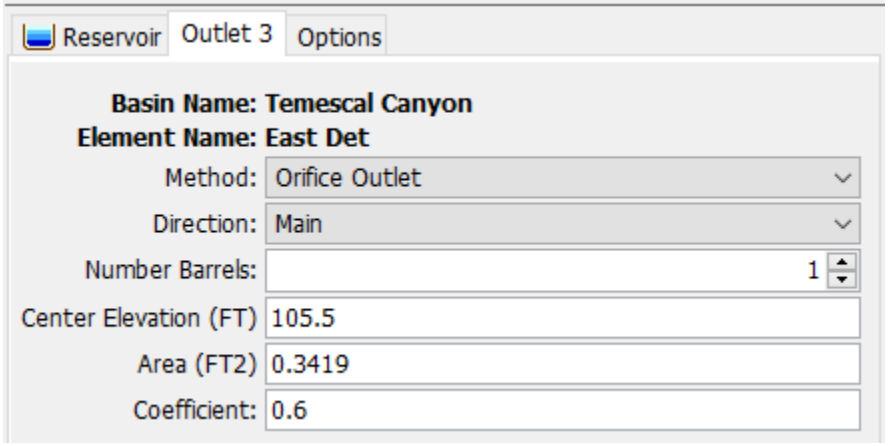
Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
WEST	0.006	3.150	1 January 2000, 1...	5.5192
WEST DET	0.006	1.825	1 January 2000, 1...	4.3453
WEST OUTFALL	0.006	1.825	1 January 2000, 1...	4.3453

“East” Basin Outflow B2

Orifice Design







2yr-1hr Event

Global Summary Results for Run "B2-2YR-1HR"

Project: Temescal Canyon Simulation Run: B2-2YR-1HR

Start of Run: 01Jan2000, 00:00
End of Run: 01Jan2000, 02:20
Compute Time: 22Aug2024, 14:04:45

Basin Model: Temescal Canyon
Meteorologic Model: 2yr-1hr
Control Specifications: 1hr storm

Show Elements: All Elements | Volume Units: (•) IN ( ) ACRE-FT | Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
EAST	0.125	6.470	1 January 2000, 0...	0.0467
East Det	0.125	0.000	31 December 199...	0.0000
EAST OUTFALL	0.125	0.000	31 December 199...	0.0000

2yr-3hr Event

Global Summary Results for Run "B2-2YR-3HR"

Project: Temescal Canyon Simulation Run: B2-2YR-3HR

Start of Run: 01Jan2000, 00:00
End of Run: 01Jan2000, 03:00
Compute Time: 22Aug2024, 14:05:49

Basin Model: Temescal Canyon
Meteorologic Model: 2yr-3hr
Control Specifications: 3hr storm

Show Elements: All Elements | Volume Units: (•) IN ( ) ACRE-FT | Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
EAST	0.125	5.180	1 January 2000, 0...	0.0742
East Det	0.125	0.584	1 January 2000, 0...	0.0023
EAST OUTFALL	0.125	0.584	1 January 2000, 0...	0.0023

2yr-6hr Event

Global Summary Results for Run "B2-2YR-6HR"

Project: Temescal Canyon Simulation Run: B2-2YR-6HR

Start of Run: 01Jan2000, 00:00
End of Run: 01Jan2000, 06:00
Compute Time: 22Aug2024, 14:14:43

Basin Model: Temescal Canyon
Meteorologic Model: 2yr-6hr
Control Specifications: 6hr storm

Show Elements: All Elements | Volume Units: (•) IN ( ) ACRE-FT | Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
EAST	0.125	4.780	1 January 2000, 0...	0.1097
East Det	0.125	0.874	1 January 2000, 0...	0.0117
EAST OUTFALL	0.125	0.874	1 January 2000, 0...	0.0117

2yr-24hr Event

Global Summary Results for Run "B2-2YR-24HR"

Project: Temescal Canyon Simulation Run: B2-2YR-24HR

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:00
Compute Time: 22Aug2024, 14:18:15

Basin Model: Temescal Canyon
Meteorologic Model: 2yr-24hr
Control Specifications: 24hr storm

Show Elements: All Elements | Volume Units: (•) IN ( ) ACRE-FT | Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
EAST	0.125	2.170	1 January 2000, 1...	0.2024
East Det	0.125	1.034	1 January 2000, 1...	0.1377
EAST OUTFALL	0.125	1.034	1 January 2000, 1...	0.1377

5yr-1hr Event

Global Summary Results for Run "B2-5YR-1HR"

Project: Temescal Canyon Simulation Run: B2-5YR-1HR

Start of Run: 01Jan2000, 00:00
End of Run: 01Jan2000, 02:20
Compute Time: 22Aug2024, 14:19:33

Basin Model: Temescal Canyon
Meteorologic Model: 5yr-1hr
Control Specifications: 1hr storm

Show Elements: All Elements | Volume Units: (•) IN ( ) ACRE-FT | Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
EAST	0.125	9.070	1 January 2000, 0...	0.0646
East Det	0.125	0.388	1 January 2000, 0...	0.0052
EAST OUTFALL	0.125	0.388	1 January 2000, 0...	0.0052

5yr-3hr Event

Global Summary Results for Run "B2-5YR-3HR"

Project: Temescal Canyon Simulation Run: B2-5YR-3HR

Start of Run: 01Jan2000, 00:00
End of Run: 01Jan2000, 03:00
Compute Time: 22Aug2024, 14:20:29

