
APPENDIX H

PRELIMINARY DRAINAGE STUDY

**PRELIMINARY DRAINAGE STUDY
FOR
TENTATIVE PARCEL MAP 20854
913 CALIFORNIA ST.
REDLANDS, CALIFORNIA**

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APRIL 4, 2025

This report has been prepared by or under the direction of the following registered civil engineer who attests to the technical information contained herein. The registered civil engineer has also judged the qualifications of any technical specialists providing engineering data upon which recommendations, conclusions, and decisions are based.


Jimmy C. Chen, RCE 51394
Registered Civil Engineer

4/4/2025
Date



TABLE OF CONTENTS

I.	PROJECT BACKGROUND AND DESCRIPTION.....	1
II.	HYDROLOGY AND HYDRAULIC METHODOLOGY.....	2
III.	CONCLUSIONS.....	4
IV.	REFERENCES.....	5
V.	VICINITY MAP	6

APPENDICES

APPENDIX A:	REFERENCE FIGURES
APPENDIX A.1:	NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATES
APPENDIX A.2:	HYDRAULIC SOILS GROUP MAP FOR SOUTHWEST-D AREA (FIGURE C-16)
APPENDIX B:	RATIONAL METHOD MODELS
APPENDIX B.1:	EXISTING 25-YEAR ANALYSIS
APPENDIX B.2:	PROPOSED 100-YEAR ANALYSIS
APPENDIX C:	UNIT HYDROGRAPH MODELS
APPENDIX C.1:	EXISTING 25-YEAR ANALYSIS
APPENDIX C.2:	PROPOSED 100-YEAR ANALYSIS
APPENDIX D:	FLOOD ROUTING MODELS
APPENDIX D.1:	BASIN "A" STAGE-STORAGE-OUTFLOW SUMMARY & ROUTING
APPENDIX E:	EXHIBITS
APPENDIX E.1:	EXISTING DRAINAGE KEY MAP
APPENDIX E.2:	PROPOSED DRAINAGE KEY MAP

EXCERPTS

EXCERPT A:	LINE L STORM DRAIN PLANS
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I. PROJECT BACKGROUND AND DESCRIPTION

PURPOSE:

The purpose of this study is to determine the potential drainage impacts for the proposed commercial development of Tentative Parcel Map 20854. The scope of this study is to analyze the proposed developed drainage patterns for the 10- and 100-year storm event compared to the existing 10- and 25-year event using the rational method and synthetic unit hydrograph per the San Bernardino County Hydrology Manual.

DESCRIPTION:

Tentative Parcel Map 20854 (the "Project") proposes the development of approximately 5.08 acres of vacant land located northwest of Redlands Boulevard and California Street in the City of Redlands, San Bernardino County, into three (3) commercial parcels. The Project proposes a four-story hotel, a drive-thru carwash, a drive-thru coffee shop and dedicated parking for each. The project fronts a railroad right of way to the north, a drainage channel and single-family residential to the south, and commercial/retail to the east. The existing topography for the property gently slopes from the northeast to the southwest towards the drainage channel at approximately 0.5 to 2% over natural cover. See *Section V* for the vicinity map.

PROPOSED DRAINAGE DESIGN CONCEPT:

The Project proposes an infiltration basin (Basin "A") that will provide stormwater treatment and detention capacity for peak developed runoff mitigation. The increased runoff from the Project will be detained on site and released via a calibrated outlet structure with a riser and orifice connected to the adjacent drainage channel with the required DCV being retained and infiltrated onsite.

The Project proposes one major drainage tributary of which collects and conveys the runoff to infiltration basin "A" for detention and stormwater treatment. The Project's basin will retain the required design capture volume (DCV) onsite while detaining and mitigating the developed peak runoff so that they are less than the 25-year existing event. The mitigated runoff discharges from the basin via a calibrated outlet structure into the adjacent drainage channel.

II. HYDROLOGY AND HYDRAULIC METHODOLOGY

The modified rational method for this study was based on the "County of San Bernardino Hydrology Manual" dated April 1978. Software designed by "CivilDESIGN" of San Bernardino was used to solve the modified rational method drainage models of the site to determine the time of concentration, average runoff index number, the average pervious fraction, and the design flow rates for the proposed drainage conveyance system. For the final version of this study, the results from the rational method will be used to determine the proposed inlet sizes and determine required diameter of the storm water pipelines. The outputs are printed in the Standard San Bernardino County format and can be found in *Appendix B*.

A. Rainfall:

The program utilizes user input for the required runoff intensity rates from NOAA Atlas 14 for Redlands for all the required time vs. intensity date for San Bernardino. See *Appendix A.1*.

Storm Event & Duration	Rainfall (inches)
10-Year, 1-Hour	0.734
100-Year, 1-Hour	1.16

B. Infiltration:

Soil type was based on the San Bernardino County Hydrology Manual Hydrologic Soils Group Map for Southwest-D Area Figure C-16 (HSG=B). See *Appendix A.2*.

C. Runoff and Routing:

After the "C" value is determined, the computer determines the runoff and routes the flood downstream based on the input model and Figures C-2, C-3, and C-4 as necessary.

Table 1: Rational Method Summary

	Existing 10-Year (AMC II)	Existing 25-Year (AMC II)	Proposed 10-Year (AMC II)	Proposed 100-Year (AMC III)
Acreage, A	5.55 ac.		4.40 ac.	
Runoff, Q	5.3 cfs	7.0 cfs	8.4 cfs	14.3 cfs
Time of Concentration, Tc	18.768 min.		8.20 min.	7.90 min.
Area Pervious, Ap	1.000		0.299	
Runoff Index, SCS	78.0		59.6	

SYNTHETIC UNIT HYDROGRAPH METHOD:

The Synthetic Unit Hydrograph, a computational procedure for developing peak runoff and discharge for storms of a specified recurrence interval, was used to evaluate our detention needs onsite. This procedure calculates effective rainfall, which is the portion of the total rainfall that

appears as surface runoff, at a specific concentration point. Precipitation data for the project location was taken NOAA Atlas 14 respectfully and are provided in *Appendix A.1* of this report. The 10-, 25- and 100-year storm frequencies for each of the 24-hour durations were analyzed for increased runoff mitigation. The hydrographs and basin routing for the 100-year storm events are included to show that the basins can pass the 100-year storm with sufficient capacity.

The following assumptions/guidelines were applied in the use to the Synthetic Unit Hydrograph Method:

- The 2-, 10-, and 100-Year point rainfall depths at 1-, 6-, and 24-hour durations were estimated from the NOAA Atlas 14 for Redlands.
- Lag times used for the development of the synthetic unit hydrograph were generated based on the size and shape of the sub basin. The watershed sub area lag times were calculated according to the lag time equation as indicated in the San Bernardino County Hydrology Manual.
- The Undeveloped and Developed Valley S-Curve graph was used for this project site. The 24-hour, 5-minute interval data was used.
- An area averaged infiltration rate was calculated based on hydrologic soil type, vegetative cover land use and impervious percentage. The “low loss rate” function was then incorporated. The San Bernardino County Hydrology Manual’s synthetic unit hydrograph method includes a “low loss rate” function when calculating effective rainfall (i.e., total rain minus infiltration).

Table 2: Developed Unit Hydrograph Summary

	Existing 10-Year	Existing 25-Year	Proposed 10-Year	Proposed 100-Year
Runoff, Q	4.9 cfs	6.4 cfs	8.3 cfs	14.4 cfs
Runoff Volume	0.656 ac-ft	0.8967 ac-ft	0.8321 ac-ft	1.4981 ac-ft

The synthetic Unit Hydrograph Method outlined in the San Bernadino County Hydrology Manual was used to develop runoff hydrographs using “CIVILDESIGN” Engineering Software. This software was also used to route the unit hydrographs through the proposed detention basin onsite.

The following assumptions/guidelines were made in the use of Reservoir Routing:

- The Modified Pul’s (Storage Indication) Method is used for the detention basin routing studies. The basin routing relationships are based upon the following formula:

$$I - O = \Delta S / \Delta t$$

I = Basin inflow rate (cfs)

O = Basin outflow rate (cfs)

ΔS = Change in basin storage during the time step (cubic feet)

Δt = time step (sec)

- The basin inflow rates are based on the unit hydrograph files (See Appendix C)

- Depth-Storage-Discharge curve is based on Basin Volume worksheet and Stage Discharge Rating Table (See Appendix D)
- The procedure is repeated for each time step until the basin inflow hydrograph has been completely analyzed and the basin outflow becomes negligible.

Table 3: Basin Routing Analysis Summary

Proposed Basin "A"		
	10-Year	100-Year
Basin Design Capacity	1.52 ac-ft.	
Design Capture Volume, DCV	0.24 ac-ft.	
Max. Basin Depth	5 ft.	
Peak Runoff Inflow, Q_{in}	8.3 cfs	14.4 cfs
Peak Runoff Outflow, Q_{out}	0.6 cfs	4.2 cfs
Runoff Reduction	92.7%	70.7%
Max. Ponded Depth	2.38 ft.	3.23 ft.
Max. W.S.E.	1147.38	1148.23
Max. Freeboard	2.62 ft.	1.77 ft.

III. CONCLUSIONS

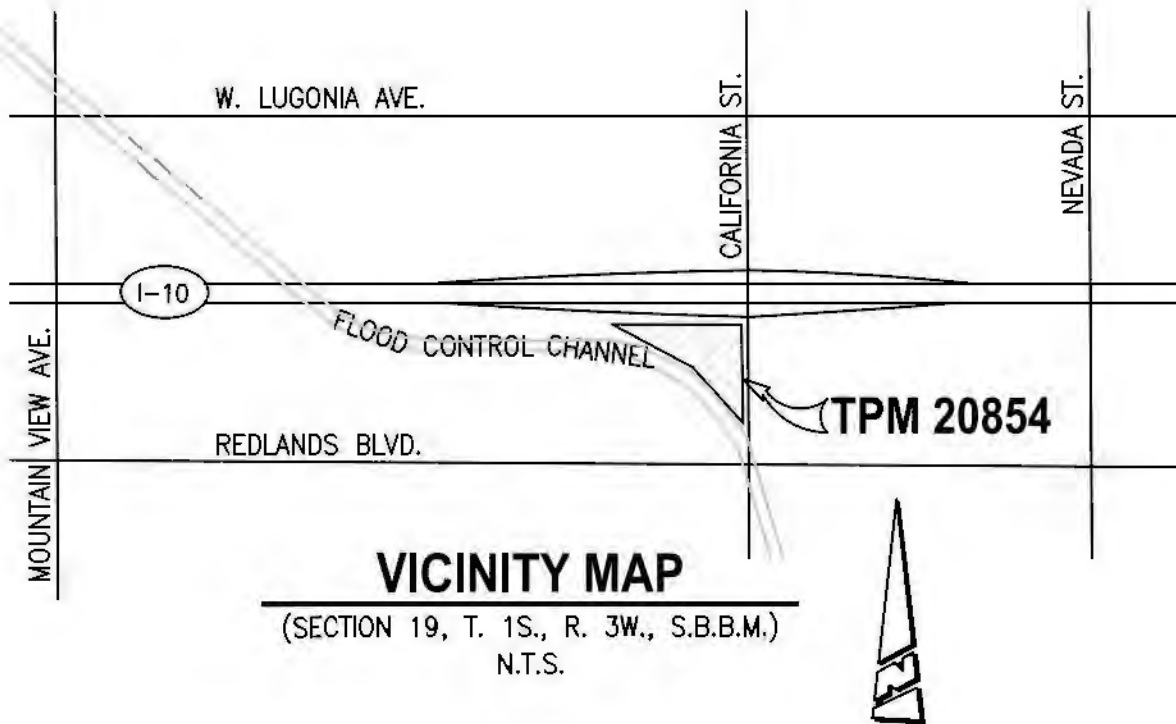
This study evaluated the proposed commercial development to assess the hydrology and hydraulics of the project site. The following has been concluded:

1. Two infiltration basins will be required to stormwater treatment.
2. Mitigation for increased runoff is required as the proposed developed 100-year runoff far exceeds the existing 25-year runoff. However, the proposed infiltration basin "A" has sufficient capacity to retain the DCV and detain the increased runoff volume.
3. The storm drain systems are sized such that they convey flows to the basins and provide flood protection. Catch basins are located such that they provide flood protection.

IV. REFERENCES

1. County of San Bernardino Hydrology Manual, 1986.

V. VICINITY MAP



REFERENCE FIGURES..... A

- A.1 – NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATES
- A.2 – HYDRAULIC SOILS GROUP MAP FOR SOUTHWEST-D AREA (FIGURE C-16)



NOAA Atlas 14, Volume 6, Version 2
Location name: Redlands, California, USA*
Latitude: 34.0652°, Longitude: -117.2274°
Elevation: 1158 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 & aerals](#)

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	0.097 (0.081-0.118)	0.126 (0.104-0.153)	0.164 (0.136-0.200)	0.195 (0.161-0.240)	0.239 (0.190-0.304)	0.273 (0.212-0.355)	0.308 (0.233-0.410)	0.344 (0.254-0.472)	0.395 (0.279-0.565)	0.434 (0.296-0.644)
10-min	0.139 (0.116-0.169)	0.180 (0.150-0.219)	0.235 (0.195-0.286)	0.280 (0.230-0.344)	0.342 (0.272-0.435)	0.391 (0.304-0.508)	0.441 (0.335-0.588)	0.494 (0.364-0.677)	0.566 (0.399-0.810)	0.623 (0.424-0.923)
15-min	0.168 (0.140-0.204)	0.218 (0.181-0.265)	0.284 (0.235-0.346)	0.339 (0.278-0.416)	0.414 (0.329-0.527)	0.473 (0.368-0.615)	0.534 (0.405-0.711)	0.597 (0.440-0.819)	0.684 (0.483-0.979)	0.753 (0.513-1.12)
30-min	0.249 (0.207-0.302)	0.322 (0.268-0.392)	0.420 (0.348-0.512)	0.501 (0.412-0.616)	0.613 (0.487-0.779)	0.700 (0.544-0.909)	0.790 (0.599-1.05)	0.883 (0.651-1.21)	1.01 (0.715-1.45)	1.11 (0.759-1.65)
60-min	0.364 (0.303-0.442)	0.472 (0.393-0.574)	0.616 (0.511-0.750)	0.734 (0.604-0.902)	0.898 (0.713-1.14)	1.03 (0.797-1.33)	1.16 (0.877-1.54)	1.30 (0.954-1.78)	1.48 (1.05-2.12)	1.63 (1.11-2.42)
2-hr	0.523 (0.435-0.634)	0.669 (0.556-0.813)	0.863 (0.716-1.05)	1.02 (0.841-1.26)	1.24 (0.986-1.58)	1.41 (1.10-1.83)	1.59 (1.20-2.11)	1.77 (1.30-2.42)	2.01 (1.42-2.88)	2.21 (1.50-3.27)
3-hr	0.644 (0.536-0.781)	0.821 (0.683-0.997)	1.06 (0.874-1.28)	1.25 (1.02-1.53)	1.51 (1.20-1.92)	1.71 (1.33-2.22)	1.92 (1.46-2.56)	2.14 (1.57-2.93)	2.43 (1.72-3.48)	2.66 (1.81-3.94)
6-hr	0.902 (0.751-1.09)	1.15 (0.953-1.39)	1.47 (1.22-1.79)	1.73 (1.42-2.13)	2.09 (1.66-2.66)	2.37 (1.84-3.08)	2.65 (2.01-3.53)	2.94 (2.17-4.03)	3.34 (2.36-4.78)	3.65 (2.48-5.40)
12-hr	1.19 (0.994-1.45)	1.52 (1.27-1.85)	1.96 (1.62-2.38)	2.31 (1.90-2.84)	2.79 (2.22-3.54)	3.16 (2.45-4.10)	3.53 (2.68-4.70)	3.91 (2.88-5.36)	4.43 (3.13-6.34)	4.83 (3.29-7.16)
24-hr	1.59 (1.41-1.83)	2.05 (1.82-2.37)	2.65 (2.34-3.07)	3.14 (2.75-3.66)	3.80 (3.22-4.58)	4.31 (3.57-5.30)	4.82 (3.90-6.07)	5.34 (4.21-6.92)	6.05 (4.58-8.16)	6.60 (4.83-9.20)
2-day	1.95 (1.73-2.25)	2.55 (2.26-2.95)	3.35 (2.95-3.87)	4.00 (3.50-4.66)	4.88 (4.13-5.88)	5.56 (4.61-6.83)	6.25 (5.06-7.87)	6.96 (5.49-9.01)	7.93 (6.00-10.7)	8.68 (6.35-12.1)
3-day	2.10 (1.86-2.42)	2.79 (2.47-3.22)	3.70 (3.26-4.28)	4.45 (3.90-5.19)	5.49 (4.65-6.61)	6.29 (5.22-7.74)	7.11 (5.76-8.96)	7.97 (6.28-10.3)	9.14 (6.92-12.3)	10.1 (7.36-14.0)
4-day	2.24 (1.98-2.58)	3.01 (2.66-3.47)	4.02 (3.55-4.66)	4.87 (4.26-5.68)	6.03 (5.11-7.27)	6.94 (5.76-8.54)	7.88 (6.38-9.92)	8.86 (6.98-11.5)	10.2 (7.72-13.8)	11.3 (8.25-15.7)
7-day	2.59 (2.29-2.99)	3.52 (3.11-4.06)	4.76 (4.20-5.51)	5.79 (5.07-6.76)	7.22 (6.12-8.70)	8.34 (6.92-10.3)	9.50 (7.70-12.0)	10.7 (8.44-13.9)	12.4 (9.37-16.7)	13.7 (10.0-19.1)
10-day	2.81 (2.49-3.24)	3.85 (3.41-4.45)	5.25 (4.63-6.07)	6.41 (5.60-7.47)	8.02 (6.79-9.66)	9.28 (7.70-11.4)	10.6 (8.58-13.3)	12.0 (9.43-15.5)	13.9 (10.5-18.7)	15.4 (11.3-21.4)
20-day	3.46 (3.06-3.99)	4.79 (4.24-5.53)	6.59 (5.81-7.62)	8.09 (7.08-9.44)	10.2 (8.63-12.3)	11.8 (9.83-14.6)	13.6 (11.0-17.1)	15.4 (12.1-19.9)	17.9 (13.6-24.2)	19.9 (14.6-27.8)
30-day	4.08 (3.62-4.71)	5.66 (5.01-6.53)	7.79 (6.87-9.02)	9.58 (8.39-11.2)	12.1 (10.2-14.6)	14.1 (11.7-17.3)	16.2 (13.1-20.4)	18.4 (14.5-23.8)	21.5 (16.2-28.9)	23.9 (17.5-33.4)
45-day	4.91 (4.35-5.66)	6.76 (5.98-7.80)	9.28 (8.19-10.7)	11.4 (9.98-13.3)	14.4 (12.2-17.3)	16.8 (13.9-20.6)	19.3 (15.6-24.3)	21.9 (17.3-28.4)	25.7 (19.4-34.6)	28.7 (21.0-40.0)
60-day	5.77 (5.11-6.65)	7.87 (6.96-9.08)	10.7 (9.46-12.4)	13.1 (11.5-15.3)	16.6 (14.0-20.0)	19.3 (16.0-23.7)	22.2 (18.0-27.9)	25.2 (19.9-32.7)	29.5 (22.3-39.8)	33.0 (24.1-46.0)

