
Jan-2023
2022-220

Auburn Avenue 17.4 AC Development

City of Adelanto, CA
APN: 0459-062-37-0-000

Preliminary Hydrology Study Report

Prepared For:

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1. INTRODUCTION

The purpose of this study is to demonstrate that the proposed project site can be designed to provide adequate flood protection without adversely impacting existing off-site drainage systems or adjacent properties. The scope of this analysis includes the pre-developed and post-developed runoff analysis.

2. EXISTING SITE DESCRIPTION

2.1. EXISTING SITE TOPOGRAPHY & HYDROLOGIC PATTERNS

The project site is located at the southeast corner of Auburn Avenue and Pearman Street in the City of Adelanto, County of San Bernardino. The site is currently bounded to the north by Auburn Avenue, to the east by Pearman Street, to the south by Barcelona Avenue, and to the west by Adelanto Boulevard.

The total area, after dedication, of the project site is 17.4 Acres. The existing site is currently undeveloped and, by observation, is considered to have a land cover of poor open brush. The natural drainage pattern for the existing condition of the site is south to north. Stormwater sheet flows generally to the north toward Auburn Avenue. There are no public storm drain systems at the frontage of the project site. See Figure 1 for the pre-development drainage map.

3. PROJECT SITE DESCRIPTION

3.1. PROJECT DESCRIPTION & HYDROLOGIC PATTERNS

The project site will be developed into an industrial property with a single building, parking stalls, drive aisles, a truck court, and landscaping. The proposed development will maintain the same natural drainage pattern as the existing condition. Stormwater will sheet flow generally from east to west and will be captured by proposed on-site catch basins. The proposed on-site storm drain system will convey the flow west and into one of two underground infiltration chambers before routing additional stormwater runoff into the above ground basin. This system will be designed to meet project's water quality requirements and provide sufficient storage to meet the 100-year storm hydrology requirement. In a large storm event, stormwater will bypass the above ground basin via spillway onto the adjacent proposed street, Pearman Street.

4. RESULTS & ANALYSIS

4.1. METHODOLOGY

The proposed drainage areas were analyzed using the San Bernardino (SB) County Hydrology Manual for the 100-year storm event. The main methods used for this project were the Rational Method, Synthetic Unit Hydrograph Method, and Basin Routing Analysis. Civil Design software was used to compute the data. Solving for the Rational Method returns the peak flow rate. Unit Hydrograph analysis will determine the total volume generated from a storm event. Basin Routing analysis will analyze the storage volume and outflow flow rate for the proposed underground infiltration chamber.

In addition, since the site does not meet any of the hydromodification exemption criteria provided in the Mojave Watershed Technical Guidance Documentation, the project must demonstrate that the post-development runoff volume, time of concentration, and peak flow velocity for the 10-year storm does not exceed that of the pre-development condition by more than five percent to comply with hydromodification requirements. This report will refer to the volume retention and allowable runoff required for compliance as the hydromodification volume retention requirement and the hydromodification allowable peak flow respectively.

According to the USDA Web Soil Survey Map, the site is entirely composed of type C soil (See Appendix E). The proposed land use was analyzed as commercial for both the pre- and post-development condition. According to the county's manual, Antecedent Moisture Condition (AMC) I is used for the 2-year storm event, AMC II for the 10-year storm event, and AMC III for the 100-year storm event in order to give more confidence to mitigate any increase runoff, if needed.

For the rational method analysis, the runoff coefficient is determined by the land use for each condition. The rainfall intensities are based on the time of concentration for each drainage area and the intensity-duration curves provided in the county's manual. The flow lengths and terrain elevations were determined using existing topography for the pre-development condition and the conceptual grading plans for the post-development condition.

For the unit hydrograph analysis, the lag time was determined by using the time of concentration based on the rational method analysis. Rainfall depths were obtained from the National Oceanic and Atmospheric Administration (NOAA) Point Precipitation Frequency Estimates. The rainfall depth data are included in Appendix E. The rainfall used in the hydrology calculations are summarized on Table 4.1.

Table 4.1: Rainfall Depths	
Storm Event & Duration	Rainfall Depth (inches)
2-Year, 1-Hour	0.32
2-Year, 6-Hour	0.674
2-Year, 24-Hour	1.12
10-Year, 1-Hour	0.549
10-Year, 6-Hour	1.10
10-Year, 24-Hour	1.90
100-Year, 1-Hour	0.949
100-Year, 6-Hour	1.82
100-Year, 24-Hour	3.18

For the basin routing analysis, the results from the unit hydrograph analysis were used to determine the amount of stormwater entering the proposed underground infiltration chamber at each time interval. The staging data table is provided in Appendix D.

4.2. HYDROLOGY RESULTS & ANALYSIS

The complete rational method analysis and results are included in Appendix B. The complete unit hydrograph analysis and results are included in Appendix C. The tables below provide a summary of the peak flow rate and runoff volume for the pre-developed and post-developed condition for the 2- and 100-year storm.

Table 4.2.1: Pre-Development Hydrology Summary Table

Storm Event	Area (Acres)	Tc (min.)	Intensity (in/hr)	Flow Rate (cfs) (Rational Method)	Volume (cf) (Unit Hydrograph)
2-Year	17.4	19.21	--	2.13	--
100-Year			2.135	30.94	177,842

Table 4.2.2: Post-Development Hydrology Summary Table

Storm Event	Area (Acres)	Tc (min.)	Intensity (in/hr)	Flow Rate (cfs) (Rational Method)	Volume (cf) (Unit Hydrograph)
2-Year	17.4	8.13	--	22.75	--
100-Year			4.39	69.14	194,648

Table 4.2.3: Result Analysis Summary Table

Hydrology Results & Analysis Summary Table:	Project Site Disturbed Area = 126,883 SF (2.91 Acres)
	$Q_{100, PRE} = 30.94 \text{ CFS}$ $Q_{100, POST} = 69.14 \text{ CFS}$ $\Delta Q_{100} = + 0.89 \text{ CFS}$ $\Delta V_{100} = 16,805 \text{ CF}$ DCV = 35,862 CF (See Water Quality Management Plan) DCV > ΔV_{100} <u>9,720 CF = Site Design Storage Requirement</u> Volume Provided = 40,132 CF (Underground Infiltration Chamber)

Based on the 100-year rational method analysis, the post-development flow rate within the disturbed area increased compare to the pre-development flow rate. Furthermore, the post-development runoff volume increased compare to the pre-development runoff volume. The increase in flow rate and runoff volume was a result from a decrease in time of concentration.

Based on the Water Quality Management Plan for this project, the design capture volume (DCV) for the site is 35,862 cubic feet (cf). Since the DCV is higher than the difference between the pre- and post-development 100-year storm runoff volume (16,805 cf), the DCV is the minimum storm runoff storage required for the proposed development.

To mitigate the increase storm runoff volume within the disturbed area, two underground infiltration chambers with a storage volume of 40,132 cf is proposed for the project. Since there are no public storm drain systems around the frontage of the site, the proposed chamber system will provide sufficient storage volume to mitigate the full 100-year storm runoff volume to promote on-site infiltration and to mitigate any flooding potential. In a large storm event, an emergency overflow sump pump is proposed for the project site. The sump pump will be designed to have a maximum outflow flow rate of 2 cfs. This strategy will reduce any potential impacts to the downstream off-site storm drain system and give more confidence to mitigate the increase in runoff.

A basin routing analysis was performed to analyze the proposed chamber system with the sump pump and determine the water surface elevation in a 100-year storm event. The complete results of the basin routing analysis are included in Appendix D and is summarized on Table 4.2.4.

Table 4.2.4: Basin Routing Analysis Summary Table

Basin ID	Peak Flow In – Q_{100} (cfs)	Peak Flow Out – Q_{100} (cfs)	Storage Volume (cf)	Maximum Ponding Depth (ft)	100-year Storm Water Surface Elevation (ft)	Freeboard (ft)
Underground Infiltration Chamber A	XXX	0	XXX,XXX	XXX	XXX	1.00

5. CONCLUSION

The proposed redevelopment of the disturbed area would not create or contribute runoff that would exceed the capacity of the existing downstream storm drain system. Furthermore, the underground infiltration system will be designed to accommodate the 100-year storm event and would not exceed the flow rates and runoff volumes generated by the existing condition. Once construction is complete, there would not be any substantial increase in flood boundaries, levels or frequencies in any areas outside the development. The hydrologic analyses and calculations were designed in accordance with the San Bernardino County Hydrology Manual. The results from the analysis will be the basis for the grading and on-site storm-drain construction documents for the project.

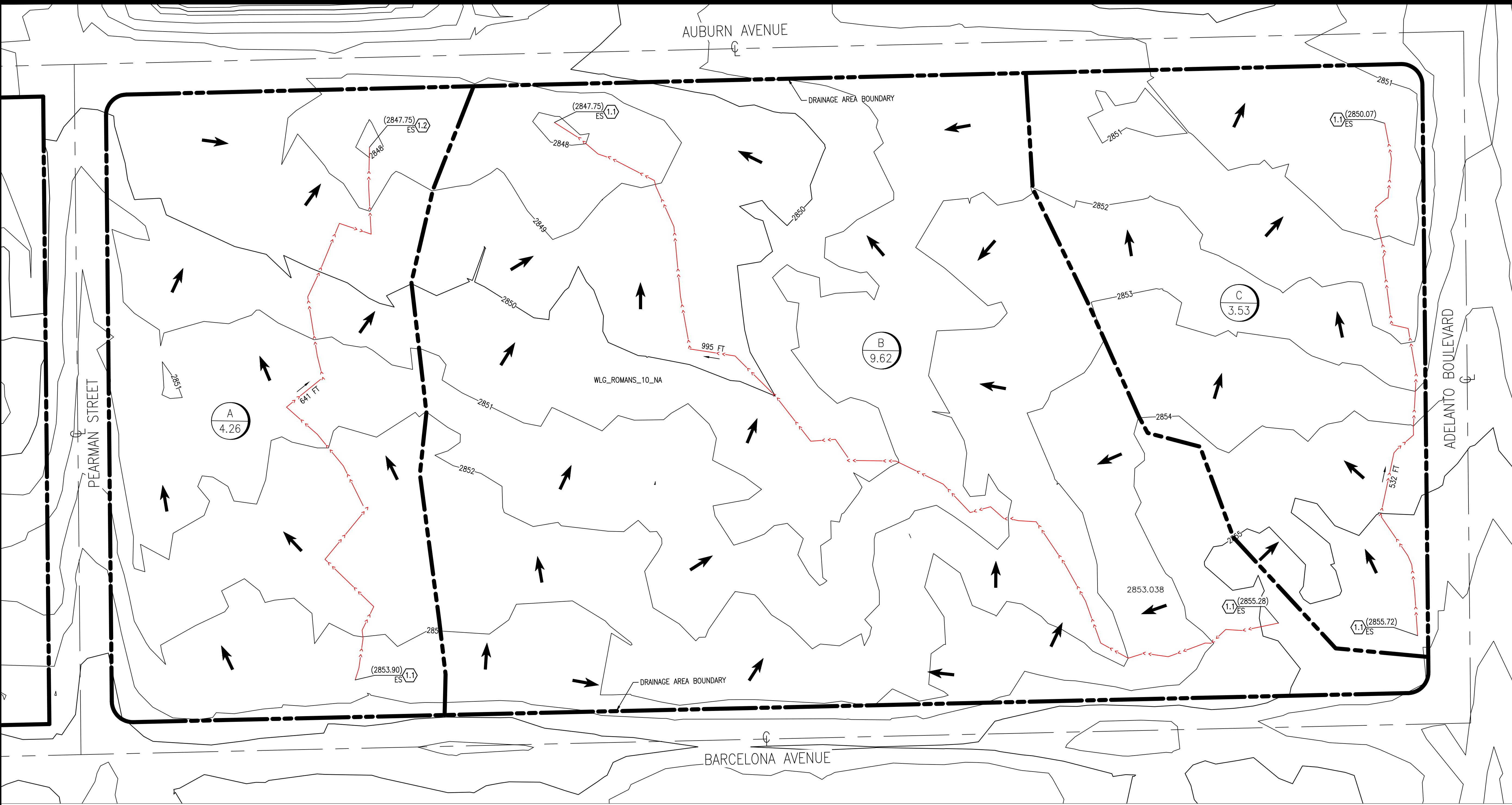
Evaluation of the appropriateness of guidelines and the accuracy of County data was beyond the scope of this study. Usage of this report is limited to address the purpose and scope previously defined by the project owner. The contents of this report are professional opinion and as such, are not to be considered a guaranty or warranty.

6. REFERENCES

1. City of Fontana Water Quality Management Plan Handbook dated September 2016
2. National Oceanic and Atmospheric Administration (NOAA) Atlas 14 Point Precipitation Frequency Estimates
3. San Bernardino County Hydrology Manual dated August 1986

APPENDIX A

HYDROLOGY EXHIBITS



HYDROLOGY INFORMATION

SITE AREA:	17.4 ACRE
SOIL GROUP:	C (PER USDA WEB SOIL SURVEY)
IMPERVIOUS:	0.00%
ISOHYETALS:	3.18" (100-YEAR, 24-HOUR) 2.39" (25-YEAR, 24-HOUR) 1.12" (2-YEAR, 24-HOUR)
FREQUENCY:	100 YEAR (FOR STORM DRAIN DESIGN) 10 YEAR (FOR WATER QUALITY)
METHOD:	SAN BERNARDINO COUNTY HYDROLOGY MANUAL

GENERAL NOTES

- SEE PRELIMINARY HYDROLOGY REPORT, PREPARED BY WESTLAND GROUP, FOR THE COMPLETE POST-DEVELOPMENT HYDROLOGY CALCULATIONS.
- CALCULATIONS WERE BASED ON THE REQUIREMENTS ON THE LOS ANGELES COUNTY HYDROLOGY MANUAL FOR 50 YEAR STORM.
- PROPOSED ON-SITE DRAINAGE SYSTEM LAYOUT IS PRELIMINARY.
- ALL FINISH ELEVATIONS AND INVERT ELEVATIONS ARE APPROXIMATE.

LEGEND

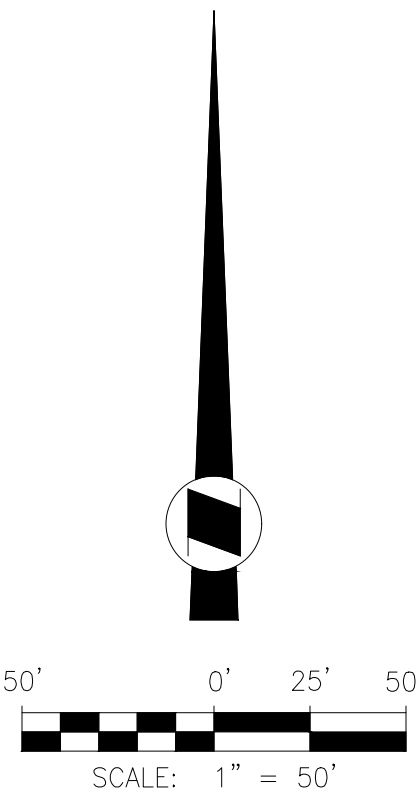
- PROJECT DRAINAGE BOUNDARY
- FLOW PATH
- SUB-DRAINAGE AREA ID
- SUB-DRAINAGE AREA IDENTIFIER
- SUB-DRAINAGE SURFACE AREA (ACRE)
- FLOW ARROW
- SURFACE FLOW NODE

ABBREVIATIONS

CF	CUBIC FEET
C&G	CURB AND GUTTER
CL OR ϕ	CENTERLINE
CMP	CORRUGATED METAL PIPE
DA	DRAINAGE AREA
EX	EXISTING
FS	FINISHED SURFACE ELEVATION
HR	HOUR
IN	INCH/INCHES
INV	INVERT ELEVATION
L	LENGTH
R/W	RIGHT OF WAY
PL OR ϕ	PROPERTY LINE
PROP	PROPOSED
SD	STORM DRAIN
TYP	TYPICAL
ULT	ULTIMATE
V	VOLUME
W	WIDTH

HYDROLOGY SUMMARY TABLE

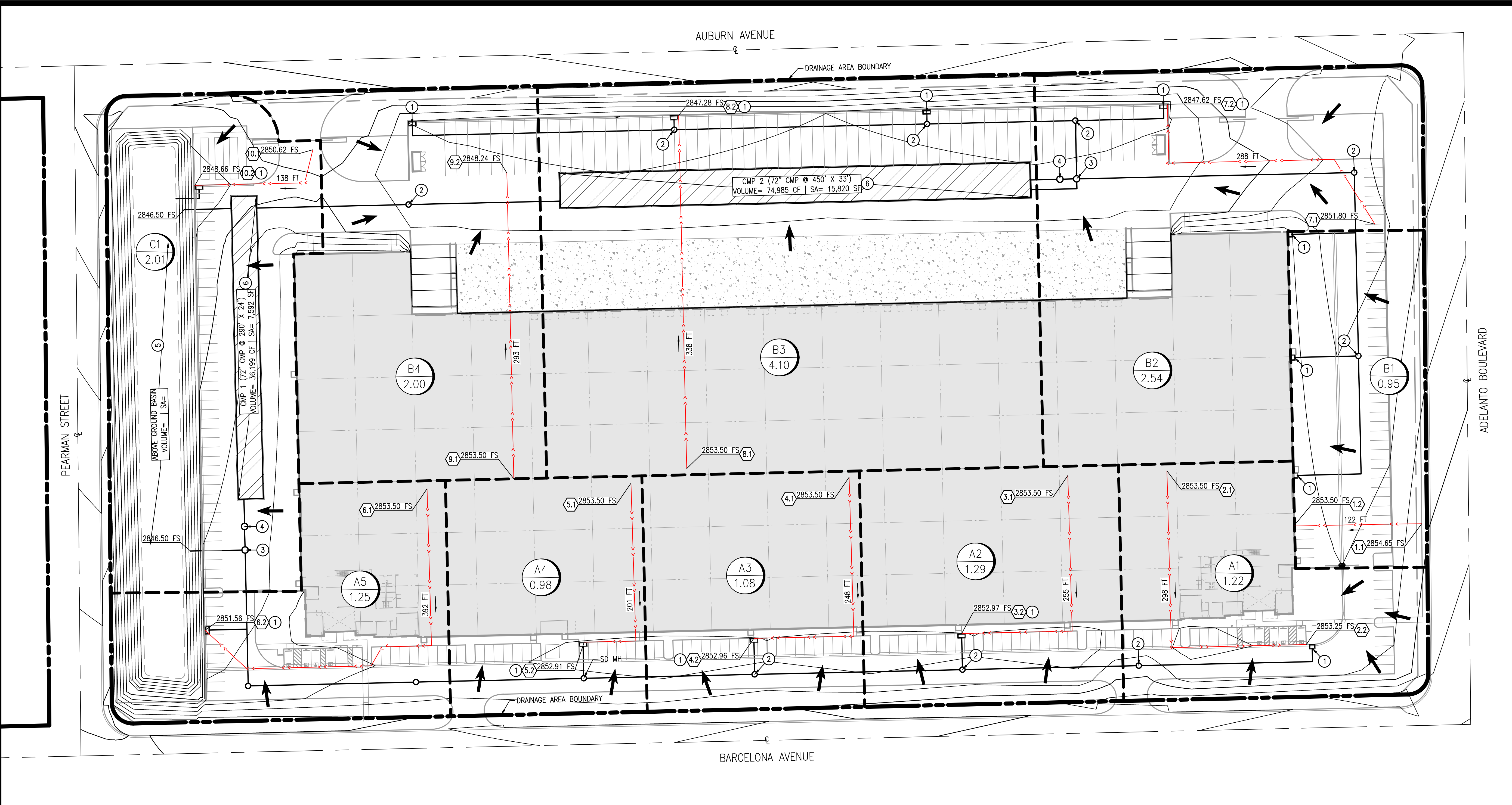
AREA ID	RUNOFF COEFFICIENT "C" ₁₀₀	TIME OF CONC. "Tc" ₁₀₀ (MIN.)	RAINFALL INTENSITY "I" ₁₀₀ (INCH/HOUR)	DRAINAGE AREA (AC)	RUNOFF FLOWRATE "Q ₂₅ " (CFS)	RUNOFF FLOWRATE "Q ₁₀₀ " (CFS)	RUNOFF VOLUME "V ₁₀₀ " (CF)	RUNOFF FLOWRATE "Q ₁₀ " (CFS)	RUNOFF VOLUME "V ₁₀ " (CF)	RUNOFF FLOWRATE "Q ₂ " (CFS)	RUNOFF VOLUME "V ₂ " (CF)
A	0.871	0.00	0.871	0.00	5.04	8.13	43,569	3.71	13,460	0.71	1,381
B	0.871	1.00	0.871	1.00	9.34	15.60	98,223	6.78	30,357	0.67	3,119
C	0.871	2.00	0.871	2.00	4.52	7.21	36,050	3.35	11,138	0.75	1,141
TOTAL				3.00	18.90	30.94	177,842	13.83	54,955	2.13	5,641



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JOB NO: 2022-220

AUBURN INDUSTRIAL BUILDING
HYDROLOGY EXHIBIT
EXISTING CONDITION
CITY OF ADELANTO

DATE: JAN 2023
SHEET
1
OF 1



HYDROLOGY INFORMATION

SITE AREA:	17.4 ACRE
SOIL GROUP:	C (PER USDA WEB SOIL SURVEY)
IMPERVIOUS:	0.00%
ISOHYETALS:	3.18" (100-YEAR, 24-HOUR) 2.39" (25-YEAR, 24-HOUR) 1.12" (2-YEAR, 24-HOUR)
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- ALL FINISH ELEVATIONS AND INVERT ELEVATIONS ARE APPROXIMATE.

BMP NOTES

- PROPOSED STORM DRAIN CATCH BASIN
- PROPOSED STORM DRAIN DIVERSION MODIFIED MANHOLE
- PROPOSED STORM DRAIN PRETREATMENT DEVICE
- PROPOSED ABOVE GROUND RETENTION BASIN
- PROPOSED UNDERGROUND RETENTION CMP (CORRUGATED METAL PIPE)

LEGEND

- PROJECT DRAINAGE BOUNDARY
- SUB-AREA BOUNDARY
- PROPOSED STORM DRAIN
- FLOW PATH
- SUB-DRAINAGE AREA ID
- SUB-DRAINAGE AREA IDENTIFIER
- SUB-DRAINAGE SURFACE AREA (ACRE)
- FLOW ARROW
- SURFACE FLOW NODE

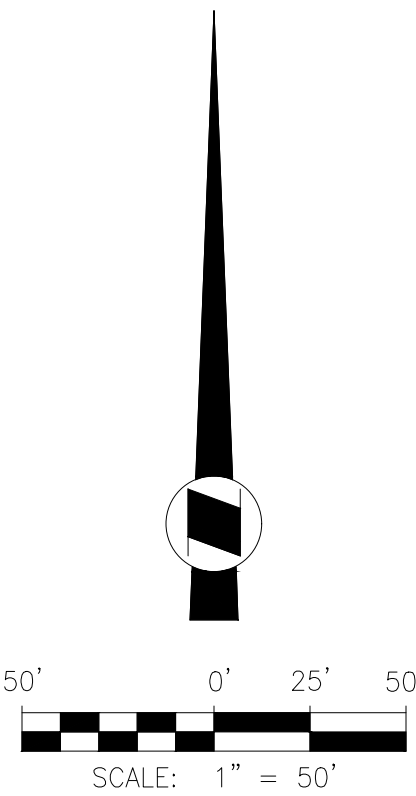
ABBREVIATIONS

CF	CUBIC FEET
C&G	CURB AND GUTTER
CL OR ϕ	CENTERLINE
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DA	DRAINAGE AREA
EX	EXISTING
FS	FINISHED SURFACE ELEVATION
HR	HOUR
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INV	INVERT ELEVATION
L	LENGTH
R/W	RIGHT OF WAY
PL OR ϕ	PROPERTY LINE
PROP	PROPOSED
SD	STORM DRAIN
TYP	TYPICAL
ULT	ULTIMATE
V	VOLUME
W	WIDTH

HYDROLOGY SUMMARY TABLE

AREA ID	RUNOFF COEFFICIENT "C" ₁₀₀	TIME OF CONC. "Tc" ₁₀₀ (MIN.)	RAINFALL INTENSITY "I" ₁₀₀ (INCH/HOUR)	DRAINAGE AREA (AC)	RUNOFF FLOWRATE "Q" ₁₀₀ (CFS)	RUNOFF VOLUME "V" ₁₀₀ (CFS)	RUNOFF FLOWRATE "Q" ₂ (CFS)	DCV
A1	.899	8.89	3.611	1.2180	3.9950	13,634	1.2940	
A2	.899	8.13	3.846	1.2870	4.4500	14,410	1.4590	
A3	.899	7.94	3.910	1.0800	3.7970	12,092	1.2450	
A4	.899	7.30	4.147	0.9760	3.6400	10,868	1.1960	
A5	.899	8.70	3.666	1.2480	4.1140	13,970	1.3470	
B1	.899	4.35	5.962	0.9500	5.0940	10,650	1.6870	
B2	.899	6.23	4.634	2.5380	10.5760	28,436	3.4840	
B3	.899	7.00	4.270	4.1040	15.7590	45,699	5.1810	
B4	.899	6.55	4.473	1.9980	8.0370	22,381	2.6450	
C	.899	5.03	5.383	2.0080	9.7210	22,507	3.2130	
TOTAL				17.41	69.18	194,647	22.75	35,862

DETAILS



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AUBURN INDUSTRIAL BUILDING
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APPENDIX B

RATIONAL METHOD ANALYSIS (2/100 YEAR STORM)

2022-220 Industrial Building Hydrology Calculations

Pre																					
DA	Area (sf)	Area (ac)	Pervious Area	Pervious Ratio	HP	LP	Length	C ₁₀₀	I ₁₀₀	TC (min)	TC (hr)	Q25 (cfs)	Q100 (cfs)	V100 (ac-ft)	V100 (cf)	Q10 (cfs)	V10 (ac-ft)	V10 (cf)	Q2 (cfs)	V2 (ac-ft)	V2 (cf)
A	185,621	4.26	185,621	1.000	2853.90	2847.75	641	0.871	2.190	18.16	0.30	5.04	8.128	1.0002	43,569	3.707	0.3090	13,460	0.708	0.0317	1,381
B	418,936	9.62	418,936	1.000	2855.28	2847.75	995	0.866	1.873	22.71	0.38	9.34	15.601	2.2549	98,223	6.779	0.6969	30,357	0.672	0.0716	3,119
C	153,765	3.53	153,765	1.000	2855.72	2850.07	532	0.873	2.341	16.52	0.28	4.52	7.211	0.8276	36,050	3.347	0.2557	11,138	0.748	0.0262	1,141
Total	758,321	17.41	758,321							Avg = 0.32		18.90	30.94	4.0827	177,842	13.83	1.2616	54,955	2.13	0.1295	5,641
									2.135												

Post																						
DA	Area (sf)	Area (ac)	Pervious Area	Pervious Ratio	HP	LP	Length	C ₁₀₀	I ₁₀₀	TC (min)	TC (hr)	Q25 (cfs)	Q100 (cfs)	V100 (ac-ft)	V100 (cf)	Q10 (cfs)	V10 (ac-ft)	V10 (cf)	Q2 (cfs)	V2 (ac-ft)	V2 (cf)	
A1	53,043	1.218	5,304	0.100	2852.00	2850.86	298	0.899	3.611	8.89	0.15	0.000	3.955	0.3130	13,634	2.271		0	1.294		0	
A2	56,072	1.287	5,607	0.100	2852.00	2850.88	255	0.899	3.846	8.13	0.14		4.450	0.3308	14,410	2.557		0	1.459		0	
A3	47,059	1.080	4,706	0.100	2852.00	2850.84	248	0.899	3.910	7.94	0.13		3.797	0.2776	12,092	2.182		0	1.245		0	
A4	42,529	0.976	4,253	0.100	2852.00	2851.06	201	0.899	4.147	7.30	0.12		3.640	0.2495	10,868	2.092		0	1.196		0	
A5	54,369	1.248	5,437	0.100	2852.00	2849.11	392	0.899	3.666	8.70	0.15		4.114	0.3207	13,970	2.363		0	1.347		0	
253,071		5.810	25,307										0.000	19.956	1.492	64,974	11.465	0.000	0	6.541	0.000	0
B1	41,402	0.950	4,140	0.100	2854.81	2852.00	122	0.899	5.962	4.35	0.07	0.000	5.094	0.2445	10,650	2.934		0	1.687		0	
B2	110,545	2.538	11,054	0.100	2852.60	2846.49	288	0.899	4.634	6.23	0.10		10.576	0.6528	28,436	6.084		0	3.484		0	
B3	178,774	4.104	17,877	0.100	2852.00	2846.49	338	0.899	4.270	7.00	0.12		15.759	1.0491	45,699	9.060		0	5.181		0	
B4	87,050	1.998	8,705	0.100	2852.00	2847.00	293	0.899	4.473	6.55	0.11		8.037	0.5138	22,381	4.622		0	2.645		0	
417,770		9.591	41,777										0.000	39.466	2.460	107,166	22.700	0.000	0	12.997	0.000	0
C1	87,479	2.008	8,748	0.100	2850.62	2848.66	138	0.899	5.383	5.03	0.08	0.00	9.721	0.5167	22,507	5.596		0	3.213		0	
Total	758,321	17.409	75,832	0.100					4.52	Avg = 0.14				69.14	4.4685	194,648	39.76	0.0000	0	22.75	0	0

NOAA Atlas 14 Rainfall Data				
	2Yr	10 Yr	25 Yr	100 Yr
1hr	0.320	0.549	0.699	0.949
6hr	0.674	1.100	1.370	1.820
24hr	1.120	1.900	2.390	3.180

Soil Type	Curve #	84	Pre	Open Brush, Poor
C		91	Post	

64,974

107,166

Drawdown Calculations (96 hrs) for 100 Yr Storm			
Rates	3.09, 5.76, 2.86, 10.99	48 hr	
Infiltration Rate AVG	5.675	in/hr	
FS	2		
Design Infiltration Rate	2.8375	in/hr	
	0.2365	ft/hr	
Drawdown (ft)	11.35		

Area ID	A1	A2	A3	Σ	Basin ID	Model	Surface Area	Volume
Req Surface Area (sf)	17,150			17,150	AG1			
Req Volume (V100)	194,648			194,648	UG1			
Provided Surface Area	0	0		0	UG2			
Provided Volume	0	0		0	Total	-	0	0

2022-220 Industrial Building WQMP Calculations

WQMP Form 4.3-3				
	Item #			
Infiltration Rate	2	5.675	in/hr	
Factor of Safety	3	2		
Safety Infiltration Rate	4	2.8375	in/hr	
Drawdown Time	5	48	hr	
Max Ponding Depth	6	5	ft	
Ponding Depth	7	5	(min of ITEM6 or (ITEM4*ITEM5/12) =	11.35
Infiltrating Surface Area	8	23,605	sf	
Depth of Engineered Soil	9	4	ft	
Soil Porosity	10	0.35		
Gravel Depth	11	0	ft	
Gravel Porosity	12	0		
Duration of Storm (typ. 3hr)	13	3		DCV = 35,862
	14	167,816	% of DCV Covered =	468%

NOAA Atlas 14 Rainfall Data				
	2Yr	10 Yr	25 Yr	100 Yr
1hr	0.320	0.549	0.699	0.949
6hr	0.674	1.100	1.370	1.820
24hr	1.120	1.900	2.390	3.180

DCV	35,862	cf	Design Capture Volume
1	758,321	sf	Site Area
2	0.90		Imperviousness of Site
3	0.73		Runoff Coefficient (Rc)
4	0.320	in	1hr 2Yr Rainfall
5	0.396	in	Mean 6-hr Precipitation, C1=
6	48	hr	Drawdown Time

C2= 1.582 24 hr
1.963 48 hr

Valley 1.4807
Desert 1.2371

RATIONAL METHOD ANALYSIS

PRE-DEVELOPMENT CONDITIONS

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2005 Version 7.1
Rational Hydrology Study Date: 12/22/22

JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
2 YEAR STORM RATIONAL METHOD, PRE CONDITION
AREA A

Program License Serial Number 6277

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

Rational hydrology study storm event year is 2.0
Computed rainfall intensity:
Storm year = 2.00 1 hour rainfall = 0.320 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 1

+++++
Process from Point/Station 1.100 to Point/Station 1.200
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 84.00
Adjusted SCS curve number for AMC 1 = 68.60
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.554(In/Hr)
Initial subarea data:
Initial area flow distance = 641.000(Ft.)
Top (of initial area) elevation = 2853.900(Ft.)
Bottom (of initial area) elevation = 2847.750(Ft.)
Difference in elevation = 6.150(Ft.)
Slope = 0.00959 s(%)= 0.96
 $TC = k(0.541)*[(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 18.164 min.
Rainfall intensity = 0.739(In/Hr) for a 2.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.225
Subarea runoff = 0.708(CFS)
Total initial stream area = 4.261(Ac.)
Pervious area fraction = 1.000

Initial area Fm value = 0.554(In/Hr)

End of computations, Total Study Area = 4.26 (Ac.)

The following figures may

be used for a unit hydrograph study of the same area.

Note: These figures do not consider reduced effective area effects caused by confluences in the rational equation.

Area averaged pervious area fraction(A_p) = 1.000

Area averaged SCS curve number = 84.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2005 Version 7.1
Rational Hydrology Study Date: 12/22/22

JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
2 YEAR STORM RATIONAL METHOD, PRE CONDITION
AREA B

Program License Serial Number 6277

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

Rational hydrology study storm event year is 2.0
Computed rainfall intensity:
Storm year = 2.00 1 hour rainfall = 0.320 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 1

+++++
Process from Point/Station 2.100 to Point/Station 2.200
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 84.00
Adjusted SCS curve number for AMC 1 = 68.60
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.554(In/Hr)
Initial subarea data:
Initial area flow distance = 995.000(Ft.)
Top (of initial area) elevation = 2855.280(Ft.)
Bottom (of initial area) elevation = 2847.750(Ft.)
Difference in elevation = 7.530(Ft.)
Slope = 0.00757 s(%)= 0.76
 $TC = k(0.541)*[(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 22.709 min.
Rainfall intensity = 0.632(In/Hr) for a 2.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.111
Subarea runoff = 0.672(CFS)
Total initial stream area = 9.617(Ac.)
Pervious area fraction = 1.000

Initial area Fm value = 0.554(In/Hr)

End of computations, Total Study Area = 9.62 (Ac.)

The following figures may

be used for a unit hydrograph study of the same area.

Note: These figures do not consider reduced effective area effects caused by confluences in the rational equation.

Area averaged pervious area fraction(A_p) = 1.000

Area averaged SCS curve number = 84.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

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Rational Hydrology Study Date: 12/22/22

JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
2 YEAR STORM RATIONAL METHOD, PRE CONDITION
AREA C

Program License Serial Number 6277

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

Rational hydrology study storm event year is 2.0
Computed rainfall intensity:
Storm year = 2.00 1 hour rainfall = 0.320 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 1

+++++
Process from Point/Station 3.100 to Point/Station 3.200
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 84.00
Adjusted SCS curve number for AMC 1 = 68.60
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.554(In/Hr)
Initial subarea data:
Initial area flow distance = 532.000(Ft.)
Top (of initial area) elevation = 2855.720(Ft.)
Bottom (of initial area) elevation = 2850.070(Ft.)
Difference in elevation = 5.650(Ft.)
Slope = 0.01062 s(%)= 1.06
 $TC = k(0.541)*[(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 16.520 min.
Rainfall intensity = 0.789(In/Hr) for a 2.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.268
Subarea runoff = 0.748(CFS)
Total initial stream area = 3.530(Ac.)
Pervious area fraction = 1.000

Initial area Fm value = 0.554(In/Hr)

End of computations, Total Study Area = 3.53 (Ac.)

The following figures may

be used for a unit hydrograph study of the same area.

Note: These figures do not consider reduced effective area effects caused by confluences in the rational equation.

Area averaged pervious area fraction(A_p) = 1.000

Area averaged SCS curve number = 84.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

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Rational Hydrology Study Date: 12/21/22

JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
100 YEAR STORM RATIONAL METHOD, PRE CONDITION
AREA A

Program License Serial Number 6277

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

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 0.949 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

+++++
Process from Point/Station 1.100 to Point/Station 1.200
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.071(In/Hr)
Initial subarea data:
Initial area flow distance = 641.000(Ft.)
Top (of initial area) elevation = 2853.900(Ft.)
Bottom (of initial area) elevation = 2847.750(Ft.)
Difference in elevation = 6.150(Ft.)
Slope = 0.00959 s(%)= 0.96
 $TC = k(0.541)*[(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 18.164 min.
Rainfall intensity = 2.190(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.871
Subarea runoff = 8.128(CFS)
Total initial stream area = 4.261(Ac.)
Pervious area fraction = 1.000

Initial area Fm value = 0.071(In/Hr)

End of computations, Total Study Area = 4.26 (Ac.)

The following figures may

be used for a unit hydrograph study of the same area.

Note: These figures do not consider reduced effective area effects caused by confluences in the rational equation.

Area averaged pervious area fraction(A_p) = 1.000

Area averaged SCS curve number = 84.0

San Bernardino County Rational Hydrology Program

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Rational Hydrology Study Date: 12/21/22

JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
100 YEAR STORM RATIONAL METHOD, PRE CONDITION
AREA B

Program License Serial Number 6277

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

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 0.949 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

+++++
Process from Point/Station 2.100 to Point/Station 2.200
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.071(In/Hr)
Initial subarea data:
Initial area flow distance = 995.000(Ft.)
Top (of initial area) elevation = 2855.280(Ft.)
Bottom (of initial area) elevation = 2847.750(Ft.)
Difference in elevation = 7.530(Ft.)
Slope = 0.00757 s(%)= 0.76
 $TC = k(0.541)*[(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 22.709 min.
Rainfall intensity = 1.873(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.866
Subarea runoff = 15.601(CFS)
Total initial stream area = 9.617(Ac.)
Pervious area fraction = 1.000

Initial area Fm value = 0.071(In/Hr)

End of computations, Total Study Area = 9.62 (Ac.)

The following figures may

be used for a unit hydrograph study of the same area.

Note: These figures do not consider reduced effective area effects caused by confluences in the rational equation.

Area averaged pervious area fraction(A_p) = 1.000

Area averaged SCS curve number = 84.0

San Bernardino County Rational Hydrology Program

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JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
100 YEAR STORM RATIONAL METHOD, PRE CONDITION
AREA C

Program License Serial Number 6277

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

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 0.949 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

+++++
Process from Point/Station 3.100 to Point/Station 3.200
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 84.00
Adjusted SCS curve number for AMC 3 = 96.40
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.071(In/Hr)
Initial subarea data:
Initial area flow distance = 532.000(Ft.)
Top (of initial area) elevation = 2855.720(Ft.)
Bottom (of initial area) elevation = 2850.070(Ft.)
Difference in elevation = 5.650(Ft.)
Slope = 0.01062 s(%)= 1.06
 $TC = k(0.541)*[(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 16.520 min.
Rainfall intensity = 2.341(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.873
Subarea runoff = 7.211(CFS)
Total initial stream area = 3.530(Ac.)
Pervious area fraction = 1.000

Initial area Fm value = 0.071(In/Hr)

End of computations, Total Study Area = 3.53 (Ac.)

The following figures may

be used for a unit hydrograph study of the same area.

Note: These figures do not consider reduced effective area effects caused by confluences in the rational equation.

Area averaged pervious area fraction(A_p) = 1.000

Area averaged SCS curve number = 84.0

RATIONAL METHOD ANALYSIS

POST-DEVELOPMENT CONDITIONS

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

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Rational Hydrology Study Date: 01/05/23

JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
2 YEAR STORM RATIONAL METHOD, POST CONDITION
AREA A1

Program License Serial Number 6277

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

Rational hydrology study storm event year is 2.0
Computed rainfall intensity:
Storm year = 2.00 1 hour rainfall = 0.320 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 1

+++++
Process from Point/Station 2.100 to Point/Station 2.200
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 1 = 79.80
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.037(In/Hr)
Initial subarea data:
Initial area flow distance = 298.000(Ft.)
Top (of initial area) elevation = 2852.000(Ft.)
Bottom (of initial area) elevation = 2850.860(Ft.)
Difference in elevation = 1.140(Ft.)
Slope = 0.00383 s(%)= 0.38
 $TC = k(0.299)*[(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 8.893 min.
Rainfall intensity = 1.218(In/Hr) for a 2.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.872
Subarea runoff = 1.294(CFS)
Total initial stream area = 1.218(Ac.)
Pervious area fraction = 0.100

Initial area Fm value = 0.037(In/Hr)

End of computations, Total Study Area = 1.22 (Ac.)

The following figures may

be used for a unit hydrograph study of the same area.

Note: These figures do not consider reduced effective area effects caused by confluences in the rational equation.

Area averaged pervious area fraction(A_p) = 0.100

Area averaged SCS curve number = 91.0

San Bernardino County Rational Hydrology Program

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JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
2 YEAR STORM RATIONAL METHOD, POST CONDITION
AREA A2

Program License Serial Number 6277

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

Rational hydrology study storm event year is 2.0
Computed rainfall intensity:
Storm year = 2.00 1 hour rainfall = 0.320 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 1

+++++
Process from Point/Station 3.100 to Point/Station 3.200
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 1 = 79.80
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.037(In/Hr)
Initial subarea data:
Initial area flow distance = 255.000(Ft.)
Top (of initial area) elevation = 2852.000(Ft.)
Bottom (of initial area) elevation = 2850.880(Ft.)
Difference in elevation = 1.120(Ft.)
Slope = 0.00439 s(%)= 0.44
 $TC = k(0.299)*[(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 8.128 min.
Rainfall intensity = 1.297(In/Hr) for a 2.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.874
Subarea runoff = 1.459(CFS)
Total initial stream area = 1.287(Ac.)
Pervious area fraction = 0.100

Initial area Fm value = 0.037(In/Hr)

End of computations, Total Study Area = 1.29 (Ac.)

The following figures may

be used for a unit hydrograph study of the same area.

Note: These figures do not consider reduced effective area effects caused by confluences in the rational equation.

Area averaged pervious area fraction(A_p) = 0.100

Area averaged SCS curve number = 91.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

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JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
2 YEAR STORM RATIONAL METHOD, POST CONDITION
AREA A3

Program License Serial Number 6277

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

Rational hydrology study storm event year is 2.0
Computed rainfall intensity:
Storm year = 2.00 1 hour rainfall = 0.320 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 1

+++++
Process from Point/Station 4.100 to Point/Station 4.200
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 1 = 79.80
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.037(In/Hr)
Initial subarea data:
Initial area flow distance = 248.000(Ft.)
Top (of initial area) elevation = 2852.000(Ft.)
Bottom (of initial area) elevation = 2850.840(Ft.)
Difference in elevation = 1.160(Ft.)
Slope = 0.00468 s(%)= 0.47
 $TC = k(0.299)*[(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 7.937 min.
Rainfall intensity = 1.318(In/Hr) for a 2.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.875
Subarea runoff = 1.245(CFS)
Total initial stream area = 1.080(Ac.)
Pervious area fraction = 0.100

Initial area Fm value = 0.037(In/Hr)

End of computations, Total Study Area = 1.08 (Ac.)

The following figures may

be used for a unit hydrograph study of the same area.

Note: These figures do not consider reduced effective area effects caused by confluences in the rational equation.

Area averaged pervious area fraction(A_p) = 0.100

Area averaged SCS curve number = 91.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

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JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
2 YEAR STORM RATIONAL METHOD, POST CONDITION
AREA A4

Program License Serial Number 6277

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

Rational hydrology study storm event year is 2.0
Computed rainfall intensity:
Storm year = 2.00 1 hour rainfall = 0.320 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 1

+++++
Process from Point/Station 5.100 to Point/Station 5.200
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 1 = 79.80
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.037(In/Hr)
Initial subarea data:
Initial area flow distance = 201.000(Ft.)
Top (of initial area) elevation = 2852.000(Ft.)
Bottom (of initial area) elevation = 2851.060(Ft.)
Difference in elevation = 0.940(Ft.)
Slope = 0.00468 s(%)= 0.47
 $TC = k(0.299)*[(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 7.298 min.
Rainfall intensity = 1.398(In/Hr) for a 2.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.876
Subarea runoff = 1.196(CFS)
Total initial stream area = 0.976(Ac.)
Pervious area fraction = 0.100

Initial area Fm value = 0.037(In/Hr)

End of computations, Total Study Area = 0.98 (Ac.)

The following figures may

be used for a unit hydrograph study of the same area.

Note: These figures do not consider reduced effective area effects caused by confluences in the rational equation.

Area averaged pervious area fraction(A_p) = 0.100

Area averaged SCS curve number = 91.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

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JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
2 YEAR STORM RATIONAL METHOD, POST CONDITION
AREA A5

Program License Serial Number 6277

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

Rational hydrology study storm event year is 2.0
Computed rainfall intensity:
Storm year = 2.00 1 hour rainfall = 0.320 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 1

+++++
Process from Point/Station 6.100 to Point/Station 6.200
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 1 = 79.80
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.037(In/Hr)
Initial subarea data:
Initial area flow distance = 392.000(Ft.)
Top (of initial area) elevation = 2852.000(Ft.)
Bottom (of initial area) elevation = 2849.110(Ft.)
Difference in elevation = 2.890(Ft.)
Slope = 0.00737 s(%)= 0.74
 $TC = k(0.299)*[(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 8.704 min.
Rainfall intensity = 1.236(In/Hr) for a 2.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.873
Subarea runoff = 1.347(CFS)
Total initial stream area = 1.248(Ac.)
Pervious area fraction = 0.100

Initial area Fm value = 0.037(In/Hr)

End of computations, Total Study Area = 1.25 (Ac.)

The following figures may

be used for a unit hydrograph study of the same area.

Note: These figures do not consider reduced effective area effects caused by confluences in the rational equation.

Area averaged pervious area fraction(A_p) = 0.100

Area averaged SCS curve number = 91.0

San Bernardino County Rational Hydrology Program

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Rational Hydrology Study Date: 01/05/23

JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
2 YEAR STORM RATIONAL METHOD, POST CONDITION
AREA B1

Program License Serial Number 6277

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

Rational hydrology study storm event year is 2.0
Computed rainfall intensity:
Storm year = 2.00 1 hour rainfall = 0.320 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 1

+++++
Process from Point/Station 1.100 to Point/Station 1.200
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 1 = 79.80
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.037(In/Hr)
Initial subarea data:
Initial area flow distance = 122.000(Ft.)
Top (of initial area) elevation = 2854.810(Ft.)
Bottom (of initial area) elevation = 2852.000(Ft.)
Difference in elevation = 2.810(Ft.)
Slope = 0.02303 s(%)= 2.30
 $TC = k(0.299)*[(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 4.345 min.
Rainfall intensity = 2.010(In/Hr) for a 2.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.883
Subarea runoff = 1.687(CFS)
Total initial stream area = 0.950(Ac.)
Pervious area fraction = 0.100

Initial area Fm value = 0.037(In/Hr)

End of computations, Total Study Area = 0.95 (Ac.)

The following figures may

be used for a unit hydrograph study of the same area.

Note: These figures do not consider reduced effective area effects caused by confluences in the rational equation.

Area averaged pervious area fraction(A_p) = 0.100

Area averaged SCS curve number = 91.0

San Bernardino County Rational Hydrology Program

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Rational Hydrology Study Date: 01/05/23

JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
2 YEAR STORM RATIONAL METHOD, POST CONDITION
AREA B2

Program License Serial Number 6277

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

Rational hydrology study storm event year is 2.0
Computed rainfall intensity:
Storm year = 2.00 1 hour rainfall = 0.320 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 1

+++++
Process from Point/Station 7.100 to Point/Station 7.200
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 1 = 79.80
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.037(In/Hr)
Initial subarea data:
Initial area flow distance = 288.000(Ft.)
Top (of initial area) elevation = 2852.600(Ft.)
Bottom (of initial area) elevation = 2846.490(Ft.)
Difference in elevation = 6.110(Ft.)
Slope = 0.02122 s(%)= 2.12
 $TC = k(0.299)*[(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 6.228 min.
Rainfall intensity = 1.563(In/Hr) for a 2.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.879
Subarea runoff = 3.484(CFS)
Total initial stream area = 2.538(Ac.)
Pervious area fraction = 0.100

Initial area Fm value = 0.037(In/Hr)

End of computations, Total Study Area = 2.54 (Ac.)

The following figures may

be used for a unit hydrograph study of the same area.

Note: These figures do not consider reduced effective area effects caused by confluences in the rational equation.

Area averaged pervious area fraction(A_p) = 0.100

Area averaged SCS curve number = 91.0

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2005 Version 7.1
Rational Hydrology Study Date: 01/05/23

JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
2 YEAR STORM RATIONAL METHOD, POST CONDITION
AREA B3

Program License Serial Number 6277

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

Rational hydrology study storm event year is 2.0
Computed rainfall intensity:
Storm year = 2.00 1 hour rainfall = 0.320 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 1

+++++
Process from Point/Station 8.100 to Point/Station 8.200
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 1 = 79.80
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.037(In/Hr)
Initial subarea data:
Initial area flow distance = 338.000(Ft.)
Top (of initial area) elevation = 2852.000(Ft.)
Bottom (of initial area) elevation = 2846.490(Ft.)
Difference in elevation = 5.510(Ft.)
Slope = 0.01630 s(%)= 1.63
 $TC = k(0.299)*[(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 6.999 min.
Rainfall intensity = 1.440(In/Hr) for a 2.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.877
Subarea runoff = 5.181(CFS)
Total initial stream area = 4.104(Ac.)
Pervious area fraction = 0.100

Initial area Fm value = 0.037(In/Hr)

End of computations, Total Study Area = 4.10 (Ac.)

The following figures may

be used for a unit hydrograph study of the same area.

Note: These figures do not consider reduced effective area effects caused by confluences in the rational equation.

Area averaged pervious area fraction(A_p) = 0.100

Area averaged SCS curve number = 91.0

San Bernardino County Rational Hydrology Program

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CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2005 Version 7.1
Rational Hydrology Study Date: 01/05/23

JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
2 YEAR STORM RATIONAL METHOD, POST CONDITION
AREA B4

Program License Serial Number 6277

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

Rational hydrology study storm event year is 2.0
Computed rainfall intensity:
Storm year = 2.00 1 hour rainfall = 0.320 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 1

+++++
Process from Point/Station 9.100 to Point/Station 9.200
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 1 = 79.80
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.037(In/Hr)
Initial subarea data:
Initial area flow distance = 293.000(Ft.)
Top (of initial area) elevation = 2852.000(Ft.)
Bottom (of initial area) elevation = 2847.000(Ft.)
Difference in elevation = 5.000(Ft.)
Slope = 0.01706 s(%)= 1.71
 $TC = k(0.299)*[(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 6.550 min.
Rainfall intensity = 1.508(In/Hr) for a 2.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.878
Subarea runoff = 2.645(CFS)
Total initial stream area = 1.998(Ac.)
Pervious area fraction = 0.100

Initial area Fm value = 0.037(In/Hr)

End of computations, Total Study Area = 2.00 (Ac.)

The following figures may

be used for a unit hydrograph study of the same area.

Note: These figures do not consider reduced effective area effects caused by confluences in the rational equation.

Area averaged pervious area fraction(A_p) = 0.100

Area averaged SCS curve number = 91.0

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JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
2 YEAR STORM RATIONAL METHOD, POST CONDITION
AREA C1

Program License Serial Number 6277

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

Rational hydrology study storm event year is 2.0
Computed rainfall intensity:
Storm year = 2.00 1 hour rainfall = 0.320 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 1

+++++
Process from Point/Station 10.100 to Point/Station 10.200
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 1 = 79.80
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.037(In/Hr)
Initial subarea data:
Initial area flow distance = 138.000(Ft.)
Top (of initial area) elevation = 2850.620(Ft.)
Bottom (of initial area) elevation = 2848.660(Ft.)
Difference in elevation = 1.960(Ft.)
Slope = 0.01420 s(%)= 1.42
 $TC = k(0.299)*[(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 5.028 min.
Rainfall intensity = 1.815(In/Hr) for a 2.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.881
Subarea runoff = 3.213(CFS)
Total initial stream area = 2.008(Ac.)
Pervious area fraction = 0.100

Initial area Fm value = 0.037(In/Hr)

End of computations, Total Study Area = 2.01 (Ac.)

The following figures may

be used for a unit hydrograph study of the same area.

Note: These figures do not consider reduced effective area effects caused by confluences in the rational equation.

Area averaged pervious area fraction(A_p) = 0.100

Area averaged SCS curve number = 91.0

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JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
100 YEAR STORM RATIONAL METHOD, POST CONDITION
AREA A1

Program License Serial Number 6277

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

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 0.949 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

+++++
Process from Point/Station 2.100 to Point/Station 2.200
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.004(In/Hr)
Initial subarea data:
Initial area flow distance = 298.000(Ft.)
Top (of initial area) elevation = 2852.000(Ft.)
Bottom (of initial area) elevation = 2850.860(Ft.)
Difference in elevation = 1.140(Ft.)
Slope = 0.00383 s(%)= 0.38
 $TC = k(0.299)*[(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 8.893 min.
Rainfall intensity = 3.611(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.899
Subarea runoff = 3.955(CFS)
Total initial stream area = 1.218(Ac.)
Pervious area fraction = 0.100

Initial area Fm value = 0.004(In/Hr)

End of computations, Total Study Area = 1.22 (Ac.)

The following figures may

be used for a unit hydrograph study of the same area.

Note: These figures do not consider reduced effective area effects caused by confluences in the rational equation.

Area averaged pervious area fraction(A_p) = 0.100

Area averaged SCS curve number = 91.0

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JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
100 YEAR STORM RATIONAL METHOD, POST CONDITION
AREA A2

Program License Serial Number 6277

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

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 0.949 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

+++++
Process from Point/Station 3.100 to Point/Station 3.200
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.004(In/Hr)
Initial subarea data:
Initial area flow distance = 255.000(Ft.)
Top (of initial area) elevation = 2852.000(Ft.)
Bottom (of initial area) elevation = 2850.880(Ft.)
Difference in elevation = 1.120(Ft.)
Slope = 0.00439 s(%)= 0.44
 $TC = k(0.299)*[(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 8.128 min.
Rainfall intensity = 3.846(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.899
Subarea runoff = 4.450(CFS)
Total initial stream area = 1.287(Ac.)
Pervious area fraction = 0.100

Initial area Fm value = 0.004(In/Hr)

End of computations, Total Study Area = 1.29 (Ac.)

The following figures may

be used for a unit hydrograph study of the same area.

Note: These figures do not consider reduced effective area effects caused by confluences in the rational equation.

Area averaged pervious area fraction(A_p) = 0.100

Area averaged SCS curve number = 91.0

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JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
100 YEAR STORM RATIONAL METHOD, POST CONDITION
AREA A3

Program License Serial Number 6277

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

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 0.949 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

+++++
Process from Point/Station 4.100 to Point/Station 4.200
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.004(In/Hr)
Initial subarea data:
Initial area flow distance = 248.000(Ft.)
Top (of initial area) elevation = 2852.000(Ft.)
Bottom (of initial area) elevation = 2850.840(Ft.)
Difference in elevation = 1.160(Ft.)
Slope = 0.00468 s(%)= 0.47
 $TC = k(0.299)*[(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 7.937 min.
Rainfall intensity = 3.910(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.899
Subarea runoff = 3.797(CFS)
Total initial stream area = 1.080(Ac.)
Pervious area fraction = 0.100

Initial area Fm value = 0.004(In/Hr)

End of computations, Total Study Area = 1.08 (Ac.)

The following figures may

be used for a unit hydrograph study of the same area.

Note: These figures do not consider reduced effective area effects caused by confluences in the rational equation.

Area averaged pervious area fraction(A_p) = 0.100

Area averaged SCS curve number = 91.0

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JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
100 YEAR STORM RATIONAL METHOD, POST CONDITION
AREA A4

Program License Serial Number 6277

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

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 0.949 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

+++++
Process from Point/Station 5.100 to Point/Station 5.200
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.004(In/Hr)
Initial subarea data:
Initial area flow distance = 201.000(Ft.)
Top (of initial area) elevation = 2852.000(Ft.)
Bottom (of initial area) elevation = 2851.060(Ft.)
Difference in elevation = 0.940(Ft.)
Slope = 0.00468 s(%)= 0.47
 $TC = k(0.299)*[(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 7.298 min.
Rainfall intensity = 4.147(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.899
Subarea runoff = 3.640(CFS)
Total initial stream area = 0.976(Ac.)
Pervious area fraction = 0.100

Initial area Fm value = 0.004(In/Hr)

End of computations, Total Study Area = 0.98 (Ac.)

The following figures may

be used for a unit hydrograph study of the same area.

Note: These figures do not consider reduced effective area effects caused by confluences in the rational equation.

Area averaged pervious area fraction(A_p) = 0.100

Area averaged SCS curve number = 91.0

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JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
100 YEAR STORM RATIONAL METHOD, POST CONDITION
AREA A5

Program License Serial Number 6277

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

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 0.949 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

+++++
Process from Point/Station 6.100 to Point/Station 6.200
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.004(In/Hr)
Initial subarea data:
Initial area flow distance = 392.000(Ft.)
Top (of initial area) elevation = 2852.000(Ft.)
Bottom (of initial area) elevation = 2849.110(Ft.)
Difference in elevation = 2.890(Ft.)
Slope = 0.00737 s(%)= 0.74
 $TC = k(0.299)*[(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 8.704 min.
Rainfall intensity = 3.666(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.899
Subarea runoff = 4.114(CFS)
Total initial stream area = 1.248(Ac.)
Pervious area fraction = 0.100

Initial area Fm value = 0.004(In/Hr)

End of computations, Total Study Area = 1.25 (Ac.)

The following figures may

be used for a unit hydrograph study of the same area.

Note: These figures do not consider reduced effective area effects caused by confluences in the rational equation.

Area averaged pervious area fraction(A_p) = 0.100

Area averaged SCS curve number = 91.0

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JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
100 YEAR STORM RATIONAL METHOD, POST CONDITION
AREA B1

Program License Serial Number 6277

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

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 0.949 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

+++++
Process from Point/Station 1.100 to Point/Station 1.200
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.004(In/Hr)
Initial subarea data:
Initial area flow distance = 122.000(Ft.)
Top (of initial area) elevation = 2854.810(Ft.)
Bottom (of initial area) elevation = 2852.000(Ft.)
Difference in elevation = 2.810(Ft.)
Slope = 0.02303 s(%)= 2.30
 $TC = k(0.299)*[(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 4.345 min.
Rainfall intensity = 5.962(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.899
Subarea runoff = 5.094(CFS)
Total initial stream area = 0.950(Ac.)
Pervious area fraction = 0.100

Initial area Fm value = 0.004(In/Hr)

End of computations, Total Study Area = 0.95 (Ac.)

The following figures may

be used for a unit hydrograph study of the same area.

Note: These figures do not consider reduced effective area effects caused by confluences in the rational equation.

Area averaged pervious area fraction(A_p) = 0.100

Area averaged SCS curve number = 91.0

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AUBURN 17.4 ACRE INDUSTRIAL BUILDING
100 YEAR STORM RATIONAL METHOD, POST CONDITION
AREA B2

Program License Serial Number 6277

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

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 0.949 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

+++++
Process from Point/Station 7.100 to Point/Station 7.200
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.004(In/Hr)
Initial subarea data:
Initial area flow distance = 288.000(Ft.)
Top (of initial area) elevation = 2852.600(Ft.)
Bottom (of initial area) elevation = 2846.490(Ft.)
Difference in elevation = 6.110(Ft.)
Slope = 0.02122 s(%)= 2.12
 $TC = k(0.299)*[(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 6.228 min.
Rainfall intensity = 4.634(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.899
Subarea runoff = 10.576(CFS)
Total initial stream area = 2.538(Ac.)
Pervious area fraction = 0.100

Initial area Fm value = 0.004(In/Hr)

End of computations, Total Study Area = 2.54 (Ac.)

The following figures may

be used for a unit hydrograph study of the same area.

Note: These figures do not consider reduced effective area effects caused by confluences in the rational equation.

Area averaged pervious area fraction(A_p) = 0.100

Area averaged SCS curve number = 91.0

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JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
100 YEAR STORM RATIONAL METHOD, POST CONDITION
AREA B3

Program License Serial Number 6277

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

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 0.949 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

+++++
Process from Point/Station 8.100 to Point/Station 8.200
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.004(In/Hr)
Initial subarea data:
Initial area flow distance = 338.000(Ft.)
Top (of initial area) elevation = 2852.000(Ft.)
Bottom (of initial area) elevation = 2846.490(Ft.)
Difference in elevation = 5.510(Ft.)
Slope = 0.01630 s(%)= 1.63
 $TC = k(0.299)*[(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 6.999 min.
Rainfall intensity = 4.270(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.899
Subarea runoff = 15.759(CFS)
Total initial stream area = 4.104(Ac.)
Pervious area fraction = 0.100

Initial area Fm value = 0.004(In/Hr)

End of computations, Total Study Area = 4.10 (Ac.)

The following figures may

be used for a unit hydrograph study of the same area.

Note: These figures do not consider reduced effective area effects caused by confluences in the rational equation.

Area averaged pervious area fraction(A_p) = 0.100

Area averaged SCS curve number = 91.0

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JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
100 YEAR STORM RATIONAL METHOD, POST CONDITION
AREA B4

Program License Serial Number 6277

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

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 0.949 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

+++++
Process from Point/Station 9.100 to Point/Station 9.200
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.004(In/Hr)
Initial subarea data:
Initial area flow distance = 293.000(Ft.)
Top (of initial area) elevation = 2852.000(Ft.)
Bottom (of initial area) elevation = 2847.000(Ft.)
Difference in elevation = 5.000(Ft.)
Slope = 0.01706 s(%)= 1.71
 $TC = k(0.299)*[(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 6.550 min.
Rainfall intensity = 4.473(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.899
Subarea runoff = 8.037(CFS)
Total initial stream area = 1.998(Ac.)
Pervious area fraction = 0.100

Initial area Fm value = 0.004(In/Hr)

End of computations, Total Study Area = 2.00 (Ac.)

The following figures may

be used for a unit hydrograph study of the same area.

Note: These figures do not consider reduced effective area effects caused by confluences in the rational equation.

Area averaged pervious area fraction(A_p) = 0.100

Area averaged SCS curve number = 91.0

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JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
100 YEAR STORM RATIONAL METHOD, POST CONDITION
AREA C1

Program License Serial Number 6277

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

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 0.949 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

+++++
Process from Point/Station 10.100 to Point/Station 10.200
**** INITIAL AREA EVALUATION ****

Soil classification AP and SCS values input by user
USER INPUT of soil data for subarea
SCS curve number for soil(AMC 2) = 91.00
Adjusted SCS curve number for AMC 3 = 98.20
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.004(In/Hr)
Initial subarea data:
Initial area flow distance = 138.000(Ft.)
Top (of initial area) elevation = 2850.620(Ft.)
Bottom (of initial area) elevation = 2848.660(Ft.)
Difference in elevation = 1.960(Ft.)
Slope = 0.01420 s(%)= 1.42
 $TC = k(0.299)*[(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 5.028 min.
Rainfall intensity = 5.383(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.899
Subarea runoff = 9.721(CFS)
Total initial stream area = 2.008(Ac.)
Pervious area fraction = 0.100

Initial area Fm value = 0.004(In/Hr)

End of computations, Total Study Area = 2.01 (Ac.)

The following figures may

be used for a unit hydrograph study of the same area.

Note: These figures do not consider reduced effective area effects caused by confluences in the rational equation.

Area averaged pervious area fraction(A_p) = 0.100

Area averaged SCS curve number = 91.0

APPENDIX C

UNIT HYDROGRAPH ANALYSIS (24 HOUR, 100-YEAR STORM)

UNIT HYDROGRAPH ANALYSIS (24 HOUR, 100-YEAR STORM)

PRE-DEVELOPMENT CONDITION

Unit Hydrograph Analysis

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2004, Version 7.0

Study date 12/22/22

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6277

JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
100 YEAR STORM UNIT HYDROGRAPH, PRE CONDITION
AREA A

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
4.26	1	0.55

Rainfall data for year 2		
4.26	6	0.67

Rainfall data for year 2		
4.26	24	1.12

Rainfall data for year 100

4.26	1	0.95
------	---	------

Rainfall data for year 100

4.26	6	1.82
------	---	------

Rainfall data for year 100

4.26	24	3.18
------	----	------

+++++

***** Area-averaged max loss rate, Fm *****

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
84.0	96.4	4.26	1.000	0.071	1.000	0.071

Area-averaged adjusted loss rate Fm (In/Hr) = 0.071

***** Area-Averaged low loss rate fraction, Yb *****

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
4.26	1.000	84.0	96.4	0.37	0.872

Area-averaged catchment yield fraction, Y = 0.872

Area-averaged low loss fraction, Yb = 0.128

User entry of time of concentration = 0.300 (hours)

+++++

Watershed area = 4.26(Ac.)