Basin Model: Temescal Canyon
Meteorologic Model: 5yr-3hr
Control Specifications: 3hr storm

Show Elements: All Elements | Volume Units: (•) IN ( ) ACRE-FT | Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
EAST	0.125	7.350	1 January 2000, 0...	0.1021
East Det	0.125	0.861	1 January 2000, 0...	0.0055
EAST OUTFALL	0.125	0.861	1 January 2000, 0...	0.0055

5yr-6hr Event

Global Summary Results for Run "B2-5YR-6HR"

Project: Temescal Canyon Simulation Run: B2-5YR-6HR

Start of Run: 01Jan2000, 00:00
End of Run: 01Jan2000, 06:00
Compute Time: 22Aug2024, 14:21:31

Basin Model: Temescal Canyon
Meteorologic Model: 5yr-6hr
Control Specifications: 6hr storm

Show Elements: All Elements | Volume Units: (•) IN ( ) ACRE-FT | Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
EAST	0.125	6.790	1 January 2000, 0...	0.1501
East Det	0.125	1.119	1 January 2000, 0...	0.0201
EAST OUTFALL	0.125	1.119	1 January 2000, 0...	0.0201

5yr-24hr Event

Global Summary Results for Run "B2-5YR-24HR"

Project: Temescal Canyon Simulation Run: B2-5YR-24HR

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:00
Compute Time: 22Aug2024, 14:22:24

Basin Model: Temescal Canyon
Meteorologic Model: 5yr-24hr
Control Specifications: 24hr storm

Show Elements: All Elements | Volume Units: (•) IN ( ) ACRE-FT | Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
EAST	0.125	3.080	1 January 2000, 1...	0.2878
East Det	0.125	1.330	1 January 2000, 1...	0.1977
EAST OUTFALL	0.125	1.330	1 January 2000, 1...	0.1977

10yr-1hr Event

Global Summary Results for Run "B2-10YR-1HR"

Project: Temescal Canyon Simulation Run: B2-10YR-1HR

Start of Run: 01Jan2000, 00:00
End of Run: 01Jan2000, 02:20
Compute Time: 22Aug2024, 14:23:21

Basin Model: Temescal Canyon
Meteorologic Model: 10yr-1hr
Control Specifications: 1hr storm

Show Elements: All Elements | Volume Units: (•) IN ( ) ACRE-FT | Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
EAST	0.125	11.110	1 January 2000, 0...	0.0781
East Det	0.125	0.584	1 January 2000, 0...	0.0087
EAST OUTFALL	0.125	0.584	1 January 2000, 0...	0.0087

10yr-3hr Event

Global Summary Results for Run "B2-10YR-3HR"

Project: Temescal Canyon Simulation Run: B2-10YR-3HR

Start of Run: 01Jan2000, 00:00
End of Run: 01Jan2000, 03:00
Compute Time: 22Aug2024, 14:24:48

Basin Model: Temescal Canyon
Meteorologic Model: 10yr-3hr
Control Specifications: 3hr storm

Show Elements: All Elements | Volume Units: (•) IN ( ) ACRE-FT | Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
EAST	0.125	8.960	1 January 2000, 0...	0.1232
East Det	0.125	1.015	1 January 2000, 0...	0.0080
EAST OUTFALL	0.125	1.015	1 January 2000, 0...	0.0080

10yr-6hr Event

Global Summary Results for Run "B2-10YR-6HR"

Project: Temescal Canyon Simulation Run: B2-10YR-6HR

Start of Run: 01Jan2000, 00:00
End of Run: 01Jan2000, 06:00
Compute Time: 22Aug2024, 14:25:33

Basin Model: Temescal Canyon
Meteorologic Model: 10yr-6hr
Control Specifications: 6hr storm

Show Elements: All Elements | Volume Units: (•) IN ( ) ACRE-FT | Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
EAST	0.125	8.280	1 January 2000, 0...	0.1806
East Det	0.125	1.273	1 January 2000, 0...	0.0261
EAST OUTFALL	0.125	1.273	1 January 2000, 0...	0.0261

10yr-24hr Event

Global Summary Results for Run "B2-10YR-24HR"

Project: Temescal Canyon Simulation Run: B2-10YR-24HR

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:00
Compute Time: 22Aug2024, 14:26:13

Basin Model: Temescal Canyon
Meteorologic Model: 10yr-24hr
Control Specifications: 24hr storm

Show Elements: All Elements | Volume Units: (•) IN ( ) ACRE-FT | Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
EAST	0.125	3.780	1 January 2000, 1...	0.3525
East Det	0.125	2.338	1 January 2000, 1...	0.2526
EAST OUTFALL	0.125	2.338	1 January 2000, 1...	0.2526

100yr-1hr Event

Global Summary Results for Run "B2-100YR-1HR"

Project: Temescal Canyon Simulation Run: B2-100YR-1HR

Start of Run: 01Jan2000, 00:00
End of Run: 01Jan2000, 02:20
Compute Time: 22Aug2024, 14:27:11

Basin Model: Temescal Canyon
Meteorologic Model: 100yr-1hr
Control Specifications: 1hr storm

Show Elements: All Elements | Volume Units: (•) IN ( ) ACRE-FT | Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
EAST	0.125	18.960	1 January 2000, 0...	0.1342
East Det	0.125	1.061	1 January 2000, 0...	0.0179
EAST OUTFALL	0.125	1.061	1 January 2000, 0...	0.0179

100yr-3hr Event

Global Summary Results for Run "B2-100YR-3HR"