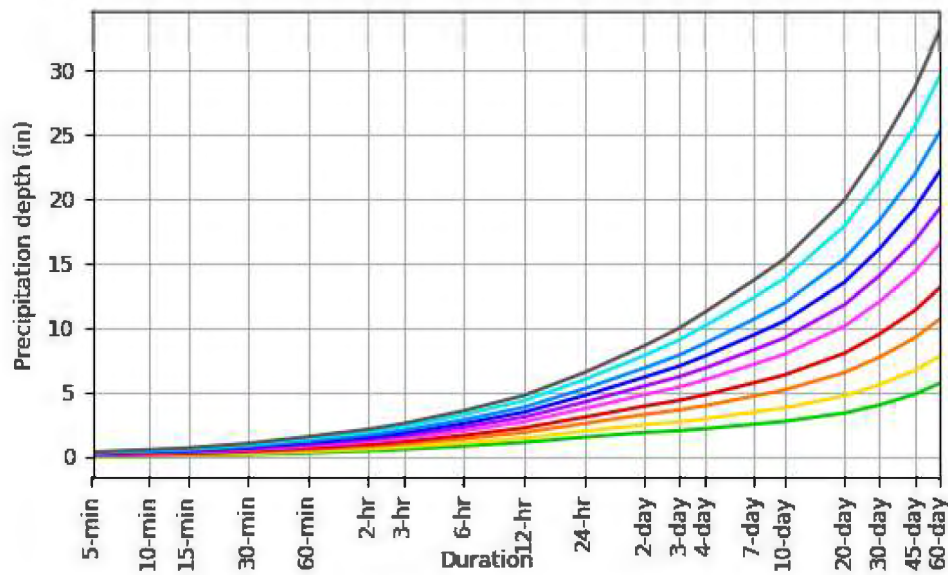
¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average 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.

[Back to Top](#)

PF graphical

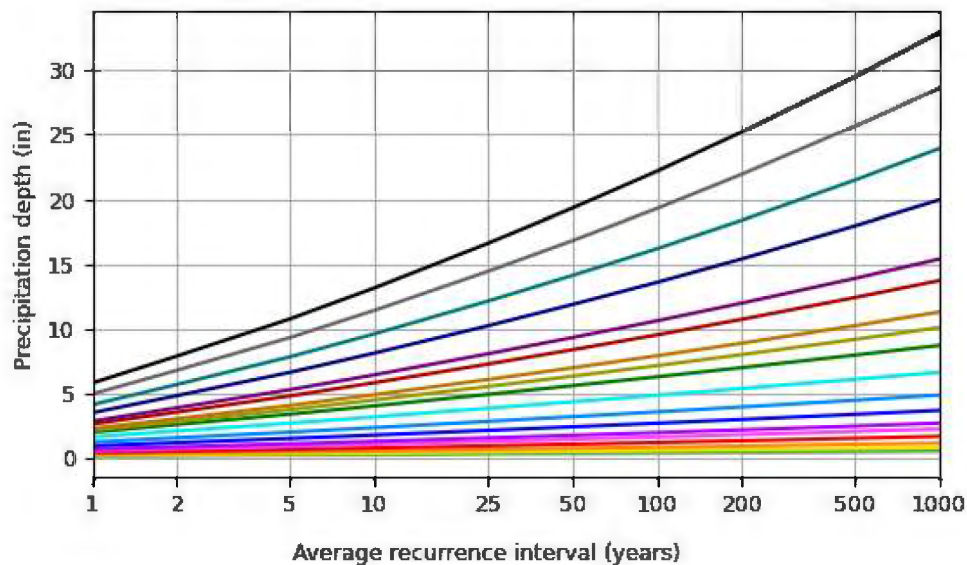
PDS-based depth-duration-frequency (DDF) curves

Latitude: 34.0652°, Longitude: -117.2274°



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

[Back to Top](#)

Maps & aerials

Small scale terrain



Large scale terrain



Large scale map



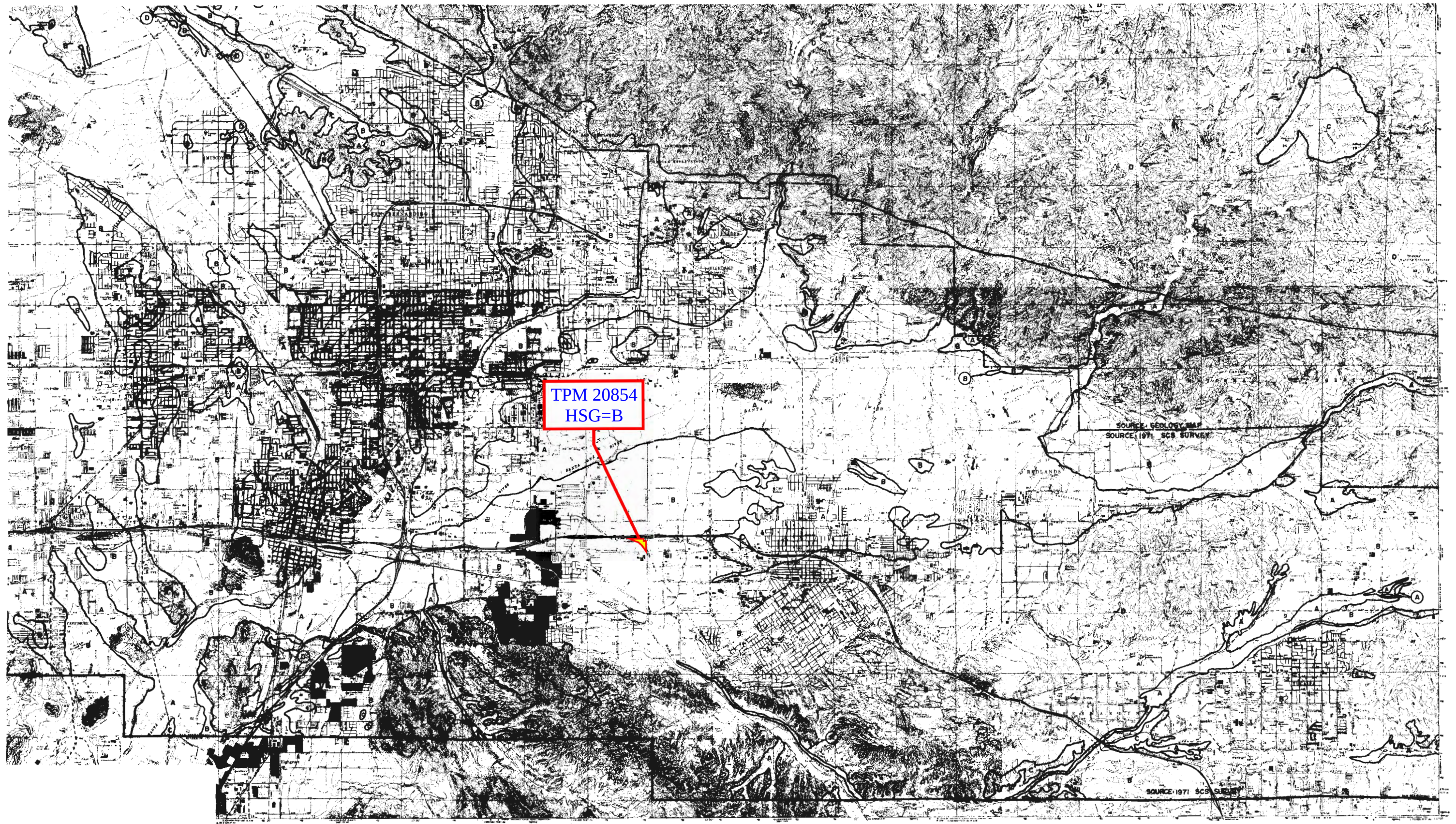
Large scale aerial



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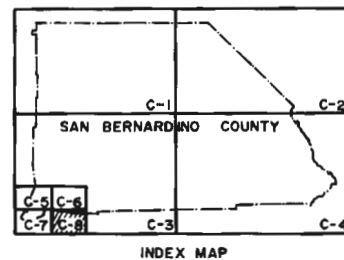


TPM 20854
HSG=B

SOURCE: GEOLOGY MAP
SOURCE: 1971 SCS SURVEY

SOURCE: 1971 SCS SURVEY

SAN BERNARDINO COUNTY **HYDROLOGY MANUAL**



- LEGEND
- SOIL GROUP BOUNDARY
 - A SOIL GROUP DESIGNATION
 - BOUNDARY OF INDICATED SOURCE

SCALE 1:48,000
SCALE REDUCED BY 1/2

HYDROLOGIC SOILS GROUP MAP **FOR** **SOUTHWEST-D AREA**

PUTNAM	D	RANDMAN	D	REELFOOT	C	RIFFE	B	ROLETTE	C
PUUKALA	D	RANDOLPH	D	REESER	C	RIFLE	A/D	ROLFE	C
PUUONE	C	RANDS	C	REESVILLE	C	RIGA	D	ROLISS	C
PUU OO	A	RANGER	D	REEVES	C	RIGGINS	A	ROLLA	C
PUU PAE	B	RANIER	C	REFUGE	C	RIGLEY	B	ROLLIN	C
PUU PA	B	RANKIN	C	REGAM	B	RILEY	C	ROLLIN	C
PUYALLUP	B	RANTOUL	D	REGENT	C	RILLA	B	ROMBERG	B
PYLE	A	RANYHAM	B	REHM	C	RILLITO	B	ROMBO	C
PYLON	D	RAPELJE	C	REICHEL	B	RIMET	A	ROMED	C
PYOTE	A	RAPHO	B	REIFF	B	RIMINI	C	ROMNEY	C
PYRAMID	D	RAPIDAN	B	REILLY	A	RIMROCK	D	ROMULUS	D
PYRMONT	D	RAPLEE	C	REINACH	B	RIN	B	RONO	C
		RARDEN	C	REKOP	D	RINCON	C	RONNEBY	B
QUACKENBUSH	C	RARICK	B	RELAN	A	RINCENADA	C	RONSON	B
QUAKER	C	RARITAN	C	RELAY	B	RINDGE	D	ROOSE	B
QUAKERTOWN	B	RASBAND	B	RELIANCE	C	RINGLING	C	ROOTEL	D
QUANTA	D	RASSET	B	RELIZ	D	RINGO	D	ROSACHI	C
QUANON	A	RATAKE	C	RELSE	B	RINGOLD	B	ROSAMOND	B
QUANAM	B	RATHBUN	D	REMBERT	D	RINGWOOD	B	ROSANE	C
QUANDAM	B	RATLIFF	B	REMMIT	A	RIO	D	ROSSANKY	C
QUARLES	D	RATON	B	REMSEN	D	RIO ARriba	D	ROSSARIO	C
QUARTZBURG	C	RATTLER	B	REMUDAR	B	RIOGONCHO	C	ROSSCOE	D
QUATAMA	C	RATTO	D	REMUNDA	C	RIO GRANDE	B	ROSSCOMON	D
QUAY	B	RAUB	B	RENBAC	D	RIO KING	C	ROSEBERRY	B/D
QUAZO	D	RAUVILLE	D	RENCALSON	D	RIO LAJAS	A	ROSEBLOOM	D
QUEALY	D	RAUZI	B	RENCOT	A	RIO PIEDRAS	B	ROSEBUD	B
QUEBRADA	C	RAVALLI	C	RENFROM	D	RIPLEY	B	ROSEBURG	B
QUEENY	D	RAVENDALE	D	RENICK	D	RIPON	B	ROSE CREEK	C
QUEETS	B	RAVENNA	C	RENNIE	C/D	RIRIE	B	ROSEGLEN	B
QUEMADO	C	RAVOLA	B	RENO	D	RISBECK	B	ROSEHILL	D
QUENZER	D	RAWAH	B	RENGHILL	C	RISLEY	D	ROSELAND	D
QUICKSELL	D	RAWHIDE	D	RENOVA	J	RISTA	C	ROSSELLA	D
QUIETUS	C	RAWSON	B	RENOK	J	RISUE	D	ROSSELM	D
QUIGLEY	B	RAY	B	RENSHAW	B	RITCHEY	B	ROSEHOUNT	B
QUILCENE	C	RAYADO	C	RENSLOW	B	RITNER	C	ROSENDALE	B
QUILLAYUTE	B	RAYENOUF	B	RENSSELAER	C	RITO	B	ROSE VALLEY	C
QUIMBY	B	RAYMONOVILLE	D	RENTIDE	C	RITTER	B	ROSEVILLE	B
QUINCY	A	RAYNE	B	RENTON	B/C	RITTHAM	C	ROSEWORTH	C
QUINLAN	C	RAYNESFORD	B	RENTSAC	C	RITZ	B/D	ROSHE SPRINGS	D
QUINN	D	RAYNHAM	C	REPARADA	D	RITZCAL	B	ROSITAS	A
QUINNEV	C	RAYNOR	D	REPP	A	RITZVILLE	B	ROSLYN	B
QUINTON	D	RAZOR	C	REPPART	B	RIVERHEAD	B	ROSMAN	B
QUITMAN	C	RAZORT	B	REPUBLIC	B	RIVERSIDE	A	ROSSNEY	C
QUONSET	A	READING	C	RESCUE	C	RIVERTON	C	ROSS	B
		READINGTON	C	RESERVE	B	RIVERYVIEW	B	ROSS FORK	C
RABER	C	READLYN	B	RESNER	B	RIVRA	A	ROSSI	C
RABEY	A	REAGAN	B	RET	B/C	RIXIE	C	ROSSHAYNE	C
RABIDEUX	B	REAKOR	B	RETRIEVER	D	RIXON	C	ROSS VALLEY	C
RABUN	B	REAL	C	RETSOF	C	RIZ	D	ROTAN	C
RACE	D	REAP	D	RETSOK	B	ROANDKE	D	ROTHENAY	B
RACHERT	D	REARDAN	C	REXBURG	B	ROBANA	B	ROTHSAY	B
RACINE	B	REAVILLE	C	REXFORD	C	ROBBINS	B	ROTTULEE	B
RACON	D	REBA	C	REXOR	A	ROBBS	D	ROUBIDEAU	C
RAD	C	REBEL	B	REYES	C/D	ROBERTS	D	ROVEN	C
RADERSBURG	B	REBUCK	B	REYNOLDS	C	ROBERTSDALE	C	ROVING BUTTE	C
RADFORD	B	RECAL	D	REYNOSA	B	ROBERTSVILLE	C	ROYNLEY	C
RADLEY	C	RECLUSE	C	REYNAT	D	ROBIN	D	ROUND TOP	C
RADNOR	D	REDBANK	B	RHAME	B	ROBINSON	B	ROUNDUP	C
RADFAEL	D	RED BAY	B	RHEA	B	ROBINSONVILLE	B	ROUNDY	C
RAGEA	B	RED BLUFF	C	RHINEBECK	D	ROBLEDD	B	ROUSSEAU	A
RAGLAN	C	RED BUTTE	B	RHGADES	D	ROB ROY	C	ROUTON	D
RAGNAR	B	REDBY	C	RHGAME	C	ROBY	C	ROUTT	C
RAGO	C	REDCHIEF	C	RIB	C	ROCA	D	ROVAL	D
RAGSDALE	B/D	REDCLUD	B	RICCO	D	ROCHE	C	ROWE	D
RAGTOWN	D	REDDICK	C	RICETON	B	ROCHELLE	C	ROWENA	C
RAHAL	C	REDDING	D	RICEVILLE	C	ROCHEPORT	C	ROWLAND	C
RAHM	C	REDFIELD	B	RICHARDSON	B	ROCKAWAY	C	ROWLEY	B
RAIL	C/D	RED HILL	C	RICHEAU	C	ROCKCASTLE	C	POXAL	D
RAINBOW	C	RED HOOK	C	RICHEY	C	ROCK CREEK	J	POXBURY	B
RAINEY	B	RED LAKE	D	RICHFIELD	C	ROCKFORD	B	ROY	B
RAINS	B/D	REDLANDS	B	RICHFORD	A	ROCKHOUSE	A	ROYAL	B
RAINSBORO	C	RED LODGE	D	RICHLIE	A	ROCKINGHAM	C/D	ROYALTON	C
RAKE	D	REDMANSON	B	RICHMOND	D	ROCKLIN	C/D	ROYCE	B
RALSEN	B/C	REDMOND	C	RICHTER	B	ROCKLY	D	ROYSTONE	B
RAMADA	C	REDNUN	C	RICHVALE	B	ROCKPORT	C	ROZA	D
RAMADERO	B	REDOLA	B	RICHVIEW	C	ROCK RIVER	B	ROZELLVILLE	B
RAMBLER	B	REDONA	B	RICHWOOD	B	ROCKTON	B	ROZETTA	B
RAMELLI	C	REDRIDGE	B	RICKMORE	C	ROCKWELL	B	ROZLEE	C
RAMIRES	D	REDROB	D	RICKS	A	ROCKWOOD	B	RUARK	C
RANMEL	C	RED ROCK	B	RICO	C	ROCKY FORD	B	RUBICON	A
RAMO	C	RED SPUR	B	RICREST	B	RODDY	B	RUBIO	C
RAMONA	B	REDSTOE	B	RIDD	C	RODMAN	A	RUBY	B
RAMPART	B	REDTHAYNE	B	RIDGEBURY	C	ROE	B	RUBYHILL	C
RAMPARTAR	A	REDTOM	C	RIDGECREST	C	ROEBUCK	D	RUCH	B
RAMPARTER	A	REDVALE	C	RIDGE DALE	B	ROELLEN	C	RUCKLES	D
RAMSEY	D	REDVIEW	C	RIDGELAND	D	ROEMER	C	RUCKICK	D
RAMSHORN	B	REE	B	RIDGELAWN	A	ROESTIGER	B	RUDO	D
RANCE	C	REEBEX	C	RIDGELY	B	ROGERT	C	RUDEN	B
RANCHERIA	B	REED	D	RIDGEWELL	B	ROHWERVILLE	B	RUDOLPH	C
RAND	B	REEDER	B	RIDGEWAY	D	ROHWERSVILLE	C	RUDYARD	D
RANDADO	C	REEDPOINT	C	RIDIT	C	ROIC	C	RUELLA	B
RANDALL	D	REEDY	D	RIDTBRICK	C	ROKEY	D	RUGGLES	B