Catchment Lag time = 0.240 hours

Unit interval = 5.000 minutes

Unit interval percentage of lag time = 34.7222

Hydrograph baseflow = 0.00(CFS)

Average maximum watershed loss rate(Fm) = 0.071(In/Hr)

Average low loss rate fraction (Yb) = 0.128 (decimal)

DESERT S-Graph Selected

Computed peak 5-minute rainfall = 0.450(In)

Computed peak 30-minute rainfall = 0.771(In)

Specified peak 1-hour rainfall = 0.949(In)

Computed peak 3-hour rainfall = 1.415(In)

Specified peak 6-hour rainfall = 1.820(In)

Specified peak 24-hour rainfall = 3.180(In)

Rainfall depth area reduction factors:

Using a total area of 4.26(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.450(In)

30-minute factor = 1.000 Adjusted rainfall = 0.771(In)

1-hour factor = 1.000	Adjusted rainfall = 0.949(In)
3-hour factor = 1.000	Adjusted rainfall = 1.415(In)
6-hour factor = 1.000	Adjusted rainfall = 1.820(In)
24-hour factor = 1.000	Adjusted rainfall = 3.180(In)

U n i t H y d r o g r a p h		
Interval	'S' Graph	Unit Hydrograph
Number	Mean values	((CFS))
(K = 51.52 (CFS))		
1	2.206	1.136
2	13.132	5.629
3	40.437	14.068
4	59.629	9.888
5	69.886	5.284
6	76.724	3.523
7	81.579	2.501
8	85.290	1.912
9	88.266	1.533
10	90.463	1.132
11	92.296	0.944
12	93.829	0.790
13	95.057	0.632
14	96.088	0.531
15	96.940	0.439
16	97.584	0.332
17	98.029	0.229
18	98.394	0.188
19	98.808	0.213
20	99.225	0.215
21	99.571	0.178
22	99.791	0.113
23	100.000	0.108

Peak Unit	Adjusted mass rainfall	Unit rainfall
Number	(In)	(In)
1	0.4502	0.4502
2	0.5543	0.1041
3	0.6260	0.0717
4	0.6824	0.0564
5	0.7297	0.0472
6	0.7707	0.0410
7	0.8072	0.0365
8	0.8401	0.0330
9	0.8704	0.0302
10	0.8983	0.0279
11	0.9244	0.0261

12	0.9488	0.0244
13	0.9768	0.0280
14	1.0035	0.0267
15	1.0290	0.0255
16	1.0534	0.0244
17	1.0769	0.0235
18	1.0995	0.0226
19	1.1214	0.0218
20	1.1425	0.0211
21	1.1629	0.0204
22	1.1827	0.0198
23	1.2020	0.0193
24	1.2208	0.0187
25	1.2390	0.0183
26	1.2568	0.0178
27	1.2742	0.0174
28	1.2911	0.0170
29	1.3077	0.0166
30	1.3239	0.0162
31	1.3398	0.0159
32	1.3554	0.0156
33	1.3706	0.0152
34	1.3856	0.0150
35	1.4003	0.0147
36	1.4147	0.0144
37	1.4288	0.0142
38	1.4427	0.0139
39	1.4564	0.0137
40	1.4699	0.0135
41	1.4831	0.0133
42	1.4962	0.0130
43	1.5090	0.0129
44	1.5217	0.0127
45	1.5342	0.0125
46	1.5465	0.0123
47	1.5586	0.0121
48	1.5706	0.0120
49	1.5824	0.0118
50	1.5941	0.0117
51	1.6056	0.0115
52	1.6170	0.0114
53	1.6282	0.0112
54	1.6393	0.0111
55	1.6503	0.0110
56	1.6611	0.0108
57	1.6718	0.0107
58	1.6824	0.0106
59	1.6929	0.0105
60	1.7033	0.0104
61	1.7135	0.0103

62	1.7237	0.0102
63	1.7338	0.0101
64	1.7437	0.0100
65	1.7536	0.0099
66	1.7633	0.0098
67	1.7730	0.0097
68	1.7826	0.0096
69	1.7920	0.0095
70	1.8014	0.0094
71	1.8107	0.0093
72	1.8200	0.0092
73	1.8301	0.0101
74	1.8402	0.0101
75	1.8501	0.0100
76	1.8600	0.0099
77	1.8698	0.0098
78	1.8796	0.0097
79	1.8892	0.0097
80	1.8988	0.0096
81	1.9083	0.0095
82	1.9178	0.0094
83	1.9272	0.0094
84	1.9365	0.0093
85	1.9457	0.0092
86	1.9549	0.0092
87	1.9640	0.0091
88	1.9731	0.0091
89	1.9821	0.0090
90	1.9910	0.0089
91	1.9999	0.0089
92	2.0087	0.0088
93	2.0175	0.0088
94	2.0262	0.0087
95	2.0348	0.0086
96	2.0434	0.0086
97	2.0520	0.0085
98	2.0605	0.0085
99	2.0689	0.0084
100	2.0773	0.0084
101	2.0856	0.0083
102	2.0939	0.0083
103	2.1022	0.0082
104	2.1103	0.0082
105	2.1185	0.0081
106	2.1266	0.0081
107	2.1346	0.0081
108	2.1426	0.0080
109	2.1506	0.0080
110	2.1585	0.0079
111	2.1664	0.0079

112	2.1742	0.0078
113	2.1820	0.0078
114	2.1898	0.0078
115	2.1975	0.0077
116	2.2052	0.0077
117	2.2128	0.0076
118	2.2204	0.0076
119	2.2280	0.0076
120	2.2355	0.0075
121	2.2430	0.0075
122	2.2504	0.0074
123	2.2578	0.0074
124	2.2652	0.0074
125	2.2725	0.0073
126	2.2798	0.0073
127	2.2871	0.0073
128	2.2943	0.0072
129	2.3015	0.0072
130	2.3087	0.0072
131	2.3158	0.0071
132	2.3229	0.0071
133	2.3300	0.0071
134	2.3370	0.0070
135	2.3440	0.0070
136	2.3510	0.0070
137	2.3579	0.0069
138	2.3649	0.0069
139	2.3717	0.0069
140	2.3786	0.0069
141	2.3854	0.0068
142	2.3922	0.0068
143	2.3990	0.0068
144	2.4057	0.0067
145	2.4124	0.0067
146	2.4191	0.0067
147	2.4258	0.0067
148	2.4324	0.0066
149	2.4390	0.0066
150	2.4456	0.0066
151	2.4521	0.0066
152	2.4587	0.0065
153	2.4652	0.0065
154	2.4716	0.0065
155	2.4781	0.0064
156	2.4845	0.0064
157	2.4909	0.0064
158	2.4973	0.0064
159	2.5036	0.0064
160	2.5099	0.0063
161	2.5163	0.0063

162	2.5225	0.0063
163	2.5288	0.0063
164	2.5350	0.0062
165	2.5412	0.0062
166	2.5474	0.0062
167	2.5536	0.0062
168	2.5597	0.0061
169	2.5659	0.0061
170	2.5720	0.0061
171	2.5780	0.0061
172	2.5841	0.0061
173	2.5901	0.0060
174	2.5961	0.0060
175	2.6021	0.0060
176	2.6081	0.0060
177	2.6141	0.0060
178	2.6200	0.0059
179	2.6259	0.0059
180	2.6318	0.0059
181	2.6377	0.0059
182	2.6436	0.0059
183	2.6494	0.0058
184	2.6552	0.0058
185	2.6610	0.0058
186	2.6668	0.0058
187	2.6726	0.0058
188	2.6783	0.0057
189	2.6840	0.0057
190	2.6897	0.0057
191	2.6954	0.0057
192	2.7011	0.0057
193	2.7067	0.0057
194	2.7124	0.0056
195	2.7180	0.0056
196	2.7236	0.0056
197	2.7292	0.0056
198	2.7348	0.0056
199	2.7403	0.0056
200	2.7458	0.0055
201	2.7514	0.0055
202	2.7569	0.0055
203	2.7624	0.0055
204	2.7678	0.0055
205	2.7733	0.0055
206	2.7787	0.0054
207	2.7841	0.0054
208	2.7895	0.0054
209	2.7949	0.0054
210	2.8003	0.0054
211	2.8057	0.0054

212	2.8110	0.0053
213	2.8163	0.0053
214	2.8217	0.0053
215	2.8270	0.0053
216	2.8322	0.0053
217	2.8375	0.0053
218	2.8428	0.0053
219	2.8480	0.0052
220	2.8532	0.0052
221	2.8585	0.0052
222	2.8637	0.0052
223	2.8688	0.0052
224	2.8740	0.0052
225	2.8792	0.0052
226	2.8843	0.0051
227	2.8894	0.0051
228	2.8946	0.0051
229	2.8997	0.0051
230	2.9048	0.0051
231	2.9098	0.0051
232	2.9149	0.0051
233	2.9200	0.0051
234	2.9250	0.0050
235	2.9300	0.0050
236	2.9350	0.0050
237	2.9400	0.0050
238	2.9450	0.0050
239	2.9500	0.0050
240	2.9550	0.0050
241	2.9599	0.0050
242	2.9648	0.0049
243	2.9698	0.0049
244	2.9747	0.0049
245	2.9796	0.0049
246	2.9845	0.0049
247	2.9893	0.0049
248	2.9942	0.0049
249	2.9991	0.0049
250	3.0039	0.0048
251	3.0087	0.0048
252	3.0136	0.0048
253	3.0184	0.0048
254	3.0232	0.0048
255	3.0280	0.0048
256	3.0327	0.0048
257	3.0375	0.0048
258	3.0422	0.0048
259	3.0470	0.0047
260	3.0517	0.0047
261	3.0564	0.0047

262	3.0611	0.0047
263	3.0658	0.0047
264	3.0705	0.0047
265	3.0752	0.0047
266	3.0799	0.0047
267	3.0845	0.0047
268	3.0892	0.0046
269	3.0938	0.0046
270	3.0984	0.0046
271	3.1030	0.0046
272	3.1076	0.0046
273	3.1122	0.0046
274	3.1168	0.0046
275	3.1214	0.0046
276	3.1260	0.0046
277	3.1305	0.0046
278	3.1351	0.0045
279	3.1396	0.0045
280	3.1441	0.0045
281	3.1486	0.0045
282	3.1531	0.0045
283	3.1576	0.0045
284	3.1621	0.0045
285	3.1666	0.0045
286	3.1711	0.0045
287	3.1755	0.0045
288	3.1800	0.0044

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0044	0.0006	0.0039
2	0.0045	0.0006	0.0039
3	0.0045	0.0006	0.0039
4	0.0045	0.0006	0.0039
5	0.0045	0.0006	0.0039
6	0.0045	0.0006	0.0039
7	0.0045	0.0006	0.0040
8	0.0045	0.0006	0.0040
9	0.0046	0.0006	0.0040
10	0.0046	0.0006	0.0040
11	0.0046	0.0006	0.0040
12	0.0046	0.0006	0.0040
13	0.0046	0.0006	0.0040
14	0.0046	0.0006	0.0040
15	0.0047	0.0006	0.0041
16	0.0047	0.0006	0.0041
17	0.0047	0.0006	0.0041
18	0.0047	0.0006	0.0041

19	0.0047	0.0006	0.0041
20	0.0047	0.0006	0.0041
21	0.0048	0.0006	0.0041
22	0.0048	0.0006	0.0042
23	0.0048	0.0006	0.0042
24	0.0048	0.0006	0.0042
25	0.0048	0.0006	0.0042
26	0.0048	0.0006	0.0042
27	0.0049	0.0006	0.0042
28	0.0049	0.0006	0.0042
29	0.0049	0.0006	0.0043
30	0.0049	0.0006	0.0043
31	0.0049	0.0006	0.0043
32	0.0049	0.0006	0.0043
33	0.0050	0.0006	0.0043
34	0.0050	0.0006	0.0043
35	0.0050	0.0006	0.0044
36	0.0050	0.0006	0.0044
37	0.0050	0.0006	0.0044
38	0.0051	0.0006	0.0044
39	0.0051	0.0007	0.0044
40	0.0051	0.0007	0.0044
41	0.0051	0.0007	0.0045
42	0.0051	0.0007	0.0045
43	0.0052	0.0007	0.0045
44	0.0052	0.0007	0.0045
45	0.0052	0.0007	0.0045
46	0.0052	0.0007	0.0045
47	0.0052	0.0007	0.0046
48	0.0053	0.0007	0.0046
49	0.0053	0.0007	0.0046
50	0.0053	0.0007	0.0046
51	0.0053	0.0007	0.0046
52	0.0053	0.0007	0.0047
53	0.0054	0.0007	0.0047
54	0.0054	0.0007	0.0047
55	0.0054	0.0007	0.0047
56	0.0054	0.0007	0.0047
57	0.0055	0.0007	0.0048
58	0.0055	0.0007	0.0048
59	0.0055	0.0007	0.0048
60	0.0055	0.0007	0.0048
61	0.0056	0.0007	0.0049
62	0.0056	0.0007	0.0049
63	0.0056	0.0007	0.0049
64	0.0056	0.0007	0.0049
65	0.0057	0.0007	0.0049
66	0.0057	0.0007	0.0050
67	0.0057	0.0007	0.0050
68	0.0057	0.0007	0.0050

69	0.0058	0.0007	0.0050
70	0.0058	0.0007	0.0051
71	0.0058	0.0007	0.0051
72	0.0059	0.0008	0.0051
73	0.0059	0.0008	0.0051
74	0.0059	0.0008	0.0052
75	0.0060	0.0008	0.0052
76	0.0060	0.0008	0.0052
77	0.0060	0.0008	0.0052
78	0.0060	0.0008	0.0053
79	0.0061	0.0008	0.0053
80	0.0061	0.0008	0.0053
81	0.0061	0.0008	0.0054
82	0.0062	0.0008	0.0054
83	0.0062	0.0008	0.0054
84	0.0062	0.0008	0.0054
85	0.0063	0.0008	0.0055
86	0.0063	0.0008	0.0055
87	0.0064	0.0008	0.0055
88	0.0064	0.0008	0.0056
89	0.0064	0.0008	0.0056
90	0.0064	0.0008	0.0056
91	0.0065	0.0008	0.0057
92	0.0065	0.0008	0.0057
93	0.0066	0.0008	0.0057
94	0.0066	0.0008	0.0058
95	0.0067	0.0009	0.0058
96	0.0067	0.0009	0.0058
97	0.0067	0.0009	0.0059
98	0.0068	0.0009	0.0059
99	0.0068	0.0009	0.0059
100	0.0069	0.0009	0.0060
101	0.0069	0.0009	0.0060
102	0.0069	0.0009	0.0061
103	0.0070	0.0009	0.0061
104	0.0070	0.0009	0.0061
105	0.0071	0.0009	0.0062
106	0.0071	0.0009	0.0062
107	0.0072	0.0009	0.0063
108	0.0072	0.0009	0.0063
109	0.0073	0.0009	0.0064
110	0.0073	0.0009	0.0064
111	0.0074	0.0010	0.0065
112	0.0074	0.0010	0.0065
113	0.0075	0.0010	0.0066
114	0.0076	0.0010	0.0066
115	0.0076	0.0010	0.0067
116	0.0077	0.0010	0.0067
117	0.0078	0.0010	0.0068
118	0.0078	0.0010	0.0068

119	0.0079	0.0010	0.0069
120	0.0079	0.0010	0.0069
121	0.0080	0.0010	0.0070
122	0.0081	0.0010	0.0070
123	0.0081	0.0010	0.0071
124	0.0082	0.0011	0.0071
125	0.0083	0.0011	0.0072
126	0.0083	0.0011	0.0073
127	0.0084	0.0011	0.0074
128	0.0085	0.0011	0.0074
129	0.0086	0.0011	0.0075
130	0.0086	0.0011	0.0075
131	0.0088	0.0011	0.0076
132	0.0088	0.0011	0.0077
133	0.0089	0.0011	0.0078
134	0.0090	0.0012	0.0078
135	0.0091	0.0012	0.0079
136	0.0092	0.0012	0.0080
137	0.0093	0.0012	0.0081
138	0.0094	0.0012	0.0082
139	0.0095	0.0012	0.0083
140	0.0096	0.0012	0.0084
141	0.0097	0.0012	0.0085
142	0.0098	0.0013	0.0086
143	0.0100	0.0013	0.0087
144	0.0101	0.0013	0.0088
145	0.0092	0.0012	0.0080
146	0.0093	0.0012	0.0081
147	0.0095	0.0012	0.0083
148	0.0096	0.0012	0.0083
149	0.0098	0.0013	0.0085
150	0.0099	0.0013	0.0086
151	0.0101	0.0013	0.0088
152	0.0102	0.0013	0.0089
153	0.0104	0.0013	0.0090
154	0.0105	0.0013	0.0091
155	0.0107	0.0014	0.0093
156	0.0108	0.0014	0.0095
157	0.0111	0.0014	0.0097
158	0.0112	0.0014	0.0098
159	0.0115	0.0015	0.0100
160	0.0117	0.0015	0.0102
161	0.0120	0.0015	0.0104
162	0.0121	0.0016	0.0106
163	0.0125	0.0016	0.0109
164	0.0127	0.0016	0.0110
165	0.0130	0.0017	0.0114
166	0.0133	0.0017	0.0116
167	0.0137	0.0018	0.0119
168	0.0139	0.0018	0.0121

169	0.0144	0.0018	0.0126
170	0.0147	0.0019	0.0128
171	0.0152	0.0020	0.0133
172	0.0156	0.0020	0.0136
173	0.0162	0.0021	0.0141
174	0.0166	0.0021	0.0145
175	0.0174	0.0022	0.0151
176	0.0178	0.0023	0.0155
177	0.0187	0.0024	0.0163
178	0.0193	0.0025	0.0168
179	0.0204	0.0026	0.0178
180	0.0211	0.0027	0.0184
181	0.0226	0.0029	0.0197
182	0.0235	0.0030	0.0205
183	0.0255	0.0033	0.0222
184	0.0267	0.0034	0.0233
185	0.0244	0.0031	0.0213
186	0.0261	0.0033	0.0227
187	0.0302	0.0039	0.0263
188	0.0330	0.0042	0.0288
189	0.0410	0.0053	0.0358
190	0.0472	0.0059	0.0413
191	0.0717	0.0059	0.0658
192	0.1041	0.0059	0.0981
193	0.4502	0.0059	0.4443
194	0.0564	0.0059	0.0505
195	0.0365	0.0047	0.0318
196	0.0279	0.0036	0.0244
197	0.0280	0.0036	0.0244
198	0.0244	0.0031	0.0213
199	0.0218	0.0028	0.0190
200	0.0198	0.0025	0.0173
201	0.0183	0.0023	0.0159
202	0.0170	0.0022	0.0148
203	0.0159	0.0020	0.0138
204	0.0150	0.0019	0.0130
205	0.0142	0.0018	0.0123
206	0.0135	0.0017	0.0117
207	0.0129	0.0016	0.0112
208	0.0123	0.0016	0.0107
209	0.0118	0.0015	0.0103
210	0.0114	0.0015	0.0099
211	0.0110	0.0014	0.0096
212	0.0106	0.0014	0.0092
213	0.0103	0.0013	0.0089
214	0.0100	0.0013	0.0087
215	0.0097	0.0012	0.0084
216	0.0094	0.0012	0.0082
217	0.0101	0.0013	0.0088
218	0.0099	0.0013	0.0086

219	0.0097	0.0012	0.0084
220	0.0094	0.0012	0.0082
221	0.0092	0.0012	0.0081
222	0.0091	0.0012	0.0079
223	0.0089	0.0011	0.0077
224	0.0087	0.0011	0.0076
225	0.0085	0.0011	0.0074
226	0.0084	0.0011	0.0073
227	0.0082	0.0011	0.0072
228	0.0081	0.0010	0.0071
229	0.0080	0.0010	0.0069
230	0.0078	0.0010	0.0068
231	0.0077	0.0010	0.0067
232	0.0076	0.0010	0.0066
233	0.0075	0.0010	0.0065
234	0.0074	0.0009	0.0064
235	0.0073	0.0009	0.0063
236	0.0072	0.0009	0.0062
237	0.0071	0.0009	0.0062
238	0.0070	0.0009	0.0061
239	0.0069	0.0009	0.0060
240	0.0068	0.0009	0.0059
241	0.0067	0.0009	0.0059
242	0.0066	0.0009	0.0058
243	0.0066	0.0008	0.0057
244	0.0065	0.0008	0.0056
245	0.0064	0.0008	0.0056
246	0.0063	0.0008	0.0055
247	0.0063	0.0008	0.0055
248	0.0062	0.0008	0.0054
249	0.0061	0.0008	0.0053
250	0.0061	0.0008	0.0053
251	0.0060	0.0008	0.0052
252	0.0059	0.0008	0.0052
253	0.0059	0.0008	0.0051
254	0.0058	0.0007	0.0051
255	0.0058	0.0007	0.0050
256	0.0057	0.0007	0.0050
257	0.0057	0.0007	0.0049
258	0.0056	0.0007	0.0049
259	0.0056	0.0007	0.0048
260	0.0055	0.0007	0.0048
261	0.0055	0.0007	0.0048
262	0.0054	0.0007	0.0047
263	0.0054	0.0007	0.0047
264	0.0053	0.0007	0.0046
265	0.0053	0.0007	0.0046
266	0.0052	0.0007	0.0046
267	0.0052	0.0007	0.0045
268	0.0051	0.0007	0.0045

269	0.0051	0.0007	0.0044
270	0.0051	0.0006	0.0044
271	0.0050	0.0006	0.0044
272	0.0050	0.0006	0.0043
273	0.0050	0.0006	0.0043
274	0.0049	0.0006	0.0043
275	0.0049	0.0006	0.0043
276	0.0048	0.0006	0.0042
277	0.0048	0.0006	0.0042
278	0.0048	0.0006	0.0042
279	0.0047	0.0006	0.0041
280	0.0047	0.0006	0.0041
281	0.0047	0.0006	0.0041
282	0.0046	0.0006	0.0040
283	0.0046	0.0006	0.0040
284	0.0046	0.0006	0.0040
285	0.0046	0.0006	0.0040
286	0.0045	0.0006	0.0039
287	0.0045	0.0006	0.0039
288	0.0045	0.0006	0.0039

Total soil rain loss = 0.34(In)
 Total effective rainfall = 2.84(In)
 Peak flow rate in flood hydrograph = 8.34(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q					
0+10	0.0002	0.03	Q					
0+15	0.0008	0.08	Q					
0+20	0.0016	0.12	Q					
0+25	0.0026	0.14	Q					
0+30	0.0036	0.15	Q					
0+35	0.0048	0.16	Q					
0+40	0.0059	0.17	Q					
0+45	0.0072	0.18	Q					
0+50	0.0084	0.18	Q					
0+55	0.0097	0.19	Q					
1+ 0	0.0111	0.19	Q					
1+ 5	0.0124	0.19	Q					
1+10	0.0138	0.20	Q					
1+15	0.0151	0.20	Q					

1+20	0.0165	0.20	Q
1+25	0.0179	0.20	Q
1+30	0.0193	0.20	Q
1+35	0.0208	0.21	Q
1+40	0.0222	0.21	Q
1+45	0.0236	0.21	Q
1+50	0.0251	0.21	Q
1+55	0.0265	0.21	QV
2+ 0	0.0280	0.21	QV
2+ 5	0.0295	0.21	QV
2+10	0.0310	0.21	QV
2+15	0.0324	0.21	QV
2+20	0.0339	0.22	QV
2+25	0.0354	0.22	QV
2+30	0.0369	0.22	QV
2+35	0.0384	0.22	QV
2+40	0.0399	0.22	QV
2+45	0.0414	0.22	QV
2+50	0.0429	0.22	QV
2+55	0.0444	0.22	QV
3+ 0	0.0460	0.22	QV
3+ 5	0.0475	0.22	QV
3+10	0.0490	0.22	QV
3+15	0.0506	0.22	Q V
3+20	0.0521	0.23	Q V
3+25	0.0537	0.23	Q V
3+30	0.0553	0.23	Q V
3+35	0.0568	0.23	Q V
3+40	0.0584	0.23	Q V
3+45	0.0600	0.23	Q V
3+50	0.0616	0.23	Q V
3+55	0.0632	0.23	Q V
4+ 0	0.0648	0.23	Q V
4+ 5	0.0664	0.23	Q V
4+10	0.0680	0.23	Q V
4+15	0.0696	0.24	Q V
4+20	0.0712	0.24	Q V
4+25	0.0729	0.24	Q V
4+30	0.0745	0.24	Q V
4+35	0.0761	0.24	Q V
4+40	0.0778	0.24	Q V
4+45	0.0795	0.24	Q V
4+50	0.0811	0.24	Q V
4+55	0.0828	0.24	Q V
5+ 0	0.0845	0.24	Q V
5+ 5	0.0862	0.25	Q V
5+10	0.0879	0.25	Q V
5+15	0.0896	0.25	Q V
5+20	0.0913	0.25	Q V
5+25	0.0930	0.25	Q V

5+30	0.0947	0.25	Q V				
5+35	0.0965	0.25	Q V				
5+40	0.0982	0.25	Q V				
5+45	0.1000	0.25	Q V				
5+50	0.1017	0.26	Q V				
5+55	0.1035	0.26	Q V				
6+ 0	0.1053	0.26	Q V				
6+ 5	0.1070	0.26	Q V				
6+10	0.1088	0.26	Q V				
6+15	0.1106	0.26	Q V				
6+20	0.1125	0.26	Q V				
6+25	0.1143	0.26	Q V				
6+30	0.1161	0.27	Q V				
6+35	0.1179	0.27	Q V				
6+40	0.1198	0.27	Q V				
6+45	0.1216	0.27	Q V				
6+50	0.1235	0.27	Q V				
6+55	0.1254	0.27	Q V				
7+ 0	0.1273	0.27	Q V				
7+ 5	0.1292	0.28	Q V				
7+10	0.1311	0.28	Q V				
7+15	0.1330	0.28	Q V				
7+20	0.1349	0.28	Q V				
7+25	0.1369	0.28	Q V				
7+30	0.1388	0.28	Q V				
7+35	0.1408	0.28	Q V				
7+40	0.1427	0.29	Q V				
7+45	0.1447	0.29	Q V				
7+50	0.1467	0.29	Q V				
7+55	0.1487	0.29	Q V				
8+ 0	0.1507	0.29	Q V				
8+ 5	0.1528	0.29	Q V				
8+10	0.1548	0.30	Q V				
8+15	0.1569	0.30	Q V				
8+20	0.1589	0.30	Q V				
8+25	0.1610	0.30	Q V				
8+30	0.1631	0.30	Q V				
8+35	0.1652	0.31	Q V				
8+40	0.1673	0.31	Q V				
8+45	0.1695	0.31	Q V				
8+50	0.1716	0.31	Q V				
8+55	0.1738	0.31	Q V				
9+ 0	0.1760	0.32	Q V				
9+ 5	0.1782	0.32	Q V				
9+10	0.1804	0.32	Q V				
9+15	0.1826	0.32	Q V				
9+20	0.1848	0.32	Q V				
9+25	0.1871	0.33	Q V				
9+30	0.1893	0.33	Q V				
9+35	0.1916	0.33	Q V				

9+40	0.1939	0.33	Q	V				
9+45	0.1963	0.34	Q	V				
9+50	0.1986	0.34	Q	V				
9+55	0.2009	0.34	Q	V				
10+ 0	0.2033	0.34	Q	V				
10+ 5	0.2057	0.35	Q	V				
10+10	0.2081	0.35	Q	V				
10+15	0.2106	0.35	Q	V				
10+20	0.2130	0.36	Q	V				
10+25	0.2155	0.36	Q	V				
10+30	0.2180	0.36	Q	V				
10+35	0.2205	0.36	Q	V				
10+40	0.2230	0.37	Q	V				
10+45	0.2256	0.37	Q	V				
10+50	0.2281	0.37	Q	V				
10+55	0.2308	0.38	Q	V				
11+ 0	0.2334	0.38	Q	V				
11+ 5	0.2360	0.39	Q	V				
11+10	0.2387	0.39	Q	V				
11+15	0.2414	0.39	Q	V				
11+20	0.2441	0.40	Q	V				
11+25	0.2469	0.40	Q	V				
11+30	0.2497	0.40	Q	V				
11+35	0.2525	0.41	Q	V				
11+40	0.2553	0.41	Q	V				
11+45	0.2582	0.42	Q	V				
11+50	0.2611	0.42	Q	V				
11+55	0.2640	0.43	Q	V				
12+ 0	0.2670	0.43	Q	V				
12+ 5	0.2700	0.44	Q	V				
12+10	0.2730	0.44	Q	V				
12+15	0.2760	0.43	Q	V				
12+20	0.2789	0.43	Q	V				
12+25	0.2818	0.43	Q	V				
12+30	0.2848	0.43	Q	V				
12+35	0.2878	0.43	Q	V				
12+40	0.2908	0.44	Q	V				
12+45	0.2938	0.44	Q	V				
12+50	0.2969	0.45	Q	V				
12+55	0.3000	0.45	Q	V				
13+ 0	0.3032	0.46	Q	V				
13+ 5	0.3064	0.47	Q	V				
13+10	0.3097	0.47	Q	V				
13+15	0.3130	0.48	Q	V				
13+20	0.3163	0.49	Q	V				
13+25	0.3198	0.50	Q	V				
13+30	0.3233	0.51	Q	V				
13+35	0.3268	0.52	Q	V				
13+40	0.3304	0.53	Q	V				
13+45	0.3341	0.54	Q	V				

13+50	0.3379	0.55	Q		V				
13+55	0.3418	0.56	Q		V				
14+ 0	0.3457	0.57	Q		V				
14+ 5	0.3497	0.58	Q		V				
14+10	0.3538	0.60	Q		V				
14+15	0.3581	0.61	Q		V				
14+20	0.3624	0.63	Q		V				
14+25	0.3669	0.65	Q		V				
14+30	0.3714	0.66	Q		V				
14+35	0.3762	0.68	Q		V				
14+40	0.3810	0.71	Q		V				
14+45	0.3860	0.73	Q		V				
14+50	0.3912	0.75	Q		V				
14+55	0.3966	0.78	Q		V				
15+ 0	0.4022	0.81	Q		V				
15+ 5	0.4080	0.85	Q		V				
15+10	0.4141	0.88	Q		V				
15+15	0.4205	0.93	Q		V				
15+20	0.4272	0.97	Q		V				
15+25	0.4342	1.02	Q		V				
15+30	0.4416	1.06	Q		V				
15+35	0.4490	1.08	Q		V				
15+40	0.4567	1.12	Q		V				
15+45	0.4651	1.21	Q		V				
15+50	0.4743	1.34	Q		V				
15+55	0.4850	1.55	Q		V				
16+ 0	0.4981	1.91	Q		V				
16+ 5	0.5184	2.94		Q	V				
16+10	0.5543	5.21			Q	V			
16+15	0.6117	8.34				V		Q	
16+20	0.6559	6.41				Q	V		
16+25	0.6851	4.24			Q		V		
16+30	0.7074	3.24		Q			V		
16+35	0.7256	2.64		Q			V		
16+40	0.7411	2.25		Q			V		
16+45	0.7546	1.95		Q			V		
16+50	0.7661	1.68		Q			V		
16+55	0.7764	1.50		Q			V		
17+ 0	0.7857	1.35		Q			V		
17+ 5	0.7940	1.21		Q			V		
17+10	0.8016	1.10		Q			V		
17+15	0.8084	1.00	Q				V		
17+20	0.8146	0.90	Q				V		
17+25	0.8202	0.81	Q				V		
17+30	0.8254	0.76	Q				V		
17+35	0.8305	0.74	Q				V		
17+40	0.8353	0.70	Q				V		
17+45	0.8399	0.66	Q				V		
17+50	0.8440	0.60	Q				V		
17+55	0.8479	0.57	Q				V		

18+ 0	0.8514	0.50	Q				V
18+ 5	0.8547	0.48	Q				V
18+10	0.8579	0.47	Q				V
18+15	0.8611	0.47	Q				V
18+20	0.8643	0.46	Q				V
18+25	0.8674	0.45	Q				V
18+30	0.8705	0.44	Q				V
18+35	0.8735	0.43	Q				V
18+40	0.8764	0.43	Q				V
18+45	0.8793	0.42	Q				V
18+50	0.8821	0.41	Q				V
18+55	0.8849	0.40	Q				V
19+ 0	0.8876	0.39	Q				V
19+ 5	0.8902	0.39	Q				V
19+10	0.8929	0.38	Q				V
19+15	0.8954	0.37	Q				V
19+20	0.8980	0.37	Q				V
19+25	0.9004	0.36	Q				V
19+30	0.9029	0.35	Q				V
19+35	0.9053	0.35	Q				V
19+40	0.9077	0.34	Q				V
19+45	0.9100	0.34	Q				V
19+50	0.9123	0.33	Q				V
19+55	0.9146	0.33	Q				V
20+ 0	0.9168	0.32	Q				V
20+ 5	0.9190	0.32	Q				V
20+10	0.9212	0.32	Q				V
20+15	0.9233	0.31	Q				V
20+20	0.9254	0.31	Q				V
20+25	0.9275	0.30	Q				V
20+30	0.9296	0.30	Q				V
20+35	0.9316	0.30	Q				V
20+40	0.9336	0.29	Q				V
20+45	0.9356	0.29	Q				V
20+50	0.9376	0.29	Q				V
20+55	0.9395	0.28	Q				V
21+ 0	0.9415	0.28	Q				V
21+ 5	0.9434	0.28	Q				V
21+10	0.9453	0.27	Q				V
21+15	0.9471	0.27	Q				V
21+20	0.9490	0.27	Q				V
21+25	0.9508	0.27	Q				V
21+30	0.9526	0.26	Q				V
21+35	0.9544	0.26	Q				V
21+40	0.9562	0.26	Q				V
21+45	0.9579	0.26	Q				V
21+50	0.9597	0.25	Q				V
21+55	0.9614	0.25	Q				V
22+ 0	0.9631	0.25	Q				V
22+ 5	0.9648	0.25	Q				V

22+10	0.9665	0.24	Q				V
22+15	0.9681	0.24	Q				V
22+20	0.9698	0.24	Q				V
22+25	0.9714	0.24	Q				V
22+30	0.9730	0.24	Q				V
22+35	0.9746	0.23	Q				V
22+40	0.9762	0.23	Q				V
22+45	0.9778	0.23	Q				V
22+50	0.9794	0.23	Q				V
22+55	0.9810	0.23	Q				V
23+ 0	0.9825	0.22	Q				V
23+ 5	0.9840	0.22	Q				V
23+10	0.9856	0.22	Q				V
23+15	0.9871	0.22	Q				V
23+20	0.9886	0.22	Q				V
23+25	0.9901	0.22	Q				V
23+30	0.9916	0.22	Q				V
23+35	0.9930	0.21	Q				V
23+40	0.9945	0.21	Q				V
23+45	0.9959	0.21	Q				V
23+50	0.9974	0.21	Q				V
23+55	0.9988	0.21	Q				V
24+ 0	1.0002	0.21	Q				V

Unit Hydrograph Analysis

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Study date 12/22/22

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6277

JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
100 YEAR STORM UNIT HYDROGRAPH, PRE CONDITION
AREA B

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
9.62	1	0.55

Rainfall data for year 2		
9.62	6	0.67

Rainfall data for year 2		
9.62	24	1.12

Rainfall data for year 100		
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9.62	1	0.95
------	---	------

Rainfall data for year 100

9.62	6	1.82
------	---	------

Rainfall data for year 100

9.62	24	3.18
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***** Area-averaged max loss rate, Fm *****

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
84.0	96.4	9.62	1.000	0.071	1.000	0.071

Area-averaged adjusted loss rate Fm (In/Hr) = 0.071

***** Area-Averaged low loss rate fraction, Yb *****

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
9.62	1.000	84.0	96.4	0.37	0.872

Area-averaged catchment yield fraction, Y = 0.872

Area-averaged low loss fraction, Yb = 0.128

User entry of time of concentration = 0.380 (hours)

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Watershed area = 9.62(Ac.)

Catchment Lag time = 0.304 hours

Unit interval = 5.000 minutes

Unit interval percentage of lag time = 27.4123

Hydrograph baseflow = 0.00(CFS)

Average maximum watershed loss rate(Fm) = 0.071(In/Hr)

Average low loss rate fraction (Yb) = 0.128 (decimal)

DESERT S-Graph Selected

Computed peak 5-minute rainfall = 0.450(In)

Computed peak 30-minute rainfall = 0.771(In)

Specified peak 1-hour rainfall = 0.949(In)

Computed peak 3-hour rainfall = 1.415(In)

Specified peak 6-hour rainfall = 1.820(In)

Specified peak 24-hour rainfall = 3.180(In)

Rainfall depth area reduction factors:

Using a total area of 9.62(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.450(In)

30-minute factor = 1.000 Adjusted rainfall = 0.770(In)

1-hour factor = 1.000	Adjusted rainfall = 0.949(In)
3-hour factor = 1.000	Adjusted rainfall = 1.415(In)
6-hour factor = 1.000	Adjusted rainfall = 1.820(In)
24-hour factor = 1.000	Adjusted rainfall = 3.180(In)

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

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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
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(K = 116.34 (CFS))

1	1.539	1.791
2	7.808	7.294
3	24.928	19.917
4	47.091	25.785
5	60.457	15.551
6	68.608	9.483
7	74.508	6.865
8	78.995	5.220
9	82.450	4.020
10	85.298	3.313
11	87.725	2.824
12	89.613	2.197
13	91.183	1.826
14	92.558	1.600
15	93.766	1.406
16	94.746	1.140
17	95.641	1.041
18	96.373	0.851
19	97.022	0.756
20	97.522	0.581
21	97.919	0.462
22	98.194	0.320
23	98.501	0.358
24	98.830	0.383
25	99.159	0.383
26	99.471	0.363
27	99.665	0.226
28	99.836	0.199
29	100.000	0.190

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.4501	0.4501
2	0.5541	0.1040
3	0.6258	0.0717
4	0.6822	0.0564
5	0.7295	0.0472

6	0.7705	0.0410
7	0.8069	0.0365
8	0.8399	0.0330
9	0.8701	0.0302
10	0.8981	0.0279
11	0.9241	0.0260
12	0.9486	0.0244
13	0.9766	0.0280
14	1.0033	0.0267
15	1.0288	0.0255
16	1.0532	0.0244
17	1.0767	0.0235
18	1.0993	0.0226
19	1.1212	0.0218
20	1.1423	0.0211
21	1.1627	0.0205
22	1.1826	0.0198
23	1.2019	0.0193
24	1.2206	0.0188
25	1.2389	0.0183
26	1.2567	0.0178
27	1.2741	0.0174
28	1.2910	0.0170
29	1.3076	0.0166
30	1.3238	0.0162
31	1.3397	0.0159
32	1.3553	0.0156
33	1.3706	0.0153
34	1.3855	0.0150
35	1.4002	0.0147
36	1.4146	0.0144
37	1.4288	0.0142
38	1.4427	0.0139
39	1.4564	0.0137
40	1.4699	0.0135
41	1.4831	0.0133
42	1.4962	0.0130
43	1.5090	0.0129
44	1.5217	0.0127
45	1.5341	0.0125
46	1.5465	0.0123
47	1.5586	0.0121
48	1.5706	0.0120
49	1.5824	0.0118
50	1.5940	0.0117
51	1.6056	0.0115
52	1.6169	0.0114
53	1.6282	0.0112
54	1.6393	0.0111
55	1.6502	0.0110

56	1.6611	0.0108
57	1.6718	0.0107
58	1.6824	0.0106
59	1.6929	0.0105
60	1.7032	0.0104
61	1.7135	0.0103
62	1.7237	0.0102
63	1.7337	0.0101
64	1.7437	0.0100
65	1.7535	0.0099
66	1.7633	0.0098
67	1.7730	0.0097
68	1.7825	0.0096
69	1.7920	0.0095
70	1.8014	0.0094
71	1.8107	0.0093
72	1.8199	0.0092
73	1.8301	0.0101
74	1.8401	0.0101
75	1.8501	0.0100
76	1.8600	0.0099
77	1.8698	0.0098
78	1.8795	0.0097
79	1.8892	0.0097
80	1.8988	0.0096
81	1.9083	0.0095
82	1.9178	0.0094
83	1.9271	0.0094
84	1.9365	0.0093
85	1.9457	0.0092
86	1.9549	0.0092
87	1.9640	0.0091
88	1.9731	0.0091
89	1.9821	0.0090
90	1.9910	0.0089
91	1.9999	0.0089
92	2.0087	0.0088
93	2.0174	0.0088
94	2.0262	0.0087
95	2.0348	0.0086
96	2.0434	0.0086
97	2.0519	0.0085
98	2.0604	0.0085
99	2.0689	0.0084
100	2.0773	0.0084
101	2.0856	0.0083
102	2.0939	0.0083
103	2.1021	0.0082
104	2.1103	0.0082
105	2.1185	0.0081

106	2.1266	0.0081
107	2.1346	0.0081
108	2.1426	0.0080
109	2.1506	0.0080
110	2.1585	0.0079
111	2.1664	0.0079
112	2.1742	0.0078
113	2.1820	0.0078
114	2.1898	0.0078
115	2.1975	0.0077
116	2.2052	0.0077
117	2.2128	0.0076
118	2.2204	0.0076
119	2.2279	0.0076
120	2.2355	0.0075
121	2.2429	0.0075
122	2.2504	0.0074
123	2.2578	0.0074
124	2.2652	0.0074
125	2.2725	0.0073
126	2.2798	0.0073
127	2.2871	0.0073
128	2.2943	0.0072
129	2.3015	0.0072
130	2.3087	0.0072
131	2.3158	0.0071
132	2.3229	0.0071
133	2.3300	0.0071
134	2.3370	0.0070
135	2.3440	0.0070
136	2.3510	0.0070
137	2.3579	0.0069
138	2.3648	0.0069
139	2.3717	0.0069
140	2.3786	0.0069
141	2.3854	0.0068
142	2.3922	0.0068
143	2.3990	0.0068
144	2.4057	0.0067
145	2.4124	0.0067
146	2.4191	0.0067
147	2.4257	0.0067
148	2.4324	0.0066
149	2.4390	0.0066
150	2.4456	0.0066
151	2.4521	0.0066
152	2.4586	0.0065
153	2.4651	0.0065
154	2.4716	0.0065
155	2.4780	0.0064

156	2.4845	0.0064
157	2.4909	0.0064
158	2.4972	0.0064
159	2.5036	0.0064
160	2.5099	0.0063
161	2.5162	0.0063
162	2.5225	0.0063
163	2.5288	0.0063
164	2.5350	0.0062
165	2.5412	0.0062
166	2.5474	0.0062
167	2.5536	0.0062
168	2.5597	0.0061
169	2.5658	0.0061
170	2.5719	0.0061
171	2.5780	0.0061
172	2.5841	0.0061
173	2.5901	0.0060
174	2.5961	0.0060
175	2.6021	0.0060
176	2.6081	0.0060
177	2.6140	0.0060
178	2.6200	0.0059
179	2.6259	0.0059
180	2.6318	0.0059
181	2.6377	0.0059
182	2.6435	0.0059
183	2.6494	0.0058
184	2.6552	0.0058
185	2.6610	0.0058
186	2.6668	0.0058
187	2.6725	0.0058
188	2.6783	0.0057
189	2.6840	0.0057
190	2.6897	0.0057
191	2.6954	0.0057
192	2.7011	0.0057
193	2.7067	0.0057
194	2.7124	0.0056
195	2.7180	0.0056
196	2.7236	0.0056
197	2.7292	0.0056
198	2.7347	0.0056
199	2.7403	0.0056
200	2.7458	0.0055
201	2.7513	0.0055
202	2.7568	0.0055
203	2.7623	0.0055
204	2.7678	0.0055
205	2.7732	0.0055

206	2.7787	0.0054
207	2.7841	0.0054
208	2.7895	0.0054
209	2.7949	0.0054
210	2.8003	0.0054
211	2.8056	0.0054
212	2.8110	0.0053
213	2.8163	0.0053
214	2.8216	0.0053
215	2.8269	0.0053
216	2.8322	0.0053
217	2.8375	0.0053
218	2.8427	0.0053
219	2.8480	0.0052
220	2.8532	0.0052
221	2.8584	0.0052
222	2.8636	0.0052
223	2.8688	0.0052
224	2.8740	0.0052
225	2.8791	0.0052
226	2.8843	0.0051
227	2.8894	0.0051
228	2.8945	0.0051
229	2.8996	0.0051
230	2.9047	0.0051
231	2.9098	0.0051
232	2.9149	0.0051
233	2.9199	0.0051
234	2.9250	0.0050
235	2.9300	0.0050
236	2.9350	0.0050
237	2.9400	0.0050
238	2.9450	0.0050
239	2.9500	0.0050
240	2.9549	0.0050
241	2.9599	0.0050
242	2.9648	0.0049
243	2.9697	0.0049
244	2.9747	0.0049
245	2.9796	0.0049
246	2.9844	0.0049
247	2.9893	0.0049
248	2.9942	0.0049
249	2.9990	0.0049
250	3.0039	0.0048
251	3.0087	0.0048
252	3.0135	0.0048
253	3.0183	0.0048
254	3.0231	0.0048
255	3.0279	0.0048

256	3.0327	0.0048
257	3.0375	0.0048
258	3.0422	0.0048
259	3.0470	0.0047
260	3.0517	0.0047
261	3.0564	0.0047
262	3.0611	0.0047
263	3.0658	0.0047
264	3.0705	0.0047
265	3.0752	0.0047
266	3.0798	0.0047
267	3.0845	0.0047
268	3.0891	0.0046
269	3.0938	0.0046
270	3.0984	0.0046
271	3.1030	0.0046
272	3.1076	0.0046
273	3.1122	0.0046
274	3.1168	0.0046
275	3.1214	0.0046
276	3.1259	0.0046
277	3.1305	0.0046
278	3.1350	0.0045
279	3.1396	0.0045
280	3.1441	0.0045
281	3.1486	0.0045
282	3.1531	0.0045
283	3.1576	0.0045
284	3.1621	0.0045
285	3.1666	0.0045
286	3.1711	0.0045
287	3.1755	0.0045
288	3.1800	0.0044

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0044	0.0006	0.0039
2	0.0045	0.0006	0.0039
3	0.0045	0.0006	0.0039
4	0.0045	0.0006	0.0039
5	0.0045	0.0006	0.0039
6	0.0045	0.0006	0.0039
7	0.0045	0.0006	0.0040
8	0.0045	0.0006	0.0040
9	0.0046	0.0006	0.0040
10	0.0046	0.0006	0.0040
11	0.0046	0.0006	0.0040
12	0.0046	0.0006	0.0040

13	0.0046	0.0006	0.0040
14	0.0046	0.0006	0.0040
15	0.0047	0.0006	0.0041
16	0.0047	0.0006	0.0041
17	0.0047	0.0006	0.0041
18	0.0047	0.0006	0.0041
19	0.0047	0.0006	0.0041
20	0.0047	0.0006	0.0041
21	0.0048	0.0006	0.0041
22	0.0048	0.0006	0.0042
23	0.0048	0.0006	0.0042
24	0.0048	0.0006	0.0042
25	0.0048	0.0006	0.0042
26	0.0048	0.0006	0.0042
27	0.0049	0.0006	0.0042
28	0.0049	0.0006	0.0042
29	0.0049	0.0006	0.0043
30	0.0049	0.0006	0.0043
31	0.0049	0.0006	0.0043
32	0.0049	0.0006	0.0043
33	0.0050	0.0006	0.0043
34	0.0050	0.0006	0.0043
35	0.0050	0.0006	0.0044
36	0.0050	0.0006	0.0044
37	0.0050	0.0006	0.0044
38	0.0051	0.0006	0.0044
39	0.0051	0.0007	0.0044
40	0.0051	0.0007	0.0044
41	0.0051	0.0007	0.0045
42	0.0051	0.0007	0.0045
43	0.0052	0.0007	0.0045
44	0.0052	0.0007	0.0045
45	0.0052	0.0007	0.0045
46	0.0052	0.0007	0.0045
47	0.0052	0.0007	0.0046
48	0.0053	0.0007	0.0046
49	0.0053	0.0007	0.0046
50	0.0053	0.0007	0.0046
51	0.0053	0.0007	0.0046
52	0.0053	0.0007	0.0047
53	0.0054	0.0007	0.0047
54	0.0054	0.0007	0.0047
55	0.0054	0.0007	0.0047
56	0.0054	0.0007	0.0047
57	0.0055	0.0007	0.0048
58	0.0055	0.0007	0.0048
59	0.0055	0.0007	0.0048
60	0.0055	0.0007	0.0048
61	0.0056	0.0007	0.0049
62	0.0056	0.0007	0.0049

63	0.0056	0.0007	0.0049
64	0.0056	0.0007	0.0049
65	0.0057	0.0007	0.0049
66	0.0057	0.0007	0.0050
67	0.0057	0.0007	0.0050
68	0.0057	0.0007	0.0050
69	0.0058	0.0007	0.0050
70	0.0058	0.0007	0.0051
71	0.0058	0.0007	0.0051
72	0.0059	0.0008	0.0051
73	0.0059	0.0008	0.0051
74	0.0059	0.0008	0.0052
75	0.0060	0.0008	0.0052
76	0.0060	0.0008	0.0052
77	0.0060	0.0008	0.0052
78	0.0060	0.0008	0.0053
79	0.0061	0.0008	0.0053
80	0.0061	0.0008	0.0053
81	0.0061	0.0008	0.0054
82	0.0062	0.0008	0.0054
83	0.0062	0.0008	0.0054
84	0.0062	0.0008	0.0054
85	0.0063	0.0008	0.0055
86	0.0063	0.0008	0.0055
87	0.0064	0.0008	0.0055
88	0.0064	0.0008	0.0056
89	0.0064	0.0008	0.0056
90	0.0064	0.0008	0.0056
91	0.0065	0.0008	0.0057
92	0.0065	0.0008	0.0057
93	0.0066	0.0008	0.0057
94	0.0066	0.0008	0.0058
95	0.0067	0.0009	0.0058
96	0.0067	0.0009	0.0058
97	0.0067	0.0009	0.0059
98	0.0068	0.0009	0.0059
99	0.0068	0.0009	0.0059
100	0.0069	0.0009	0.0060
101	0.0069	0.0009	0.0060
102	0.0069	0.0009	0.0061
103	0.0070	0.0009	0.0061
104	0.0070	0.0009	0.0061
105	0.0071	0.0009	0.0062
106	0.0071	0.0009	0.0062
107	0.0072	0.0009	0.0063
108	0.0072	0.0009	0.0063
109	0.0073	0.0009	0.0064
110	0.0073	0.0009	0.0064
111	0.0074	0.0010	0.0065
112	0.0074	0.0010	0.0065

113	0.0075	0.0010	0.0066
114	0.0076	0.0010	0.0066
115	0.0076	0.0010	0.0067
116	0.0077	0.0010	0.0067
117	0.0078	0.0010	0.0068
118	0.0078	0.0010	0.0068
119	0.0079	0.0010	0.0069
120	0.0079	0.0010	0.0069
121	0.0080	0.0010	0.0070
122	0.0081	0.0010	0.0070
123	0.0081	0.0010	0.0071
124	0.0082	0.0011	0.0071
125	0.0083	0.0011	0.0072
126	0.0083	0.0011	0.0073
127	0.0084	0.0011	0.0074
128	0.0085	0.0011	0.0074
129	0.0086	0.0011	0.0075
130	0.0086	0.0011	0.0075
131	0.0088	0.0011	0.0076
132	0.0088	0.0011	0.0077
133	0.0089	0.0011	0.0078
134	0.0090	0.0012	0.0078
135	0.0091	0.0012	0.0079
136	0.0092	0.0012	0.0080
137	0.0093	0.0012	0.0081
138	0.0094	0.0012	0.0082
139	0.0095	0.0012	0.0083
140	0.0096	0.0012	0.0084
141	0.0097	0.0012	0.0085
142	0.0098	0.0013	0.0086
143	0.0100	0.0013	0.0087
144	0.0101	0.0013	0.0088
145	0.0092	0.0012	0.0080
146	0.0093	0.0012	0.0081
147	0.0095	0.0012	0.0083
148	0.0096	0.0012	0.0083
149	0.0098	0.0013	0.0085
150	0.0099	0.0013	0.0086
151	0.0101	0.0013	0.0088
152	0.0102	0.0013	0.0089
153	0.0104	0.0013	0.0090
154	0.0105	0.0013	0.0091
155	0.0107	0.0014	0.0093
156	0.0108	0.0014	0.0095
157	0.0111	0.0014	0.0097
158	0.0112	0.0014	0.0098
159	0.0115	0.0015	0.0100
160	0.0117	0.0015	0.0102
161	0.0120	0.0015	0.0104
162	0.0121	0.0016	0.0106

163	0.0125	0.0016	0.0109
164	0.0127	0.0016	0.0110
165	0.0130	0.0017	0.0114
166	0.0133	0.0017	0.0116
167	0.0137	0.0018	0.0119
168	0.0139	0.0018	0.0121
169	0.0144	0.0019	0.0126
170	0.0147	0.0019	0.0128
171	0.0153	0.0020	0.0133
172	0.0156	0.0020	0.0136
173	0.0162	0.0021	0.0141
174	0.0166	0.0021	0.0145
175	0.0174	0.0022	0.0151
176	0.0178	0.0023	0.0155
177	0.0188	0.0024	0.0163
178	0.0193	0.0025	0.0168
179	0.0205	0.0026	0.0178
180	0.0211	0.0027	0.0184
181	0.0226	0.0029	0.0197
182	0.0235	0.0030	0.0205
183	0.0255	0.0033	0.0222
184	0.0267	0.0034	0.0233
185	0.0244	0.0031	0.0213
186	0.0260	0.0033	0.0227
187	0.0302	0.0039	0.0263
188	0.0330	0.0042	0.0287
189	0.0410	0.0053	0.0357
190	0.0472	0.0059	0.0413
191	0.0717	0.0059	0.0658
192	0.1040	0.0059	0.0981
193	0.4501	0.0059	0.4442
194	0.0564	0.0059	0.0505
195	0.0365	0.0047	0.0318
196	0.0279	0.0036	0.0244
197	0.0280	0.0036	0.0244
198	0.0244	0.0031	0.0213
199	0.0218	0.0028	0.0190
200	0.0198	0.0025	0.0173
201	0.0183	0.0023	0.0159
202	0.0170	0.0022	0.0148
203	0.0159	0.0020	0.0138
204	0.0150	0.0019	0.0130
205	0.0142	0.0018	0.0123
206	0.0135	0.0017	0.0117
207	0.0129	0.0016	0.0112
208	0.0123	0.0016	0.0107
209	0.0118	0.0015	0.0103
210	0.0114	0.0015	0.0099
211	0.0110	0.0014	0.0096
212	0.0106	0.0014	0.0092

213	0.0103	0.0013	0.0089
214	0.0100	0.0013	0.0087
215	0.0097	0.0012	0.0084
216	0.0094	0.0012	0.0082
217	0.0101	0.0013	0.0088
218	0.0099	0.0013	0.0086
219	0.0097	0.0012	0.0084
220	0.0094	0.0012	0.0082
221	0.0092	0.0012	0.0081
222	0.0091	0.0012	0.0079
223	0.0089	0.0011	0.0077
224	0.0087	0.0011	0.0076
225	0.0085	0.0011	0.0074
226	0.0084	0.0011	0.0073
227	0.0082	0.0011	0.0072
228	0.0081	0.0010	0.0071
229	0.0080	0.0010	0.0069
230	0.0078	0.0010	0.0068
231	0.0077	0.0010	0.0067
232	0.0076	0.0010	0.0066
233	0.0075	0.0010	0.0065
234	0.0074	0.0009	0.0064
235	0.0073	0.0009	0.0063
236	0.0072	0.0009	0.0062
237	0.0071	0.0009	0.0062
238	0.0070	0.0009	0.0061
239	0.0069	0.0009	0.0060
240	0.0068	0.0009	0.0059
241	0.0067	0.0009	0.0059
242	0.0066	0.0009	0.0058
243	0.0066	0.0008	0.0057
244	0.0065	0.0008	0.0056
245	0.0064	0.0008	0.0056
246	0.0063	0.0008	0.0055
247	0.0063	0.0008	0.0055
248	0.0062	0.0008	0.0054
249	0.0061	0.0008	0.0053
250	0.0061	0.0008	0.0053
251	0.0060	0.0008	0.0052
252	0.0059	0.0008	0.0052
253	0.0059	0.0008	0.0051
254	0.0058	0.0007	0.0051
255	0.0058	0.0007	0.0050
256	0.0057	0.0007	0.0050
257	0.0057	0.0007	0.0049
258	0.0056	0.0007	0.0049
259	0.0056	0.0007	0.0048
260	0.0055	0.0007	0.0048
261	0.0055	0.0007	0.0048
262	0.0054	0.0007	0.0047

263	0.0054	0.0007	0.0047
264	0.0053	0.0007	0.0046
265	0.0053	0.0007	0.0046
266	0.0052	0.0007	0.0046
267	0.0052	0.0007	0.0045
268	0.0051	0.0007	0.0045
269	0.0051	0.0007	0.0044
270	0.0051	0.0006	0.0044
271	0.0050	0.0006	0.0044
272	0.0050	0.0006	0.0043
273	0.0050	0.0006	0.0043
274	0.0049	0.0006	0.0043
275	0.0049	0.0006	0.0043
276	0.0048	0.0006	0.0042
277	0.0048	0.0006	0.0042
278	0.0048	0.0006	0.0042
279	0.0047	0.0006	0.0041
280	0.0047	0.0006	0.0041
281	0.0047	0.0006	0.0041
282	0.0046	0.0006	0.0040
283	0.0046	0.0006	0.0040
284	0.0046	0.0006	0.0040
285	0.0046	0.0006	0.0040
286	0.0045	0.0006	0.0039
287	0.0045	0.0006	0.0039
288	0.0045	0.0006	0.0039

 Total soil rain loss = 0.34(In)
 Total effective rainfall = 2.84(In)
 Peak flow rate in flood hydrograph = 15.89(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0000	0.01	Q				
0+10	0.0003	0.04	Q				
0+15	0.0011	0.11	Q				
0+20	0.0025	0.21	Q				
0+25	0.0044	0.27	Q				
0+30	0.0066	0.31	Q				
0+35	0.0089	0.34	Q				
0+40	0.0114	0.36	Q				
0+45	0.0140	0.38	Q				

0+50	0.0167	0.39	Q				
0+55	0.0194	0.40	Q				
1+ 0	0.0223	0.41	Q				
1+ 5	0.0252	0.42	Q				
1+10	0.0282	0.43	Q				
1+15	0.0312	0.44	Q				
1+20	0.0342	0.44	Q				
1+25	0.0373	0.45	Q				
1+30	0.0404	0.45	Q				
1+35	0.0435	0.46	Q				
1+40	0.0467	0.46	Q				
1+45	0.0499	0.46	Q				
1+50	0.0531	0.47	Q				
1+55	0.0563	0.47	Q				
2+ 0	0.0596	0.47	QV				
2+ 5	0.0629	0.48	QV				
2+10	0.0662	0.48	QV				
2+15	0.0695	0.48	QV				
2+20	0.0728	0.48	QV				
2+25	0.0762	0.49	QV				
2+30	0.0795	0.49	QV				
2+35	0.0829	0.49	QV				
2+40	0.0863	0.49	QV				
2+45	0.0897	0.49	QV				
2+50	0.0931	0.50	QV				
2+55	0.0965	0.50	QV				
3+ 0	0.1000	0.50	QV				
3+ 5	0.1034	0.50	Q				
3+10	0.1069	0.50	Q				
3+15	0.1103	0.50	Q				
3+20	0.1138	0.51	QV				
3+25	0.1173	0.51	QV				
3+30	0.1208	0.51	QV				
3+35	0.1244	0.51	QV				
3+40	0.1279	0.51	QV				
3+45	0.1315	0.52	QV				
3+50	0.1350	0.52	QV				
3+55	0.1386	0.52	QV				
4+ 0	0.1422	0.52	QV				
4+ 5	0.1458	0.52	QV				
4+10	0.1494	0.53	QV				
4+15	0.1531	0.53	QV				
4+20	0.1567	0.53	QV				
4+25	0.1604	0.53	QV				
4+30	0.1641	0.54	QV				
4+35	0.1678	0.54	QV				
4+40	0.1715	0.54	Q V				
4+45	0.1752	0.54	Q V				
4+50	0.1790	0.54	Q V				
4+55	0.1827	0.55	Q V				

5+ 0	0.1865	0.55	Q V				
5+ 5	0.1903	0.55	Q V				
5+10	0.1941	0.55	Q V				
5+15	0.1980	0.56	Q V				
5+20	0.2018	0.56	Q V				
5+25	0.2057	0.56	Q V				
5+30	0.2095	0.56	Q V				
5+35	0.2134	0.57	Q V				
5+40	0.2174	0.57	Q V				
5+45	0.2213	0.57	Q V				
5+50	0.2253	0.57	Q V				
5+55	0.2292	0.58	Q V				
6+ 0	0.2332	0.58	Q V				
6+ 5	0.2372	0.58	Q V				
6+10	0.2413	0.59	Q V				
6+15	0.2453	0.59	Q V				
6+20	0.2494	0.59	Q V				
6+25	0.2535	0.59	Q V				
6+30	0.2576	0.60	Q V				
6+35	0.2617	0.60	Q V				
6+40	0.2658	0.60	Q V				
6+45	0.2700	0.61	Q V				
6+50	0.2742	0.61	Q V				
6+55	0.2784	0.61	Q V				
7+ 0	0.2827	0.62	Q V				
7+ 5	0.2869	0.62	Q V				
7+10	0.2912	0.62	Q V				
7+15	0.2955	0.63	Q V				
7+20	0.2998	0.63	Q V				
7+25	0.3042	0.63	Q V				
7+30	0.3086	0.64	Q V				
7+35	0.3130	0.64	Q V				
7+40	0.3174	0.64	Q V				
7+45	0.3218	0.65	Q V				
7+50	0.3263	0.65	Q V				
7+55	0.3308	0.65	Q V				
8+ 0	0.3353	0.66	Q V				
8+ 5	0.3399	0.66	Q V				
8+10	0.3445	0.67	Q V				
8+15	0.3491	0.67	Q V				
8+20	0.3537	0.67	Q V				
8+25	0.3584	0.68	Q V				
8+30	0.3631	0.68	Q V				
8+35	0.3678	0.69	Q V				
8+40	0.3726	0.69	Q V				
8+45	0.3774	0.69	Q V				
8+50	0.3822	0.70	Q V				
8+55	0.3870	0.70	Q V				
9+ 0	0.3919	0.71	Q V				
9+ 5	0.3968	0.71	Q V				

9+10	0.4018	0.72	Q	V			
9+15	0.4067	0.72	Q	V			
9+20	0.4118	0.73	Q	V			
9+25	0.4168	0.73	Q	V			
9+30	0.4219	0.74	Q	V			
9+35	0.4270	0.74	Q	V			
9+40	0.4322	0.75	Q	V			
9+45	0.4374	0.75	Q	V			
9+50	0.4426	0.76	Q	V			
9+55	0.4479	0.77	Q	V			
10+ 0	0.4532	0.77	Q	V			
10+ 5	0.4586	0.78	Q	V			
10+10	0.4640	0.78	Q	V			
10+15	0.4694	0.79	Q	V			
10+20	0.4749	0.80	Q	V			
10+25	0.4804	0.80	Q	V			
10+30	0.4860	0.81	Q	V			
10+35	0.4916	0.82	Q	V			
10+40	0.4973	0.82	Q	V			
10+45	0.5030	0.83	Q	V			
10+50	0.5088	0.84	Q	V			
10+55	0.5146	0.85	Q	V			
11+ 0	0.5205	0.85	Q	V			
11+ 5	0.5264	0.86	Q	V			
11+10	0.5324	0.87	Q	V			
11+15	0.5384	0.88	Q	V			
11+20	0.5445	0.89	Q	V			
11+25	0.5507	0.89	Q	V			
11+30	0.5569	0.90	Q	V			
11+35	0.5632	0.91	Q	V			
11+40	0.5696	0.92	Q	V			
11+45	0.5760	0.93	Q	V			
11+50	0.5825	0.94	Q	V			
11+55	0.5890	0.95	Q	V			
12+ 0	0.5956	0.96	Q	V			
12+ 5	0.6023	0.97	Q	V			
12+10	0.6091	0.98	Q	V			
12+15	0.6157	0.97	Q	V			
12+20	0.6224	0.96	Q	V			
12+25	0.6290	0.96	Q	V			
12+30	0.6356	0.96	Q	V			
12+35	0.6423	0.97	Q	V			
12+40	0.6490	0.98	Q	V			
12+45	0.6558	0.99	Q	V			
12+50	0.6627	1.00	Q	V			
12+55	0.6697	1.01	Q	V			
13+ 0	0.6768	1.03	Q	V			
13+ 5	0.6840	1.04	Q	V			
13+10	0.6912	1.06	Q	V			
13+15	0.6986	1.07	Q	V			

13+20	0.7061	1.09	Q	V				
13+25	0.7137	1.11	Q	V				
13+30	0.7215	1.13	Q	V				
13+35	0.7294	1.15	Q	V				
13+40	0.7374	1.17	Q	V				
13+45	0.7456	1.19	Q	V				
13+50	0.7540	1.21	Q	V				
13+55	0.7625	1.24	Q	V				
14+ 0	0.7712	1.26	Q	V				
14+ 5	0.7801	1.29	Q	V				
14+10	0.7892	1.32	Q	V				
14+15	0.7985	1.35	Q	V				
14+20	0.8081	1.39	Q	V				
14+25	0.8179	1.42	Q	V				
14+30	0.8280	1.46	Q	V				
14+35	0.8383	1.50	Q	V				
14+40	0.8490	1.55	Q	V				
14+45	0.8600	1.60	Q	V				
14+50	0.8714	1.65	Q	V				
14+55	0.8832	1.71	Q	V				
15+ 0	0.8954	1.77	Q	V				
15+ 5	0.9081	1.84	Q	V				
15+10	0.9213	1.92	Q	V				
15+15	0.9351	2.01	Q	V				
15+20	0.9496	2.11	Q	V				
15+25	0.9649	2.21	Q	V				
15+30	0.9808	2.31	Q	V				
15+35	0.9971	2.38	Q	V				
15+40	1.0140	2.44	Q	V				
15+45	1.0318	2.59	Q	V				
15+50	1.0513	2.83	Q	V				
15+55	1.0733	3.20	Q	V				
16+ 0	1.0997	3.82	Q	V				
16+ 5	1.1374	5.48	Q	V				
16+10	1.1979	8.78	Q	V				
16+15	1.2951	14.12		V		Q		
16+20	1.4046	15.89		V			Q	
16+25	1.4821	11.26		Q		V		
16+30	1.5385	8.20		Q		V		
16+35	1.5844	6.66		Q		V		
16+40	1.6233	5.64		Q		V		
16+45	1.6567	4.86		Q		V		
16+50	1.6863	4.30		Q		V		
16+55	1.7128	3.85		Q		V		
17+ 0	1.7362	3.40		Q		V		
17+ 5	1.7573	3.07		Q		V		
17+10	1.7768	2.82		Q		V		
17+15	1.7947	2.60		Q		V		
17+20	1.8110	2.37		Q		V		
17+25	1.8262	2.21		Q		V		

17+30	1.8402	2.03	Q			V
17+35	1.8532	1.90	Q			V
17+40	1.8652	1.74	Q			V
17+45	1.8764	1.62	Q			V
17+50	1.8867	1.50	Q			V
17+55	1.8967	1.46	Q			V
18+ 0	1.9065	1.42	Q			V
18+ 5	1.9159	1.37	Q			V
18+10	1.9250	1.31	Q			V
18+15	1.9334	1.23	Q			V
18+20	1.9416	1.19	Q			V
18+25	1.9496	1.15	Q			V
18+30	1.9568	1.05	Q			V
18+35	1.9639	1.02	Q			V
18+40	1.9707	1.00	Q			V
18+45	1.9775	0.98	Q			V
18+50	1.9840	0.95	Q			V
18+55	1.9905	0.93	Q			V
19+ 0	1.9968	0.91	Q			V
19+ 5	2.0029	0.90	Q			V
19+10	2.0090	0.88	Q			V
19+15	2.0149	0.86	Q			V
19+20	2.0208	0.85	Q			V
19+25	2.0265	0.83	Q			V
19+30	2.0321	0.82	Q			V
19+35	2.0377	0.81	Q			V
19+40	2.0432	0.79	Q			V
19+45	2.0485	0.78	Q			V
19+50	2.0538	0.77	Q			V
19+55	2.0590	0.76	Q			V
20+ 0	2.0642	0.75	Q			V
20+ 5	2.0692	0.74	Q			V
20+10	2.0742	0.73	Q			V
20+15	2.0792	0.72	Q			V
20+20	2.0840	0.71	Q			V
20+25	2.0888	0.70	Q			V
20+30	2.0936	0.69	Q			V
20+35	2.0982	0.68	Q			V
20+40	2.1029	0.67	Q			V
20+45	2.1074	0.66	Q			V
20+50	2.1119	0.66	Q			V
20+55	2.1164	0.65	Q			V
21+ 0	2.1208	0.64	Q			V
21+ 5	2.1252	0.63	Q			V
21+10	2.1295	0.63	Q			V
21+15	2.1338	0.62	Q			V
21+20	2.1380	0.61	Q			V
21+25	2.1422	0.61	Q			V
21+30	2.1463	0.60	Q			V
21+35	2.1504	0.59	Q			V

21+40	2.1544	0.59	Q				V
21+45	2.1585	0.58	Q				V
21+50	2.1624	0.58	Q				V
21+55	2.1664	0.57	Q				V
22+ 0	2.1703	0.57	Q				V
22+ 5	2.1741	0.56	Q				V
22+10	2.1780	0.56	Q				V
22+15	2.1818	0.55	Q				V
22+20	2.1855	0.55	Q				V
22+25	2.1893	0.54	Q				V
22+30	2.1930	0.54	Q				V
22+35	2.1966	0.53	Q				V
22+40	2.2003	0.53	Q				V
22+45	2.2039	0.52	Q				V
22+50	2.2075	0.52	Q				V
22+55	2.2110	0.52	Q				V
23+ 0	2.2146	0.51	Q				V
23+ 5	2.2181	0.51	Q				V
23+10	2.2215	0.50	Q				V
23+15	2.2250	0.50	Q				V
23+20	2.2284	0.50	Q				V
23+25	2.2318	0.49	Q				V
23+30	2.2352	0.49	Q				V
23+35	2.2385	0.49	Q				V
23+40	2.2419	0.48	Q				V
23+45	2.2452	0.48	Q				V
23+50	2.2484	0.48	Q				V
23+55	2.2517	0.47	Q				V
24+ 0	2.2549	0.47	Q				V

Unit Hydrograph Analysis

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Study date 12/22/22

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6277

JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
100 YEAR STORM UNIT HYDROGRAPH, PRE CONDITION
AREA C

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
3.53	1	0.55

Rainfall data for year 2		
3.53	6	0.67

Rainfall data for year 2		
3.53	24	1.12

Rainfall data for year 100

3.53	1	0.95
------	---	------

Rainfall data for year 100

3.53	6	1.82
------	---	------

Rainfall data for year 100

3.53	24	3.18
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***** Area-averaged max loss rate, Fm *****

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
84.0	96.4	3.53	1.000	0.071	1.000	0.071

Area-averaged adjusted loss rate Fm (In/Hr) = 0.071

***** Area-Averaged low loss rate fraction, Yb *****

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
3.53	1.000	84.0	96.4	0.37	0.872

Area-averaged catchment yield fraction, Y = 0.872

Area-averaged low loss fraction, Yb = 0.128

User entry of time of concentration = 0.280 (hours)

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Watershed area = 3.53(Ac.)