Project: Temescal Canyon Simulation Run: B2-100YR-3HR

Start of Run: 01Jan2000, 00:00
End of Run: 01Jan2000, 03:00
Compute Time: 22Aug2024, 14:27:54

Basin Model: Temescal Canyon
Meteorologic Model: 100yr-3hr
Control Specifications: 3hr storm

Show Elements: All Elements | Volume Units: (•) IN ( ) ACRE-FT | Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
EAST	0.125	15.210	1 January 2000, 0...	0.2128
East Det	0.125	2.577	1 January 2000, 0...	0.0203
EAST OUTFALL	0.125	2.577	1 January 2000, 0...	0.0203

100yr-6hr Event

Global Summary Results for Run "B2-100YR-6HR"

Project: Temescal Canyon Simulation Run: B2-100YR-6HR

Start of Run: 01Jan2000, 00:00
End of Run: 01Jan2000, 06:00
Compute Time: 22Aug2024, 14:28:46

Basin Model: Temescal Canyon
Meteorologic Model: 100yr-6hr
Control Specifications: 6hr storm

Show Elements: All Elements | Volume Units: (•) IN ( ) ACRE-FT | Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
EAST	0.125	14.120	1 January 2000, 0...	0.3060
East Det	0.125	3.621	1 January 2000, 0...	0.0622
EAST OUTFALL	0.125	3.621	1 January 2000, 0...	0.0622

100yr-24hr Event

Global Summary Results for Run "B2-100yr-24hr"

Project: Temescal Canyon Simulation Run: B2-100yr-24hr

Start of Run: 01Jan2000, 00:00
End of Run: 02Jan2000, 00:00
Compute Time: 22Aug2024, 14:32:12

Basin Model: Temescal Canyon
Meteorologic Model: 100yr-24hr
Control Specifications: 24hr storm

Show Elements: Initial Selection | Volume Units: (•) IN ( ) ACRE-FT | Sorting: Watershed Explorer

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
East Det	0.125	4.256	1 January 2000, 1...	0.4856

Appendix H – Sizing Calcs

Rating Table for Proposed SD Pipe

Project Description

Friction Method	Manning Formula
Solve For	Full Flow Capacity

Input Data

Roughness Coefficient	0.013
Channel Slope	0.020 ft/ft
Normal Depth	6.0 in
Diameter	6.0 in
Discharge	0.79 cfs

Channel Slope (ft/ft)	Diameter (in)	Normal Depth (in)	Discharge (cfs)	Velocity (ft/s)	Flow Area (ft²)	Wetted Perimeter (ft)	Top Width (ft)
0.005	6.0	6.0	0.40	2.02	0.2	1.6	0.00
0.005	8.0	8.0	0.85	2.45	0.3	2.1	0.00
0.005	10.0	10.0	1.55	2.84	0.5	2.6	0.00
0.005	12.0	12.0	2.52	3.21	0.8	3.1	0.00
0.005	14.0	14.0	3.80	3.55	1.1	3.7	0.00
0.005	16.0	16.0	5.43	3.89	1.4	4.2	0.00
0.005	18.0	18.0	7.43	4.20	1.8	4.7	0.00
0.005	20.0	20.0	9.84	4.51	2.2	5.2	0.00
0.005	22.0	22.0	12.68	4.80	2.6	5.8	0.00
0.005	24.0	24.0	16.00	5.09	3.1	6.3	0.00
0.010	6.0	6.0	0.56	2.86	0.2	1.6	0.00
0.010	8.0	8.0	1.21	3.46	0.3	2.1	0.00
0.010	10.0	10.0	2.19	4.02	0.5	2.6	0.00
0.010	12.0	12.0	3.56	4.54	0.8	3.1	0.00
0.010	14.0	14.0	5.37	5.03	1.1	3.7	0.00
0.010	16.0	16.0	7.67	5.50	1.4	4.2	0.00
0.010	18.0	18.0	10.50	5.94	1.8	4.7	0.00
0.010	20.0	20.0	13.91	6.38	2.2	5.2	0.00
0.010	22.0	22.0	17.94	6.79	2.6	5.8	0.00
0.010	24.0	24.0	22.62	7.20	3.1	6.3	0.00
0.015	6.0	6.0	0.69	3.50	0.2	1.6	0.00
0.015	8.0	8.0	1.48	4.24	0.3	2.1	0.00
0.015	10.0	10.0	2.68	4.92	0.5	2.6	0.00
0.015	12.0	12.0	4.36	5.56	0.8	3.1	0.00
0.015	14.0	14.0	6.58	6.16	1.1	3.7	0.00
0.015	16.0	16.0	9.40	6.73	1.4	4.2	0.00
0.015	18.0	18.0	12.86	7.28	1.8	4.7	0.00
0.015	20.0	20.0	17.04	7.81	2.2	5.2	0.00
0.015	22.0	22.0	21.97	8.32	2.6	5.8	0.00
0.015	24.0	24.0	27.71	8.82	3.1	6.3	0.00
0.020	6.0	6.0	0.79	4.04	0.2	1.6	0.00
0.020	8.0	8.0	1.71	4.90	0.3	2.1	0.00
0.020	10.0	10.0	3.10	5.68	0.5	2.6	0.00
0.020	12.0	12.0	5.04	6.41	0.8	3.1	0.00
0.020	14.0	14.0	7.60	7.11	1.1	3.7	0.00