NOTES: A BLANK HYDROLOGIC SOIL GROUP INDICATES THE SOIL GROUP HAS NOT BEEN DETERMINED
TWO SOIL GROUPS SUCH AS B/C INDICATES THE DRAINED/UNDRAINED SITUATION

SAN BERNARDINO COUNTY HYDROLOGY MANUAL

S.C.S. SOIL NAMES FOR HYDROLOGIC CLASSIFICATIONS

RATIONAL METHOD MODELS B

- B.1 – EXISTING 10-YEAR ANALYSIS
- B.2 – EXISTING 25-YEAR ANALYSIS
- B.3 – PROPOSED 10-YEAR ANALYSIS
- B.4 – PROPOSED 100-YEAR ANALYSIS

Rational Method Analysis					
	Acreage (ac.)	Runoff, Q (cfs)	Time of Concentration, T _C (min.)	Ap	SCS
Exosting 10-Year	5.55	5.348	18.768	1.000	78.0
Existing 25-Year		7.0	18.768		
Proposed 10-Year	4.4	8.4	8.200	0.299	59.6
Proposed 100-Year		14.3	7.900		

B.1 – EXISTING 10-YEAR ANALYSIS

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2019 Version 9.1
Rational Hydrology Study Date: 08/26/24

TPM 20854
EXISTING CONDITION
10-YEAR

Program License Serial Number 6568

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

Rational hydrology study storm event year is 10.0
Computed rainfall intensity:
Storm year = 10.00 1 hour rainfall = 0.734 (In.)
Slope used for rainfall intensity curve b = 0.6000
Soil antecedent moisture condition (AMC) = 2

+++++
Process from Point/Station 1.000 to Point/Station 2.000
**** INITIAL AREA EVALUATION ****

UNDEVELOPED (poor cover) subarea
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 78.00
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.404(In/Hr)
Initial subarea data:
Initial area flow distance = 935.000(Ft.)
Top (of initial area) elevation = 1162.000(Ft.)
Bottom (of initial area) elevation = 1148.000(Ft.)
Difference in elevation = 14.000(Ft.)
Slope = 0.01497 s(%)= 1.50
 $TC = k(0.525)*[(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 18.768 min.
Rainfall intensity = 1.474(In/Hr) for a 10.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.654
Subarea runoff = 5.348(CFS)
Total initial stream area = 5.550(Ac.)

Pervious area fraction = 1.000
Initial area Fm value = 0.404(In/Hr)
End of computations, Total Study Area = 5.55 (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 = 78.0

B.2 – EXISTING 25-YEAR ANALYSIS

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2019 Version 9.1
Rational Hydrology Study Date: 04/18/24

TPM 20854
EXISTING CONDITION
25-YEAR

Program License Serial Number 6568

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

Rational hydrology study storm event year is 25.0
10 Year storm 1 hour rainfall = 0.734(In.)
100 Year storm 1 hour rainfall = 1.160(In.)
Computed rainfall intensity:
Storm year = 25.00 1 hour rainfall = 0.904 (In.)
Slope used for rainfall intensity curve b = 0.6000
Soil antecedent moisture condition (AMC) = 2

++++
Process from Point/Station 1.000 to Point/Station 2.000
**** INITIAL AREA EVALUATION ****

UNDEVELOPED (poor cover) subarea
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 78.00
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.404(In/Hr)
Initial subarea data:
Initial area flow distance = 935.000(Ft.)
Top (of initial area) elevation = 1162.000(Ft.)
Bottom (of initial area) elevation = 1148.000(Ft.)
Difference in elevation = 14.000(Ft.)
Slope = 0.01497 s(%)= 1.50
 $TC = k(0.525)*[(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 18.768 min.
Rainfall intensity = 1.815(In/Hr) for a 25.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.700

Subarea runoff = 7.048(CFS)
Total initial stream area = 5.550(Ac.)
Pervious area fraction = 1.000
Initial area Fm value = 0.404(In/Hr)
End of computations, Total Study Area = 5.55 (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 = 78.0

B.3 – PROPOSED 10-YEAR ANALYSIS

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2019 Version 9.1
Rational Hydrology Study Date: 08/26/24

TPM 20854
DEVELOPED CONDITION
10-YEAR

Program License Serial Number 6568

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

Rational hydrology study storm event year is 10.0
Computed rainfall intensity:
Storm year = 10.00 1 hour rainfall = 0.734 (In.)
Slope used for rainfall intensity curve b = 0.6000
Soil antecedent moisture condition (AMC) = 2

+++++
Process from Point/Station 1.000 to Point/Station 2.000
**** INITIAL AREA EVALUATION ****

CONDOMINIUM subarea type
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 56.00
Pervious ratio(Ap) = 0.3500 Max loss rate(Fm)= 0.257(In/Hr)
Initial subarea data:
Initial area flow distance = 92.000(Ft.)
Top (of initial area) elevation = 1161.000(Ft.)
Bottom (of initial area) elevation = 1160.000(Ft.)
Difference in elevation = 1.000(Ft.)
Slope = 0.01087 s(%)= 1.09
 $TC = k(0.360)*[(length^3)/(elevation\ change)]^{0.2}$
Initial area time of concentration = 5.427 min.
Rainfall intensity = 3.103(In/Hr) for a 10.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.826
Subarea runoff = 0.205(CFS)
Total initial stream area = 0.080(Ac.)

Pervious area fraction = 0.350
Initial area Fm value = 0.257(In/Hr)

+++++
Process from Point/Station 2.000 to Point/Station 3.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1156.500(Ft.)
Downstream point/station elevation = 1155.800(Ft.)
Pipe length = 134.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 0.205(CFS)
Nearest computed pipe diameter = 6.00(In.)
Calculated individual pipe flow = 0.205(CFS)
Normal flow depth in pipe = 3.02(In.)
Flow top width inside pipe = 6.00(In.)
Critical Depth = 2.72(In.)
Pipe flow velocity = 2.07(Ft/s)
Travel time through pipe = 1.08 min.
Time of concentration (TC) = 6.50 min.

+++++
Process from Point/Station 3.000 to Point/Station 3.000
**** SUBAREA FLOW ADDITION ****

CONDOMINIUM subarea type
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 56.00
Pervious ratio(Ap) = 0.3500 Max loss rate(Fm)= 0.257(In/Hr)
Time of concentration = 6.50 min.
Rainfall intensity = 2.784(In/Hr) for a 10.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.817
Subarea runoff = 0.318(CFS) for 0.150(Ac.)
Total runoff = 0.523(CFS)
Effective area this stream = 0.23(Ac.)
Total Study Area (Main Stream No. 1) = 0.23(Ac.)
Area averaged Fm value = 0.257(In/Hr)

+++++
Process from Point/Station 3.000 to Point/Station 4.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1155.800(Ft.)
Downstream point/station elevation = 1155.500(Ft.)
Pipe length = 60.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 0.523(CFS)

Nearest computed pipe diameter = 3.00(In.)
 Calculated individual pipe flow = 0.523(CFS)
 Normal flow depth in pipe = 0.77(In.)
 Flow top width inside pipe = 2.62(In.)
 Critical depth could not be calculated.
 Pipe flow velocity = 52.37(Ft/s)
 Travel time through pipe = 0.02 min.
 Time of concentration (TC) = 6.52 min.

++++++
 Process from Point/Station 4.000 to Point/Station 4.000
 **** SUBAREA FLOW ADDITION ****

UNDEVELOPED (average cover) subarea
 Decimal fraction soil group A = 0.000
 Decimal fraction soil group B = 1.000
 Decimal fraction soil group C = 0.000
 Decimal fraction soil group D = 0.000
 SCS curve number for soil(AMC 2) = 69.00
 Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.548(In/Hr)
 Time of concentration = 6.52 min.
 Rainfall intensity = 2.779(In/Hr) for a 10.0 year storm
 Effective runoff coefficient used for area,(total area with modified
 rational method)(Q=KCIA) is C = 0.786
 Subarea runoff = 0.220(CFS) for 0.110(Ac.)
 Total runoff = 0.743(CFS)
 Effective area this stream = 0.34(Ac.)
 Total Study Area (Main Stream No. 1) = 0.34(Ac.)
 Area averaged Fm value = 0.351(In/Hr)

++++++
 Process from Point/Station 4.000 to Point/Station 5.000
 **** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1155.500(Ft.)
 Downstream point/station elevation = 1155.300(Ft.)
 Pipe length = 27.00(Ft.) Manning's N = 0.013
 No. of pipes = 1 Required pipe flow = 0.743(CFS)
 Nearest computed pipe diameter = 9.00(In.)
 Calculated individual pipe flow = 0.743(CFS)
 Normal flow depth in pipe = 4.62(In.)
 Flow top width inside pipe = 9.00(In.)
 Critical Depth = 4.72(In.)
 Pipe flow velocity = 3.26(Ft/s)
 Travel time through pipe = 0.14 min.
 Time of concentration (TC) = 6.66 min.

++++++
 Process from Point/Station 5.000 to Point/Station 5.000

**** SUBAREA FLOW ADDITION ****

COMMERCIAL subarea type

Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 56.00
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.073(In/Hr)
Time of concentration = 6.66 min.
Rainfall intensity = 2.744(In/Hr) for a 10.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.816
Subarea runoff = 0.422(CFS) for 0.180(Ac.)
Total runoff = 1.165(CFS)
Effective area this stream = 0.52(Ac.)
Total Study Area (Main Stream No. 1) = 0.52(Ac.)
Area averaged Fm value = 0.255(In/Hr)

+++++

Process from Point/Station 5.000 to Point/Station 6.000

**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1155.300(Ft.)
Downstream point/station elevation = 1155.000(Ft.)
Pipe length = 54.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 1.165(CFS)
Nearest computed pipe diameter = 9.00(In.)
Calculated individual pipe flow = 1.165(CFS)
Normal flow depth in pipe = 6.96(In.)
Flow top width inside pipe = 7.53(In.)
Critical Depth = 5.96(In.)
Pipe flow velocity = 3.17(Ft/s)
Travel time through pipe = 0.28 min.
Time of concentration (TC) = 6.95 min.

+++++

Process from Point/Station 6.000 to Point/Station 6.000

**** SUBAREA FLOW ADDITION ****

CONDOMINIUM subarea type

Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 56.00
Pervious ratio(Ap) = 0.3500 Max loss rate(Fm)= 0.257(In/Hr)
Time of concentration = 6.95 min.
Rainfall intensity = 2.676(In/Hr) for a 10.0 year storm
Effective runoff coefficient used for area,(total area with modified

rational method)(Q=KCIA) is C = 0.814
 Subarea runoff = 0.447(CFS) for 0.220(Ac.)
 Total runoff = 1.612(CFS)
 Effective area this stream = 0.74(Ac.)
 Total Study Area (Main Stream No. 1) = 0.74(Ac.)
 Area averaged Fm value = 0.256(In/Hr)

+++++
 Process from Point/Station 6.000 to Point/Station 7.000
 **** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1155.000(Ft.)
 Downstream point/station elevation = 1154.700(Ft.)
 Pipe length = 46.00(Ft.) Manning's N = 0.013
 No. of pipes = 1 Required pipe flow = 1.612(CFS)
 Nearest computed pipe diameter = 12.00(In.)
 Calculated individual pipe flow = 1.612(CFS)
 Normal flow depth in pipe = 6.42(In.)
 Flow top width inside pipe = 11.97(In.)
 Critical Depth = 6.47(In.)
 Pipe flow velocity = 3.77(Ft/s)
 Travel time through pipe = 0.20 min.
 Time of concentration (TC) = 7.15 min.