Catchment Lag time = 0.224 hours

Unit interval = 5.000 minutes

Unit interval percentage of lag time = 37.2024

Hydrograph baseflow = 0.00(CFS)

Average maximum watershed loss rate(Fm) = 0.071(In/Hr)

Average low loss rate fraction (Yb) = 0.128 (decimal)

DESERT S-Graph Selected

Computed peak 5-minute rainfall = 0.450(In)

Computed peak 30-minute rainfall = 0.771(In)

Specified peak 1-hour rainfall = 0.949(In)

Computed peak 3-hour rainfall = 1.415(In)

Specified peak 6-hour rainfall = 1.820(In)

Specified peak 24-hour rainfall = 3.180(In)

Rainfall depth area reduction factors:

Using a total area of 3.53(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.450(In)

30-minute factor = 1.000 Adjusted rainfall = 0.771(In)

1-hour factor = 1.000	Adjusted rainfall = 0.949(In)
3-hour factor = 1.000	Adjusted rainfall = 1.415(In)
6-hour factor = 1.000	Adjusted rainfall = 1.820(In)
24-hour factor = 1.000	Adjusted rainfall = 3.180(In)

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

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Interval Number	'S' Graph Mean values	Unit Hydrograph (CFS))
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(K = 42.69 (CFS))

1	2.453	1.047
2	15.615	5.619
3	44.808	12.463
4	62.667	7.624
5	72.342	4.130
6	78.814	2.763
7	83.398	1.957
8	86.976	1.528
9	89.667	1.149
10	91.740	0.885
11	93.476	0.741
12	94.846	0.585
13	95.989	0.488
14	96.911	0.394
15	97.603	0.295
16	98.066	0.198
17	98.467	0.171
18	98.913	0.190
19	99.355	0.189
20	99.659	0.130
21	100.000	0.065

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.4502	0.4502
2	0.5543	0.1041
3	0.6260	0.0717
4	0.6824	0.0564
5	0.7297	0.0472
6	0.7707	0.0410
7	0.8072	0.0365
8	0.8402	0.0330
9	0.8704	0.0302
10	0.8983	0.0280
11	0.9244	0.0261
12	0.9488	0.0244
13	0.9769	0.0280

14	1.0035	0.0267
15	1.0290	0.0255
16	1.0535	0.0244
17	1.0769	0.0235
18	1.0995	0.0226
19	1.1214	0.0218
20	1.1425	0.0211
21	1.1629	0.0204
22	1.1828	0.0198
23	1.2020	0.0193
24	1.2208	0.0187
25	1.2390	0.0183
26	1.2568	0.0178
27	1.2742	0.0174
28	1.2912	0.0170
29	1.3077	0.0166
30	1.3239	0.0162
31	1.3398	0.0159
32	1.3554	0.0156
33	1.3706	0.0152
34	1.3856	0.0150
35	1.4003	0.0147
36	1.4147	0.0144
37	1.4288	0.0142
38	1.4428	0.0139
39	1.4564	0.0137
40	1.4699	0.0135
41	1.4832	0.0133
42	1.4962	0.0130
43	1.5091	0.0129
44	1.5217	0.0127
45	1.5342	0.0125
46	1.5465	0.0123
47	1.5586	0.0121
48	1.5706	0.0120
49	1.5824	0.0118
50	1.5941	0.0117
51	1.6056	0.0115
52	1.6170	0.0114
53	1.6282	0.0112
54	1.6393	0.0111
55	1.6503	0.0110
56	1.6611	0.0108
57	1.6718	0.0107
58	1.6824	0.0106
59	1.6929	0.0105
60	1.7033	0.0104
61	1.7136	0.0103
62	1.7237	0.0102
63	1.7338	0.0101

64	1.7437	0.0100
65	1.7536	0.0099
66	1.7633	0.0098
67	1.7730	0.0097
68	1.7826	0.0096
69	1.7920	0.0095
70	1.8014	0.0094
71	1.8108	0.0093
72	1.8200	0.0092
73	1.8301	0.0101
74	1.8402	0.0101
75	1.8501	0.0100
76	1.8600	0.0099
77	1.8698	0.0098
78	1.8796	0.0097
79	1.8892	0.0097
80	1.8988	0.0096
81	1.9083	0.0095
82	1.9178	0.0094
83	1.9272	0.0094
84	1.9365	0.0093
85	1.9457	0.0092
86	1.9549	0.0092
87	1.9640	0.0091
88	1.9731	0.0091
89	1.9821	0.0090
90	1.9910	0.0089
91	1.9999	0.0089
92	2.0087	0.0088
93	2.0175	0.0088
94	2.0262	0.0087
95	2.0348	0.0086
96	2.0434	0.0086
97	2.0520	0.0085
98	2.0605	0.0085
99	2.0689	0.0084
100	2.0773	0.0084
101	2.0856	0.0083
102	2.0939	0.0083
103	2.1022	0.0082
104	2.1103	0.0082
105	2.1185	0.0081
106	2.1266	0.0081
107	2.1346	0.0081
108	2.1427	0.0080
109	2.1506	0.0080
110	2.1585	0.0079
111	2.1664	0.0079
112	2.1743	0.0078
113	2.1820	0.0078

114	2.1898	0.0078
115	2.1975	0.0077
116	2.2052	0.0077
117	2.2128	0.0076
118	2.2204	0.0076
119	2.2280	0.0076
120	2.2355	0.0075
121	2.2430	0.0075
122	2.2504	0.0074
123	2.2578	0.0074
124	2.2652	0.0074
125	2.2725	0.0073
126	2.2798	0.0073
127	2.2871	0.0073
128	2.2943	0.0072
129	2.3015	0.0072
130	2.3087	0.0072
131	2.3158	0.0071
132	2.3229	0.0071
133	2.3300	0.0071
134	2.3370	0.0070
135	2.3440	0.0070
136	2.3510	0.0070
137	2.3579	0.0069
138	2.3649	0.0069
139	2.3717	0.0069
140	2.3786	0.0069
141	2.3854	0.0068
142	2.3922	0.0068
143	2.3990	0.0068
144	2.4057	0.0067
145	2.4124	0.0067
146	2.4191	0.0067
147	2.4258	0.0067
148	2.4324	0.0066
149	2.4390	0.0066
150	2.4456	0.0066
151	2.4521	0.0066
152	2.4587	0.0065
153	2.4652	0.0065
154	2.4716	0.0065
155	2.4781	0.0064
156	2.4845	0.0064
157	2.4909	0.0064
158	2.4973	0.0064
159	2.5036	0.0064
160	2.5100	0.0063
161	2.5163	0.0063
162	2.5225	0.0063
163	2.5288	0.0063

164	2.5350	0.0062
165	2.5412	0.0062
166	2.5474	0.0062
167	2.5536	0.0062
168	2.5597	0.0061
169	2.5659	0.0061
170	2.5720	0.0061
171	2.5780	0.0061
172	2.5841	0.0061
173	2.5901	0.0060
174	2.5962	0.0060
175	2.6021	0.0060
176	2.6081	0.0060
177	2.6141	0.0060
178	2.6200	0.0059
179	2.6259	0.0059
180	2.6318	0.0059
181	2.6377	0.0059
182	2.6436	0.0059
183	2.6494	0.0058
184	2.6552	0.0058
185	2.6610	0.0058
186	2.6668	0.0058
187	2.6726	0.0058
188	2.6783	0.0057
189	2.6840	0.0057
190	2.6897	0.0057
191	2.6954	0.0057
192	2.7011	0.0057
193	2.7067	0.0057
194	2.7124	0.0056
195	2.7180	0.0056
196	2.7236	0.0056
197	2.7292	0.0056
198	2.7348	0.0056
199	2.7403	0.0056
200	2.7458	0.0055
201	2.7514	0.0055
202	2.7569	0.0055
203	2.7624	0.0055
204	2.7678	0.0055
205	2.7733	0.0055
206	2.7787	0.0054
207	2.7841	0.0054
208	2.7895	0.0054
209	2.7949	0.0054
210	2.8003	0.0054
211	2.8057	0.0054
212	2.8110	0.0053
213	2.8163	0.0053

214	2.8217	0.0053
215	2.8270	0.0053
216	2.8322	0.0053
217	2.8375	0.0053
218	2.8428	0.0053
219	2.8480	0.0052
220	2.8532	0.0052
221	2.8585	0.0052
222	2.8637	0.0052
223	2.8688	0.0052
224	2.8740	0.0052
225	2.8792	0.0052
226	2.8843	0.0051
227	2.8894	0.0051
228	2.8946	0.0051
229	2.8997	0.0051
230	2.9048	0.0051
231	2.9098	0.0051
232	2.9149	0.0051
233	2.9200	0.0051
234	2.9250	0.0050
235	2.9300	0.0050
236	2.9350	0.0050
237	2.9400	0.0050
238	2.9450	0.0050
239	2.9500	0.0050
240	2.9550	0.0050
241	2.9599	0.0050
242	2.9648	0.0049
243	2.9698	0.0049
244	2.9747	0.0049
245	2.9796	0.0049
246	2.9845	0.0049
247	2.9894	0.0049
248	2.9942	0.0049
249	2.9991	0.0049
250	3.0039	0.0048
251	3.0087	0.0048
252	3.0136	0.0048
253	3.0184	0.0048
254	3.0232	0.0048
255	3.0280	0.0048
256	3.0327	0.0048
257	3.0375	0.0048
258	3.0422	0.0048
259	3.0470	0.0047
260	3.0517	0.0047
261	3.0564	0.0047
262	3.0611	0.0047
263	3.0658	0.0047

264	3.0705	0.0047
265	3.0752	0.0047
266	3.0799	0.0047
267	3.0845	0.0047
268	3.0892	0.0046
269	3.0938	0.0046
270	3.0984	0.0046
271	3.1030	0.0046
272	3.1077	0.0046
273	3.1122	0.0046
274	3.1168	0.0046
275	3.1214	0.0046
276	3.1260	0.0046
277	3.1305	0.0046
278	3.1351	0.0045
279	3.1396	0.0045
280	3.1441	0.0045
281	3.1486	0.0045
282	3.1531	0.0045
283	3.1576	0.0045
284	3.1621	0.0045
285	3.1666	0.0045
286	3.1711	0.0045
287	3.1755	0.0045
288	3.1800	0.0044

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0044	0.0006	0.0039
2	0.0045	0.0006	0.0039
3	0.0045	0.0006	0.0039
4	0.0045	0.0006	0.0039
5	0.0045	0.0006	0.0039
6	0.0045	0.0006	0.0039
7	0.0045	0.0006	0.0040
8	0.0045	0.0006	0.0040
9	0.0046	0.0006	0.0040
10	0.0046	0.0006	0.0040
11	0.0046	0.0006	0.0040
12	0.0046	0.0006	0.0040
13	0.0046	0.0006	0.0040
14	0.0046	0.0006	0.0040
15	0.0047	0.0006	0.0041
16	0.0047	0.0006	0.0041
17	0.0047	0.0006	0.0041
18	0.0047	0.0006	0.0041
19	0.0047	0.0006	0.0041
20	0.0047	0.0006	0.0041

21	0.0048	0.0006	0.0041
22	0.0048	0.0006	0.0042
23	0.0048	0.0006	0.0042
24	0.0048	0.0006	0.0042
25	0.0048	0.0006	0.0042
26	0.0048	0.0006	0.0042
27	0.0049	0.0006	0.0042
28	0.0049	0.0006	0.0042
29	0.0049	0.0006	0.0043
30	0.0049	0.0006	0.0043
31	0.0049	0.0006	0.0043
32	0.0049	0.0006	0.0043
33	0.0050	0.0006	0.0043
34	0.0050	0.0006	0.0043
35	0.0050	0.0006	0.0044
36	0.0050	0.0006	0.0044
37	0.0050	0.0006	0.0044
38	0.0051	0.0006	0.0044
39	0.0051	0.0007	0.0044
40	0.0051	0.0007	0.0044
41	0.0051	0.0007	0.0045
42	0.0051	0.0007	0.0045
43	0.0052	0.0007	0.0045
44	0.0052	0.0007	0.0045
45	0.0052	0.0007	0.0045
46	0.0052	0.0007	0.0045
47	0.0052	0.0007	0.0046
48	0.0053	0.0007	0.0046
49	0.0053	0.0007	0.0046
50	0.0053	0.0007	0.0046
51	0.0053	0.0007	0.0046
52	0.0053	0.0007	0.0047
53	0.0054	0.0007	0.0047
54	0.0054	0.0007	0.0047
55	0.0054	0.0007	0.0047
56	0.0054	0.0007	0.0047
57	0.0055	0.0007	0.0048
58	0.0055	0.0007	0.0048
59	0.0055	0.0007	0.0048
60	0.0055	0.0007	0.0048
61	0.0056	0.0007	0.0049
62	0.0056	0.0007	0.0049
63	0.0056	0.0007	0.0049
64	0.0056	0.0007	0.0049
65	0.0057	0.0007	0.0049
66	0.0057	0.0007	0.0050
67	0.0057	0.0007	0.0050
68	0.0057	0.0007	0.0050
69	0.0058	0.0007	0.0050
70	0.0058	0.0007	0.0051

71	0.0058	0.0007	0.0051
72	0.0059	0.0008	0.0051
73	0.0059	0.0008	0.0051
74	0.0059	0.0008	0.0052
75	0.0060	0.0008	0.0052
76	0.0060	0.0008	0.0052
77	0.0060	0.0008	0.0052
78	0.0060	0.0008	0.0053
79	0.0061	0.0008	0.0053
80	0.0061	0.0008	0.0053
81	0.0061	0.0008	0.0054
82	0.0062	0.0008	0.0054
83	0.0062	0.0008	0.0054
84	0.0062	0.0008	0.0054
85	0.0063	0.0008	0.0055
86	0.0063	0.0008	0.0055
87	0.0064	0.0008	0.0055
88	0.0064	0.0008	0.0056
89	0.0064	0.0008	0.0056
90	0.0064	0.0008	0.0056
91	0.0065	0.0008	0.0057
92	0.0065	0.0008	0.0057
93	0.0066	0.0008	0.0057
94	0.0066	0.0008	0.0058
95	0.0067	0.0009	0.0058
96	0.0067	0.0009	0.0058
97	0.0067	0.0009	0.0059
98	0.0068	0.0009	0.0059
99	0.0068	0.0009	0.0059
100	0.0069	0.0009	0.0060
101	0.0069	0.0009	0.0060
102	0.0069	0.0009	0.0061
103	0.0070	0.0009	0.0061
104	0.0070	0.0009	0.0061
105	0.0071	0.0009	0.0062
106	0.0071	0.0009	0.0062
107	0.0072	0.0009	0.0063
108	0.0072	0.0009	0.0063
109	0.0073	0.0009	0.0064
110	0.0073	0.0009	0.0064
111	0.0074	0.0010	0.0065
112	0.0074	0.0010	0.0065
113	0.0075	0.0010	0.0066
114	0.0076	0.0010	0.0066
115	0.0076	0.0010	0.0067
116	0.0077	0.0010	0.0067
117	0.0078	0.0010	0.0068
118	0.0078	0.0010	0.0068
119	0.0079	0.0010	0.0069
120	0.0079	0.0010	0.0069

121	0.0080	0.0010	0.0070
122	0.0081	0.0010	0.0070
123	0.0081	0.0010	0.0071
124	0.0082	0.0011	0.0071
125	0.0083	0.0011	0.0072
126	0.0083	0.0011	0.0073
127	0.0084	0.0011	0.0074
128	0.0085	0.0011	0.0074
129	0.0086	0.0011	0.0075
130	0.0086	0.0011	0.0075
131	0.0088	0.0011	0.0076
132	0.0088	0.0011	0.0077
133	0.0089	0.0011	0.0078
134	0.0090	0.0012	0.0078
135	0.0091	0.0012	0.0079
136	0.0092	0.0012	0.0080
137	0.0093	0.0012	0.0081
138	0.0094	0.0012	0.0082
139	0.0095	0.0012	0.0083
140	0.0096	0.0012	0.0084
141	0.0097	0.0012	0.0085
142	0.0098	0.0013	0.0086
143	0.0100	0.0013	0.0087
144	0.0101	0.0013	0.0088
145	0.0092	0.0012	0.0080
146	0.0093	0.0012	0.0081
147	0.0095	0.0012	0.0083
148	0.0096	0.0012	0.0083
149	0.0098	0.0013	0.0085
150	0.0099	0.0013	0.0086
151	0.0101	0.0013	0.0088
152	0.0102	0.0013	0.0089
153	0.0104	0.0013	0.0090
154	0.0105	0.0013	0.0091
155	0.0107	0.0014	0.0093
156	0.0108	0.0014	0.0095
157	0.0111	0.0014	0.0097
158	0.0112	0.0014	0.0098
159	0.0115	0.0015	0.0100
160	0.0117	0.0015	0.0102
161	0.0120	0.0015	0.0104
162	0.0121	0.0016	0.0106
163	0.0125	0.0016	0.0109
164	0.0127	0.0016	0.0110
165	0.0130	0.0017	0.0114
166	0.0133	0.0017	0.0116
167	0.0137	0.0018	0.0119
168	0.0139	0.0018	0.0121
169	0.0144	0.0018	0.0126
170	0.0147	0.0019	0.0128

171	0.0152	0.0020	0.0133
172	0.0156	0.0020	0.0136
173	0.0162	0.0021	0.0141
174	0.0166	0.0021	0.0145
175	0.0174	0.0022	0.0151
176	0.0178	0.0023	0.0155
177	0.0187	0.0024	0.0163
178	0.0193	0.0025	0.0168
179	0.0204	0.0026	0.0178
180	0.0211	0.0027	0.0184
181	0.0226	0.0029	0.0197
182	0.0235	0.0030	0.0205
183	0.0255	0.0033	0.0222
184	0.0267	0.0034	0.0233
185	0.0244	0.0031	0.0213
186	0.0261	0.0033	0.0227
187	0.0302	0.0039	0.0263
188	0.0330	0.0042	0.0288
189	0.0410	0.0053	0.0358
190	0.0472	0.0059	0.0413
191	0.0717	0.0059	0.0658
192	0.1041	0.0059	0.0982
193	0.4502	0.0059	0.4443
194	0.0564	0.0059	0.0505
195	0.0365	0.0047	0.0318
196	0.0280	0.0036	0.0244
197	0.0280	0.0036	0.0244
198	0.0244	0.0031	0.0213
199	0.0218	0.0028	0.0190
200	0.0198	0.0025	0.0173
201	0.0183	0.0023	0.0159
202	0.0170	0.0022	0.0148
203	0.0159	0.0020	0.0138
204	0.0150	0.0019	0.0130
205	0.0142	0.0018	0.0123
206	0.0135	0.0017	0.0117
207	0.0129	0.0016	0.0112
208	0.0123	0.0016	0.0107
209	0.0118	0.0015	0.0103
210	0.0114	0.0015	0.0099
211	0.0110	0.0014	0.0096
212	0.0106	0.0014	0.0092
213	0.0103	0.0013	0.0089
214	0.0100	0.0013	0.0087
215	0.0097	0.0012	0.0084
216	0.0094	0.0012	0.0082
217	0.0101	0.0013	0.0088
218	0.0099	0.0013	0.0086
219	0.0097	0.0012	0.0084
220	0.0094	0.0012	0.0082

221	0.0092	0.0012	0.0081
222	0.0091	0.0012	0.0079
223	0.0089	0.0011	0.0077
224	0.0087	0.0011	0.0076
225	0.0085	0.0011	0.0074
226	0.0084	0.0011	0.0073
227	0.0082	0.0011	0.0072
228	0.0081	0.0010	0.0071
229	0.0080	0.0010	0.0069
230	0.0078	0.0010	0.0068
231	0.0077	0.0010	0.0067
232	0.0076	0.0010	0.0066
233	0.0075	0.0010	0.0065
234	0.0074	0.0009	0.0064
235	0.0073	0.0009	0.0063
236	0.0072	0.0009	0.0062
237	0.0071	0.0009	0.0062
238	0.0070	0.0009	0.0061
239	0.0069	0.0009	0.0060
240	0.0068	0.0009	0.0059
241	0.0067	0.0009	0.0059
242	0.0066	0.0009	0.0058
243	0.0066	0.0008	0.0057
244	0.0065	0.0008	0.0056
245	0.0064	0.0008	0.0056
246	0.0063	0.0008	0.0055
247	0.0063	0.0008	0.0055
248	0.0062	0.0008	0.0054
249	0.0061	0.0008	0.0053
250	0.0061	0.0008	0.0053
251	0.0060	0.0008	0.0052
252	0.0059	0.0008	0.0052
253	0.0059	0.0008	0.0051
254	0.0058	0.0007	0.0051
255	0.0058	0.0007	0.0050
256	0.0057	0.0007	0.0050
257	0.0057	0.0007	0.0049
258	0.0056	0.0007	0.0049
259	0.0056	0.0007	0.0048
260	0.0055	0.0007	0.0048
261	0.0055	0.0007	0.0048
262	0.0054	0.0007	0.0047
263	0.0054	0.0007	0.0047
264	0.0053	0.0007	0.0046
265	0.0053	0.0007	0.0046
266	0.0052	0.0007	0.0046
267	0.0052	0.0007	0.0045
268	0.0051	0.0007	0.0045
269	0.0051	0.0007	0.0044
270	0.0051	0.0006	0.0044

271	0.0050	0.0006	0.0044
272	0.0050	0.0006	0.0043
273	0.0050	0.0006	0.0043
274	0.0049	0.0006	0.0043
275	0.0049	0.0006	0.0043
276	0.0048	0.0006	0.0042
277	0.0048	0.0006	0.0042
278	0.0048	0.0006	0.0042
279	0.0047	0.0006	0.0041
280	0.0047	0.0006	0.0041
281	0.0047	0.0006	0.0041
282	0.0046	0.0006	0.0040
283	0.0046	0.0006	0.0040
284	0.0046	0.0006	0.0040
285	0.0046	0.0006	0.0040
286	0.0045	0.0006	0.0039
287	0.0045	0.0006	0.0039
288	0.0045	0.0006	0.0039

 Total soil rain loss = 0.34(In)
 Total effective rainfall = 2.84(In)
 Peak flow rate in flood hydrograph = 7.22(CFS)

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

 Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q					
0+10	0.0002	0.03	Q					
0+15	0.0007	0.07	Q					
0+20	0.0014	0.10	Q					
0+25	0.0023	0.12	Q					
0+30	0.0032	0.13	Q					
0+35	0.0041	0.14	Q					
0+40	0.0051	0.15	Q					
0+45	0.0062	0.15	Q					
0+50	0.0072	0.15	Q					
0+55	0.0083	0.16	Q					
1+ 0	0.0094	0.16	Q					
1+ 5	0.0106	0.16	Q					
1+10	0.0117	0.17	Q					
1+15	0.0128	0.17	Q					
1+20	0.0140	0.17	Q					
1+25	0.0152	0.17	Q					

1+30	0.0163	0.17	Q
1+35	0.0175	0.17	Q
1+40	0.0187	0.17	Q
1+45	0.0199	0.17	Q
1+50	0.0211	0.17	QV
1+55	0.0223	0.18	QV
2+ 0	0.0235	0.18	QV
2+ 5	0.0248	0.18	QV
2+10	0.0260	0.18	QV
2+15	0.0272	0.18	QV
2+20	0.0284	0.18	QV
2+25	0.0297	0.18	QV
2+30	0.0309	0.18	QV
2+35	0.0321	0.18	QV
2+40	0.0334	0.18	QV
2+45	0.0346	0.18	QV
2+50	0.0359	0.18	QV
2+55	0.0372	0.18	QV
3+ 0	0.0384	0.18	QV
3+ 5	0.0397	0.18	QV
3+10	0.0410	0.18	QV
3+15	0.0422	0.19	Q V
3+20	0.0435	0.19	Q V
3+25	0.0448	0.19	Q V
3+30	0.0461	0.19	Q V
3+35	0.0474	0.19	Q V
3+40	0.0487	0.19	Q V
3+45	0.0500	0.19	Q V
3+50	0.0513	0.19	Q V
3+55	0.0527	0.19	Q V
4+ 0	0.0540	0.19	Q V
4+ 5	0.0553	0.19	Q V
4+10	0.0566	0.19	Q V
4+15	0.0580	0.19	Q V
4+20	0.0593	0.20	Q V
4+25	0.0607	0.20	Q V
4+30	0.0620	0.20	Q V
4+35	0.0634	0.20	Q V
4+40	0.0648	0.20	Q V
4+45	0.0661	0.20	Q V
4+50	0.0675	0.20	Q V
4+55	0.0689	0.20	Q V
5+ 0	0.0703	0.20	Q V
5+ 5	0.0717	0.20	Q V
5+10	0.0731	0.20	Q V
5+15	0.0745	0.20	Q V
5+20	0.0759	0.21	Q V
5+25	0.0774	0.21	Q V
5+30	0.0788	0.21	Q V
5+35	0.0802	0.21	Q V

5+40	0.0817	0.21	Q	V				
5+45	0.0831	0.21	Q	V				
5+50	0.0846	0.21	Q	V				
5+55	0.0860	0.21	Q	V				
6+ 0	0.0875	0.21	Q	V				
6+ 5	0.0890	0.21	Q	V				
6+10	0.0905	0.22	Q	V				
6+15	0.0920	0.22	Q	V				
6+20	0.0935	0.22	Q	V				
6+25	0.0950	0.22	Q	V				
6+30	0.0965	0.22	Q	V				
6+35	0.0980	0.22	Q	V				
6+40	0.0996	0.22	Q	V				
6+45	0.1011	0.22	Q	V				
6+50	0.1026	0.22	Q	V				
6+55	0.1042	0.23	Q	V				
7+ 0	0.1058	0.23	Q	V				
7+ 5	0.1073	0.23	Q	V				
7+10	0.1089	0.23	Q	V				
7+15	0.1105	0.23	Q	V				
7+20	0.1121	0.23	Q	V				
7+25	0.1137	0.23	Q	V				
7+30	0.1153	0.23	Q	V				
7+35	0.1169	0.24	Q	V				
7+40	0.1186	0.24	Q	V				
7+45	0.1202	0.24	Q	V				
7+50	0.1219	0.24	Q	V				
7+55	0.1235	0.24	Q	V				
8+ 0	0.1252	0.24	Q	V				
8+ 5	0.1269	0.24	Q	V				
8+10	0.1286	0.25	Q	V				
8+15	0.1303	0.25	Q	V				
8+20	0.1320	0.25	Q	V				
8+25	0.1337	0.25	Q	V				
8+30	0.1354	0.25	Q	V				
8+35	0.1372	0.25	Q	V				
8+40	0.1389	0.26	Q	V				
8+45	0.1407	0.26	Q	V				
8+50	0.1425	0.26	Q	V				
8+55	0.1443	0.26	Q	V				
9+ 0	0.1461	0.26	Q	V				
9+ 5	0.1479	0.26	Q	V				
9+10	0.1497	0.27	Q	V				
9+15	0.1516	0.27	Q	V				
9+20	0.1534	0.27	Q	V				
9+25	0.1553	0.27	Q	V				
9+30	0.1572	0.27	Q	V				
9+35	0.1591	0.28	Q	V				
9+40	0.1610	0.28	Q	V				
9+45	0.1629	0.28	Q	V				

9+50	0.1648	0.28	Q	V			
9+55	0.1668	0.28	Q	V			
10+ 0	0.1688	0.29	Q	V			
10+ 5	0.1707	0.29	Q	V			
10+10	0.1727	0.29	Q	V			
10+15	0.1748	0.29	Q	V			
10+20	0.1768	0.29	Q	V			
10+25	0.1788	0.30	Q	V			
10+30	0.1809	0.30	Q	V			
10+35	0.1830	0.30	Q	V			
10+40	0.1851	0.31	Q	V			
10+45	0.1872	0.31	Q	V			
10+50	0.1894	0.31	Q	V			
10+55	0.1915	0.31	Q	V			
11+ 0	0.1937	0.32	Q	V			
11+ 5	0.1959	0.32	Q	V			
11+10	0.1981	0.32	Q	V			
11+15	0.2004	0.33	Q	V			
11+20	0.2026	0.33	Q	V			
11+25	0.2049	0.33	Q	V			
11+30	0.2072	0.34	Q	V			
11+35	0.2095	0.34	Q	V			
11+40	0.2119	0.34	Q	V			
11+45	0.2143	0.35	Q	V			
11+50	0.2167	0.35	Q	V			
11+55	0.2191	0.35	Q	V			
12+ 0	0.2216	0.36	Q	V			
12+ 5	0.2241	0.36	Q	V			
12+10	0.2266	0.36	Q	V			
12+15	0.2290	0.35	Q	V			
12+20	0.2314	0.35	Q	V			
12+25	0.2339	0.35	Q	V			
12+30	0.2363	0.36	Q	V			
12+35	0.2388	0.36	Q	V			
12+40	0.2413	0.36	Q	V			
12+45	0.2438	0.37	Q	V			
12+50	0.2463	0.37	Q	V			
12+55	0.2489	0.38	Q	V			
13+ 0	0.2516	0.38	Q	V			
13+ 5	0.2542	0.39	Q	V			
13+10	0.2569	0.39	Q	V			
13+15	0.2597	0.40	Q	V			
13+20	0.2625	0.41	Q	V			
13+25	0.2653	0.41	Q	V			
13+30	0.2682	0.42	Q	V			
13+35	0.2712	0.43	Q	V			
13+40	0.2742	0.44	Q	V			
13+45	0.2773	0.45	Q	V			
13+50	0.2804	0.46	Q	V			
13+55	0.2836	0.47	Q	V			

14+ 0	0.2869	0.48	Q		V			
14+ 5	0.2902	0.49	Q		V			
14+10	0.2937	0.50	Q		V			
14+15	0.2972	0.51	Q		V			
14+20	0.3008	0.52	Q		V			
14+25	0.3045	0.54	Q		V			
14+30	0.3083	0.55	Q		V			
14+35	0.3123	0.57	Q		V			
14+40	0.3163	0.59	Q		V			
14+45	0.3205	0.61	Q		V			
14+50	0.3248	0.63	Q		V			
14+55	0.3293	0.65	Q		V			
15+ 0	0.3340	0.68	Q		V			
15+ 5	0.3388	0.71	Q		V			
15+10	0.3439	0.74	Q		V			
15+15	0.3493	0.77	Q		V			
15+20	0.3549	0.81	Q		V			
15+25	0.3608	0.86	Q		V			
15+30	0.3669	0.89	Q		V			
15+35	0.3731	0.90	Q		V			
15+40	0.3796	0.94	Q		V			
15+45	0.3866	1.02	Q		V			
15+50	0.3944	1.13	Q		V			
15+55	0.4035	1.32	Q		V			
16+ 0	0.4147	1.64	Q		V			
16+ 5	0.4325	2.58		Q	V			
16+10	0.4652	4.75			Q	V		
16+15	0.5150	7.22				V	Q	
16+20	0.5499	5.07			Q		V	
16+25	0.5732	3.38		Q			V	
16+30	0.5911	2.60		Q			V	
16+35	0.6057	2.12		Q			V	
16+40	0.6182	1.82		Q			V	
16+45	0.6289	1.55		Q			V	
16+50	0.6381	1.34		Q			V	
16+55	0.6464	1.20	Q				V	
17+ 0	0.6537	1.07	Q				V	
17+ 5	0.6604	0.96	Q				V	
17+10	0.6663	0.87	Q				V	
17+15	0.6717	0.78	Q				V	
17+20	0.6765	0.70	Q				V	
17+25	0.6810	0.65	Q				V	
17+30	0.6853	0.63	Q				V	
17+35	0.6894	0.60	Q				V	
17+40	0.6931	0.54	Q				V	
17+45	0.6965	0.49	Q				V	
17+50	0.6995	0.44	Q				V	
17+55	0.7024	0.42	Q				V	
18+ 0	0.7052	0.40	Q				V	
18+ 5	0.7079	0.39	Q				V	

18+10	0.7105	0.38	Q				V	
18+15	0.7132	0.38	Q				V	
18+20	0.7158	0.38	Q				V	
18+25	0.7183	0.37	Q				V	
18+30	0.7208	0.36	Q				V	
18+35	0.7233	0.36	Q				V	
18+40	0.7257	0.35	Q				V	
18+45	0.7280	0.34	Q				V	
18+50	0.7303	0.34	Q				V	
18+55	0.7326	0.33	Q				V	
19+ 0	0.7348	0.32	Q				V	
19+ 5	0.7370	0.32	Q				V	
19+10	0.7392	0.31	Q				V	
19+15	0.7413	0.31	Q				V	
19+20	0.7434	0.30	Q				V	
19+25	0.7454	0.30	Q				V	
19+30	0.7474	0.29	Q				V	
19+35	0.7494	0.29	Q				V	
19+40	0.7514	0.28	Q				V	
19+45	0.7533	0.28	Q				V	
19+50	0.7552	0.27	Q				V	
19+55	0.7570	0.27	Q				V	
20+ 0	0.7589	0.27	Q				V	
20+ 5	0.7607	0.26	Q				V	
20+10	0.7625	0.26	Q				V	
20+15	0.7642	0.26	Q				V	
20+20	0.7660	0.25	Q				V	
20+25	0.7677	0.25	Q				V	
20+30	0.7694	0.25	Q				V	
20+35	0.7711	0.24	Q				V	
20+40	0.7727	0.24	Q				V	
20+45	0.7744	0.24	Q				V	
20+50	0.7760	0.24	Q				V	
20+55	0.7776	0.23	Q				V	
21+ 0	0.7792	0.23	Q				V	
21+ 5	0.7808	0.23	Q				V	
21+10	0.7823	0.23	Q				V	
21+15	0.7838	0.22	Q				V	
21+20	0.7854	0.22	Q				V	
21+25	0.7869	0.22	Q				V	
21+30	0.7884	0.22	Q				V	
21+35	0.7898	0.21	Q				V	
21+40	0.7913	0.21	Q				V	
21+45	0.7927	0.21	Q				V	
21+50	0.7942	0.21	Q				V	
21+55	0.7956	0.21	Q				V	
22+ 0	0.7970	0.20	Q				V	
22+ 5	0.7984	0.20	Q				V	
22+10	0.7998	0.20	Q				V	
22+15	0.8012	0.20	Q				V	

22+20	0.8025	0.20	Q				V
22+25	0.8039	0.20	Q				V
22+30	0.8052	0.19	Q				V
22+35	0.8065	0.19	Q				V
22+40	0.8079	0.19	Q				V
22+45	0.8092	0.19	Q				V
22+50	0.8105	0.19	Q				V
22+55	0.8117	0.19	Q				V
23+ 0	0.8130	0.19	Q				V
23+ 5	0.8143	0.18	Q				V
23+10	0.8155	0.18	Q				V
23+15	0.8168	0.18	Q				V
23+20	0.8180	0.18	Q				V
23+25	0.8193	0.18	Q				V
23+30	0.8205	0.18	Q				V
23+35	0.8217	0.18	Q				V
23+40	0.8229	0.17	Q				V
23+45	0.8241	0.17	Q				V
23+50	0.8253	0.17	Q				V
23+55	0.8265	0.17	Q				V
24+ 0	0.8276	0.17	Q				V

UNIT HYDROGRAPH ANALYSIS (24 HOUR, 100-YEAR STORM)

POST-DEVELOPMENT CONDITION

Unit Hydrograph Analysis

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2004, Version 7.0

Study date 01/05/23

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6277

JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
100 YEAR STORM UNIT HYDROGRAPH, POST CONDITION
AREA A2

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
1.22	1	0.55

Rainfall data for year 2		
1.22	6	0.67

Rainfall data for year 2		
1.22	24	1.12

Rainfall data for year 100

1.22	1	0.95

Rainfall data for year 100		
1.22	6	1.82

Rainfall data for year 100		
1.22	24	3.18

+++++		

***** Area-averaged max loss rate, Fm *****

SCS curve	SCS curve	Area	Area	Fp(Fig C6)	Ap	Fm
No.(AMCII)	NO.(AMC 3)	(Ac.)	Fraction	(In/Hr)	(dec.)	(In/Hr)
91.0	98.2	1.22	1.000	0.036	0.100	0.004

Area-averaged adjusted loss rate Fm (In/Hr) = 0.004

***** Area-Averaged low loss rate fraction, Yb *****

Area	Area	SCS CN	SCS CN	S	Pervious
(Ac.)	Fract	(AMC2)	(AMC3)		Yield Fr
0.12	0.100	91.0	98.2	0.18	0.934
1.10	0.900	98.0	98.0	0.20	0.927

Area-averaged catchment yield fraction, Y = 0.928

Area-averaged low loss fraction, Yb = 0.072

User entry of time of concentration = 0.150 (hours)

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Watershed area = 1.22(Ac.)

Catchment Lag time = 0.120 hours

Unit interval = 5.000 minutes

Unit interval percentage of lag time = 69.4444

Hydrograph baseflow = 0.00(CFS)

Average maximum watershed loss rate(Fm) = 0.004(In/Hr)

Average low loss rate fraction (Yb) = 0.072 (decimal)

DESERT S-Graph Selected

Computed peak 5-minute rainfall = 0.450(In)

Computed peak 30-minute rainfall = 0.771(In)

Specified peak 1-hour rainfall = 0.949(In)

Computed peak 3-hour rainfall = 1.415(In)

Specified peak 6-hour rainfall = 1.820(In)

Specified peak 24-hour rainfall = 3.180(In)

Rainfall depth area reduction factors:

Using a total area of 1.22(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.450(In)

30-minute factor = 1.000	Adjusted rainfall = 0.771(In)
1-hour factor = 1.000	Adjusted rainfall = 0.949(In)
3-hour factor = 1.000	Adjusted rainfall = 1.415(In)
6-hour factor = 1.000	Adjusted rainfall = 1.820(In)
24-hour factor = 1.000	Adjusted rainfall = 3.180(In)

U n i t H y d r o g r a p h		
+++++	+++++	+++++
Interval	'S' Graph	Unit Hydrograph
Number	Mean values	((CFS))

	(K =	14.73 (CFS))
1	7.669	1.130
2	50.033	6.240
3	73.305	3.428
4	83.434	1.492
5	89.365	0.874
6	93.063	0.545
7	95.572	0.370
8	97.262	0.249
9	98.212	0.140
10	99.017	0.119
11	99.681	0.098
12	100.000	0.047

Peak Unit	Adjusted mass rainfall	Unit rainfall
Number	(In)	(In)
1	0.4503	0.4503
2	0.5544	0.1041
3	0.6261	0.0717
4	0.6825	0.0564
5	0.7298	0.0473
6	0.7708	0.0410
7	0.8073	0.0365
8	0.8403	0.0330
9	0.8705	0.0302
10	0.8984	0.0280
11	0.9245	0.0261
12	0.9489	0.0245
13	0.9770	0.0280
14	1.0036	0.0267
15	1.0291	0.0255
16	1.0535	0.0244
17	1.0770	0.0235
18	1.0996	0.0226
19	1.1215	0.0218
20	1.1426	0.0211
21	1.1630	0.0204

22	1.1828	0.0198
23	1.2021	0.0193
24	1.2208	0.0187
25	1.2391	0.0182
26	1.2569	0.0178
27	1.2742	0.0174
28	1.2912	0.0170
29	1.3078	0.0166
30	1.3240	0.0162
31	1.3399	0.0159
32	1.3554	0.0156
33	1.3707	0.0152
34	1.3856	0.0150
35	1.4003	0.0147
36	1.4147	0.0144
37	1.4289	0.0142
38	1.4428	0.0139
39	1.4565	0.0137
40	1.4699	0.0135
41	1.4832	0.0133
42	1.4962	0.0130
43	1.5091	0.0129
44	1.5217	0.0127
45	1.5342	0.0125
46	1.5465	0.0123
47	1.5586	0.0121
48	1.5706	0.0120
49	1.5824	0.0118
50	1.5941	0.0117
51	1.6056	0.0115
52	1.6170	0.0114
53	1.6282	0.0112
54	1.6393	0.0111
55	1.6503	0.0110
56	1.6611	0.0108
57	1.6718	0.0107
58	1.6824	0.0106
59	1.6929	0.0105
60	1.7033	0.0104
61	1.7136	0.0103
62	1.7237	0.0102
63	1.7338	0.0101
64	1.7437	0.0100
65	1.7536	0.0099
66	1.7633	0.0098
67	1.7730	0.0097
68	1.7826	0.0096
69	1.7921	0.0095
70	1.8015	0.0094
71	1.8108	0.0093

72	1.8200	0.0092
73	1.8301	0.0101
74	1.8402	0.0101
75	1.8501	0.0100
76	1.8600	0.0099
77	1.8699	0.0098
78	1.8796	0.0097
79	1.8893	0.0097
80	1.8988	0.0096
81	1.9084	0.0095
82	1.9178	0.0094
83	1.9272	0.0094
84	1.9365	0.0093
85	1.9458	0.0092
86	1.9549	0.0092
87	1.9641	0.0091
88	1.9731	0.0091
89	1.9821	0.0090
90	1.9910	0.0089
91	1.9999	0.0089
92	2.0087	0.0088
93	2.0175	0.0088
94	2.0262	0.0087
95	2.0349	0.0086
96	2.0434	0.0086
97	2.0520	0.0085
98	2.0605	0.0085
99	2.0689	0.0084
100	2.0773	0.0084
101	2.0856	0.0083
102	2.0939	0.0083
103	2.1022	0.0082
104	2.1104	0.0082
105	2.1185	0.0081
106	2.1266	0.0081
107	2.1347	0.0081
108	2.1427	0.0080
109	2.1506	0.0080
110	2.1586	0.0079
111	2.1664	0.0079
112	2.1743	0.0078
113	2.1821	0.0078
114	2.1898	0.0078
115	2.1975	0.0077
116	2.2052	0.0077
117	2.2128	0.0076
118	2.2204	0.0076
119	2.2280	0.0076
120	2.2355	0.0075
121	2.2430	0.0075

122	2.2504	0.0074
123	2.2578	0.0074
124	2.2652	0.0074
125	2.2725	0.0073
126	2.2798	0.0073
127	2.2871	0.0073
128	2.2943	0.0072
129	2.3015	0.0072
130	2.3087	0.0072
131	2.3158	0.0071
132	2.3229	0.0071
133	2.3300	0.0071
134	2.3370	0.0070
135	2.3440	0.0070
136	2.3510	0.0070
137	2.3580	0.0069
138	2.3649	0.0069
139	2.3718	0.0069
140	2.3786	0.0069
141	2.3854	0.0068
142	2.3922	0.0068
143	2.3990	0.0068
144	2.4057	0.0067
145	2.4124	0.0067
146	2.4191	0.0067
147	2.4258	0.0067
148	2.4324	0.0066
149	2.4390	0.0066
150	2.4456	0.0066
151	2.4521	0.0066
152	2.4587	0.0065
153	2.4652	0.0065
154	2.4716	0.0065
155	2.4781	0.0064
156	2.4845	0.0064
157	2.4909	0.0064
158	2.4973	0.0064
159	2.5036	0.0064
160	2.5100	0.0063
161	2.5163	0.0063
162	2.5225	0.0063
163	2.5288	0.0063
164	2.5350	0.0062
165	2.5412	0.0062
166	2.5474	0.0062
167	2.5536	0.0062
168	2.5597	0.0061
169	2.5659	0.0061
170	2.5720	0.0061
171	2.5781	0.0061

172	2.5841	0.0061
173	2.5901	0.0060
174	2.5962	0.0060
175	2.6022	0.0060
176	2.6081	0.0060
177	2.6141	0.0060
178	2.6200	0.0059
179	2.6259	0.0059
180	2.6318	0.0059
181	2.6377	0.0059
182	2.6436	0.0059
183	2.6494	0.0058
184	2.6552	0.0058
185	2.6610	0.0058
186	2.6668	0.0058
187	2.6726	0.0058
188	2.6783	0.0057
189	2.6840	0.0057
190	2.6897	0.0057
191	2.6954	0.0057
192	2.7011	0.0057
193	2.7068	0.0057
194	2.7124	0.0056
195	2.7180	0.0056
196	2.7236	0.0056
197	2.7292	0.0056
198	2.7348	0.0056
199	2.7403	0.0056
200	2.7459	0.0055
201	2.7514	0.0055
202	2.7569	0.0055
203	2.7624	0.0055
204	2.7678	0.0055
205	2.7733	0.0055
206	2.7787	0.0054
207	2.7841	0.0054
208	2.7896	0.0054
209	2.7949	0.0054
210	2.8003	0.0054
211	2.8057	0.0054
212	2.8110	0.0053
213	2.8164	0.0053
214	2.8217	0.0053
215	2.8270	0.0053
216	2.8323	0.0053
217	2.8375	0.0053
218	2.8428	0.0053
219	2.8480	0.0052
220	2.8533	0.0052
221	2.8585	0.0052

222	2.8637	0.0052
223	2.8689	0.0052
224	2.8740	0.0052
225	2.8792	0.0052
226	2.8843	0.0051
227	2.8895	0.0051
228	2.8946	0.0051
229	2.8997	0.0051
230	2.9048	0.0051
231	2.9098	0.0051
232	2.9149	0.0051
233	2.9200	0.0051
234	2.9250	0.0050
235	2.9300	0.0050
236	2.9350	0.0050
237	2.9400	0.0050
238	2.9450	0.0050
239	2.9500	0.0050
240	2.9550	0.0050
241	2.9599	0.0050
242	2.9649	0.0049
243	2.9698	0.0049
244	2.9747	0.0049
245	2.9796	0.0049
246	2.9845	0.0049
247	2.9894	0.0049
248	2.9942	0.0049
249	2.9991	0.0049
250	3.0039	0.0048
251	3.0088	0.0048
252	3.0136	0.0048
253	3.0184	0.0048
254	3.0232	0.0048
255	3.0280	0.0048
256	3.0327	0.0048
257	3.0375	0.0048
258	3.0423	0.0048
259	3.0470	0.0047
260	3.0517	0.0047
261	3.0564	0.0047
262	3.0612	0.0047
263	3.0659	0.0047
264	3.0705	0.0047
265	3.0752	0.0047
266	3.0799	0.0047
267	3.0845	0.0047
268	3.0892	0.0046
269	3.0938	0.0046
270	3.0984	0.0046
271	3.1031	0.0046

272	3.1077	0.0046
273	3.1123	0.0046
274	3.1168	0.0046
275	3.1214	0.0046
276	3.1260	0.0046
277	3.1305	0.0046
278	3.1351	0.0045
279	3.1396	0.0045
280	3.1441	0.0045
281	3.1487	0.0045
282	3.1532	0.0045
283	3.1577	0.0045
284	3.1621	0.0045
285	3.1666	0.0045
286	3.1711	0.0045
287	3.1755	0.0045
288	3.1800	0.0044

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0044	0.0003	0.0042
2	0.0045	0.0003	0.0042
3	0.0045	0.0003	0.0042
4	0.0045	0.0003	0.0042
5	0.0045	0.0003	0.0042
6	0.0045	0.0003	0.0042
7	0.0045	0.0003	0.0042
8	0.0045	0.0003	0.0042
9	0.0046	0.0003	0.0043
10	0.0046	0.0003	0.0043
11	0.0046	0.0003	0.0043
12	0.0046	0.0003	0.0043
13	0.0046	0.0003	0.0043
14	0.0046	0.0003	0.0043
15	0.0047	0.0003	0.0044
16	0.0047	0.0003	0.0044
17	0.0047	0.0003	0.0044
18	0.0047	0.0003	0.0044
19	0.0047	0.0003	0.0044
20	0.0047	0.0003	0.0044
21	0.0048	0.0003	0.0045
22	0.0048	0.0003	0.0045
23	0.0048	0.0003	0.0045
24	0.0048	0.0003	0.0045
25	0.0048	0.0003	0.0045
26	0.0048	0.0003	0.0045
27	0.0049	0.0003	0.0046
28	0.0049	0.0003	0.0046

29	0.0049	0.0003	0.0046
30	0.0049	0.0003	0.0046
31	0.0049	0.0003	0.0046
32	0.0049	0.0003	0.0046
33	0.0050	0.0003	0.0047
34	0.0050	0.0003	0.0047
35	0.0050	0.0003	0.0047
36	0.0050	0.0003	0.0047
37	0.0050	0.0003	0.0047
38	0.0051	0.0003	0.0048
39	0.0051	0.0003	0.0048
40	0.0051	0.0003	0.0048
41	0.0051	0.0003	0.0048
42	0.0051	0.0003	0.0048
43	0.0052	0.0003	0.0049
44	0.0052	0.0003	0.0049
45	0.0052	0.0003	0.0049
46	0.0052	0.0003	0.0049
47	0.0052	0.0003	0.0049
48	0.0053	0.0003	0.0050
49	0.0053	0.0003	0.0050
50	0.0053	0.0003	0.0050
51	0.0053	0.0003	0.0050
52	0.0053	0.0003	0.0050
53	0.0054	0.0003	0.0051
54	0.0054	0.0003	0.0051
55	0.0054	0.0003	0.0051
56	0.0054	0.0003	0.0051
57	0.0055	0.0003	0.0052
58	0.0055	0.0003	0.0052
59	0.0055	0.0003	0.0052
60	0.0055	0.0003	0.0052
61	0.0056	0.0003	0.0053
62	0.0056	0.0003	0.0053
63	0.0056	0.0003	0.0053
64	0.0056	0.0003	0.0053
65	0.0057	0.0003	0.0054
66	0.0057	0.0003	0.0054
67	0.0057	0.0003	0.0054
68	0.0057	0.0003	0.0054
69	0.0058	0.0003	0.0055
70	0.0058	0.0003	0.0055
71	0.0058	0.0003	0.0055
72	0.0059	0.0003	0.0056
73	0.0059	0.0003	0.0056
74	0.0059	0.0003	0.0056
75	0.0060	0.0003	0.0057
76	0.0060	0.0003	0.0057
77	0.0060	0.0003	0.0057
78	0.0060	0.0003	0.0057

79	0.0061	0.0003	0.0058
80	0.0061	0.0003	0.0058
81	0.0061	0.0003	0.0058
82	0.0062	0.0003	0.0059
83	0.0062	0.0003	0.0059
84	0.0062	0.0003	0.0059
85	0.0063	0.0003	0.0060
86	0.0063	0.0003	0.0060
87	0.0064	0.0003	0.0061
88	0.0064	0.0003	0.0061
89	0.0064	0.0003	0.0061
90	0.0064	0.0003	0.0062
91	0.0065	0.0003	0.0062
92	0.0065	0.0003	0.0062
93	0.0066	0.0003	0.0063
94	0.0066	0.0003	0.0063
95	0.0067	0.0003	0.0064
96	0.0067	0.0003	0.0064
97	0.0067	0.0003	0.0064
98	0.0068	0.0003	0.0065
99	0.0068	0.0003	0.0065
100	0.0069	0.0003	0.0066
101	0.0069	0.0003	0.0066
102	0.0069	0.0003	0.0066
103	0.0070	0.0003	0.0067
104	0.0070	0.0003	0.0067
105	0.0071	0.0003	0.0068
106	0.0071	0.0003	0.0068
107	0.0072	0.0003	0.0069
108	0.0072	0.0003	0.0069
109	0.0073	0.0003	0.0070
110	0.0073	0.0003	0.0070
111	0.0074	0.0003	0.0071
112	0.0074	0.0003	0.0071
113	0.0075	0.0003	0.0072
114	0.0076	0.0003	0.0073
115	0.0076	0.0003	0.0073
116	0.0077	0.0003	0.0074
117	0.0078	0.0003	0.0075
118	0.0078	0.0003	0.0075
119	0.0079	0.0003	0.0076
120	0.0079	0.0003	0.0076
121	0.0080	0.0003	0.0077
122	0.0081	0.0003	0.0078
123	0.0081	0.0003	0.0078
124	0.0082	0.0003	0.0079
125	0.0083	0.0003	0.0080
126	0.0083	0.0003	0.0080
127	0.0084	0.0003	0.0081
128	0.0085	0.0003	0.0082

129	0.0086	0.0003	0.0083
130	0.0086	0.0003	0.0084
131	0.0088	0.0003	0.0085
132	0.0088	0.0003	0.0085
133	0.0089	0.0003	0.0086
134	0.0090	0.0003	0.0087
135	0.0091	0.0003	0.0088
136	0.0092	0.0003	0.0089
137	0.0093	0.0003	0.0090
138	0.0094	0.0003	0.0091
139	0.0095	0.0003	0.0092
140	0.0096	0.0003	0.0093
141	0.0097	0.0003	0.0094
142	0.0098	0.0003	0.0095
143	0.0100	0.0003	0.0097
144	0.0101	0.0003	0.0098
145	0.0092	0.0003	0.0089
146	0.0093	0.0003	0.0090
147	0.0095	0.0003	0.0092
148	0.0096	0.0003	0.0093
149	0.0098	0.0003	0.0095
150	0.0099	0.0003	0.0096
151	0.0101	0.0003	0.0098
152	0.0102	0.0003	0.0099
153	0.0104	0.0003	0.0101
154	0.0105	0.0003	0.0102
155	0.0107	0.0003	0.0104
156	0.0108	0.0003	0.0105
157	0.0111	0.0003	0.0108
158	0.0112	0.0003	0.0109
159	0.0115	0.0003	0.0112
160	0.0117	0.0003	0.0114
161	0.0120	0.0003	0.0117
162	0.0121	0.0003	0.0118
163	0.0125	0.0003	0.0122
164	0.0127	0.0003	0.0124
165	0.0130	0.0003	0.0127
166	0.0133	0.0003	0.0130
167	0.0137	0.0003	0.0134
168	0.0139	0.0003	0.0136
169	0.0144	0.0003	0.0141
170	0.0147	0.0003	0.0144
171	0.0152	0.0003	0.0149
172	0.0156	0.0003	0.0153
173	0.0162	0.0003	0.0159
174	0.0166	0.0003	0.0163
175	0.0174	0.0003	0.0171
176	0.0178	0.0003	0.0175
177	0.0187	0.0003	0.0184
178	0.0193	0.0003	0.0190

179	0.0204	0.0003	0.0201
180	0.0211	0.0003	0.0208
181	0.0226	0.0003	0.0223
182	0.0235	0.0003	0.0232
183	0.0255	0.0003	0.0252
184	0.0267	0.0003	0.0264
185	0.0245	0.0003	0.0242
186	0.0261	0.0003	0.0258
187	0.0302	0.0003	0.0299
188	0.0330	0.0003	0.0327
189	0.0410	0.0003	0.0407
190	0.0473	0.0003	0.0470
191	0.0717	0.0003	0.0714
192	0.1041	0.0003	0.1038
193	0.4503	0.0003	0.4500
194	0.0564	0.0003	0.0561
195	0.0365	0.0003	0.0362
196	0.0280	0.0003	0.0277
197	0.0280	0.0003	0.0277
198	0.0244	0.0003	0.0241
199	0.0218	0.0003	0.0215
200	0.0198	0.0003	0.0195
201	0.0182	0.0003	0.0180
202	0.0170	0.0003	0.0167
203	0.0159	0.0003	0.0156
204	0.0150	0.0003	0.0147
205	0.0142	0.0003	0.0139
206	0.0135	0.0003	0.0132
207	0.0129	0.0003	0.0126
208	0.0123	0.0003	0.0120
209	0.0118	0.0003	0.0115
210	0.0114	0.0003	0.0111
211	0.0110	0.0003	0.0107
212	0.0106	0.0003	0.0103
213	0.0103	0.0003	0.0100
214	0.0100	0.0003	0.0097
215	0.0097	0.0003	0.0094
216	0.0094	0.0003	0.0091
217	0.0101	0.0003	0.0098
218	0.0099	0.0003	0.0096
219	0.0097	0.0003	0.0094
220	0.0094	0.0003	0.0092
221	0.0092	0.0003	0.0089
222	0.0091	0.0003	0.0088
223	0.0089	0.0003	0.0086
224	0.0087	0.0003	0.0084
225	0.0085	0.0003	0.0082
226	0.0084	0.0003	0.0081
227	0.0082	0.0003	0.0079
228	0.0081	0.0003	0.0078

229	0.0080	0.0003	0.0077
230	0.0078	0.0003	0.0075
231	0.0077	0.0003	0.0074
232	0.0076	0.0003	0.0073
233	0.0075	0.0003	0.0072
234	0.0074	0.0003	0.0071
235	0.0073	0.0003	0.0070
236	0.0072	0.0003	0.0069
237	0.0071	0.0003	0.0068
238	0.0070	0.0003	0.0067
239	0.0069	0.0003	0.0066
240	0.0068	0.0003	0.0065
241	0.0067	0.0003	0.0064
242	0.0066	0.0003	0.0063
243	0.0066	0.0003	0.0063
244	0.0065	0.0003	0.0062
245	0.0064	0.0003	0.0061
246	0.0063	0.0003	0.0060
247	0.0063	0.0003	0.0060
248	0.0062	0.0003	0.0059
249	0.0061	0.0003	0.0058
250	0.0061	0.0003	0.0058
251	0.0060	0.0003	0.0057
252	0.0059	0.0003	0.0056
253	0.0059	0.0003	0.0056
254	0.0058	0.0003	0.0055
255	0.0058	0.0003	0.0055
256	0.0057	0.0003	0.0054
257	0.0057	0.0003	0.0054
258	0.0056	0.0003	0.0053
259	0.0056	0.0003	0.0053
260	0.0055	0.0003	0.0052
261	0.0055	0.0003	0.0052
262	0.0054	0.0003	0.0051
263	0.0054	0.0003	0.0051
264	0.0053	0.0003	0.0050
265	0.0053	0.0003	0.0050
266	0.0052	0.0003	0.0049
267	0.0052	0.0003	0.0049
268	0.0051	0.0003	0.0048
269	0.0051	0.0003	0.0048
270	0.0051	0.0003	0.0048
271	0.0050	0.0003	0.0047
272	0.0050	0.0003	0.0047
273	0.0050	0.0003	0.0047
274	0.0049	0.0003	0.0046
275	0.0049	0.0003	0.0046
276	0.0048	0.0003	0.0045
277	0.0048	0.0003	0.0045
278	0.0048	0.0003	0.0045

279	0.0047	0.0003	0.0044
280	0.0047	0.0003	0.0044
281	0.0047	0.0003	0.0044
282	0.0046	0.0003	0.0043
283	0.0046	0.0003	0.0043
284	0.0046	0.0003	0.0043
285	0.0046	0.0003	0.0043
286	0.0045	0.0003	0.0042
287	0.0045	0.0003	0.0042
288	0.0045	0.0003	0.0042

 Total soil rain loss = 0.09(In)
 Total effective rainfall = 3.09(In)
 Peak flow rate in flood hydrograph = 3.43(CFS)

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

 Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0002	0.03	Q				
0+15	0.0006	0.04	Q				
0+20	0.0009	0.05	Q				
0+25	0.0013	0.06	Q				
0+30	0.0017	0.06	Q				
0+35	0.0021	0.06	Q				
0+40	0.0025	0.06	Q				
0+45	0.0029	0.06	Q				
0+50	0.0034	0.06	Q				
0+55	0.0038	0.06	Q				
1+ 0	0.0042	0.06	Q				
1+ 5	0.0047	0.06	Q				
1+10	0.0051	0.06	Q				
1+15	0.0055	0.06	Q				
1+20	0.0060	0.06	Q				
1+25	0.0064	0.06	Q				
1+30	0.0069	0.06	Q				
1+35	0.0073	0.06	Q				
1+40	0.0077	0.06	Q				
1+45	0.0082	0.07	QV				
1+50	0.0086	0.07	QV				
1+55	0.0091	0.07	QV				
2+ 0	0.0095	0.07	QV				
2+ 5	0.0100	0.07	QV				

2+10	0.0105	0.07	QV				
2+15	0.0109	0.07	QV				
2+20	0.0114	0.07	QV				
2+25	0.0118	0.07	QV				
2+30	0.0123	0.07	QV				
2+35	0.0128	0.07	QV				
2+40	0.0132	0.07	QV				
2+45	0.0137	0.07	QV				
2+50	0.0142	0.07	QV				
2+55	0.0146	0.07	QV				
3+ 0	0.0151	0.07	QV				
3+ 5	0.0156	0.07	QV				
3+10	0.0161	0.07	Q V				
3+15	0.0166	0.07	Q V				
3+20	0.0170	0.07	Q V				
3+25	0.0175	0.07	Q V				
3+30	0.0180	0.07	Q V				
3+35	0.0185	0.07	Q V				
3+40	0.0190	0.07	Q V				
3+45	0.0195	0.07	Q V				
3+50	0.0200	0.07	Q V				
3+55	0.0205	0.07	Q V				
4+ 0	0.0210	0.07	Q V				
4+ 5	0.0215	0.07	Q V				
4+10	0.0220	0.07	Q V				
4+15	0.0225	0.07	Q V				
4+20	0.0230	0.07	Q V				
4+25	0.0235	0.07	Q V				
4+30	0.0240	0.07	Q V				
4+35	0.0245	0.07	Q V				
4+40	0.0250	0.08	Q V				
4+45	0.0256	0.08	Q V				
4+50	0.0261	0.08	Q V				
4+55	0.0266	0.08	Q V				
5+ 0	0.0271	0.08	Q V				
5+ 5	0.0277	0.08	Q V				
5+10	0.0282	0.08	Q V				
5+15	0.0287	0.08	Q V				
5+20	0.0293	0.08	Q V				
5+25	0.0298	0.08	Q V				
5+30	0.0303	0.08	Q V				
5+35	0.0309	0.08	Q V				
5+40	0.0314	0.08	Q V				
5+45	0.0320	0.08	Q V				
5+50	0.0325	0.08	Q V				
5+55	0.0331	0.08	Q V				
6+ 0	0.0337	0.08	Q V				
6+ 5	0.0342	0.08	Q V				
6+10	0.0348	0.08	Q V				
6+15	0.0353	0.08	Q V				

6+20	0.0359	0.08	Q	V				
6+25	0.0365	0.08	Q	V				
6+30	0.0371	0.08	Q	V				
6+35	0.0376	0.08	Q	V				
6+40	0.0382	0.08	Q	V				
6+45	0.0388	0.09	Q	V				
6+50	0.0394	0.09	Q	V				
6+55	0.0400	0.09	Q	V				
7+ 0	0.0406	0.09	Q	V				
7+ 5	0.0412	0.09	Q	V				
7+10	0.0418	0.09	Q	V				
7+15	0.0424	0.09	Q	V				
7+20	0.0430	0.09	Q	V				
7+25	0.0436	0.09	Q	V				
7+30	0.0442	0.09	Q	V				
7+35	0.0449	0.09	Q	V				
7+40	0.0455	0.09	Q	V				
7+45	0.0461	0.09	Q	V				
7+50	0.0467	0.09	Q	V				
7+55	0.0474	0.09	Q	V				
8+ 0	0.0480	0.09	Q	V				
8+ 5	0.0487	0.09	Q	V				
8+10	0.0493	0.09	Q	V				
8+15	0.0500	0.09	Q	V				
8+20	0.0506	0.10	Q	V				
8+25	0.0513	0.10	Q	V				
8+30	0.0519	0.10	Q	V				
8+35	0.0526	0.10	Q	V				
8+40	0.0533	0.10	Q	V				
8+45	0.0540	0.10	Q	V				
8+50	0.0546	0.10	Q	V				
8+55	0.0553	0.10	Q	V				
9+ 0	0.0560	0.10	Q	V				
9+ 5	0.0567	0.10	Q	V				
9+10	0.0574	0.10	Q	V				
9+15	0.0581	0.10	Q	V				
9+20	0.0589	0.10	Q	V				
9+25	0.0596	0.10	Q	V				
9+30	0.0603	0.11	Q	V				
9+35	0.0610	0.11	Q	V				
9+40	0.0618	0.11	Q	V				
9+45	0.0625	0.11	Q	V				
9+50	0.0633	0.11	Q	V				
9+55	0.0640	0.11	Q	V				
10+ 0	0.0648	0.11	Q	V				
10+ 5	0.0655	0.11	Q	V				
10+10	0.0663	0.11	Q	V				
10+15	0.0671	0.11	Q	V				
10+20	0.0679	0.11	Q	V				
10+25	0.0687	0.12	Q	V				

10+30	0.0695	0.12	Q	V				
10+35	0.0703	0.12	Q	V				
10+40	0.0711	0.12	Q	V				
10+45	0.0719	0.12	Q	V				
10+50	0.0728	0.12	Q	V				
10+55	0.0736	0.12	Q	V				
11+ 0	0.0744	0.12	Q	V				
11+ 5	0.0753	0.12	Q	V				
11+10	0.0762	0.13	Q	V				
11+15	0.0770	0.13	Q	V				
11+20	0.0779	0.13	Q	V				
11+25	0.0788	0.13	Q	V				
11+30	0.0797	0.13	Q	V				
11+35	0.0806	0.13	Q	V				
11+40	0.0816	0.13	Q	V				
11+45	0.0825	0.14	Q	V				
11+50	0.0834	0.14	Q	V				
11+55	0.0844	0.14	Q	V				
12+ 0	0.0854	0.14	Q	V				
12+ 5	0.0863	0.14	Q	V				
12+10	0.0873	0.14	Q	V				
12+15	0.0882	0.13	Q	V				
12+20	0.0891	0.14	Q	V				
12+25	0.0901	0.14	Q	V				
12+30	0.0910	0.14	Q	V				
12+35	0.0920	0.14	Q	V				
12+40	0.0929	0.14	Q	V				
12+45	0.0939	0.14	Q	V				
12+50	0.0949	0.15	Q	V				
12+55	0.0960	0.15	Q	V				
13+ 0	0.0970	0.15	Q	V				
13+ 5	0.0980	0.15	Q	V				
13+10	0.0991	0.16	Q	V				
13+15	0.1002	0.16	Q	V				
13+20	0.1013	0.16	Q	V				
13+25	0.1025	0.16	Q	V				
13+30	0.1036	0.17	Q	V				
13+35	0.1048	0.17	Q	V				
13+40	0.1060	0.17	Q	V				
13+45	0.1072	0.18	Q	V				
13+50	0.1085	0.18	Q	V				
13+55	0.1098	0.19	Q	V				
14+ 0	0.1111	0.19	Q	V				
14+ 5	0.1124	0.20	Q	V				
14+10	0.1138	0.20	Q	V				
14+15	0.1152	0.21	Q	V				
14+20	0.1167	0.21	Q	V				
14+25	0.1182	0.22	Q	V				
14+30	0.1198	0.23	Q	V				
14+35	0.1214	0.23	Q	V				

14+40	0.1230	0.24	Q		V			
14+45	0.1248	0.25	Q		V			
14+50	0.1266	0.26	Q		V			
14+55	0.1284	0.27	Q		V			
15+ 0	0.1304	0.28	Q		V			
15+ 5	0.1324	0.29	Q		V			
15+10	0.1345	0.31	Q		V			
15+15	0.1368	0.33	Q		V			
15+20	0.1392	0.35	Q		V			
15+25	0.1417	0.36	Q		V			
15+30	0.1441	0.36	Q		V			
15+35	0.1467	0.37	Q		V			
15+40	0.1495	0.41	Q		V			
15+45	0.1526	0.45	Q		V			
15+50	0.1562	0.52	Q		V			
15+55	0.1605	0.63	Q		V			
16+ 0	0.1664	0.85	Q		V			
16+ 5	0.1771	1.55	Q		V			
16+10	0.2007	3.43	Q	Q		V		
16+15	0.2159	2.21	Q			V		
16+20	0.2248	1.29	Q			V		
16+25	0.2311	0.91	Q			V		
16+30	0.2360	0.72	Q			V		
16+35	0.2401	0.59	Q			V		
16+40	0.2434	0.49	Q			V		
16+45	0.2462	0.40	Q			V		
16+50	0.2487	0.36	Q			V		
16+55	0.2509	0.32	Q			V		
17+ 0	0.2528	0.28	Q			V		
17+ 5	0.2545	0.24	Q			V		
17+10	0.2560	0.22	Q			V		
17+15	0.2574	0.21	Q			V		
17+20	0.2588	0.20	Q			V		
17+25	0.2601	0.19	Q			V		
17+30	0.2613	0.18	Q			V		
17+35	0.2625	0.17	Q			V		
17+40	0.2637	0.17	Q			V		
17+45	0.2648	0.16	Q			V		
17+50	0.2658	0.15	Q			V		
17+55	0.2668	0.15	Q			V		
18+ 0	0.2678	0.14	Q			V		
18+ 5	0.2688	0.14	Q			V		
18+10	0.2698	0.14	Q			V		
18+15	0.2708	0.14	Q			V		
18+20	0.2717	0.14	Q			V		
18+25	0.2727	0.14	Q			V		
18+30	0.2736	0.13	Q			V		
18+35	0.2745	0.13	Q			V		
18+40	0.2754	0.13	Q			V		
18+45	0.2763	0.13	Q			V		

18+50	0.2771	0.12	Q				V
18+55	0.2780	0.12	Q				V
19+ 0	0.2788	0.12	Q				V
19+ 5	0.2796	0.12	Q				V
19+10	0.2804	0.12	Q				V
19+15	0.2812	0.11	Q				V
19+20	0.2819	0.11	Q				V
19+25	0.2827	0.11	Q				V
19+30	0.2834	0.11	Q				V
19+35	0.2842	0.11	Q				V
19+40	0.2849	0.10	Q				V
19+45	0.2856	0.10	Q				V
19+50	0.2863	0.10	Q				V
19+55	0.2870	0.10	Q				V
20+ 0	0.2877	0.10	Q				V
20+ 5	0.2883	0.10	Q				V
20+10	0.2890	0.10	Q				V
20+15	0.2896	0.09	Q				V
20+20	0.2903	0.09	Q				V
20+25	0.2909	0.09	Q				V
20+30	0.2915	0.09	Q				V
20+35	0.2922	0.09	Q				V
20+40	0.2928	0.09	Q				V
20+45	0.2934	0.09	Q				V
20+50	0.2940	0.09	Q				V
20+55	0.2946	0.09	Q				V
21+ 0	0.2952	0.09	Q				V
21+ 5	0.2957	0.08	Q				V
21+10	0.2963	0.08	Q				V
21+15	0.2969	0.08	Q				V
21+20	0.2974	0.08	Q				V
21+25	0.2980	0.08	Q				V
21+30	0.2985	0.08	Q				V
21+35	0.2991	0.08	Q				V
21+40	0.2996	0.08	Q				V
21+45	0.3002	0.08	Q				V
21+50	0.3007	0.08	Q				V
21+55	0.3012	0.08	Q				V
22+ 0	0.3017	0.08	Q				V
22+ 5	0.3023	0.07	Q				V
22+10	0.3028	0.07	Q				V
22+15	0.3033	0.07	Q				V
22+20	0.3038	0.07	Q				V
22+25	0.3043	0.07	Q				V
22+30	0.3048	0.07	Q				V
22+35	0.3052	0.07	Q				V
22+40	0.3057	0.07	Q				V
22+45	0.3062	0.07	Q				V
22+50	0.3067	0.07	Q				V
22+55	0.3072	0.07	Q				V

23+ 0	0.3076	0.07	Q				V
23+ 5	0.3081	0.07	Q				V
23+10	0.3086	0.07	Q				V
23+15	0.3090	0.07	Q				V
23+20	0.3095	0.07	Q				V
23+25	0.3099	0.07	Q				V
23+30	0.3104	0.07	Q				V
23+35	0.3108	0.06	Q				V
23+40	0.3113	0.06	Q				V
23+45	0.3117	0.06	Q				V
23+50	0.3121	0.06	Q				V
23+55	0.3126	0.06	Q				V
24+ 0	0.3130	0.06	Q				V

Unit Hydrograph Analysis

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Study date 01/05/23

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6277

JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
100 YEAR STORM UNIT HYDROGRAPH, POST CONDITION
AREA A3

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
1.29	1	0.55

Rainfall data for year 2		
1.29	6	0.67

Rainfall data for year 2		
1.29	24	1.12

Rainfall data for year 100

1.29	1	0.95
------	---	------

Rainfall data for year 100

1.29	6	1.82
------	---	------

Rainfall data for year 100

1.29	24	3.18
------	----	------

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***** Area-averaged max loss rate, Fm *****

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
91.0	98.2	1.29	1.000	0.036	0.100	0.004

Area-averaged adjusted loss rate Fm (In/Hr) = 0.004

***** Area-Averaged low loss rate fraction, Yb *****

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
0.13	0.100	91.0	98.2	0.18	0.934
1.16	0.900	98.0	98.0	0.20	0.927

Area-averaged catchment yield fraction, Y = 0.928

Area-averaged low loss fraction, Yb = 0.072

User entry of time of concentration = 0.140 (hours)

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Watershed area = 1.29(Ac.)