Rating Table for Proposed SD Pipe

Channel Slope (ft/ft)	Diameter (in)	Normal Depth (in)	Discharge (cfs)	Velocity (ft/s)	Flow Area (ft^2)	Wetted Perimeter (ft)	Top Width (ft)
0.020	16.0	16.0	10.85	7.77	1.4	4.2	0.00
0.020	18.0	18.0	14.85	8.41	1.8	4.7	0.00
0.020	20.0	20.0	19.67	9.02	2.2	5.2	0.00
0.020	22.0	22.0	25.37	9.61	2.6	5.8	0.00
0.020	24.0	24.0	31.99	10.18	3.1	6.3	0.00
0.025	6.0	6.0	0.89	4.52	0.2	1.6	0.00
0.025	8.0	8.0	1.91	5.47	0.3	2.1	0.00
0.025	10.0	10.0	3.46	6.35	0.5	2.6	0.00
0.025	12.0	12.0	5.63	7.17	0.8	3.1	0.00
0.025	14.0	14.0	8.50	7.95	1.1	3.7	0.00
0.025	16.0	16.0	12.13	8.69	1.4	4.2	0.00
0.025	18.0	18.0	16.61	9.40	1.8	4.7	0.00
0.025	20.0	20.0	22.00	10.08	2.2	5.2	0.00
0.025	22.0	22.0	28.36	10.74	2.6	5.8	0.00
0.025	24.0	24.0	35.77	11.39	3.1	6.3	0.00
0.030	6.0	6.0	0.97	4.95	0.2	1.6	0.00
0.030	8.0	8.0	2.09	6.00	0.3	2.1	0.00
0.030	10.0	10.0	3.79	6.96	0.5	2.6	0.00
0.030	12.0	12.0	6.17	7.86	0.8	3.1	0.00
0.030	14.0	14.0	9.31	8.71	1.1	3.7	0.00
0.030	16.0	16.0	13.29	9.52	1.4	4.2	0.00
0.030	18.0	18.0	18.19	10.30	1.8	4.7	0.00
0.030	20.0	20.0	24.09	11.04	2.2	5.2	0.00
0.030	22.0	22.0	31.07	11.77	2.6	5.8	0.00
0.030	24.0	24.0	39.18	12.47	3.1	6.3	0.00
0.035	6.0	6.0	1.05	5.35	0.2	1.6	0.00
0.035	8.0	8.0	2.26	6.48	0.3	2.1	0.00
0.035	10.0	10.0	4.10	7.51	0.5	2.6	0.00
0.035	12.0	12.0	6.67	8.49	0.8	3.1	0.00
0.035	14.0	14.0	10.05	9.40	1.1	3.7	0.00
0.035	16.0	16.0	14.35	10.28	1.4	4.2	0.00
0.035	18.0	18.0	19.65	11.12	1.8	4.7	0.00
0.035	20.0	20.0	26.03	11.93	2.2	5.2	0.00
0.035	22.0	22.0	33.56	12.71	2.6	5.8	0.00
0.035	24.0	24.0	42.32	13.47	3.1	6.3	0.00
0.040	6.0	6.0	1.12	5.72	0.2	1.6	0.00
0.040	8.0	8.0	2.42	6.92	0.3	2.1	0.00
0.040	10.0	10.0	4.38	8.03	0.5	2.6	0.00
0.040	12.0	12.0	7.13	9.07	0.8	3.1	0.00
0.040	14.0	14.0	10.75	10.05	1.1	3.7	0.00
0.040	16.0	16.0	15.35	10.99	1.4	4.2	0.00
0.040	18.0	18.0	21.01	11.89	1.8	4.7	0.00
0.040	20.0	20.0	27.82	12.75	2.2	5.2	0.00
0.040	22.0	22.0	35.87	13.59	2.6	5.8	0.00
0.040	24.0	24.0	45.24	14.40	3.1	6.3	0.00
0.045	6.0	6.0	1.19	6.06	0.2	1.6	0.00
0.045	8.0	8.0	2.56	7.34	0.3	2.1	0.00
0.045	10.0	10.0	4.65	8.52	0.5	2.6	0.00