+++++
 Process from Point/Station 7.000 to Point/Station 7.000
 **** SUBAREA FLOW ADDITION ****

COMMERCIAL subarea type
 Decimal fraction soil group A = 0.000
 Decimal fraction soil group B = 1.000
 Decimal fraction soil group C = 0.000
 Decimal fraction soil group D = 0.000
 SCS curve number for soil(AMC 2) = 56.00
 Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.073(In/Hr)
 Time of concentration = 7.15 min.
 Rainfall intensity = 2.630(In/Hr) for a 10.0 year storm
 Effective runoff coefficient used for area,(total area with modified
 rational method)(Q=KCIA) is C = 0.815
 Subarea runoff = 0.038(CFS) for 0.030(Ac.)
 Total runoff = 1.651(CFS)
 Effective area this stream = 0.77(Ac.)
 Total Study Area (Main Stream No. 1) = 0.77(Ac.)
 Area averaged Fm value = 0.248(In/Hr)

+++++
 Process from Point/Station 7.000 to Point/Station 8.000
 **** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1154.700(Ft.)
 Downstream point/station elevation = 1153.600(Ft.)
 Pipe length = 109.00(Ft.) Manning's N = 0.013
 No. of pipes = 1 Required pipe flow = 1.651(CFS)
 Nearest computed pipe diameter = 9.00(In.)
 Calculated individual pipe flow = 1.651(CFS)
 Normal flow depth in pipe = 7.32(In.)
 Flow top width inside pipe = 7.01(In.)
 Critical Depth = 7.09(In.)
 Pipe flow velocity = 4.29(Ft/s)
 Travel time through pipe = 0.42 min.
 Time of concentration (TC) = 7.57 min.

++++++
 Process from Point/Station 7.000 to Point/Station 8.000
 **** CONFLUENCE OF MAIN STREAMS ****

The following data inside Main Stream is listed:

In Main Stream number: 1
 Stream flow area = 0.770(Ac.)
 Runoff from this stream = 1.651(CFS)
 Time of concentration = 7.57 min.
 Rainfall intensity = 2.541(In/Hr)
 Area averaged loss rate (Fm) = 0.2484(In/Hr)
 Area averaged Pervious ratio (Ap) = 0.3747
 Program is now starting with Main Stream No. 2

++++++
 Process from Point/Station 9.000 to Point/Station 10.000
 **** INITIAL AREA EVALUATION ****

COMMERCIAL subarea type

Decimal fraction soil group A = 0.000
 Decimal fraction soil group B = 1.000
 Decimal fraction soil group C = 0.000
 Decimal fraction soil group D = 0.000
 SCS curve number for soil(AMC 2) = 56.00
 Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.073(In/Hr)
 Initial subarea data:
 Initial area flow distance = 259.000(Ft.)
 Top (of initial area) elevation = 1160.200(Ft.)
 Bottom (of initial area) elevation = 1158.000(Ft.)
 Difference in elevation = 2.200(Ft.)
 Slope = 0.00849 s(%)= 0.85
 $TC = k(0.304)*[(length^3)/(elevation\ change)]^{0.2}$
 Initial area time of concentration = 7.284 min.
 Rainfall intensity = 2.601(In/Hr) for a 10.0 year storm
 Effective runoff coefficient used for area (Q=KCIA) is C = 0.875
 Subarea runoff = 0.773(CFS)
 Total initial stream area = 0.340(Ac.)

Pervious area fraction = 0.100
Initial area Fm value = 0.073(In/Hr)

+++++
Process from Point/Station 10.000 to Point/Station 11.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1154.500(Ft.)
Downstream point/station elevation = 1154.000(Ft.)
Pipe length = 81.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 0.773(CFS)
Nearest computed pipe diameter = 9.00(In.)
Calculated individual pipe flow = 0.773(CFS)
Normal flow depth in pipe = 5.00(In.)
Flow top width inside pipe = 8.94(In.)
Critical Depth = 4.82(In.)
Pipe flow velocity = 3.07(Ft/s)
Travel time through pipe = 0.44 min.
Time of concentration (TC) = 7.72 min.

+++++
Process from Point/Station 11.000 to Point/Station 11.000
**** SUBAREA FLOW ADDITION ****

COMMERCIAL subarea type
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 56.00
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.073(In/Hr)
Time of concentration = 7.72 min.
Rainfall intensity = 2.511(In/Hr) for a 10.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.874
Subarea runoff = 0.214(CFS) for 0.110(Ac.)
Total runoff = 0.987(CFS)
Effective area this stream = 0.45(Ac.)
Total Study Area (Main Stream No. 2) = 1.22(Ac.)
Area averaged Fm value = 0.073(In/Hr)

+++++
Process from Point/Station 11.000 to Point/Station 12.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1154.000(Ft.)
Downstream point/station elevation = 1153.900(Ft.)
Pipe length = 8.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 0.987(CFS)

Nearest computed pipe diameter = 9.00(In.)
Calculated individual pipe flow = 0.987(CFS)
Normal flow depth in pipe = 4.68(In.)
Flow top width inside pipe = 8.99(In.)
Critical Depth = 5.46(In.)
Pipe flow velocity = 4.25(Ft/s)
Travel time through pipe = 0.03 min.
Time of concentration (TC) = 7.76 min.

++++
Process from Point/Station 12.000 to Point/Station 12.000
**** SUBAREA FLOW ADDITION ****

COMMERCIAL subarea type
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 56.00
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.073(In/Hr)
Time of concentration = 7.76 min.
Rainfall intensity = 2.505(In/Hr) for a 10.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.874
Subarea runoff = 0.260(CFS) for 0.120(Ac.)
Total runoff = 1.247(CFS)
Effective area this stream = 0.57(Ac.)
Total Study Area (Main Stream No. 2) = 1.34(Ac.)
Area averaged Fm value = 0.073(In/Hr)

++++
Process from Point/Station 12.000 to Point/Station 13.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1153.900(Ft.)
Downstream point/station elevation = 1153.700(Ft.)
Pipe length = 34.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 1.247(CFS)
Nearest computed pipe diameter = 9.00(In.)
Calculated individual pipe flow = 1.247(CFS)
Normal flow depth in pipe = 7.24(In.)
Flow top width inside pipe = 7.14(In.)
Critical Depth = 6.17(In.)
Pipe flow velocity = 3.27(Ft/s)
Travel time through pipe = 0.17 min.
Time of concentration (TC) = 7.93 min.

++++
Process from Point/Station 13.000 to Point/Station 13.000

**** SUBAREA FLOW ADDITION ****

COMMERCIAL subarea type

Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 56.00
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.073(In/Hr)
Time of concentration = 7.93 min.
Rainfall intensity = 2.472(In/Hr) for a 10.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.873
Subarea runoff = 0.285(CFS) for 0.140(Ac.)
Total runoff = 1.533(CFS)
Effective area this stream = 0.71(Ac.)
Total Study Area (Main Stream No. 2) = 1.48(Ac.)
Area averaged Fm value = 0.073(In/Hr)

+++++

Process from Point/Station 13.000 to Point/Station 8.000

**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1153.700(Ft.)
Downstream point/station elevation = 1153.600(Ft.)
Pipe length = 13.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 1.533(CFS)
Nearest computed pipe diameter = 12.00(In.)
Calculated individual pipe flow = 1.533(CFS)
Normal flow depth in pipe = 5.93(In.)
Flow top width inside pipe = 12.00(In.)
Critical Depth = 6.30(In.)
Pipe flow velocity = 3.96(Ft/s)
Travel time through pipe = 0.05 min.
Time of concentration (TC) = 7.98 min.

+++++

Process from Point/Station 13.000 to Point/Station 8.000

**** CONFLUENCE OF MAIN STREAMS ****

The following data inside Main Stream is listed:

In Main Stream number: 2
Stream flow area = 0.710(Ac.)
Runoff from this stream = 1.533(CFS)
Time of concentration = 7.98 min.
Rainfall intensity = 2.462(In/Hr)
Area averaged loss rate (Fm) = 0.0734(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1000
Summary of stream data:

Stream No.	Flow rate (CFS)	Area (Ac.)	TC (min)	Fm (In/Hr)	Rainfall Intensity (In/Hr)
------------	-----------------	------------	----------	------------	----------------------------

1	1.65	0.770	7.57	0.248	2.541
2	1.53	0.710	7.98	0.073	2.462

Qmax(1) =

1.000 *	1.000 *	1.651) +	
1.033 *	0.949 *	1.533) + =	3.153

Qmax(2) =

0.965 *	1.000 *	1.651) +	
1.000 *	1.000 *	1.533) + =	3.127

Total of 2 main streams to confluence:

Flow rates before confluence point:

2.651	2.533
-------	-------

Maximum flow rates at confluence using above data:

3.153	3.127
-------	-------

Area of streams before confluence:

0.770	0.710
-------	-------

Effective area values after confluence:

1.444	1.480
-------	-------

Results of confluence:

Total flow rate = 3.153(CFS)

Time of concentration = 7.573 min.

Effective stream area after confluence = 1.444(Ac.)

Study area average Pervious fraction(Ap) = 0.243

Study area average soil loss rate(Fm) = 0.164(In/Hr)

Study area total = 1.48(Ac.)

+++++

Process from Point/Station	8.000 to Point/Station	8.000
----------------------------	------------------------	-------

**** SUBAREA FLOW ADDITION ****

APARTMENT subarea type

Decimal fraction soil group A = 0.000

Decimal fraction soil group B = 1.000

Decimal fraction soil group C = 0.000

Decimal fraction soil group D = 0.000

SCS curve number for soil(AMC 2) = 56.00

Pervious ratio(Ap) = 0.2000 Max loss rate(Fm)= 0.147(In/Hr)

Time of concentration = 7.57 min.

Rainfall intensity = 2.541(In/Hr) for a 10.0 year storm

Effective runoff coefficient used for area,(total area with modified rational method)(Q=KCIA) is C = 0.843

Subarea runoff = 0.667(CFS) for 0.340(Ac.)

Total runoff = 3.820(CFS)

Effective area this stream = 1.78(Ac.)

Total Study Area (Main Stream No. 1) = 1.82(Ac.)

Area averaged Fm value = 0.161(In/Hr)

++++
Process from Point/Station 8.000 to Point/Station 14.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1153.600(Ft.)
Downstream point/station elevation = 1151.900(Ft.)
Pipe length = 332.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 3.820(CFS)
Nearest computed pipe diameter = 15.00(In.)
Calculated individual pipe flow = 3.820(CFS)
Normal flow depth in pipe = 10.39(In.)
Flow top width inside pipe = 13.84(In.)
Critical Depth = 9.48(In.)
Pipe flow velocity = 4.21(Ft/s)
Travel time through pipe = 1.31 min.
Time of concentration (TC) = 8.89 min.

++++
Process from Point/Station 14.000 to Point/Station 14.000
**** SUBAREA FLOW ADDITION ****

COMMERCIAL subarea type
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 56.00
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.073(In/Hr)
Time of concentration = 8.89 min.
Rainfall intensity = 2.308(In/Hr) for a 10.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.842
Subarea runoff = 0.270(CFS) for 0.320(Ac.)
Total runoff = 4.091(CFS)
Effective area this stream = 2.10(Ac.)
Total Study Area (Main Stream No. 1) = 2.14(Ac.)
Area averaged Fm value = 0.148(In/Hr)

++++
Process from Point/Station 14.000 to Point/Station 15.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1151.900(Ft.)
Downstream point/station elevation = 1145.300(Ft.)
Pipe length = 149.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 4.091(CFS)
Nearest computed pipe diameter = 12.00(In.)

Calculated individual pipe flow = 4.091(CFS)
 Normal flow depth in pipe = 6.32(In.)
 Flow top width inside pipe = 11.98(In.)
 Critical Depth = 10.27(In.)
 Pipe flow velocity = 9.75(Ft/s)
 Travel time through pipe = 0.25 min.
 Time of concentration (TC) = 9.14 min.

++++++
 Process from Point/Station 14.000 to Point/Station 15.000
 **** CONFLUENCE OF MAIN STREAMS ****

The following data inside Main Stream is listed:
 In Main Stream number: 1
 Stream flow area = 2.104(Ac.)
 Runoff from this stream = 4.091(CFS)
 Time of concentration = 9.14 min.
 Rainfall intensity = 2.270(In/Hr)
 Area averaged loss rate (Fm) = 0.1477(In/Hr)
 Area averaged Pervious ratio (Ap) = 0.2142
 Program is now starting with Main Stream No. 2

++++++
 Process from Point/Station 16.000 to Point/Station 17.000
 **** INITIAL AREA EVALUATION ****

COMMERCIAL subarea type
 Decimal fraction soil group A = 0.000
 Decimal fraction soil group B = 1.000
 Decimal fraction soil group C = 0.000
 Decimal fraction soil group D = 0.000
 SCS curve number for soil(AMC 2) = 56.00
 Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.073(In/Hr)
 Initial subarea data:
 Initial area flow distance = 136.000(Ft.)
 Top (of initial area) elevation = 1160.300(Ft.)
 Bottom (of initial area) elevation = 1159.200(Ft.)
 Difference in elevation = 1.100(Ft.)
 Slope = 0.00809 s(%)= 0.81
 $TC = k(0.304)*[(length^3)/(elevation\ change)]^{0.2}$
 Initial area time of concentration = 5.685 min.
 Rainfall intensity = 3.018(In/Hr) for a 10.0 year storm
 Effective runoff coefficient used for area (Q=KCIA) is C = 0.878
 Subarea runoff = 0.345(CFS)
 Total initial stream area = 0.130(Ac.)
 Pervious area fraction = 0.100
 Initial area Fm value = 0.073(In/Hr)

+++++

Process from Point/Station 17.000 to Point/Station 18.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1156.000(Ft.)
Downstream point/station elevation = 1154.500(Ft.)
Pipe length = 29.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 0.345(CFS)
Nearest computed pipe diameter = 6.00(In.)
Calculated individual pipe flow = 0.345(CFS)
Normal flow depth in pipe = 2.13(In.)
Flow top width inside pipe = 5.74(In.)
Critical Depth = 3.57(In.)
Pipe flow velocity = 5.52(Ft/s)
Travel time through pipe = 0.09 min.
Time of concentration (TC) = 5.77 min.

+++++
Process from Point/Station 18.000 to Point/Station 18.000
**** SUBAREA FLOW ADDITION ****

COMMERCIAL subarea type
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 56.00
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.073(In/Hr)
Time of concentration = 5.77 min.
Rainfall intensity = 2.991(In/Hr) for a 10.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.878
Subarea runoff = 0.522(CFS) for 0.200(Ac.)
Total runoff = 0.866(CFS)
Effective area this stream = 0.33(Ac.)
Total Study Area (Main Stream No. 2) = 2.47(Ac.)
Area averaged Fm value = 0.073(In/Hr)

+++++
Process from Point/Station 18.000 to Point/Station 19.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1154.500(Ft.)
Downstream point/station elevation = 1153.900(Ft.)
Pipe length = 119.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 0.866(CFS)
Nearest computed pipe diameter = 9.00(In.)
Calculated individual pipe flow = 0.866(CFS)
Normal flow depth in pipe = 5.75(In.)
Flow top width inside pipe = 8.65(In.)
Critical Depth = 5.11(In.)

Pipe flow velocity = 2.91(Ft/s)
Travel time through pipe = 0.68 min.
Time of concentration (TC) = 6.45 min.

++++
Process from Point/Station 19.000 to Point/Station 19.000
**** SUBAREA FLOW ADDITION ****

APARTMENT subarea type
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 56.00
Pervious ratio(Ap) = 0.2000 Max loss rate(Fm)= 0.147(In/Hr)
Time of concentration = 6.45 min.
Rainfall intensity = 2.797(In/Hr) for a 10.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.864
Subarea runoff = 0.777(CFS) for 0.350(Ac.)
Total runoff = 1.644(CFS)
Effective area this stream = 0.68(Ac.)
Total Study Area (Main Stream No. 2) = 2.82(Ac.)
Area averaged Fm value = 0.111(In/Hr)

++++
Process from Point/Station 19.000 to Point/Station 20.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1153.900(Ft.)
Downstream point/station elevation = 1152.900(Ft.)
Pipe length = 187.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 1.644(CFS)
Nearest computed pipe diameter = 12.00(In.)
Calculated individual pipe flow = 1.644(CFS)
Normal flow depth in pipe = 6.91(In.)
Flow top width inside pipe = 11.86(In.)
Critical Depth = 6.53(In.)
Pipe flow velocity = 3.51(Ft/s)
Travel time through pipe = 0.89 min.
Time of concentration (TC) = 7.34 min.