Catchment Lag time = 0.112 hours

Unit interval = 5.000 minutes

Unit interval percentage of lag time = 74.4048

Hydrograph baseflow = 0.00(CFS)

Average maximum watershed loss rate(Fm) = 0.004(In/Hr)

Average low loss rate fraction (Yb) = 0.072 (decimal)

DESERT S-Graph Selected

Computed peak 5-minute rainfall = 0.450(In)

Computed peak 30-minute rainfall = 0.771(In)

Specified peak 1-hour rainfall = 0.949(In)

Computed peak 3-hour rainfall = 1.415(In)

Specified peak 6-hour rainfall = 1.820(In)

Specified peak 24-hour rainfall = 3.180(In)

Rainfall depth area reduction factors:

Using a total area of 1.29(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.450(In)

30-minute factor = 1.000	Adjusted rainfall = 0.771(In)
1-hour factor = 1.000	Adjusted rainfall = 0.949(In)
3-hour factor = 1.000	Adjusted rainfall = 1.415(In)
6-hour factor = 1.000	Adjusted rainfall = 1.820(In)
24-hour factor = 1.000	Adjusted rainfall = 3.180(In)

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

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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))
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(K = 15.56 (CFS))

1	9.034	1.406
2	53.738	6.958
3	75.578	3.399
4	85.187	1.496
5	90.703	0.859
6	94.161	0.538
7	96.450	0.356
8	97.835	0.215
9	98.690	0.133
10	99.507	0.127
11	100.000	0.077

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.4503	0.4503
2	0.5544	0.1041
3	0.6261	0.0717
4	0.6825	0.0564
5	0.7298	0.0473
6	0.7708	0.0410
7	0.8073	0.0365
8	0.8403	0.0330
9	0.8705	0.0302
10	0.8984	0.0280
11	0.9245	0.0261
12	0.9489	0.0245
13	0.9770	0.0280
14	1.0036	0.0267
15	1.0291	0.0255
16	1.0535	0.0244
17	1.0770	0.0235
18	1.0996	0.0226
19	1.1215	0.0218
20	1.1426	0.0211
21	1.1630	0.0204
22	1.1828	0.0198

23	1.2021	0.0193
24	1.2208	0.0187
25	1.2391	0.0182
26	1.2569	0.0178
27	1.2742	0.0174
28	1.2912	0.0170
29	1.3078	0.0166
30	1.3240	0.0162
31	1.3399	0.0159
32	1.3554	0.0156
33	1.3707	0.0152
34	1.3856	0.0150
35	1.4003	0.0147
36	1.4147	0.0144
37	1.4289	0.0142
38	1.4428	0.0139
39	1.4565	0.0137
40	1.4699	0.0135
41	1.4832	0.0133
42	1.4962	0.0130
43	1.5091	0.0129
44	1.5217	0.0127
45	1.5342	0.0125
46	1.5465	0.0123
47	1.5586	0.0121
48	1.5706	0.0120
49	1.5824	0.0118
50	1.5941	0.0117
51	1.6056	0.0115
52	1.6170	0.0114
53	1.6282	0.0112
54	1.6393	0.0111
55	1.6503	0.0110
56	1.6611	0.0108
57	1.6718	0.0107
58	1.6824	0.0106
59	1.6929	0.0105
60	1.7033	0.0104
61	1.7136	0.0103
62	1.7237	0.0102
63	1.7338	0.0101
64	1.7437	0.0100
65	1.7536	0.0099
66	1.7633	0.0098
67	1.7730	0.0097
68	1.7826	0.0096
69	1.7921	0.0095
70	1.8015	0.0094
71	1.8108	0.0093
72	1.8200	0.0092

73	1.8301	0.0101
74	1.8402	0.0101
75	1.8501	0.0100
76	1.8600	0.0099
77	1.8699	0.0098
78	1.8796	0.0097
79	1.8893	0.0097
80	1.8988	0.0096
81	1.9084	0.0095
82	1.9178	0.0094
83	1.9272	0.0094
84	1.9365	0.0093
85	1.9458	0.0092
86	1.9549	0.0092
87	1.9641	0.0091
88	1.9731	0.0091
89	1.9821	0.0090
90	1.9910	0.0089
91	1.9999	0.0089
92	2.0087	0.0088
93	2.0175	0.0088
94	2.0262	0.0087
95	2.0349	0.0086
96	2.0434	0.0086
97	2.0520	0.0085
98	2.0605	0.0085
99	2.0689	0.0084
100	2.0773	0.0084
101	2.0856	0.0083
102	2.0939	0.0083
103	2.1022	0.0082
104	2.1104	0.0082
105	2.1185	0.0081
106	2.1266	0.0081
107	2.1347	0.0081
108	2.1427	0.0080
109	2.1506	0.0080
110	2.1586	0.0079
111	2.1664	0.0079
112	2.1743	0.0078
113	2.1821	0.0078
114	2.1898	0.0078
115	2.1975	0.0077
116	2.2052	0.0077
117	2.2128	0.0076
118	2.2204	0.0076
119	2.2280	0.0076
120	2.2355	0.0075
121	2.2430	0.0075
122	2.2504	0.0074

123	2.2578	0.0074
124	2.2652	0.0074
125	2.2725	0.0073
126	2.2798	0.0073
127	2.2871	0.0073
128	2.2943	0.0072
129	2.3015	0.0072
130	2.3087	0.0072
131	2.3158	0.0071
132	2.3229	0.0071
133	2.3300	0.0071
134	2.3370	0.0070
135	2.3440	0.0070
136	2.3510	0.0070
137	2.3580	0.0069
138	2.3649	0.0069
139	2.3718	0.0069
140	2.3786	0.0069
141	2.3854	0.0068
142	2.3922	0.0068
143	2.3990	0.0068
144	2.4057	0.0067
145	2.4124	0.0067
146	2.4191	0.0067
147	2.4258	0.0067
148	2.4324	0.0066
149	2.4390	0.0066
150	2.4456	0.0066
151	2.4521	0.0066
152	2.4587	0.0065
153	2.4652	0.0065
154	2.4716	0.0065
155	2.4781	0.0064
156	2.4845	0.0064
157	2.4909	0.0064
158	2.4973	0.0064
159	2.5036	0.0064
160	2.5100	0.0063
161	2.5163	0.0063
162	2.5225	0.0063
163	2.5288	0.0063
164	2.5350	0.0062
165	2.5412	0.0062
166	2.5474	0.0062
167	2.5536	0.0062
168	2.5597	0.0061
169	2.5659	0.0061
170	2.5720	0.0061
171	2.5781	0.0061
172	2.5841	0.0061

173	2.5901	0.0060
174	2.5962	0.0060
175	2.6022	0.0060
176	2.6081	0.0060
177	2.6141	0.0060
178	2.6200	0.0059
179	2.6259	0.0059
180	2.6318	0.0059
181	2.6377	0.0059
182	2.6436	0.0059
183	2.6494	0.0058
184	2.6552	0.0058
185	2.6610	0.0058
186	2.6668	0.0058
187	2.6726	0.0058
188	2.6783	0.0057
189	2.6840	0.0057
190	2.6897	0.0057
191	2.6954	0.0057
192	2.7011	0.0057
193	2.7068	0.0057
194	2.7124	0.0056
195	2.7180	0.0056
196	2.7236	0.0056
197	2.7292	0.0056
198	2.7348	0.0056
199	2.7403	0.0056
200	2.7459	0.0055
201	2.7514	0.0055
202	2.7569	0.0055
203	2.7624	0.0055
204	2.7678	0.0055
205	2.7733	0.0055
206	2.7787	0.0054
207	2.7841	0.0054
208	2.7896	0.0054
209	2.7949	0.0054
210	2.8003	0.0054
211	2.8057	0.0054
212	2.8110	0.0053
213	2.8164	0.0053
214	2.8217	0.0053
215	2.8270	0.0053
216	2.8323	0.0053
217	2.8375	0.0053
218	2.8428	0.0053
219	2.8480	0.0052
220	2.8533	0.0052
221	2.8585	0.0052
222	2.8637	0.0052

223	2.8689	0.0052
224	2.8740	0.0052
225	2.8792	0.0052
226	2.8843	0.0051
227	2.8895	0.0051
228	2.8946	0.0051
229	2.8997	0.0051
230	2.9048	0.0051
231	2.9098	0.0051
232	2.9149	0.0051
233	2.9200	0.0051
234	2.9250	0.0050
235	2.9300	0.0050
236	2.9350	0.0050
237	2.9400	0.0050
238	2.9450	0.0050
239	2.9500	0.0050
240	2.9550	0.0050
241	2.9599	0.0050
242	2.9649	0.0049
243	2.9698	0.0049
244	2.9747	0.0049
245	2.9796	0.0049
246	2.9845	0.0049
247	2.9894	0.0049
248	2.9942	0.0049
249	2.9991	0.0049
250	3.0039	0.0048
251	3.0088	0.0048
252	3.0136	0.0048
253	3.0184	0.0048
254	3.0232	0.0048
255	3.0280	0.0048
256	3.0327	0.0048
257	3.0375	0.0048
258	3.0423	0.0048
259	3.0470	0.0047
260	3.0517	0.0047
261	3.0564	0.0047
262	3.0612	0.0047
263	3.0659	0.0047
264	3.0705	0.0047
265	3.0752	0.0047
266	3.0799	0.0047
267	3.0845	0.0047
268	3.0892	0.0046
269	3.0938	0.0046
270	3.0984	0.0046
271	3.1031	0.0046
272	3.1077	0.0046

273	3.1123	0.0046
274	3.1168	0.0046
275	3.1214	0.0046
276	3.1260	0.0046
277	3.1305	0.0046
278	3.1351	0.0045
279	3.1396	0.0045
280	3.1441	0.0045
281	3.1487	0.0045
282	3.1532	0.0045
283	3.1577	0.0045
284	3.1621	0.0045
285	3.1666	0.0045
286	3.1711	0.0045
287	3.1755	0.0045
288	3.1800	0.0044

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0044	0.0003	0.0042
2	0.0045	0.0003	0.0042
3	0.0045	0.0003	0.0042
4	0.0045	0.0003	0.0042
5	0.0045	0.0003	0.0042
6	0.0045	0.0003	0.0042
7	0.0045	0.0003	0.0042
8	0.0045	0.0003	0.0042
9	0.0046	0.0003	0.0043
10	0.0046	0.0003	0.0043
11	0.0046	0.0003	0.0043
12	0.0046	0.0003	0.0043
13	0.0046	0.0003	0.0043
14	0.0046	0.0003	0.0043
15	0.0047	0.0003	0.0044
16	0.0047	0.0003	0.0044
17	0.0047	0.0003	0.0044
18	0.0047	0.0003	0.0044
19	0.0047	0.0003	0.0044
20	0.0047	0.0003	0.0044
21	0.0048	0.0003	0.0045
22	0.0048	0.0003	0.0045
23	0.0048	0.0003	0.0045
24	0.0048	0.0003	0.0045
25	0.0048	0.0003	0.0045
26	0.0048	0.0003	0.0045
27	0.0049	0.0003	0.0046
28	0.0049	0.0003	0.0046
29	0.0049	0.0003	0.0046

30	0.0049	0.0003	0.0046
31	0.0049	0.0003	0.0046
32	0.0049	0.0003	0.0046
33	0.0050	0.0003	0.0047
34	0.0050	0.0003	0.0047
35	0.0050	0.0003	0.0047
36	0.0050	0.0003	0.0047
37	0.0050	0.0003	0.0047
38	0.0051	0.0003	0.0048
39	0.0051	0.0003	0.0048
40	0.0051	0.0003	0.0048
41	0.0051	0.0003	0.0048
42	0.0051	0.0003	0.0048
43	0.0052	0.0003	0.0049
44	0.0052	0.0003	0.0049
45	0.0052	0.0003	0.0049
46	0.0052	0.0003	0.0049
47	0.0052	0.0003	0.0049
48	0.0053	0.0003	0.0050
49	0.0053	0.0003	0.0050
50	0.0053	0.0003	0.0050
51	0.0053	0.0003	0.0050
52	0.0053	0.0003	0.0050
53	0.0054	0.0003	0.0051
54	0.0054	0.0003	0.0051
55	0.0054	0.0003	0.0051
56	0.0054	0.0003	0.0051
57	0.0055	0.0003	0.0052
58	0.0055	0.0003	0.0052
59	0.0055	0.0003	0.0052
60	0.0055	0.0003	0.0052
61	0.0056	0.0003	0.0053
62	0.0056	0.0003	0.0053
63	0.0056	0.0003	0.0053
64	0.0056	0.0003	0.0053
65	0.0057	0.0003	0.0054
66	0.0057	0.0003	0.0054
67	0.0057	0.0003	0.0054
68	0.0057	0.0003	0.0054
69	0.0058	0.0003	0.0055
70	0.0058	0.0003	0.0055
71	0.0058	0.0003	0.0055
72	0.0059	0.0003	0.0056
73	0.0059	0.0003	0.0056
74	0.0059	0.0003	0.0056
75	0.0060	0.0003	0.0057
76	0.0060	0.0003	0.0057
77	0.0060	0.0003	0.0057
78	0.0060	0.0003	0.0057
79	0.0061	0.0003	0.0058

80	0.0061	0.0003	0.0058
81	0.0061	0.0003	0.0058
82	0.0062	0.0003	0.0059
83	0.0062	0.0003	0.0059
84	0.0062	0.0003	0.0059
85	0.0063	0.0003	0.0060
86	0.0063	0.0003	0.0060
87	0.0064	0.0003	0.0061
88	0.0064	0.0003	0.0061
89	0.0064	0.0003	0.0061
90	0.0064	0.0003	0.0062
91	0.0065	0.0003	0.0062
92	0.0065	0.0003	0.0062
93	0.0066	0.0003	0.0063
94	0.0066	0.0003	0.0063
95	0.0067	0.0003	0.0064
96	0.0067	0.0003	0.0064
97	0.0067	0.0003	0.0064
98	0.0068	0.0003	0.0065
99	0.0068	0.0003	0.0065
100	0.0069	0.0003	0.0066
101	0.0069	0.0003	0.0066
102	0.0069	0.0003	0.0066
103	0.0070	0.0003	0.0067
104	0.0070	0.0003	0.0067
105	0.0071	0.0003	0.0068
106	0.0071	0.0003	0.0068
107	0.0072	0.0003	0.0069
108	0.0072	0.0003	0.0069
109	0.0073	0.0003	0.0070
110	0.0073	0.0003	0.0070
111	0.0074	0.0003	0.0071
112	0.0074	0.0003	0.0071
113	0.0075	0.0003	0.0072
114	0.0076	0.0003	0.0073
115	0.0076	0.0003	0.0073
116	0.0077	0.0003	0.0074
117	0.0078	0.0003	0.0075
118	0.0078	0.0003	0.0075
119	0.0079	0.0003	0.0076
120	0.0079	0.0003	0.0076
121	0.0080	0.0003	0.0077
122	0.0081	0.0003	0.0078
123	0.0081	0.0003	0.0078
124	0.0082	0.0003	0.0079
125	0.0083	0.0003	0.0080
126	0.0083	0.0003	0.0080
127	0.0084	0.0003	0.0081
128	0.0085	0.0003	0.0082
129	0.0086	0.0003	0.0083

130	0.0086	0.0003	0.0084
131	0.0088	0.0003	0.0085
132	0.0088	0.0003	0.0085
133	0.0089	0.0003	0.0086
134	0.0090	0.0003	0.0087
135	0.0091	0.0003	0.0088
136	0.0092	0.0003	0.0089
137	0.0093	0.0003	0.0090
138	0.0094	0.0003	0.0091
139	0.0095	0.0003	0.0092
140	0.0096	0.0003	0.0093
141	0.0097	0.0003	0.0094
142	0.0098	0.0003	0.0095
143	0.0100	0.0003	0.0097
144	0.0101	0.0003	0.0098
145	0.0092	0.0003	0.0089
146	0.0093	0.0003	0.0090
147	0.0095	0.0003	0.0092
148	0.0096	0.0003	0.0093
149	0.0098	0.0003	0.0095
150	0.0099	0.0003	0.0096
151	0.0101	0.0003	0.0098
152	0.0102	0.0003	0.0099
153	0.0104	0.0003	0.0101
154	0.0105	0.0003	0.0102
155	0.0107	0.0003	0.0104
156	0.0108	0.0003	0.0105
157	0.0111	0.0003	0.0108
158	0.0112	0.0003	0.0109
159	0.0115	0.0003	0.0112
160	0.0117	0.0003	0.0114
161	0.0120	0.0003	0.0117
162	0.0121	0.0003	0.0118
163	0.0125	0.0003	0.0122
164	0.0127	0.0003	0.0124
165	0.0130	0.0003	0.0127
166	0.0133	0.0003	0.0130
167	0.0137	0.0003	0.0134
168	0.0139	0.0003	0.0136
169	0.0144	0.0003	0.0141
170	0.0147	0.0003	0.0144
171	0.0152	0.0003	0.0149
172	0.0156	0.0003	0.0153
173	0.0162	0.0003	0.0159
174	0.0166	0.0003	0.0163
175	0.0174	0.0003	0.0171
176	0.0178	0.0003	0.0175
177	0.0187	0.0003	0.0184
178	0.0193	0.0003	0.0190
179	0.0204	0.0003	0.0201

180	0.0211	0.0003	0.0208
181	0.0226	0.0003	0.0223
182	0.0235	0.0003	0.0232
183	0.0255	0.0003	0.0252
184	0.0267	0.0003	0.0264
185	0.0245	0.0003	0.0242
186	0.0261	0.0003	0.0258
187	0.0302	0.0003	0.0299
188	0.0330	0.0003	0.0327
189	0.0410	0.0003	0.0407
190	0.0473	0.0003	0.0470
191	0.0717	0.0003	0.0714
192	0.1041	0.0003	0.1038
193	0.4503	0.0003	0.4500
194	0.0564	0.0003	0.0561
195	0.0365	0.0003	0.0362
196	0.0280	0.0003	0.0277
197	0.0280	0.0003	0.0277
198	0.0244	0.0003	0.0241
199	0.0218	0.0003	0.0215
200	0.0198	0.0003	0.0195
201	0.0182	0.0003	0.0180
202	0.0170	0.0003	0.0167
203	0.0159	0.0003	0.0156
204	0.0150	0.0003	0.0147
205	0.0142	0.0003	0.0139
206	0.0135	0.0003	0.0132
207	0.0129	0.0003	0.0126
208	0.0123	0.0003	0.0120
209	0.0118	0.0003	0.0115
210	0.0114	0.0003	0.0111
211	0.0110	0.0003	0.0107
212	0.0106	0.0003	0.0103
213	0.0103	0.0003	0.0100
214	0.0100	0.0003	0.0097
215	0.0097	0.0003	0.0094
216	0.0094	0.0003	0.0091
217	0.0101	0.0003	0.0098
218	0.0099	0.0003	0.0096
219	0.0097	0.0003	0.0094
220	0.0094	0.0003	0.0092
221	0.0092	0.0003	0.0089
222	0.0091	0.0003	0.0088
223	0.0089	0.0003	0.0086
224	0.0087	0.0003	0.0084
225	0.0085	0.0003	0.0082
226	0.0084	0.0003	0.0081
227	0.0082	0.0003	0.0079
228	0.0081	0.0003	0.0078
229	0.0080	0.0003	0.0077

230	0.0078	0.0003	0.0075
231	0.0077	0.0003	0.0074
232	0.0076	0.0003	0.0073
233	0.0075	0.0003	0.0072
234	0.0074	0.0003	0.0071
235	0.0073	0.0003	0.0070
236	0.0072	0.0003	0.0069
237	0.0071	0.0003	0.0068
238	0.0070	0.0003	0.0067
239	0.0069	0.0003	0.0066
240	0.0068	0.0003	0.0065
241	0.0067	0.0003	0.0064
242	0.0066	0.0003	0.0063
243	0.0066	0.0003	0.0063
244	0.0065	0.0003	0.0062
245	0.0064	0.0003	0.0061
246	0.0063	0.0003	0.0060
247	0.0063	0.0003	0.0060
248	0.0062	0.0003	0.0059
249	0.0061	0.0003	0.0058
250	0.0061	0.0003	0.0058
251	0.0060	0.0003	0.0057
252	0.0059	0.0003	0.0056
253	0.0059	0.0003	0.0056
254	0.0058	0.0003	0.0055
255	0.0058	0.0003	0.0055
256	0.0057	0.0003	0.0054
257	0.0057	0.0003	0.0054
258	0.0056	0.0003	0.0053
259	0.0056	0.0003	0.0053
260	0.0055	0.0003	0.0052
261	0.0055	0.0003	0.0052
262	0.0054	0.0003	0.0051
263	0.0054	0.0003	0.0051
264	0.0053	0.0003	0.0050
265	0.0053	0.0003	0.0050
266	0.0052	0.0003	0.0049
267	0.0052	0.0003	0.0049
268	0.0051	0.0003	0.0048
269	0.0051	0.0003	0.0048
270	0.0051	0.0003	0.0048
271	0.0050	0.0003	0.0047
272	0.0050	0.0003	0.0047
273	0.0050	0.0003	0.0047
274	0.0049	0.0003	0.0046
275	0.0049	0.0003	0.0046
276	0.0048	0.0003	0.0045
277	0.0048	0.0003	0.0045
278	0.0048	0.0003	0.0045
279	0.0047	0.0003	0.0044

280	0.0047	0.0003	0.0044
281	0.0047	0.0003	0.0044
282	0.0046	0.0003	0.0043
283	0.0046	0.0003	0.0043
284	0.0046	0.0003	0.0043
285	0.0046	0.0003	0.0043
286	0.0045	0.0003	0.0042
287	0.0045	0.0003	0.0042
288	0.0045	0.0003	0.0042

 Total soil rain loss = 0.09(In)
 Total effective rainfall = 3.09(In)
 Peak flow rate in flood hydrograph = 3.76(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.01	Q				
0+10	0.0003	0.03	Q				
0+15	0.0006	0.05	Q				
0+20	0.0010	0.06	Q				
0+25	0.0014	0.06	Q				
0+30	0.0018	0.06	Q				
0+35	0.0023	0.06	Q				
0+40	0.0027	0.06	Q				
0+45	0.0032	0.07	Q				
0+50	0.0036	0.07	Q				
0+55	0.0041	0.07	Q				
1+ 0	0.0045	0.07	Q				
1+ 5	0.0050	0.07	Q				
1+10	0.0054	0.07	Q				
1+15	0.0059	0.07	Q				
1+20	0.0064	0.07	Q				
1+25	0.0068	0.07	Q				
1+30	0.0073	0.07	Q				
1+35	0.0078	0.07	Q				
1+40	0.0083	0.07	Q				
1+45	0.0087	0.07	QV				
1+50	0.0092	0.07	QV				
1+55	0.0097	0.07	QV				
2+ 0	0.0102	0.07	QV				
2+ 5	0.0106	0.07	QV				
2+10	0.0111	0.07	QV				

2+15	0.0116	0.07	QV
2+20	0.0121	0.07	QV
2+25	0.0126	0.07	QV
2+30	0.0131	0.07	QV
2+35	0.0136	0.07	QV
2+40	0.0141	0.07	QV
2+45	0.0146	0.07	QV
2+50	0.0150	0.07	QV
2+55	0.0155	0.07	QV
3+ 0	0.0161	0.07	QV
3+ 5	0.0166	0.07	QV
3+10	0.0171	0.07	Q V
3+15	0.0176	0.07	Q V
3+20	0.0181	0.07	Q V
3+25	0.0186	0.07	Q V
3+30	0.0191	0.07	Q V
3+35	0.0196	0.07	Q V
3+40	0.0201	0.08	Q V
3+45	0.0207	0.08	Q V
3+50	0.0212	0.08	Q V
3+55	0.0217	0.08	Q V
4+ 0	0.0222	0.08	Q V
4+ 5	0.0228	0.08	Q V
4+10	0.0233	0.08	Q V
4+15	0.0238	0.08	Q V
4+20	0.0244	0.08	Q V
4+25	0.0249	0.08	Q V
4+30	0.0254	0.08	Q V
4+35	0.0260	0.08	Q V
4+40	0.0265	0.08	Q V
4+45	0.0271	0.08	Q V
4+50	0.0276	0.08	Q V
4+55	0.0282	0.08	Q V
5+ 0	0.0287	0.08	Q V
5+ 5	0.0293	0.08	Q V
5+10	0.0299	0.08	Q V
5+15	0.0304	0.08	Q V
5+20	0.0310	0.08	Q V
5+25	0.0316	0.08	Q V
5+30	0.0321	0.08	Q V
5+35	0.0327	0.08	Q V
5+40	0.0333	0.08	Q V
5+45	0.0339	0.08	Q V
5+50	0.0345	0.08	Q V
5+55	0.0351	0.09	Q V
6+ 0	0.0356	0.09	Q V
6+ 5	0.0362	0.09	Q V
6+10	0.0368	0.09	Q V
6+15	0.0374	0.09	Q V
6+20	0.0380	0.09	Q V

6+25	0.0386	0.09	Q	V				
6+30	0.0393	0.09	Q	V				
6+35	0.0399	0.09	Q	V				
6+40	0.0405	0.09	Q	V				
6+45	0.0411	0.09	Q	V				
6+50	0.0417	0.09	Q	V				
6+55	0.0423	0.09	Q	V				
7+ 0	0.0430	0.09	Q	V				
7+ 5	0.0436	0.09	Q	V				
7+10	0.0442	0.09	Q	V				
7+15	0.0449	0.09	Q	V				
7+20	0.0455	0.09	Q	V				
7+25	0.0462	0.09	Q	V				
7+30	0.0468	0.09	Q	V				
7+35	0.0475	0.10	Q	V				
7+40	0.0481	0.10	Q	V				
7+45	0.0488	0.10	Q	V				
7+50	0.0495	0.10	Q	V				
7+55	0.0502	0.10	Q	V				
8+ 0	0.0508	0.10	Q	V				
8+ 5	0.0515	0.10	Q	V				
8+10	0.0522	0.10	Q	V				
8+15	0.0529	0.10	Q	V				
8+20	0.0536	0.10	Q	V				
8+25	0.0543	0.10	Q	V				
8+30	0.0550	0.10	Q	V				
8+35	0.0557	0.10	Q	V				
8+40	0.0564	0.10	Q	V				
8+45	0.0571	0.10	Q	V				
8+50	0.0578	0.11	Q	V				
8+55	0.0586	0.11	Q	V				
9+ 0	0.0593	0.11	Q	V				
9+ 5	0.0600	0.11	Q	V				
9+10	0.0608	0.11	Q	V				
9+15	0.0615	0.11	Q	V				
9+20	0.0623	0.11	Q	V				
9+25	0.0631	0.11	Q	V				
9+30	0.0638	0.11	Q	V				
9+35	0.0646	0.11	Q	V				
9+40	0.0654	0.11	Q	V				
9+45	0.0662	0.11	Q	V				
9+50	0.0670	0.12	Q	V				
9+55	0.0678	0.12	Q	V				
10+ 0	0.0686	0.12	Q	V				
10+ 5	0.0694	0.12	Q	V				
10+10	0.0702	0.12	Q	V				
10+15	0.0710	0.12	Q	V				
10+20	0.0718	0.12	Q	V				
10+25	0.0727	0.12	Q	V				
10+30	0.0735	0.12	Q	V				

10+35	0.0744	0.12	Q	V				
10+40	0.0753	0.13	Q	V				
10+45	0.0761	0.13	Q	V				
10+50	0.0770	0.13	Q	V				
10+55	0.0779	0.13	Q	V				
11+ 0	0.0788	0.13	Q	V				
11+ 5	0.0797	0.13	Q	V				
11+10	0.0806	0.13	Q	V				
11+15	0.0815	0.13	Q	V				
11+20	0.0825	0.14	Q	V				
11+25	0.0834	0.14	Q	V				
11+30	0.0844	0.14	Q	V				
11+35	0.0853	0.14	Q	V				
11+40	0.0863	0.14	Q	V				
11+45	0.0873	0.14	Q	V				
11+50	0.0883	0.15	Q	V				
11+55	0.0893	0.15	Q	V				
12+ 0	0.0903	0.15	Q	V				
12+ 5	0.0914	0.15	Q	V				
12+10	0.0924	0.14	Q	V				
12+15	0.0933	0.14	Q	V				
12+20	0.0943	0.14	Q	V				
12+25	0.0953	0.14	Q	V				
12+30	0.0963	0.15	Q	V				
12+35	0.0973	0.15	Q	V				
12+40	0.0984	0.15	Q	V				
12+45	0.0994	0.15	Q	V				
12+50	0.1005	0.15	Q	V				
12+55	0.1015	0.16	Q	V				
13+ 0	0.1026	0.16	Q	V				
13+ 5	0.1038	0.16	Q	V				
13+10	0.1049	0.16	Q	V				
13+15	0.1060	0.17	Q	V				
13+20	0.1072	0.17	Q	V				
13+25	0.1084	0.17	Q	V				
13+30	0.1096	0.18	Q	V				
13+35	0.1109	0.18	Q	V				
13+40	0.1122	0.19	Q	V				
13+45	0.1135	0.19	Q	V				
13+50	0.1148	0.19	Q	V				
13+55	0.1162	0.20	Q	V				
14+ 0	0.1176	0.20	Q	V				
14+ 5	0.1190	0.21	Q	V				
14+10	0.1205	0.21	Q	V				
14+15	0.1220	0.22	Q	V				
14+20	0.1235	0.23	Q	V				
14+25	0.1251	0.23	Q	V				
14+30	0.1268	0.24	Q	V				
14+35	0.1285	0.25	Q	V				
14+40	0.1303	0.26	Q	V				

14+45	0.1321	0.26	Q		V			
14+50	0.1340	0.28	Q		V			
14+55	0.1360	0.29	Q		V			
15+ 0	0.1380	0.30	Q		V			
15+ 5	0.1402	0.31	Q		V			
15+10	0.1425	0.33	Q		V			
15+15	0.1448	0.35	Q		V			
15+20	0.1474	0.37	Q		V			
15+25	0.1500	0.39	Q		V			
15+30	0.1527	0.38	Q		V			
15+35	0.1554	0.40	Q		V			
15+40	0.1584	0.43	Q		V			
15+45	0.1617	0.48	Q		V			
15+50	0.1656	0.56	Q		V			
15+55	0.1702	0.68	Q		V			
16+ 0	0.1766	0.93	Q		V			
16+ 5	0.1887	1.75	Q		V			
16+10	0.2145	3.76	Q		V			
16+15	0.2300	2.24	Q		V			
16+20	0.2391	1.32	Q		V			
16+25	0.2455	0.93	Q		V			
16+30	0.2505	0.73	Q		V			
16+35	0.2546	0.60	Q		V			
16+40	0.2580	0.49	Q		V			
16+45	0.2608	0.41	Q		V			
16+50	0.2634	0.37	Q		V			
16+55	0.2656	0.32	Q		V			
17+ 0	0.2674	0.27	Q		V			
17+ 5	0.2691	0.25	Q		V			
17+10	0.2707	0.23	Q		V			
17+15	0.2723	0.22	Q		V			
17+20	0.2737	0.21	Q		V			
17+25	0.2750	0.20	Q		V			
17+30	0.2763	0.19	Q		V			
17+35	0.2776	0.18	Q		V			
17+40	0.2788	0.17	Q		V			
17+45	0.2799	0.17	Q		V			
17+50	0.2810	0.16	Q		V			
17+55	0.2821	0.16	Q		V			
18+ 0	0.2832	0.15	Q		V			
18+ 5	0.2842	0.15	Q		V			
18+10	0.2852	0.15	Q		V			
18+15	0.2862	0.15	Q		V			
18+20	0.2873	0.15	Q		V			
18+25	0.2883	0.14	Q		V			
18+30	0.2892	0.14	Q		V			
18+35	0.2902	0.14	Q		V			
18+40	0.2911	0.14	Q		V			
18+45	0.2920	0.13	Q		V			
18+50	0.2929	0.13	Q		V			

18+55	0.2938	0.13	Q				V
19+ 0	0.2947	0.13	Q				V
19+ 5	0.2956	0.12	Q				V
19+10	0.2964	0.12	Q				V
19+15	0.2972	0.12	Q				V
19+20	0.2980	0.12	Q				V
19+25	0.2988	0.12	Q				V
19+30	0.2996	0.11	Q				V
19+35	0.3004	0.11	Q				V
19+40	0.3011	0.11	Q				V
19+45	0.3019	0.11	Q				V
19+50	0.3026	0.11	Q				V
19+55	0.3033	0.11	Q				V
20+ 0	0.3041	0.10	Q				V
20+ 5	0.3048	0.10	Q				V
20+10	0.3055	0.10	Q				V
20+15	0.3061	0.10	Q				V
20+20	0.3068	0.10	Q				V
20+25	0.3075	0.10	Q				V
20+30	0.3082	0.10	Q				V
20+35	0.3088	0.10	Q				V
20+40	0.3095	0.09	Q				V
20+45	0.3101	0.09	Q				V
20+50	0.3107	0.09	Q				V
20+55	0.3114	0.09	Q				V
21+ 0	0.3120	0.09	Q				V
21+ 5	0.3126	0.09	Q				V
21+10	0.3132	0.09	Q				V
21+15	0.3138	0.09	Q				V
21+20	0.3144	0.09	Q				V
21+25	0.3150	0.09	Q				V
21+30	0.3155	0.08	Q				V
21+35	0.3161	0.08	Q				V
21+40	0.3167	0.08	Q				V
21+45	0.3173	0.08	Q				V
21+50	0.3178	0.08	Q				V
21+55	0.3184	0.08	Q				V
22+ 0	0.3189	0.08	Q				V
22+ 5	0.3195	0.08	Q				V
22+10	0.3200	0.08	Q				V
22+15	0.3205	0.08	Q				V
22+20	0.3211	0.08	Q				V
22+25	0.3216	0.08	Q				V
22+30	0.3221	0.08	Q				V
22+35	0.3226	0.07	Q				V
22+40	0.3231	0.07	Q				V
22+45	0.3236	0.07	Q				V
22+50	0.3241	0.07	Q				V
22+55	0.3246	0.07	Q				V
23+ 0	0.3251	0.07	Q				V

23+ 5	0.3256	0.07	Q				V
23+10	0.3261	0.07	Q				V
23+15	0.3266	0.07	Q				V
23+20	0.3271	0.07	Q				V
23+25	0.3275	0.07	Q				V
23+30	0.3280	0.07	Q				V
23+35	0.3285	0.07	Q				V
23+40	0.3290	0.07	Q				V
23+45	0.3294	0.07	Q				V
23+50	0.3299	0.07	Q				V
23+55	0.3303	0.07	Q				V
24+ 0	0.3308	0.07	Q				V

Unit Hydrograph Analysis

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Study date 01/05/23

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6277

JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
100 YEAR STORM UNIT HYDROGRAPH, POST CONDITION
AREA A4

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
1.08	1	0.55

Rainfall data for year 2		
1.08	6	0.67

Rainfall data for year 2		
1.08	24	1.12

Rainfall data for year 100

1.08	1	0.95
------	---	------

Rainfall data for year 100

1.08	6	1.82
------	---	------

Rainfall data for year 100

1.08	24	3.18
------	----	------

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***** Area-averaged max loss rate, Fm *****

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
91.0	98.2	1.08	1.000	0.036	0.100	0.004

Area-averaged adjusted loss rate Fm (In/Hr) = 0.004

***** Area-Averaged low loss rate fraction, Yb *****

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
0.11	0.100	91.0	98.2	0.18	0.934
0.97	0.900	98.0	98.0	0.20	0.927

Area-averaged catchment yield fraction, Y = 0.928

Area-averaged low loss fraction, Yb = 0.072

User entry of time of concentration = 0.130 (hours)

+++++

Watershed area = 1.08(Ac.)

Catchment Lag time = 0.104 hours

Unit interval = 5.000 minutes

Unit interval percentage of lag time = 80.1282

Hydrograph baseflow = 0.00(CFS)

Average maximum watershed loss rate(Fm) = 0.004(In/Hr)

Average low loss rate fraction (Yb) = 0.072 (decimal)

DESERT S-Graph Selected

Computed peak 5-minute rainfall = 0.450(In)

Computed peak 30-minute rainfall = 0.771(In)

Specified peak 1-hour rainfall = 0.949(In)

Computed peak 3-hour rainfall = 1.415(In)

Specified peak 6-hour rainfall = 1.820(In)

Specified peak 24-hour rainfall = 3.180(In)

Rainfall depth area reduction factors:

Using a total area of 1.08(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.450(In)

30-minute factor = 1.000	Adjusted rainfall = 0.771(In)
1-hour factor = 1.000	Adjusted rainfall = 0.949(In)
3-hour factor = 1.000	Adjusted rainfall = 1.415(In)
6-hour factor = 1.000	Adjusted rainfall = 1.820(In)
24-hour factor = 1.000	Adjusted rainfall = 3.180(In)

U n i t H y d r o g r a p h		
Interval	'S' Graph	Unit Hydrograph
Number	Mean values	((CFS))
	(K =	13.06 (CFS))
1	10.763	1.406
2	57.466	6.100
3	77.881	2.666
4	86.957	1.185
5	92.047	0.665
6	95.237	0.417
7	97.251	0.263
8	98.331	0.141
9	99.257	0.121
10	100.000	0.097

Peak Unit	Adjusted mass rainfall	Unit rainfall
Number	(In)	(In)
1	0.4503	0.4503
2	0.5544	0.1041
3	0.6261	0.0717
4	0.6825	0.0564
5	0.7298	0.0473
6	0.7708	0.0410
7	0.8073	0.0365
8	0.8403	0.0330
9	0.8705	0.0302
10	0.8984	0.0280
11	0.9245	0.0261
12	0.9490	0.0245
13	0.9770	0.0280
14	1.0036	0.0267
15	1.0291	0.0255
16	1.0536	0.0244
17	1.0770	0.0235
18	1.0996	0.0226
19	1.1215	0.0218
20	1.1426	0.0211
21	1.1630	0.0204
22	1.1828	0.0198
23	1.2021	0.0193

24	1.2208	0.0187
25	1.2391	0.0182
26	1.2569	0.0178
27	1.2742	0.0174
28	1.2912	0.0170
29	1.3078	0.0166
30	1.3240	0.0162
31	1.3399	0.0159
32	1.3554	0.0156
33	1.3707	0.0152
34	1.3856	0.0150
35	1.4003	0.0147
36	1.4147	0.0144
37	1.4289	0.0142
38	1.4428	0.0139
39	1.4565	0.0137
40	1.4699	0.0135
41	1.4832	0.0133
42	1.4962	0.0130
43	1.5091	0.0129
44	1.5217	0.0127
45	1.5342	0.0125
46	1.5465	0.0123
47	1.5587	0.0121
48	1.5706	0.0120
49	1.5824	0.0118
50	1.5941	0.0117
51	1.6056	0.0115
52	1.6170	0.0114
53	1.6282	0.0112
54	1.6393	0.0111
55	1.6503	0.0110
56	1.6611	0.0108
57	1.6718	0.0107
58	1.6824	0.0106
59	1.6929	0.0105
60	1.7033	0.0104
61	1.7136	0.0103
62	1.7237	0.0102
63	1.7338	0.0101
64	1.7437	0.0100
65	1.7536	0.0099
66	1.7633	0.0098
67	1.7730	0.0097
68	1.7826	0.0096
69	1.7921	0.0095
70	1.8015	0.0094
71	1.8108	0.0093
72	1.8200	0.0092
73	1.8301	0.0101

74	1.8402	0.0101
75	1.8501	0.0100
76	1.8600	0.0099
77	1.8699	0.0098
78	1.8796	0.0097
79	1.8893	0.0097
80	1.8988	0.0096
81	1.9084	0.0095
82	1.9178	0.0094
83	1.9272	0.0094
84	1.9365	0.0093
85	1.9458	0.0092
86	1.9549	0.0092
87	1.9641	0.0091
88	1.9731	0.0091
89	1.9821	0.0090
90	1.9910	0.0089
91	1.9999	0.0089
92	2.0087	0.0088
93	2.0175	0.0088
94	2.0262	0.0087
95	2.0349	0.0086
96	2.0434	0.0086
97	2.0520	0.0085
98	2.0605	0.0085
99	2.0689	0.0084
100	2.0773	0.0084
101	2.0856	0.0083
102	2.0939	0.0083
103	2.1022	0.0082
104	2.1104	0.0082
105	2.1185	0.0081
106	2.1266	0.0081
107	2.1347	0.0081
108	2.1427	0.0080
109	2.1506	0.0080
110	2.1586	0.0079
111	2.1664	0.0079
112	2.1743	0.0078
113	2.1821	0.0078
114	2.1898	0.0078
115	2.1975	0.0077
116	2.2052	0.0077
117	2.2128	0.0076
118	2.2204	0.0076
119	2.2280	0.0076
120	2.2355	0.0075
121	2.2430	0.0075
122	2.2504	0.0074
123	2.2578	0.0074

124	2.2652	0.0074
125	2.2725	0.0073
126	2.2798	0.0073
127	2.2871	0.0073
128	2.2943	0.0072
129	2.3015	0.0072
130	2.3087	0.0072
131	2.3158	0.0071
132	2.3229	0.0071
133	2.3300	0.0071
134	2.3370	0.0070
135	2.3440	0.0070
136	2.3510	0.0070
137	2.3580	0.0069
138	2.3649	0.0069
139	2.3718	0.0069
140	2.3786	0.0069
141	2.3854	0.0068
142	2.3922	0.0068
143	2.3990	0.0068
144	2.4057	0.0067
145	2.4124	0.0067
146	2.4191	0.0067
147	2.4258	0.0067
148	2.4324	0.0066
149	2.4390	0.0066
150	2.4456	0.0066
151	2.4521	0.0066
152	2.4587	0.0065
153	2.4652	0.0065
154	2.4716	0.0065
155	2.4781	0.0064
156	2.4845	0.0064
157	2.4909	0.0064
158	2.4973	0.0064
159	2.5036	0.0064
160	2.5100	0.0063
161	2.5163	0.0063
162	2.5225	0.0063
163	2.5288	0.0063
164	2.5350	0.0062
165	2.5412	0.0062
166	2.5474	0.0062
167	2.5536	0.0062
168	2.5597	0.0061
169	2.5659	0.0061
170	2.5720	0.0061
171	2.5781	0.0061
172	2.5841	0.0061
173	2.5901	0.0060

174	2.5962	0.0060
175	2.6022	0.0060
176	2.6081	0.0060
177	2.6141	0.0060
178	2.6200	0.0059
179	2.6259	0.0059
180	2.6318	0.0059
181	2.6377	0.0059
182	2.6436	0.0059
183	2.6494	0.0058
184	2.6552	0.0058
185	2.6610	0.0058
186	2.6668	0.0058
187	2.6726	0.0058
188	2.6783	0.0057
189	2.6840	0.0057
190	2.6897	0.0057
191	2.6954	0.0057
192	2.7011	0.0057
193	2.7068	0.0057
194	2.7124	0.0056
195	2.7180	0.0056
196	2.7236	0.0056
197	2.7292	0.0056
198	2.7348	0.0056
199	2.7403	0.0056
200	2.7459	0.0055
201	2.7514	0.0055
202	2.7569	0.0055
203	2.7624	0.0055
204	2.7678	0.0055
205	2.7733	0.0055
206	2.7787	0.0054
207	2.7841	0.0054
208	2.7896	0.0054
209	2.7949	0.0054
210	2.8003	0.0054
211	2.8057	0.0054
212	2.8110	0.0053
213	2.8164	0.0053
214	2.8217	0.0053
215	2.8270	0.0053
216	2.8323	0.0053
217	2.8375	0.0053
218	2.8428	0.0053
219	2.8480	0.0052
220	2.8533	0.0052
221	2.8585	0.0052
222	2.8637	0.0052
223	2.8689	0.0052

224	2.8740	0.0052
225	2.8792	0.0052
226	2.8843	0.0051
227	2.8895	0.0051
228	2.8946	0.0051
229	2.8997	0.0051
230	2.9048	0.0051
231	2.9098	0.0051
232	2.9149	0.0051
233	2.9200	0.0051
234	2.9250	0.0050
235	2.9300	0.0050
236	2.9350	0.0050
237	2.9400	0.0050
238	2.9450	0.0050
239	2.9500	0.0050
240	2.9550	0.0050
241	2.9599	0.0050
242	2.9649	0.0049
243	2.9698	0.0049
244	2.9747	0.0049
245	2.9796	0.0049
246	2.9845	0.0049
247	2.9894	0.0049
248	2.9942	0.0049
249	2.9991	0.0049
250	3.0039	0.0048
251	3.0088	0.0048
252	3.0136	0.0048
253	3.0184	0.0048
254	3.0232	0.0048
255	3.0280	0.0048
256	3.0327	0.0048
257	3.0375	0.0048
258	3.0423	0.0048
259	3.0470	0.0047
260	3.0517	0.0047
261	3.0564	0.0047
262	3.0612	0.0047
263	3.0659	0.0047
264	3.0705	0.0047
265	3.0752	0.0047
266	3.0799	0.0047
267	3.0845	0.0047
268	3.0892	0.0046
269	3.0938	0.0046
270	3.0984	0.0046
271	3.1031	0.0046
272	3.1077	0.0046
273	3.1123	0.0046

274	3.1168	0.0046
275	3.1214	0.0046
276	3.1260	0.0046
277	3.1305	0.0046
278	3.1351	0.0045
279	3.1396	0.0045
280	3.1441	0.0045
281	3.1487	0.0045
282	3.1532	0.0045
283	3.1577	0.0045
284	3.1621	0.0045
285	3.1666	0.0045
286	3.1711	0.0045
287	3.1755	0.0045
288	3.1800	0.0044

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0044	0.0003	0.0042
2	0.0045	0.0003	0.0042
3	0.0045	0.0003	0.0042
4	0.0045	0.0003	0.0042
5	0.0045	0.0003	0.0042
6	0.0045	0.0003	0.0042
7	0.0045	0.0003	0.0042
8	0.0045	0.0003	0.0042
9	0.0046	0.0003	0.0043
10	0.0046	0.0003	0.0043
11	0.0046	0.0003	0.0043
12	0.0046	0.0003	0.0043
13	0.0046	0.0003	0.0043
14	0.0046	0.0003	0.0043
15	0.0047	0.0003	0.0044
16	0.0047	0.0003	0.0044
17	0.0047	0.0003	0.0044
18	0.0047	0.0003	0.0044
19	0.0047	0.0003	0.0044
20	0.0047	0.0003	0.0044
21	0.0048	0.0003	0.0045
22	0.0048	0.0003	0.0045
23	0.0048	0.0003	0.0045
24	0.0048	0.0003	0.0045
25	0.0048	0.0003	0.0045
26	0.0048	0.0003	0.0045
27	0.0049	0.0003	0.0046
28	0.0049	0.0003	0.0046
29	0.0049	0.0003	0.0046
30	0.0049	0.0003	0.0046

31	0.0049	0.0003	0.0046
32	0.0049	0.0003	0.0046
33	0.0050	0.0003	0.0047
34	0.0050	0.0003	0.0047
35	0.0050	0.0003	0.0047
36	0.0050	0.0003	0.0047
37	0.0050	0.0003	0.0047
38	0.0051	0.0003	0.0048
39	0.0051	0.0003	0.0048
40	0.0051	0.0003	0.0048
41	0.0051	0.0003	0.0048
42	0.0051	0.0003	0.0048
43	0.0052	0.0003	0.0049
44	0.0052	0.0003	0.0049
45	0.0052	0.0003	0.0049
46	0.0052	0.0003	0.0049
47	0.0052	0.0003	0.0049
48	0.0053	0.0003	0.0050
49	0.0053	0.0003	0.0050
50	0.0053	0.0003	0.0050
51	0.0053	0.0003	0.0050
52	0.0053	0.0003	0.0050
53	0.0054	0.0003	0.0051
54	0.0054	0.0003	0.0051
55	0.0054	0.0003	0.0051
56	0.0054	0.0003	0.0051
57	0.0055	0.0003	0.0052
58	0.0055	0.0003	0.0052
59	0.0055	0.0003	0.0052
60	0.0055	0.0003	0.0052
61	0.0056	0.0003	0.0053
62	0.0056	0.0003	0.0053
63	0.0056	0.0003	0.0053
64	0.0056	0.0003	0.0053
65	0.0057	0.0003	0.0054
66	0.0057	0.0003	0.0054
67	0.0057	0.0003	0.0054
68	0.0057	0.0003	0.0054
69	0.0058	0.0003	0.0055
70	0.0058	0.0003	0.0055
71	0.0058	0.0003	0.0055
72	0.0059	0.0003	0.0056
73	0.0059	0.0003	0.0056
74	0.0059	0.0003	0.0056
75	0.0060	0.0003	0.0057
76	0.0060	0.0003	0.0057
77	0.0060	0.0003	0.0057
78	0.0060	0.0003	0.0057
79	0.0061	0.0003	0.0058
80	0.0061	0.0003	0.0058

81	0.0061	0.0003	0.0058
82	0.0062	0.0003	0.0059
83	0.0062	0.0003	0.0059
84	0.0062	0.0003	0.0059
85	0.0063	0.0003	0.0060
86	0.0063	0.0003	0.0060
87	0.0064	0.0003	0.0061
88	0.0064	0.0003	0.0061
89	0.0064	0.0003	0.0061
90	0.0064	0.0003	0.0062
91	0.0065	0.0003	0.0062
92	0.0065	0.0003	0.0062
93	0.0066	0.0003	0.0063
94	0.0066	0.0003	0.0063
95	0.0067	0.0003	0.0064
96	0.0067	0.0003	0.0064
97	0.0067	0.0003	0.0064
98	0.0068	0.0003	0.0065
99	0.0068	0.0003	0.0065
100	0.0069	0.0003	0.0066
101	0.0069	0.0003	0.0066
102	0.0069	0.0003	0.0066
103	0.0070	0.0003	0.0067
104	0.0070	0.0003	0.0067
105	0.0071	0.0003	0.0068
106	0.0071	0.0003	0.0068
107	0.0072	0.0003	0.0069
108	0.0072	0.0003	0.0069
109	0.0073	0.0003	0.0070
110	0.0073	0.0003	0.0070
111	0.0074	0.0003	0.0071
112	0.0074	0.0003	0.0071
113	0.0075	0.0003	0.0072
114	0.0076	0.0003	0.0073
115	0.0076	0.0003	0.0073
116	0.0077	0.0003	0.0074
117	0.0078	0.0003	0.0075
118	0.0078	0.0003	0.0075
119	0.0079	0.0003	0.0076
120	0.0079	0.0003	0.0076
121	0.0080	0.0003	0.0077
122	0.0081	0.0003	0.0078
123	0.0081	0.0003	0.0078
124	0.0082	0.0003	0.0079
125	0.0083	0.0003	0.0080
126	0.0083	0.0003	0.0080
127	0.0084	0.0003	0.0081
128	0.0085	0.0003	0.0082
129	0.0086	0.0003	0.0083
130	0.0086	0.0003	0.0084

131	0.0088	0.0003	0.0085
132	0.0088	0.0003	0.0085
133	0.0089	0.0003	0.0086
134	0.0090	0.0003	0.0087
135	0.0091	0.0003	0.0088
136	0.0092	0.0003	0.0089
137	0.0093	0.0003	0.0090
138	0.0094	0.0003	0.0091
139	0.0095	0.0003	0.0092
140	0.0096	0.0003	0.0093
141	0.0097	0.0003	0.0094
142	0.0098	0.0003	0.0095
143	0.0100	0.0003	0.0097
144	0.0101	0.0003	0.0098
145	0.0092	0.0003	0.0089
146	0.0093	0.0003	0.0090
147	0.0095	0.0003	0.0092
148	0.0096	0.0003	0.0093
149	0.0098	0.0003	0.0095
150	0.0099	0.0003	0.0096
151	0.0101	0.0003	0.0098
152	0.0102	0.0003	0.0099
153	0.0104	0.0003	0.0101
154	0.0105	0.0003	0.0102
155	0.0107	0.0003	0.0104
156	0.0108	0.0003	0.0105
157	0.0111	0.0003	0.0108
158	0.0112	0.0003	0.0109
159	0.0115	0.0003	0.0112
160	0.0117	0.0003	0.0114
161	0.0120	0.0003	0.0117
162	0.0121	0.0003	0.0118
163	0.0125	0.0003	0.0122
164	0.0127	0.0003	0.0124
165	0.0130	0.0003	0.0127
166	0.0133	0.0003	0.0130
167	0.0137	0.0003	0.0134
168	0.0139	0.0003	0.0136
169	0.0144	0.0003	0.0141
170	0.0147	0.0003	0.0144
171	0.0152	0.0003	0.0149
172	0.0156	0.0003	0.0153
173	0.0162	0.0003	0.0159
174	0.0166	0.0003	0.0163
175	0.0174	0.0003	0.0171
176	0.0178	0.0003	0.0175
177	0.0187	0.0003	0.0184
178	0.0193	0.0003	0.0190
179	0.0204	0.0003	0.0201
180	0.0211	0.0003	0.0208

181	0.0226	0.0003	0.0223
182	0.0235	0.0003	0.0232
183	0.0255	0.0003	0.0252
184	0.0267	0.0003	0.0264
185	0.0245	0.0003	0.0242
186	0.0261	0.0003	0.0258
187	0.0302	0.0003	0.0299
188	0.0330	0.0003	0.0327
189	0.0410	0.0003	0.0407
190	0.0473	0.0003	0.0470
191	0.0717	0.0003	0.0714
192	0.1041	0.0003	0.1038
193	0.4503	0.0003	0.4500
194	0.0564	0.0003	0.0561
195	0.0365	0.0003	0.0362
196	0.0280	0.0003	0.0277
197	0.0280	0.0003	0.0277
198	0.0244	0.0003	0.0241
199	0.0218	0.0003	0.0215
200	0.0198	0.0003	0.0195
201	0.0182	0.0003	0.0180
202	0.0170	0.0003	0.0167
203	0.0159	0.0003	0.0156
204	0.0150	0.0003	0.0147
205	0.0142	0.0003	0.0139
206	0.0135	0.0003	0.0132
207	0.0129	0.0003	0.0126
208	0.0123	0.0003	0.0120
209	0.0118	0.0003	0.0115
210	0.0114	0.0003	0.0111
211	0.0110	0.0003	0.0107
212	0.0106	0.0003	0.0103
213	0.0103	0.0003	0.0100
214	0.0100	0.0003	0.0097
215	0.0097	0.0003	0.0094
216	0.0094	0.0003	0.0091
217	0.0101	0.0003	0.0098
218	0.0099	0.0003	0.0096
219	0.0097	0.0003	0.0094
220	0.0094	0.0003	0.0092
221	0.0092	0.0003	0.0089
222	0.0091	0.0003	0.0088
223	0.0089	0.0003	0.0086
224	0.0087	0.0003	0.0084
225	0.0085	0.0003	0.0082
226	0.0084	0.0003	0.0081
227	0.0082	0.0003	0.0079
228	0.0081	0.0003	0.0078
229	0.0080	0.0003	0.0077
230	0.0078	0.0003	0.0075

231	0.0077	0.0003	0.0074
232	0.0076	0.0003	0.0073
233	0.0075	0.0003	0.0072
234	0.0074	0.0003	0.0071
235	0.0073	0.0003	0.0070
236	0.0072	0.0003	0.0069
237	0.0071	0.0003	0.0068
238	0.0070	0.0003	0.0067
239	0.0069	0.0003	0.0066
240	0.0068	0.0003	0.0065
241	0.0067	0.0003	0.0064
242	0.0066	0.0003	0.0063
243	0.0066	0.0003	0.0063
244	0.0065	0.0003	0.0062
245	0.0064	0.0003	0.0061
246	0.0063	0.0003	0.0060
247	0.0063	0.0003	0.0060
248	0.0062	0.0003	0.0059
249	0.0061	0.0003	0.0058
250	0.0061	0.0003	0.0058
251	0.0060	0.0003	0.0057
252	0.0059	0.0003	0.0056
253	0.0059	0.0003	0.0056
254	0.0058	0.0003	0.0055
255	0.0058	0.0003	0.0055
256	0.0057	0.0003	0.0054
257	0.0057	0.0003	0.0054
258	0.0056	0.0003	0.0053
259	0.0056	0.0003	0.0053
260	0.0055	0.0003	0.0052
261	0.0055	0.0003	0.0052
262	0.0054	0.0003	0.0051
263	0.0054	0.0003	0.0051
264	0.0053	0.0003	0.0050
265	0.0053	0.0003	0.0050
266	0.0052	0.0003	0.0049
267	0.0052	0.0003	0.0049
268	0.0051	0.0003	0.0048
269	0.0051	0.0003	0.0048
270	0.0051	0.0003	0.0048
271	0.0050	0.0003	0.0047
272	0.0050	0.0003	0.0047
273	0.0050	0.0003	0.0047
274	0.0049	0.0003	0.0046
275	0.0049	0.0003	0.0046
276	0.0048	0.0003	0.0045
277	0.0048	0.0003	0.0045
278	0.0048	0.0003	0.0045
279	0.0047	0.0003	0.0044
280	0.0047	0.0003	0.0044

281	0.0047	0.0003	0.0044
282	0.0046	0.0003	0.0043
283	0.0046	0.0003	0.0043
284	0.0046	0.0003	0.0043
285	0.0046	0.0003	0.0043
286	0.0045	0.0003	0.0042
287	0.0045	0.0003	0.0042
288	0.0045	0.0003	0.0042

 Total soil rain loss = 0.09(In)
 Total effective rainfall = 3.09(In)
 Peak flow rate in flood hydrograph = 3.25(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.01	Q					
0+10	0.0003	0.03	Q					
0+15	0.0005	0.04	Q					
0+20	0.0009	0.05	Q					
0+25	0.0012	0.05	Q					
0+30	0.0016	0.05	Q					
0+35	0.0019	0.05	Q					
0+40	0.0023	0.05	Q					
0+45	0.0027	0.05	Q					
0+50	0.0031	0.06	Q					
0+55	0.0035	0.06	Q					
1+ 0	0.0039	0.06	Q					
1+ 5	0.0042	0.06	Q					
1+10	0.0046	0.06	Q					
1+15	0.0050	0.06	Q					
1+20	0.0054	0.06	Q					
1+25	0.0058	0.06	Q					
1+30	0.0062	0.06	Q					
1+35	0.0066	0.06	Q					
1+40	0.0070	0.06	QV					
1+45	0.0074	0.06	QV					
1+50	0.0078	0.06	QV					
1+55	0.0082	0.06	QV					
2+ 0	0.0086	0.06	QV					
2+ 5	0.0090	0.06	QV					
2+10	0.0094	0.06	QV					
2+15	0.0098	0.06	QV					

2+20	0.0102	0.06	QV				
2+25	0.0106	0.06	QV				
2+30	0.0110	0.06	QV				
2+35	0.0114	0.06	QV				
2+40	0.0119	0.06	QV				
2+45	0.0123	0.06	QV				
2+50	0.0127	0.06	QV				
2+55	0.0131	0.06	QV				
3+ 0	0.0135	0.06	QV				
3+ 5	0.0140	0.06	Q V				
3+10	0.0144	0.06	Q V				
3+15	0.0148	0.06	Q V				
3+20	0.0152	0.06	Q V				
3+25	0.0157	0.06	Q V				
3+30	0.0161	0.06	Q V				
3+35	0.0165	0.06	Q V				
3+40	0.0170	0.06	Q V				
3+45	0.0174	0.06	Q V				
3+50	0.0178	0.06	Q V				
3+55	0.0183	0.06	Q V				
4+ 0	0.0187	0.06	Q V				
4+ 5	0.0192	0.06	Q V				
4+10	0.0196	0.06	Q V				
4+15	0.0201	0.07	Q V				
4+20	0.0205	0.07	Q V				
4+25	0.0210	0.07	Q V				
4+30	0.0214	0.07	Q V				
4+35	0.0219	0.07	Q V				
4+40	0.0223	0.07	Q V				
4+45	0.0228	0.07	Q V				
4+50	0.0233	0.07	Q V				
4+55	0.0237	0.07	Q V				
5+ 0	0.0242	0.07	Q V				
5+ 5	0.0247	0.07	Q V				
5+10	0.0251	0.07	Q V				
5+15	0.0256	0.07	Q V				
5+20	0.0261	0.07	Q V				
5+25	0.0266	0.07	Q V				
5+30	0.0270	0.07	Q V				
5+35	0.0275	0.07	Q V				
5+40	0.0280	0.07	Q V				
5+45	0.0285	0.07	Q V				
5+50	0.0290	0.07	Q V				
5+55	0.0295	0.07	Q V				
6+ 0	0.0300	0.07	Q V				
6+ 5	0.0305	0.07	Q V				
6+10	0.0310	0.07	Q V				
6+15	0.0315	0.07	Q V				
6+20	0.0320	0.07	Q V				
6+25	0.0325	0.07	Q V				

6+30	0.0330	0.07	Q	V				
6+35	0.0335	0.07	Q	V				
6+40	0.0340	0.08	Q	V				
6+45	0.0346	0.08	Q	V				
6+50	0.0351	0.08	Q	V				
6+55	0.0356	0.08	Q	V				
7+ 0	0.0361	0.08	Q	V				
7+ 5	0.0367	0.08	Q	V				
7+10	0.0372	0.08	Q	V				
7+15	0.0377	0.08	Q	V				
7+20	0.0383	0.08	Q	V				
7+25	0.0388	0.08	Q	V				
7+30	0.0394	0.08	Q	V				
7+35	0.0399	0.08	Q	V				
7+40	0.0405	0.08	Q	V				
7+45	0.0410	0.08	Q	V				
7+50	0.0416	0.08	Q	V				
7+55	0.0422	0.08	Q	V				
8+ 0	0.0427	0.08	Q	V				
8+ 5	0.0433	0.08	Q	V				
8+10	0.0439	0.08	Q	V				
8+15	0.0445	0.08	Q	V				
8+20	0.0450	0.08	Q	V				
8+25	0.0456	0.09	Q	V				
8+30	0.0462	0.09	Q	V				
8+35	0.0468	0.09	Q	V				
8+40	0.0474	0.09	Q	V				
8+45	0.0480	0.09	Q	V				
8+50	0.0486	0.09	Q	V				
8+55	0.0492	0.09	Q	V				
9+ 0	0.0499	0.09	Q	V				
9+ 5	0.0505	0.09	Q	V				
9+10	0.0511	0.09	Q	V				
9+15	0.0517	0.09	Q	V				
9+20	0.0524	0.09	Q	V				
9+25	0.0530	0.09	Q	V				
9+30	0.0537	0.09	Q	V				
9+35	0.0543	0.09	Q	V				
9+40	0.0550	0.10	Q	V				
9+45	0.0556	0.10	Q	V				
9+50	0.0563	0.10	Q	V				
9+55	0.0570	0.10	Q	V				
10+ 0	0.0576	0.10	Q	V				
10+ 5	0.0583	0.10	Q	V				
10+10	0.0590	0.10	Q	V				
10+15	0.0597	0.10	Q	V				
10+20	0.0604	0.10	Q	V				
10+25	0.0611	0.10	Q	V				
10+30	0.0618	0.10	Q	V				
10+35	0.0625	0.10	Q	V				

10+40	0.0633	0.11	Q	V			
10+45	0.0640	0.11	Q	V			
10+50	0.0647	0.11	Q	V			
10+55	0.0655	0.11	Q	V			
11+ 0	0.0662	0.11	Q	V			
11+ 5	0.0670	0.11	Q	V			
11+10	0.0678	0.11	Q	V			
11+15	0.0685	0.11	Q	V			
11+20	0.0693	0.11	Q	V			
11+25	0.0701	0.12	Q	V			
11+30	0.0709	0.12	Q	V			
11+35	0.0717	0.12	Q	V			
11+40	0.0725	0.12	Q	V			
11+45	0.0734	0.12	Q	V			
11+50	0.0742	0.12	Q	V			
11+55	0.0751	0.12	Q	V			
12+ 0	0.0759	0.12	Q	V			
12+ 5	0.0768	0.12	Q	V			
12+10	0.0776	0.12	Q	V			
12+15	0.0784	0.12	Q	V			
12+20	0.0793	0.12	Q	V			
12+25	0.0801	0.12	Q	V			
12+30	0.0809	0.12	Q	V			
12+35	0.0818	0.12	Q	V			
12+40	0.0827	0.13	Q	V			
12+45	0.0835	0.13	Q	V			
12+50	0.0844	0.13	Q	V			
12+55	0.0853	0.13	Q	V			
13+ 0	0.0863	0.13	Q	V			
13+ 5	0.0872	0.14	Q	V			
13+10	0.0882	0.14	Q	V			
13+15	0.0891	0.14	Q	V			
13+20	0.0901	0.14	Q	V			
13+25	0.0911	0.15	Q	V			
13+30	0.0922	0.15	Q	V			
13+35	0.0932	0.15	Q	V			
13+40	0.0943	0.16	Q	V			
13+45	0.0954	0.16	Q	V			
13+50	0.0965	0.16	Q	V			
13+55	0.0976	0.17	Q	V			
14+ 0	0.0988	0.17	Q	V			
14+ 5	0.1000	0.17	Q	V			
14+10	0.1013	0.18	Q	V			
14+15	0.1025	0.18	Q	V			
14+20	0.1039	0.19	Q	V			
14+25	0.1052	0.20	Q	V			
14+30	0.1066	0.20	Q	V			
14+35	0.1080	0.21	Q	V			
14+40	0.1095	0.22	Q	V			
14+45	0.1111	0.22	Q	V			

14+50	0.1127	0.23	Q		V			
14+55	0.1143	0.24	Q		V			
15+ 0	0.1161	0.25	Q		V			
15+ 5	0.1179	0.26	Q		V			
15+10	0.1198	0.28	Q		V			
15+15	0.1218	0.29	Q		V			
15+20	0.1240	0.31	Q		V			
15+25	0.1262	0.32	Q		V			
15+30	0.1284	0.32	Q		V			
15+35	0.1307	0.33	Q		V			
15+40	0.1333	0.37	Q		V			
15+45	0.1361	0.41	Q		V			
15+50	0.1394	0.48	Q		V			
15+55	0.1434	0.58	Q		V			
16+ 0	0.1489	0.80	Q		V			
16+ 5	0.1597	1.57	Q		V			
16+10	0.1821	3.25	Q	Q		V		
16+15	0.1945	1.80	Q			V		
16+20	0.2019	1.07	Q			V		
16+25	0.2070	0.75	Q			V		
16+30	0.2111	0.59	Q			V		
16+35	0.2144	0.48	Q			V		
16+40	0.2171	0.39	Q			V		
16+45	0.2194	0.34	Q			V		
16+50	0.2215	0.30	Q			V		
16+55	0.2231	0.24	Q			V		
17+ 0	0.2247	0.22	Q			V		
17+ 5	0.2261	0.21	Q			V		
17+10	0.2274	0.19	Q			V		
17+15	0.2287	0.18	Q			V		
17+20	0.2298	0.17	Q			V		
17+25	0.2310	0.16	Q			V		
17+30	0.2321	0.16	Q			V		
17+35	0.2331	0.15	Q			V		
17+40	0.2341	0.14	Q			V		
17+45	0.2351	0.14	Q			V		
17+50	0.2360	0.13	Q			V		
17+55	0.2369	0.13	Q			V		
18+ 0	0.2377	0.13	Q			V		
18+ 5	0.2386	0.12	Q			V		
18+10	0.2395	0.13	Q			V		
18+15	0.2403	0.13	Q			V		
18+20	0.2412	0.12	Q			V		
18+25	0.2420	0.12	Q			V		
18+30	0.2428	0.12	Q			V		
18+35	0.2436	0.12	Q			V		
18+40	0.2444	0.11	Q			V		
18+45	0.2452	0.11	Q			V		
18+50	0.2459	0.11	Q			V		
18+55	0.2467	0.11	Q			V		

19+ 0	0.2474	0.11	Q				V
19+ 5	0.2481	0.10	Q				V
19+10	0.2488	0.10	Q				V
19+15	0.2495	0.10	Q				V
19+20	0.2502	0.10	Q				V
19+25	0.2509	0.10	Q				V
19+30	0.2515	0.10	Q				V
19+35	0.2522	0.09	Q				V
19+40	0.2528	0.09	Q				V
19+45	0.2534	0.09	Q				V
19+50	0.2540	0.09	Q				V
19+55	0.2546	0.09	Q				V
20+ 0	0.2552	0.09	Q				V
20+ 5	0.2558	0.09	Q				V
20+10	0.2564	0.08	Q				V
20+15	0.2570	0.08	Q				V
20+20	0.2576	0.08	Q				V
20+25	0.2581	0.08	Q				V
20+30	0.2587	0.08	Q				V
20+35	0.2592	0.08	Q				V
20+40	0.2598	0.08	Q				V
20+45	0.2603	0.08	Q				V
20+50	0.2608	0.08	Q				V
20+55	0.2614	0.08	Q				V
21+ 0	0.2619	0.08	Q				V
21+ 5	0.2624	0.07	Q				V
21+10	0.2629	0.07	Q				V
21+15	0.2634	0.07	Q				V
21+20	0.2639	0.07	Q				V
21+25	0.2644	0.07	Q				V
21+30	0.2649	0.07	Q				V
21+35	0.2653	0.07	Q				V
21+40	0.2658	0.07	Q				V
21+45	0.2663	0.07	Q				V
21+50	0.2668	0.07	Q				V
21+55	0.2672	0.07	Q				V
22+ 0	0.2677	0.07	Q				V
22+ 5	0.2681	0.07	Q				V
22+10	0.2686	0.07	Q				V
22+15	0.2690	0.06	Q				V
22+20	0.2695	0.06	Q				V
22+25	0.2699	0.06	Q				V
22+30	0.2704	0.06	Q				V
22+35	0.2708	0.06	Q				V
22+40	0.2712	0.06	Q				V
22+45	0.2716	0.06	Q				V
22+50	0.2721	0.06	Q				V
22+55	0.2725	0.06	Q				V
23+ 0	0.2729	0.06	Q				V
23+ 5	0.2733	0.06	Q				V

23+10	0.2737	0.06	Q				V
23+15	0.2741	0.06	Q				V
23+20	0.2745	0.06	Q				V
23+25	0.2749	0.06	Q				V
23+30	0.2753	0.06	Q				V
23+35	0.2757	0.06	Q				V
23+40	0.2761	0.06	Q				V
23+45	0.2765	0.06	Q				V
23+50	0.2769	0.06	Q				V
23+55	0.2773	0.06	Q				V
24+ 0	0.2776	0.06	Q				V

Unit Hydrograph Analysis

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Study date 01/05/23

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6277

JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
100 YEAR STORM UNIT HYDROGRAPH, POST CONDITION
AREA A5

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
0.98	1	0.55

Rainfall data for year 2		
0.98	6	0.67

Rainfall data for year 2		
0.98	24	1.12

Rainfall data for year 100

0.98	1	0.95
------	---	------

Rainfall data for year 100

0.98	6	1.82
------	---	------

Rainfall data for year 100

0.98	24	3.18
------	----	------

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***** Area-averaged max loss rate, Fm *****

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
91.0	98.2	0.98	1.000	0.036	0.100	0.004

Area-averaged adjusted loss rate Fm (In/Hr) = 0.004

***** Area-Averaged low loss rate fraction, Yb *****

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
0.10	0.100	91.0	98.2	0.18	0.934
0.88	0.900	98.0	98.0	0.20	0.927

Area-averaged catchment yield fraction, Y = 0.928

Area-averaged low loss fraction, Yb = 0.072

User entry of time of concentration = 0.120 (hours)

+++++

Watershed area = 0.98(Ac.)