Rating Table for Proposed SD Pipe

Channel Slope (ft/ft)	Diameter (in)	Normal Depth (in)	Discharge (cfs)	Velocity (ft/s)	Flow Area (ft^2)	Wetted Perimeter (ft)	Top Width (ft)
0.045	12.0	12.0	7.56	9.62	0.8	3.1	0.00
0.045	14.0	14.0	11.40	10.66	1.1	3.7	0.00
0.045	16.0	16.0	16.28	11.66	1.4	4.2	0.00
0.045	18.0	18.0	22.28	12.61	1.8	4.7	0.00
0.045	20.0	20.0	29.51	13.53	2.2	5.2	0.00
0.045	22.0	22.0	38.05	14.41	2.6	5.8	0.00
0.045	24.0	24.0	47.99	15.27	3.1	6.3	0.00
0.050	6.0	6.0	1.25	6.39	0.2	1.6	0.00
0.050	8.0	8.0	2.70	7.74	0.3	2.1	0.00
0.050	10.0	10.0	4.90	8.98	0.5	2.6	0.00
0.050	12.0	12.0	7.97	10.14	0.8	3.1	0.00
0.050	14.0	14.0	12.02	11.24	1.1	3.7	0.00
0.050	16.0	16.0	17.16	12.29	1.4	4.2	0.00
0.050	18.0	18.0	23.49	13.29	1.8	4.7	0.00
0.050	20.0	20.0	31.11	14.26	2.2	5.2	0.00
0.050	22.0	22.0	40.11	15.19	2.6	5.8	0.00
0.050	24.0	24.0	50.58	16.10	3.1	6.3	0.00
0.055	6.0	6.0	1.32	6.70	0.2	1.6	0.00
0.055	8.0	8.0	2.83	8.12	0.3	2.1	0.00
0.055	10.0	10.0	5.14	9.42	0.5	2.6	0.00
0.055	12.0	12.0	8.36	10.64	0.8	3.1	0.00
0.055	14.0	14.0	12.60	11.79	1.1	3.7	0.00
0.055	16.0	16.0	17.99	12.89	1.4	4.2	0.00
0.055	18.0	18.0	24.63	13.94	1.8	4.7	0.00
0.055	20.0	20.0	32.62	14.95	2.2	5.2	0.00
0.055	22.0	22.0	42.07	15.94	2.6	5.8	0.00
0.055	24.0	24.0	53.05	16.89	3.1	6.3	0.00
0.060	6.0	6.0	1.37	7.00	0.2	1.6	0.00
0.060	8.0	8.0	2.96	8.48	0.3	2.1	0.00
0.060	10.0	10.0	5.37	9.84	0.5	2.6	0.00
0.060	12.0	12.0	8.73	11.11	0.8	3.1	0.00
0.060	14.0	14.0	13.16	12.31	1.1	3.7	0.00
0.060	16.0	16.0	18.79	13.46	1.4	4.2	0.00
0.060	18.0	18.0	25.73	14.56	1.8	4.7	0.00
0.060	20.0	20.0	34.08	15.62	2.2	5.2	0.00
0.060	22.0	22.0	43.94	16.64	2.6	5.8	0.00
0.060	24.0	24.0	55.41	17.64	3.1	6.3	0.00
0.065	6.0	6.0	1.43	7.29	0.2	1.6	0.00
0.065	8.0	8.0	3.08	8.83	0.3	2.1	0.00
0.065	10.0	10.0	5.59	10.24	0.5	2.6	0.00
0.065	12.0	12.0	9.08	11.56	0.8	3.1	0.00
0.065	14.0	14.0	13.70	12.82	1.1	3.7	0.00
0.065	16.0	16.0	19.56	14.01	1.4	4.2	0.00
0.065	18.0	18.0	26.78	15.15	1.8	4.7	0.00
0.065	20.0	20.0	35.47	16.26	2.2	5.2	0.00
0.065	22.0	22.0	45.73	17.32	2.6	5.8	0.00
0.065	24.0	24.0	57.67	18.36	3.1	6.3	0.00
0.070	6.0	6.0	1.48	7.56	0.2	1.6	0.00

Rating Table for Proposed SD Pipe

Channel Slope (ft/ft)	Diameter (in)	Normal Depth (in)	Discharge (cfs)	Velocity (ft/s)	Flow Area (ft^2)	Wetted Perimeter (ft)	Top Width (ft)
0.070	8.0	8.0	3.20	9.16	0.3	2.1	0.00
0.070	10.0	10.0	5.80	10.63	0.5	2.6	0.00
0.070	12.0	12.0	9.43	12.00	0.8	3.1	0.00
0.070	14.0	14.0	14.22	13.30	1.1	3.7	0.00
0.070	16.0	16.0	20.30	14.54	1.4	4.2	0.00
0.070	18.0	18.0	27.79	15.73	1.8	4.7	0.00
0.070	20.0	20.0	36.81	16.87	2.2	5.2	0.00
0.070	22.0	22.0	47.46	17.98	2.6	5.8	0.00
0.070	24.0	24.0	59.85	19.05	3.1	6.3	0.00