++++
Process from Point/Station 20.000 to Point/Station 20.000
**** SUBAREA FLOW ADDITION ****

COMMERCIAL subarea type
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000

Decimal fraction soil group C = 0.000
 Decimal fraction soil group D = 0.000
 SCS curve number for soil(AMC 2) = 56.00
 Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.073(In/Hr)
 Time of concentration = 7.34 min.
 Rainfall intensity = 2.589(In/Hr) for a 10.0 year storm
 Effective runoff coefficient used for area,(total area with modified
 rational method)(Q=KCIA) is C = 0.866
 Subarea runoff = 0.642(CFS) for 0.340(Ac.)
 Total runoff = 2.286(CFS)
 Effective area this stream = 1.02(Ac.)
 Total Study Area (Main Stream No. 2) = 3.16(Ac.)
 Area averaged Fm value = 0.099(In/Hr)

++++++
 Process from Point/Station 20.000 to Point/Station 21.000
 **** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1152.900(Ft.)
 Downstream point/station elevation = 1151.900(Ft.)
 Pipe length = 182.00(Ft.) Manning's N = 0.013
 No. of pipes = 1 Required pipe flow = 2.286(CFS)
 Nearest computed pipe diameter = 12.00(In.)
 Calculated individual pipe flow = 2.286(CFS)
 Normal flow depth in pipe = 8.63(In.)
 Flow top width inside pipe = 10.79(In.)
 Critical Depth = 7.76(In.)
 Pipe flow velocity = 3.79(Ft/s)
 Travel time through pipe = 0.80 min.
 Time of concentration (TC) = 8.14 min.

++++++
 Process from Point/Station 21.000 to Point/Station 21.000
 **** SUBAREA FLOW ADDITION ****

COMMERCIAL subarea type
 Decimal fraction soil group A = 0.000
 Decimal fraction soil group B = 1.000
 Decimal fraction soil group C = 0.000
 Decimal fraction soil group D = 0.000
 SCS curve number for soil(AMC 2) = 56.00
 Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.073(In/Hr)
 Time of concentration = 8.14 min.
 Rainfall intensity = 2.433(In/Hr) for a 10.0 year storm
 Effective runoff coefficient used for area,(total area with modified
 rational method)(Q=KCIA) is C = 0.867
 Subarea runoff = 1.088(CFS) for 0.580(Ac.)
 Total runoff = 3.374(CFS)
 Effective area this stream = 1.60(Ac.)
 Total Study Area (Main Stream No. 2) = 3.74(Ac.)

Area averaged Fm value = 0.089(In/Hr)

+++++
Process from Point/Station 21.000 to Point/Station 15.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1151.900(Ft.)
Downstream point/station elevation = 1145.300(Ft.)
Pipe length = 47.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 3.374(CFS)
Nearest computed pipe diameter = 9.00(In.)
Calculated individual pipe flow = 3.374(CFS)
Normal flow depth in pipe = 4.73(In.)
Flow top width inside pipe = 8.99(In.)
Critical depth could not be calculated.
Pipe flow velocity = 14.33(Ft/s)
Travel time through pipe = 0.05 min.
Time of concentration (TC) = 8.20 min.

+++++
Process from Point/Station 21.000 to Point/Station 15.000
**** CONFLUENCE OF MAIN STREAMS ****

The following data inside Main Stream is listed:

In Main Stream number: 2
Stream flow area = 1.600(Ac.)
Runoff from this stream = 3.374(CFS)
Time of concentration = 8.20 min.
Rainfall intensity = 2.423(In/Hr)
Area averaged loss rate (Fm) = 0.0894(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1219
Summary of stream data:

Stream No.	Flow rate (CFS)	Area (Ac.)	TC (min)	Fm (In/Hr)	Rainfall Intensity (In/Hr)
------------	-----------------	------------	----------	------------	----------------------------

1	4.09	2.104	9.14	0.148	2.270
2	3.37	1.600	8.20	0.089	2.423

Qmax(1) =
1.000 * 1.000 * 4.091) +
0.934 * 1.000 * 3.374) + = 7.243

Qmax(2) =
1.072 * 0.897 * 4.091) +
1.000 * 1.000 * 3.374) + = 7.308

Total of 2 main streams to confluence:

Flow rates before confluence point:

5.091 4.374

Maximum flow rates at confluence using above data:

7.243 7.308
 Area of streams before confluence:
 2.104 1.600
 Effective area values after confluence:
 3.704 3.486

Results of confluence:

Total flow rate = 7.308(CFS)
 Time of concentration = 8.199 min.
 Effective stream area after confluence = 3.486(Ac.)
 Study area average Pervious fraction(A_p) = 0.174
 Study area average soil loss rate(F_m) = 0.123(In/Hr)
 Study area total = 3.70(Ac.)

++++++
 Process from Point/Station 15.000 to Point/Station 15.000
 **** SUBAREA FLOW ADDITION ****

UNDEVELOPED (poor cover) subarea
 Decimal fraction soil group A = 0.000
 Decimal fraction soil group B = 1.000
 Decimal fraction soil group C = 0.000
 Decimal fraction soil group D = 0.000
 SCS curve number for soil(AMC 2) = 78.00
 Pervious ratio(A_p) = 1.0000 Max loss rate(F_m)= 0.404(In/Hr)
 Time of concentration = 8.20 min.
 Rainfall intensity = 2.423(In/Hr) for a 10.0 year storm
 Effective runoff coefficient used for area,(total area with modified
 rational method)($Q=KCIA$) is $C = 0.838$
 Subarea runoff = 1.110(CFS) for 0.660(Ac.)
 Total runoff = 8.418(CFS)
 Effective area this stream = 4.15(Ac.)
 Total Study Area (Main Stream No. 1) = 4.40(Ac.)
 Area averaged F_m value = 0.167(In/Hr)
 End of computations, Total Study Area = 4.40 (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) = 0.299
 Area averaged SCS curve number = 59.6

B.4 – PROPOSED 100-YEAR ANALYSIS

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2019 Version 9.1
Rational Hydrology Study Date: 08/26/24

TPM 20854
DEVELOPED CONDITION
100-YEAR

Program License Serial Number 6568

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

Rational hydrology study storm event year is 100.0
10 Year storm 1 hour rainfall = 0.734(In.)
100 Year storm 1 hour rainfall = 1.160(In.)
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 1.160 (In.)
Slope used for rainfall intensity curve b = 0.6000
Soil antecedent moisture condition (AMC) = 3

+++++
Process from Point/Station 1.000 to Point/Station 2.000
**** INITIAL AREA EVALUATION ****

CONDOMINIUM subarea type
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 56.00
Adjusted SCS curve number for AMC 3 = 75.80
Pervious ratio(Ap) = 0.3500 Max loss rate(Fm)= 0.154(In/Hr)
Initial subarea data:
Initial area flow distance = 92.000(Ft.)
Top (of initial area) elevation = 1161.000(Ft.)
Bottom (of initial area) elevation = 1160.000(Ft.)
Difference in elevation = 1.000(Ft.)
Slope = 0.01087 s(%)= 1.09
TC = $k(0.360)*[(\text{length}^3)/(\text{elevation change})]^{0.2}$
Initial area time of concentration = 5.427 min.
Rainfall intensity = 4.905(In/Hr) for a 100.0 year storm

Effective runoff coefficient used for area (Q=KCIA) is $C = 0.872$
 Subarea runoff = 0.342(CFS)
 Total initial stream area = 0.080(Ac.)
 Pervious area fraction = 0.350
 Initial area Fm value = 0.154(In/Hr)

+++++
 Process from Point/Station 2.000 to Point/Station 3.000
 **** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1156.500(Ft.)
 Downstream point/station elevation = 1155.800(Ft.)
 Pipe length = 134.00(Ft.) Manning's N = 0.013
 No. of pipes = 1 Required pipe flow = 0.342(CFS)
 Nearest computed pipe diameter = 6.00(In.)
 Calculated individual pipe flow = 0.342(CFS)
 Normal flow depth in pipe = 4.22(In.)
 Flow top width inside pipe = 5.48(In.)
 Critical Depth = 3.56(In.)
 Pipe flow velocity = 2.32(Ft/s)
 Travel time through pipe = 0.96 min.
 Time of concentration (TC) = 6.39 min.

+++++
 Process from Point/Station 3.000 to Point/Station 3.000
 **** SUBAREA FLOW ADDITION ****

CONDOMINIUM subarea type
 Decimal fraction soil group A = 0.000
 Decimal fraction soil group B = 1.000
 Decimal fraction soil group C = 0.000
 Decimal fraction soil group D = 0.000
 SCS curve number for soil(AMC 2) = 56.00
 Adjusted SCS curve number for AMC 3 = 75.80
 Pervious ratio(Ap) = 0.3500 Max loss rate(Fm)= 0.154(In/Hr)
 Time of concentration = 6.39 min.
 Rainfall intensity = 4.446(In/Hr) for a 100.0 year storm
 Effective runoff coefficient used for area,(total area with modified
 rational method)(Q=KCIA) is $C = 0.869$
 Subarea runoff = 0.546(CFS) for 0.150(Ac.)
 Total runoff = 0.888(CFS)
 Effective area this stream = 0.23(Ac.)
 Total Study Area (Main Stream No. 1) = 0.23(Ac.)
 Area averaged Fm value = 0.154(In/Hr)

+++++
 Process from Point/Station 3.000 to Point/Station 4.000
 **** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1155.800(Ft.)
 Downstream point/station elevation = 155.500(Ft.)
 Pipe length = 60.00(Ft.) Manning's N = 0.013
 No. of pipes = 1 Required pipe flow = 0.888(CFS)
 Nearest computed pipe diameter = 3.00(In.)
 Calculated individual pipe flow = 0.888(CFS)
 Normal flow depth in pipe = 1.01(In.)
 Flow top width inside pipe = 2.84(In.)
 Critical depth could not be calculated.
 Pipe flow velocity = 60.84(Ft/s)
 Travel time through pipe = 0.02 min.
 Time of concentration (TC) = 6.41 min.

++++++
 Process from Point/Station 4.000 to Point/Station 4.000
 **** SUBAREA FLOW ADDITION ****

UNDEVELOPED (average cover) subarea
 Decimal fraction soil group A = 0.000
 Decimal fraction soil group B = 1.000
 Decimal fraction soil group C = 0.000
 Decimal fraction soil group D = 0.000
 SCS curve number for soil(AMC 2) = 69.00
 Adjusted SCS curve number for AMC 3 = 86.20
 Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.262(In/Hr)
 Time of concentration = 6.41 min.
 Rainfall intensity = 4.439(In/Hr) for a 100.0 year storm
 Effective runoff coefficient used for area,(total area with modified
 rational method)(Q=KCIA) is C = 0.862
 Subarea runoff = 0.412(CFS) for 0.110(Ac.)
 Total runoff = 1.301(CFS)
 Effective area this stream = 0.34(Ac.)
 Total Study Area (Main Stream No. 1) = 0.34(Ac.)
 Area averaged Fm value = 0.189(In/Hr)

++++++
 Process from Point/Station 4.000 to Point/Station 5.000
 **** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1155.500(Ft.)
 Downstream point/station elevation = 1155.300(Ft.)
 Pipe length = 27.00(Ft.) Manning's N = 0.013
 No. of pipes = 1 Required pipe flow = 1.301(CFS)
 Nearest computed pipe diameter = 9.00(In.)
 Calculated individual pipe flow = 1.301(CFS)
 Normal flow depth in pipe = 6.76(In.)
 Flow top width inside pipe = 7.78(In.)
 Critical Depth = 6.31(In.)
 Pipe flow velocity = 3.65(Ft/s)
 Travel time through pipe = 0.12 min.

Time of concentration (TC) = 6.53 min.

++++
Process from Point/Station 5.000 to Point/Station 5.000
**** SUBAREA FLOW ADDITION ****

COMMERCIAL subarea type
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 56.00
Adjusted SCS curve number for AMC 3 = 75.80
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.044(In/Hr)
Time of concentration = 6.53 min.
Rainfall intensity = 4.389(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.872
Subarea runoff = 0.688(CFS) for 0.180(Ac.)
Total runoff = 1.989(CFS)
Effective area this stream = 0.52(Ac.)
Total Study Area (Main Stream No. 1) = 0.52(Ac.)
Area averaged Fm value = 0.139(In/Hr)

++++
Process from Point/Station 5.000 to Point/Station 6.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1155.300(Ft.)
Downstream point/station elevation = 1155.000(Ft.)
Pipe length = 54.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 1.989(CFS)
Nearest computed pipe diameter = 12.00(In.)
Calculated individual pipe flow = 1.989(CFS)
Normal flow depth in pipe = 7.75(In.)
Flow top width inside pipe = 11.48(In.)
Critical Depth = 7.22(In.)
Pipe flow velocity = 3.71(Ft/s)
Travel time through pipe = 0.24 min.
Time of concentration (TC) = 6.77 min.

++++
Process from Point/Station 6.000 to Point/Station 6.000
**** SUBAREA FLOW ADDITION ****

CONDOMINIUM subarea type
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000

Decimal fraction soil group D = 0.000
 SCS curve number for soil(AMC 2) = 56.00
 Adjusted SCS curve number for AMC 3 = 75.80
 Pervious ratio(Ap) = 0.3500 Max loss rate(Fm)= 0.154(In/Hr)
 Time of concentration = 6.77 min.
 Rainfall intensity = 4.294(In/Hr) for a 100.0 year storm
 Effective runoff coefficient used for area,(total area with modified
 rational method)(Q=KCIA) is C = 0.870
 Subarea runoff = 0.775(CFS) for 0.220(Ac.)
 Total runoff = 2.764(CFS)
 Effective area this stream = 0.74(Ac.)
 Total Study Area (Main Stream No. 1) = 0.74(Ac.)
 Area averaged Fm value = 0.143(In/Hr)

++++++
 Process from Point/Station 6.000 to Point/Station 7.000
 **** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1155.000(Ft.)
 Downstream point/station elevation = 1154.700(Ft.)
 Pipe length = 46.00(Ft.) Manning's N = 0.013
 No. of pipes = 1 Required pipe flow = 2.764(CFS)
 Nearest computed pipe diameter = 12.00(In.)
 Calculated individual pipe flow = 2.764(CFS)
 Normal flow depth in pipe = 9.45(In.)
 Flow top width inside pipe = 9.82(In.)
 Critical Depth = 8.56(In.)
 Pipe flow velocity = 4.17(Ft/s)
 Travel time through pipe = 0.18 min.
 Time of concentration (TC) = 6.96 min.

++++++
 Process from Point/Station 7.000 to Point/Station 7.000
 **** SUBAREA FLOW ADDITION ****

COMMERCIAL subarea type
 Decimal fraction soil group A = 0.000
 Decimal fraction soil group B = 1.000
 Decimal fraction soil group C = 0.000
 Decimal fraction soil group D = 0.000
 SCS curve number for soil(AMC 2) = 56.00
 Adjusted SCS curve number for AMC 3 = 75.80
 Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.044(In/Hr)
 Time of concentration = 6.96 min.
 Rainfall intensity = 4.225(In/Hr) for a 100.0 year storm
 Effective runoff coefficient used for area,(total area with modified
 rational method)(Q=KCIA) is C = 0.870
 Subarea runoff = 0.067(CFS) for 0.030(Ac.)
 Total runoff = 2.832(CFS)
 Effective area this stream = 0.77(Ac.)

Total Study Area (Main Stream No. 1) = 0.77(Ac.)
Area averaged Fm value = 0.139(In/Hr)

+++++
Process from Point/Station 7.000 to Point/Station 8.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1154.700(Ft.)
Downstream point/station elevation = 1153.600(Ft.)
Pipe length = 109.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 2.832(CFS)
Nearest computed pipe diameter = 12.00(In.)
Calculated individual pipe flow = 2.832(CFS)
Normal flow depth in pipe = 8.05(In.)
Flow top width inside pipe = 11.28(In.)
Critical Depth = 8.65(In.)
Pipe flow velocity = 5.05(Ft/s)
Travel time through pipe = 0.36 min.
Time of concentration (TC) = 7.32 min.

+++++
Process from Point/Station 7.000 to Point/Station 8.000
**** CONFLUENCE OF MAIN STREAMS ****

The following data inside Main Stream is listed:

In Main Stream number: 1
Stream flow area = 0.770(Ac.)
Runoff from this stream = 2.832(CFS)
Time of concentration = 7.32 min.
Rainfall intensity = 4.100(In/Hr)
Area averaged loss rate (Fm) = 0.1393(In/Hr)
Area averaged Pervious ratio (Ap) = 0.3747
Program is now starting with Main Stream No. 2

+++++
Process from Point/Station 9.000 to Point/Station 10.000
**** INITIAL AREA EVALUATION ****

COMMERCIAL subarea type
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 56.00
Adjusted SCS curve number for AMC 3 = 75.80
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.044(In/Hr)
Initial subarea data:
Initial area flow distance = 259.000(Ft.)
Top (of initial area) elevation = 1160.200(Ft.)