Catchment Lag time = 0.096 hours

Unit interval = 5.000 minutes

Unit interval percentage of lag time = 86.8056

Hydrograph baseflow = 0.00(CFS)

Average maximum watershed loss rate(Fm) = 0.004(In/Hr)

Average low loss rate fraction (Yb) = 0.072 (decimal)

DESERT S-Graph Selected

Computed peak 5-minute rainfall = 0.450(In)

Computed peak 30-minute rainfall = 0.771(In)

Specified peak 1-hour rainfall = 0.949(In)

Computed peak 3-hour rainfall = 1.415(In)

Specified peak 6-hour rainfall = 1.820(In)

Specified peak 24-hour rainfall = 3.180(In)

Rainfall depth area reduction factors:

Using a total area of 0.98(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.450(In)

30-minute factor = 1.000	Adjusted rainfall = 0.771(In)
1-hour factor = 1.000	Adjusted rainfall = 0.949(In)
3-hour factor = 1.000	Adjusted rainfall = 1.415(In)
6-hour factor = 1.000	Adjusted rainfall = 1.820(In)
24-hour factor = 1.000	Adjusted rainfall = 3.180(In)

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

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Interval Number	'S' Graph Mean values	Unit Hydrograph (CFS))
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(K = 11.80 (CFS))

1	12.900	1.523
2	61.216	5.703
3	80.211	2.242
4	88.718	1.004
5	93.403	0.553
6	96.281	0.340
7	97.904	0.191
8	98.913	0.119
9	100.000	0.060

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.4503	0.4503
2	0.5544	0.1041
3	0.6261	0.0717
4	0.6825	0.0564
5	0.7298	0.0473
6	0.7708	0.0410
7	0.8073	0.0365
8	0.8403	0.0330
9	0.8705	0.0302
10	0.8984	0.0280
11	0.9245	0.0261
12	0.9490	0.0245
13	0.9770	0.0280
14	1.0036	0.0267
15	1.0291	0.0255
16	1.0536	0.0244
17	1.0770	0.0235
18	1.0996	0.0226
19	1.1215	0.0218
20	1.1426	0.0211
21	1.1630	0.0204
22	1.1828	0.0198
23	1.2021	0.0193
24	1.2208	0.0187

25	1.2391	0.0182
26	1.2569	0.0178
27	1.2742	0.0174
28	1.2912	0.0170
29	1.3078	0.0166
30	1.3240	0.0162
31	1.3399	0.0159
32	1.3554	0.0156
33	1.3707	0.0152
34	1.3856	0.0150
35	1.4003	0.0147
36	1.4147	0.0144
37	1.4289	0.0142
38	1.4428	0.0139
39	1.4565	0.0137
40	1.4699	0.0135
41	1.4832	0.0133
42	1.4962	0.0130
43	1.5091	0.0129
44	1.5217	0.0127
45	1.5342	0.0125
46	1.5465	0.0123
47	1.5587	0.0121
48	1.5706	0.0120
49	1.5824	0.0118
50	1.5941	0.0117
51	1.6056	0.0115
52	1.6170	0.0114
53	1.6282	0.0112
54	1.6393	0.0111
55	1.6503	0.0110
56	1.6611	0.0108
57	1.6718	0.0107
58	1.6824	0.0106
59	1.6929	0.0105
60	1.7033	0.0104
61	1.7136	0.0103
62	1.7237	0.0102
63	1.7338	0.0101
64	1.7437	0.0100
65	1.7536	0.0099
66	1.7633	0.0098
67	1.7730	0.0097
68	1.7826	0.0096
69	1.7921	0.0095
70	1.8015	0.0094
71	1.8108	0.0093
72	1.8200	0.0092
73	1.8301	0.0101
74	1.8402	0.0101

75	1.8501	0.0100
76	1.8600	0.0099
77	1.8699	0.0098
78	1.8796	0.0097
79	1.8893	0.0097
80	1.8988	0.0096
81	1.9084	0.0095
82	1.9178	0.0094
83	1.9272	0.0094
84	1.9365	0.0093
85	1.9458	0.0092
86	1.9549	0.0092
87	1.9641	0.0091
88	1.9731	0.0091
89	1.9821	0.0090
90	1.9910	0.0089
91	1.9999	0.0089
92	2.0087	0.0088
93	2.0175	0.0088
94	2.0262	0.0087
95	2.0349	0.0086
96	2.0434	0.0086
97	2.0520	0.0085
98	2.0605	0.0085
99	2.0689	0.0084
100	2.0773	0.0084
101	2.0856	0.0083
102	2.0939	0.0083
103	2.1022	0.0082
104	2.1104	0.0082
105	2.1185	0.0081
106	2.1266	0.0081
107	2.1347	0.0081
108	2.1427	0.0080
109	2.1506	0.0080
110	2.1586	0.0079
111	2.1664	0.0079
112	2.1743	0.0078
113	2.1821	0.0078
114	2.1898	0.0078
115	2.1975	0.0077
116	2.2052	0.0077
117	2.2128	0.0076
118	2.2204	0.0076
119	2.2280	0.0076
120	2.2355	0.0075
121	2.2430	0.0075
122	2.2504	0.0074
123	2.2578	0.0074
124	2.2652	0.0074

125	2.2725	0.0073
126	2.2798	0.0073
127	2.2871	0.0073
128	2.2943	0.0072
129	2.3015	0.0072
130	2.3087	0.0072
131	2.3158	0.0071
132	2.3229	0.0071
133	2.3300	0.0071
134	2.3370	0.0070
135	2.3440	0.0070
136	2.3510	0.0070
137	2.3580	0.0069
138	2.3649	0.0069
139	2.3718	0.0069
140	2.3786	0.0069
141	2.3854	0.0068
142	2.3922	0.0068
143	2.3990	0.0068
144	2.4057	0.0067
145	2.4124	0.0067
146	2.4191	0.0067
147	2.4258	0.0067
148	2.4324	0.0066
149	2.4390	0.0066
150	2.4456	0.0066
151	2.4521	0.0066
152	2.4587	0.0065
153	2.4652	0.0065
154	2.4716	0.0065
155	2.4781	0.0064
156	2.4845	0.0064
157	2.4909	0.0064
158	2.4973	0.0064
159	2.5036	0.0064
160	2.5100	0.0063
161	2.5163	0.0063
162	2.5225	0.0063
163	2.5288	0.0063
164	2.5350	0.0062
165	2.5413	0.0062
166	2.5474	0.0062
167	2.5536	0.0062
168	2.5597	0.0061
169	2.5659	0.0061
170	2.5720	0.0061
171	2.5781	0.0061
172	2.5841	0.0061
173	2.5901	0.0060
174	2.5962	0.0060

175	2.6022	0.0060
176	2.6081	0.0060
177	2.6141	0.0060
178	2.6200	0.0059
179	2.6259	0.0059
180	2.6318	0.0059
181	2.6377	0.0059
182	2.6436	0.0059
183	2.6494	0.0058
184	2.6552	0.0058
185	2.6610	0.0058
186	2.6668	0.0058
187	2.6726	0.0058
188	2.6783	0.0057
189	2.6840	0.0057
190	2.6897	0.0057
191	2.6954	0.0057
192	2.7011	0.0057
193	2.7068	0.0057
194	2.7124	0.0056
195	2.7180	0.0056
196	2.7236	0.0056
197	2.7292	0.0056
198	2.7348	0.0056
199	2.7403	0.0056
200	2.7459	0.0055
201	2.7514	0.0055
202	2.7569	0.0055
203	2.7624	0.0055
204	2.7678	0.0055
205	2.7733	0.0055
206	2.7787	0.0054
207	2.7842	0.0054
208	2.7896	0.0054
209	2.7949	0.0054
210	2.8003	0.0054
211	2.8057	0.0054
212	2.8110	0.0053
213	2.8164	0.0053
214	2.8217	0.0053
215	2.8270	0.0053
216	2.8323	0.0053
217	2.8375	0.0053
218	2.8428	0.0053
219	2.8480	0.0052
220	2.8533	0.0052
221	2.8585	0.0052
222	2.8637	0.0052
223	2.8689	0.0052
224	2.8740	0.0052

225	2.8792	0.0052
226	2.8843	0.0051
227	2.8895	0.0051
228	2.8946	0.0051
229	2.8997	0.0051
230	2.9048	0.0051
231	2.9098	0.0051
232	2.9149	0.0051
233	2.9200	0.0051
234	2.9250	0.0050
235	2.9300	0.0050
236	2.9350	0.0050
237	2.9400	0.0050
238	2.9450	0.0050
239	2.9500	0.0050
240	2.9550	0.0050
241	2.9599	0.0050
242	2.9649	0.0049
243	2.9698	0.0049
244	2.9747	0.0049
245	2.9796	0.0049
246	2.9845	0.0049
247	2.9894	0.0049
248	2.9942	0.0049
249	2.9991	0.0049
250	3.0039	0.0048
251	3.0088	0.0048
252	3.0136	0.0048
253	3.0184	0.0048
254	3.0232	0.0048
255	3.0280	0.0048
256	3.0327	0.0048
257	3.0375	0.0048
258	3.0423	0.0048
259	3.0470	0.0047
260	3.0517	0.0047
261	3.0564	0.0047
262	3.0612	0.0047
263	3.0659	0.0047
264	3.0705	0.0047
265	3.0752	0.0047
266	3.0799	0.0047
267	3.0845	0.0047
268	3.0892	0.0046
269	3.0938	0.0046
270	3.0984	0.0046
271	3.1031	0.0046
272	3.1077	0.0046
273	3.1123	0.0046
274	3.1168	0.0046

275	3.1214	0.0046
276	3.1260	0.0046
277	3.1305	0.0046
278	3.1351	0.0045
279	3.1396	0.0045
280	3.1441	0.0045
281	3.1487	0.0045
282	3.1532	0.0045
283	3.1577	0.0045
284	3.1621	0.0045
285	3.1666	0.0045
286	3.1711	0.0045
287	3.1755	0.0045
288	3.1800	0.0044

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
----------------------------	--------------------------	---------------------------	-------------------------------

1	0.0044	0.0003	0.0042
2	0.0045	0.0003	0.0042
3	0.0045	0.0003	0.0042
4	0.0045	0.0003	0.0042
5	0.0045	0.0003	0.0042
6	0.0045	0.0003	0.0042
7	0.0045	0.0003	0.0042
8	0.0045	0.0003	0.0042
9	0.0046	0.0003	0.0043
10	0.0046	0.0003	0.0043
11	0.0046	0.0003	0.0043
12	0.0046	0.0003	0.0043
13	0.0046	0.0003	0.0043
14	0.0046	0.0003	0.0043
15	0.0047	0.0003	0.0044
16	0.0047	0.0003	0.0044
17	0.0047	0.0003	0.0044
18	0.0047	0.0003	0.0044
19	0.0047	0.0003	0.0044
20	0.0047	0.0003	0.0044
21	0.0048	0.0003	0.0045
22	0.0048	0.0003	0.0045
23	0.0048	0.0003	0.0045
24	0.0048	0.0003	0.0045
25	0.0048	0.0003	0.0045
26	0.0048	0.0003	0.0045
27	0.0049	0.0003	0.0046
28	0.0049	0.0003	0.0046
29	0.0049	0.0003	0.0046
30	0.0049	0.0003	0.0046
31	0.0049	0.0003	0.0046

32	0.0049	0.0003	0.0046
33	0.0050	0.0003	0.0047
34	0.0050	0.0003	0.0047
35	0.0050	0.0003	0.0047
36	0.0050	0.0003	0.0047
37	0.0050	0.0003	0.0047
38	0.0051	0.0003	0.0048
39	0.0051	0.0003	0.0048
40	0.0051	0.0003	0.0048
41	0.0051	0.0003	0.0048
42	0.0051	0.0003	0.0048
43	0.0052	0.0003	0.0049
44	0.0052	0.0003	0.0049
45	0.0052	0.0003	0.0049
46	0.0052	0.0003	0.0049
47	0.0052	0.0003	0.0049
48	0.0053	0.0003	0.0050
49	0.0053	0.0003	0.0050
50	0.0053	0.0003	0.0050
51	0.0053	0.0003	0.0050
52	0.0053	0.0003	0.0050
53	0.0054	0.0003	0.0051
54	0.0054	0.0003	0.0051
55	0.0054	0.0003	0.0051
56	0.0054	0.0003	0.0051
57	0.0055	0.0003	0.0052
58	0.0055	0.0003	0.0052
59	0.0055	0.0003	0.0052
60	0.0055	0.0003	0.0052
61	0.0056	0.0003	0.0053
62	0.0056	0.0003	0.0053
63	0.0056	0.0003	0.0053
64	0.0056	0.0003	0.0053
65	0.0057	0.0003	0.0054
66	0.0057	0.0003	0.0054
67	0.0057	0.0003	0.0054
68	0.0057	0.0003	0.0054
69	0.0058	0.0003	0.0055
70	0.0058	0.0003	0.0055
71	0.0058	0.0003	0.0055
72	0.0059	0.0003	0.0056
73	0.0059	0.0003	0.0056
74	0.0059	0.0003	0.0056
75	0.0060	0.0003	0.0057
76	0.0060	0.0003	0.0057
77	0.0060	0.0003	0.0057
78	0.0060	0.0003	0.0057
79	0.0061	0.0003	0.0058
80	0.0061	0.0003	0.0058
81	0.0061	0.0003	0.0058

82	0.0062	0.0003	0.0059
83	0.0062	0.0003	0.0059
84	0.0062	0.0003	0.0059
85	0.0063	0.0003	0.0060
86	0.0063	0.0003	0.0060
87	0.0064	0.0003	0.0061
88	0.0064	0.0003	0.0061
89	0.0064	0.0003	0.0061
90	0.0064	0.0003	0.0062
91	0.0065	0.0003	0.0062
92	0.0065	0.0003	0.0062
93	0.0066	0.0003	0.0063
94	0.0066	0.0003	0.0063
95	0.0067	0.0003	0.0064
96	0.0067	0.0003	0.0064
97	0.0067	0.0003	0.0064
98	0.0068	0.0003	0.0065
99	0.0068	0.0003	0.0065
100	0.0069	0.0003	0.0066
101	0.0069	0.0003	0.0066
102	0.0069	0.0003	0.0066
103	0.0070	0.0003	0.0067
104	0.0070	0.0003	0.0067
105	0.0071	0.0003	0.0068
106	0.0071	0.0003	0.0068
107	0.0072	0.0003	0.0069
108	0.0072	0.0003	0.0069
109	0.0073	0.0003	0.0070
110	0.0073	0.0003	0.0070
111	0.0074	0.0003	0.0071
112	0.0074	0.0003	0.0071
113	0.0075	0.0003	0.0072
114	0.0076	0.0003	0.0073
115	0.0076	0.0003	0.0073
116	0.0077	0.0003	0.0074
117	0.0078	0.0003	0.0075
118	0.0078	0.0003	0.0075
119	0.0079	0.0003	0.0076
120	0.0079	0.0003	0.0076
121	0.0080	0.0003	0.0077
122	0.0081	0.0003	0.0078
123	0.0081	0.0003	0.0078
124	0.0082	0.0003	0.0079
125	0.0083	0.0003	0.0080
126	0.0083	0.0003	0.0080
127	0.0084	0.0003	0.0081
128	0.0085	0.0003	0.0082
129	0.0086	0.0003	0.0083
130	0.0086	0.0003	0.0084
131	0.0088	0.0003	0.0085

132	0.0088	0.0003	0.0085
133	0.0089	0.0003	0.0086
134	0.0090	0.0003	0.0087
135	0.0091	0.0003	0.0088
136	0.0092	0.0003	0.0089
137	0.0093	0.0003	0.0090
138	0.0094	0.0003	0.0091
139	0.0095	0.0003	0.0092
140	0.0096	0.0003	0.0093
141	0.0097	0.0003	0.0094
142	0.0098	0.0003	0.0095
143	0.0100	0.0003	0.0097
144	0.0101	0.0003	0.0098
145	0.0092	0.0003	0.0089
146	0.0093	0.0003	0.0090
147	0.0095	0.0003	0.0092
148	0.0096	0.0003	0.0093
149	0.0098	0.0003	0.0095
150	0.0099	0.0003	0.0096
151	0.0101	0.0003	0.0098
152	0.0102	0.0003	0.0099
153	0.0104	0.0003	0.0101
154	0.0105	0.0003	0.0102
155	0.0107	0.0003	0.0104
156	0.0108	0.0003	0.0105
157	0.0111	0.0003	0.0108
158	0.0112	0.0003	0.0109
159	0.0115	0.0003	0.0112
160	0.0117	0.0003	0.0114
161	0.0120	0.0003	0.0117
162	0.0121	0.0003	0.0118
163	0.0125	0.0003	0.0122
164	0.0127	0.0003	0.0124
165	0.0130	0.0003	0.0127
166	0.0133	0.0003	0.0130
167	0.0137	0.0003	0.0134
168	0.0139	0.0003	0.0136
169	0.0144	0.0003	0.0141
170	0.0147	0.0003	0.0144
171	0.0152	0.0003	0.0149
172	0.0156	0.0003	0.0153
173	0.0162	0.0003	0.0159
174	0.0166	0.0003	0.0163
175	0.0174	0.0003	0.0171
176	0.0178	0.0003	0.0175
177	0.0187	0.0003	0.0184
178	0.0193	0.0003	0.0190
179	0.0204	0.0003	0.0201
180	0.0211	0.0003	0.0208
181	0.0226	0.0003	0.0223

182	0.0235	0.0003	0.0232
183	0.0255	0.0003	0.0252
184	0.0267	0.0003	0.0264
185	0.0245	0.0003	0.0242
186	0.0261	0.0003	0.0258
187	0.0302	0.0003	0.0299
188	0.0330	0.0003	0.0327
189	0.0410	0.0003	0.0407
190	0.0473	0.0003	0.0470
191	0.0717	0.0003	0.0714
192	0.1041	0.0003	0.1038
193	0.4503	0.0003	0.4500
194	0.0564	0.0003	0.0561
195	0.0365	0.0003	0.0362
196	0.0280	0.0003	0.0277
197	0.0280	0.0003	0.0277
198	0.0244	0.0003	0.0241
199	0.0218	0.0003	0.0215
200	0.0198	0.0003	0.0195
201	0.0182	0.0003	0.0180
202	0.0170	0.0003	0.0167
203	0.0159	0.0003	0.0156
204	0.0150	0.0003	0.0147
205	0.0142	0.0003	0.0139
206	0.0135	0.0003	0.0132
207	0.0129	0.0003	0.0126
208	0.0123	0.0003	0.0120
209	0.0118	0.0003	0.0115
210	0.0114	0.0003	0.0111
211	0.0110	0.0003	0.0107
212	0.0106	0.0003	0.0103
213	0.0103	0.0003	0.0100
214	0.0100	0.0003	0.0097
215	0.0097	0.0003	0.0094
216	0.0094	0.0003	0.0091
217	0.0101	0.0003	0.0098
218	0.0099	0.0003	0.0096
219	0.0097	0.0003	0.0094
220	0.0094	0.0003	0.0092
221	0.0092	0.0003	0.0089
222	0.0091	0.0003	0.0088
223	0.0089	0.0003	0.0086
224	0.0087	0.0003	0.0084
225	0.0085	0.0003	0.0082
226	0.0084	0.0003	0.0081
227	0.0082	0.0003	0.0079
228	0.0081	0.0003	0.0078
229	0.0080	0.0003	0.0077
230	0.0078	0.0003	0.0075
231	0.0077	0.0003	0.0074

232	0.0076	0.0003	0.0073
233	0.0075	0.0003	0.0072
234	0.0074	0.0003	0.0071
235	0.0073	0.0003	0.0070
236	0.0072	0.0003	0.0069
237	0.0071	0.0003	0.0068
238	0.0070	0.0003	0.0067
239	0.0069	0.0003	0.0066
240	0.0068	0.0003	0.0065
241	0.0067	0.0003	0.0064
242	0.0066	0.0003	0.0063
243	0.0066	0.0003	0.0063
244	0.0065	0.0003	0.0062
245	0.0064	0.0003	0.0061
246	0.0063	0.0003	0.0060
247	0.0063	0.0003	0.0060
248	0.0062	0.0003	0.0059
249	0.0061	0.0003	0.0058
250	0.0061	0.0003	0.0058
251	0.0060	0.0003	0.0057
252	0.0059	0.0003	0.0056
253	0.0059	0.0003	0.0056
254	0.0058	0.0003	0.0055
255	0.0058	0.0003	0.0055
256	0.0057	0.0003	0.0054
257	0.0057	0.0003	0.0054
258	0.0056	0.0003	0.0053
259	0.0056	0.0003	0.0053
260	0.0055	0.0003	0.0052
261	0.0055	0.0003	0.0052
262	0.0054	0.0003	0.0051
263	0.0054	0.0003	0.0051
264	0.0053	0.0003	0.0050
265	0.0053	0.0003	0.0050
266	0.0052	0.0003	0.0049
267	0.0052	0.0003	0.0049
268	0.0051	0.0003	0.0048
269	0.0051	0.0003	0.0048
270	0.0051	0.0003	0.0048
271	0.0050	0.0003	0.0047
272	0.0050	0.0003	0.0047
273	0.0050	0.0003	0.0047
274	0.0049	0.0003	0.0046
275	0.0049	0.0003	0.0046
276	0.0048	0.0003	0.0045
277	0.0048	0.0003	0.0045
278	0.0048	0.0003	0.0045
279	0.0047	0.0003	0.0044
280	0.0047	0.0003	0.0044
281	0.0047	0.0003	0.0044

282	0.0046	0.0003	0.0043
283	0.0046	0.0003	0.0043
284	0.0046	0.0003	0.0043
285	0.0046	0.0003	0.0043
286	0.0045	0.0003	0.0042
287	0.0045	0.0003	0.0042
288	0.0045	0.0003	0.0042

 Total soil rain loss = 0.09(In)
 Total effective rainfall = 3.09(In)
 Peak flow rate in flood hydrograph = 3.01(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.01	Q					
0+10	0.0003	0.03	Q					
0+15	0.0005	0.04	Q					
0+20	0.0008	0.04	Q					
0+25	0.0011	0.05	Q					
0+30	0.0015	0.05	Q					
0+35	0.0018	0.05	Q					
0+40	0.0021	0.05	Q					
0+45	0.0025	0.05	Q					
0+50	0.0028	0.05	Q					
0+55	0.0032	0.05	Q					
1+ 0	0.0035	0.05	Q					
1+ 5	0.0039	0.05	Q					
1+10	0.0042	0.05	Q					
1+15	0.0046	0.05	Q					
1+20	0.0049	0.05	Q					
1+25	0.0053	0.05	Q					
1+30	0.0056	0.05	Q					
1+35	0.0060	0.05	Q					
1+40	0.0063	0.05	QV					
1+45	0.0067	0.05	QV					
1+50	0.0071	0.05	QV					
1+55	0.0074	0.05	QV					
2+ 0	0.0078	0.05	QV					
2+ 5	0.0081	0.05	QV					
2+10	0.0085	0.05	QV					
2+15	0.0089	0.05	QV					
2+20	0.0092	0.05	QV					

2+25	0.0096	0.05	QV				
2+30	0.0100	0.05	QV				
2+35	0.0103	0.05	QV				
2+40	0.0107	0.05	QV				
2+45	0.0111	0.05	QV				
2+50	0.0115	0.05	QV				
2+55	0.0118	0.05	QV				
3+ 0	0.0122	0.06	QV				
3+ 5	0.0126	0.06	Q V				
3+10	0.0130	0.06	Q V				
3+15	0.0134	0.06	Q V				
3+20	0.0138	0.06	Q V				
3+25	0.0141	0.06	Q V				
3+30	0.0145	0.06	Q V				
3+35	0.0149	0.06	Q V				
3+40	0.0153	0.06	Q V				
3+45	0.0157	0.06	Q V				
3+50	0.0161	0.06	Q V				
3+55	0.0165	0.06	Q V				
4+ 0	0.0169	0.06	Q V				
4+ 5	0.0173	0.06	Q V				
4+10	0.0177	0.06	Q V				
4+15	0.0181	0.06	Q V				
4+20	0.0185	0.06	Q V				
4+25	0.0189	0.06	Q V				
4+30	0.0193	0.06	Q V				
4+35	0.0197	0.06	Q V				
4+40	0.0201	0.06	Q V				
4+45	0.0206	0.06	Q V				
4+50	0.0210	0.06	Q V				
4+55	0.0214	0.06	Q V				
5+ 0	0.0218	0.06	Q V				
5+ 5	0.0222	0.06	Q V				
5+10	0.0227	0.06	Q V				
5+15	0.0231	0.06	Q V				
5+20	0.0235	0.06	Q V				
5+25	0.0239	0.06	Q V				
5+30	0.0244	0.06	Q V				
5+35	0.0248	0.06	Q V				
5+40	0.0252	0.06	Q V				
5+45	0.0257	0.06	Q V				
5+50	0.0261	0.06	Q V				
5+55	0.0266	0.06	Q V				
6+ 0	0.0270	0.06	Q V				
6+ 5	0.0275	0.07	Q V				
6+10	0.0279	0.07	Q V				
6+15	0.0284	0.07	Q V				
6+20	0.0288	0.07	Q V				
6+25	0.0293	0.07	Q V				
6+30	0.0297	0.07	Q V				

6+35	0.0302	0.07	Q	V				
6+40	0.0307	0.07	Q	V				
6+45	0.0311	0.07	Q	V				
6+50	0.0316	0.07	Q	V				
6+55	0.0321	0.07	Q	V				
7+ 0	0.0326	0.07	Q	V				
7+ 5	0.0330	0.07	Q	V				
7+10	0.0335	0.07	Q	V				
7+15	0.0340	0.07	Q	V				
7+20	0.0345	0.07	Q	V				
7+25	0.0350	0.07	Q	V				
7+30	0.0355	0.07	Q	V				
7+35	0.0360	0.07	Q	V				
7+40	0.0365	0.07	Q	V				
7+45	0.0370	0.07	Q	V				
7+50	0.0375	0.07	Q	V				
7+55	0.0380	0.07	Q	V				
8+ 0	0.0385	0.07	Q	V				
8+ 5	0.0390	0.07	Q	V				
8+10	0.0395	0.08	Q	V				
8+15	0.0400	0.08	Q	V				
8+20	0.0406	0.08	Q	V				
8+25	0.0411	0.08	Q	V				
8+30	0.0416	0.08	Q	V				
8+35	0.0422	0.08	Q	V				
8+40	0.0427	0.08	Q	V				
8+45	0.0432	0.08	Q	V				
8+50	0.0438	0.08	Q	V				
8+55	0.0443	0.08	Q	V				
9+ 0	0.0449	0.08	Q	V				
9+ 5	0.0455	0.08	Q	V				
9+10	0.0460	0.08	Q	V				
9+15	0.0466	0.08	Q	V				
9+20	0.0472	0.08	Q	V				
9+25	0.0477	0.08	Q	V				
9+30	0.0483	0.08	Q	V				
9+35	0.0489	0.08	Q	V				
9+40	0.0495	0.09	Q	V				
9+45	0.0501	0.09	Q	V				
9+50	0.0507	0.09	Q	V				
9+55	0.0513	0.09	Q	V				
10+ 0	0.0519	0.09	Q	V				
10+ 5	0.0525	0.09	Q	V				
10+10	0.0531	0.09	Q	V				
10+15	0.0537	0.09	Q	V				
10+20	0.0544	0.09	Q	V				
10+25	0.0550	0.09	Q	V				
10+30	0.0556	0.09	Q	V				
10+35	0.0563	0.09	Q	V				
10+40	0.0569	0.09	Q	V				

10+45	0.0576	0.10	Q	V			
10+50	0.0583	0.10	Q	V			
10+55	0.0589	0.10	Q	V			
11+ 0	0.0596	0.10	Q	V			
11+ 5	0.0603	0.10	Q	V			
11+10	0.0610	0.10	Q	V			
11+15	0.0617	0.10	Q	V			
11+20	0.0624	0.10	Q	V			
11+25	0.0631	0.10	Q	V			
11+30	0.0638	0.10	Q	V			
11+35	0.0646	0.11	Q	V			
11+40	0.0653	0.11	Q	V			
11+45	0.0661	0.11	Q	V			
11+50	0.0668	0.11	Q	V			
11+55	0.0676	0.11	Q	V			
12+ 0	0.0684	0.11	Q	V			
12+ 5	0.0691	0.11	Q	V			
12+10	0.0699	0.11	Q	V			
12+15	0.0706	0.11	Q	V			
12+20	0.0714	0.11	Q	V			
12+25	0.0721	0.11	Q	V			
12+30	0.0729	0.11	Q	V			
12+35	0.0736	0.11	Q	V			
12+40	0.0744	0.11	Q	V			
12+45	0.0752	0.11	Q	V			
12+50	0.0760	0.12	Q	V			
12+55	0.0768	0.12	Q	V			
13+ 0	0.0776	0.12	Q	V			
13+ 5	0.0785	0.12	Q	V			
13+10	0.0794	0.13	Q	V			
13+15	0.0802	0.13	Q	V			
13+20	0.0811	0.13	Q	V			
13+25	0.0820	0.13	Q	V			
13+30	0.0830	0.13	Q	V			
13+35	0.0839	0.14	Q	V			
13+40	0.0849	0.14	Q	V			
13+45	0.0859	0.14	Q	V			
13+50	0.0869	0.15	Q	V			
13+55	0.0879	0.15	Q	V			
14+ 0	0.0890	0.15	Q	V			
14+ 5	0.0901	0.16	Q	V			
14+10	0.0912	0.16	Q	V			
14+15	0.0923	0.17	Q	V			
14+20	0.0935	0.17	Q	V			
14+25	0.0947	0.18	Q	V			
14+30	0.0960	0.18	Q	V			
14+35	0.0973	0.19	Q	V			
14+40	0.0986	0.20	Q	V			
14+45	0.1000	0.20	Q	V			
14+50	0.1015	0.21	Q	V			

14+55	0.1030	0.22	Q		V			
15+ 0	0.1045	0.23	Q		V			
15+ 5	0.1062	0.24	Q		V			
15+10	0.1079	0.25	Q		V			
15+15	0.1098	0.27	Q		V			
15+20	0.1117	0.28	Q		V			
15+25	0.1137	0.29	Q		V			
15+30	0.1157	0.29	Q		V			
15+35	0.1178	0.30	Q		V			
15+40	0.1201	0.33	Q		V			
15+45	0.1227	0.37	Q		V			
15+50	0.1257	0.44	Q		V			
15+55	0.1294	0.54	Q		V			
16+ 0	0.1345	0.75	Q		V			
16+ 5	0.1451	1.53	Q	Q		V		
16+10	0.1658	3.01		Q		V		
16+15	0.1765	1.56	Q			V		
16+20	0.1829	0.92	Q			V		
16+25	0.1873	0.64	Q			V		
16+30	0.1908	0.51	Q			V		
16+35	0.1936	0.40	Q			V		
16+40	0.1959	0.33	Q			V		
16+45	0.1978	0.28	Q			V		
16+50	0.1993	0.23	Q			V		
16+55	0.2008	0.21	Q			V		
17+ 0	0.2021	0.19	Q			V		
17+ 5	0.2034	0.18	Q			V		
17+10	0.2045	0.17	Q			V		
17+15	0.2057	0.16	Q			V		
17+20	0.2067	0.15	Q			V		
17+25	0.2077	0.15	Q			V		
17+30	0.2087	0.14	Q			V		
17+35	0.2096	0.13	Q			V		
17+40	0.2105	0.13	Q			V		
17+45	0.2113	0.12	Q			V		
17+50	0.2122	0.12	Q			V		
17+55	0.2130	0.12	Q			V		
18+ 0	0.2137	0.11	Q			V		
18+ 5	0.2145	0.11	Q			V		
18+10	0.2153	0.11	Q			V		
18+15	0.2161	0.11	Q			V		
18+20	0.2168	0.11	Q			V		
18+25	0.2176	0.11	Q			V		
18+30	0.2183	0.11	Q			V		
18+35	0.2190	0.10	Q			V		
18+40	0.2197	0.10	Q			V		
18+45	0.2204	0.10	Q			V		
18+50	0.2211	0.10	Q			V		
18+55	0.2217	0.10	Q			V		
19+ 0	0.2224	0.09	Q			V		

19+ 5	0.2230	0.09	Q				V
19+10	0.2237	0.09	Q				V
19+15	0.2243	0.09	Q				V
19+20	0.2249	0.09	Q				V
19+25	0.2255	0.09	Q				V
19+30	0.2261	0.09	Q				V
19+35	0.2266	0.08	Q				V
19+40	0.2272	0.08	Q				V
19+45	0.2278	0.08	Q				V
19+50	0.2283	0.08	Q				V
19+55	0.2289	0.08	Q				V
20+ 0	0.2294	0.08	Q				V
20+ 5	0.2299	0.08	Q				V
20+10	0.2305	0.08	Q				V
20+15	0.2310	0.07	Q				V
20+20	0.2315	0.07	Q				V
20+25	0.2320	0.07	Q				V
20+30	0.2325	0.07	Q				V
20+35	0.2330	0.07	Q				V
20+40	0.2335	0.07	Q				V
20+45	0.2340	0.07	Q				V
20+50	0.2344	0.07	Q				V
20+55	0.2349	0.07	Q				V
21+ 0	0.2354	0.07	Q				V
21+ 5	0.2358	0.07	Q				V
21+10	0.2363	0.07	Q				V
21+15	0.2367	0.07	Q				V
21+20	0.2372	0.06	Q				V
21+25	0.2376	0.06	Q				V
21+30	0.2380	0.06	Q				V
21+35	0.2385	0.06	Q				V
21+40	0.2389	0.06	Q				V
21+45	0.2393	0.06	Q				V
21+50	0.2397	0.06	Q				V
21+55	0.2402	0.06	Q				V
22+ 0	0.2406	0.06	Q				V
22+ 5	0.2410	0.06	Q				V
22+10	0.2414	0.06	Q				V
22+15	0.2418	0.06	Q				V
22+20	0.2422	0.06	Q				V
22+25	0.2426	0.06	Q				V
22+30	0.2430	0.06	Q				V
22+35	0.2434	0.06	Q				V
22+40	0.2437	0.06	Q				V
22+45	0.2441	0.06	Q				V
22+50	0.2445	0.05	Q				V
22+55	0.2449	0.05	Q				V
23+ 0	0.2452	0.05	Q				V
23+ 5	0.2456	0.05	Q				V
23+10	0.2460	0.05	Q				V

23+15	0.2463	0.05	Q				V
23+20	0.2467	0.05	Q				V
23+25	0.2471	0.05	Q				V
23+30	0.2474	0.05	Q				V
23+35	0.2478	0.05	Q				V
23+40	0.2481	0.05	Q				V
23+45	0.2485	0.05	Q				V
23+50	0.2488	0.05	Q				V
23+55	0.2492	0.05	Q				V
24+ 0	0.2495	0.05	Q				V

Unit Hydrograph Analysis

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Study date 01/05/23

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6277

JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
100 YEAR STORM UNIT HYDROGRAPH, POST CONDITION
AREA A6

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
1.25	1	0.55

Rainfall data for year 2		
1.25	6	0.67

Rainfall data for year 2		
1.25	24	1.12

Rainfall data for year 100

1.25	1	0.95
------	---	------

Rainfall data for year 100

1.25	6	1.82
------	---	------

Rainfall data for year 100

1.25	24	3.18
------	----	------

+++++

***** Area-averaged max loss rate, Fm *****

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
91.0	98.2	1.25	1.000	0.036	0.100	0.004

Area-averaged adjusted loss rate Fm (In/Hr) = 0.004

***** Area-Averaged low loss rate fraction, Yb *****

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
0.12	0.100	91.0	98.2	0.18	0.934
1.12	0.900	98.0	98.0	0.20	0.927

Area-averaged catchment yield fraction, Y = 0.928

Area-averaged low loss fraction, Yb = 0.072

User entry of time of concentration = 0.150 (hours)

+++++

Watershed area = 1.25(Ac.)

Catchment Lag time = 0.120 hours

Unit interval = 5.000 minutes

Unit interval percentage of lag time = 69.4444

Hydrograph baseflow = 0.00(CFS)

Average maximum watershed loss rate(Fm) = 0.004(In/Hr)

Average low loss rate fraction (Yb) = 0.072 (decimal)

DESERT S-Graph Selected

Computed peak 5-minute rainfall = 0.450(In)

Computed peak 30-minute rainfall = 0.771(In)

Specified peak 1-hour rainfall = 0.949(In)

Computed peak 3-hour rainfall = 1.415(In)

Specified peak 6-hour rainfall = 1.820(In)

Specified peak 24-hour rainfall = 3.180(In)

Rainfall depth area reduction factors:

Using a total area of 1.25(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.450(In)

30-minute factor = 1.000	Adjusted rainfall = 0.771(In)
1-hour factor = 1.000	Adjusted rainfall = 0.949(In)
3-hour factor = 1.000	Adjusted rainfall = 1.415(In)
6-hour factor = 1.000	Adjusted rainfall = 1.820(In)
24-hour factor = 1.000	Adjusted rainfall = 3.180(In)

U n i t H y d r o g r a p h		
Interval	'S' Graph	Unit Hydrograph
Number	Mean values	((CFS))
	(K =	15.09 (CFS))
1	7.669	1.157
2	50.033	6.394
3	73.305	3.512
4	83.434	1.529
5	89.365	0.895
6	93.063	0.558
7	95.572	0.379
8	97.262	0.255
9	98.212	0.143
10	99.017	0.121
11	99.681	0.100
12	100.000	0.048

Peak Unit	Adjusted mass rainfall	Unit rainfall
Number	(In)	(In)
1	0.4503	0.4503
2	0.5544	0.1041
3	0.6261	0.0717
4	0.6825	0.0564
5	0.7298	0.0473
6	0.7708	0.0410
7	0.8073	0.0365
8	0.8403	0.0330
9	0.8705	0.0302
10	0.8984	0.0280
11	0.9245	0.0261
12	0.9489	0.0245
13	0.9770	0.0280
14	1.0036	0.0267
15	1.0291	0.0255
16	1.0535	0.0244
17	1.0770	0.0235
18	1.0996	0.0226
19	1.1215	0.0218
20	1.1426	0.0211
21	1.1630	0.0204

22	1.1828	0.0198
23	1.2021	0.0193
24	1.2208	0.0187
25	1.2391	0.0182
26	1.2569	0.0178
27	1.2742	0.0174
28	1.2912	0.0170
29	1.3078	0.0166
30	1.3240	0.0162
31	1.3399	0.0159
32	1.3554	0.0156
33	1.3707	0.0152
34	1.3856	0.0150
35	1.4003	0.0147
36	1.4147	0.0144
37	1.4289	0.0142
38	1.4428	0.0139
39	1.4565	0.0137
40	1.4699	0.0135
41	1.4832	0.0133
42	1.4962	0.0130
43	1.5091	0.0129
44	1.5217	0.0127
45	1.5342	0.0125
46	1.5465	0.0123
47	1.5586	0.0121
48	1.5706	0.0120
49	1.5824	0.0118
50	1.5941	0.0117
51	1.6056	0.0115
52	1.6170	0.0114
53	1.6282	0.0112
54	1.6393	0.0111
55	1.6503	0.0110
56	1.6611	0.0108
57	1.6718	0.0107
58	1.6824	0.0106
59	1.6929	0.0105
60	1.7033	0.0104
61	1.7136	0.0103
62	1.7237	0.0102
63	1.7338	0.0101
64	1.7437	0.0100
65	1.7536	0.0099
66	1.7633	0.0098
67	1.7730	0.0097
68	1.7826	0.0096
69	1.7921	0.0095
70	1.8015	0.0094
71	1.8108	0.0093

72	1.8200	0.0092
73	1.8301	0.0101
74	1.8402	0.0101
75	1.8501	0.0100
76	1.8600	0.0099
77	1.8699	0.0098
78	1.8796	0.0097
79	1.8893	0.0097
80	1.8988	0.0096
81	1.9084	0.0095
82	1.9178	0.0094
83	1.9272	0.0094
84	1.9365	0.0093
85	1.9458	0.0092
86	1.9549	0.0092
87	1.9641	0.0091
88	1.9731	0.0091
89	1.9821	0.0090
90	1.9910	0.0089
91	1.9999	0.0089
92	2.0087	0.0088
93	2.0175	0.0088
94	2.0262	0.0087
95	2.0349	0.0086
96	2.0434	0.0086
97	2.0520	0.0085
98	2.0605	0.0085
99	2.0689	0.0084
100	2.0773	0.0084
101	2.0856	0.0083
102	2.0939	0.0083
103	2.1022	0.0082
104	2.1104	0.0082
105	2.1185	0.0081
106	2.1266	0.0081
107	2.1347	0.0081
108	2.1427	0.0080
109	2.1506	0.0080
110	2.1586	0.0079
111	2.1664	0.0079
112	2.1743	0.0078
113	2.1821	0.0078
114	2.1898	0.0078
115	2.1975	0.0077
116	2.2052	0.0077
117	2.2128	0.0076
118	2.2204	0.0076
119	2.2280	0.0076
120	2.2355	0.0075
121	2.2430	0.0075

122	2.2504	0.0074
123	2.2578	0.0074
124	2.2652	0.0074
125	2.2725	0.0073
126	2.2798	0.0073
127	2.2871	0.0073
128	2.2943	0.0072
129	2.3015	0.0072
130	2.3087	0.0072
131	2.3158	0.0071
132	2.3229	0.0071
133	2.3300	0.0071
134	2.3370	0.0070
135	2.3440	0.0070
136	2.3510	0.0070
137	2.3580	0.0069
138	2.3649	0.0069
139	2.3718	0.0069
140	2.3786	0.0069
141	2.3854	0.0068
142	2.3922	0.0068
143	2.3990	0.0068
144	2.4057	0.0067
145	2.4124	0.0067
146	2.4191	0.0067
147	2.4258	0.0067
148	2.4324	0.0066
149	2.4390	0.0066
150	2.4456	0.0066
151	2.4521	0.0066
152	2.4587	0.0065
153	2.4652	0.0065
154	2.4716	0.0065
155	2.4781	0.0064
156	2.4845	0.0064
157	2.4909	0.0064
158	2.4973	0.0064
159	2.5036	0.0064
160	2.5100	0.0063
161	2.5163	0.0063
162	2.5225	0.0063
163	2.5288	0.0063
164	2.5350	0.0062
165	2.5412	0.0062
166	2.5474	0.0062
167	2.5536	0.0062
168	2.5597	0.0061
169	2.5659	0.0061
170	2.5720	0.0061
171	2.5781	0.0061

172	2.5841	0.0061
173	2.5901	0.0060
174	2.5962	0.0060
175	2.6022	0.0060
176	2.6081	0.0060
177	2.6141	0.0060
178	2.6200	0.0059
179	2.6259	0.0059
180	2.6318	0.0059
181	2.6377	0.0059
182	2.6436	0.0059
183	2.6494	0.0058
184	2.6552	0.0058
185	2.6610	0.0058
186	2.6668	0.0058
187	2.6726	0.0058
188	2.6783	0.0057
189	2.6840	0.0057
190	2.6897	0.0057
191	2.6954	0.0057
192	2.7011	0.0057
193	2.7068	0.0057
194	2.7124	0.0056
195	2.7180	0.0056
196	2.7236	0.0056
197	2.7292	0.0056
198	2.7348	0.0056
199	2.7403	0.0056
200	2.7459	0.0055
201	2.7514	0.0055
202	2.7569	0.0055
203	2.7624	0.0055
204	2.7678	0.0055
205	2.7733	0.0055
206	2.7787	0.0054
207	2.7841	0.0054
208	2.7896	0.0054
209	2.7949	0.0054
210	2.8003	0.0054
211	2.8057	0.0054
212	2.8110	0.0053
213	2.8164	0.0053
214	2.8217	0.0053
215	2.8270	0.0053
216	2.8323	0.0053
217	2.8375	0.0053
218	2.8428	0.0053
219	2.8480	0.0052
220	2.8533	0.0052
221	2.8585	0.0052

222	2.8637	0.0052
223	2.8689	0.0052
224	2.8740	0.0052
225	2.8792	0.0052
226	2.8843	0.0051
227	2.8895	0.0051
228	2.8946	0.0051
229	2.8997	0.0051
230	2.9048	0.0051
231	2.9098	0.0051
232	2.9149	0.0051
233	2.9200	0.0051
234	2.9250	0.0050
235	2.9300	0.0050
236	2.9350	0.0050
237	2.9400	0.0050
238	2.9450	0.0050
239	2.9500	0.0050
240	2.9550	0.0050
241	2.9599	0.0050
242	2.9649	0.0049
243	2.9698	0.0049
244	2.9747	0.0049
245	2.9796	0.0049
246	2.9845	0.0049
247	2.9894	0.0049
248	2.9942	0.0049
249	2.9991	0.0049
250	3.0039	0.0048
251	3.0088	0.0048
252	3.0136	0.0048
253	3.0184	0.0048
254	3.0232	0.0048
255	3.0280	0.0048
256	3.0327	0.0048
257	3.0375	0.0048
258	3.0423	0.0048
259	3.0470	0.0047
260	3.0517	0.0047
261	3.0564	0.0047
262	3.0612	0.0047
263	3.0659	0.0047
264	3.0705	0.0047
265	3.0752	0.0047
266	3.0799	0.0047
267	3.0845	0.0047
268	3.0892	0.0046
269	3.0938	0.0046
270	3.0984	0.0046
271	3.1031	0.0046

272	3.1077	0.0046
273	3.1123	0.0046
274	3.1168	0.0046
275	3.1214	0.0046
276	3.1260	0.0046
277	3.1305	0.0046
278	3.1351	0.0045
279	3.1396	0.0045
280	3.1441	0.0045
281	3.1487	0.0045
282	3.1532	0.0045
283	3.1577	0.0045
284	3.1621	0.0045
285	3.1666	0.0045
286	3.1711	0.0045
287	3.1755	0.0045
288	3.1800	0.0044

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0044	0.0003	0.0042
2	0.0045	0.0003	0.0042
3	0.0045	0.0003	0.0042
4	0.0045	0.0003	0.0042
5	0.0045	0.0003	0.0042
6	0.0045	0.0003	0.0042
7	0.0045	0.0003	0.0042
8	0.0045	0.0003	0.0042
9	0.0046	0.0003	0.0043
10	0.0046	0.0003	0.0043
11	0.0046	0.0003	0.0043
12	0.0046	0.0003	0.0043
13	0.0046	0.0003	0.0043
14	0.0046	0.0003	0.0043
15	0.0047	0.0003	0.0044
16	0.0047	0.0003	0.0044
17	0.0047	0.0003	0.0044
18	0.0047	0.0003	0.0044
19	0.0047	0.0003	0.0044
20	0.0047	0.0003	0.0044
21	0.0048	0.0003	0.0045
22	0.0048	0.0003	0.0045
23	0.0048	0.0003	0.0045
24	0.0048	0.0003	0.0045
25	0.0048	0.0003	0.0045
26	0.0048	0.0003	0.0045
27	0.0049	0.0003	0.0046
28	0.0049	0.0003	0.0046

29	0.0049	0.0003	0.0046
30	0.0049	0.0003	0.0046
31	0.0049	0.0003	0.0046
32	0.0049	0.0003	0.0046
33	0.0050	0.0003	0.0047
34	0.0050	0.0003	0.0047
35	0.0050	0.0003	0.0047
36	0.0050	0.0003	0.0047
37	0.0050	0.0003	0.0047
38	0.0051	0.0003	0.0048
39	0.0051	0.0003	0.0048
40	0.0051	0.0003	0.0048
41	0.0051	0.0003	0.0048
42	0.0051	0.0003	0.0048
43	0.0052	0.0003	0.0049
44	0.0052	0.0003	0.0049
45	0.0052	0.0003	0.0049
46	0.0052	0.0003	0.0049
47	0.0052	0.0003	0.0049
48	0.0053	0.0003	0.0050
49	0.0053	0.0003	0.0050
50	0.0053	0.0003	0.0050
51	0.0053	0.0003	0.0050
52	0.0053	0.0003	0.0050
53	0.0054	0.0003	0.0051
54	0.0054	0.0003	0.0051
55	0.0054	0.0003	0.0051
56	0.0054	0.0003	0.0051
57	0.0055	0.0003	0.0052
58	0.0055	0.0003	0.0052
59	0.0055	0.0003	0.0052
60	0.0055	0.0003	0.0052
61	0.0056	0.0003	0.0053
62	0.0056	0.0003	0.0053
63	0.0056	0.0003	0.0053
64	0.0056	0.0003	0.0053
65	0.0057	0.0003	0.0054
66	0.0057	0.0003	0.0054
67	0.0057	0.0003	0.0054
68	0.0057	0.0003	0.0054
69	0.0058	0.0003	0.0055
70	0.0058	0.0003	0.0055
71	0.0058	0.0003	0.0055
72	0.0059	0.0003	0.0056
73	0.0059	0.0003	0.0056
74	0.0059	0.0003	0.0056
75	0.0060	0.0003	0.0057
76	0.0060	0.0003	0.0057
77	0.0060	0.0003	0.0057
78	0.0060	0.0003	0.0057

79	0.0061	0.0003	0.0058
80	0.0061	0.0003	0.0058
81	0.0061	0.0003	0.0058
82	0.0062	0.0003	0.0059
83	0.0062	0.0003	0.0059
84	0.0062	0.0003	0.0059
85	0.0063	0.0003	0.0060
86	0.0063	0.0003	0.0060
87	0.0064	0.0003	0.0061
88	0.0064	0.0003	0.0061
89	0.0064	0.0003	0.0061
90	0.0064	0.0003	0.0062
91	0.0065	0.0003	0.0062
92	0.0065	0.0003	0.0062
93	0.0066	0.0003	0.0063
94	0.0066	0.0003	0.0063
95	0.0067	0.0003	0.0064
96	0.0067	0.0003	0.0064
97	0.0067	0.0003	0.0064
98	0.0068	0.0003	0.0065
99	0.0068	0.0003	0.0065
100	0.0069	0.0003	0.0066
101	0.0069	0.0003	0.0066
102	0.0069	0.0003	0.0066
103	0.0070	0.0003	0.0067
104	0.0070	0.0003	0.0067
105	0.0071	0.0003	0.0068
106	0.0071	0.0003	0.0068
107	0.0072	0.0003	0.0069
108	0.0072	0.0003	0.0069
109	0.0073	0.0003	0.0070
110	0.0073	0.0003	0.0070
111	0.0074	0.0003	0.0071
112	0.0074	0.0003	0.0071
113	0.0075	0.0003	0.0072
114	0.0076	0.0003	0.0073
115	0.0076	0.0003	0.0073
116	0.0077	0.0003	0.0074
117	0.0078	0.0003	0.0075
118	0.0078	0.0003	0.0075
119	0.0079	0.0003	0.0076
120	0.0079	0.0003	0.0076
121	0.0080	0.0003	0.0077
122	0.0081	0.0003	0.0078
123	0.0081	0.0003	0.0078
124	0.0082	0.0003	0.0079
125	0.0083	0.0003	0.0080
126	0.0083	0.0003	0.0080
127	0.0084	0.0003	0.0081
128	0.0085	0.0003	0.0082

129	0.0086	0.0003	0.0083
130	0.0086	0.0003	0.0084
131	0.0088	0.0003	0.0085
132	0.0088	0.0003	0.0085
133	0.0089	0.0003	0.0086
134	0.0090	0.0003	0.0087
135	0.0091	0.0003	0.0088
136	0.0092	0.0003	0.0089
137	0.0093	0.0003	0.0090
138	0.0094	0.0003	0.0091
139	0.0095	0.0003	0.0092
140	0.0096	0.0003	0.0093
141	0.0097	0.0003	0.0094
142	0.0098	0.0003	0.0095
143	0.0100	0.0003	0.0097
144	0.0101	0.0003	0.0098
145	0.0092	0.0003	0.0089
146	0.0093	0.0003	0.0090
147	0.0095	0.0003	0.0092
148	0.0096	0.0003	0.0093
149	0.0098	0.0003	0.0095
150	0.0099	0.0003	0.0096
151	0.0101	0.0003	0.0098
152	0.0102	0.0003	0.0099
153	0.0104	0.0003	0.0101
154	0.0105	0.0003	0.0102
155	0.0107	0.0003	0.0104
156	0.0108	0.0003	0.0105
157	0.0111	0.0003	0.0108
158	0.0112	0.0003	0.0109
159	0.0115	0.0003	0.0112
160	0.0117	0.0003	0.0114
161	0.0120	0.0003	0.0117
162	0.0121	0.0003	0.0118
163	0.0125	0.0003	0.0122
164	0.0127	0.0003	0.0124
165	0.0130	0.0003	0.0127
166	0.0133	0.0003	0.0130
167	0.0137	0.0003	0.0134
168	0.0139	0.0003	0.0136
169	0.0144	0.0003	0.0141
170	0.0147	0.0003	0.0144
171	0.0152	0.0003	0.0149
172	0.0156	0.0003	0.0153
173	0.0162	0.0003	0.0159
174	0.0166	0.0003	0.0163
175	0.0174	0.0003	0.0171
176	0.0178	0.0003	0.0175
177	0.0187	0.0003	0.0184
178	0.0193	0.0003	0.0190

179	0.0204	0.0003	0.0201
180	0.0211	0.0003	0.0208
181	0.0226	0.0003	0.0223
182	0.0235	0.0003	0.0232
183	0.0255	0.0003	0.0252
184	0.0267	0.0003	0.0264
185	0.0245	0.0003	0.0242
186	0.0261	0.0003	0.0258
187	0.0302	0.0003	0.0299
188	0.0330	0.0003	0.0327
189	0.0410	0.0003	0.0407
190	0.0473	0.0003	0.0470
191	0.0717	0.0003	0.0714
192	0.1041	0.0003	0.1038
193	0.4503	0.0003	0.4500
194	0.0564	0.0003	0.0561
195	0.0365	0.0003	0.0362
196	0.0280	0.0003	0.0277
197	0.0280	0.0003	0.0277
198	0.0244	0.0003	0.0241
199	0.0218	0.0003	0.0215
200	0.0198	0.0003	0.0195
201	0.0182	0.0003	0.0180
202	0.0170	0.0003	0.0167
203	0.0159	0.0003	0.0156
204	0.0150	0.0003	0.0147
205	0.0142	0.0003	0.0139
206	0.0135	0.0003	0.0132
207	0.0129	0.0003	0.0126
208	0.0123	0.0003	0.0120
209	0.0118	0.0003	0.0115
210	0.0114	0.0003	0.0111
211	0.0110	0.0003	0.0107
212	0.0106	0.0003	0.0103
213	0.0103	0.0003	0.0100
214	0.0100	0.0003	0.0097
215	0.0097	0.0003	0.0094
216	0.0094	0.0003	0.0091
217	0.0101	0.0003	0.0098
218	0.0099	0.0003	0.0096
219	0.0097	0.0003	0.0094
220	0.0094	0.0003	0.0092
221	0.0092	0.0003	0.0089
222	0.0091	0.0003	0.0088
223	0.0089	0.0003	0.0086
224	0.0087	0.0003	0.0084
225	0.0085	0.0003	0.0082
226	0.0084	0.0003	0.0081
227	0.0082	0.0003	0.0079
228	0.0081	0.0003	0.0078

229	0.0080	0.0003	0.0077
230	0.0078	0.0003	0.0075
231	0.0077	0.0003	0.0074
232	0.0076	0.0003	0.0073
233	0.0075	0.0003	0.0072
234	0.0074	0.0003	0.0071
235	0.0073	0.0003	0.0070
236	0.0072	0.0003	0.0069
237	0.0071	0.0003	0.0068
238	0.0070	0.0003	0.0067
239	0.0069	0.0003	0.0066
240	0.0068	0.0003	0.0065
241	0.0067	0.0003	0.0064
242	0.0066	0.0003	0.0063
243	0.0066	0.0003	0.0063
244	0.0065	0.0003	0.0062
245	0.0064	0.0003	0.0061
246	0.0063	0.0003	0.0060
247	0.0063	0.0003	0.0060
248	0.0062	0.0003	0.0059
249	0.0061	0.0003	0.0058
250	0.0061	0.0003	0.0058
251	0.0060	0.0003	0.0057
252	0.0059	0.0003	0.0056
253	0.0059	0.0003	0.0056
254	0.0058	0.0003	0.0055
255	0.0058	0.0003	0.0055
256	0.0057	0.0003	0.0054
257	0.0057	0.0003	0.0054
258	0.0056	0.0003	0.0053
259	0.0056	0.0003	0.0053
260	0.0055	0.0003	0.0052
261	0.0055	0.0003	0.0052
262	0.0054	0.0003	0.0051
263	0.0054	0.0003	0.0051
264	0.0053	0.0003	0.0050
265	0.0053	0.0003	0.0050
266	0.0052	0.0003	0.0049
267	0.0052	0.0003	0.0049
268	0.0051	0.0003	0.0048
269	0.0051	0.0003	0.0048
270	0.0051	0.0003	0.0048
271	0.0050	0.0003	0.0047
272	0.0050	0.0003	0.0047
273	0.0050	0.0003	0.0047
274	0.0049	0.0003	0.0046
275	0.0049	0.0003	0.0046
276	0.0048	0.0003	0.0045
277	0.0048	0.0003	0.0045
278	0.0048	0.0003	0.0045

279	0.0047	0.0003	0.0044
280	0.0047	0.0003	0.0044
281	0.0047	0.0003	0.0044
282	0.0046	0.0003	0.0043
283	0.0046	0.0003	0.0043
284	0.0046	0.0003	0.0043
285	0.0046	0.0003	0.0043
286	0.0045	0.0003	0.0042
287	0.0045	0.0003	0.0042
288	0.0045	0.0003	0.0042

 Total soil rain loss = 0.09(In)
 Total effective rainfall = 3.09(In)
 Peak flow rate in flood hydrograph = 3.51(CFS)

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

 Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000	0.00	Q				
0+10	0.0002	0.03	Q				
0+15	0.0006	0.05	Q				
0+20	0.0009	0.05	Q				
0+25	0.0013	0.06	Q				
0+30	0.0017	0.06	Q				
0+35	0.0021	0.06	Q				
0+40	0.0026	0.06	Q				
0+45	0.0030	0.06	Q				
0+50	0.0034	0.06	Q				
0+55	0.0039	0.06	Q				
1+ 0	0.0043	0.06	Q				
1+ 5	0.0048	0.06	Q				
1+10	0.0052	0.07	Q				
1+15	0.0057	0.07	Q				
1+20	0.0061	0.07	Q				
1+25	0.0066	0.07	Q				
1+30	0.0070	0.07	Q				
1+35	0.0075	0.07	Q				
1+40	0.0079	0.07	Q				
1+45	0.0084	0.07	QV				
1+50	0.0089	0.07	QV				
1+55	0.0093	0.07	QV				
2+ 0	0.0098	0.07	QV				
2+ 5	0.0102	0.07	QV				

2+10	0.0107	0.07	QV				
2+15	0.0112	0.07	QV				
2+20	0.0117	0.07	QV				
2+25	0.0121	0.07	QV				
2+30	0.0126	0.07	QV				
2+35	0.0131	0.07	QV				
2+40	0.0136	0.07	QV				
2+45	0.0140	0.07	QV				
2+50	0.0145	0.07	QV				
2+55	0.0150	0.07	QV				
3+ 0	0.0155	0.07	QV				
3+ 5	0.0160	0.07	QV				
3+10	0.0165	0.07	Q V				
3+15	0.0170	0.07	Q V				
3+20	0.0175	0.07	Q V				
3+25	0.0180	0.07	Q V				
3+30	0.0185	0.07	Q V				
3+35	0.0190	0.07	Q V				
3+40	0.0195	0.07	Q V				
3+45	0.0200	0.07	Q V				
3+50	0.0205	0.07	Q V				
3+55	0.0210	0.07	Q V				
4+ 0	0.0215	0.07	Q V				
4+ 5	0.0220	0.07	Q V				
4+10	0.0225	0.07	Q V				
4+15	0.0230	0.08	Q V				
4+20	0.0236	0.08	Q V				
4+25	0.0241	0.08	Q V				
4+30	0.0246	0.08	Q V				
4+35	0.0251	0.08	Q V				
4+40	0.0257	0.08	Q V				
4+45	0.0262	0.08	Q V				
4+50	0.0267	0.08	Q V				
4+55	0.0273	0.08	Q V				
5+ 0	0.0278	0.08	Q V				
5+ 5	0.0283	0.08	Q V				
5+10	0.0289	0.08	Q V				
5+15	0.0294	0.08	Q V				
5+20	0.0300	0.08	Q V				
5+25	0.0305	0.08	Q V				
5+30	0.0311	0.08	Q V				
5+35	0.0317	0.08	Q V				
5+40	0.0322	0.08	Q V				
5+45	0.0328	0.08	Q V				
5+50	0.0333	0.08	Q V				
5+55	0.0339	0.08	Q V				
6+ 0	0.0345	0.08	Q V				
6+ 5	0.0351	0.08	Q V				
6+10	0.0356	0.08	Q V				
6+15	0.0362	0.08	Q V				

6+20	0.0368	0.08	Q	V				
6+25	0.0374	0.09	Q	V				
6+30	0.0380	0.09	Q	V				
6+35	0.0386	0.09	Q	V				
6+40	0.0392	0.09	Q	V				
6+45	0.0398	0.09	Q	V				
6+50	0.0404	0.09	Q	V				
6+55	0.0410	0.09	Q	V				
7+ 0	0.0416	0.09	Q	V				
7+ 5	0.0422	0.09	Q	V				
7+10	0.0428	0.09	Q	V				
7+15	0.0434	0.09	Q	V				
7+20	0.0441	0.09	Q	V				
7+25	0.0447	0.09	Q	V				
7+30	0.0453	0.09	Q	V				
7+35	0.0460	0.09	Q	V				
7+40	0.0466	0.09	Q	V				
7+45	0.0472	0.09	Q	V				
7+50	0.0479	0.09	Q	V				
7+55	0.0485	0.09	Q	V				
8+ 0	0.0492	0.10	Q	V				
8+ 5	0.0499	0.10	Q	V				
8+10	0.0505	0.10	Q	V				
8+15	0.0512	0.10	Q	V				
8+20	0.0519	0.10	Q	V				
8+25	0.0525	0.10	Q	V				
8+30	0.0532	0.10	Q	V				
8+35	0.0539	0.10	Q	V				
8+40	0.0546	0.10	Q	V				
8+45	0.0553	0.10	Q	V				
8+50	0.0560	0.10	Q	V				
8+55	0.0567	0.10	Q	V				
9+ 0	0.0574	0.10	Q	V				
9+ 5	0.0581	0.10	Q	V				
9+10	0.0588	0.10	Q	V				
9+15	0.0596	0.11	Q	V				
9+20	0.0603	0.11	Q	V				
9+25	0.0610	0.11	Q	V				
9+30	0.0618	0.11	Q	V				
9+35	0.0625	0.11	Q	V				
9+40	0.0633	0.11	Q	V				
9+45	0.0641	0.11	Q	V				
9+50	0.0648	0.11	Q	V				
9+55	0.0656	0.11	Q	V				
10+ 0	0.0664	0.11	Q	V				
10+ 5	0.0672	0.11	Q	V				
10+10	0.0680	0.12	Q	V				
10+15	0.0688	0.12	Q	V				
10+20	0.0696	0.12	Q	V				
10+25	0.0704	0.12	Q	V				

10+30	0.0712	0.12	Q	V				
10+35	0.0720	0.12	Q	V				
10+40	0.0729	0.12	Q	V				
10+45	0.0737	0.12	Q	V				
10+50	0.0746	0.12	Q	V				
10+55	0.0754	0.12	Q	V				
11+ 0	0.0763	0.13	Q	V				
11+ 5	0.0772	0.13	Q	V				
11+10	0.0780	0.13	Q	V				
11+15	0.0789	0.13	Q	V				
11+20	0.0798	0.13	Q	V				
11+25	0.0808	0.13	Q	V				
11+30	0.0817	0.13	Q	V				
11+35	0.0826	0.14	Q	V				
11+40	0.0836	0.14	Q	V				
11+45	0.0845	0.14	Q	V				
11+50	0.0855	0.14	Q	V				
11+55	0.0865	0.14	Q	V				
12+ 0	0.0875	0.14	Q	V				
12+ 5	0.0885	0.14	Q	V				
12+10	0.0894	0.14	Q	V				
12+15	0.0904	0.14	Q	V				
12+20	0.0913	0.14	Q	V				
12+25	0.0923	0.14	Q	V				
12+30	0.0933	0.14	Q	V				
12+35	0.0942	0.14	Q	V				
12+40	0.0952	0.14	Q	V				
12+45	0.0962	0.15	Q	V				
12+50	0.0973	0.15	Q	V				
12+55	0.0983	0.15	Q	V				
13+ 0	0.0994	0.15	Q	V				
13+ 5	0.1005	0.16	Q	V				
13+10	0.1016	0.16	Q	V				
13+15	0.1027	0.16	Q	V				
13+20	0.1038	0.17	Q	V				
13+25	0.1050	0.17	Q	V				
13+30	0.1062	0.17	Q	V				
13+35	0.1074	0.18	Q	V				
13+40	0.1086	0.18	Q	V				
13+45	0.1099	0.18	Q	V				
13+50	0.1112	0.19	Q	V				
13+55	0.1125	0.19	Q	V				
14+ 0	0.1138	0.20	Q	V				
14+ 5	0.1152	0.20	Q	V				
14+10	0.1166	0.21	Q	V				
14+15	0.1181	0.21	Q	V				
14+20	0.1196	0.22	Q	V				
14+25	0.1211	0.22	Q	V				
14+30	0.1227	0.23	Q	V				
14+35	0.1244	0.24	Q	V				

14+40	0.1261	0.25	Q		V			
14+45	0.1278	0.26	Q		V			
14+50	0.1297	0.27	Q		V			
14+55	0.1316	0.28	Q		V			
15+ 0	0.1336	0.29	Q		V			
15+ 5	0.1356	0.30	Q		V			
15+10	0.1378	0.32	Q		V			
15+15	0.1401	0.33	Q		V			
15+20	0.1426	0.36	Q		V			
15+25	0.1451	0.37	Q		V			
15+30	0.1477	0.37	Q		V			
15+35	0.1503	0.38	Q		V			
15+40	0.1532	0.42	Q		V			
15+45	0.1564	0.46	Q		V			
15+50	0.1601	0.54	Q		V			
15+55	0.1645	0.64	Q		V			
16+ 0	0.1705	0.88	Q		V			
16+ 5	0.1815	1.59	Q	Q	V			
16+10	0.2057	3.51			Q	V		
16+15	0.2213	2.27		Q		V		
16+20	0.2304	1.32		Q		V		
16+25	0.2368	0.94	Q			V		
16+30	0.2418	0.73	Q			V		
16+35	0.2460	0.60	Q			V		
16+40	0.2494	0.50	Q			V		
16+45	0.2523	0.41	Q			V		
16+50	0.2548	0.37	Q			V		
16+55	0.2571	0.33	Q			V		
17+ 0	0.2590	0.28	Q			V		
17+ 5	0.2607	0.24	Q			V		
17+10	0.2623	0.23	Q			V		
17+15	0.2638	0.21	Q			V		
17+20	0.2652	0.20	Q			V		
17+25	0.2665	0.19	Q			V		
17+30	0.2678	0.18	Q			V		
17+35	0.2690	0.18	Q			V		
17+40	0.2702	0.17	Q			V		
17+45	0.2713	0.16	Q			V		
17+50	0.2724	0.16	Q			V		
17+55	0.2734	0.15	Q			V		
18+ 0	0.2744	0.15	Q			V		
18+ 5	0.2754	0.14	Q			V		
18+10	0.2764	0.15	Q			V		
18+15	0.2774	0.15	Q			V		
18+20	0.2784	0.14	Q			V		
18+25	0.2794	0.14	Q			V		
18+30	0.2803	0.14	Q			V		
18+35	0.2813	0.14	Q			V		
18+40	0.2822	0.13	Q			V		
18+45	0.2831	0.13	Q			V		

18+50	0.2839	0.13	Q				V
18+55	0.2848	0.12	Q				V
19+ 0	0.2856	0.12	Q				V
19+ 5	0.2865	0.12	Q				V
19+10	0.2873	0.12	Q				V
19+15	0.2881	0.12	Q				V
19+20	0.2889	0.11	Q				V
19+25	0.2896	0.11	Q				V
19+30	0.2904	0.11	Q				V
19+35	0.2912	0.11	Q				V
19+40	0.2919	0.11	Q				V
19+45	0.2926	0.11	Q				V
19+50	0.2933	0.10	Q				V
19+55	0.2940	0.10	Q				V
20+ 0	0.2947	0.10	Q				V
20+ 5	0.2954	0.10	Q				V
20+10	0.2961	0.10	Q				V
20+15	0.2968	0.10	Q				V
20+20	0.2974	0.10	Q				V
20+25	0.2981	0.09	Q				V
20+30	0.2987	0.09	Q				V
20+35	0.2994	0.09	Q				V
20+40	0.3000	0.09	Q				V
20+45	0.3006	0.09	Q				V
20+50	0.3012	0.09	Q				V
20+55	0.3018	0.09	Q				V
21+ 0	0.3024	0.09	Q				V
21+ 5	0.3030	0.09	Q				V
21+10	0.3036	0.09	Q				V
21+15	0.3042	0.08	Q				V
21+20	0.3048	0.08	Q				V
21+25	0.3053	0.08	Q				V
21+30	0.3059	0.08	Q				V
21+35	0.3065	0.08	Q				V
21+40	0.3070	0.08	Q				V
21+45	0.3076	0.08	Q				V
21+50	0.3081	0.08	Q				V
21+55	0.3086	0.08	Q				V
22+ 0	0.3092	0.08	Q				V
22+ 5	0.3097	0.08	Q				V
22+10	0.3102	0.08	Q				V
22+15	0.3107	0.08	Q				V
22+20	0.3112	0.07	Q				V
22+25	0.3118	0.07	Q				V
22+30	0.3123	0.07	Q				V
22+35	0.3128	0.07	Q				V
22+40	0.3133	0.07	Q				V
22+45	0.3138	0.07	Q				V
22+50	0.3142	0.07	Q				V
22+55	0.3147	0.07	Q				V

23+ 0	0.3152	0.07	Q				V
23+ 5	0.3157	0.07	Q				V
23+10	0.3162	0.07	Q				V
23+15	0.3166	0.07	Q				V
23+20	0.3171	0.07	Q				V
23+25	0.3176	0.07	Q				V
23+30	0.3180	0.07	Q				V
23+35	0.3185	0.07	Q				V
23+40	0.3189	0.07	Q				V
23+45	0.3194	0.07	Q				V
23+50	0.3198	0.06	Q				V
23+55	0.3203	0.06	Q				V
24+ 0	0.3207	0.06	Q				V

Unit Hydrograph Analysis

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Study date 01/05/23

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6277

JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
100 YEAR STORM UNIT HYDROGRAPH, POST CONDITION
AREA A1

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
0.95	1	0.55

Rainfall data for year 2		
0.95	6	0.67

Rainfall data for year 2		
0.95	24	1.12

Rainfall data for year 100

	0.95	1	0.95
Rainfall data for year 100	0.95	6	1.82
Rainfall data for year 100	0.95	24	3.18

***** Area-averaged max loss rate, Fm *****

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
91.0	98.2	0.95	1.000	0.036	0.100	0.004

Area-averaged adjusted loss rate Fm (In/Hr) = 0.004

***** Area-Averaged low loss rate fraction, Yb *****

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
0.10	0.100	91.0	98.2	0.18	0.934
0.85	0.900	98.0	98.0	0.20	0.927

Area-averaged catchment yield fraction, Y = 0.928

Area-averaged low loss fraction, Yb = 0.072

User entry of time of concentration = 0.080 (hours)

Watershed area = 0.95(Ac.)