Appendix I – Drainage Maps

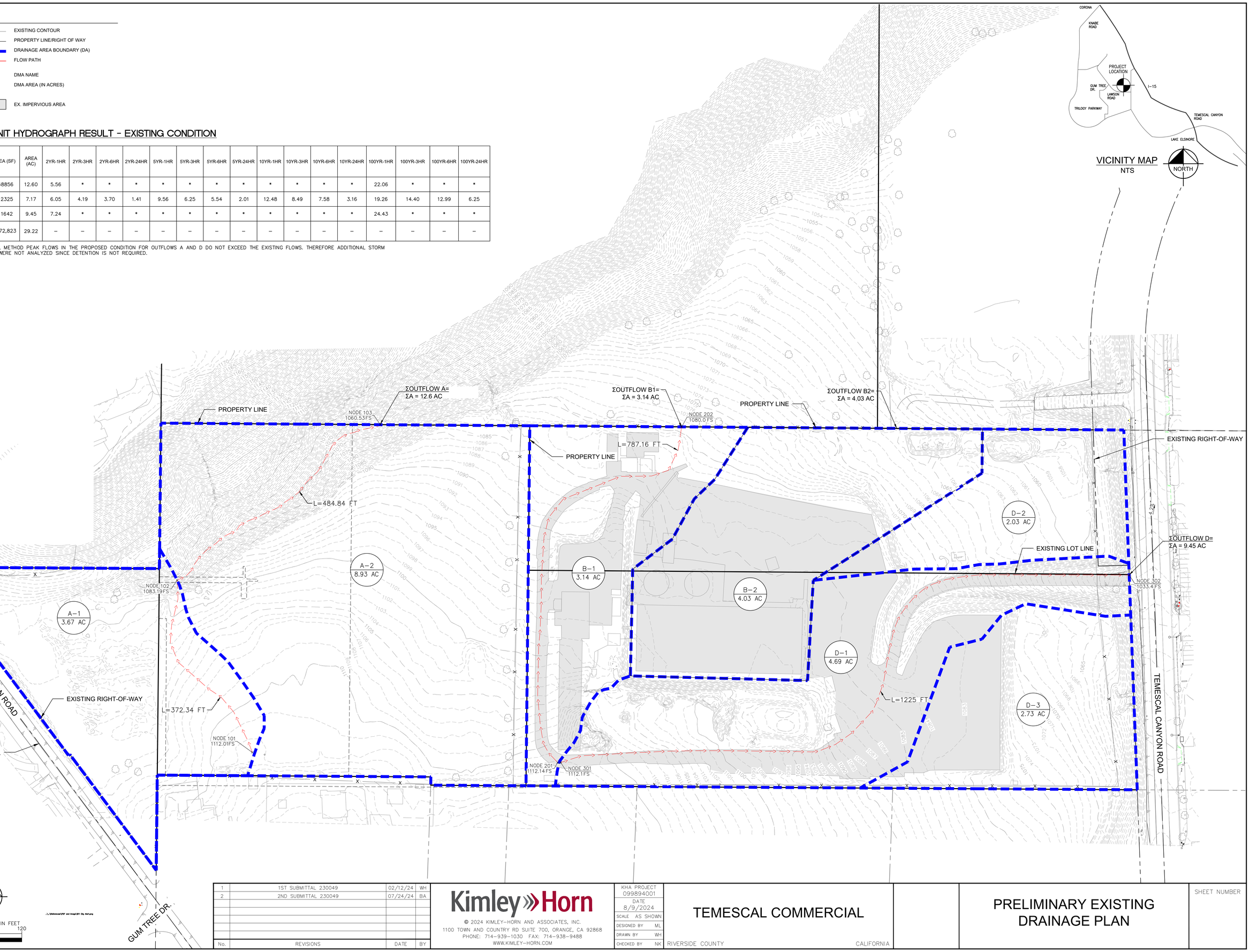
LEGEND

- EXISTING CONTOUR
- PROPERTY LINE/RIGHT OF WAY
- DRAINAGE AREA BOUNDARY (DA)
- FLOW PATH
- DMA NAME / DMA AREA (IN ACRES)
- EX. IMPERVIOUS AREA

UNIT HYDROGRAPH RESULT - EXISTING CONDITION

DMA	AREA (SF)	AREA (AC)	2YR-1HR	2YR-3HR	2YR-6HR	2YR-24HR	5YR-1HR	5YR-3HR	5YR-6HR	5YR-24HR	10YR-1HR	10YR-3HR	10YR-6HR	10YR-24HR	100YR-1HR	100YR-3HR	100YR-6HR	100YR-24HR
A-1 & A-2	548856	12.60	5.56	*	*	*	*	*	*	*	*	*	*	*	22.06	*	*	*
B-1 & B-2	312325	7.17	6.05	4.19	3.70	1.41	9.56	6.25	5.54	2.01	12.48	8.49	7.58	3.16	19.26	14.40	12.99	6.25
D-1,2,3	411642	9.45	7.24	*	*	*	*	*	*	*	*	*	*	*	24.43	*	*	*
TOTAL	1,272,823	29.22	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

* RATIONAL METHOD PEAK FLOWS IN THE PROPOSED CONDITION FOR OUTFLOWS A AND D DO NOT EXCEED THE EXISTING FLOWS. THEREFORE ADDITIONAL STORM EVENTS WERE NOT ANALYZED SINCE DETENTION IS NOT REQUIRED.



No.	REVISIONS	DATE	BY
1	1ST SUBMITTAL 230049	02/12/24	WH
2	2ND SUBMITTAL 230049	07/24/24	BA

Kimley»Horn

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KHA PROJECT	099894001
DATE	8/9/2024
SCALE	AS SHOWN
DESIGNED BY	ML
DRAWN BY	WH
CHECKED BY	NK

TEMESCAL COMMERCIAL

RIVERSIDE COUNTY CALIFORNIA

PRELIMINARY EXISTING DRAINAGE PLAN

SHEET NUMBER

Plotted By: Liedermon, Cameron Sheet Set: Kha Layout: EXHIBIT August 09, 2024 08:23:18am K:\ORA_IDEV\099894001 — Temescal Canyon\CADD\Entitlement\Entitlement Exhibits\Preliminary Drainage Exhibit — Entitlement 1\2024.02.14 — Prelim Existing Drainage Exhibit.dwg
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LEGEND

- PROPERTY LINE
- CENTER LINE
- DRAINAGE MANAGEMENT AREA (DMA)
- 1695 — PROPOSED CONTOUR
- (1695) — EXISTING CONTOUR
- SD — PROPOSED STORM DRAIN PIPE
- FLOW PATH
- X / XX — DMA NAME / AREA
- PROPOSED IMPERVIOUS AREA

DRAINAGE KEYNOTES

1. PROPOSED CATCH BASIN.
2. PROPOSED CMP INFILTRATION/DETENTION SYSTEM
3. PROPOSED MODULAR WETLAND.
4. POINT OF DISCHARGE. SEE OUTLET STRUCTURE DETAIL A ON THIS SHEET.
5. PROPOSED 12" STORM DRAIN PIPE
6. PROPOSED 18" STORM DRAIN PIPE
7. PROPOSED 24" STORM DRAIN PIPE
8. PROPOSED BIOFILTRATION BASIN