Bottom (of initial area) elevation = 1158.000(Ft.)
 Difference in elevation = 2.200(Ft.)
 Slope = 0.00849 s(%)= 0.85
 $TC = k(0.304)*[(length^3)/(elevation\ change)]^{0.2}$
 Initial area time of concentration = 7.284 min.
 Rainfall intensity = 4.111(In/Hr) for a 100.0 year storm
 Effective runoff coefficient used for area (Q=KCIA) is C = 0.890
 Subarea runoff = 1.244(CFS)
 Total initial stream area = 0.340(Ac.)
 Pervious area fraction = 0.100
 Initial area Fm value = 0.044(In/Hr)

++++++
 Process from Point/Station 10.000 to Point/Station 11.000
 **** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1154.500(Ft.)
 Downstream point/station elevation = 1154.000(Ft.)
 Pipe length = 81.00(Ft.) Manning's N = 0.013
 No. of pipes = 1 Required pipe flow = 1.244(CFS)
 Nearest computed pipe diameter = 9.00(In.)
 Calculated individual pipe flow = 1.244(CFS)
 Normal flow depth in pipe = 7.05(In.)
 Flow top width inside pipe = 7.41(In.)
 Critical Depth = 6.17(In.)
 Pipe flow velocity = 3.35(Ft/s)
 Travel time through pipe = 0.40 min.
 Time of concentration (TC) = 7.69 min.

++++++
 Process from Point/Station 11.000 to Point/Station 11.000
 **** SUBAREA FLOW ADDITION ****

COMMERCIAL subarea type
 Decimal fraction soil group A = 0.000
 Decimal fraction soil group B = 1.000
 Decimal fraction soil group C = 0.000
 Decimal fraction soil group D = 0.000
 SCS curve number for soil(AMC 2) = 56.00
 Adjusted SCS curve number for AMC 3 = 75.80
 Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.044(In/Hr)
 Time of concentration = 7.69 min.
 Rainfall intensity = 3.980(In/Hr) for a 100.0 year storm
 Effective runoff coefficient used for area,(total area with modified
 rational method)(Q=KCIA) is C = 0.890
 Subarea runoff = 0.350(CFS) for 0.110(Ac.)
 Total runoff = 1.594(CFS)
 Effective area this stream = 0.45(Ac.)
 Total Study Area (Main Stream No. 2) = 1.22(Ac.)
 Area averaged Fm value = 0.044(In/Hr)

```

+++++
Process from Point/Station      11.000 to Point/Station      12.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

```

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Upstream point/station elevation = 1154.000(Ft.)
Downstream point/station elevation = 1153.900(Ft.)
Pipe length = 8.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 1.594(CFS)
Nearest computed pipe diameter = 9.00(In.)
Calculated individual pipe flow = 1.594(CFS)
Normal flow depth in pipe = 6.45(In.)
Flow top width inside pipe = 8.12(In.)
Critical Depth = 6.97(In.)
Pipe flow velocity = 4.71(Ft/s)
Travel time through pipe = 0.03 min.
Time of concentration (TC) = 7.72 min.

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+++++
Process from Point/Station      12.000 to Point/Station      12.000
**** SUBAREA FLOW ADDITION ****

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COMMERCIAL subarea type
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 56.00
Adjusted SCS curve number for AMC 3 = 75.80
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.044(In/Hr)
Time of concentration = 7.72 min.
Rainfall intensity = 3.971(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.890
Subarea runoff = 0.421(CFS) for 0.120(Ac.)
Total runoff = 2.015(CFS)
Effective area this stream = 0.57(Ac.)
Total Study Area (Main Stream No. 2) = 1.34(Ac.)
Area averaged Fm value = 0.044(In/Hr)

```

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+++++
Process from Point/Station      12.000 to Point/Station      13.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

```

```

Upstream point/station elevation = 1153.900(Ft.)
Downstream point/station elevation = 1153.700(Ft.)
Pipe length = 34.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 2.015(CFS)
Nearest computed pipe diameter = 12.00(In.)

```

Calculated individual pipe flow = 2.015(CFS)
Normal flow depth in pipe = 7.66(In.)
Flow top width inside pipe = 11.53(In.)
Critical Depth = 7.27(In.)
Pipe flow velocity = 3.81(Ft/s)
Travel time through pipe = 0.15 min.
Time of concentration (TC) = 7.86 min.

++++
Process from Point/Station 13.000 to Point/Station 13.000
**** SUBAREA FLOW ADDITION ****

COMMERCIAL subarea type
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 56.00
Adjusted SCS curve number for AMC 3 = 75.80
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.044(In/Hr)
Time of concentration = 7.86 min.
Rainfall intensity = 3.926(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.890
Subarea runoff = 0.466(CFS) for 0.140(Ac.)
Total runoff = 2.481(CFS)
Effective area this stream = 0.71(Ac.)
Total Study Area (Main Stream No. 2) = 1.48(Ac.)
Area averaged Fm value = 0.044(In/Hr)

++++
Process from Point/Station 13.000 to Point/Station 8.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1153.700(Ft.)
Downstream point/station elevation = 1153.600(Ft.)
Pipe length = 13.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 2.481(CFS)
Nearest computed pipe diameter = 12.00(In.)
Calculated individual pipe flow = 2.481(CFS)
Normal flow depth in pipe = 8.07(In.)
Flow top width inside pipe = 11.26(In.)
Critical Depth = 8.09(In.)
Pipe flow velocity = 4.41(Ft/s)
Travel time through pipe = 0.05 min.
Time of concentration (TC) = 7.91 min.

++++
Process from Point/Station 13.000 to Point/Station 8.000

**** CONFLUENCE OF MAIN STREAMS ****

The following data inside Main Stream is listed:

In Main Stream number: 2

Stream flow area = 0.710(Ac.)

Runoff from this stream = 2.481(CFS)

Time of concentration = 7.91 min.

Rainfall intensity = 3.911(In/Hr)

Area averaged loss rate (Fm) = 0.0440(In/Hr)

Area averaged Pervious ratio (Ap) = 0.1000

Summary of stream data:

Stream No.	Flow rate (CFS)	Area (Ac.)	TC (min)	Fm (In/Hr)	Rainfall Intensity (In/Hr)
------------	-----------------	------------	----------	------------	----------------------------

1	2.83	0.770	7.32	0.139	4.100
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2	2.48	0.710	7.91	0.044	3.911
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Qmax(1) =

1.000 *	1.000 *	2.832) +	
1.049 *	0.925 *	2.481) + =	5.237

Qmax(2) =

0.953 *	1.000 *	2.832) +	
1.000 *	1.000 *	2.481) + =	5.178

Total of 2 main streams to confluence:

Flow rates before confluence point:

3.832	3.481
-------	-------

Maximum flow rates at confluence using above data:

5.237	5.178
-------	-------

Area of streams before confluence:

0.770	0.710
-------	-------

Effective area values after confluence:

1.427	1.480
-------	-------

Results of confluence:

Total flow rate = 5.237(CFS)

Time of concentration = 7.317 min.

Effective stream area after confluence = 1.427(Ac.)

Study area average Pervious fraction(Ap) = 0.243

Study area average soil loss rate(Fm) = 0.094(In/Hr)

Study area total = 1.48(Ac.)

+++++

Process from Point/Station	8.000 to Point/Station	8.000
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**** SUBAREA FLOW ADDITION ****

APARTMENT subarea type

Decimal fraction soil group A = 0.000

Decimal fraction soil group B = 1.000

Decimal fraction soil group C = 0.000
 Decimal fraction soil group D = 0.000
 SCS curve number for soil(AMC 2) = 56.00
 Adjusted SCS curve number for AMC 3 = 75.80
 Pervious ratio(Ap) = 0.2000 Max loss rate(Fm)= 0.088(In/Hr)
 Time of concentration = 7.32 min.
 Rainfall intensity = 4.100(In/Hr) for a 100.0 year storm
 Effective runoff coefficient used for area,(total area with modified
 rational method)(Q=KCIA) is C = 0.880
 Subarea runoff = 1.134(CFS) for 0.340(Ac.)
 Total runoff = 6.371(CFS)
 Effective area this stream = 1.77(Ac.)
 Total Study Area (Main Stream No. 1) = 1.82(Ac.)
 Area averaged Fm value = 0.093(In/Hr)

++++++
 Process from Point/Station 8.000 to Point/Station 14.000
 **** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1153.600(Ft.)
 Downstream point/station elevation = 1151.900(Ft.)
 Pipe length = 332.00(Ft.) Manning's N = 0.013
 No. of pipes = 1 Required pipe flow = 6.371(CFS)
 Nearest computed pipe diameter = 18.00(In.)
 Calculated individual pipe flow = 6.371(CFS)
 Normal flow depth in pipe = 12.73(In.)
 Flow top width inside pipe = 16.38(In.)
 Critical Depth = 11.71(In.)
 Pipe flow velocity = 4.77(Ft/s)
 Travel time through pipe = 1.16 min.
 Time of concentration (TC) = 8.48 min.

++++++
 Process from Point/Station 14.000 to Point/Station 14.000
 **** SUBAREA FLOW ADDITION ****

COMMERCIAL subarea type
 Decimal fraction soil group A = 0.000
 Decimal fraction soil group B = 1.000
 Decimal fraction soil group C = 0.000
 Decimal fraction soil group D = 0.000
 SCS curve number for soil(AMC 2) = 56.00
 Adjusted SCS curve number for AMC 3 = 75.80
 Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.044(In/Hr)
 Time of concentration = 8.48 min.
 Rainfall intensity = 3.753(In/Hr) for a 100.0 year storm
 Effective runoff coefficient used for area,(total area with modified
 rational method)(Q=KCIA) is C = 0.880
 Subarea runoff = 0.518(CFS) for 0.320(Ac.)
 Total runoff = 6.888(CFS)

Effective area this stream = 2.09(Ac.)
Total Study Area (Main Stream No. 1) = 2.14(Ac.)
Area averaged Fm value = 0.085(In/Hr)

+++++
Process from Point/Station 14.000 to Point/Station 15.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1151.900(Ft.)
Downstream point/station elevation = 1145.300(Ft.)
Pipe length = 149.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 6.888(CFS)
Nearest computed pipe diameter = 12.00(In.)
Calculated individual pipe flow = 6.888(CFS)
Normal flow depth in pipe = 9.06(In.)
Flow top width inside pipe = 10.32(In.)
Critical depth could not be calculated.
Pipe flow velocity = 10.83(Ft/s)
Travel time through pipe = 0.23 min.
Time of concentration (TC) = 8.71 min.

+++++
Process from Point/Station 14.000 to Point/Station 15.000
**** CONFLUENCE OF MAIN STREAMS ****

The following data inside Main Stream is listed:
In Main Stream number: 1
Stream flow area = 2.087(Ac.)
Runoff from this stream = 6.888(CFS)
Time of concentration = 8.71 min.
Rainfall intensity = 3.694(In/Hr)
Area averaged loss rate (Fm) = 0.0851(In/Hr)
Area averaged Pervious ratio (Ap) = 0.2140
Program is now starting with Main Stream No. 2

+++++
Process from Point/Station 16.000 to Point/Station 17.000
**** INITIAL AREA EVALUATION ****

COMMERCIAL subarea type
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 56.00
Adjusted SCS curve number for AMC 3 = 75.80
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.044(In/Hr)
Initial subarea data:
Initial area flow distance = 136.000(Ft.)

Top (of initial area) elevation = 1160.300(Ft.)
 Bottom (of initial area) elevation = 1159.200(Ft.)
 Difference in elevation = 1.100(Ft.)
 Slope = 0.00809 s(%)= 0.81
 $TC = k(0.304)*[(length^3)/(elevation\ change)]^{0.2}$
 Initial area time of concentration = 5.685 min.
 Rainfall intensity = 4.770(In/Hr) for a 100.0 year storm
 Effective runoff coefficient used for area (Q=KCIA) is C = 0.892
 Subarea runoff = 0.553(CFS)
 Total initial stream area = 0.130(Ac.)
 Pervious area fraction = 0.100
 Initial area Fm value = 0.044(In/Hr)

++++++
 Process from Point/Station 17.000 to Point/Station 18.000
 **** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1156.000(Ft.)
 Downstream point/station elevation = 1154.500(Ft.)
 Pipe length = 29.00(Ft.) Manning's N = 0.013
 No. of pipes = 1 Required pipe flow = 0.553(CFS)
 Nearest computed pipe diameter = 6.00(In.)
 Calculated individual pipe flow = 0.553(CFS)
 Normal flow depth in pipe = 2.76(In.)
 Flow top width inside pipe = 5.98(In.)
 Critical Depth = 4.55(In.)
 Pipe flow velocity = 6.26(Ft/s)
 Travel time through pipe = 0.08 min.
 Time of concentration (TC) = 5.76 min.

++++++
 Process from Point/Station 18.000 to Point/Station 18.000
 **** SUBAREA FLOW ADDITION ****

COMMERCIAL subarea type
 Decimal fraction soil group A = 0.000
 Decimal fraction soil group B = 1.000
 Decimal fraction soil group C = 0.000
 Decimal fraction soil group D = 0.000
 SCS curve number for soil(AMC 2) = 56.00
 Adjusted SCS curve number for AMC 3 = 75.80
 Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.044(In/Hr)
 Time of concentration = 5.76 min.
 Rainfall intensity = 4.732(In/Hr) for a 100.0 year storm
 Effective runoff coefficient used for area,(total area with modified
 rational method)(Q=KCIA) is C = 0.892
 Subarea runoff = 0.839(CFS) for 0.200(Ac.)
 Total runoff = 1.392(CFS)
 Effective area this stream = 0.33(Ac.)
 Total Study Area (Main Stream No. 2) = 2.47(Ac.)

Area averaged Fm value = 0.044(In/Hr)

+++++
Process from Point/Station 18.000 to Point/Station 19.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1154.500(Ft.)
Downstream point/station elevation = 1153.900(Ft.)
Pipe length = 119.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 1.392(CFS)
Nearest computed pipe diameter = 12.00(In.)
Calculated individual pipe flow = 1.392(CFS)
Normal flow depth in pipe = 6.35(In.)
Flow top width inside pipe = 11.98(In.)
Critical Depth = 5.99(In.)
Pipe flow velocity = 3.30(Ft/s)
Travel time through pipe = 0.60 min.
Time of concentration (TC) = 6.36 min.

+++++
Process from Point/Station 19.000 to Point/Station 19.000
**** SUBAREA FLOW ADDITION ****

APARTMENT subarea type
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 56.00
Adjusted SCS curve number for AMC 3 = 75.80
Pervious ratio(Ap) = 0.2000 Max loss rate(Fm)= 0.088(In/Hr)
Time of concentration = 6.36 min.
Rainfall intensity = 4.458(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.887
Subarea runoff = 1.295(CFS) for 0.350(Ac.)
Total runoff = 2.687(CFS)
Effective area this stream = 0.68(Ac.)
Total Study Area (Main Stream No. 2) = 2.82(Ac.)
Area averaged Fm value = 0.067(In/Hr)

+++++
Process from Point/Station 19.000 to Point/Station 20.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1153.900(Ft.)
Downstream point/station elevation = 1152.900(Ft.)
Pipe length = 187.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 2.687(CFS)

Nearest computed pipe diameter = 15.00(In.)
 Calculated individual pipe flow = 2.687(CFS)
 Normal flow depth in pipe = 8.10(In.)
 Flow top width inside pipe = 14.95(In.)
 Critical Depth = 7.89(In.)
 Pipe flow velocity = 3.97(Ft/s)
 Travel time through pipe = 0.78 min.
 Time of concentration (TC) = 7.15 min.