Catchment Lag time = 0.064 hours

Unit interval = 5.000 minutes

Unit interval percentage of lag time = 130.2083

Hydrograph baseflow = 0.00(CFS)

Average maximum watershed loss rate(Fm) = 0.004(In/Hr)

Average low loss rate fraction (Yb) = 0.072 (decimal)

DESERT S-Graph Selected

Computed peak 5-minute rainfall = 0.450(In)

Computed peak 30-minute rainfall = 0.771(In)

Specified peak 1-hour rainfall = 0.949(In)

Computed peak 3-hour rainfall = 1.415(In)

Specified peak 6-hour rainfall = 1.820(In)

Specified peak 24-hour rainfall = 3.180(In)

Rainfall depth area reduction factors:

Using a total area of 0.95(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.450(In)

30-minute factor = 1.000	Adjusted rainfall = 0.771(In)
1-hour factor = 1.000	Adjusted rainfall = 0.949(In)
3-hour factor = 1.000	Adjusted rainfall = 1.415(In)
6-hour factor = 1.000	Adjusted rainfall = 1.820(In)
24-hour factor = 1.000	Adjusted rainfall = 3.180(In)

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

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Interval	'S' Graph	Unit Hydrograph
Number	Mean values	((CFS))

(K = 11.49 (CFS))

1	26.489	3.043
2	76.395	5.734
3	89.977	1.560
4	95.624	0.649
5	98.153	0.291
6	100.000	0.212

Peak Unit	Adjusted mass rainfall	Unit rainfall
Number	(In)	(In)
1	0.4503	0.4503
2	0.5544	0.1041
3	0.6261	0.0717
4	0.6825	0.0564
5	0.7298	0.0473
6	0.7708	0.0410
7	0.8073	0.0365
8	0.8403	0.0330
9	0.8705	0.0302
10	0.8984	0.0280
11	0.9245	0.0261
12	0.9490	0.0245
13	0.9770	0.0280
14	1.0036	0.0267
15	1.0291	0.0255
16	1.0536	0.0244
17	1.0770	0.0235
18	1.0996	0.0226
19	1.1215	0.0218
20	1.1426	0.0211
21	1.1630	0.0204
22	1.1828	0.0198
23	1.2021	0.0193
24	1.2208	0.0187
25	1.2391	0.0182
26	1.2569	0.0178
27	1.2742	0.0174

28	1.2912	0.0170
29	1.3078	0.0166
30	1.3240	0.0162
31	1.3399	0.0159
32	1.3554	0.0156
33	1.3707	0.0152
34	1.3856	0.0150
35	1.4003	0.0147
36	1.4147	0.0144
37	1.4289	0.0142
38	1.4428	0.0139
39	1.4565	0.0137
40	1.4699	0.0135
41	1.4832	0.0133
42	1.4962	0.0130
43	1.5091	0.0129
44	1.5217	0.0127
45	1.5342	0.0125
46	1.5465	0.0123
47	1.5587	0.0121
48	1.5706	0.0120
49	1.5824	0.0118
50	1.5941	0.0117
51	1.6056	0.0115
52	1.6170	0.0114
53	1.6282	0.0112
54	1.6393	0.0111
55	1.6503	0.0110
56	1.6611	0.0108
57	1.6718	0.0107
58	1.6824	0.0106
59	1.6929	0.0105
60	1.7033	0.0104
61	1.7136	0.0103
62	1.7237	0.0102
63	1.7338	0.0101
64	1.7437	0.0100
65	1.7536	0.0099
66	1.7633	0.0098
67	1.7730	0.0097
68	1.7826	0.0096
69	1.7921	0.0095
70	1.8015	0.0094
71	1.8108	0.0093
72	1.8200	0.0092
73	1.8301	0.0101
74	1.8402	0.0101
75	1.8501	0.0100
76	1.8600	0.0099
77	1.8699	0.0098

78	1.8796	0.0097
79	1.8893	0.0097
80	1.8988	0.0096
81	1.9084	0.0095
82	1.9178	0.0094
83	1.9272	0.0094
84	1.9365	0.0093
85	1.9458	0.0092
86	1.9549	0.0092
87	1.9641	0.0091
88	1.9731	0.0091
89	1.9821	0.0090
90	1.9910	0.0089
91	1.9999	0.0089
92	2.0087	0.0088
93	2.0175	0.0088
94	2.0262	0.0087
95	2.0349	0.0086
96	2.0434	0.0086
97	2.0520	0.0085
98	2.0605	0.0085
99	2.0689	0.0084
100	2.0773	0.0084
101	2.0856	0.0083
102	2.0939	0.0083
103	2.1022	0.0082
104	2.1104	0.0082
105	2.1185	0.0081
106	2.1266	0.0081
107	2.1347	0.0081
108	2.1427	0.0080
109	2.1506	0.0080
110	2.1586	0.0079
111	2.1664	0.0079
112	2.1743	0.0078
113	2.1821	0.0078
114	2.1898	0.0078
115	2.1975	0.0077
116	2.2052	0.0077
117	2.2128	0.0076
118	2.2204	0.0076
119	2.2280	0.0076
120	2.2355	0.0075
121	2.2430	0.0075
122	2.2504	0.0074
123	2.2578	0.0074
124	2.2652	0.0074
125	2.2725	0.0073
126	2.2798	0.0073
127	2.2871	0.0073

128	2.2943	0.0072
129	2.3015	0.0072
130	2.3087	0.0072
131	2.3158	0.0071
132	2.3229	0.0071
133	2.3300	0.0071
134	2.3370	0.0070
135	2.3440	0.0070
136	2.3510	0.0070
137	2.3580	0.0069
138	2.3649	0.0069
139	2.3718	0.0069
140	2.3786	0.0069
141	2.3854	0.0068
142	2.3922	0.0068
143	2.3990	0.0068
144	2.4057	0.0067
145	2.4124	0.0067
146	2.4191	0.0067
147	2.4258	0.0067
148	2.4324	0.0066
149	2.4390	0.0066
150	2.4456	0.0066
151	2.4521	0.0066
152	2.4587	0.0065
153	2.4652	0.0065
154	2.4716	0.0065
155	2.4781	0.0064
156	2.4845	0.0064
157	2.4909	0.0064
158	2.4973	0.0064
159	2.5036	0.0064
160	2.5100	0.0063
161	2.5163	0.0063
162	2.5225	0.0063
163	2.5288	0.0063
164	2.5350	0.0062
165	2.5413	0.0062
166	2.5474	0.0062
167	2.5536	0.0062
168	2.5597	0.0061
169	2.5659	0.0061
170	2.5720	0.0061
171	2.5781	0.0061
172	2.5841	0.0061
173	2.5901	0.0060
174	2.5962	0.0060
175	2.6022	0.0060
176	2.6081	0.0060
177	2.6141	0.0060

178	2.6200	0.0059
179	2.6259	0.0059
180	2.6318	0.0059
181	2.6377	0.0059
182	2.6436	0.0059
183	2.6494	0.0058
184	2.6552	0.0058
185	2.6610	0.0058
186	2.6668	0.0058
187	2.6726	0.0058
188	2.6783	0.0057
189	2.6840	0.0057
190	2.6897	0.0057
191	2.6954	0.0057
192	2.7011	0.0057
193	2.7068	0.0057
194	2.7124	0.0056
195	2.7180	0.0056
196	2.7236	0.0056
197	2.7292	0.0056
198	2.7348	0.0056
199	2.7403	0.0056
200	2.7459	0.0055
201	2.7514	0.0055
202	2.7569	0.0055
203	2.7624	0.0055
204	2.7678	0.0055
205	2.7733	0.0055
206	2.7787	0.0054
207	2.7842	0.0054
208	2.7896	0.0054
209	2.7949	0.0054
210	2.8003	0.0054
211	2.8057	0.0054
212	2.8110	0.0053
213	2.8164	0.0053
214	2.8217	0.0053
215	2.8270	0.0053
216	2.8323	0.0053
217	2.8375	0.0053
218	2.8428	0.0053
219	2.8480	0.0052
220	2.8533	0.0052
221	2.8585	0.0052
222	2.8637	0.0052
223	2.8689	0.0052
224	2.8740	0.0052
225	2.8792	0.0052
226	2.8843	0.0051
227	2.8895	0.0051

228	2.8946	0.0051
229	2.8997	0.0051
230	2.9048	0.0051
231	2.9098	0.0051
232	2.9149	0.0051
233	2.9200	0.0051
234	2.9250	0.0050
235	2.9300	0.0050
236	2.9350	0.0050
237	2.9400	0.0050
238	2.9450	0.0050
239	2.9500	0.0050
240	2.9550	0.0050
241	2.9599	0.0050
242	2.9649	0.0049
243	2.9698	0.0049
244	2.9747	0.0049
245	2.9796	0.0049
246	2.9845	0.0049
247	2.9894	0.0049
248	2.9942	0.0049
249	2.9991	0.0049
250	3.0039	0.0048
251	3.0088	0.0048
252	3.0136	0.0048
253	3.0184	0.0048
254	3.0232	0.0048
255	3.0280	0.0048
256	3.0327	0.0048
257	3.0375	0.0048
258	3.0423	0.0048
259	3.0470	0.0047
260	3.0517	0.0047
261	3.0564	0.0047
262	3.0612	0.0047
263	3.0659	0.0047
264	3.0705	0.0047
265	3.0752	0.0047
266	3.0799	0.0047
267	3.0845	0.0047
268	3.0892	0.0046
269	3.0938	0.0046
270	3.0984	0.0046
271	3.1031	0.0046
272	3.1077	0.0046
273	3.1123	0.0046
274	3.1168	0.0046
275	3.1214	0.0046
276	3.1260	0.0046
277	3.1305	0.0046

278	3.1351	0.0045
279	3.1396	0.0045
280	3.1441	0.0045
281	3.1487	0.0045
282	3.1532	0.0045
283	3.1577	0.0045
284	3.1621	0.0045
285	3.1666	0.0045
286	3.1711	0.0045
287	3.1755	0.0045
288	3.1800	0.0044

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
----------------------------	--------------------------	---------------------------	-------------------------------

1	0.0044	0.0003	0.0042
2	0.0045	0.0003	0.0042
3	0.0045	0.0003	0.0042
4	0.0045	0.0003	0.0042
5	0.0045	0.0003	0.0042
6	0.0045	0.0003	0.0042
7	0.0045	0.0003	0.0042
8	0.0045	0.0003	0.0042
9	0.0046	0.0003	0.0043
10	0.0046	0.0003	0.0043
11	0.0046	0.0003	0.0043
12	0.0046	0.0003	0.0043
13	0.0046	0.0003	0.0043
14	0.0046	0.0003	0.0043
15	0.0047	0.0003	0.0044
16	0.0047	0.0003	0.0044
17	0.0047	0.0003	0.0044
18	0.0047	0.0003	0.0044
19	0.0047	0.0003	0.0044
20	0.0047	0.0003	0.0044
21	0.0048	0.0003	0.0045
22	0.0048	0.0003	0.0045
23	0.0048	0.0003	0.0045
24	0.0048	0.0003	0.0045
25	0.0048	0.0003	0.0045
26	0.0048	0.0003	0.0045
27	0.0049	0.0003	0.0046
28	0.0049	0.0003	0.0046
29	0.0049	0.0003	0.0046
30	0.0049	0.0003	0.0046
31	0.0049	0.0003	0.0046
32	0.0049	0.0003	0.0046
33	0.0050	0.0003	0.0047
34	0.0050	0.0003	0.0047

35	0.0050	0.0003	0.0047
36	0.0050	0.0003	0.0047
37	0.0050	0.0003	0.0047
38	0.0051	0.0003	0.0048
39	0.0051	0.0003	0.0048
40	0.0051	0.0003	0.0048
41	0.0051	0.0003	0.0048
42	0.0051	0.0003	0.0048
43	0.0052	0.0003	0.0049
44	0.0052	0.0003	0.0049
45	0.0052	0.0003	0.0049
46	0.0052	0.0003	0.0049
47	0.0052	0.0003	0.0049
48	0.0053	0.0003	0.0050
49	0.0053	0.0003	0.0050
50	0.0053	0.0003	0.0050
51	0.0053	0.0003	0.0050
52	0.0053	0.0003	0.0050
53	0.0054	0.0003	0.0051
54	0.0054	0.0003	0.0051
55	0.0054	0.0003	0.0051
56	0.0054	0.0003	0.0051
57	0.0055	0.0003	0.0052
58	0.0055	0.0003	0.0052
59	0.0055	0.0003	0.0052
60	0.0055	0.0003	0.0052
61	0.0056	0.0003	0.0053
62	0.0056	0.0003	0.0053
63	0.0056	0.0003	0.0053
64	0.0056	0.0003	0.0053
65	0.0057	0.0003	0.0054
66	0.0057	0.0003	0.0054
67	0.0057	0.0003	0.0054
68	0.0057	0.0003	0.0054
69	0.0058	0.0003	0.0055
70	0.0058	0.0003	0.0055
71	0.0058	0.0003	0.0055
72	0.0059	0.0003	0.0056
73	0.0059	0.0003	0.0056
74	0.0059	0.0003	0.0056
75	0.0060	0.0003	0.0057
76	0.0060	0.0003	0.0057
77	0.0060	0.0003	0.0057
78	0.0060	0.0003	0.0057
79	0.0061	0.0003	0.0058
80	0.0061	0.0003	0.0058
81	0.0061	0.0003	0.0058
82	0.0062	0.0003	0.0059
83	0.0062	0.0003	0.0059
84	0.0062	0.0003	0.0059

85	0.0063	0.0003	0.0060
86	0.0063	0.0003	0.0060
87	0.0064	0.0003	0.0061
88	0.0064	0.0003	0.0061
89	0.0064	0.0003	0.0061
90	0.0064	0.0003	0.0062
91	0.0065	0.0003	0.0062
92	0.0065	0.0003	0.0062
93	0.0066	0.0003	0.0063
94	0.0066	0.0003	0.0063
95	0.0067	0.0003	0.0064
96	0.0067	0.0003	0.0064
97	0.0067	0.0003	0.0064
98	0.0068	0.0003	0.0065
99	0.0068	0.0003	0.0065
100	0.0069	0.0003	0.0066
101	0.0069	0.0003	0.0066
102	0.0069	0.0003	0.0066
103	0.0070	0.0003	0.0067
104	0.0070	0.0003	0.0067
105	0.0071	0.0003	0.0068
106	0.0071	0.0003	0.0068
107	0.0072	0.0003	0.0069
108	0.0072	0.0003	0.0069
109	0.0073	0.0003	0.0070
110	0.0073	0.0003	0.0070
111	0.0074	0.0003	0.0071
112	0.0074	0.0003	0.0071
113	0.0075	0.0003	0.0072
114	0.0076	0.0003	0.0073
115	0.0076	0.0003	0.0073
116	0.0077	0.0003	0.0074
117	0.0078	0.0003	0.0075
118	0.0078	0.0003	0.0075
119	0.0079	0.0003	0.0076
120	0.0079	0.0003	0.0076
121	0.0080	0.0003	0.0077
122	0.0081	0.0003	0.0078
123	0.0081	0.0003	0.0078
124	0.0082	0.0003	0.0079
125	0.0083	0.0003	0.0080
126	0.0083	0.0003	0.0080
127	0.0084	0.0003	0.0081
128	0.0085	0.0003	0.0082
129	0.0086	0.0003	0.0083
130	0.0086	0.0003	0.0084
131	0.0088	0.0003	0.0085
132	0.0088	0.0003	0.0085
133	0.0089	0.0003	0.0086
134	0.0090	0.0003	0.0087

135	0.0091	0.0003	0.0088
136	0.0092	0.0003	0.0089
137	0.0093	0.0003	0.0090
138	0.0094	0.0003	0.0091
139	0.0095	0.0003	0.0092
140	0.0096	0.0003	0.0093
141	0.0097	0.0003	0.0094
142	0.0098	0.0003	0.0095
143	0.0100	0.0003	0.0097
144	0.0101	0.0003	0.0098
145	0.0092	0.0003	0.0089
146	0.0093	0.0003	0.0090
147	0.0095	0.0003	0.0092
148	0.0096	0.0003	0.0093
149	0.0098	0.0003	0.0095
150	0.0099	0.0003	0.0096
151	0.0101	0.0003	0.0098
152	0.0102	0.0003	0.0099
153	0.0104	0.0003	0.0101
154	0.0105	0.0003	0.0102
155	0.0107	0.0003	0.0104
156	0.0108	0.0003	0.0105
157	0.0111	0.0003	0.0108
158	0.0112	0.0003	0.0109
159	0.0115	0.0003	0.0112
160	0.0117	0.0003	0.0114
161	0.0120	0.0003	0.0117
162	0.0121	0.0003	0.0118
163	0.0125	0.0003	0.0122
164	0.0127	0.0003	0.0124
165	0.0130	0.0003	0.0127
166	0.0133	0.0003	0.0130
167	0.0137	0.0003	0.0134
168	0.0139	0.0003	0.0136
169	0.0144	0.0003	0.0141
170	0.0147	0.0003	0.0144
171	0.0152	0.0003	0.0149
172	0.0156	0.0003	0.0153
173	0.0162	0.0003	0.0159
174	0.0166	0.0003	0.0163
175	0.0174	0.0003	0.0171
176	0.0178	0.0003	0.0175
177	0.0187	0.0003	0.0184
178	0.0193	0.0003	0.0190
179	0.0204	0.0003	0.0201
180	0.0211	0.0003	0.0208
181	0.0226	0.0003	0.0223
182	0.0235	0.0003	0.0232
183	0.0255	0.0003	0.0252
184	0.0267	0.0003	0.0264

185	0.0245	0.0003	0.0242
186	0.0261	0.0003	0.0258
187	0.0302	0.0003	0.0299
188	0.0330	0.0003	0.0327
189	0.0410	0.0003	0.0407
190	0.0473	0.0003	0.0470
191	0.0717	0.0003	0.0714
192	0.1041	0.0003	0.1038
193	0.4503	0.0003	0.4500
194	0.0564	0.0003	0.0561
195	0.0365	0.0003	0.0362
196	0.0280	0.0003	0.0277
197	0.0280	0.0003	0.0277
198	0.0244	0.0003	0.0241
199	0.0218	0.0003	0.0215
200	0.0198	0.0003	0.0195
201	0.0182	0.0003	0.0180
202	0.0170	0.0003	0.0167
203	0.0159	0.0003	0.0156
204	0.0150	0.0003	0.0147
205	0.0142	0.0003	0.0139
206	0.0135	0.0003	0.0132
207	0.0129	0.0003	0.0126
208	0.0123	0.0003	0.0120
209	0.0118	0.0003	0.0115
210	0.0114	0.0003	0.0111
211	0.0110	0.0003	0.0107
212	0.0106	0.0003	0.0103
213	0.0103	0.0003	0.0100
214	0.0100	0.0003	0.0097
215	0.0097	0.0003	0.0094
216	0.0094	0.0003	0.0091
217	0.0101	0.0003	0.0098
218	0.0099	0.0003	0.0096
219	0.0097	0.0003	0.0094
220	0.0094	0.0003	0.0092
221	0.0092	0.0003	0.0089
222	0.0091	0.0003	0.0088
223	0.0089	0.0003	0.0086
224	0.0087	0.0003	0.0084
225	0.0085	0.0003	0.0082
226	0.0084	0.0003	0.0081
227	0.0082	0.0003	0.0079
228	0.0081	0.0003	0.0078
229	0.0080	0.0003	0.0077
230	0.0078	0.0003	0.0075
231	0.0077	0.0003	0.0074
232	0.0076	0.0003	0.0073
233	0.0075	0.0003	0.0072
234	0.0074	0.0003	0.0071

235	0.0073	0.0003	0.0070
236	0.0072	0.0003	0.0069
237	0.0071	0.0003	0.0068
238	0.0070	0.0003	0.0067
239	0.0069	0.0003	0.0066
240	0.0068	0.0003	0.0065
241	0.0067	0.0003	0.0064
242	0.0066	0.0003	0.0063
243	0.0066	0.0003	0.0063
244	0.0065	0.0003	0.0062
245	0.0064	0.0003	0.0061
246	0.0063	0.0003	0.0060
247	0.0063	0.0003	0.0060
248	0.0062	0.0003	0.0059
249	0.0061	0.0003	0.0058
250	0.0061	0.0003	0.0058
251	0.0060	0.0003	0.0057
252	0.0059	0.0003	0.0056
253	0.0059	0.0003	0.0056
254	0.0058	0.0003	0.0055
255	0.0058	0.0003	0.0055
256	0.0057	0.0003	0.0054
257	0.0057	0.0003	0.0054
258	0.0056	0.0003	0.0053
259	0.0056	0.0003	0.0053
260	0.0055	0.0003	0.0052
261	0.0055	0.0003	0.0052
262	0.0054	0.0003	0.0051
263	0.0054	0.0003	0.0051
264	0.0053	0.0003	0.0050
265	0.0053	0.0003	0.0050
266	0.0052	0.0003	0.0049
267	0.0052	0.0003	0.0049
268	0.0051	0.0003	0.0048
269	0.0051	0.0003	0.0048
270	0.0051	0.0003	0.0048
271	0.0050	0.0003	0.0047
272	0.0050	0.0003	0.0047
273	0.0050	0.0003	0.0047
274	0.0049	0.0003	0.0046
275	0.0049	0.0003	0.0046
276	0.0048	0.0003	0.0045
277	0.0048	0.0003	0.0045
278	0.0048	0.0003	0.0045
279	0.0047	0.0003	0.0044
280	0.0047	0.0003	0.0044
281	0.0047	0.0003	0.0044
282	0.0046	0.0003	0.0043
283	0.0046	0.0003	0.0043
284	0.0046	0.0003	0.0043

285	0.0046	0.0003	0.0043
286	0.0045	0.0003	0.0042
287	0.0045	0.0003	0.0042
288	0.0045	0.0003	0.0042

 Total soil rain loss = 0.09(In)
 Total effective rainfall = 3.09(In)
 Peak flow rate in flood hydrograph = 2.98(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	0.0006	0.04	Q					
0+20	0.0010	0.05	Q					
0+25	0.0013	0.05	Q					
0+30	0.0016	0.05	Q					
0+35	0.0019	0.05	Q					
0+40	0.0023	0.05	Q					
0+45	0.0026	0.05	Q					
0+50	0.0030	0.05	Q					
0+55	0.0033	0.05	Q					
1+ 0	0.0036	0.05	Q					
1+ 5	0.0040	0.05	Q					
1+10	0.0043	0.05	Q					
1+15	0.0047	0.05	Q					
1+20	0.0050	0.05	Q					
1+25	0.0053	0.05	Q					
1+30	0.0057	0.05	Q					
1+35	0.0060	0.05	Q					
1+40	0.0064	0.05	QV					
1+45	0.0067	0.05	QV					
1+50	0.0071	0.05	QV					
1+55	0.0074	0.05	QV					
2+ 0	0.0078	0.05	QV					
2+ 5	0.0082	0.05	QV					
2+10	0.0085	0.05	QV					
2+15	0.0089	0.05	QV					
2+20	0.0092	0.05	QV					
2+25	0.0096	0.05	QV					
2+30	0.0100	0.05	QV					
2+35	0.0103	0.05	QV					

2+40	0.0107	0.05	QV
2+45	0.0111	0.05	QV
2+50	0.0114	0.05	QV
2+55	0.0118	0.05	QV
3+ 0	0.0122	0.05	QV
3+ 5	0.0125	0.05	Q V
3+10	0.0129	0.05	Q V
3+15	0.0133	0.05	Q V
3+20	0.0137	0.05	Q V
3+25	0.0140	0.06	Q V
3+30	0.0144	0.06	Q V
3+35	0.0148	0.06	Q V
3+40	0.0152	0.06	Q V
3+45	0.0156	0.06	Q V
3+50	0.0160	0.06	Q V
3+55	0.0164	0.06	Q V
4+ 0	0.0167	0.06	Q V
4+ 5	0.0171	0.06	Q V
4+10	0.0175	0.06	Q V
4+15	0.0179	0.06	Q V
4+20	0.0183	0.06	Q V
4+25	0.0187	0.06	Q V
4+30	0.0191	0.06	Q V
4+35	0.0195	0.06	Q V
4+40	0.0199	0.06	Q V
4+45	0.0203	0.06	Q V
4+50	0.0208	0.06	Q V
4+55	0.0212	0.06	Q V
5+ 0	0.0216	0.06	Q V
5+ 5	0.0220	0.06	Q V
5+10	0.0224	0.06	Q V
5+15	0.0228	0.06	Q V
5+20	0.0232	0.06	Q V
5+25	0.0237	0.06	Q V
5+30	0.0241	0.06	Q V
5+35	0.0245	0.06	Q V
5+40	0.0249	0.06	Q V
5+45	0.0254	0.06	Q V
5+50	0.0258	0.06	Q V
5+55	0.0262	0.06	Q V
6+ 0	0.0267	0.06	Q V
6+ 5	0.0271	0.06	Q V
6+10	0.0276	0.06	Q V
6+15	0.0280	0.06	Q V
6+20	0.0285	0.06	Q V
6+25	0.0289	0.07	Q V
6+30	0.0294	0.07	Q V
6+35	0.0298	0.07	Q V
6+40	0.0303	0.07	Q V
6+45	0.0307	0.07	Q V

6+50	0.0312	0.07	Q	V				
6+55	0.0317	0.07	Q	V				
7+ 0	0.0321	0.07	Q	V				
7+ 5	0.0326	0.07	Q	V				
7+10	0.0331	0.07	Q	V				
7+15	0.0335	0.07	Q	V				
7+20	0.0340	0.07	Q	V				
7+25	0.0345	0.07	Q	V				
7+30	0.0350	0.07	Q	V				
7+35	0.0355	0.07	Q	V				
7+40	0.0360	0.07	Q	V				
7+45	0.0365	0.07	Q	V				
7+50	0.0369	0.07	Q	V				
7+55	0.0374	0.07	Q	V				
8+ 0	0.0379	0.07	Q	V				
8+ 5	0.0385	0.07	Q	V				
8+10	0.0390	0.07	Q	V				
8+15	0.0395	0.07	Q	V				
8+20	0.0400	0.07	Q	V				
8+25	0.0405	0.08	Q	V				
8+30	0.0410	0.08	Q	V				
8+35	0.0416	0.08	Q	V				
8+40	0.0421	0.08	Q	V				
8+45	0.0426	0.08	Q	V				
8+50	0.0432	0.08	Q	V				
8+55	0.0437	0.08	Q	V				
9+ 0	0.0442	0.08	Q	V				
9+ 5	0.0448	0.08	Q	V				
9+10	0.0453	0.08	Q	V				
9+15	0.0459	0.08	Q	V				
9+20	0.0465	0.08	Q	V				
9+25	0.0470	0.08	Q	V				
9+30	0.0476	0.08	Q	V				
9+35	0.0482	0.08	Q	V				
9+40	0.0488	0.08	Q	V				
9+45	0.0493	0.08	Q	V				
9+50	0.0499	0.09	Q	V				
9+55	0.0505	0.09	Q	V				
10+ 0	0.0511	0.09	Q	V				
10+ 5	0.0517	0.09	Q	V				
10+10	0.0523	0.09	Q	V				
10+15	0.0529	0.09	Q	V				
10+20	0.0536	0.09	Q	V				
10+25	0.0542	0.09	Q	V				
10+30	0.0548	0.09	Q	V				
10+35	0.0555	0.09	Q	V				
10+40	0.0561	0.09	Q	V				
10+45	0.0567	0.09	Q	V				
10+50	0.0574	0.10	Q	V				
10+55	0.0581	0.10	Q	V				

11+ 0	0.0587	0.10	Q	V			
11+ 5	0.0594	0.10	Q	V			
11+10	0.0601	0.10	Q	V			
11+15	0.0608	0.10	Q	V			
11+20	0.0615	0.10	Q	V			
11+25	0.0622	0.10	Q	V			
11+30	0.0629	0.10	Q	V			
11+35	0.0636	0.10	Q	V			
11+40	0.0643	0.11	Q	V			
11+45	0.0651	0.11	Q	V			
11+50	0.0658	0.11	Q	V			
11+55	0.0666	0.11	Q	V			
12+ 0	0.0673	0.11	Q	V			
12+ 5	0.0681	0.11	Q	V			
12+10	0.0688	0.10	Q	V			
12+15	0.0695	0.10	Q	V			
12+20	0.0702	0.11	Q	V			
12+25	0.0710	0.11	Q	V			
12+30	0.0717	0.11	Q	V			
12+35	0.0725	0.11	Q	V			
12+40	0.0733	0.11	Q	V			
12+45	0.0740	0.11	Q	V			
12+50	0.0748	0.12	Q	V			
12+55	0.0756	0.12	Q	V			
13+ 0	0.0765	0.12	Q	V			
13+ 5	0.0773	0.12	Q	V			
13+10	0.0781	0.12	Q	V			
13+15	0.0790	0.13	Q	V			
13+20	0.0799	0.13	Q	V			
13+25	0.0808	0.13	Q	V			
13+30	0.0817	0.13	Q	V			
13+35	0.0826	0.14	Q	V			
13+40	0.0836	0.14	Q	V			
13+45	0.0846	0.14	Q	V			
13+50	0.0856	0.15	Q	V			
13+55	0.0866	0.15	Q	V			
14+ 0	0.0877	0.15	Q	V			
14+ 5	0.0887	0.16	Q	V			
14+10	0.0899	0.16	Q	V			
14+15	0.0910	0.17	Q	V			
14+20	0.0922	0.17	Q	V			
14+25	0.0934	0.18	Q	V			
14+30	0.0946	0.18	Q	V			
14+35	0.0959	0.19	Q	V			
14+40	0.0973	0.19	Q	V			
14+45	0.0986	0.20	Q	V			
14+50	0.1001	0.21	Q	V			
14+55	0.1016	0.22	Q	V			
15+ 0	0.1032	0.23	Q	V			
15+ 5	0.1048	0.24	Q	V			

15+10	0.1066	0.25	Q			V			
15+15	0.1084	0.27	Q			V			
15+20	0.1104	0.29	Q			V			
15+25	0.1124	0.29	Q			V			
15+30	0.1143	0.29	Q			V			
15+35	0.1165	0.31	Q			V			
15+40	0.1188	0.34	Q			V			
15+45	0.1215	0.39	Q			V			
15+50	0.1246	0.46	Q			V			
15+55	0.1287	0.59	Q			V			
16+ 0	0.1345	0.84	Q			V			
16+ 5	0.1491	2.13		Q			V		
16+10	0.1696	2.98			Q			V	
16+15	0.1781	1.23		Q				V	
16+20	0.1830	0.72	Q					V	
16+25	0.1864	0.49	Q					V	
16+30	0.1892	0.41	Q					V	
16+35	0.1912	0.29	Q					V	
16+40	0.1930	0.25	Q					V	
16+45	0.1946	0.23	Q					V	
16+50	0.1960	0.21	Q					V	
16+55	0.1973	0.19	Q					V	
17+ 0	0.1986	0.18	Q					V	
17+ 5	0.1998	0.17	Q					V	
17+10	0.2009	0.16	Q					V	
17+15	0.2019	0.15	Q					V	
17+20	0.2029	0.15	Q					V	
17+25	0.2039	0.14	Q					V	
17+30	0.2048	0.13	Q					V	
17+35	0.2057	0.13	Q					V	
17+40	0.2065	0.12	Q					V	
17+45	0.2074	0.12	Q					V	
17+50	0.2082	0.12	Q					V	
17+55	0.2089	0.11	Q					V	
18+ 0	0.2097	0.11	Q					V	
18+ 5	0.2104	0.11	Q					V	
18+10	0.2112	0.11	Q					V	
18+15	0.2119	0.11	Q					V	
18+20	0.2127	0.11	Q					V	
18+25	0.2134	0.11	Q					V	
18+30	0.2141	0.10	Q					V	
18+35	0.2148	0.10	Q					V	
18+40	0.2155	0.10	Q					V	
18+45	0.2162	0.10	Q					V	
18+50	0.2168	0.10	Q					V	
18+55	0.2175	0.09	Q					V	
19+ 0	0.2181	0.09	Q					V	
19+ 5	0.2187	0.09	Q					V	
19+10	0.2193	0.09	Q					V	
19+15	0.2199	0.09	Q					V	

19+20	0.2205	0.09	Q				V
19+25	0.2211	0.08	Q				V
19+30	0.2216	0.08	Q				V
19+35	0.2222	0.08	Q				V
19+40	0.2228	0.08	Q				V
19+45	0.2233	0.08	Q				V
19+50	0.2238	0.08	Q				V
19+55	0.2244	0.08	Q				V
20+ 0	0.2249	0.08	Q				V
20+ 5	0.2254	0.07	Q				V
20+10	0.2259	0.07	Q				V
20+15	0.2264	0.07	Q				V
20+20	0.2269	0.07	Q				V
20+25	0.2274	0.07	Q				V
20+30	0.2279	0.07	Q				V
20+35	0.2284	0.07	Q				V
20+40	0.2288	0.07	Q				V
20+45	0.2293	0.07	Q				V
20+50	0.2298	0.07	Q				V
20+55	0.2302	0.07	Q				V
21+ 0	0.2307	0.07	Q				V
21+ 5	0.2311	0.06	Q				V
21+10	0.2316	0.06	Q				V
21+15	0.2320	0.06	Q				V
21+20	0.2324	0.06	Q				V
21+25	0.2329	0.06	Q				V
21+30	0.2333	0.06	Q				V
21+35	0.2337	0.06	Q				V
21+40	0.2341	0.06	Q				V
21+45	0.2345	0.06	Q				V
21+50	0.2349	0.06	Q				V
21+55	0.2353	0.06	Q				V
22+ 0	0.2358	0.06	Q				V
22+ 5	0.2361	0.06	Q				V
22+10	0.2365	0.06	Q				V
22+15	0.2369	0.06	Q				V
22+20	0.2373	0.06	Q				V
22+25	0.2377	0.06	Q				V
22+30	0.2381	0.06	Q				V
22+35	0.2385	0.05	Q				V
22+40	0.2388	0.05	Q				V
22+45	0.2392	0.05	Q				V
22+50	0.2396	0.05	Q				V
22+55	0.2399	0.05	Q				V
23+ 0	0.2403	0.05	Q				V
23+ 5	0.2407	0.05	Q				V
23+10	0.2410	0.05	Q				V
23+15	0.2414	0.05	Q				V
23+20	0.2417	0.05	Q				V
23+25	0.2421	0.05	Q				V

23+30	0.2424	0.05	Q				V
23+35	0.2428	0.05	Q				V
23+40	0.2431	0.05	Q				V
23+45	0.2435	0.05	Q				V
23+50	0.2438	0.05	Q				V
23+55	0.2441	0.05	Q				V
24+ 0	0.2445	0.05	Q				V

Unit Hydrograph Analysis

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Study date 01/05/23

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6277

JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
100 YEAR STORM UNIT HYDROGRAPH, POST CONDITION
AREA A7

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
2.54	1	0.55

Rainfall data for year 2		
2.54	6	0.67

Rainfall data for year 2		
2.54	24	1.12

Rainfall data for year 100

2.54	1	0.95
------	---	------

Rainfall data for year 100

2.54	6	1.82
------	---	------

Rainfall data for year 100

2.54	24	3.18
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***** Area-averaged max loss rate, Fm *****

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
91.0	98.2	2.54	1.000	0.036	0.100	0.004

Area-averaged adjusted loss rate Fm (In/Hr) = 0.004

***** Area-Averaged low loss rate fraction, Yb *****

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
0.25	0.100	91.0	98.2	0.18	0.934
2.28	0.900	98.0	98.0	0.20	0.927

Area-averaged catchment yield fraction, Y = 0.928

Area-averaged low loss fraction, Yb = 0.072

User entry of time of concentration = 0.100 (hours)

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Watershed area = 2.54(Ac.)

Catchment Lag time = 0.080 hours

Unit interval = 5.000 minutes

Unit interval percentage of lag time = 104.1667

Hydrograph baseflow = 0.00(CFS)

Average maximum watershed loss rate(Fm) = 0.004(In/Hr)

Average low loss rate fraction (Yb) = 0.072 (decimal)

DESERT S-Graph Selected

Computed peak 5-minute rainfall = 0.450(In)

Computed peak 30-minute rainfall = 0.771(In)

Specified peak 1-hour rainfall = 0.949(In)

Computed peak 3-hour rainfall = 1.415(In)

Specified peak 6-hour rainfall = 1.820(In)

Specified peak 24-hour rainfall = 3.180(In)

Rainfall depth area reduction factors:

Using a total area of 2.54(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.450(In)

30-minute factor = 1.000	Adjusted rainfall = 0.771(In)
1-hour factor = 1.000	Adjusted rainfall = 0.949(In)
3-hour factor = 1.000	Adjusted rainfall = 1.415(In)
6-hour factor = 1.000	Adjusted rainfall = 1.820(In)
24-hour factor = 1.000	Adjusted rainfall = 3.180(In)

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

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Interval Number	'S' Graph Mean values	Unit Hydrograph (CFS))
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(K = 30.69 (CFS))

1	18.591	5.706
2	68.747	15.395
3	85.045	5.003
4	92.196	2.195
5	96.028	1.176
6	98.002	0.606
7	99.202	0.368
8	100.000	0.245

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.4503	0.4503
2	0.5543	0.1041
3	0.6260	0.0717
4	0.6825	0.0564
5	0.7297	0.0472
6	0.7707	0.0410
7	0.8072	0.0365
8	0.8402	0.0330
9	0.8704	0.0302
10	0.8984	0.0280
11	0.9244	0.0261
12	0.9489	0.0244
13	0.9769	0.0280
14	1.0036	0.0267
15	1.0291	0.0255
16	1.0535	0.0244
17	1.0770	0.0235
18	1.0996	0.0226
19	1.1214	0.0218
20	1.1425	0.0211
21	1.1630	0.0204
22	1.1828	0.0198
23	1.2021	0.0193
24	1.2208	0.0187
25	1.2391	0.0183

26	1.2569	0.0178
27	1.2742	0.0174
28	1.2912	0.0170
29	1.3077	0.0166
30	1.3240	0.0162
31	1.3398	0.0159
32	1.3554	0.0156
33	1.3706	0.0152
34	1.3856	0.0150
35	1.4003	0.0147
36	1.4147	0.0144
37	1.4288	0.0142
38	1.4428	0.0139
39	1.4564	0.0137
40	1.4699	0.0135
41	1.4832	0.0133
42	1.4962	0.0130
43	1.5091	0.0129
44	1.5217	0.0127
45	1.5342	0.0125
46	1.5465	0.0123
47	1.5586	0.0121
48	1.5706	0.0120
49	1.5824	0.0118
50	1.5941	0.0117
51	1.6056	0.0115
52	1.6170	0.0114
53	1.6282	0.0112
54	1.6393	0.0111
55	1.6503	0.0110
56	1.6611	0.0108
57	1.6718	0.0107
58	1.6824	0.0106
59	1.6929	0.0105
60	1.7033	0.0104
61	1.7136	0.0103
62	1.7237	0.0102
63	1.7338	0.0101
64	1.7437	0.0100
65	1.7536	0.0099
66	1.7633	0.0098
67	1.7730	0.0097
68	1.7826	0.0096
69	1.7921	0.0095
70	1.8014	0.0094
71	1.8108	0.0093
72	1.8200	0.0092
73	1.8301	0.0101
74	1.8402	0.0101
75	1.8501	0.0100

76	1.8600	0.0099
77	1.8698	0.0098
78	1.8796	0.0097
79	1.8892	0.0097
80	1.8988	0.0096
81	1.9084	0.0095
82	1.9178	0.0094
83	1.9272	0.0094
84	1.9365	0.0093
85	1.9457	0.0092
86	1.9549	0.0092
87	1.9640	0.0091
88	1.9731	0.0091
89	1.9821	0.0090
90	1.9910	0.0089
91	1.9999	0.0089
92	2.0087	0.0088
93	2.0175	0.0088
94	2.0262	0.0087
95	2.0348	0.0086
96	2.0434	0.0086
97	2.0520	0.0085
98	2.0605	0.0085
99	2.0689	0.0084
100	2.0773	0.0084
101	2.0856	0.0083
102	2.0939	0.0083
103	2.1022	0.0082
104	2.1104	0.0082
105	2.1185	0.0081
106	2.1266	0.0081
107	2.1347	0.0081
108	2.1427	0.0080
109	2.1506	0.0080
110	2.1585	0.0079
111	2.1664	0.0079
112	2.1743	0.0078
113	2.1821	0.0078
114	2.1898	0.0078
115	2.1975	0.0077
116	2.2052	0.0077
117	2.2128	0.0076
118	2.2204	0.0076
119	2.2280	0.0076
120	2.2355	0.0075
121	2.2430	0.0075
122	2.2504	0.0074
123	2.2578	0.0074
124	2.2652	0.0074
125	2.2725	0.0073

126	2.2798	0.0073
127	2.2871	0.0073
128	2.2943	0.0072
129	2.3015	0.0072
130	2.3087	0.0072
131	2.3158	0.0071
132	2.3229	0.0071
133	2.3300	0.0071
134	2.3370	0.0070
135	2.3440	0.0070
136	2.3510	0.0070
137	2.3580	0.0069
138	2.3649	0.0069
139	2.3717	0.0069
140	2.3786	0.0069
141	2.3854	0.0068
142	2.3922	0.0068
143	2.3990	0.0068
144	2.4057	0.0067
145	2.4124	0.0067
146	2.4191	0.0067
147	2.4258	0.0067
148	2.4324	0.0066
149	2.4390	0.0066
150	2.4456	0.0066
151	2.4521	0.0066
152	2.4587	0.0065
153	2.4652	0.0065
154	2.4716	0.0065
155	2.4781	0.0064
156	2.4845	0.0064
157	2.4909	0.0064
158	2.4973	0.0064
159	2.5036	0.0064
160	2.5100	0.0063
161	2.5163	0.0063
162	2.5225	0.0063
163	2.5288	0.0063
164	2.5350	0.0062
165	2.5412	0.0062
166	2.5474	0.0062
167	2.5536	0.0062
168	2.5597	0.0061
169	2.5659	0.0061
170	2.5720	0.0061
171	2.5780	0.0061
172	2.5841	0.0061
173	2.5901	0.0060
174	2.5962	0.0060
175	2.6022	0.0060

176	2.6081	0.0060
177	2.6141	0.0060
178	2.6200	0.0059
179	2.6259	0.0059
180	2.6318	0.0059
181	2.6377	0.0059
182	2.6436	0.0059
183	2.6494	0.0058
184	2.6552	0.0058
185	2.6610	0.0058
186	2.6668	0.0058
187	2.6726	0.0058
188	2.6783	0.0057
189	2.6840	0.0057
190	2.6897	0.0057
191	2.6954	0.0057
192	2.7011	0.0057
193	2.7068	0.0057
194	2.7124	0.0056
195	2.7180	0.0056
196	2.7236	0.0056
197	2.7292	0.0056
198	2.7348	0.0056
199	2.7403	0.0056
200	2.7459	0.0055
201	2.7514	0.0055
202	2.7569	0.0055
203	2.7624	0.0055
204	2.7678	0.0055
205	2.7733	0.0055
206	2.7787	0.0054
207	2.7841	0.0054
208	2.7895	0.0054
209	2.7949	0.0054
210	2.8003	0.0054
211	2.8057	0.0054
212	2.8110	0.0053
213	2.8164	0.0053
214	2.8217	0.0053
215	2.8270	0.0053
216	2.8323	0.0053
217	2.8375	0.0053
218	2.8428	0.0053
219	2.8480	0.0052
220	2.8533	0.0052
221	2.8585	0.0052
222	2.8637	0.0052
223	2.8688	0.0052
224	2.8740	0.0052
225	2.8792	0.0052

226	2.8843	0.0051
227	2.8895	0.0051
228	2.8946	0.0051
229	2.8997	0.0051
230	2.9048	0.0051
231	2.9098	0.0051
232	2.9149	0.0051
233	2.9200	0.0051
234	2.9250	0.0050
235	2.9300	0.0050
236	2.9350	0.0050
237	2.9400	0.0050
238	2.9450	0.0050
239	2.9500	0.0050
240	2.9550	0.0050
241	2.9599	0.0050
242	2.9648	0.0049
243	2.9698	0.0049
244	2.9747	0.0049
245	2.9796	0.0049
246	2.9845	0.0049
247	2.9894	0.0049
248	2.9942	0.0049
249	2.9991	0.0049
250	3.0039	0.0048
251	3.0087	0.0048
252	3.0136	0.0048
253	3.0184	0.0048
254	3.0232	0.0048
255	3.0280	0.0048
256	3.0327	0.0048
257	3.0375	0.0048
258	3.0423	0.0048
259	3.0470	0.0047
260	3.0517	0.0047
261	3.0564	0.0047
262	3.0611	0.0047
263	3.0658	0.0047
264	3.0705	0.0047
265	3.0752	0.0047
266	3.0799	0.0047
267	3.0845	0.0047
268	3.0892	0.0046
269	3.0938	0.0046
270	3.0984	0.0046
271	3.1031	0.0046
272	3.1077	0.0046
273	3.1123	0.0046
274	3.1168	0.0046
275	3.1214	0.0046

276	3.1260	0.0046
277	3.1305	0.0046
278	3.1351	0.0045
279	3.1396	0.0045
280	3.1441	0.0045
281	3.1486	0.0045
282	3.1532	0.0045
283	3.1576	0.0045
284	3.1621	0.0045
285	3.1666	0.0045
286	3.1711	0.0045
287	3.1755	0.0045
288	3.1800	0.0044

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0044	0.0003	0.0042
2	0.0045	0.0003	0.0042
3	0.0045	0.0003	0.0042
4	0.0045	0.0003	0.0042
5	0.0045	0.0003	0.0042
6	0.0045	0.0003	0.0042
7	0.0045	0.0003	0.0042
8	0.0045	0.0003	0.0042
9	0.0046	0.0003	0.0043
10	0.0046	0.0003	0.0043
11	0.0046	0.0003	0.0043
12	0.0046	0.0003	0.0043
13	0.0046	0.0003	0.0043
14	0.0046	0.0003	0.0043
15	0.0047	0.0003	0.0044
16	0.0047	0.0003	0.0044
17	0.0047	0.0003	0.0044
18	0.0047	0.0003	0.0044
19	0.0047	0.0003	0.0044
20	0.0047	0.0003	0.0044
21	0.0048	0.0003	0.0045
22	0.0048	0.0003	0.0045
23	0.0048	0.0003	0.0045
24	0.0048	0.0003	0.0045
25	0.0048	0.0003	0.0045
26	0.0048	0.0003	0.0045
27	0.0049	0.0003	0.0046
28	0.0049	0.0003	0.0046
29	0.0049	0.0003	0.0046
30	0.0049	0.0003	0.0046
31	0.0049	0.0003	0.0046
32	0.0049	0.0003	0.0046

33	0.0050	0.0003	0.0047
34	0.0050	0.0003	0.0047
35	0.0050	0.0003	0.0047
36	0.0050	0.0003	0.0047
37	0.0050	0.0003	0.0047
38	0.0051	0.0003	0.0048
39	0.0051	0.0003	0.0048
40	0.0051	0.0003	0.0048
41	0.0051	0.0003	0.0048
42	0.0051	0.0003	0.0048
43	0.0052	0.0003	0.0049
44	0.0052	0.0003	0.0049
45	0.0052	0.0003	0.0049
46	0.0052	0.0003	0.0049
47	0.0052	0.0003	0.0049
48	0.0053	0.0003	0.0050
49	0.0053	0.0003	0.0050
50	0.0053	0.0003	0.0050
51	0.0053	0.0003	0.0050
52	0.0053	0.0003	0.0050
53	0.0054	0.0003	0.0051
54	0.0054	0.0003	0.0051
55	0.0054	0.0003	0.0051
56	0.0054	0.0003	0.0051
57	0.0055	0.0003	0.0052
58	0.0055	0.0003	0.0052
59	0.0055	0.0003	0.0052
60	0.0055	0.0003	0.0052
61	0.0056	0.0003	0.0053
62	0.0056	0.0003	0.0053
63	0.0056	0.0003	0.0053
64	0.0056	0.0003	0.0053
65	0.0057	0.0003	0.0054
66	0.0057	0.0003	0.0054
67	0.0057	0.0003	0.0054
68	0.0057	0.0003	0.0054
69	0.0058	0.0003	0.0055
70	0.0058	0.0003	0.0055
71	0.0058	0.0003	0.0055
72	0.0059	0.0003	0.0056
73	0.0059	0.0003	0.0056
74	0.0059	0.0003	0.0056
75	0.0060	0.0003	0.0057
76	0.0060	0.0003	0.0057
77	0.0060	0.0003	0.0057
78	0.0060	0.0003	0.0057
79	0.0061	0.0003	0.0058
80	0.0061	0.0003	0.0058
81	0.0061	0.0003	0.0058
82	0.0062	0.0003	0.0059

83	0.0062	0.0003	0.0059
84	0.0062	0.0003	0.0059
85	0.0063	0.0003	0.0060
86	0.0063	0.0003	0.0060
87	0.0064	0.0003	0.0061
88	0.0064	0.0003	0.0061
89	0.0064	0.0003	0.0061
90	0.0064	0.0003	0.0062
91	0.0065	0.0003	0.0062
92	0.0065	0.0003	0.0062
93	0.0066	0.0003	0.0063
94	0.0066	0.0003	0.0063
95	0.0067	0.0003	0.0064
96	0.0067	0.0003	0.0064
97	0.0067	0.0003	0.0064
98	0.0068	0.0003	0.0065
99	0.0068	0.0003	0.0065
100	0.0069	0.0003	0.0066
101	0.0069	0.0003	0.0066
102	0.0069	0.0003	0.0066
103	0.0070	0.0003	0.0067
104	0.0070	0.0003	0.0067
105	0.0071	0.0003	0.0068
106	0.0071	0.0003	0.0068
107	0.0072	0.0003	0.0069
108	0.0072	0.0003	0.0069
109	0.0073	0.0003	0.0070
110	0.0073	0.0003	0.0070
111	0.0074	0.0003	0.0071
112	0.0074	0.0003	0.0071
113	0.0075	0.0003	0.0072
114	0.0076	0.0003	0.0073
115	0.0076	0.0003	0.0073
116	0.0077	0.0003	0.0074
117	0.0078	0.0003	0.0075
118	0.0078	0.0003	0.0075
119	0.0079	0.0003	0.0076
120	0.0079	0.0003	0.0076
121	0.0080	0.0003	0.0077
122	0.0081	0.0003	0.0078
123	0.0081	0.0003	0.0078
124	0.0082	0.0003	0.0079
125	0.0083	0.0003	0.0080
126	0.0083	0.0003	0.0080
127	0.0084	0.0003	0.0081
128	0.0085	0.0003	0.0082
129	0.0086	0.0003	0.0083
130	0.0086	0.0003	0.0084
131	0.0088	0.0003	0.0085
132	0.0088	0.0003	0.0085

133	0.0089	0.0003	0.0086
134	0.0090	0.0003	0.0087
135	0.0091	0.0003	0.0088
136	0.0092	0.0003	0.0089
137	0.0093	0.0003	0.0090
138	0.0094	0.0003	0.0091
139	0.0095	0.0003	0.0092
140	0.0096	0.0003	0.0093
141	0.0097	0.0003	0.0094
142	0.0098	0.0003	0.0095
143	0.0100	0.0003	0.0097
144	0.0101	0.0003	0.0098
145	0.0092	0.0003	0.0089
146	0.0093	0.0003	0.0090
147	0.0095	0.0003	0.0092
148	0.0096	0.0003	0.0093
149	0.0098	0.0003	0.0095
150	0.0099	0.0003	0.0096
151	0.0101	0.0003	0.0098
152	0.0102	0.0003	0.0099
153	0.0104	0.0003	0.0101
154	0.0105	0.0003	0.0102
155	0.0107	0.0003	0.0104
156	0.0108	0.0003	0.0105
157	0.0111	0.0003	0.0108
158	0.0112	0.0003	0.0109
159	0.0115	0.0003	0.0112
160	0.0117	0.0003	0.0114
161	0.0120	0.0003	0.0117
162	0.0121	0.0003	0.0118
163	0.0125	0.0003	0.0122
164	0.0127	0.0003	0.0124
165	0.0130	0.0003	0.0127
166	0.0133	0.0003	0.0130
167	0.0137	0.0003	0.0134
168	0.0139	0.0003	0.0136
169	0.0144	0.0003	0.0141
170	0.0147	0.0003	0.0144
171	0.0152	0.0003	0.0149
172	0.0156	0.0003	0.0153
173	0.0162	0.0003	0.0159
174	0.0166	0.0003	0.0163
175	0.0174	0.0003	0.0171
176	0.0178	0.0003	0.0175
177	0.0187	0.0003	0.0184
178	0.0193	0.0003	0.0190
179	0.0204	0.0003	0.0201
180	0.0211	0.0003	0.0208
181	0.0226	0.0003	0.0223
182	0.0235	0.0003	0.0232

183	0.0255	0.0003	0.0252
184	0.0267	0.0003	0.0264
185	0.0244	0.0003	0.0242
186	0.0261	0.0003	0.0258
187	0.0302	0.0003	0.0299
188	0.0330	0.0003	0.0327
189	0.0410	0.0003	0.0407
190	0.0472	0.0003	0.0470
191	0.0717	0.0003	0.0714
192	0.1041	0.0003	0.1038
193	0.4503	0.0003	0.4500
194	0.0564	0.0003	0.0561
195	0.0365	0.0003	0.0362
196	0.0280	0.0003	0.0277
197	0.0280	0.0003	0.0277
198	0.0244	0.0003	0.0241
199	0.0218	0.0003	0.0215
200	0.0198	0.0003	0.0195
201	0.0183	0.0003	0.0180
202	0.0170	0.0003	0.0167
203	0.0159	0.0003	0.0156
204	0.0150	0.0003	0.0147
205	0.0142	0.0003	0.0139
206	0.0135	0.0003	0.0132
207	0.0129	0.0003	0.0126
208	0.0123	0.0003	0.0120
209	0.0118	0.0003	0.0115
210	0.0114	0.0003	0.0111
211	0.0110	0.0003	0.0107
212	0.0106	0.0003	0.0103
213	0.0103	0.0003	0.0100
214	0.0100	0.0003	0.0097
215	0.0097	0.0003	0.0094
216	0.0094	0.0003	0.0091
217	0.0101	0.0003	0.0098
218	0.0099	0.0003	0.0096
219	0.0097	0.0003	0.0094
220	0.0094	0.0003	0.0092
221	0.0092	0.0003	0.0089
222	0.0091	0.0003	0.0088
223	0.0089	0.0003	0.0086
224	0.0087	0.0003	0.0084
225	0.0085	0.0003	0.0082
226	0.0084	0.0003	0.0081
227	0.0082	0.0003	0.0079
228	0.0081	0.0003	0.0078
229	0.0080	0.0003	0.0077
230	0.0078	0.0003	0.0075
231	0.0077	0.0003	0.0074
232	0.0076	0.0003	0.0073

233	0.0075	0.0003	0.0072
234	0.0074	0.0003	0.0071
235	0.0073	0.0003	0.0070
236	0.0072	0.0003	0.0069
237	0.0071	0.0003	0.0068
238	0.0070	0.0003	0.0067
239	0.0069	0.0003	0.0066
240	0.0068	0.0003	0.0065
241	0.0067	0.0003	0.0064
242	0.0066	0.0003	0.0063
243	0.0066	0.0003	0.0063
244	0.0065	0.0003	0.0062
245	0.0064	0.0003	0.0061
246	0.0063	0.0003	0.0060
247	0.0063	0.0003	0.0060
248	0.0062	0.0003	0.0059
249	0.0061	0.0003	0.0058
250	0.0061	0.0003	0.0058
251	0.0060	0.0003	0.0057
252	0.0059	0.0003	0.0056
253	0.0059	0.0003	0.0056
254	0.0058	0.0003	0.0055
255	0.0058	0.0003	0.0055
256	0.0057	0.0003	0.0054
257	0.0057	0.0003	0.0054
258	0.0056	0.0003	0.0053
259	0.0056	0.0003	0.0053
260	0.0055	0.0003	0.0052
261	0.0055	0.0003	0.0052
262	0.0054	0.0003	0.0051
263	0.0054	0.0003	0.0051
264	0.0053	0.0003	0.0050
265	0.0053	0.0003	0.0050
266	0.0052	0.0003	0.0049
267	0.0052	0.0003	0.0049
268	0.0051	0.0003	0.0048
269	0.0051	0.0003	0.0048
270	0.0051	0.0003	0.0048
271	0.0050	0.0003	0.0047
272	0.0050	0.0003	0.0047
273	0.0050	0.0003	0.0047
274	0.0049	0.0003	0.0046
275	0.0049	0.0003	0.0046
276	0.0048	0.0003	0.0045
277	0.0048	0.0003	0.0045
278	0.0048	0.0003	0.0045
279	0.0047	0.0003	0.0044
280	0.0047	0.0003	0.0044
281	0.0047	0.0003	0.0044
282	0.0046	0.0003	0.0043

283	0.0046	0.0003	0.0043
284	0.0046	0.0003	0.0043
285	0.0046	0.0003	0.0043
286	0.0045	0.0003	0.0042
287	0.0045	0.0003	0.0042
288	0.0045	0.0003	0.0042

Total soil rain loss = 0.09(In)
 Total effective rainfall = 3.09(In)
 Peak flow rate in flood hydrograph = 8.02(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	0.0008	0.09	Q					
0+15	0.0015	0.11	Q					
0+20	0.0023	0.12	Q					
0+25	0.0032	0.12	Q					
0+30	0.0040	0.13	Q					
0+35	0.0049	0.13	Q					
0+40	0.0058	0.13	Q					
0+45	0.0067	0.13	Q					
0+50	0.0076	0.13	Q					
0+55	0.0085	0.13	Q					
1+ 0	0.0094	0.13	Q					
1+ 5	0.0103	0.13	Q					
1+10	0.0113	0.13	Q					
1+15	0.0122	0.13	Q					
1+20	0.0131	0.13	Q					
1+25	0.0140	0.13	Q					
1+30	0.0149	0.13	Q					
1+35	0.0159	0.13	Q					
1+40	0.0168	0.14	QV					
1+45	0.0177	0.14	QV					
1+50	0.0187	0.14	QV					
1+55	0.0196	0.14	QV					
2+ 0	0.0206	0.14	QV					
2+ 5	0.0215	0.14	QV					
2+10	0.0225	0.14	QV					
2+15	0.0234	0.14	QV					
2+20	0.0244	0.14	QV					
2+25	0.0254	0.14	QV					

2+30	0.0263	0.14	QV				
2+35	0.0273	0.14	QV				
2+40	0.0283	0.14	QV				
2+45	0.0293	0.14	QV				
2+50	0.0302	0.14	QV				
2+55	0.0312	0.14	QV				
3+ 0	0.0322	0.14	QV				
3+ 5	0.0332	0.14	Q V				
3+10	0.0342	0.15	Q V				
3+15	0.0352	0.15	Q V				
3+20	0.0362	0.15	Q V				
3+25	0.0372	0.15	Q V				
3+30	0.0382	0.15	Q V				
3+35	0.0393	0.15	Q V				
3+40	0.0403	0.15	Q V				
3+45	0.0413	0.15	Q V				
3+50	0.0424	0.15	Q V				
3+55	0.0434	0.15	Q V				
4+ 0	0.0444	0.15	Q V				
4+ 5	0.0455	0.15	Q V				
4+10	0.0465	0.15	Q V				
4+15	0.0476	0.15	Q V				
4+20	0.0487	0.15	Q V				
4+25	0.0497	0.15	Q V				
4+30	0.0508	0.16	Q V				
4+35	0.0519	0.16	Q V				
4+40	0.0529	0.16	Q V				
4+45	0.0540	0.16	Q V				
4+50	0.0551	0.16	Q V				
4+55	0.0562	0.16	Q V				
5+ 0	0.0573	0.16	Q V				
5+ 5	0.0584	0.16	Q V				
5+10	0.0595	0.16	Q V				
5+15	0.0607	0.16	Q V				
5+20	0.0618	0.16	Q V				
5+25	0.0629	0.16	Q V				
5+30	0.0640	0.16	Q V				
5+35	0.0652	0.17	Q V				
5+40	0.0663	0.17	Q V				
5+45	0.0675	0.17	Q V				
5+50	0.0686	0.17	Q V				
5+55	0.0698	0.17	Q V				
6+ 0	0.0710	0.17	Q V				
6+ 5	0.0721	0.17	Q V				
6+10	0.0733	0.17	Q V				
6+15	0.0745	0.17	Q V				
6+20	0.0757	0.17	Q V				
6+25	0.0769	0.17	Q V				
6+30	0.0781	0.18	Q V				
6+35	0.0793	0.18	Q V				

6+40	0.0805	0.18	Q	V				
6+45	0.0817	0.18	Q	V				
6+50	0.0830	0.18	Q	V				
6+55	0.0842	0.18	Q	V				
7+ 0	0.0855	0.18	Q	V				
7+ 5	0.0867	0.18	Q	V				
7+10	0.0880	0.18	Q	V				
7+15	0.0892	0.18	Q	V				
7+20	0.0905	0.19	Q	V				
7+25	0.0918	0.19	Q	V				
7+30	0.0931	0.19	Q	V				
7+35	0.0944	0.19	Q	V				
7+40	0.0957	0.19	Q	V				
7+45	0.0970	0.19	Q	V				
7+50	0.0983	0.19	Q	V				
7+55	0.0997	0.19	Q	V				
8+ 0	0.1010	0.19	Q	V				
8+ 5	0.1023	0.20	Q	V				
8+10	0.1037	0.20	Q	V				
8+15	0.1051	0.20	Q	V				
8+20	0.1064	0.20	Q	V				
8+25	0.1078	0.20	Q	V				
8+30	0.1092	0.20	Q	V				
8+35	0.1106	0.20	Q	V				
8+40	0.1120	0.21	Q	V				
8+45	0.1135	0.21	Q	V				
8+50	0.1149	0.21	Q	V				
8+55	0.1163	0.21	Q	V				
9+ 0	0.1178	0.21	Q	V				
9+ 5	0.1192	0.21	Q	V				
9+10	0.1207	0.21	Q	V				
9+15	0.1222	0.22	Q	V				
9+20	0.1237	0.22	Q	V				
9+25	0.1252	0.22	Q	V				
9+30	0.1267	0.22	Q	V				
9+35	0.1283	0.22	Q	V				
9+40	0.1298	0.22	Q	V				
9+45	0.1314	0.23	Q	V				
9+50	0.1329	0.23	Q	V				
9+55	0.1345	0.23	Q	V				
10+ 0	0.1361	0.23	Q	V				
10+ 5	0.1377	0.23	Q	V				
10+10	0.1393	0.24	Q	V				
10+15	0.1410	0.24	Q	V				
10+20	0.1426	0.24	Q	V				
10+25	0.1443	0.24	Q	V				
10+30	0.1460	0.24	Q	V				
10+35	0.1477	0.25	Q	V				
10+40	0.1494	0.25	Q	V				
10+45	0.1511	0.25	Q	V				

10+50	0.1528	0.25	Q	V			
10+55	0.1546	0.26	Q	V			
11+ 0	0.1564	0.26	Q	V			
11+ 5	0.1582	0.26	Q	V			
11+10	0.1600	0.26	Q	V			
11+15	0.1618	0.27	Q	V			
11+20	0.1637	0.27	Q	V			
11+25	0.1656	0.27	Q	V			
11+30	0.1675	0.28	Q	V			
11+35	0.1694	0.28	Q	V			
11+40	0.1713	0.28	Q	V			
11+45	0.1733	0.28	Q	V			
11+50	0.1752	0.29	Q	V			
11+55	0.1773	0.29	Q	V			
12+ 0	0.1793	0.29	Q	V			
12+ 5	0.1813	0.29	Q	V			
12+10	0.1832	0.28	Q	V			
12+15	0.1852	0.28	Q	V			
12+20	0.1871	0.28	Q	V			
12+25	0.1891	0.28	Q	V			
12+30	0.1911	0.29	Q	V			
12+35	0.1931	0.29	Q	V			
12+40	0.1951	0.30	Q	V			
12+45	0.1972	0.30	Q	V			
12+50	0.1993	0.31	Q	V			
12+55	0.2014	0.31	Q	V			
13+ 0	0.2036	0.32	Q	V			
13+ 5	0.2059	0.32	Q	V			
13+10	0.2081	0.33	Q	V			
13+15	0.2104	0.33	Q	V			
13+20	0.2128	0.34	Q	V			
13+25	0.2152	0.35	Q	V			
13+30	0.2176	0.35	Q	V			
13+35	0.2201	0.36	Q	V			
13+40	0.2226	0.37	Q	V			
13+45	0.2252	0.38	Q	V			
13+50	0.2279	0.39	Q	V			
13+55	0.2306	0.40	Q	V			
14+ 0	0.2334	0.41	Q	V			
14+ 5	0.2363	0.42	Q	V			
14+10	0.2392	0.43	Q	V			
14+15	0.2422	0.44	Q	V			
14+20	0.2453	0.45	Q	V			
14+25	0.2486	0.46	Q	V			
14+30	0.2519	0.48	Q	V			
14+35	0.2553	0.50	Q	V			
14+40	0.2588	0.51	Q	V			
14+45	0.2625	0.53	Q	V			
14+50	0.2663	0.56	Q	V			
14+55	0.2703	0.58	Q	V			

15+ 0	0.2745	0.61	Q		V			
15+ 5	0.2788	0.63	Q		V			
15+10	0.2834	0.67	Q		V			
15+15	0.2883	0.70	Q		V			
15+20	0.2934	0.75	Q		V			
15+25	0.2988	0.77	Q		V			
15+30	0.3040	0.76	Q		V			
15+35	0.3095	0.80	Q		V			
15+40	0.3156	0.89	Q		V			
15+45	0.3225	1.00	Q		V			
15+50	0.3307	1.18	Q		V			
15+55	0.3408	1.47	Q		V			
16+ 0	0.3552	2.09		Q	V			
16+ 5	0.3877	4.71			Q	V		
16+10	0.4429	8.02					V	Q
16+15	0.4683	3.68			Q		V	
16+20	0.4833	2.18		Q			V	
16+25	0.4937	1.52		Q			V	
16+30	0.5018	1.18		Q			V	
16+35	0.5084	0.96		Q			V	
16+40	0.5140	0.81		Q			V	
16+45	0.5184	0.64		Q			V	
16+50	0.5224	0.58		Q			V	
16+55	0.5261	0.53		Q			V	
17+ 0	0.5295	0.50	Q				V	
17+ 5	0.5328	0.47	Q				V	
17+10	0.5358	0.44	Q				V	
17+15	0.5386	0.42	Q				V	
17+20	0.5414	0.40	Q				V	
17+25	0.5440	0.38	Q				V	
17+30	0.5465	0.36	Q				V	
17+35	0.5488	0.35	Q				V	
17+40	0.5511	0.33	Q				V	
17+45	0.5534	0.32	Q				V	
17+50	0.5555	0.31	Q				V	
17+55	0.5576	0.30	Q				V	
18+ 0	0.5596	0.29	Q				V	
18+ 5	0.5616	0.29	Q				V	
18+10	0.5636	0.30	Q				V	
18+15	0.5656	0.29	Q				V	
18+20	0.5676	0.29	Q				V	
18+25	0.5696	0.28	Q				V	
18+30	0.5715	0.28	Q				V	
18+35	0.5733	0.27	Q				V	
18+40	0.5752	0.27	Q				V	
18+45	0.5770	0.26	Q				V	
18+50	0.5787	0.26	Q				V	
18+55	0.5804	0.25	Q				V	
19+ 0	0.5821	0.25	Q				V	
19+ 5	0.5838	0.24	Q				V	

19+10	0.5854	0.24	Q				V
19+15	0.5870	0.23	Q				V
19+20	0.5886	0.23	Q				V
19+25	0.5902	0.23	Q				V
19+30	0.5917	0.22	Q				V
19+35	0.5932	0.22	Q				V
19+40	0.5947	0.22	Q				V
19+45	0.5962	0.21	Q				V
19+50	0.5976	0.21	Q				V
19+55	0.5990	0.21	Q				V
20+ 0	0.6004	0.20	Q				V
20+ 5	0.6018	0.20	Q				V
20+10	0.6032	0.20	Q				V
20+15	0.6045	0.20	Q				V
20+20	0.6058	0.19	Q				V
20+25	0.6071	0.19	Q				V
20+30	0.6084	0.19	Q				V
20+35	0.6097	0.19	Q				V
20+40	0.6110	0.18	Q				V
20+45	0.6122	0.18	Q				V
20+50	0.6135	0.18	Q				V
20+55	0.6147	0.18	Q				V
21+ 0	0.6159	0.18	Q				V
21+ 5	0.6171	0.17	Q				V
21+10	0.6183	0.17	Q				V
21+15	0.6195	0.17	Q				V
21+20	0.6206	0.17	Q				V
21+25	0.6218	0.17	Q				V
21+30	0.6229	0.17	Q				V
21+35	0.6240	0.16	Q				V
21+40	0.6252	0.16	Q				V
21+45	0.6263	0.16	Q				V
21+50	0.6274	0.16	Q				V
21+55	0.6284	0.16	Q				V
22+ 0	0.6295	0.16	Q				V
22+ 5	0.6306	0.15	Q				V
22+10	0.6316	0.15	Q				V
22+15	0.6327	0.15	Q				V
22+20	0.6337	0.15	Q				V
22+25	0.6347	0.15	Q				V
22+30	0.6358	0.15	Q				V
22+35	0.6368	0.15	Q				V
22+40	0.6378	0.15	Q				V
22+45	0.6388	0.14	Q				V
22+50	0.6398	0.14	Q				V
22+55	0.6407	0.14	Q				V
23+ 0	0.6417	0.14	Q				V
23+ 5	0.6427	0.14	Q				V
23+10	0.6436	0.14	Q				V
23+15	0.6446	0.14	Q				V

23+20	0.6455	0.14	Q				V
23+25	0.6465	0.14	Q				V
23+30	0.6474	0.13	Q				V
23+35	0.6483	0.13	Q				V
23+40	0.6492	0.13	Q				V
23+45	0.6501	0.13	Q				V
23+50	0.6510	0.13	Q				V
23+55	0.6519	0.13	Q				V
24+ 0	0.6528	0.13	Q				V

Unit Hydrograph Analysis

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Study date 01/05/23

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6277

JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
100 YEAR STORM UNIT HYDROGRAPH, POST CONDITION
AREA A8

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
4.10	1	0.55

Rainfall data for year 2
4.10 6 0.67

Rainfall data for year 2
4.10 24 1.12

Rainfall data for year 100

4.10	1	0.95
------	---	------

Rainfall data for year 100

4.10	6	1.82
------	---	------

Rainfall data for year 100

4.10	24	3.18
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***** Area-averaged max loss rate, Fm *****

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
91.0	98.2	4.10	1.000	0.036	0.100	0.004

Area-averaged adjusted loss rate Fm (In/Hr) = 0.004

***** Area-Averaged low loss rate fraction, Yb *****

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
0.41	0.100	91.0	98.2	0.18	0.934
3.69	0.900	98.0	98.0	0.20	0.927

Area-averaged catchment yield fraction, Y = 0.928

Area-averaged low loss fraction, Yb = 0.072

User entry of time of concentration = 0.120 (hours)

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Watershed area = 4.10(Ac.)