EXISTING VS PROPOSED MITIGATED FLOWS				
EVENT	EXISTING OUTFLOW B	PROPOSED OUTFLOW B1	PROPOSED OUTFLOW B2	PROPOSED TOTAL
2YR-1HR	6.050	0.059	0.000	0.060
2YR-3HR	4.190	0.086	0.584	0.670
2YR-6HR	3.700	0.103	0.874	0.977
2YR-24HR	1.410	0.370	1.030	1.42
5YR-1HR	9.560	0.077	0.388	0.465
5YR-3HR	6.240	0.105	0.861	0.966
5YR-6HR	5.540	0.307	1.190	1.497
5YR-24HR	2.010	0.663	1.330	1.990
10YR-1HR	12.480	0.090	0.584	0.674
10YR-3HR	8.490	0.117	1.015	1.132
10YR-6HR	7.580	0.596	1.273	1.869
10YR-24HR	3.160	0.916	2.300	3.220
100YR-1HR	19.260	0.375	1.060	1.435
100YR-3HR	14.40	1.191	2.577	3.768
100YR-6HR	12.990	1.546	3.621	5.167
100YR-24HR	6.250	1.8250	4.256	6.081

UNIT HYDROGRAPH RESULT - EXISTING CONDITION

DMA	AREA (SF)	AREA (AC)	2YR-1HR	2YR-3HR	2YR-6HR	2YR-24HR	5YR-1HR	5YR-3HR	5YR-6HR	5YR-24HR	10YR-1HR	10YR-3HR	10YR-6HR	10YR-24HR	100YR-1HR	100YR-3HR	100YR-6HR	100YR-24HR
A-1 & A-2	548856	12.60	5.56	*	*	*	*	*	*	*	*	*	*	*	22.06	*	*	*
B-1 & B-2	312325	7.17	6.05	4.19	3.70	1.41	9.56	6.25	5.54	2.01	12.48	8.49	7.58	3.16	19.26	14.40	12.99	6.25
D-1,2,3	411642	9.45	7.24	*	*	*	*	*	*	*	*	*	*	*	24.43	*	*	*
TOTAL	1,272,823	29.22	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

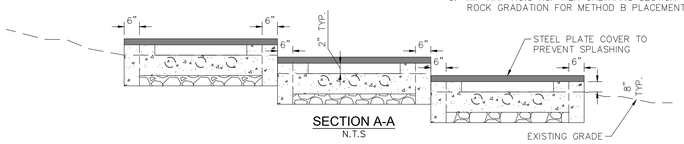
* RATIONAL METHOD PEAK FLOWS IN THE PROPOSED CONDITION FOR OUTFLOWS A AND D DO NOT EXCEED THE EXISTING FLOWS. SEE TABLE 1 AND 2 IN DRAINAGE REPORT NARRATIVE. THEREFORE ADDITIONAL STORM EVENTS WERE NOT ANALYZED SINCE DETENTION IS NOT REQUIRED.

UNIT HYDROGRAPH RESULT - PROPOSED CONDITION

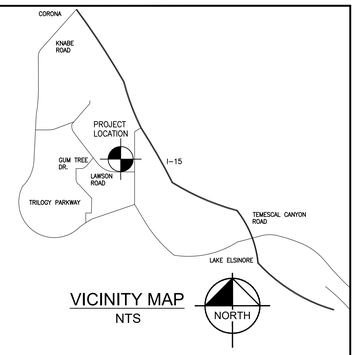
DMA	AREA (SF)	AREA (AC)	2YR-1HR	2YR-3HR	2YR-6HR	2YR-24HR	5YR-1HR	5YR-3HR	5YR-6HR	5YR-24HR	10YR-1HR	10YR-3HR	10YR-6HR	10YR-24HR	100YR-1HR	100YR-3HR	100YR-6HR	100YR-24HR
OUTFLOW A	484387	11.12	4.80	*	*	*	*	*	*	*	*	*	*	*	22.98	*	*	*
OUTFLOW B1	158994	3.65	3.74	2.28	2.01	0.85	5.29	3.36	2.99	1.20	6.72	4.19	3.75	1.47	11.09	7.48	6.83	3.1500
OUTFLOW B2	348480	8.00	6.47	5.18	4.78	2.17	9.07	7.35	6.79	3.08	11.11	8.96	8.28	3.78	18.96	15.21	14.12	7.09
OUTFLOW D	275735	6.33	6.15	*	*	*	*	*	*	*	*	*	*	*	13.45	*	*	*
TOTAL	1,267,596	29.10	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

* RATIONAL METHOD PEAK FLOWS IN THE PROPOSED CONDITION FOR OUTFLOWS A AND D DO NOT EXCEED THE EXISTING FLOWS. SEE TABLE 1 AND 2 IN DRAINAGE REPORT NARRATIVE. THEREFORE ADDITIONAL STORM EVENTS WERE NOT ANALYZED SINCE DETENTION IS NOT REQUIRED.