++++++
 Process from Point/Station 20.000 to Point/Station 20.000
 **** SUBAREA FLOW ADDITION ****

COMMERCIAL subarea type
 Decimal fraction soil group A = 0.000
 Decimal fraction soil group B = 1.000
 Decimal fraction soil group C = 0.000
 Decimal fraction soil group D = 0.000
 SCS curve number for soil(AMC 2) = 56.00
 Adjusted SCS curve number for AMC 3 = 75.80
 Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.044(In/Hr)
 Time of concentration = 7.15 min.
 Rainfall intensity = 4.158(In/Hr) for a 100.0 year storm
 Effective runoff coefficient used for area,(total area with modified
 rational method)(Q=KCIA) is C = 0.887
 Subarea runoff = 1.075(CFS) for 0.340(Ac.)
 Total runoff = 3.762(CFS)
 Effective area this stream = 1.02(Ac.)
 Total Study Area (Main Stream No. 2) = 3.16(Ac.)
 Area averaged Fm value = 0.059(In/Hr)

++++++
 Process from Point/Station 20.000 to Point/Station 21.000
 **** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1152.900(Ft.)
 Downstream point/station elevation = 1151.900(Ft.)
 Pipe length = 182.00(Ft.) Manning's N = 0.013
 No. of pipes = 1 Required pipe flow = 3.762(CFS)
 Nearest computed pipe diameter = 15.00(In.)
 Calculated individual pipe flow = 3.762(CFS)
 Normal flow depth in pipe = 10.02(In.)
 Flow top width inside pipe = 14.13(In.)
 Critical Depth = 9.41(In.)
 Pipe flow velocity = 4.32(Ft/s)
 Travel time through pipe = 0.70 min.
 Time of concentration (TC) = 7.85 min.

+++++

Process from Point/Station 21.000 to Point/Station 21.000
**** SUBAREA FLOW ADDITION ****

COMMERCIAL subarea type
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 56.00
Adjusted SCS curve number for AMC 3 = 75.80
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.044(In/Hr)
Time of concentration = 7.85 min.
Rainfall intensity = 3.930(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area,(total area with modified
rational method)(Q=KCIA) is C = 0.888
Subarea runoff = 1.820(CFS) for 0.580(Ac.)
Total runoff = 5.582(CFS)
Effective area this stream = 1.60(Ac.)
Total Study Area (Main Stream No. 2) = 3.74(Ac.)
Area averaged Fm value = 0.054(In/Hr)

+++++
Process from Point/Station 21.000 to Point/Station 15.000
**** PIPEFLOW TRAVEL TIME (Program estimated size) ****

Upstream point/station elevation = 1151.900(Ft.)
Downstream point/station elevation = 1145.300(Ft.)
Pipe length = 47.00(Ft.) Manning's N = 0.013
No. of pipes = 1 Required pipe flow = 5.582(CFS)
Nearest computed pipe diameter = 9.00(In.)
Calculated individual pipe flow = 5.582(CFS)
Normal flow depth in pipe = 6.68(In.)
Flow top width inside pipe = 7.87(In.)
Critical depth could not be calculated.
Pipe flow velocity = 15.88(Ft/s)
Travel time through pipe = 0.05 min.
Time of concentration (TC) = 7.90 min.

+++++
Process from Point/Station 21.000 to Point/Station 15.000
**** CONFLUENCE OF MAIN STREAMS ****

The following data inside Main Stream is listed:
In Main Stream number: 2
Stream flow area = 1.600(Ac.)
Runoff from this stream = 5.582(CFS)
Time of concentration = 7.90 min.
Rainfall intensity = 3.916(In/Hr)
Area averaged loss rate (Fm) = 0.0536(In/Hr)
Area averaged Pervious ratio (Ap) = 0.1219

Summary of stream data:

Stream No.	Flow rate (CFS)	Area (Ac.)	TC (min)	Fm (In/Hr)	Rainfall Intensity (In/Hr)
------------	-----------------	------------	----------	------------	----------------------------

1	6.89	2.087	8.71	0.085	3.694
2	5.58	1.600	7.90	0.054	3.916

Qmax(1) =

$$1.000 * 1.000 * 6.888) + 0.943 * 1.000 * 5.582) + = 12.150$$

Qmax(2) =

$$1.062 * 0.907 * 6.888) + 1.000 * 1.000 * 5.582) + = 12.217$$

Total of 2 main streams to confluence:

Flow rates before confluence point:

7.888 6.582

Maximum flow rates at confluence using above data:

12.150 12.217

Area of streams before confluence:

2.087 1.600

Effective area values after confluence:

3.687 3.493

Results of confluence:

Total flow rate = 12.217(CFS)

Time of concentration = 7.899 min.

Effective stream area after confluence = 3.493(Ac.)

Study area average Pervious fraction(Ap) = 0.174

Study area average soil loss rate(Fm) = 0.071(In/Hr)

Study area total = 3.69(Ac.)

+++++

Process from Point/Station 15.000 to Point/Station 15.000

**** SUBAREA FLOW ADDITION ****

UNDEVELOPED (poor cover) subarea

Decimal fraction soil group A = 0.000

Decimal fraction soil group B = 1.000

Decimal fraction soil group C = 0.000

Decimal fraction soil group D = 0.000

SCS curve number for soil(AMC 2) = 78.00

Adjusted SCS curve number for AMC 3 = 92.80

Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.140(In/Hr)

Time of concentration = 7.90 min.

Rainfall intensity = 3.916(In/Hr) for a 100.0 year storm

Effective runoff coefficient used for area,(total area with modified rational method)(Q=KCIA) is C = 0.881

Subarea runoff = 2.111(CFS) for 0.660(Ac.)

Total runoff = 14.328(CFS)
Effective area this stream = 4.15(Ac.)
Total Study Area (Main Stream No. 1) = 4.40(Ac.)
Area averaged Fm value = 0.082(In/Hr)
End of computations, Total Study Area = 4.40 (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) = 0.299
Area averaged SCS curve number = 59.6

Unit Hydrograph Models..... C

- C.1 – EXISTING 10-YEAR ANALYSIS
- C.2 – EXISTING 25-YEAR ANALYSIS
- C.3 – PROPOSED 10-YEAR ANALYSIS
- C.4 – PROPOSED 100-YEAR ANALYSIS

Unit Hydrograph Analysis				
	Acreage (ac.)	Runoff, Q (cfs)	Runoff Volume (ac-ft.)	Runoff Volume (cu-ft.)
Existing 10-yr, 24-hr	5.55	4.9	0.656	28,575
Existing 25-yr, 24-hr		6.4	0.8967	39,060
Proposed 10-yr, 24-hr	4.4	8.3	0.8321	36,246
Proposed 100-yr, 24-hr		14.4	1.4981	65,257

C.1 – EXISTING 10-YEAR ANALYSIS

Unit Hydrograph Analysis

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Study date 08/26/24

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

Program License Serial Number 6568

TPM 20854
EXISTING UNIT HYDROGRAPH
10-YEAR
24-HOUR

Storm Event Year = 10

Antecedent Moisture Condition = 2

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		
5.55	1	0.73

Rainfall data for year 2		
5.55	6	1.15

Rainfall data for year 2		
5.55	24	2.05

Rainfall data for year 100		
5.55	1	1.16

Rainfall data for year 100

5.55 6 2.65

Rainfall data for year 100

5.55 24 4.82

+++++

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

SCS curve No.(AMCII)	SCS curve NO.(AMC 2)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
78.0	78.0	5.55	1.000	0.404	1.000	0.404

Area-averaged adjusted loss rate Fm (In/Hr) = 0.404

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

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
5.55	1.000	78.0	78.0	2.82	0.397

Area-averaged catchment yield fraction, Y = 0.397

Area-averaged low loss fraction, Yb = 0.603

User entry of time of concentration = 0.313 (hours)

+++++

Watershed area = 5.55(Ac.)

Catchment Lag time = 0.250 hours

Unit interval = 5.000 minutes

Unit interval percentage of lag time = 33.3014

Hydrograph baseflow = 0.00(CFS)

Average maximum watershed loss rate(Fm) = 0.404(In/Hr)

Average low loss rate fraction (Yb) = 0.603 (decimal)

VALLEY UNDEVELOPED S-Graph Selected

Computed peak 5-minute rainfall = 0.272(In)

Computed peak 30-minute rainfall = 0.556(In)

Specified peak 1-hour rainfall = 0.734(In)

Computed peak 3-hour rainfall = 1.258(In)

Specified peak 6-hour rainfall = 1.767(In)

Specified peak 24-hour rainfall = 3.190(In)

Rainfall depth area reduction factors:

Using a total area of 5.55(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000	Adjusted rainfall = 0.272(In)
30-minute factor = 1.000	Adjusted rainfall = 0.556(In)
1-hour factor = 1.000	Adjusted rainfall = 0.734(In)
3-hour factor = 1.000	Adjusted rainfall = 1.258(In)
6-hour factor = 1.000	Adjusted rainfall = 1.767(In)
24-hour factor = 1.000	Adjusted rainfall = 3.190(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 = 67.12 (CFS))		
1	3.346	2.246
2	16.202	8.629
3	37.964	14.606
4	58.047	13.480
5	69.166	7.463
6	75.483	4.240
7	79.955	3.001
8	83.427	2.331
9	86.263	1.903
10	88.482	1.489
11	90.416	1.298
12	91.950	1.030
13	93.221	0.852
14	94.278	0.710
15	95.286	0.676
16	96.156	0.584
17	96.873	0.481
18	97.490	0.414
19	98.025	0.359
20	98.476	0.303
21	98.827	0.236
22	99.160	0.224
23	99.493	0.224
24	99.826	0.224
25	100.000	0.117
Peak Unit	Adjusted mass rainfall	Unit rainfall
Number	(In)	(In)
1	0.2716	0.2716
2	0.3584	0.0868
3	0.4215	0.0631
4	0.4729	0.0514
5	0.5170	0.0441
6	0.5561	0.0391
7	0.5915	0.0354
8	0.6239	0.0325
9	0.6540	0.0301
10	0.6822	0.0282
11	0.7087	0.0265
12	0.7338	0.0251
13	0.7632	0.0294
14	0.7915	0.0283
15	0.8187	0.0272

16	0.8450	0.0263
17	0.8705	0.0255
18	0.8953	0.0248
19	0.9194	0.0241
20	0.9428	0.0234
21	0.9656	0.0228
22	0.9879	0.0223
23	1.0097	0.0218
24	1.0310	0.0213
25	1.0518	0.0209
26	1.0723	0.0204
27	1.0923	0.0200
28	1.1120	0.0197
29	1.1313	0.0193
30	1.1503	0.0190
31	1.1689	0.0187
32	1.1873	0.0183
33	1.2053	0.0181
34	1.2231	0.0178
35	1.2406	0.0175
36	1.2579	0.0173
37	1.2749	0.0170
38	1.2917	0.0168
39	1.3082	0.0166
40	1.3246	0.0163
41	1.3407	0.0161
42	1.3567	0.0159
43	1.3724	0.0157
44	1.3880	0.0156
45	1.4033	0.0154
46	1.4185	0.0152
47	1.4336	0.0150
48	1.4485	0.0149
49	1.4632	0.0147
50	1.4777	0.0146
51	1.4922	0.0144
52	1.5064	0.0143
53	1.5206	0.0141
54	1.5346	0.0140
55	1.5485	0.0139
56	1.5622	0.0137
57	1.5758	0.0136
58	1.5893	0.0135
59	1.6027	0.0134
60	1.6160	0.0133
61	1.6291	0.0132
62	1.6421	0.0130
63	1.6551	0.0129
64	1.6679	0.0128
65	1.6806	0.0127
66	1.6933	0.0126
67	1.7058	0.0125

68	1.7182	0.0124
69	1.7306	0.0123
70	1.7428	0.0123
71	1.7550	0.0122
72	1.7671	0.0121
73	1.7775	0.0104
74	1.7878	0.0103
75	1.7981	0.0103
76	1.8083	0.0102
77	1.8184	0.0101
78	1.8284	0.0100
79	1.8383	0.0099
80	1.8482	0.0099
81	1.8580	0.0098
82	1.8677	0.0097
83	1.8774	0.0097
84	1.8870	0.0096
85	1.8966	0.0095
86	1.9060	0.0095
87	1.9154	0.0094
88	1.9248	0.0093
89	1.9341	0.0093
90	1.9433	0.0092
91	1.9525	0.0092
92	1.9616	0.0091
93	1.9706	0.0091
94	1.9796	0.0090
95	1.9886	0.0089
96	1.9975	0.0089
97	2.0063	0.0088
98	2.0151	0.0088
99	2.0238	0.0087
100	2.0325	0.0087
101	2.0411	0.0086
102	2.0497	0.0086
103	2.0583	0.0085
104	2.0668	0.0085
105	2.0752	0.0084
106	2.0836	0.0084
107	2.0919	0.0084
108	2.1003	0.0083
109	2.1085	0.0083
110	2.1167	0.0082
111	2.1249	0.0082
112	2.1330	0.0081
113	2.1411	0.0081
114	2.1492	0.0081
115	2.1572	0.0080
116	2.1652	0.0080
117	2.1731	0.0079
118	2.1810	0.0079
119	2.1888	0.0079

120	2.1967	0.0078
121	2.2044	0.0078
122	2.2122	0.0077
123	2.2199	0.0077
124	2.2276	0.0077
125	2.2352	0.0076
126	2.2428	0.0076
127	2.2504	0.0076
128	2.2579	0.0075
129	2.2654	0.0075
130	2.2729	0.0075
131	2.2803	0.0074
132	2.2877	0.0074
133	2.2951	0.0074
134	2.3024	0.0073
135	2.3097	0.0073
136	2.3170	0.0073
137	2.3242	0.0072
138	2.3314	0.0072
139	2.3386	0.0072
140	2.3458	0.0072
141	2.3529	0.0071
142	2.3600	0.0071
143	2.3670	0.0071
144	2.3741	0.0070
145	2.3811	0.0070
146	2.3881	0.0070
147	2.3950	0.0070
148	2.4020	0.0069
149	2.4089	0.0069
150	2.4157	0.0069
151	2.4226	0.0068
152	2.4294	0.0068
153	2.4362	0.0068
154	2.4430	0.0068
155	2.4497	0.0067
156	2.4564	0.0067
157	2.4631	0.0067
158	2.4698	0.0067
159	2.4764	0.0066
160	2.4831	0.0066
161	2.4897	0.0066
162	2.4962	0.0066
163	2.5028	0.0066
164	2.5093	0.0065
165	2.5158	0.0065
166	2.5223	0.0065
167	2.5288	0.0065
168	2.5352	0.0064
169	2.5416	0.0064
170	2.5480	0.0064
171	2.5544	0.0064

172	2.5608	0.0064
173	2.5671	0.0063
174	2.5734	0.0063
175	2.5797	0.0063
176	2.5860	0.0063
177	2.5922	0.0062
178	2.5984	0.0062
179	2.6046	0.0062
180	2.6108	0.0062
181	2.6170	0.0062
182	2.6231	0.0061
183	2.6293	0.0061
184	2.6354	0.0061
185	2.6415	0.0061
186	2.6476	0.0061
187	2.6536	0.0061
188	2.6596	0.0060
189	2.6657	0.0060
190	2.6717	0.0060
191	2.6776	0.0060
192	2.6836	0.0060
193	2.6896	0.0059
194	2.6955	0.0059
195	2.7014	0.0059
196	2.7073	0.0059
197	2.7132	0.0059
198	2.7190	0.0059
199	2.7249	0.0058
200	2.7307	0.0058
201	2.7365	0.0058
202	2.7423	0.0058
203	2.7481	0.0058
204	2.7538	0.0058
205	2.7596	0.0057
206	2.7653	0.0057
207	2.7710	0.0057
208	2.7767	0.0057
209	2.7824	0.0057
210	2.7880	0.0057
211	2.7937	0.0056
212	2.7993	0.0056
213	2.8049	0.0056
214	2.8105	0.0056
215	2.8161	0.0056
216	2.8217	0.0056
217	2.8272	0.0056
218	2.8328	0.0055
219	2.8383	0.0055
220	2.8438	0.0055
221	2.8493	0.0055
222	2.8548	0.0055
223	2.8603	0.0055

224	2.8657	0.0055
225	2.8712	0.0054
226	2.8766	0.0054
227	2.8820	0.0054
228	2.8874	0.0054
229	2.8928	0.0054
230	2.8982	0.0054
231	2.9036	0.0054
232	2.9089	0.0053
233	2.9142	0.0053
234	2.9196	0.0053
235	2.9249	0.0053
236	2.9302	0.0053
237	2.9355	0.0053
238	2.9407	0.0053
239	2.9460	0.0053
240	2.9512	0.0052
241	2.9565	0.0052
242	2.9617	0.0052
243	2.9669	0.0052
244	2.9721	0.0052
245	2.9773	0.0052
246	2.9824	0.0052
247	2.9876	0.0052
248	2.9927	0.0051
249	2.9979	0.0051
250	3.0030	0.0051
251	3.0081	0.0051
252	3.0132	0.0051
253	3.0183	0.0051
254	3.0234	0.0051
255	3.0284	0.0051
256	3.0335	0.0051
257	3.0385	0.0050
258	3.0436	0.0050
259	3.0486	0.0050
260	3.0536	0.0050
261	3.0586	0.0050
262	3.0636	0.0050
263	3.0686	0.0050
264	3.0735	0.0050
265	3.0785	0.0050
266	3.0834	0.0049
267	3.0883	0.0049
268	3.0933	0.0049
269	3.0982	0.0049
270	3.1031	0.0049
271	3.1080	0.0049
272	3.1129	0.0049
273	3.1177	0.0049
274	3.1226	0.0049
275	3.1274	0.0048