Catchment Lag time = 0.096 hours

Unit interval = 5.000 minutes

Unit interval percentage of lag time = 86.8056

Hydrograph baseflow = 0.00(CFS)

Average maximum watershed loss rate(Fm) = 0.004(In/Hr)

Average low loss rate fraction (Yb) = 0.072 (decimal)

DESERT S-Graph Selected

Computed peak 5-minute rainfall = 0.450(In)

Computed peak 30-minute rainfall = 0.771(In)

Specified peak 1-hour rainfall = 0.949(In)

Computed peak 3-hour rainfall = 1.415(In)

Specified peak 6-hour rainfall = 1.820(In)

Specified peak 24-hour rainfall = 3.180(In)

Rainfall depth area reduction factors:

Using a total area of 4.10(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.450(In)

30-minute factor = 1.000	Adjusted rainfall = 0.771(In)
1-hour factor = 1.000	Adjusted rainfall = 0.949(In)
3-hour factor = 1.000	Adjusted rainfall = 1.415(In)
6-hour factor = 1.000	Adjusted rainfall = 1.820(In)
24-hour factor = 1.000	Adjusted rainfall = 3.180(In)

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

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Interval Number	'S' Graph Mean values	Unit Hydrograph (CFS))
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(K = 49.63 (CFS))

1	12.900	6.403
2	61.216	23.980
3	80.211	9.428
4	88.718	4.222
5	93.403	2.325
6	96.281	1.429
7	97.904	0.805
8	98.913	0.501
9	100.000	0.250

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.4502	0.4502
2	0.5543	0.1041
3	0.6260	0.0717
4	0.6824	0.0564
5	0.7297	0.0472
6	0.7707	0.0410
7	0.8072	0.0365
8	0.8401	0.0330
9	0.8704	0.0302
10	0.8983	0.0280
11	0.9244	0.0261
12	0.9488	0.0244
13	0.9768	0.0280
14	1.0035	0.0267
15	1.0290	0.0255
16	1.0534	0.0244
17	1.0769	0.0235
18	1.0995	0.0226
19	1.1214	0.0218
20	1.1425	0.0211
21	1.1629	0.0204
22	1.1828	0.0198
23	1.2020	0.0193
24	1.2208	0.0187

25	1.2390	0.0183
26	1.2568	0.0178
27	1.2742	0.0174
28	1.2911	0.0170
29	1.3077	0.0166
30	1.3239	0.0162
31	1.3398	0.0159
32	1.3554	0.0156
33	1.3706	0.0152
34	1.3856	0.0150
35	1.4003	0.0147
36	1.4147	0.0144
37	1.4288	0.0142
38	1.4427	0.0139
39	1.4564	0.0137
40	1.4699	0.0135
41	1.4831	0.0133
42	1.4962	0.0130
43	1.5090	0.0129
44	1.5217	0.0127
45	1.5342	0.0125
46	1.5465	0.0123
47	1.5586	0.0121
48	1.5706	0.0120
49	1.5824	0.0118
50	1.5941	0.0117
51	1.6056	0.0115
52	1.6170	0.0114
53	1.6282	0.0112
54	1.6393	0.0111
55	1.6503	0.0110
56	1.6611	0.0108
57	1.6718	0.0107
58	1.6824	0.0106
59	1.6929	0.0105
60	1.7033	0.0104
61	1.7135	0.0103
62	1.7237	0.0102
63	1.7338	0.0101
64	1.7437	0.0100
65	1.7536	0.0099
66	1.7633	0.0098
67	1.7730	0.0097
68	1.7826	0.0096
69	1.7920	0.0095
70	1.8014	0.0094
71	1.8107	0.0093
72	1.8200	0.0092
73	1.8301	0.0101
74	1.8402	0.0101

75	1.8501	0.0100
76	1.8600	0.0099
77	1.8698	0.0098
78	1.8796	0.0097
79	1.8892	0.0097
80	1.8988	0.0096
81	1.9083	0.0095
82	1.9178	0.0094
83	1.9272	0.0094
84	1.9365	0.0093
85	1.9457	0.0092
86	1.9549	0.0092
87	1.9640	0.0091
88	1.9731	0.0091
89	1.9821	0.0090
90	1.9910	0.0089
91	1.9999	0.0089
92	2.0087	0.0088
93	2.0175	0.0088
94	2.0262	0.0087
95	2.0348	0.0086
96	2.0434	0.0086
97	2.0520	0.0085
98	2.0605	0.0085
99	2.0689	0.0084
100	2.0773	0.0084
101	2.0856	0.0083
102	2.0939	0.0083
103	2.1022	0.0082
104	2.1103	0.0082
105	2.1185	0.0081
106	2.1266	0.0081
107	2.1346	0.0081
108	2.1427	0.0080
109	2.1506	0.0080
110	2.1585	0.0079
111	2.1664	0.0079
112	2.1742	0.0078
113	2.1820	0.0078
114	2.1898	0.0078
115	2.1975	0.0077
116	2.2052	0.0077
117	2.2128	0.0076
118	2.2204	0.0076
119	2.2280	0.0076
120	2.2355	0.0075
121	2.2430	0.0075
122	2.2504	0.0074
123	2.2578	0.0074
124	2.2652	0.0074

125	2.2725	0.0073
126	2.2798	0.0073
127	2.2871	0.0073
128	2.2943	0.0072
129	2.3015	0.0072
130	2.3087	0.0072
131	2.3158	0.0071
132	2.3229	0.0071
133	2.3300	0.0071
134	2.3370	0.0070
135	2.3440	0.0070
136	2.3510	0.0070
137	2.3579	0.0069
138	2.3649	0.0069
139	2.3717	0.0069
140	2.3786	0.0069
141	2.3854	0.0068
142	2.3922	0.0068
143	2.3990	0.0068
144	2.4057	0.0067
145	2.4124	0.0067
146	2.4191	0.0067
147	2.4258	0.0067
148	2.4324	0.0066
149	2.4390	0.0066
150	2.4456	0.0066
151	2.4521	0.0066
152	2.4587	0.0065
153	2.4652	0.0065
154	2.4716	0.0065
155	2.4781	0.0064
156	2.4845	0.0064
157	2.4909	0.0064
158	2.4973	0.0064
159	2.5036	0.0064
160	2.5099	0.0063
161	2.5163	0.0063
162	2.5225	0.0063
163	2.5288	0.0063
164	2.5350	0.0062
165	2.5412	0.0062
166	2.5474	0.0062
167	2.5536	0.0062
168	2.5597	0.0061
169	2.5659	0.0061
170	2.5720	0.0061
171	2.5780	0.0061
172	2.5841	0.0061
173	2.5901	0.0060
174	2.5961	0.0060

175	2.6021	0.0060
176	2.6081	0.0060
177	2.6141	0.0060
178	2.6200	0.0059
179	2.6259	0.0059
180	2.6318	0.0059
181	2.6377	0.0059
182	2.6436	0.0059
183	2.6494	0.0058
184	2.6552	0.0058
185	2.6610	0.0058
186	2.6668	0.0058
187	2.6726	0.0058
188	2.6783	0.0057
189	2.6840	0.0057
190	2.6897	0.0057
191	2.6954	0.0057
192	2.7011	0.0057
193	2.7067	0.0057
194	2.7124	0.0056
195	2.7180	0.0056
196	2.7236	0.0056
197	2.7292	0.0056
198	2.7348	0.0056
199	2.7403	0.0056
200	2.7458	0.0055
201	2.7514	0.0055
202	2.7569	0.0055
203	2.7624	0.0055
204	2.7678	0.0055
205	2.7733	0.0055
206	2.7787	0.0054
207	2.7841	0.0054
208	2.7895	0.0054
209	2.7949	0.0054
210	2.8003	0.0054
211	2.8057	0.0054
212	2.8110	0.0053
213	2.8163	0.0053
214	2.8217	0.0053
215	2.8270	0.0053
216	2.8322	0.0053
217	2.8375	0.0053
218	2.8428	0.0053
219	2.8480	0.0052
220	2.8532	0.0052
221	2.8585	0.0052
222	2.8637	0.0052
223	2.8688	0.0052
224	2.8740	0.0052

225	2.8792	0.0052
226	2.8843	0.0051
227	2.8894	0.0051
228	2.8946	0.0051
229	2.8997	0.0051
230	2.9048	0.0051
231	2.9098	0.0051
232	2.9149	0.0051
233	2.9200	0.0051
234	2.9250	0.0050
235	2.9300	0.0050
236	2.9350	0.0050
237	2.9400	0.0050
238	2.9450	0.0050
239	2.9500	0.0050
240	2.9550	0.0050
241	2.9599	0.0050
242	2.9648	0.0049
243	2.9698	0.0049
244	2.9747	0.0049
245	2.9796	0.0049
246	2.9845	0.0049
247	2.9893	0.0049
248	2.9942	0.0049
249	2.9991	0.0049
250	3.0039	0.0048
251	3.0087	0.0048
252	3.0136	0.0048
253	3.0184	0.0048
254	3.0232	0.0048
255	3.0280	0.0048
256	3.0327	0.0048
257	3.0375	0.0048
258	3.0422	0.0048
259	3.0470	0.0047
260	3.0517	0.0047
261	3.0564	0.0047
262	3.0611	0.0047
263	3.0658	0.0047
264	3.0705	0.0047
265	3.0752	0.0047
266	3.0799	0.0047
267	3.0845	0.0047
268	3.0892	0.0046
269	3.0938	0.0046
270	3.0984	0.0046
271	3.1030	0.0046
272	3.1077	0.0046
273	3.1122	0.0046
274	3.1168	0.0046

275	3.1214	0.0046
276	3.1260	0.0046
277	3.1305	0.0046
278	3.1351	0.0045
279	3.1396	0.0045
280	3.1441	0.0045
281	3.1486	0.0045
282	3.1531	0.0045
283	3.1576	0.0045
284	3.1621	0.0045
285	3.1666	0.0045
286	3.1711	0.0045
287	3.1755	0.0045
288	3.1800	0.0044

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0044	0.0003	0.0042
2	0.0045	0.0003	0.0042
3	0.0045	0.0003	0.0042
4	0.0045	0.0003	0.0042
5	0.0045	0.0003	0.0042
6	0.0045	0.0003	0.0042
7	0.0045	0.0003	0.0042
8	0.0045	0.0003	0.0042
9	0.0046	0.0003	0.0043
10	0.0046	0.0003	0.0043
11	0.0046	0.0003	0.0043
12	0.0046	0.0003	0.0043
13	0.0046	0.0003	0.0043
14	0.0046	0.0003	0.0043
15	0.0047	0.0003	0.0044
16	0.0047	0.0003	0.0044
17	0.0047	0.0003	0.0044
18	0.0047	0.0003	0.0044
19	0.0047	0.0003	0.0044
20	0.0047	0.0003	0.0044
21	0.0048	0.0003	0.0045
22	0.0048	0.0003	0.0045
23	0.0048	0.0003	0.0045
24	0.0048	0.0003	0.0045
25	0.0048	0.0003	0.0045
26	0.0048	0.0003	0.0045
27	0.0049	0.0003	0.0046
28	0.0049	0.0003	0.0046
29	0.0049	0.0003	0.0046
30	0.0049	0.0003	0.0046
31	0.0049	0.0003	0.0046

32	0.0049	0.0003	0.0046
33	0.0050	0.0003	0.0047
34	0.0050	0.0003	0.0047
35	0.0050	0.0003	0.0047
36	0.0050	0.0003	0.0047
37	0.0050	0.0003	0.0047
38	0.0051	0.0003	0.0048
39	0.0051	0.0003	0.0048
40	0.0051	0.0003	0.0048
41	0.0051	0.0003	0.0048
42	0.0051	0.0003	0.0048
43	0.0052	0.0003	0.0049
44	0.0052	0.0003	0.0049
45	0.0052	0.0003	0.0049
46	0.0052	0.0003	0.0049
47	0.0052	0.0003	0.0049
48	0.0053	0.0003	0.0050
49	0.0053	0.0003	0.0050
50	0.0053	0.0003	0.0050
51	0.0053	0.0003	0.0050
52	0.0053	0.0003	0.0050
53	0.0054	0.0003	0.0051
54	0.0054	0.0003	0.0051
55	0.0054	0.0003	0.0051
56	0.0054	0.0003	0.0051
57	0.0055	0.0003	0.0052
58	0.0055	0.0003	0.0052
59	0.0055	0.0003	0.0052
60	0.0055	0.0003	0.0052
61	0.0056	0.0003	0.0053
62	0.0056	0.0003	0.0053
63	0.0056	0.0003	0.0053
64	0.0056	0.0003	0.0053
65	0.0057	0.0003	0.0054
66	0.0057	0.0003	0.0054
67	0.0057	0.0003	0.0054
68	0.0057	0.0003	0.0054
69	0.0058	0.0003	0.0055
70	0.0058	0.0003	0.0055
71	0.0058	0.0003	0.0055
72	0.0059	0.0003	0.0056
73	0.0059	0.0003	0.0056
74	0.0059	0.0003	0.0056
75	0.0060	0.0003	0.0057
76	0.0060	0.0003	0.0057
77	0.0060	0.0003	0.0057
78	0.0060	0.0003	0.0057
79	0.0061	0.0003	0.0058
80	0.0061	0.0003	0.0058
81	0.0061	0.0003	0.0058

82	0.0062	0.0003	0.0059
83	0.0062	0.0003	0.0059
84	0.0062	0.0003	0.0059
85	0.0063	0.0003	0.0060
86	0.0063	0.0003	0.0060
87	0.0064	0.0003	0.0061
88	0.0064	0.0003	0.0061
89	0.0064	0.0003	0.0061
90	0.0064	0.0003	0.0062
91	0.0065	0.0003	0.0062
92	0.0065	0.0003	0.0062
93	0.0066	0.0003	0.0063
94	0.0066	0.0003	0.0063
95	0.0067	0.0003	0.0064
96	0.0067	0.0003	0.0064
97	0.0067	0.0003	0.0064
98	0.0068	0.0003	0.0065
99	0.0068	0.0003	0.0065
100	0.0069	0.0003	0.0066
101	0.0069	0.0003	0.0066
102	0.0069	0.0003	0.0066
103	0.0070	0.0003	0.0067
104	0.0070	0.0003	0.0067
105	0.0071	0.0003	0.0068
106	0.0071	0.0003	0.0068
107	0.0072	0.0003	0.0069
108	0.0072	0.0003	0.0069
109	0.0073	0.0003	0.0070
110	0.0073	0.0003	0.0070
111	0.0074	0.0003	0.0071
112	0.0074	0.0003	0.0071
113	0.0075	0.0003	0.0072
114	0.0076	0.0003	0.0073
115	0.0076	0.0003	0.0073
116	0.0077	0.0003	0.0074
117	0.0078	0.0003	0.0075
118	0.0078	0.0003	0.0075
119	0.0079	0.0003	0.0076
120	0.0079	0.0003	0.0076
121	0.0080	0.0003	0.0077
122	0.0081	0.0003	0.0078
123	0.0081	0.0003	0.0078
124	0.0082	0.0003	0.0079
125	0.0083	0.0003	0.0080
126	0.0083	0.0003	0.0080
127	0.0084	0.0003	0.0081
128	0.0085	0.0003	0.0082
129	0.0086	0.0003	0.0083
130	0.0086	0.0003	0.0084
131	0.0088	0.0003	0.0085

132	0.0088	0.0003	0.0085
133	0.0089	0.0003	0.0086
134	0.0090	0.0003	0.0087
135	0.0091	0.0003	0.0088
136	0.0092	0.0003	0.0089
137	0.0093	0.0003	0.0090
138	0.0094	0.0003	0.0091
139	0.0095	0.0003	0.0092
140	0.0096	0.0003	0.0093
141	0.0097	0.0003	0.0094
142	0.0098	0.0003	0.0095
143	0.0100	0.0003	0.0097
144	0.0101	0.0003	0.0098
145	0.0092	0.0003	0.0089
146	0.0093	0.0003	0.0090
147	0.0095	0.0003	0.0092
148	0.0096	0.0003	0.0093
149	0.0098	0.0003	0.0095
150	0.0099	0.0003	0.0096
151	0.0101	0.0003	0.0098
152	0.0102	0.0003	0.0099
153	0.0104	0.0003	0.0101
154	0.0105	0.0003	0.0102
155	0.0107	0.0003	0.0104
156	0.0108	0.0003	0.0105
157	0.0111	0.0003	0.0108
158	0.0112	0.0003	0.0109
159	0.0115	0.0003	0.0112
160	0.0117	0.0003	0.0114
161	0.0120	0.0003	0.0117
162	0.0121	0.0003	0.0118
163	0.0125	0.0003	0.0122
164	0.0127	0.0003	0.0124
165	0.0130	0.0003	0.0127
166	0.0133	0.0003	0.0130
167	0.0137	0.0003	0.0134
168	0.0139	0.0003	0.0136
169	0.0144	0.0003	0.0141
170	0.0147	0.0003	0.0144
171	0.0152	0.0003	0.0150
172	0.0156	0.0003	0.0153
173	0.0162	0.0003	0.0159
174	0.0166	0.0003	0.0163
175	0.0174	0.0003	0.0171
176	0.0178	0.0003	0.0175
177	0.0187	0.0003	0.0184
178	0.0193	0.0003	0.0190
179	0.0204	0.0003	0.0201
180	0.0211	0.0003	0.0208
181	0.0226	0.0003	0.0223

182	0.0235	0.0003	0.0232
183	0.0255	0.0003	0.0252
184	0.0267	0.0003	0.0264
185	0.0244	0.0003	0.0241
186	0.0261	0.0003	0.0258
187	0.0302	0.0003	0.0299
188	0.0330	0.0003	0.0327
189	0.0410	0.0003	0.0407
190	0.0472	0.0003	0.0469
191	0.0717	0.0003	0.0714
192	0.1041	0.0003	0.1038
193	0.4502	0.0003	0.4499
194	0.0564	0.0003	0.0561
195	0.0365	0.0003	0.0362
196	0.0280	0.0003	0.0277
197	0.0280	0.0003	0.0277
198	0.0244	0.0003	0.0241
199	0.0218	0.0003	0.0215
200	0.0198	0.0003	0.0195
201	0.0183	0.0003	0.0180
202	0.0170	0.0003	0.0167
203	0.0159	0.0003	0.0156
204	0.0150	0.0003	0.0147
205	0.0142	0.0003	0.0139
206	0.0135	0.0003	0.0132
207	0.0129	0.0003	0.0126
208	0.0123	0.0003	0.0120
209	0.0118	0.0003	0.0115
210	0.0114	0.0003	0.0111
211	0.0110	0.0003	0.0107
212	0.0106	0.0003	0.0103
213	0.0103	0.0003	0.0100
214	0.0100	0.0003	0.0097
215	0.0097	0.0003	0.0094
216	0.0094	0.0003	0.0091
217	0.0101	0.0003	0.0098
218	0.0099	0.0003	0.0096
219	0.0097	0.0003	0.0094
220	0.0094	0.0003	0.0092
221	0.0092	0.0003	0.0089
222	0.0091	0.0003	0.0088
223	0.0089	0.0003	0.0086
224	0.0087	0.0003	0.0084
225	0.0085	0.0003	0.0082
226	0.0084	0.0003	0.0081
227	0.0082	0.0003	0.0079
228	0.0081	0.0003	0.0078
229	0.0080	0.0003	0.0077
230	0.0078	0.0003	0.0075
231	0.0077	0.0003	0.0074

232	0.0076	0.0003	0.0073
233	0.0075	0.0003	0.0072
234	0.0074	0.0003	0.0071
235	0.0073	0.0003	0.0070
236	0.0072	0.0003	0.0069
237	0.0071	0.0003	0.0068
238	0.0070	0.0003	0.0067
239	0.0069	0.0003	0.0066
240	0.0068	0.0003	0.0065
241	0.0067	0.0003	0.0064
242	0.0066	0.0003	0.0063
243	0.0066	0.0003	0.0063
244	0.0065	0.0003	0.0062
245	0.0064	0.0003	0.0061
246	0.0063	0.0003	0.0060
247	0.0063	0.0003	0.0060
248	0.0062	0.0003	0.0059
249	0.0061	0.0003	0.0058
250	0.0061	0.0003	0.0058
251	0.0060	0.0003	0.0057
252	0.0059	0.0003	0.0056
253	0.0059	0.0003	0.0056
254	0.0058	0.0003	0.0055
255	0.0058	0.0003	0.0055
256	0.0057	0.0003	0.0054
257	0.0057	0.0003	0.0054
258	0.0056	0.0003	0.0053
259	0.0056	0.0003	0.0053
260	0.0055	0.0003	0.0052
261	0.0055	0.0003	0.0052
262	0.0054	0.0003	0.0051
263	0.0054	0.0003	0.0051
264	0.0053	0.0003	0.0050
265	0.0053	0.0003	0.0050
266	0.0052	0.0003	0.0049
267	0.0052	0.0003	0.0049
268	0.0051	0.0003	0.0048
269	0.0051	0.0003	0.0048
270	0.0051	0.0003	0.0048
271	0.0050	0.0003	0.0047
272	0.0050	0.0003	0.0047
273	0.0050	0.0003	0.0047
274	0.0049	0.0003	0.0046
275	0.0049	0.0003	0.0046
276	0.0048	0.0003	0.0045
277	0.0048	0.0003	0.0045
278	0.0048	0.0003	0.0045
279	0.0047	0.0003	0.0044
280	0.0047	0.0003	0.0044
281	0.0047	0.0003	0.0044

282	0.0046	0.0003	0.0043
283	0.0046	0.0003	0.0043
284	0.0046	0.0003	0.0043
285	0.0046	0.0003	0.0043
286	0.0045	0.0003	0.0042
287	0.0045	0.0003	0.0042
288	0.0045	0.0003	0.0042

 Total soil rain loss = 0.09(In)
 Total effective rainfall = 3.09(In)
 Peak flow rate in flood hydrograph = 12.64(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	5.0	10.0	15.0	20.0
0+ 5	0.0002	0.03	Q					
0+10	0.0011	0.13	Q					
0+15	0.0022	0.17	Q					
0+20	0.0035	0.18	Q					
0+25	0.0048	0.19	Q					
0+30	0.0062	0.20	Q					
0+35	0.0076	0.20	Q					
0+40	0.0090	0.21	Q					
0+45	0.0105	0.21	Q					
0+50	0.0119	0.21	Q					
0+55	0.0134	0.21	Q					
1+ 0	0.0148	0.21	Q					
1+ 5	0.0163	0.21	Q					
1+10	0.0177	0.21	Q					
1+15	0.0192	0.21	Q					
1+20	0.0207	0.21	Q					
1+25	0.0222	0.22	Q					
1+30	0.0237	0.22	Q					
1+35	0.0251	0.22	Q					
1+40	0.0266	0.22	QV					
1+45	0.0281	0.22	QV					
1+50	0.0297	0.22	QV					
1+55	0.0312	0.22	QV					
2+ 0	0.0327	0.22	QV					
2+ 5	0.0342	0.22	QV					
2+10	0.0357	0.22	QV					
2+15	0.0373	0.22	QV					
2+20	0.0388	0.22	QV					

2+25	0.0404	0.22	QV				
2+30	0.0419	0.23	QV				
2+35	0.0435	0.23	QV				
2+40	0.0451	0.23	QV				
2+45	0.0466	0.23	QV				
2+50	0.0482	0.23	QV				
2+55	0.0498	0.23	QV				
3+ 0	0.0514	0.23	QV				
3+ 5	0.0530	0.23	Q V				
3+10	0.0546	0.23	Q V				
3+15	0.0562	0.23	Q V				
3+20	0.0578	0.24	Q V				
3+25	0.0595	0.24	Q V				
3+30	0.0611	0.24	Q V				
3+35	0.0627	0.24	Q V				
3+40	0.0644	0.24	Q V				
3+45	0.0660	0.24	Q V				
3+50	0.0677	0.24	Q V				
3+55	0.0694	0.24	Q V				
4+ 0	0.0710	0.24	Q V				
4+ 5	0.0727	0.24	Q V				
4+10	0.0744	0.25	Q V				
4+15	0.0761	0.25	Q V				
4+20	0.0778	0.25	Q V				
4+25	0.0795	0.25	Q V				
4+30	0.0812	0.25	Q V				
4+35	0.0830	0.25	Q V				
4+40	0.0847	0.25	Q V				
4+45	0.0864	0.25	Q V				
4+50	0.0882	0.25	Q V				
4+55	0.0899	0.26	Q V				
5+ 0	0.0917	0.26	Q V				
5+ 5	0.0935	0.26	Q V				
5+10	0.0953	0.26	Q V				
5+15	0.0971	0.26	Q V				
5+20	0.0989	0.26	Q V				
5+25	0.1007	0.26	Q V				
5+30	0.1025	0.26	Q V				
5+35	0.1043	0.27	Q V				
5+40	0.1062	0.27	Q V				
5+45	0.1080	0.27	Q V				
5+50	0.1099	0.27	Q V				
5+55	0.1117	0.27	Q V				
6+ 0	0.1136	0.27	Q V				
6+ 5	0.1155	0.27	Q V				
6+10	0.1174	0.28	Q V				
6+15	0.1193	0.28	Q V				
6+20	0.1212	0.28	Q V				
6+25	0.1231	0.28	Q V				
6+30	0.1251	0.28	Q V				

6+35	0.1270	0.28	Q	V				
6+40	0.1290	0.28	Q	V				
6+45	0.1309	0.29	Q	V				
6+50	0.1329	0.29	Q	V				
6+55	0.1349	0.29	Q	V				
7+ 0	0.1369	0.29	Q	V				
7+ 5	0.1389	0.29	Q	V				
7+10	0.1409	0.29	Q	V				
7+15	0.1430	0.30	Q	V				
7+20	0.1450	0.30	Q	V				
7+25	0.1471	0.30	Q	V				
7+30	0.1491	0.30	Q	V				
7+35	0.1512	0.30	Q	V				
7+40	0.1533	0.30	Q	V				
7+45	0.1554	0.31	Q	V				
7+50	0.1575	0.31	Q	V				
7+55	0.1597	0.31	Q	V				
8+ 0	0.1618	0.31	Q	V				
8+ 5	0.1640	0.31	Q	V				
8+10	0.1662	0.32	Q	V				
8+15	0.1684	0.32	Q	V				
8+20	0.1706	0.32	Q	V				
8+25	0.1728	0.32	Q	V				
8+30	0.1750	0.32	Q	V				
8+35	0.1773	0.33	Q	V				
8+40	0.1795	0.33	Q	V				
8+45	0.1818	0.33	Q	V				
8+50	0.1841	0.33	Q	V				
8+55	0.1864	0.34	Q	V				
9+ 0	0.1888	0.34	Q	V				
9+ 5	0.1911	0.34	Q	V				
9+10	0.1935	0.34	Q	V				
9+15	0.1959	0.35	Q	V				
9+20	0.1983	0.35	Q	V				
9+25	0.2007	0.35	Q	V				
9+30	0.2031	0.35	Q	V				
9+35	0.2056	0.36	Q	V				
9+40	0.2081	0.36	Q	V				
9+45	0.2106	0.36	Q	V				
9+50	0.2131	0.37	Q	V				
9+55	0.2156	0.37	Q	V				
10+ 0	0.2182	0.37	Q	V				
10+ 5	0.2208	0.37	Q	V				
10+10	0.2234	0.38	Q	V				
10+15	0.2260	0.38	Q	V				
10+20	0.2286	0.38	Q	V				
10+25	0.2313	0.39	Q	V				
10+30	0.2340	0.39	Q	V				
10+35	0.2367	0.39	Q	V				
10+40	0.2395	0.40	Q	V				

10+45	0.2422	0.40	Q	V				
10+50	0.2450	0.41	Q	V				
10+55	0.2479	0.41	Q	V				
11+ 0	0.2507	0.41	Q	V				
11+ 5	0.2536	0.42	Q	V				
11+10	0.2565	0.42	Q	V				
11+15	0.2594	0.43	Q	V				
11+20	0.2624	0.43	Q	V				
11+25	0.2654	0.44	Q	V				
11+30	0.2685	0.44	Q	V				
11+35	0.2715	0.45	Q	V				
11+40	0.2746	0.45	Q	V				
11+45	0.2778	0.46	Q	V				
11+50	0.2809	0.46	Q	V				
11+55	0.2842	0.47	Q	V				
12+ 0	0.2874	0.47	Q	V				
12+ 5	0.2907	0.47	Q	V				
12+10	0.2938	0.45	Q	V				
12+15	0.2969	0.45	Q	V				
12+20	0.3000	0.45	Q	V				
12+25	0.3032	0.46	Q	V				
12+30	0.3064	0.46	Q	V				
12+35	0.3096	0.47	Q	V				
12+40	0.3129	0.48	Q	V				
12+45	0.3162	0.48	Q	V				
12+50	0.3196	0.49	Q	V				
12+55	0.3230	0.50	Q	V				
13+ 0	0.3265	0.51	Q	V				
13+ 5	0.3301	0.52	Q	V				
13+10	0.3337	0.53	Q	V				
13+15	0.3374	0.53	Q	V				
13+20	0.3411	0.55	Q	V				
13+25	0.3449	0.56	Q	V				
13+30	0.3489	0.57	Q	V				
13+35	0.3528	0.58	Q	V				
13+40	0.3569	0.59	Q	V				
13+45	0.3611	0.60	Q	V				
13+50	0.3653	0.62	Q	V				
13+55	0.3697	0.63	Q	V				
14+ 0	0.3741	0.65	Q	V				
14+ 5	0.3787	0.66	Q	V				
14+10	0.3834	0.68	Q	V				
14+15	0.3882	0.70	Q	V				
14+20	0.3932	0.72	Q	V				
14+25	0.3983	0.74	Q	V				
14+30	0.4036	0.77	Q	V				
14+35	0.4091	0.79	Q	V				
14+40	0.4147	0.82	Q	V				
14+45	0.4206	0.85	Q	V				
14+50	0.4267	0.88	Q	V				

14+55	0.4330	0.92	Q		V			
15+ 0	0.4396	0.96	Q		V			
15+ 5	0.4465	1.01	Q		V			
15+10	0.4539	1.06	Q		V			
15+15	0.4615	1.12	Q		V			
15+20	0.4698	1.19	Q		V			
15+25	0.4783	1.23	Q		V			
15+30	0.4866	1.22	Q		V			
15+35	0.4954	1.27	Q		V			
15+40	0.5051	1.40	Q		V			
15+45	0.5159	1.57	Q		V			
15+50	0.5286	1.85	Q		V			
15+55	0.5441	2.25	Q		V			
16+ 0	0.5658	3.15	Q		V			
16+ 5	0.6100	6.42		Q	V			
16+10	0.6971	12.64				QV		
16+15	0.7422	6.55		Q		V		
16+20	0.7689	3.88	Q			V		
16+25	0.7876	2.70	Q			V		
16+30	0.8023	2.14	Q			V		
16+35	0.8139	1.69	Q			V		
16+40	0.8236	1.40	Q			V		
16+45	0.8316	1.16	Q			V		
16+50	0.8382	0.96	Q			V		
16+55	0.8443	0.88	Q			V		
17+ 0	0.8499	0.82	Q			V		
17+ 5	0.8551	0.76	Q			V		
17+10	0.8601	0.72	Q			V		
17+15	0.8647	0.68	Q			V		
17+20	0.8692	0.64	Q			V		
17+25	0.8734	0.61	Q			V		
17+30	0.8775	0.59	Q			V		
17+35	0.8813	0.56	Q			V		
17+40	0.8851	0.54	Q			V		
17+45	0.8887	0.52	Q			V		
17+50	0.8921	0.50	Q			V		
17+55	0.8955	0.49	Q			V		
18+ 0	0.8988	0.47	Q			V		
18+ 5	0.9020	0.47	Q			V		
18+10	0.9052	0.48	Q			V		
18+15	0.9085	0.47	Q			V		
18+20	0.9117	0.47	Q			V		
18+25	0.9148	0.46	Q			V		
18+30	0.9179	0.45	Q			V		
18+35	0.9209	0.44	Q			V		
18+40	0.9239	0.43	Q			V		
18+45	0.9268	0.42	Q			V		
18+50	0.9296	0.41	Q			V		
18+55	0.9324	0.40	Q			V		
19+ 0	0.9352	0.40	Q			V		

19+ 5	0.9378	0.39	Q				V
19+10	0.9405	0.38	Q				V
19+15	0.9431	0.38	Q				V
19+20	0.9456	0.37	Q				V
19+25	0.9481	0.36	Q				V
19+30	0.9506	0.36	Q				V
19+35	0.9530	0.35	Q				V
19+40	0.9554	0.35	Q				V
19+45	0.9578	0.34	Q				V
19+50	0.9601	0.34	Q				V
19+55	0.9624	0.33	Q				V
20+ 0	0.9647	0.33	Q				V
20+ 5	0.9669	0.32	Q				V
20+10	0.9691	0.32	Q				V
20+15	0.9713	0.32	Q				V
20+20	0.9734	0.31	Q				V
20+25	0.9755	0.31	Q				V
20+30	0.9776	0.30	Q				V
20+35	0.9797	0.30	Q				V
20+40	0.9817	0.30	Q				V
20+45	0.9837	0.29	Q				V
20+50	0.9857	0.29	Q				V
20+55	0.9877	0.29	Q				V
21+ 0	0.9897	0.28	Q				V
21+ 5	0.9916	0.28	Q				V
21+10	0.9935	0.28	Q				V
21+15	0.9954	0.27	Q				V
21+20	0.9973	0.27	Q				V
21+25	0.9991	0.27	Q				V
21+30	1.0009	0.27	Q				V
21+35	1.0028	0.26	Q				V
21+40	1.0046	0.26	Q				V
21+45	1.0063	0.26	Q				V
21+50	1.0081	0.26	Q				V
21+55	1.0098	0.25	Q				V
22+ 0	1.0116	0.25	Q				V
22+ 5	1.0133	0.25	Q				V
22+10	1.0150	0.25	Q				V
22+15	1.0167	0.24	Q				V
22+20	1.0183	0.24	Q				V
22+25	1.0200	0.24	Q				V
22+30	1.0216	0.24	Q				V
22+35	1.0233	0.24	Q				V
22+40	1.0249	0.23	Q				V
22+45	1.0265	0.23	Q				V
22+50	1.0281	0.23	Q				V
22+55	1.0297	0.23	Q				V
23+ 0	1.0312	0.23	Q				V
23+ 5	1.0328	0.23	Q				V
23+10	1.0343	0.22	Q				V

23+15	1.0358	0.22	Q				V
23+20	1.0374	0.22	Q				V
23+25	1.0389	0.22	Q				V
23+30	1.0404	0.22	Q				V
23+35	1.0419	0.22	Q				V
23+40	1.0433	0.21	Q				V
23+45	1.0448	0.21	Q				V
23+50	1.0462	0.21	Q				V
23+55	1.0477	0.21	Q				V
24+ 0	1.0491	0.21	Q				V

Unit Hydrograph Analysis

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Study date 01/05/23

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6277

JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
100 YEAR STORM UNIT HYDROGRAPH, POST CONDITION
AREA A9

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
2.00	1	0.55

Rainfall data for year 2		
2.00	6	0.67

Rainfall data for year 2		
2.00	24	1.12

Rainfall data for year 100

2.00	1	0.95
------	---	------

Rainfall data for year 100

2.00	6	1.82
------	---	------

Rainfall data for year 100

2.00	24	3.18
------	----	------

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***** Area-averaged max loss rate, Fm *****

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
91.0	98.2	2.00	1.000	0.036	0.100	0.004

Area-averaged adjusted loss rate Fm (In/Hr) = 0.004

***** Area-Averaged low loss rate fraction, Yb *****

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
0.20	0.100	91.0	98.2	0.18	0.934
1.80	0.900	98.0	98.0	0.20	0.927

Area-averaged catchment yield fraction, Y = 0.928

Area-averaged low loss fraction, Yb = 0.072

User entry of time of concentration = 0.110 (hours)

+++++

Watershed area = 2.00(Ac.)

Catchment Lag time = 0.088 hours

Unit interval = 5.000 minutes

Unit interval percentage of lag time = 94.6970

Hydrograph baseflow = 0.00(CFS)

Average maximum watershed loss rate(Fm) = 0.004(In/Hr)

Average low loss rate fraction (Yb) = 0.072 (decimal)

DESERT S-Graph Selected

Computed peak 5-minute rainfall = 0.450(In)

Computed peak 30-minute rainfall = 0.771(In)

Specified peak 1-hour rainfall = 0.949(In)

Computed peak 3-hour rainfall = 1.415(In)

Specified peak 6-hour rainfall = 1.820(In)

Specified peak 24-hour rainfall = 3.180(In)

Rainfall depth area reduction factors:

Using a total area of 2.00(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.450(In)

30-minute factor = 1.000	Adjusted rainfall = 0.771(In)
1-hour factor = 1.000	Adjusted rainfall = 0.949(In)
3-hour factor = 1.000	Adjusted rainfall = 1.415(In)
6-hour factor = 1.000	Adjusted rainfall = 1.820(In)
24-hour factor = 1.000	Adjusted rainfall = 3.180(In)

U n i t H y d r o g r a p h		
Interval	'S' Graph	Unit Hydrograph
Number	Mean values	((CFS))
	(K =	24.16 (CFS))
1	15.498	3.745
2	64.965	11.953
3	82.606	4.262
4	90.463	1.899
5	94.742	1.034
6	97.231	0.602
7	98.497	0.306
8	99.522	0.248
9	100.000	0.115

Peak Unit	Adjusted mass rainfall	Unit rainfall
Number	(In)	(In)
1	0.4503	0.4503
2	0.5543	0.1041
3	0.6260	0.0717
4	0.6825	0.0564
5	0.7297	0.0473
6	0.7708	0.0410
7	0.8072	0.0365
8	0.8402	0.0330
9	0.8705	0.0302
10	0.8984	0.0280
11	0.9245	0.0261
12	0.9489	0.0244
13	0.9769	0.0280
14	1.0036	0.0267
15	1.0291	0.0255
16	1.0535	0.0244
17	1.0770	0.0235
18	1.0996	0.0226
19	1.1214	0.0218
20	1.1425	0.0211
21	1.1630	0.0204
22	1.1828	0.0198
23	1.2021	0.0193
24	1.2208	0.0187

25	1.2391	0.0183
26	1.2569	0.0178
27	1.2742	0.0174
28	1.2912	0.0170
29	1.3078	0.0166
30	1.3240	0.0162
31	1.3398	0.0159
32	1.3554	0.0156
33	1.3706	0.0152
34	1.3856	0.0150
35	1.4003	0.0147
36	1.4147	0.0144
37	1.4289	0.0142
38	1.4428	0.0139
39	1.4565	0.0137
40	1.4699	0.0135
41	1.4832	0.0133
42	1.4962	0.0130
43	1.5091	0.0129
44	1.5217	0.0127
45	1.5342	0.0125
46	1.5465	0.0123
47	1.5586	0.0121
48	1.5706	0.0120
49	1.5824	0.0118
50	1.5941	0.0117
51	1.6056	0.0115
52	1.6170	0.0114
53	1.6282	0.0112
54	1.6393	0.0111
55	1.6503	0.0110
56	1.6611	0.0108
57	1.6718	0.0107
58	1.6824	0.0106
59	1.6929	0.0105
60	1.7033	0.0104
61	1.7136	0.0103
62	1.7237	0.0102
63	1.7338	0.0101
64	1.7437	0.0100
65	1.7536	0.0099
66	1.7633	0.0098
67	1.7730	0.0097
68	1.7826	0.0096
69	1.7921	0.0095
70	1.8014	0.0094
71	1.8108	0.0093
72	1.8200	0.0092
73	1.8301	0.0101
74	1.8402	0.0101

75	1.8501	0.0100
76	1.8600	0.0099
77	1.8698	0.0098
78	1.8796	0.0097
79	1.8892	0.0097
80	1.8988	0.0096
81	1.9084	0.0095
82	1.9178	0.0094
83	1.9272	0.0094
84	1.9365	0.0093
85	1.9457	0.0092
86	1.9549	0.0092
87	1.9641	0.0091
88	1.9731	0.0091
89	1.9821	0.0090
90	1.9910	0.0089
91	1.9999	0.0089
92	2.0087	0.0088
93	2.0175	0.0088
94	2.0262	0.0087
95	2.0348	0.0086
96	2.0434	0.0086
97	2.0520	0.0085
98	2.0605	0.0085
99	2.0689	0.0084
100	2.0773	0.0084
101	2.0856	0.0083
102	2.0939	0.0083
103	2.1022	0.0082
104	2.1104	0.0082
105	2.1185	0.0081
106	2.1266	0.0081
107	2.1347	0.0081
108	2.1427	0.0080
109	2.1506	0.0080
110	2.1585	0.0079
111	2.1664	0.0079
112	2.1743	0.0078
113	2.1821	0.0078
114	2.1898	0.0078
115	2.1975	0.0077
116	2.2052	0.0077
117	2.2128	0.0076
118	2.2204	0.0076
119	2.2280	0.0076
120	2.2355	0.0075
121	2.2430	0.0075
122	2.2504	0.0074
123	2.2578	0.0074
124	2.2652	0.0074

125	2.2725	0.0073
126	2.2798	0.0073
127	2.2871	0.0073
128	2.2943	0.0072
129	2.3015	0.0072
130	2.3087	0.0072
131	2.3158	0.0071
132	2.3229	0.0071
133	2.3300	0.0071
134	2.3370	0.0070
135	2.3440	0.0070
136	2.3510	0.0070
137	2.3580	0.0069
138	2.3649	0.0069
139	2.3718	0.0069
140	2.3786	0.0069
141	2.3854	0.0068
142	2.3922	0.0068
143	2.3990	0.0068
144	2.4057	0.0067
145	2.4124	0.0067
146	2.4191	0.0067
147	2.4258	0.0067
148	2.4324	0.0066
149	2.4390	0.0066
150	2.4456	0.0066
151	2.4521	0.0066
152	2.4587	0.0065
153	2.4652	0.0065
154	2.4716	0.0065
155	2.4781	0.0064
156	2.4845	0.0064
157	2.4909	0.0064
158	2.4973	0.0064
159	2.5036	0.0064
160	2.5100	0.0063
161	2.5163	0.0063
162	2.5225	0.0063
163	2.5288	0.0063
164	2.5350	0.0062
165	2.5412	0.0062
166	2.5474	0.0062
167	2.5536	0.0062
168	2.5597	0.0061
169	2.5659	0.0061
170	2.5720	0.0061
171	2.5780	0.0061
172	2.5841	0.0061
173	2.5901	0.0060
174	2.5962	0.0060

175	2.6022	0.0060
176	2.6081	0.0060
177	2.6141	0.0060
178	2.6200	0.0059
179	2.6259	0.0059
180	2.6318	0.0059
181	2.6377	0.0059
182	2.6436	0.0059
183	2.6494	0.0058
184	2.6552	0.0058
185	2.6610	0.0058
186	2.6668	0.0058
187	2.6726	0.0058
188	2.6783	0.0057
189	2.6840	0.0057
190	2.6897	0.0057
191	2.6954	0.0057
192	2.7011	0.0057
193	2.7068	0.0057
194	2.7124	0.0056
195	2.7180	0.0056
196	2.7236	0.0056
197	2.7292	0.0056
198	2.7348	0.0056
199	2.7403	0.0056
200	2.7459	0.0055
201	2.7514	0.0055
202	2.7569	0.0055
203	2.7624	0.0055
204	2.7678	0.0055
205	2.7733	0.0055
206	2.7787	0.0054
207	2.7841	0.0054
208	2.7896	0.0054
209	2.7949	0.0054
210	2.8003	0.0054
211	2.8057	0.0054
212	2.8110	0.0053
213	2.8164	0.0053
214	2.8217	0.0053
215	2.8270	0.0053
216	2.8323	0.0053
217	2.8375	0.0053
218	2.8428	0.0053
219	2.8480	0.0052
220	2.8533	0.0052
221	2.8585	0.0052
222	2.8637	0.0052
223	2.8689	0.0052
224	2.8740	0.0052

225	2.8792	0.0052
226	2.8843	0.0051
227	2.8895	0.0051
228	2.8946	0.0051
229	2.8997	0.0051
230	2.9048	0.0051
231	2.9098	0.0051
232	2.9149	0.0051
233	2.9200	0.0051
234	2.9250	0.0050
235	2.9300	0.0050
236	2.9350	0.0050
237	2.9400	0.0050
238	2.9450	0.0050
239	2.9500	0.0050
240	2.9550	0.0050
241	2.9599	0.0050
242	2.9648	0.0049
243	2.9698	0.0049
244	2.9747	0.0049
245	2.9796	0.0049
246	2.9845	0.0049
247	2.9894	0.0049
248	2.9942	0.0049
249	2.9991	0.0049
250	3.0039	0.0048
251	3.0088	0.0048
252	3.0136	0.0048
253	3.0184	0.0048
254	3.0232	0.0048
255	3.0280	0.0048
256	3.0327	0.0048
257	3.0375	0.0048
258	3.0423	0.0048
259	3.0470	0.0047
260	3.0517	0.0047
261	3.0564	0.0047
262	3.0612	0.0047
263	3.0658	0.0047
264	3.0705	0.0047
265	3.0752	0.0047
266	3.0799	0.0047
267	3.0845	0.0047
268	3.0892	0.0046
269	3.0938	0.0046
270	3.0984	0.0046
271	3.1031	0.0046
272	3.1077	0.0046
273	3.1123	0.0046
274	3.1168	0.0046

275	3.1214	0.0046
276	3.1260	0.0046
277	3.1305	0.0046
278	3.1351	0.0045
279	3.1396	0.0045
280	3.1441	0.0045
281	3.1486	0.0045
282	3.1532	0.0045
283	3.1577	0.0045
284	3.1621	0.0045
285	3.1666	0.0045
286	3.1711	0.0045
287	3.1755	0.0045
288	3.1800	0.0044

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0044	0.0003	0.0042
2	0.0045	0.0003	0.0042
3	0.0045	0.0003	0.0042
4	0.0045	0.0003	0.0042
5	0.0045	0.0003	0.0042
6	0.0045	0.0003	0.0042
7	0.0045	0.0003	0.0042
8	0.0045	0.0003	0.0042
9	0.0046	0.0003	0.0043
10	0.0046	0.0003	0.0043
11	0.0046	0.0003	0.0043
12	0.0046	0.0003	0.0043
13	0.0046	0.0003	0.0043
14	0.0046	0.0003	0.0043
15	0.0047	0.0003	0.0044
16	0.0047	0.0003	0.0044
17	0.0047	0.0003	0.0044
18	0.0047	0.0003	0.0044
19	0.0047	0.0003	0.0044
20	0.0047	0.0003	0.0044
21	0.0048	0.0003	0.0045
22	0.0048	0.0003	0.0045
23	0.0048	0.0003	0.0045
24	0.0048	0.0003	0.0045
25	0.0048	0.0003	0.0045
26	0.0048	0.0003	0.0045
27	0.0049	0.0003	0.0046
28	0.0049	0.0003	0.0046
29	0.0049	0.0003	0.0046
30	0.0049	0.0003	0.0046
31	0.0049	0.0003	0.0046

32	0.0049	0.0003	0.0046
33	0.0050	0.0003	0.0047
34	0.0050	0.0003	0.0047
35	0.0050	0.0003	0.0047
36	0.0050	0.0003	0.0047
37	0.0050	0.0003	0.0047
38	0.0051	0.0003	0.0048
39	0.0051	0.0003	0.0048
40	0.0051	0.0003	0.0048
41	0.0051	0.0003	0.0048
42	0.0051	0.0003	0.0048
43	0.0052	0.0003	0.0049
44	0.0052	0.0003	0.0049
45	0.0052	0.0003	0.0049
46	0.0052	0.0003	0.0049
47	0.0052	0.0003	0.0049
48	0.0053	0.0003	0.0050
49	0.0053	0.0003	0.0050
50	0.0053	0.0003	0.0050
51	0.0053	0.0003	0.0050
52	0.0053	0.0003	0.0050
53	0.0054	0.0003	0.0051
54	0.0054	0.0003	0.0051
55	0.0054	0.0003	0.0051
56	0.0054	0.0003	0.0051
57	0.0055	0.0003	0.0052
58	0.0055	0.0003	0.0052
59	0.0055	0.0003	0.0052
60	0.0055	0.0003	0.0052
61	0.0056	0.0003	0.0053
62	0.0056	0.0003	0.0053
63	0.0056	0.0003	0.0053
64	0.0056	0.0003	0.0053
65	0.0057	0.0003	0.0054
66	0.0057	0.0003	0.0054
67	0.0057	0.0003	0.0054
68	0.0057	0.0003	0.0054
69	0.0058	0.0003	0.0055
70	0.0058	0.0003	0.0055
71	0.0058	0.0003	0.0055
72	0.0059	0.0003	0.0056
73	0.0059	0.0003	0.0056
74	0.0059	0.0003	0.0056
75	0.0060	0.0003	0.0057
76	0.0060	0.0003	0.0057
77	0.0060	0.0003	0.0057
78	0.0060	0.0003	0.0057
79	0.0061	0.0003	0.0058
80	0.0061	0.0003	0.0058
81	0.0061	0.0003	0.0058

82	0.0062	0.0003	0.0059
83	0.0062	0.0003	0.0059
84	0.0062	0.0003	0.0059
85	0.0063	0.0003	0.0060
86	0.0063	0.0003	0.0060
87	0.0064	0.0003	0.0061
88	0.0064	0.0003	0.0061
89	0.0064	0.0003	0.0061
90	0.0064	0.0003	0.0062
91	0.0065	0.0003	0.0062
92	0.0065	0.0003	0.0062
93	0.0066	0.0003	0.0063
94	0.0066	0.0003	0.0063
95	0.0067	0.0003	0.0064
96	0.0067	0.0003	0.0064
97	0.0067	0.0003	0.0064
98	0.0068	0.0003	0.0065
99	0.0068	0.0003	0.0065
100	0.0069	0.0003	0.0066
101	0.0069	0.0003	0.0066
102	0.0069	0.0003	0.0066
103	0.0070	0.0003	0.0067
104	0.0070	0.0003	0.0067
105	0.0071	0.0003	0.0068
106	0.0071	0.0003	0.0068
107	0.0072	0.0003	0.0069
108	0.0072	0.0003	0.0069
109	0.0073	0.0003	0.0070
110	0.0073	0.0003	0.0070
111	0.0074	0.0003	0.0071
112	0.0074	0.0003	0.0071
113	0.0075	0.0003	0.0072
114	0.0076	0.0003	0.0073
115	0.0076	0.0003	0.0073
116	0.0077	0.0003	0.0074
117	0.0078	0.0003	0.0075
118	0.0078	0.0003	0.0075
119	0.0079	0.0003	0.0076
120	0.0079	0.0003	0.0076
121	0.0080	0.0003	0.0077
122	0.0081	0.0003	0.0078
123	0.0081	0.0003	0.0078
124	0.0082	0.0003	0.0079
125	0.0083	0.0003	0.0080
126	0.0083	0.0003	0.0080
127	0.0084	0.0003	0.0081
128	0.0085	0.0003	0.0082
129	0.0086	0.0003	0.0083
130	0.0086	0.0003	0.0084
131	0.0088	0.0003	0.0085

132	0.0088	0.0003	0.0085
133	0.0089	0.0003	0.0086
134	0.0090	0.0003	0.0087
135	0.0091	0.0003	0.0088
136	0.0092	0.0003	0.0089
137	0.0093	0.0003	0.0090
138	0.0094	0.0003	0.0091
139	0.0095	0.0003	0.0092
140	0.0096	0.0003	0.0093
141	0.0097	0.0003	0.0094
142	0.0098	0.0003	0.0095
143	0.0100	0.0003	0.0097
144	0.0101	0.0003	0.0098
145	0.0092	0.0003	0.0089
146	0.0093	0.0003	0.0090
147	0.0095	0.0003	0.0092
148	0.0096	0.0003	0.0093
149	0.0098	0.0003	0.0095
150	0.0099	0.0003	0.0096
151	0.0101	0.0003	0.0098
152	0.0102	0.0003	0.0099
153	0.0104	0.0003	0.0101
154	0.0105	0.0003	0.0102
155	0.0107	0.0003	0.0104
156	0.0108	0.0003	0.0105
157	0.0111	0.0003	0.0108
158	0.0112	0.0003	0.0109
159	0.0115	0.0003	0.0112
160	0.0117	0.0003	0.0114
161	0.0120	0.0003	0.0117
162	0.0121	0.0003	0.0118
163	0.0125	0.0003	0.0122
164	0.0127	0.0003	0.0124
165	0.0130	0.0003	0.0127
166	0.0133	0.0003	0.0130
167	0.0137	0.0003	0.0134
168	0.0139	0.0003	0.0136
169	0.0144	0.0003	0.0141
170	0.0147	0.0003	0.0144
171	0.0152	0.0003	0.0149
172	0.0156	0.0003	0.0153
173	0.0162	0.0003	0.0159
174	0.0166	0.0003	0.0163
175	0.0174	0.0003	0.0171
176	0.0178	0.0003	0.0175
177	0.0187	0.0003	0.0184
178	0.0193	0.0003	0.0190
179	0.0204	0.0003	0.0201
180	0.0211	0.0003	0.0208
181	0.0226	0.0003	0.0223

182	0.0235	0.0003	0.0232
183	0.0255	0.0003	0.0252
184	0.0267	0.0003	0.0264
185	0.0244	0.0003	0.0242
186	0.0261	0.0003	0.0258
187	0.0302	0.0003	0.0299
188	0.0330	0.0003	0.0327
189	0.0410	0.0003	0.0407
190	0.0473	0.0003	0.0470
191	0.0717	0.0003	0.0714
192	0.1041	0.0003	0.1038
193	0.4503	0.0003	0.4500
194	0.0564	0.0003	0.0561
195	0.0365	0.0003	0.0362
196	0.0280	0.0003	0.0277
197	0.0280	0.0003	0.0277
198	0.0244	0.0003	0.0241
199	0.0218	0.0003	0.0215
200	0.0198	0.0003	0.0195
201	0.0183	0.0003	0.0180
202	0.0170	0.0003	0.0167
203	0.0159	0.0003	0.0156
204	0.0150	0.0003	0.0147
205	0.0142	0.0003	0.0139
206	0.0135	0.0003	0.0132
207	0.0129	0.0003	0.0126
208	0.0123	0.0003	0.0120
209	0.0118	0.0003	0.0115
210	0.0114	0.0003	0.0111
211	0.0110	0.0003	0.0107
212	0.0106	0.0003	0.0103
213	0.0103	0.0003	0.0100
214	0.0100	0.0003	0.0097
215	0.0097	0.0003	0.0094
216	0.0094	0.0003	0.0091
217	0.0101	0.0003	0.0098
218	0.0099	0.0003	0.0096
219	0.0097	0.0003	0.0094
220	0.0094	0.0003	0.0092
221	0.0092	0.0003	0.0089
222	0.0091	0.0003	0.0088
223	0.0089	0.0003	0.0086
224	0.0087	0.0003	0.0084
225	0.0085	0.0003	0.0082
226	0.0084	0.0003	0.0081
227	0.0082	0.0003	0.0079
228	0.0081	0.0003	0.0078
229	0.0080	0.0003	0.0077
230	0.0078	0.0003	0.0075
231	0.0077	0.0003	0.0074

232	0.0076	0.0003	0.0073
233	0.0075	0.0003	0.0072
234	0.0074	0.0003	0.0071
235	0.0073	0.0003	0.0070
236	0.0072	0.0003	0.0069
237	0.0071	0.0003	0.0068
238	0.0070	0.0003	0.0067
239	0.0069	0.0003	0.0066
240	0.0068	0.0003	0.0065
241	0.0067	0.0003	0.0064
242	0.0066	0.0003	0.0063
243	0.0066	0.0003	0.0063
244	0.0065	0.0003	0.0062
245	0.0064	0.0003	0.0061
246	0.0063	0.0003	0.0060
247	0.0063	0.0003	0.0060
248	0.0062	0.0003	0.0059
249	0.0061	0.0003	0.0058
250	0.0061	0.0003	0.0058
251	0.0060	0.0003	0.0057
252	0.0059	0.0003	0.0056
253	0.0059	0.0003	0.0056
254	0.0058	0.0003	0.0055
255	0.0058	0.0003	0.0055
256	0.0057	0.0003	0.0054
257	0.0057	0.0003	0.0054
258	0.0056	0.0003	0.0053
259	0.0056	0.0003	0.0053
260	0.0055	0.0003	0.0052
261	0.0055	0.0003	0.0052
262	0.0054	0.0003	0.0051
263	0.0054	0.0003	0.0051
264	0.0053	0.0003	0.0050
265	0.0053	0.0003	0.0050
266	0.0052	0.0003	0.0049
267	0.0052	0.0003	0.0049
268	0.0051	0.0003	0.0048
269	0.0051	0.0003	0.0048
270	0.0051	0.0003	0.0048
271	0.0050	0.0003	0.0047
272	0.0050	0.0003	0.0047
273	0.0050	0.0003	0.0047
274	0.0049	0.0003	0.0046
275	0.0049	0.0003	0.0046
276	0.0048	0.0003	0.0045
277	0.0048	0.0003	0.0045
278	0.0048	0.0003	0.0045
279	0.0047	0.0003	0.0044
280	0.0047	0.0003	0.0044
281	0.0047	0.0003	0.0044

282	0.0046	0.0003	0.0043
283	0.0046	0.0003	0.0043
284	0.0046	0.0003	0.0043
285	0.0046	0.0003	0.0043
286	0.0045	0.0003	0.0042
287	0.0045	0.0003	0.0042
288	0.0045	0.0003	0.0042

Total soil rain loss = 0.09(In)
 Total effective rainfall = 3.09(In)
 Peak flow rate in flood hydrograph = 6.26(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	0.0006	0.07	Q					
0+15	0.0011	0.08	Q					
0+20	0.0018	0.09	Q					
0+25	0.0024	0.10	Q					
0+30	0.0031	0.10	Q					
0+35	0.0038	0.10	Q					
0+40	0.0045	0.10	Q					
0+45	0.0052	0.10	Q					
0+50	0.0059	0.10	Q					
0+55	0.0066	0.10	Q					
1+ 0	0.0073	0.10	Q					
1+ 5	0.0080	0.10	Q					
1+10	0.0088	0.10	Q					
1+15	0.0095	0.10	Q					
1+20	0.0102	0.11	Q					
1+25	0.0109	0.11	Q					
1+30	0.0117	0.11	Q					
1+35	0.0124	0.11	Q					
1+40	0.0131	0.11	QV					
1+45	0.0139	0.11	QV					
1+50	0.0146	0.11	QV					
1+55	0.0153	0.11	QV					
2+ 0	0.0161	0.11	QV					
2+ 5	0.0168	0.11	QV					
2+10	0.0176	0.11	QV					
2+15	0.0183	0.11	QV					
2+20	0.0191	0.11	QV					

2+25	0.0199	0.11	QV				
2+30	0.0206	0.11	QV				
2+35	0.0214	0.11	QV				
2+40	0.0221	0.11	QV				
2+45	0.0229	0.11	QV				
2+50	0.0237	0.11	QV				
2+55	0.0245	0.11	QV				
3+ 0	0.0252	0.11	QV				
3+ 5	0.0260	0.11	Q V				
3+10	0.0268	0.11	Q V				
3+15	0.0276	0.11	Q V				
3+20	0.0284	0.12	Q V				
3+25	0.0292	0.12	Q V				
3+30	0.0300	0.12	Q V				
3+35	0.0308	0.12	Q V				
3+40	0.0316	0.12	Q V				
3+45	0.0324	0.12	Q V				
3+50	0.0332	0.12	Q V				
3+55	0.0340	0.12	Q V				
4+ 0	0.0349	0.12	Q V				
4+ 5	0.0357	0.12	Q V				
4+10	0.0365	0.12	Q V				
4+15	0.0373	0.12	Q V				
4+20	0.0382	0.12	Q V				
4+25	0.0390	0.12	Q V				
4+30	0.0399	0.12	Q V				
4+35	0.0407	0.12	Q V				
4+40	0.0416	0.12	Q V				
4+45	0.0424	0.12	Q V				
4+50	0.0433	0.12	Q V				
4+55	0.0441	0.13	Q V				
5+ 0	0.0450	0.13	Q V				
5+ 5	0.0459	0.13	Q V				
5+10	0.0467	0.13	Q V				
5+15	0.0476	0.13	Q V				
5+20	0.0485	0.13	Q V				
5+25	0.0494	0.13	Q V				
5+30	0.0503	0.13	Q V				
5+35	0.0512	0.13	Q V				
5+40	0.0521	0.13	Q V				
5+45	0.0530	0.13	Q V				
5+50	0.0539	0.13	Q V				
5+55	0.0548	0.13	Q V				
6+ 0	0.0557	0.13	Q V				
6+ 5	0.0566	0.13	Q V				
6+10	0.0576	0.13	Q V				
6+15	0.0585	0.14	Q V				
6+20	0.0594	0.14	Q V				
6+25	0.0604	0.14	Q V				
6+30	0.0613	0.14	Q V				

6+35	0.0623	0.14	Q	V				
6+40	0.0632	0.14	Q	V				
6+45	0.0642	0.14	Q	V				
6+50	0.0652	0.14	Q	V				
6+55	0.0662	0.14	Q	V				
7+ 0	0.0671	0.14	Q	V				
7+ 5	0.0681	0.14	Q	V				
7+10	0.0691	0.14	Q	V				
7+15	0.0701	0.14	Q	V				
7+20	0.0711	0.15	Q	V				
7+25	0.0721	0.15	Q	V				
7+30	0.0731	0.15	Q	V				
7+35	0.0742	0.15	Q	V				
7+40	0.0752	0.15	Q	V				
7+45	0.0762	0.15	Q	V				
7+50	0.0773	0.15	Q	V				
7+55	0.0783	0.15	Q	V				
8+ 0	0.0794	0.15	Q	V				
8+ 5	0.0804	0.15	Q	V				
8+10	0.0815	0.15	Q	V				
8+15	0.0826	0.16	Q	V				
8+20	0.0836	0.16	Q	V				
8+25	0.0847	0.16	Q	V				
8+30	0.0858	0.16	Q	V				
8+35	0.0869	0.16	Q	V				
8+40	0.0880	0.16	Q	V				
8+45	0.0892	0.16	Q	V				
8+50	0.0903	0.16	Q	V				
8+55	0.0914	0.16	Q	V				
9+ 0	0.0926	0.17	Q	V				
9+ 5	0.0937	0.17	Q	V				
9+10	0.0949	0.17	Q	V				
9+15	0.0960	0.17	Q	V				
9+20	0.0972	0.17	Q	V				
9+25	0.0984	0.17	Q	V				
9+30	0.0996	0.17	Q	V				
9+35	0.1008	0.17	Q	V				
9+40	0.1020	0.18	Q	V				
9+45	0.1032	0.18	Q	V				
9+50	0.1045	0.18	Q	V				
9+55	0.1057	0.18	Q	V				
10+ 0	0.1070	0.18	Q	V				
10+ 5	0.1082	0.18	Q	V				
10+10	0.1095	0.19	Q	V				
10+15	0.1108	0.19	Q	V				
10+20	0.1121	0.19	Q	V				
10+25	0.1134	0.19	Q	V				
10+30	0.1147	0.19	Q	V				
10+35	0.1161	0.19	Q	V				
10+40	0.1174	0.20	Q	V				

10+45	0.1188	0.20	Q	V				
10+50	0.1201	0.20	Q	V				
10+55	0.1215	0.20	Q	V				
11+ 0	0.1229	0.20	Q	V				
11+ 5	0.1243	0.21	Q	V				
11+10	0.1258	0.21	Q	V				
11+15	0.1272	0.21	Q	V				
11+20	0.1287	0.21	Q	V				
11+25	0.1301	0.21	Q	V				
11+30	0.1316	0.22	Q	V				
11+35	0.1331	0.22	Q	V				
11+40	0.1346	0.22	Q	V				
11+45	0.1362	0.22	Q	V				
11+50	0.1377	0.23	Q	V				
11+55	0.1393	0.23	Q	V				
12+ 0	0.1409	0.23	Q	V				
12+ 5	0.1425	0.23	Q	V				
12+10	0.1440	0.22	Q	V				
12+15	0.1455	0.22	Q	V				
12+20	0.1471	0.22	Q	V				
12+25	0.1486	0.22	Q	V				
12+30	0.1502	0.23	Q	V				
12+35	0.1518	0.23	Q	V				
12+40	0.1534	0.23	Q	V				
12+45	0.1550	0.24	Q	V				
12+50	0.1567	0.24	Q	V				
12+55	0.1583	0.24	Q	V				
13+ 0	0.1601	0.25	Q	V				
13+ 5	0.1618	0.25	Q	V				
13+10	0.1636	0.26	Q	V				
13+15	0.1654	0.26	Q	V				
13+20	0.1672	0.27	Q	V				
13+25	0.1691	0.27	Q	V				
13+30	0.1710	0.28	Q	V				
13+35	0.1730	0.28	Q	V				
13+40	0.1750	0.29	Q	V				
13+45	0.1770	0.30	Q	V				
13+50	0.1791	0.30	Q	V				
13+55	0.1812	0.31	Q	V				
14+ 0	0.1834	0.32	Q	V				
14+ 5	0.1857	0.33	Q	V				
14+10	0.1880	0.34	Q	V				
14+15	0.1904	0.34	Q	V				
14+20	0.1928	0.35	Q	V				
14+25	0.1953	0.36	Q	V				
14+30	0.1979	0.38	Q	V				
14+35	0.2006	0.39	Q	V				
14+40	0.2034	0.40	Q	V				
14+45	0.2062	0.42	Q	V				
14+50	0.2092	0.43	Q	V				

14+55	0.2123	0.45	Q		V			
15+ 0	0.2156	0.47	Q		V			
15+ 5	0.2190	0.49	Q		V			
15+10	0.2226	0.52	Q		V			
15+15	0.2264	0.55	Q		V			
15+20	0.2304	0.59	Q		V			
15+25	0.2346	0.61	Q		V			
15+30	0.2387	0.60	Q		V			
15+35	0.2430	0.63	Q		V			
15+40	0.2478	0.69	Q		V			
15+45	0.2532	0.78	Q		V			
15+50	0.2595	0.92	Q		V			
15+55	0.2672	1.13	Q		V			
16+ 0	0.2782	1.59	Q		V			
16+ 5	0.3016	3.40		Q	V			
16+10	0.3447	6.26				QV		
16+15	0.3657	3.05		Q			V	
16+20	0.3782	1.81	Q				V	
16+25	0.3868	1.26	Q				V	
16+30	0.3937	0.99	Q				V	
16+35	0.3991	0.78	Q				V	
16+40	0.4037	0.68	Q				V	
16+45	0.4076	0.56	Q				V	
16+50	0.4108	0.47	Q				V	
16+55	0.4137	0.43	Q				V	
17+ 0	0.4165	0.40	Q				V	
17+ 5	0.4190	0.37	Q				V	
17+10	0.4214	0.35	Q				V	
17+15	0.4237	0.33	Q				V	
17+20	0.4259	0.31	Q				V	
17+25	0.4279	0.30	Q				V	
17+30	0.4299	0.29	Q				V	
17+35	0.4318	0.27	Q				V	
17+40	0.4336	0.26	Q				V	
17+45	0.4354	0.25	Q				V	
17+50	0.4371	0.25	Q				V	
17+55	0.4387	0.24	Q				V	
18+ 0	0.4403	0.23	Q				V	
18+ 5	0.4419	0.23	Q				V	
18+10	0.4435	0.23	Q				V	
18+15	0.4451	0.23	Q				V	
18+20	0.4466	0.23	Q				V	
18+25	0.4482	0.22	Q				V	
18+30	0.4497	0.22	Q				V	
18+35	0.4511	0.21	Q				V	
18+40	0.4526	0.21	Q				V	
18+45	0.4540	0.21	Q				V	
18+50	0.4554	0.20	Q				V	
18+55	0.4567	0.20	Q				V	
19+ 0	0.4581	0.19	Q				V	

19+ 5	0.4594	0.19	Q				V
19+10	0.4607	0.19	Q				V
19+15	0.4620	0.18	Q				V
19+20	0.4632	0.18	Q				V
19+25	0.4644	0.18	Q				V
19+30	0.4656	0.18	Q				V
19+35	0.4668	0.17	Q				V
19+40	0.4680	0.17	Q				V
19+45	0.4691	0.17	Q				V
19+50	0.4703	0.16	Q				V
19+55	0.4714	0.16	Q				V
20+ 0	0.4725	0.16	Q				V
20+ 5	0.4736	0.16	Q				V
20+10	0.4747	0.16	Q				V
20+15	0.4757	0.15	Q				V
20+20	0.4768	0.15	Q				V
20+25	0.4778	0.15	Q				V
20+30	0.4788	0.15	Q				V
20+35	0.4799	0.15	Q				V
20+40	0.4808	0.14	Q				V
20+45	0.4818	0.14	Q				V
20+50	0.4828	0.14	Q				V
20+55	0.4838	0.14	Q				V
21+ 0	0.4847	0.14	Q				V
21+ 5	0.4857	0.14	Q				V
21+10	0.4866	0.14	Q				V
21+15	0.4875	0.13	Q				V
21+20	0.4884	0.13	Q				V
21+25	0.4894	0.13	Q				V
21+30	0.4903	0.13	Q				V
21+35	0.4911	0.13	Q				V
21+40	0.4920	0.13	Q				V
21+45	0.4929	0.13	Q				V
21+50	0.4938	0.13	Q				V
21+55	0.4946	0.12	Q				V
22+ 0	0.4955	0.12	Q				V
22+ 5	0.4963	0.12	Q				V
22+10	0.4971	0.12	Q				V
22+15	0.4979	0.12	Q				V
22+20	0.4988	0.12	Q				V
22+25	0.4996	0.12	Q				V
22+30	0.5004	0.12	Q				V
22+35	0.5012	0.12	Q				V
22+40	0.5020	0.11	Q				V
22+45	0.5028	0.11	Q				V
22+50	0.5035	0.11	Q				V
22+55	0.5043	0.11	Q				V
23+ 0	0.5051	0.11	Q				V
23+ 5	0.5058	0.11	Q				V
23+10	0.5066	0.11	Q				V

23+15	0.5073	0.11	Q				V
23+20	0.5081	0.11	Q				V
23+25	0.5088	0.11	Q				V
23+30	0.5095	0.11	Q				V
23+35	0.5103	0.11	Q				V
23+40	0.5110	0.10	Q				V
23+45	0.5117	0.10	Q				V
23+50	0.5124	0.10	Q				V
23+55	0.5131	0.10	Q				V
24+ 0	0.5138	0.10	Q				V

Unit Hydrograph Analysis

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Study date 01/05/23

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6277

JOB NO 2022-220
AUBURN 17.4 ACRE INDUSTRIAL BUILDING
100 YEAR STORM UNIT HYDROGRAPH, POST CONDITION
AREA A10

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 10		
2.01	1	0.55

Rainfall data for year 2
2.01 6 0.67

Rainfall data for year 2
2.01 24 1.12

Rainfall data for year 100

2.01	1	0.95
------	---	------

Rainfall data for year 100

2.01	6	1.82
------	---	------

Rainfall data for year 100

2.01	24	3.18
------	----	------

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***** Area-averaged max loss rate, Fm *****

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
91.0	98.2	2.01	1.000	0.036	0.100	0.004

Area-averaged adjusted loss rate Fm (In/Hr) = 0.004

***** Area-Averaged low loss rate fraction, Yb *****

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
0.20	0.100	91.0	98.2	0.18	0.934
1.81	0.900	98.0	98.0	0.20	0.927

Area-averaged catchment yield fraction, Y = 0.928

Area-averaged low loss fraction, Yb = 0.072

User entry of time of concentration = 0.080 (hours)

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Watershed area = 2.01(Ac.)

Catchment Lag time = 0.064 hours

Unit interval = 5.000 minutes

Unit interval percentage of lag time = 130.2083

Hydrograph baseflow = 0.00(CFS)

Average maximum watershed loss rate(Fm) = 0.004(In/Hr)

Average low loss rate fraction (Yb) = 0.072 (decimal)

DESERT S-Graph Selected

Computed peak 5-minute rainfall = 0.450(In)

Computed peak 30-minute rainfall = 0.771(In)

Specified peak 1-hour rainfall = 0.949(In)

Computed peak 3-hour rainfall = 1.415(In)

Specified peak 6-hour rainfall = 1.820(In)

Specified peak 24-hour rainfall = 3.180(In)

Rainfall depth area reduction factors:

Using a total area of 2.01(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000 Adjusted rainfall = 0.450(In)

30-minute factor = 1.000	Adjusted rainfall = 0.771(In)
1-hour factor = 1.000	Adjusted rainfall = 0.949(In)
3-hour factor = 1.000	Adjusted rainfall = 1.415(In)
6-hour factor = 1.000	Adjusted rainfall = 1.820(In)
24-hour factor = 1.000	Adjusted rainfall = 3.180(In)

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

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Interval	'S' Graph	Unit Hydrograph
Number	Mean values	((CFS))

(K = 24.28 (CFS))

1	26.489	6.433
2	76.395	12.119
3	89.977	3.298
4	95.624	1.371
5	98.153	0.614
6	100.000	0.448

Peak Unit	Adjusted mass rainfall	Unit rainfall
Number	(In)	(In)
1	0.4503	0.4503
2	0.5543	0.1041
3	0.6260	0.0717
4	0.6825	0.0564
5	0.7297	0.0473
6	0.7708	0.0410
7	0.8072	0.0365
8	0.8402	0.0330
9	0.8704	0.0302
10	0.8984	0.0280
11	0.9245	0.0261
12	0.9489	0.0244
13	0.9769	0.0280
14	1.0036	0.0267
15	1.0291	0.0255
16	1.0535	0.0244
17	1.0770	0.0235
18	1.0996	0.0226
19	1.1214	0.0218
20	1.1425	0.0211
21	1.1630	0.0204
22	1.1828	0.0198
23	1.2021	0.0193
24	1.2208	0.0187
25	1.2391	0.0183
26	1.2569	0.0178
27	1.2742	0.0174

28	1.2912	0.0170
29	1.3078	0.0166
30	1.3240	0.0162
31	1.3398	0.0159
32	1.3554	0.0156
33	1.3706	0.0152
34	1.3856	0.0150
35	1.4003	0.0147
36	1.4147	0.0144
37	1.4289	0.0142
38	1.4428	0.0139
39	1.4565	0.0137
40	1.4699	0.0135
41	1.4832	0.0133
42	1.4962	0.0130
43	1.5091	0.0129
44	1.5217	0.0127
45	1.5342	0.0125
46	1.5465	0.0123
47	1.5586	0.0121
48	1.5706	0.0120
49	1.5824	0.0118
50	1.5941	0.0117
51	1.6056	0.0115
52	1.6170	0.0114
53	1.6282	0.0112
54	1.6393	0.0111
55	1.6503	0.0110
56	1.6611	0.0108
57	1.6718	0.0107
58	1.6824	0.0106
59	1.6929	0.0105
60	1.7033	0.0104
61	1.7136	0.0103
62	1.7237	0.0102
63	1.7338	0.0101
64	1.7437	0.0100
65	1.7536	0.0099
66	1.7633	0.0098
67	1.7730	0.0097
68	1.7826	0.0096
69	1.7921	0.0095
70	1.8014	0.0094
71	1.8108	0.0093
72	1.8200	0.0092
73	1.8301	0.0101
74	1.8402	0.0101
75	1.8501	0.0100
76	1.8600	0.0099
77	1.8698	0.0098

78	1.8796	0.0097
79	1.8892	0.0097
80	1.8988	0.0096
81	1.9084	0.0095
82	1.9178	0.0094
83	1.9272	0.0094
84	1.9365	0.0093
85	1.9457	0.0092
86	1.9549	0.0092
87	1.9641	0.0091
88	1.9731	0.0091
89	1.9821	0.0090
90	1.9910	0.0089
91	1.9999	0.0089
92	2.0087	0.0088
93	2.0175	0.0088
94	2.0262	0.0087
95	2.0348	0.0086
96	2.0434	0.0086
97	2.0520	0.0085
98	2.0605	0.0085
99	2.0689	0.0084
100	2.0773	0.0084
101	2.0856	0.0083
102	2.0939	0.0083
103	2.1022	0.0082
104	2.1104	0.0082
105	2.1185	0.0081
106	2.1266	0.0081
107	2.1347	0.0081
108	2.1427	0.0080
109	2.1506	0.0080
110	2.1585	0.0079
111	2.1664	0.0079
112	2.1743	0.0078
113	2.1821	0.0078
114	2.1898	0.0078
115	2.1975	0.0077
116	2.2052	0.0077
117	2.2128	0.0076
118	2.2204	0.0076
119	2.2280	0.0076
120	2.2355	0.0075
121	2.2430	0.0075
122	2.2504	0.0074
123	2.2578	0.0074
124	2.2652	0.0074
125	2.2725	0.0073
126	2.2798	0.0073
127	2.2871	0.0073

128	2.2943	0.0072
129	2.3015	0.0072
130	2.3087	0.0072
131	2.3158	0.0071
132	2.3229	0.0071
133	2.3300	0.0071
134	2.3370	0.0070
135	2.3440	0.0070
136	2.3510	0.0070
137	2.3580	0.0069
138	2.3649	0.0069
139	2.3718	0.0069
140	2.3786	0.0069
141	2.3854	0.0068
142	2.3922	0.0068
143	2.3990	0.0068
144	2.4057	0.0067
145	2.4124	0.0067
146	2.4191	0.0067
147	2.4258	0.0067
148	2.4324	0.0066
149	2.4390	0.0066
150	2.4456	0.0066
151	2.4521	0.0066
152	2.4587	0.0065
153	2.4652	0.0065
154	2.4716	0.0065
155	2.4781	0.0064
156	2.4845	0.0064
157	2.4909	0.0064
158	2.4973	0.0064
159	2.5036	0.0064
160	2.5100	0.0063
161	2.5163	0.0063
162	2.5225	0.0063
163	2.5288	0.0063
164	2.5350	0.0062
165	2.5412	0.0062
166	2.5474	0.0062
167	2.5536	0.0062
168	2.5597	0.0061
169	2.5659	0.0061
170	2.5720	0.0061
171	2.5780	0.0061
172	2.5841	0.0061
173	2.5901	0.0060
174	2.5962	0.0060
175	2.6022	0.0060
176	2.6081	0.0060
177	2.6141	0.0060

178	2.6200	0.0059
179	2.6259	0.0059
180	2.6318	0.0059
181	2.6377	0.0059
182	2.6436	0.0059
183	2.6494	0.0058
184	2.6552	0.0058
185	2.6610	0.0058
186	2.6668	0.0058
187	2.6726	0.0058
188	2.6783	0.0057
189	2.6840	0.0057
190	2.6897	0.0057
191	2.6954	0.0057
192	2.7011	0.0057
193	2.7068	0.0057
194	2.7124	0.0056
195	2.7180	0.0056
196	2.7236	0.0056
197	2.7292	0.0056
198	2.7348	0.0056
199	2.7403	0.0056
200	2.7459	0.0055
201	2.7514	0.0055
202	2.7569	0.0055
203	2.7624	0.0055
204	2.7678	0.0055
205	2.7733	0.0055
206	2.7787	0.0054
207	2.7841	0.0054
208	2.7896	0.0054
209	2.7949	0.0054
210	2.8003	0.0054
211	2.8057	0.0054
212	2.8110	0.0053
213	2.8164	0.0053
214	2.8217	0.0053
215	2.8270	0.0053
216	2.8323	0.0053
217	2.8375	0.0053
218	2.8428	0.0053
219	2.8480	0.0052
220	2.8533	0.0052
221	2.8585	0.0052
222	2.8637	0.0052
223	2.8689	0.0052
224	2.8740	0.0052
225	2.8792	0.0052
226	2.8843	0.0051
227	2.8895	0.0051

228	2.8946	0.0051
229	2.8997	0.0051
230	2.9048	0.0051
231	2.9098	0.0051
232	2.9149	0.0051
233	2.9200	0.0051
234	2.9250	0.0050
235	2.9300	0.0050
236	2.9350	0.0050
237	2.9400	0.0050
238	2.9450	0.0050
239	2.9500	0.0050
240	2.9550	0.0050
241	2.9599	0.0050
242	2.9648	0.0049
243	2.9698	0.0049
244	2.9747	0.0049
245	2.9796	0.0049
246	2.9845	0.0049
247	2.9894	0.0049
248	2.9942	0.0049
249	2.9991	0.0049
250	3.0039	0.0048
251	3.0088	0.0048
252	3.0136	0.0048
253	3.0184	0.0048
254	3.0232	0.0048
255	3.0280	0.0048
256	3.0327	0.0048
257	3.0375	0.0048
258	3.0423	0.0048
259	3.0470	0.0047
260	3.0517	0.0047
261	3.0564	0.0047
262	3.0612	0.0047
263	3.0658	0.0047
264	3.0705	0.0047
265	3.0752	0.0047
266	3.0799	0.0047
267	3.0845	0.0047
268	3.0892	0.0046
269	3.0938	0.0046
270	3.0984	0.0046
271	3.1031	0.0046
272	3.1077	0.0046
273	3.1123	0.0046
274	3.1168	0.0046
275	3.1214	0.0046
276	3.1260	0.0046
277	3.1305	0.0046

278	3.1351	0.0045
279	3.1396	0.0045
280	3.1441	0.0045
281	3.1486	0.0045
282	3.1532	0.0045
283	3.1577	0.0045
284	3.1621	0.0045
285	3.1666	0.0045
286	3.1711	0.0045
287	3.1755	0.0045
288	3.1800	0.0044

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
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1	0.0044	0.0003	0.0042
2	0.0045	0.0003	0.0042
3	0.0045	0.0003	0.0042
4	0.0045	0.0003	0.0042
5	0.0045	0.0003	0.0042
6	0.0045	0.0003	0.0042
7	0.0045	0.0003	0.0042
8	0.0045	0.0003	0.0042
9	0.0046	0.0003	0.0043
10	0.0046	0.0003	0.0043
11	0.0046	0.0003	0.0043
12	0.0046	0.0003	0.0043
13	0.0046	0.0003	0.0043
14	0.0046	0.0003	0.0043
15	0.0047	0.0003	0.0044
16	0.0047	0.0003	0.0044
17	0.0047	0.0003	0.0044
18	0.0047	0.0003	0.0044
19	0.0047	0.0003	0.0044
20	0.0047	0.0003	0.0044
21	0.0048	0.0003	0.0045
22	0.0048	0.0003	0.0045
23	0.0048	0.0003	0.0045
24	0.0048	0.0003	0.0045
25	0.0048	0.0003	0.0045
26	0.0048	0.0003	0.0045
27	0.0049	0.0003	0.0046
28	0.0049	0.0003	0.0046
29	0.0049	0.0003	0.0046
30	0.0049	0.0003	0.0046
31	0.0049	0.0003	0.0046
32	0.0049	0.0003	0.0046
33	0.0050	0.0003	0.0047
34	0.0050	0.0003	0.0047