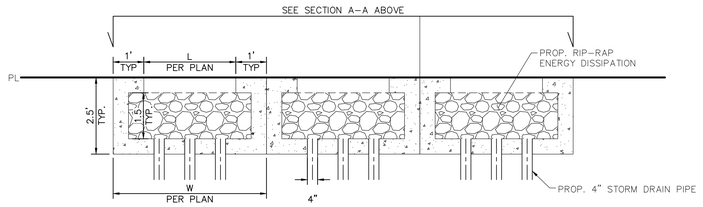
NOTES:
1. L,W, AND NUMBER OF STRUCTURES ("COUNT") SPECIFIED ON PLAN.
2. ONE 4" STORM DRAIN PIPE FOR EVERY FOOT OF "L" PER STRUCTURE.
3. STRUCTURES TO BE STEPPED TO MORE CLOSELY MATCH SLOPE OF EXISTING GRADE ALONG PROPERTY LINE.
4. STRUCTURES TO BE CONSTRUCTED OF 3,000 PSI P.C.C CONCRETE.
5. RIP RAP NO.3 RSP PER CALTRANS SECTION 72. ROCK GRADATION FOR METHOD B PLACEMENT.



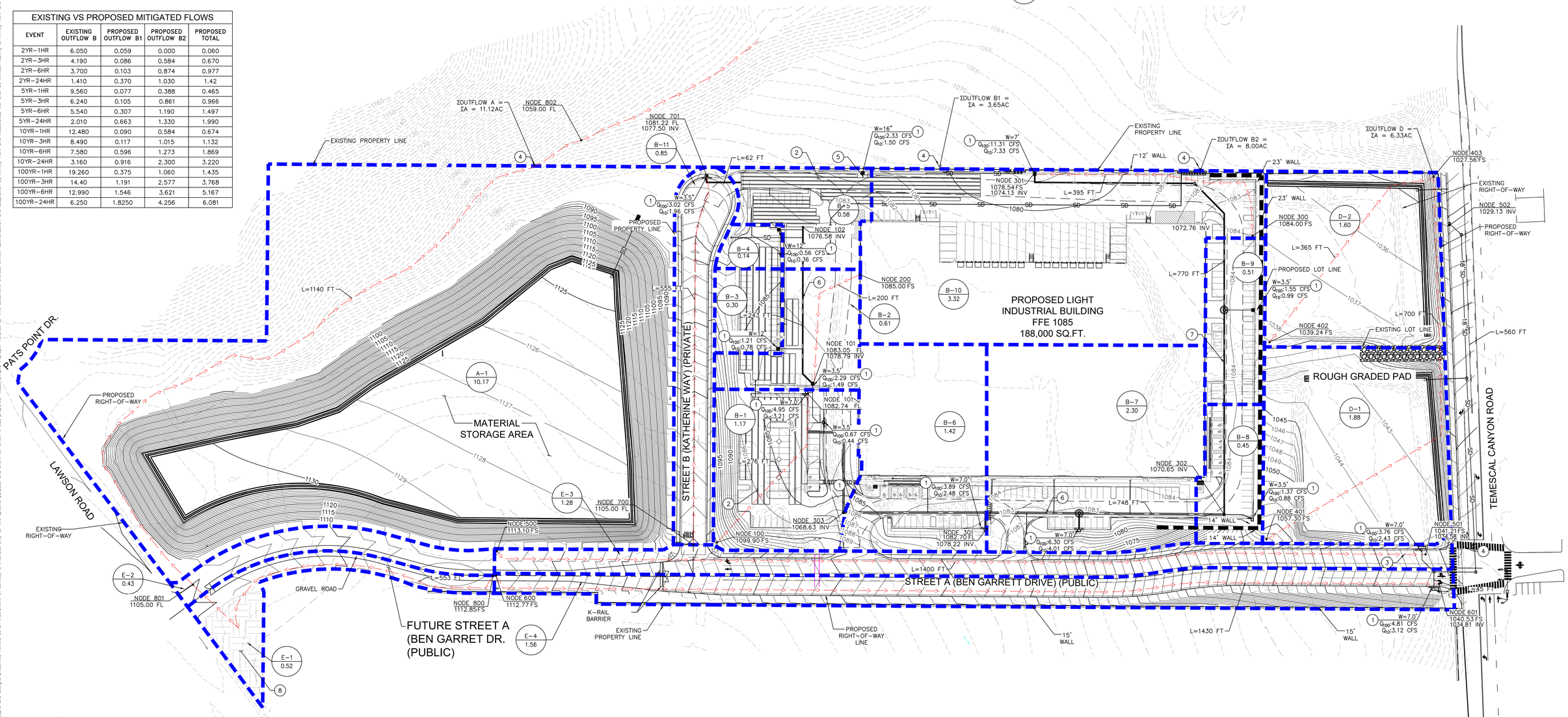
SECTION A-A
N.T.S



VICINITY MAP
NTS



A — STORM DISSIPATION OUTFALL DEVICE
NTS



No.	REVISIONS	DATE	BY
1	1ST SUBMITTAL 230049	02/12/24	WH
2	2ND SUBMITTAL 230049	07/24/24	BA
3	3RD SUBMITTAL 230049	08/23/24	BA

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KHA PROJECT	099894001
DATE	8/23/2024
SCALE	AS SHOWN
DESIGNED BY	ML
DRAWN BY	WH
CHECKED BY	NK

TEMESCAL CANYON INDUSTRIAL

RIVERSIDE COUNTY CALIFORNIA

PROPOSED DRAINAGE PLAN

SHEET NUMBER

Plotted By:Liedermon Cameron Sheet Set:Kha Layout:EXHIBIT August 23, 2024 08:21:30am K:\ORA_LDEV\099894001 - Temescal Canyon\CADD\Entitlement\Entitlement Exhibits\Preliminary Drainage Exhibit - Entitlement 1\Prelim Proposed Drainage Exhibit - Entitlement 1.dwg
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