35	0.0050	0.0003	0.0047
36	0.0050	0.0003	0.0047
37	0.0050	0.0003	0.0047
38	0.0051	0.0003	0.0048
39	0.0051	0.0003	0.0048
40	0.0051	0.0003	0.0048
41	0.0051	0.0003	0.0048
42	0.0051	0.0003	0.0048
43	0.0052	0.0003	0.0049
44	0.0052	0.0003	0.0049
45	0.0052	0.0003	0.0049
46	0.0052	0.0003	0.0049
47	0.0052	0.0003	0.0049
48	0.0053	0.0003	0.0050
49	0.0053	0.0003	0.0050
50	0.0053	0.0003	0.0050
51	0.0053	0.0003	0.0050
52	0.0053	0.0003	0.0050
53	0.0054	0.0003	0.0051
54	0.0054	0.0003	0.0051
55	0.0054	0.0003	0.0051
56	0.0054	0.0003	0.0051
57	0.0055	0.0003	0.0052
58	0.0055	0.0003	0.0052
59	0.0055	0.0003	0.0052
60	0.0055	0.0003	0.0052
61	0.0056	0.0003	0.0053
62	0.0056	0.0003	0.0053
63	0.0056	0.0003	0.0053
64	0.0056	0.0003	0.0053
65	0.0057	0.0003	0.0054
66	0.0057	0.0003	0.0054
67	0.0057	0.0003	0.0054
68	0.0057	0.0003	0.0054
69	0.0058	0.0003	0.0055
70	0.0058	0.0003	0.0055
71	0.0058	0.0003	0.0055
72	0.0059	0.0003	0.0056
73	0.0059	0.0003	0.0056
74	0.0059	0.0003	0.0056
75	0.0060	0.0003	0.0057
76	0.0060	0.0003	0.0057
77	0.0060	0.0003	0.0057
78	0.0060	0.0003	0.0057
79	0.0061	0.0003	0.0058
80	0.0061	0.0003	0.0058
81	0.0061	0.0003	0.0058
82	0.0062	0.0003	0.0059
83	0.0062	0.0003	0.0059
84	0.0062	0.0003	0.0059

85	0.0063	0.0003	0.0060
86	0.0063	0.0003	0.0060
87	0.0064	0.0003	0.0061
88	0.0064	0.0003	0.0061
89	0.0064	0.0003	0.0061
90	0.0064	0.0003	0.0062
91	0.0065	0.0003	0.0062
92	0.0065	0.0003	0.0062
93	0.0066	0.0003	0.0063
94	0.0066	0.0003	0.0063
95	0.0067	0.0003	0.0064
96	0.0067	0.0003	0.0064
97	0.0067	0.0003	0.0064
98	0.0068	0.0003	0.0065
99	0.0068	0.0003	0.0065
100	0.0069	0.0003	0.0066
101	0.0069	0.0003	0.0066
102	0.0069	0.0003	0.0066
103	0.0070	0.0003	0.0067
104	0.0070	0.0003	0.0067
105	0.0071	0.0003	0.0068
106	0.0071	0.0003	0.0068
107	0.0072	0.0003	0.0069
108	0.0072	0.0003	0.0069
109	0.0073	0.0003	0.0070
110	0.0073	0.0003	0.0070
111	0.0074	0.0003	0.0071
112	0.0074	0.0003	0.0071
113	0.0075	0.0003	0.0072
114	0.0076	0.0003	0.0073
115	0.0076	0.0003	0.0073
116	0.0077	0.0003	0.0074
117	0.0078	0.0003	0.0075
118	0.0078	0.0003	0.0075
119	0.0079	0.0003	0.0076
120	0.0079	0.0003	0.0076
121	0.0080	0.0003	0.0077
122	0.0081	0.0003	0.0078
123	0.0081	0.0003	0.0078
124	0.0082	0.0003	0.0079
125	0.0083	0.0003	0.0080
126	0.0083	0.0003	0.0080
127	0.0084	0.0003	0.0081
128	0.0085	0.0003	0.0082
129	0.0086	0.0003	0.0083
130	0.0086	0.0003	0.0084
131	0.0088	0.0003	0.0085
132	0.0088	0.0003	0.0085
133	0.0089	0.0003	0.0086
134	0.0090	0.0003	0.0087

135	0.0091	0.0003	0.0088
136	0.0092	0.0003	0.0089
137	0.0093	0.0003	0.0090
138	0.0094	0.0003	0.0091
139	0.0095	0.0003	0.0092
140	0.0096	0.0003	0.0093
141	0.0097	0.0003	0.0094
142	0.0098	0.0003	0.0095
143	0.0100	0.0003	0.0097
144	0.0101	0.0003	0.0098
145	0.0092	0.0003	0.0089
146	0.0093	0.0003	0.0090
147	0.0095	0.0003	0.0092
148	0.0096	0.0003	0.0093
149	0.0098	0.0003	0.0095
150	0.0099	0.0003	0.0096
151	0.0101	0.0003	0.0098
152	0.0102	0.0003	0.0099
153	0.0104	0.0003	0.0101
154	0.0105	0.0003	0.0102
155	0.0107	0.0003	0.0104
156	0.0108	0.0003	0.0105
157	0.0111	0.0003	0.0108
158	0.0112	0.0003	0.0109
159	0.0115	0.0003	0.0112
160	0.0117	0.0003	0.0114
161	0.0120	0.0003	0.0117
162	0.0121	0.0003	0.0118
163	0.0125	0.0003	0.0122
164	0.0127	0.0003	0.0124
165	0.0130	0.0003	0.0127
166	0.0133	0.0003	0.0130
167	0.0137	0.0003	0.0134
168	0.0139	0.0003	0.0136
169	0.0144	0.0003	0.0141
170	0.0147	0.0003	0.0144
171	0.0152	0.0003	0.0149
172	0.0156	0.0003	0.0153
173	0.0162	0.0003	0.0159
174	0.0166	0.0003	0.0163
175	0.0174	0.0003	0.0171
176	0.0178	0.0003	0.0175
177	0.0187	0.0003	0.0184
178	0.0193	0.0003	0.0190
179	0.0204	0.0003	0.0201
180	0.0211	0.0003	0.0208
181	0.0226	0.0003	0.0223
182	0.0235	0.0003	0.0232
183	0.0255	0.0003	0.0252
184	0.0267	0.0003	0.0264

185	0.0244	0.0003	0.0242
186	0.0261	0.0003	0.0258
187	0.0302	0.0003	0.0299
188	0.0330	0.0003	0.0327
189	0.0410	0.0003	0.0407
190	0.0473	0.0003	0.0470
191	0.0717	0.0003	0.0714
192	0.1041	0.0003	0.1038
193	0.4503	0.0003	0.4500
194	0.0564	0.0003	0.0561
195	0.0365	0.0003	0.0362
196	0.0280	0.0003	0.0277
197	0.0280	0.0003	0.0277
198	0.0244	0.0003	0.0241
199	0.0218	0.0003	0.0215
200	0.0198	0.0003	0.0195
201	0.0183	0.0003	0.0180
202	0.0170	0.0003	0.0167
203	0.0159	0.0003	0.0156
204	0.0150	0.0003	0.0147
205	0.0142	0.0003	0.0139
206	0.0135	0.0003	0.0132
207	0.0129	0.0003	0.0126
208	0.0123	0.0003	0.0120
209	0.0118	0.0003	0.0115
210	0.0114	0.0003	0.0111
211	0.0110	0.0003	0.0107
212	0.0106	0.0003	0.0103
213	0.0103	0.0003	0.0100
214	0.0100	0.0003	0.0097
215	0.0097	0.0003	0.0094
216	0.0094	0.0003	0.0091
217	0.0101	0.0003	0.0098
218	0.0099	0.0003	0.0096
219	0.0097	0.0003	0.0094
220	0.0094	0.0003	0.0092
221	0.0092	0.0003	0.0089
222	0.0091	0.0003	0.0088
223	0.0089	0.0003	0.0086
224	0.0087	0.0003	0.0084
225	0.0085	0.0003	0.0082
226	0.0084	0.0003	0.0081
227	0.0082	0.0003	0.0079
228	0.0081	0.0003	0.0078
229	0.0080	0.0003	0.0077
230	0.0078	0.0003	0.0075
231	0.0077	0.0003	0.0074
232	0.0076	0.0003	0.0073
233	0.0075	0.0003	0.0072
234	0.0074	0.0003	0.0071

235	0.0073	0.0003	0.0070
236	0.0072	0.0003	0.0069
237	0.0071	0.0003	0.0068
238	0.0070	0.0003	0.0067
239	0.0069	0.0003	0.0066
240	0.0068	0.0003	0.0065
241	0.0067	0.0003	0.0064
242	0.0066	0.0003	0.0063
243	0.0066	0.0003	0.0063
244	0.0065	0.0003	0.0062
245	0.0064	0.0003	0.0061
246	0.0063	0.0003	0.0060
247	0.0063	0.0003	0.0060
248	0.0062	0.0003	0.0059
249	0.0061	0.0003	0.0058
250	0.0061	0.0003	0.0058
251	0.0060	0.0003	0.0057
252	0.0059	0.0003	0.0056
253	0.0059	0.0003	0.0056
254	0.0058	0.0003	0.0055
255	0.0058	0.0003	0.0055
256	0.0057	0.0003	0.0054
257	0.0057	0.0003	0.0054
258	0.0056	0.0003	0.0053
259	0.0056	0.0003	0.0053
260	0.0055	0.0003	0.0052
261	0.0055	0.0003	0.0052
262	0.0054	0.0003	0.0051
263	0.0054	0.0003	0.0051
264	0.0053	0.0003	0.0050
265	0.0053	0.0003	0.0050
266	0.0052	0.0003	0.0049
267	0.0052	0.0003	0.0049
268	0.0051	0.0003	0.0048
269	0.0051	0.0003	0.0048
270	0.0051	0.0003	0.0048
271	0.0050	0.0003	0.0047
272	0.0050	0.0003	0.0047
273	0.0050	0.0003	0.0047
274	0.0049	0.0003	0.0046
275	0.0049	0.0003	0.0046
276	0.0048	0.0003	0.0045
277	0.0048	0.0003	0.0045
278	0.0048	0.0003	0.0045
279	0.0047	0.0003	0.0044
280	0.0047	0.0003	0.0044
281	0.0047	0.0003	0.0044
282	0.0046	0.0003	0.0043
283	0.0046	0.0003	0.0043
284	0.0046	0.0003	0.0043

285	0.0046	0.0003	0.0043
286	0.0045	0.0003	0.0042
287	0.0045	0.0003	0.0042
288	0.0045	0.0003	0.0042

Total soil rain loss = 0.09(In)
 Total effective rainfall = 3.09(In)
 Peak flow rate in flood hydrograph = 6.30(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0002	0.03	Q					
0+10	0.0007	0.08	Q					
0+15	0.0013	0.09	Q					
0+20	0.0020	0.10	Q					
0+25	0.0027	0.10	Q					
0+30	0.0034	0.10	Q					
0+35	0.0041	0.10	Q					
0+40	0.0048	0.10	Q					
0+45	0.0055	0.10	Q					
0+50	0.0062	0.10	Q					
0+55	0.0070	0.10	Q					
1+ 0	0.0077	0.10	Q					
1+ 5	0.0084	0.10	Q					
1+10	0.0091	0.10	Q					
1+15	0.0098	0.11	Q					
1+20	0.0106	0.11	Q					
1+25	0.0113	0.11	Q					
1+30	0.0120	0.11	Q					
1+35	0.0128	0.11	Q					
1+40	0.0135	0.11	QV					
1+45	0.0142	0.11	QV					
1+50	0.0150	0.11	QV					
1+55	0.0157	0.11	QV					
2+ 0	0.0165	0.11	QV					
2+ 5	0.0172	0.11	QV					
2+10	0.0180	0.11	QV					
2+15	0.0188	0.11	QV					
2+20	0.0195	0.11	QV					
2+25	0.0203	0.11	QV					
2+30	0.0210	0.11	QV					
2+35	0.0218	0.11	QV					

2+40	0.0226	0.11	QV
2+45	0.0234	0.11	QV
2+50	0.0241	0.11	QV
2+55	0.0249	0.11	QV
3+ 0	0.0257	0.11	QV
3+ 5	0.0265	0.11	Q V
3+10	0.0273	0.11	Q V
3+15	0.0281	0.12	Q V
3+20	0.0289	0.12	Q V
3+25	0.0297	0.12	Q V
3+30	0.0305	0.12	Q V
3+35	0.0313	0.12	Q V
3+40	0.0321	0.12	Q V
3+45	0.0329	0.12	Q V
3+50	0.0337	0.12	Q V
3+55	0.0346	0.12	Q V
4+ 0	0.0354	0.12	Q V
4+ 5	0.0362	0.12	Q V
4+10	0.0371	0.12	Q V
4+15	0.0379	0.12	Q V
4+20	0.0387	0.12	Q V
4+25	0.0396	0.12	Q V
4+30	0.0404	0.12	Q V
4+35	0.0413	0.12	Q V
4+40	0.0421	0.12	Q V
4+45	0.0430	0.12	Q V
4+50	0.0439	0.13	Q V
4+55	0.0447	0.13	Q V
5+ 0	0.0456	0.13	Q V
5+ 5	0.0465	0.13	Q V
5+10	0.0474	0.13	Q V
5+15	0.0482	0.13	Q V
5+20	0.0491	0.13	Q V
5+25	0.0500	0.13	Q V
5+30	0.0509	0.13	Q V
5+35	0.0518	0.13	Q V
5+40	0.0527	0.13	Q V
5+45	0.0536	0.13	Q V
5+50	0.0546	0.13	Q V
5+55	0.0555	0.13	Q V
6+ 0	0.0564	0.13	Q V
6+ 5	0.0573	0.14	Q V
6+10	0.0583	0.14	Q V
6+15	0.0592	0.14	Q V
6+20	0.0601	0.14	Q V
6+25	0.0611	0.14	Q V
6+30	0.0621	0.14	Q V
6+35	0.0630	0.14	Q V
6+40	0.0640	0.14	Q V
6+45	0.0649	0.14	Q V

6+50	0.0659	0.14	Q	V				
6+55	0.0669	0.14	Q	V				
7+ 0	0.0679	0.14	Q	V				
7+ 5	0.0689	0.14	Q	V				
7+10	0.0699	0.15	Q	V				
7+15	0.0709	0.15	Q	V				
7+20	0.0719	0.15	Q	V				
7+25	0.0729	0.15	Q	V				
7+30	0.0739	0.15	Q	V				
7+35	0.0750	0.15	Q	V				
7+40	0.0760	0.15	Q	V				
7+45	0.0770	0.15	Q	V				
7+50	0.0781	0.15	Q	V				
7+55	0.0791	0.15	Q	V				
8+ 0	0.0802	0.15	Q	V				
8+ 5	0.0813	0.16	Q	V				
8+10	0.0824	0.16	Q	V				
8+15	0.0834	0.16	Q	V				
8+20	0.0845	0.16	Q	V				
8+25	0.0856	0.16	Q	V				
8+30	0.0867	0.16	Q	V				
8+35	0.0878	0.16	Q	V				
8+40	0.0890	0.16	Q	V				
8+45	0.0901	0.16	Q	V				
8+50	0.0912	0.16	Q	V				
8+55	0.0924	0.17	Q	V				
9+ 0	0.0935	0.17	Q	V				
9+ 5	0.0947	0.17	Q	V				
9+10	0.0958	0.17	Q	V				
9+15	0.0970	0.17	Q	V				
9+20	0.0982	0.17	Q	V				
9+25	0.0994	0.17	Q	V				
9+30	0.1006	0.17	Q	V				
9+35	0.1018	0.18	Q	V				
9+40	0.1030	0.18	Q	V				
9+45	0.1043	0.18	Q	V				
9+50	0.1055	0.18	Q	V				
9+55	0.1068	0.18	Q	V				
10+ 0	0.1080	0.18	Q	V				
10+ 5	0.1093	0.19	Q	V				
10+10	0.1106	0.19	Q	V				
10+15	0.1119	0.19	Q	V				
10+20	0.1132	0.19	Q	V				
10+25	0.1145	0.19	Q	V				
10+30	0.1159	0.19	Q	V				
10+35	0.1172	0.20	Q	V				
10+40	0.1186	0.20	Q	V				
10+45	0.1199	0.20	Q	V				
10+50	0.1213	0.20	Q	V				
10+55	0.1227	0.20	Q	V				

11+ 0	0.1241	0.20	Q	V				
11+ 5	0.1256	0.21	Q	V				
11+10	0.1270	0.21	Q	V				
11+15	0.1285	0.21	Q	V				
11+20	0.1299	0.21	Q	V				
11+25	0.1314	0.22	Q	V				
11+30	0.1329	0.22	Q	V				
11+35	0.1344	0.22	Q	V				
11+40	0.1360	0.22	Q	V				
11+45	0.1375	0.23	Q	V				
11+50	0.1391	0.23	Q	V				
11+55	0.1407	0.23	Q	V				
12+ 0	0.1423	0.23	Q	V				
12+ 5	0.1439	0.23	Q	V				
12+10	0.1454	0.22	Q	V				
12+15	0.1469	0.22	Q	V				
12+20	0.1485	0.22	Q	V				
12+25	0.1500	0.23	Q	V				
12+30	0.1516	0.23	Q	V				
12+35	0.1532	0.23	Q	V				
12+40	0.1548	0.24	Q	V				
12+45	0.1565	0.24	Q	V				
12+50	0.1582	0.24	Q	V				
12+55	0.1599	0.25	Q	V				
13+ 0	0.1616	0.25	Q	V				
13+ 5	0.1634	0.26	Q	V				
13+10	0.1652	0.26	Q	V				
13+15	0.1670	0.27	Q	V				
13+20	0.1689	0.27	Q	V				
13+25	0.1708	0.28	Q	V				
13+30	0.1727	0.28	Q	V				
13+35	0.1747	0.29	Q	V				
13+40	0.1767	0.29	Q	V				
13+45	0.1788	0.30	Q	V				
13+50	0.1809	0.31	Q	V				
13+55	0.1831	0.31	Q	V				
14+ 0	0.1853	0.32	Q	V				
14+ 5	0.1876	0.33	Q	V				
14+10	0.1899	0.34	Q	V				
14+15	0.1923	0.35	Q	V				
14+20	0.1948	0.36	Q	V				
14+25	0.1974	0.37	Q	V				
14+30	0.2000	0.38	Q	V				
14+35	0.2027	0.40	Q	V				
14+40	0.2056	0.41	Q	V				
14+45	0.2085	0.43	Q	V				
14+50	0.2116	0.44	Q	V				
14+55	0.2147	0.46	Q	V				
15+ 0	0.2181	0.48	Q	V				
15+ 5	0.2216	0.51	Q	V				

15+10	0.2253	0.54	Q		V			
15+15	0.2292	0.57	Q		V			
15+20	0.2333	0.60	Q		V			
15+25	0.2375	0.61	Q		V			
15+30	0.2417	0.60	Q		V			
15+35	0.2462	0.65	Q		V			
15+40	0.2511	0.72	Q		V			
15+45	0.2567	0.82	Q		V			
15+50	0.2634	0.97	Q		V			
15+55	0.2720	1.24	Q		V			
16+ 0	0.2842	1.78		Q	V			
16+ 5	0.3151	4.49			Q	V		
16+10	0.3585	6.30				Q	V	
16+15	0.3765	2.60		Q			V	
16+20	0.3869	1.51		Q			V	
16+25	0.3940	1.03		Q			V	
16+30	0.4000	0.87	Q				V	
16+35	0.4042	0.61	Q				V	
16+40	0.4079	0.54	Q				V	
16+45	0.4112	0.49	Q				V	
16+50	0.4143	0.45	Q				V	
16+55	0.4171	0.41	Q				V	
17+ 0	0.4198	0.38	Q				V	
17+ 5	0.4223	0.36	Q				V	
17+10	0.4246	0.34	Q				V	
17+15	0.4268	0.32	Q				V	
17+20	0.4289	0.31	Q				V	
17+25	0.4310	0.29	Q				V	
17+30	0.4329	0.28	Q				V	
17+35	0.4348	0.27	Q				V	
17+40	0.4366	0.26	Q				V	
17+45	0.4383	0.25	Q				V	
17+50	0.4400	0.24	Q				V	
17+55	0.4416	0.24	Q				V	
18+ 0	0.4432	0.23	Q				V	
18+ 5	0.4448	0.23	Q				V	
18+10	0.4464	0.23	Q				V	
18+15	0.4480	0.23	Q				V	
18+20	0.4495	0.23	Q				V	
18+25	0.4511	0.22	Q				V	
18+30	0.4526	0.22	Q				V	
18+35	0.4540	0.21	Q				V	
18+40	0.4555	0.21	Q				V	
18+45	0.4569	0.20	Q				V	
18+50	0.4583	0.20	Q				V	
18+55	0.4596	0.20	Q				V	
19+ 0	0.4610	0.19	Q				V	
19+ 5	0.4623	0.19	Q				V	
19+10	0.4636	0.19	Q				V	
19+15	0.4648	0.18	Q				V	

19+20	0.4661	0.18	Q				V
19+25	0.4673	0.18	Q				V
19+30	0.4685	0.17	Q				V
19+35	0.4697	0.17	Q				V
19+40	0.4708	0.17	Q				V
19+45	0.4720	0.17	Q				V
19+50	0.4731	0.16	Q				V
19+55	0.4742	0.16	Q				V
20+ 0	0.4754	0.16	Q				V
20+ 5	0.4764	0.16	Q				V
20+10	0.4775	0.16	Q				V
20+15	0.4786	0.15	Q				V
20+20	0.4796	0.15	Q				V
20+25	0.4807	0.15	Q				V
20+30	0.4817	0.15	Q				V
20+35	0.4827	0.15	Q				V
20+40	0.4837	0.14	Q				V
20+45	0.4847	0.14	Q				V
20+50	0.4857	0.14	Q				V
20+55	0.4866	0.14	Q				V
21+ 0	0.4876	0.14	Q				V
21+ 5	0.4885	0.14	Q				V
21+10	0.4895	0.14	Q				V
21+15	0.4904	0.13	Q				V
21+20	0.4913	0.13	Q				V
21+25	0.4922	0.13	Q				V
21+30	0.4931	0.13	Q				V
21+35	0.4940	0.13	Q				V
21+40	0.4949	0.13	Q				V
21+45	0.4957	0.13	Q				V
21+50	0.4966	0.13	Q				V
21+55	0.4975	0.12	Q				V
22+ 0	0.4983	0.12	Q				V
22+ 5	0.4991	0.12	Q				V
22+10	0.5000	0.12	Q				V
22+15	0.5008	0.12	Q				V
22+20	0.5016	0.12	Q				V
22+25	0.5024	0.12	Q				V
22+30	0.5032	0.12	Q				V
22+35	0.5040	0.12	Q				V
22+40	0.5048	0.11	Q				V
22+45	0.5056	0.11	Q				V
22+50	0.5064	0.11	Q				V
22+55	0.5072	0.11	Q				V
23+ 0	0.5079	0.11	Q				V
23+ 5	0.5087	0.11	Q				V
23+10	0.5094	0.11	Q				V
23+15	0.5102	0.11	Q				V
23+20	0.5109	0.11	Q				V
23+25	0.5117	0.11	Q				V

23+30	0.5124	0.11	Q				V
23+35	0.5131	0.11	Q				V
23+40	0.5139	0.10	Q				V
23+45	0.5146	0.10	Q				V
23+50	0.5153	0.10	Q				V
23+55	0.5160	0.10	Q				V
24+ 0	0.5167	0.10	Q				V

APPENDIX D

BASIN ROUTING ANALYSIS

2022-220 Basin Summary

Basin AG1 (Above Ground)								
Elevation	Depth (Ft)	Surface Area (SF)	Volume Engineered Soil (CF)	Above Ground Volume (CF)	Underground Storage Volume (CF)	Total Volume (CF)	Total Volume (Ac-Ft)	Outflow (cfs)
2845	0	23,605	33,047	11,386	111,184	155,617	3.572	0
2845.50	0.5	25,286	33,047	23,609	111,184	167,840	3.853	0
2846	1	26,982	33,047	36,676	111,184	180,907	4.153	0
2846.50	1.5	28,694	33,047	50,595	111,184	194,826	4.473	0
2847	2	30,420	33,047	65,373	111,184	209,604	4.812	0
2847.50	2.5	32,161	33,047	81,018	111,184	225,249	5.171	0
2848	3	33,916	33,047	97,537	111,184	241,768	5.550	0
2848.50	3.5							
2849	4							0
2,847	1.50	100-Yr WSE (ft)						
	2.50	Freeboard (ft)						

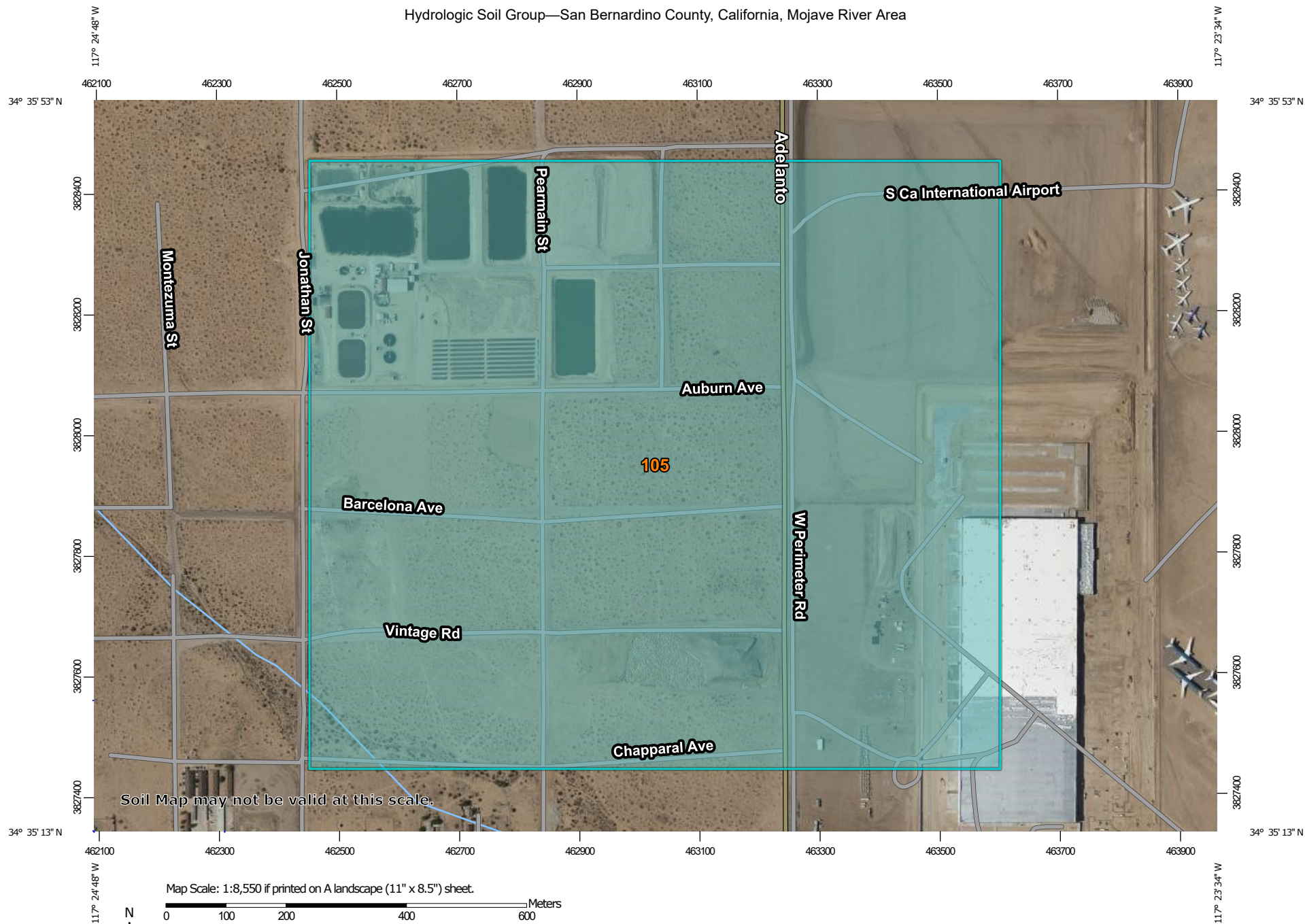
Underground Chambers					Required Surface Area (SF)	Provided Surface Area (All Basins) (SF)
Basin ID	Model	Dimensions	Volume	Surface Area		
CMP 1	CMP 72"	290' X 24'	36,199	7,592		
CMP 2	CMP 72"	450' X 33'	74,985	15,820	17,150	47,017

APPENDIX E

SUPPORTING DOCUMENTS

SOILS MAP

Hydrologic Soil Group—San Bernardino County, California, Mojave River Area



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points

 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

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

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

Soil Survey Area: San Bernardino County, California, Mojave River Area

Survey Area Data: Version 14, Sep 1, 2022

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

Date(s) aerial images were photographed: Mar 17, 2022—Jun 12, 2022

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
105	BRYMAN LOAMY FINE SAND, 0 TO 2 PERCENT SLOPES	C	287.7	100.0%
Totals for Area of Interest			287.7	100.0%

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

NOAA ATLAS 14 DATA



NOAA Atlas 14, Volume 6, Version 2
Location name: Adelanto, California, USA*
Latitude: 34.5928°, Longitude: -117.403°
Elevation: 2852.86 ft**
* source: ESRI Maps
** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps_&_aerials](#)

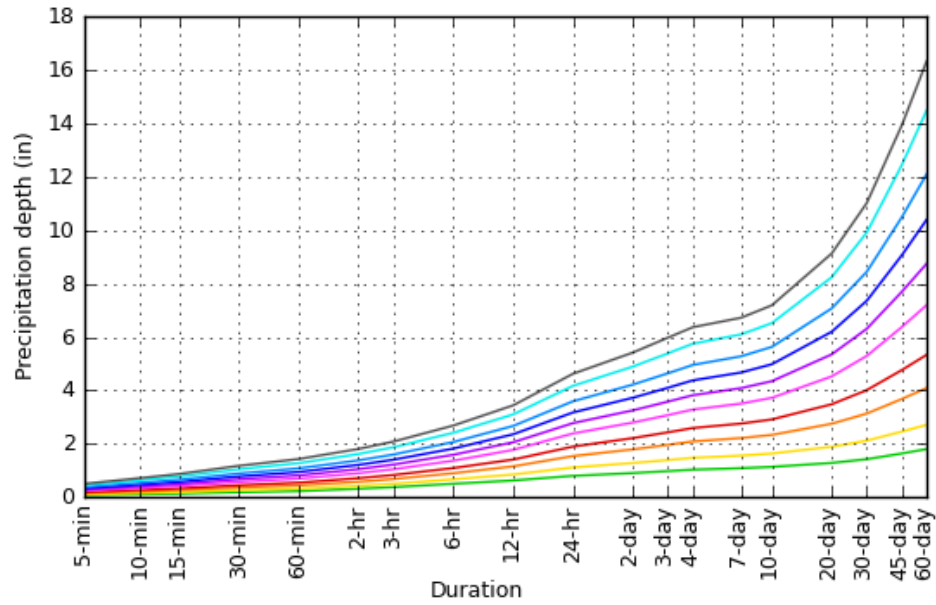
PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.081 (0.067-0.099)	0.112 (0.093-0.138)	0.156 (0.128-0.192)	0.193 (0.157-0.239)	0.246 (0.194-0.315)	0.288 (0.223-0.377)	0.334 (0.252-0.447)	0.382 (0.280-0.526)	0.449 (0.316-0.645)	0.504 (0.343-0.748)
10-min	0.116 (0.096-0.142)	0.161 (0.133-0.198)	0.224 (0.184-0.275)	0.276 (0.225-0.343)	0.352 (0.278-0.451)	0.413 (0.319-0.541)	0.478 (0.361-0.640)	0.547 (0.401-0.753)	0.644 (0.453-0.924)	0.722 (0.491-1.07)
15-min	0.140 (0.116-0.172)	0.195 (0.161-0.239)	0.270 (0.222-0.332)	0.334 (0.273-0.414)	0.426 (0.336-0.546)	0.500 (0.386-0.654)	0.578 (0.436-0.775)	0.661 (0.485-0.911)	0.779 (0.548-1.12)	0.873 (0.594-1.30)
30-min	0.190 (0.157-0.232)	0.263 (0.217-0.323)	0.365 (0.300-0.449)	0.452 (0.368-0.560)	0.576 (0.454-0.737)	0.675 (0.522-0.883)	0.781 (0.589-1.05)	0.894 (0.655-1.23)	1.05 (0.741-1.51)	1.18 (0.802-1.75)
60-min	0.231 (0.190-0.282)	0.320 (0.264-0.392)	0.444 (0.365-0.545)	0.549 (0.447-0.680)	0.699 (0.551-0.895)	0.820 (0.634-1.07)	0.949 (0.715-1.27)	1.09 (0.796-1.50)	1.28 (0.900-1.83)	1.43 (0.975-2.13)
2-hr	0.320 (0.264-0.392)	0.431 (0.355-0.529)	0.585 (0.481-0.720)	0.717 (0.584-0.888)	0.904 (0.713-1.16)	1.06 (0.816-1.38)	1.22 (0.916-1.63)	1.38 (1.01-1.91)	1.62 (1.14-2.33)	1.81 (1.23-2.69)
3-hr	0.382 (0.315-0.468)	0.510 (0.420-0.625)	0.686 (0.564-0.843)	0.837 (0.682-1.04)	1.05 (0.830-1.35)	1.23 (0.947-1.60)	1.41 (1.06-1.89)	1.60 (1.18-2.21)	1.87 (1.32-2.69)	2.09 (1.42-3.10)
6-hr	0.508 (0.419-0.622)	0.674 (0.555-0.826)	0.902 (0.741-1.11)	1.10 (0.893-1.36)	1.37 (1.08-1.76)	1.59 (1.23-2.08)	1.82 (1.38-2.44)	2.07 (1.52-2.85)	2.42 (1.70-3.47)	2.69 (1.83-3.99)
12-hr	0.631 (0.520-0.772)	0.854 (0.704-1.05)	1.16 (0.953-1.43)	1.41 (1.15-1.75)	1.78 (1.40-2.27)	2.06 (1.59-2.69)	2.36 (1.78-3.16)	2.67 (1.96-3.68)	3.10 (2.18-4.45)	3.44 (2.34-5.11)
24-hr	0.804 (0.713-0.925)	1.12 (0.991-1.29)	1.55 (1.37-1.78)	1.90 (1.66-2.21)	2.39 (2.03-2.88)	2.78 (2.31-3.41)	3.18 (2.57-4.00)	3.59 (2.83-4.66)	4.17 (3.15-5.63)	4.62 (3.38-6.46)
2-day	0.908 (0.806-1.05)	1.28 (1.14-1.48)	1.79 (1.59-2.07)	2.22 (1.94-2.58)	2.80 (2.37-3.37)	3.25 (2.70-4.00)	3.73 (3.02-4.69)	4.22 (3.32-5.46)	4.89 (3.70-6.61)	5.42 (3.96-7.57)
3-day	0.981 (0.870-1.13)	1.40 (1.24-1.61)	1.96 (1.74-2.27)	2.43 (2.13-2.83)	3.08 (2.61-3.70)	3.58 (2.97-4.40)	4.10 (3.32-5.16)	4.64 (3.66-6.01)	5.39 (4.07-7.27)	5.97 (4.36-8.35)
4-day	1.04 (0.919-1.19)	1.48 (1.31-1.71)	2.09 (1.85-2.42)	2.59 (2.27-3.02)	3.28 (2.78-3.95)	3.82 (3.17-4.70)	4.38 (3.54-5.51)	4.95 (3.90-6.42)	5.75 (4.34-7.76)	6.37 (4.65-8.90)
7-day	1.09 (0.967-1.25)	1.56 (1.38-1.80)	2.22 (1.96-2.56)	2.76 (2.42-3.21)	3.51 (2.97-4.22)	4.09 (3.39-5.02)	4.67 (3.78-5.89)	5.28 (4.16-6.84)	6.10 (4.61-8.23)	6.72 (4.91-9.39)
10-day	1.14 (1.01-1.31)	1.64 (1.45-1.89)	2.34 (2.06-2.70)	2.92 (2.55-3.40)	3.72 (3.16-4.48)	4.35 (3.61-5.34)	4.98 (4.03-6.27)	5.63 (4.43-7.29)	6.52 (4.93-8.80)	7.19 (5.25-10.0)
20-day	1.29 (1.14-1.48)	1.89 (1.68-2.18)	2.75 (2.43-3.18)	3.48 (3.05-4.06)	4.53 (3.84-5.45)	5.35 (4.44-6.58)	6.20 (5.02-7.81)	7.07 (5.57-9.16)	8.24 (6.23-11.1)	9.13 (6.66-12.8)
30-day	1.43 (1.27-1.64)	2.12 (1.88-2.44)	3.13 (2.77-3.62)	4.01 (3.52-4.67)	5.29 (4.48-6.37)	6.31 (5.23-7.75)	7.35 (5.96-9.26)	8.44 (6.65-10.9)	9.91 (7.49-13.4)	11.0 (8.04-15.4)
45-day	1.64 (1.45-1.89)	2.46 (2.18-2.83)	3.68 (3.25-4.25)	4.76 (4.17-5.54)	6.37 (5.40-7.67)	7.69 (6.38-9.45)	9.05 (7.33-11.4)	10.5 (8.25-13.6)	12.4 (9.39-16.8)	13.9 (10.2-19.4)
60-day	1.81 (1.60-2.08)	2.71 (2.40-3.12)	4.09 (3.61-4.73)	5.33 (4.67-6.21)	7.19 (6.10-8.66)	8.74 (7.26-10.7)	10.4 (8.41-13.1)	12.1 (9.52-15.7)	14.5 (10.9-19.5)	16.3 (11.9-22.8)
¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.										

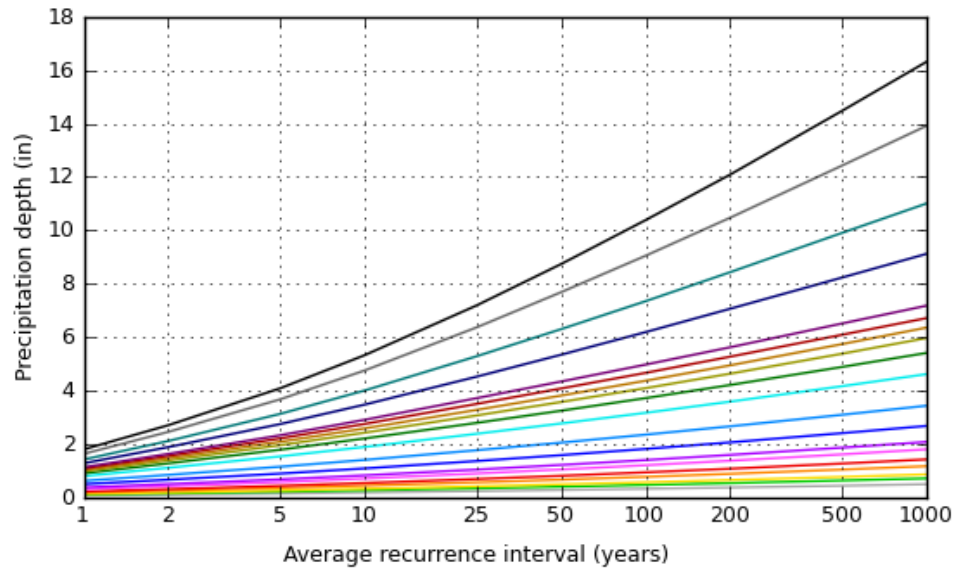
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PF graphical

PDS-based depth-duration-frequency (DDF) curves
Latitude: 34.5928°, Longitude: -117.4030°



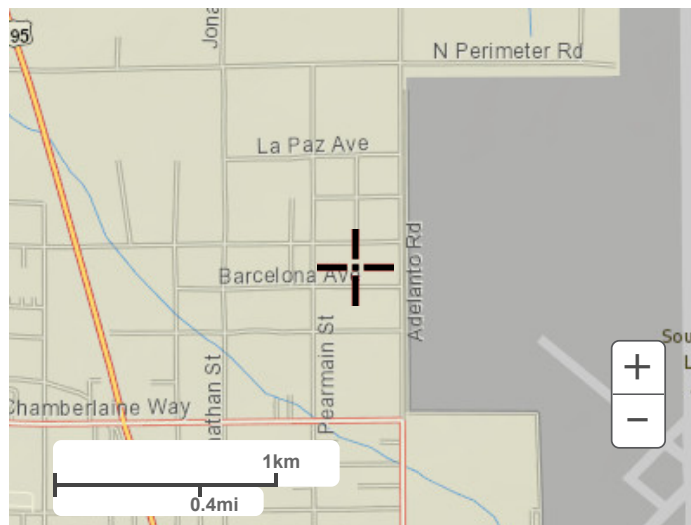
Average recurrence interval (years)
1
2
5
10
25
50
100
200
500
1000



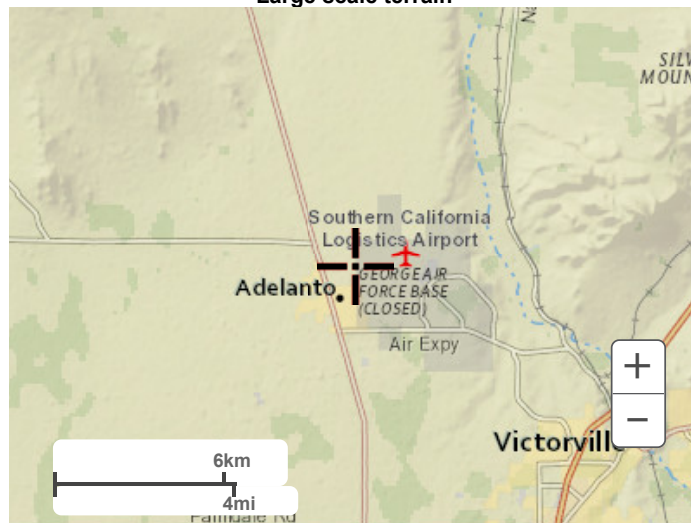
Duration	
5-min	2-day
10-min	3-day
15-min	4-day
30-min	7-day
60-min	10-day
2-hr	20-day
3-hr	30-day
6-hr	45-day
12-hr	60-day
24-hr	

Maps & aerials

Small scale terrain



Large scale terrain



Large scale map



Large scale aerial



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Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

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APPENDIX F

INFILTRATION REPORT

Estimated Infiltration Rate from Percolation Test Data, PT-02

Project Name	JX Investments
Project Number	22-81-294-01
Test Number	PT-01
Test Location	North Test on east side of site
Personnel	Stephen McPherson
Presoak Date	11/30/2022
Test Date	12/1/2022

Shaded cells contain calculated values.

Test Hole Radius, r (inches)	4
Total Depth of Test hole, D _T (inches)	60
Inside Diameter of Pipe, I (inches)	2.88
Outside Diameter of Pipe, O (inches)	3.13
Factor of Safety (FOS), F	3

Interval No.	Time Interval, Δt (min)	Initial Depth to Water, D ₀ (inches)	Final Depth to Water, D _f (inches)	Elapsed Time (min)	Initial Height of Water, H ₀ (inches)	Final Height of Water, H _f (inches)	Change in Height of Water, ΔH (inches)	Average Head Height, H _{avg} (inches)	Infiltration Rate, I _t (inches/hr)	Infiltration Rate with FOS, I _f (inches/hr)
				0						0
1	30.00	9.00	60.00	25.00	51.00	0.00	51.00	25.50	7.42	2.47
2	30.00	9.60	50.16	55.00	50.40	9.84	40.56	30.12	5.05	1.68
3	10.00	8.40	21.72	65.00	51.60	38.28	13.32	44.94	3.41	1.14
4	10.00	8.40	21.00	75.00	51.60	39.00	12.60	45.30	3.20	1.07
5	10.00	8.40	20.64	85.00	51.60	39.36	12.24	45.48	3.09	1.03
6	10.00	8.40	20.76	95.00	51.60	39.24	12.36	45.42	3.13	1.04
7	10.00	8.40	20.64	105.00	51.60	39.36	12.24	45.48	3.09	1.03
8	10.00	8.40	20.64	115.00	51.60	39.36	12.24	45.48	3.09	1.03

Recommended Design Infiltration Rate (inches/hr) 1.03

Infiltration calculations are based on the Porchet Inverse Borehole Method presented in Riverside County BMP Design Handbook, Appendix A, Infiltration Testing (Riverside County, 2011)

$$H_0 = D_T - D_0$$

$$H_f = D_T - D_f$$

$$\Delta H = H_0 - H_f$$

$$H_{avg} = (H_0 + H_f) / 2$$

$$I_t = (\Delta H * (60 * r)) / (\Delta t * (r + (2 * H_{avg})))$$

Infiltration Rate versus Time, PT-02

Project Name	JX Investments
Project Number	22-81-294-01
Test Number	PT-01
Test Location	North Test on east side of site
Personnel	Stephen McPherson
Presoak Date	11/30/2022
Test Date	12/1/2022

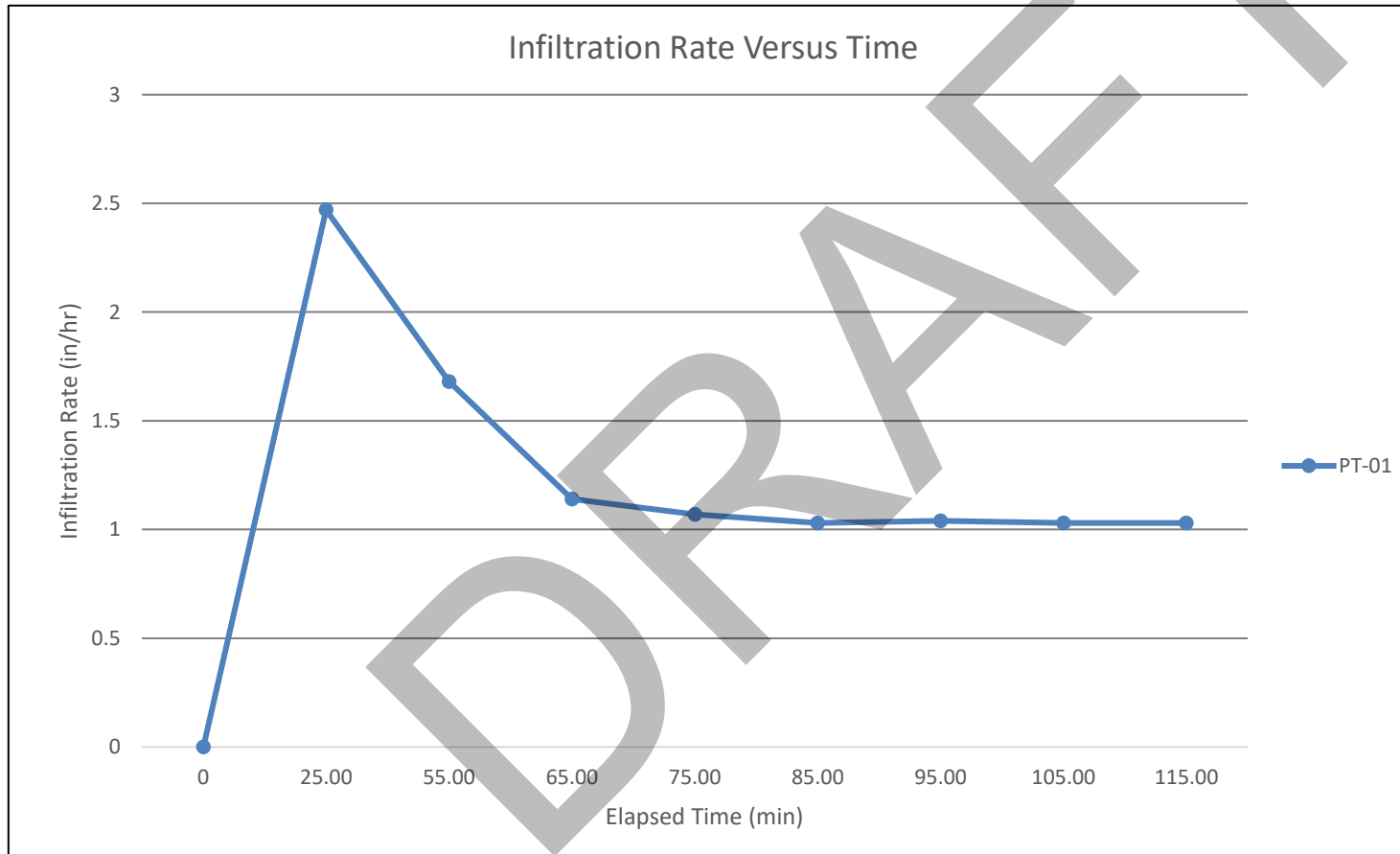


Plate No.

Estimated Infiltration Rate from Percolation Test Data, PT-02

Project Name	JX Investments
Project Number	22-81-294-01
Test Number	PT-02
Test Location	North center test on east side of site
Personnel	Stephen McPherson
Presoak Date	11/30/2022
Test Date	12/1/2022

Shaded cells contain calculated values.

Test Hole Radius, r (inches)	4
Total Depth of Test hole, D _T (inches)	120
Inside Diameter of Pipe, I (inches)	2.88
Outside Diameter of Pipe, O (inches)	3.13
Factor of Safety (FOS), F	3

Interval No.	Time Interval, Δt (min)	Initial Depth to Water, D ₀ (inches)	Final Depth to Water, D _f (inches)	Elapsed Time (min)	Initial Height of Water, H ₀ (inches)	Final Height of Water, H _f (inches)	Change in Height of Water, ΔH (inches)	Average Head Height, H _{avg} (inches)	Infiltration Rate, I _t (inches/hr)	Infiltration Rate with FOS, I _f (inches/hr)
				0						0
1	30.00	24.00	108.36	25.00	96.00	11.64	84.36	53.82	6.05	2.02
2	30.00	22.80	105.96	55.00	97.20	14.04	83.16	55.62	5.77	1.92
3	10.00	36.84	82.56	65.00	83.16	37.44	45.72	60.30	8.81	2.94
4	10.00	21.60	67.80	75.00	98.40	52.20	46.20	75.30	7.17	2.39
5	10.00	20.40	61.44	85.00	99.60	58.56	41.04	79.08	6.07	2.02
6	10.00	19.20	58.44	95.00	100.80	61.56	39.24	81.18	5.66	1.89
7	10.00	19.20	57.60	105.00	100.80	62.40	38.40	81.60	5.51	1.84
8	10.00	15.60	56.76	115.00	104.40	63.24	41.16	83.82	5.76	1.92

Recommended Design Infiltration Rate (inches/hr) 1.92

Infiltration calculations are based on the Porchet Inverse Borehole Method presented in Riverside County BMP Design Handbook, Appendix A, Infiltration Testing (Riverside County, 2011)

$$H_0 = D_T - D_0$$

$$H_f = D_T - D_f$$

$$\Delta H = H_0 - H_f$$

$$H_{avg} = (H_0 + H_f) / 2$$

$$I_t = (\Delta H * (60 * r)) / (\Delta t * (r + (2 * H_{avg})))$$

Infiltration Rate versus Time, PT-02

Project Name	JX Investments
Project Number	22-81-294-01
Test Number	PT-02
Test Location	North center test on east side of site
Personnel	Stephen McPherson
Presoak Date	11/30/2022
Test Date	12/1/2022

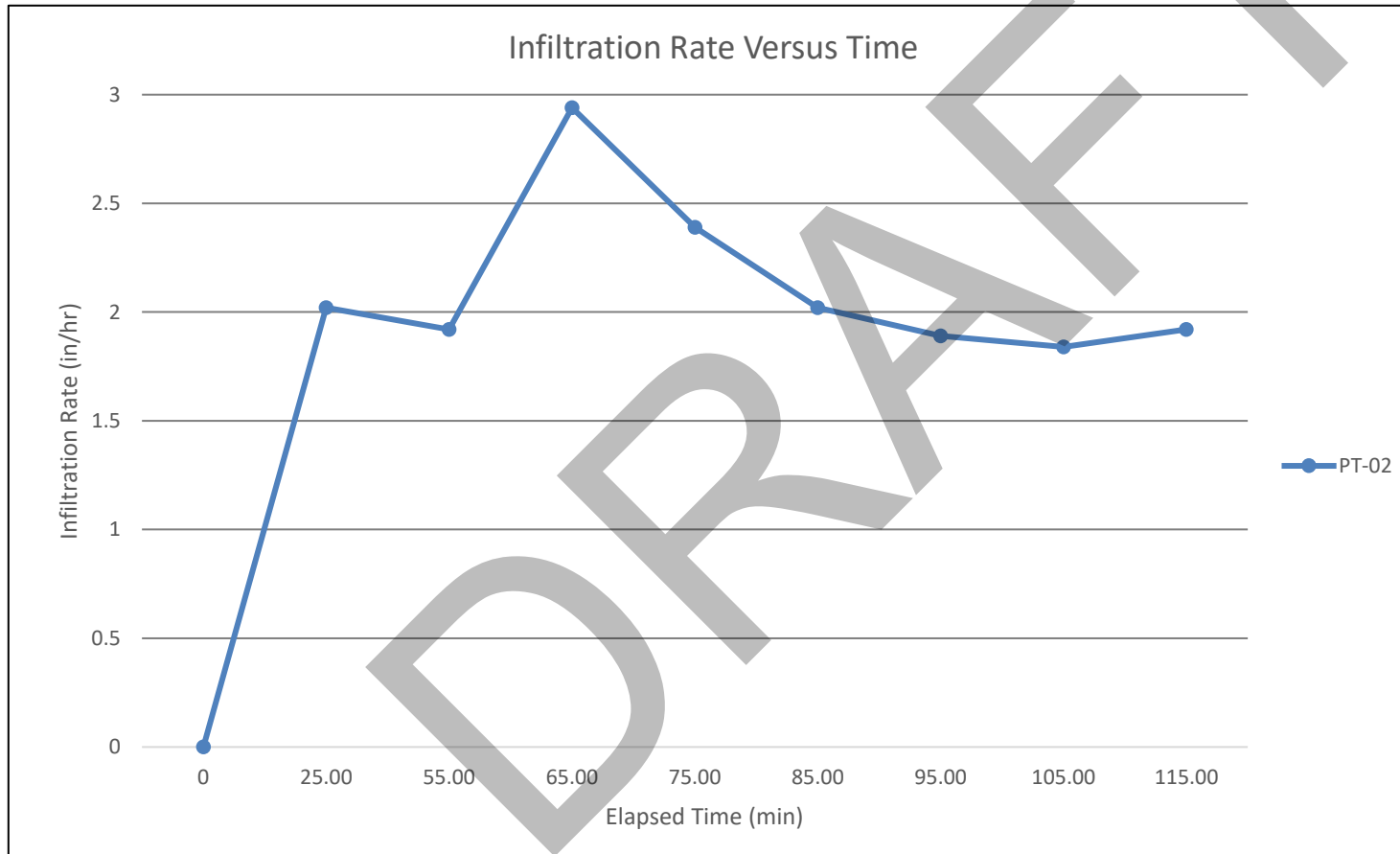


Plate No.

Estimated Infiltration Rate from Percolation Test Data, PT-02

Project Name	JX Investments
Project Number	22-81-294-01
Test Number	PT-03
Test Location	South center test on east side of site
Personnel	Stephen McPherson
Presoak Date	11/30/2022
Test Date	12/1/2022

Shaded cells contain calculated values.

Test Hole Radius, r (inches)	4
Total Depth of Test hole, D _T (inches)	62.3
Inside Diameter of Pipe, I (inches)	2.88
Outside Diameter of Pipe, O (inches)	3.13
Factor of Safety (FOS), F	3

Interval No.	Time Interval, Δt (min)	Initial Depth to Water, D ₀ (inches)	Final Depth to Water, D _f (inches)	Elapsed Time (min)	Initial Height of Water, H ₀ (inches)	Final Height of Water, H _f (inches)	Change in Height of Water, ΔH (inches)	Average Head Height, H _{avg} (inches)	Infiltration Rate, I _t (inches/hr)	Infiltration Rate with FOS, I _f (inches/hr)
				0						0
1	30.00	8.40	53.28	25.00	53.90	9.02	44.88	31.46	5.37	1.79
2	30.00	10.20	51.00	55.00	52.10	11.30	40.80	31.70	4.84	1.61
3	10.00	9.00	24.24	65.00	53.30	38.06	15.24	45.68	3.84	1.28
4	10.00	9.00	23.64	75.00	53.30	38.66	14.64	45.98	3.66	1.22
5	10.00	9.00	23.04	85.00	53.30	39.26	14.04	46.28	3.49	1.16
6	10.00	9.12	21.72	95.00	53.18	40.58	12.60	46.88	3.09	1.03
7	10.00	9.00	21.00	105.00	53.30	41.30	12.00	47.30	2.92	0.97
8	10.00	9.00	20.76	115.00	53.30	41.54	11.76	47.42	2.86	0.95

Recommended Design Infiltration Rate (inches/hr) 0.95

Infiltration calculations are based on the Porchet Inverse Borehole Method presented in Riverside County BMP Design Handbook, Appendix A, Infiltration Testing (Riverside County, 2011)

$$H_0 = D_T - D_0$$

$$H_f = D_T - D_f$$

$$\Delta H = H_0 - H_f$$

$$H_{avg} = (H_0 + H_f) / 2$$

$$I_t = (\Delta H * (60 * r)) / (\Delta t * (r + (2 * H_{avg})))$$

Infiltration Rate versus Time, PT-02

Project Name	JX Investments
Project Number	22-81-294-01
Test Number	PT-03
Test Location	South center test on east side of site
Personnel	Stephen McPherson
Presoak Date	11/30/2022
Test Date	12/1/2022

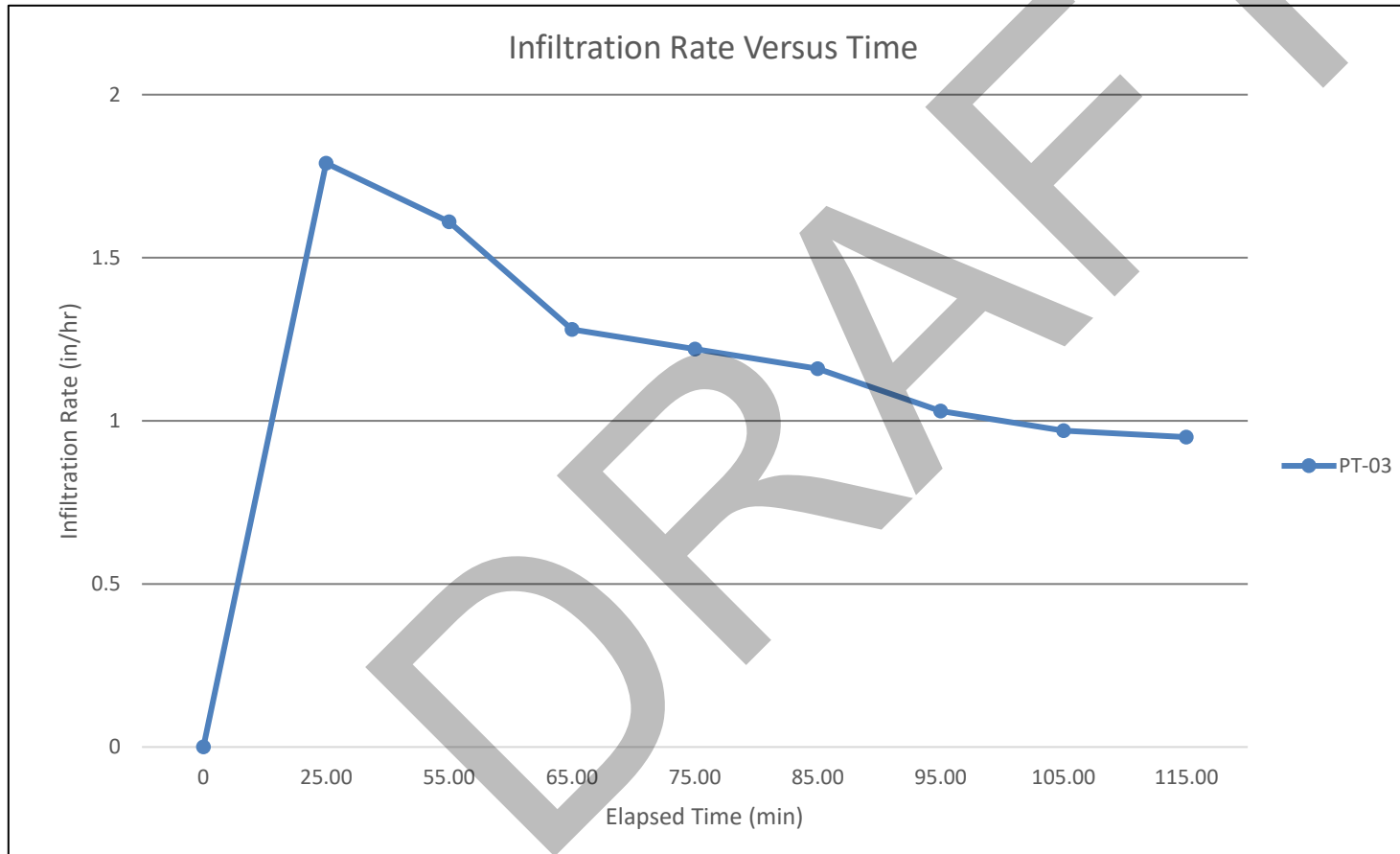


Plate No.

Estimated Infiltration Rate from Percolation Test Data, PT-02

Project Name	JX Investments
Project Number	22-81-294-01
Test Number	PT-04
Test Location	South test on east side of site
Personnel	Stephen McPherson
Presoak Date	11/30/2022
Test Date	12/1/2022

Shaded cells contain calculated values.

Test Hole Radius, r (inches)	4
Total Depth of Test hole, D _T (inches)	120.2
Inside Diameter of Pipe, I (inches)	2.88
Outside Diameter of Pipe, O (inches)	3.13
Factor of Safety (FOS), F	3

Interval No.	Time Interval, Δt (min)	Initial Depth to Water, D ₀ (inches)	Final Depth to Water, D _f (inches)	Elapsed Time (min)	Initial Height of Water, H ₀ (inches)	Final Height of Water, H _f (inches)	Change in Height of Water, ΔH (inches)	Average Head Height, H _{avg} (inches)	Infiltration Rate, I _t (inches/hr)	Infiltration Rate with FOS, I _f (inches/hr)
				0						0
1	30.00	34.80	119.88	25.00	85.40	0.32	85.08	42.86	7.59	2.53
2	30.00	40.32	116.40	55.00	79.88	3.80	76.08	41.84	6.94	2.31
3	10.00	34.92	97.20	65.00	85.28	23.00	62.28	54.14	13.31	4.44
4	10.00	35.04	93.84	75.00	85.16	26.36	58.80	55.76	12.22	4.07
5	10.00	36.36	92.64	85.00	83.84	27.56	56.28	55.70	11.70	3.90
6	10.00	34.44	90.00	95.00	85.76	30.20	55.56	57.98	11.12	3.71
7	10.00	33.96	87.60	105.00	86.24	32.60	53.64	59.42	10.48	3.49
8	10.00	34.32	89.52	115.00	85.88	30.68	55.20	58.28	10.99	3.66

Recommended Design Infiltration Rate (inches/hr) 3.66

Infiltration calculations are based on the Porchet Inverse Borehole Method presented in Riverside County BMP Design Handbook, Appendix A, Infiltration Testing (Riverside County, 2011)

$$H_0 = D_T - D_0$$

$$H_f = D_T - D_f$$

$$\Delta H = H_0 - H_f$$

$$H_{avg} = (H_0 + H_f) / 2$$

$$I_t = (\Delta H * (60 * r)) / (\Delta t * (r + (2 * H_{avg})))$$

Infiltration Rate versus Time, PT-02

Project Name	JX Investments
Project Number	22-81-294-01
Test Number	PT-04
Test Location	South test on east side of site
Personnel	Stephen McPherson
Presoak Date	11/30/2022
Test Date	12/1/2022

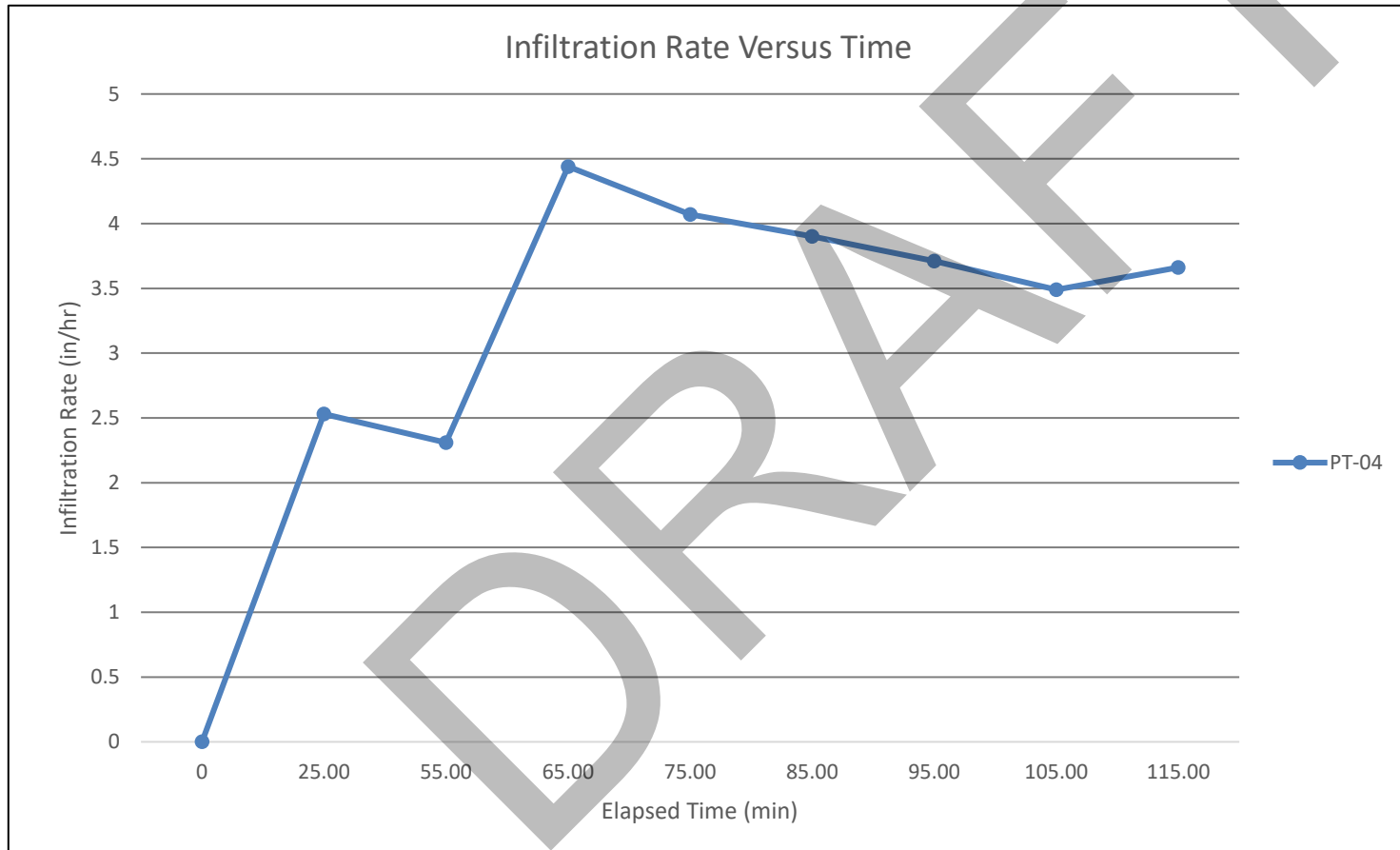


Plate No.

Legend

BH-24/50'

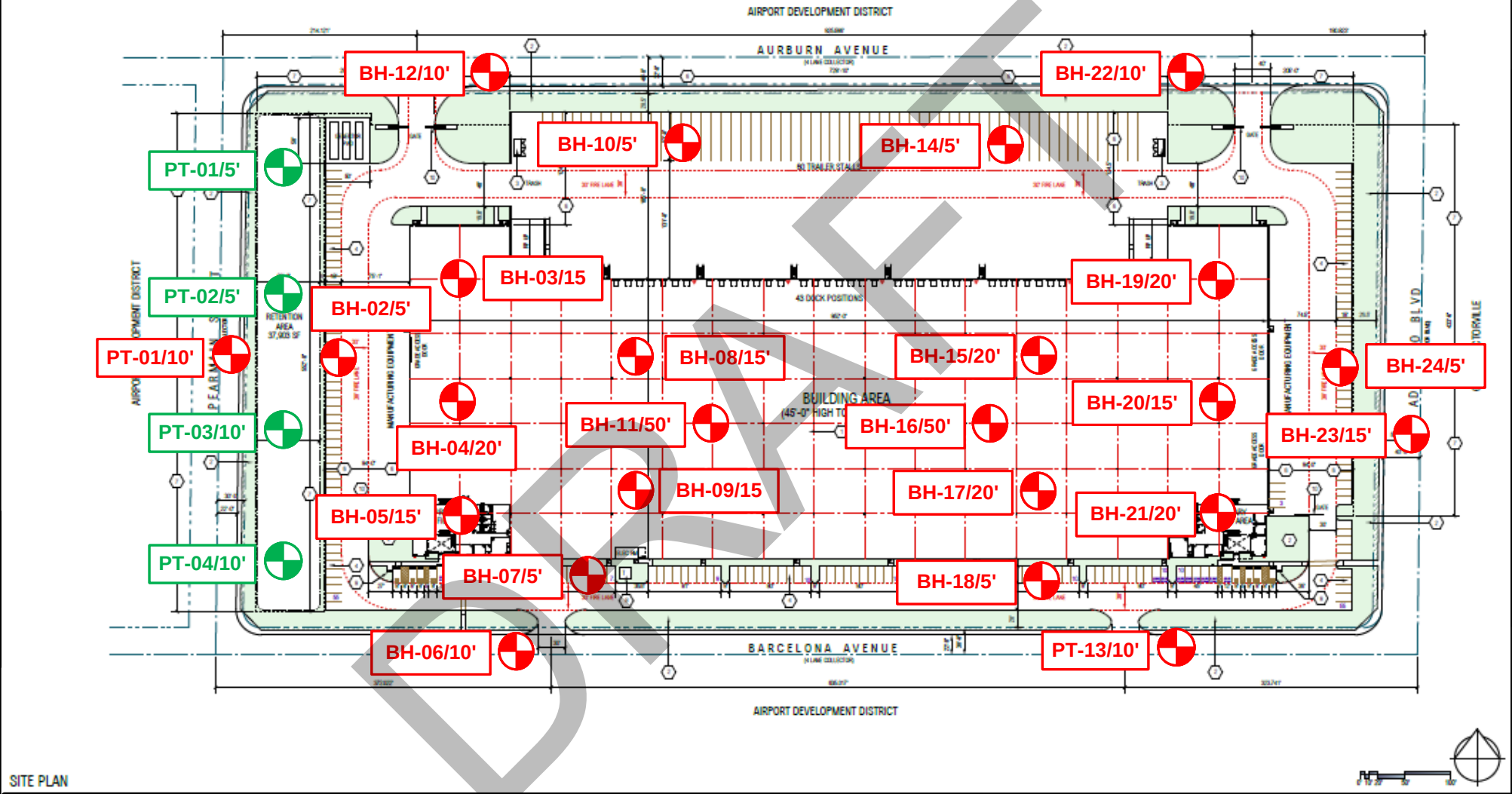


Number/Depth and Approximate Location of
Proposed Exploratory Boring

PT-04/10'



Number/Depth and Approximate Location of
Proposed Exploratory Boring for Percolation Test



Project: APN 0459-053 Ecosave 17.4 Acre Site
Location: City of Adelanto, San Bernardino County, California

For: JX Investments

Approximate Proposed Boring Locations Map

Project No.
22-81-294-02



Converse Consultants

Figure No.
2