276	3.1323	0.0048
277	3.1371	0.0048
278	3.1419	0.0048
279	3.1467	0.0048
280	3.1515	0.0048
281	3.1563	0.0048
282	3.1611	0.0048
283	3.1659	0.0048
284	3.1706	0.0048
285	3.1754	0.0048
286	3.1801	0.0047
287	3.1849	0.0047
288	3.1896	0.0047

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0047	0.0028	0.0019
2	0.0047	0.0029	0.0019
3	0.0048	0.0029	0.0019
4	0.0048	0.0029	0.0019
5	0.0048	0.0029	0.0019
6	0.0048	0.0029	0.0019
7	0.0048	0.0029	0.0019
8	0.0048	0.0029	0.0019
9	0.0048	0.0029	0.0019
10	0.0048	0.0029	0.0019
11	0.0049	0.0029	0.0019
12	0.0049	0.0029	0.0019
13	0.0049	0.0030	0.0019
14	0.0049	0.0030	0.0019
15	0.0049	0.0030	0.0020
16	0.0049	0.0030	0.0020
17	0.0050	0.0030	0.0020
18	0.0050	0.0030	0.0020
19	0.0050	0.0030	0.0020
20	0.0050	0.0030	0.0020
21	0.0050	0.0030	0.0020
22	0.0050	0.0030	0.0020
23	0.0051	0.0031	0.0020
24	0.0051	0.0031	0.0020
25	0.0051	0.0031	0.0020
26	0.0051	0.0031	0.0020
27	0.0051	0.0031	0.0020
28	0.0051	0.0031	0.0020
29	0.0052	0.0031	0.0021
30	0.0052	0.0031	0.0021
31	0.0052	0.0031	0.0021
32	0.0052	0.0031	0.0021
33	0.0052	0.0032	0.0021
34	0.0053	0.0032	0.0021

35	0.0053	0.0032	0.0021
36	0.0053	0.0032	0.0021
37	0.0053	0.0032	0.0021
38	0.0053	0.0032	0.0021
39	0.0054	0.0032	0.0021
40	0.0054	0.0032	0.0021
41	0.0054	0.0033	0.0021
42	0.0054	0.0033	0.0021
43	0.0054	0.0033	0.0022
44	0.0055	0.0033	0.0022
45	0.0055	0.0033	0.0022
46	0.0055	0.0033	0.0022
47	0.0055	0.0033	0.0022
48	0.0055	0.0033	0.0022
49	0.0056	0.0034	0.0022
50	0.0056	0.0034	0.0022
51	0.0056	0.0034	0.0022
52	0.0056	0.0034	0.0022
53	0.0057	0.0034	0.0022
54	0.0057	0.0034	0.0023
55	0.0057	0.0034	0.0023
56	0.0057	0.0035	0.0023
57	0.0058	0.0035	0.0023
58	0.0058	0.0035	0.0023
59	0.0058	0.0035	0.0023
60	0.0058	0.0035	0.0023
61	0.0059	0.0035	0.0023
62	0.0059	0.0035	0.0023
63	0.0059	0.0036	0.0023
64	0.0059	0.0036	0.0024
65	0.0060	0.0036	0.0024
66	0.0060	0.0036	0.0024
67	0.0060	0.0036	0.0024
68	0.0060	0.0036	0.0024
69	0.0061	0.0037	0.0024
70	0.0061	0.0037	0.0024
71	0.0061	0.0037	0.0024
72	0.0061	0.0037	0.0024
73	0.0062	0.0037	0.0025
74	0.0062	0.0037	0.0025
75	0.0062	0.0038	0.0025
76	0.0063	0.0038	0.0025
77	0.0063	0.0038	0.0025
78	0.0063	0.0038	0.0025
79	0.0064	0.0038	0.0025
80	0.0064	0.0039	0.0025
81	0.0064	0.0039	0.0026
82	0.0065	0.0039	0.0026
83	0.0065	0.0039	0.0026
84	0.0065	0.0039	0.0026
85	0.0066	0.0040	0.0026
86	0.0066	0.0040	0.0026

87	0.0066	0.0040	0.0026
88	0.0067	0.0040	0.0026
89	0.0067	0.0041	0.0027
90	0.0067	0.0041	0.0027
91	0.0068	0.0041	0.0027
92	0.0068	0.0041	0.0027
93	0.0069	0.0041	0.0027
94	0.0069	0.0042	0.0027
95	0.0070	0.0042	0.0028
96	0.0070	0.0042	0.0028
97	0.0070	0.0042	0.0028
98	0.0071	0.0043	0.0028
99	0.0071	0.0043	0.0028
100	0.0072	0.0043	0.0028
101	0.0072	0.0044	0.0029
102	0.0072	0.0044	0.0029
103	0.0073	0.0044	0.0029
104	0.0073	0.0044	0.0029
105	0.0074	0.0045	0.0029
106	0.0074	0.0045	0.0029
107	0.0075	0.0045	0.0030
108	0.0075	0.0045	0.0030
109	0.0076	0.0046	0.0030
110	0.0076	0.0046	0.0030
111	0.0077	0.0046	0.0031
112	0.0077	0.0047	0.0031
113	0.0078	0.0047	0.0031
114	0.0079	0.0047	0.0031
115	0.0079	0.0048	0.0031
116	0.0080	0.0048	0.0032
117	0.0081	0.0049	0.0032
118	0.0081	0.0049	0.0032
119	0.0082	0.0049	0.0032
120	0.0082	0.0050	0.0033
121	0.0083	0.0050	0.0033
122	0.0084	0.0050	0.0033
123	0.0084	0.0051	0.0034
124	0.0085	0.0051	0.0034
125	0.0086	0.0052	0.0034
126	0.0086	0.0052	0.0034
127	0.0087	0.0053	0.0035
128	0.0088	0.0053	0.0035
129	0.0089	0.0054	0.0035
130	0.0089	0.0054	0.0035
131	0.0091	0.0055	0.0036
132	0.0091	0.0055	0.0036
133	0.0092	0.0056	0.0037
134	0.0093	0.0056	0.0037
135	0.0094	0.0057	0.0037
136	0.0095	0.0057	0.0038
137	0.0096	0.0058	0.0038
138	0.0097	0.0058	0.0038

139	0.0098	0.0059	0.0039
140	0.0099	0.0060	0.0039
141	0.0100	0.0060	0.0040
142	0.0101	0.0061	0.0040
143	0.0103	0.0062	0.0041
144	0.0103	0.0062	0.0041
145	0.0121	0.0073	0.0048
146	0.0122	0.0073	0.0048
147	0.0123	0.0074	0.0049
148	0.0124	0.0075	0.0049
149	0.0126	0.0076	0.0050
150	0.0127	0.0077	0.0051
151	0.0129	0.0078	0.0051
152	0.0130	0.0079	0.0052
153	0.0133	0.0080	0.0053
154	0.0134	0.0081	0.0053
155	0.0136	0.0082	0.0054
156	0.0137	0.0083	0.0055
157	0.0140	0.0084	0.0056
158	0.0141	0.0085	0.0056
159	0.0144	0.0087	0.0057
160	0.0146	0.0088	0.0058
161	0.0149	0.0090	0.0059
162	0.0150	0.0091	0.0060
163	0.0154	0.0093	0.0061
164	0.0156	0.0094	0.0062
165	0.0159	0.0096	0.0063
166	0.0161	0.0097	0.0064
167	0.0166	0.0100	0.0066
168	0.0168	0.0101	0.0067
169	0.0173	0.0104	0.0069
170	0.0175	0.0106	0.0070
171	0.0181	0.0109	0.0072
172	0.0183	0.0111	0.0073
173	0.0190	0.0114	0.0075
174	0.0193	0.0116	0.0077
175	0.0200	0.0121	0.0080
176	0.0204	0.0123	0.0081
177	0.0213	0.0128	0.0085
178	0.0218	0.0131	0.0086
179	0.0228	0.0138	0.0091
180	0.0234	0.0141	0.0093
181	0.0248	0.0149	0.0098
182	0.0255	0.0154	0.0101
183	0.0272	0.0164	0.0108
184	0.0283	0.0170	0.0112
185	0.0251	0.0151	0.0100
186	0.0265	0.0160	0.0105
187	0.0301	0.0182	0.0119
188	0.0325	0.0196	0.0129
189	0.0391	0.0236	0.0155
190	0.0441	0.0266	0.0175

191	0.0631	0.0336	0.0295
192	0.0868	0.0336	0.0531
193	0.2716	0.0336	0.2380
194	0.0514	0.0310	0.0204
195	0.0354	0.0213	0.0140
196	0.0282	0.0170	0.0112
197	0.0294	0.0177	0.0117
198	0.0263	0.0159	0.0105
199	0.0241	0.0145	0.0095
200	0.0223	0.0134	0.0088
201	0.0209	0.0126	0.0083
202	0.0197	0.0119	0.0078
203	0.0187	0.0113	0.0074
204	0.0178	0.0107	0.0071
205	0.0170	0.0103	0.0068
206	0.0163	0.0099	0.0065
207	0.0157	0.0095	0.0062
208	0.0152	0.0092	0.0060
209	0.0147	0.0089	0.0058
210	0.0143	0.0086	0.0057
211	0.0139	0.0084	0.0055
212	0.0135	0.0081	0.0054
213	0.0132	0.0079	0.0052
214	0.0128	0.0077	0.0051
215	0.0125	0.0076	0.0050
216	0.0123	0.0074	0.0049
217	0.0104	0.0063	0.0041
218	0.0102	0.0061	0.0040
219	0.0099	0.0060	0.0039
220	0.0097	0.0059	0.0039
221	0.0095	0.0058	0.0038
222	0.0093	0.0056	0.0037
223	0.0092	0.0055	0.0036
224	0.0090	0.0054	0.0036
225	0.0088	0.0053	0.0035
226	0.0087	0.0052	0.0034
227	0.0085	0.0051	0.0034
228	0.0084	0.0051	0.0033
229	0.0083	0.0050	0.0033
230	0.0081	0.0049	0.0032
231	0.0080	0.0048	0.0032
232	0.0079	0.0048	0.0031
233	0.0078	0.0047	0.0031
234	0.0077	0.0046	0.0030
235	0.0076	0.0046	0.0030
236	0.0075	0.0045	0.0030
237	0.0074	0.0044	0.0029
238	0.0073	0.0044	0.0029
239	0.0072	0.0043	0.0029
240	0.0071	0.0043	0.0028
241	0.0070	0.0042	0.0028
242	0.0069	0.0042	0.0027

243	0.0068	0.0041	0.0027
244	0.0068	0.0041	0.0027
245	0.0067	0.0040	0.0027
246	0.0066	0.0040	0.0026
247	0.0066	0.0040	0.0026
248	0.0065	0.0039	0.0026
249	0.0064	0.0039	0.0025
250	0.0064	0.0038	0.0025
251	0.0063	0.0038	0.0025
252	0.0062	0.0038	0.0025
253	0.0062	0.0037	0.0024
254	0.0061	0.0037	0.0024
255	0.0061	0.0037	0.0024
256	0.0060	0.0036	0.0024
257	0.0059	0.0036	0.0024
258	0.0059	0.0036	0.0023
259	0.0058	0.0035	0.0023
260	0.0058	0.0035	0.0023
261	0.0057	0.0035	0.0023
262	0.0057	0.0034	0.0023
263	0.0056	0.0034	0.0022
264	0.0056	0.0034	0.0022
265	0.0056	0.0034	0.0022
266	0.0055	0.0033	0.0022
267	0.0055	0.0033	0.0022
268	0.0054	0.0033	0.0022
269	0.0054	0.0032	0.0021
270	0.0053	0.0032	0.0021
271	0.0053	0.0032	0.0021
272	0.0053	0.0032	0.0021
273	0.0052	0.0032	0.0021
274	0.0052	0.0031	0.0021
275	0.0052	0.0031	0.0020
276	0.0051	0.0031	0.0020
277	0.0051	0.0031	0.0020
278	0.0051	0.0030	0.0020
279	0.0050	0.0030	0.0020
280	0.0050	0.0030	0.0020
281	0.0050	0.0030	0.0020
282	0.0049	0.0030	0.0020
283	0.0049	0.0029	0.0019
284	0.0049	0.0029	0.0019
285	0.0048	0.0029	0.0019
286	0.0048	0.0029	0.0019
287	0.0048	0.0029	0.0019
288	0.0047	0.0029	0.0019

Total soil rain loss = 1.77(In)
Total effective rainfall = 1.42(In)
Peak flow rate in flood hydrograph = 4.88(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		0.02	Q				
0+15	0.0005		0.05	Q				
0+20	0.0010		0.07	Q				
0+25	0.0016		0.09	Q				
0+30	0.0023		0.10	Q				
0+35	0.0030		0.10	Q				
0+40	0.0037		0.11	Q				
0+45	0.0045		0.11	Q				
0+50	0.0052		0.11	Q				
0+55	0.0060		0.12	Q				
1+ 0	0.0068		0.12	Q				
1+ 5	0.0077		0.12	Q				
1+10	0.0085		0.12	Q				
1+15	0.0094		0.12	Q				
1+20	0.0102		0.13	Q				
1+25	0.0111		0.13	Q				
1+30	0.0120		0.13	Q				
1+35	0.0129		0.13	Q				
1+40	0.0138		0.13	Q				
1+45	0.0147		0.13	Q				
1+50	0.0156		0.13	Q				
1+55	0.0165		0.13	QV				
2+ 0	0.0174		0.13	QV				
2+ 5	0.0183		0.13	QV				
2+10	0.0192		0.13	QV				
2+15	0.0202		0.13	QV				
2+20	0.0211		0.14	QV				
2+25	0.0220		0.14	QV				
2+30	0.0230		0.14	QV				
2+35	0.0239		0.14	QV				
2+40	0.0248		0.14	QV				
2+45	0.0258		0.14	QV				
2+50	0.0267		0.14	QV				
2+55	0.0277		0.14	QV				
3+ 0	0.0286		0.14	QV				
3+ 5	0.0296		0.14	QV				
3+10	0.0306		0.14	QV				
3+15	0.0315		0.14	QV				
3+20	0.0325		0.14	QV				
3+25	0.0335		0.14	Q V				
3+30	0.0345		0.14	Q V				
3+35	0.0354		0.14	Q V				

3+40	0.0364	0.14	Q	V
3+45	0.0374	0.14	Q	V
3+50	0.0384	0.14	Q	V
3+55	0.0394	0.14	Q	V
4+ 0	0.0404	0.15	Q	V
4+ 5	0.0414	0.15	Q	V
4+10	0.0424	0.15	Q	V
4+15	0.0434	0.15	Q	V
4+20	0.0444	0.15	Q	V
4+25	0.0455	0.15	Q	V
4+30	0.0465	0.15	Q	V
4+35	0.0475	0.15	Q	V
4+40	0.0485	0.15	Q	V
4+45	0.0496	0.15	Q	V
4+50	0.0506	0.15	Q	V
4+55	0.0517	0.15	Q	V
5+ 0	0.0527	0.15	Q	V
5+ 5	0.0538	0.15	Q	V
5+10	0.0548	0.15	Q	V
5+15	0.0559	0.15	Q	V
5+20	0.0570	0.15	Q	V
5+25	0.0580	0.16	Q	V
5+30	0.0591	0.16	Q	V
5+35	0.0602	0.16	Q	V
5+40	0.0613	0.16	Q	V
5+45	0.0624	0.16	Q	V
5+50	0.0635	0.16	Q	V
5+55	0.0646	0.16	Q	V
6+ 0	0.0657	0.16	Q	V
6+ 5	0.0668	0.16	Q	V
6+10	0.0679	0.16	Q	V
6+15	0.0690	0.16	Q	V
6+20	0.0701	0.16	Q	V
6+25	0.0713	0.16	Q	V
6+30	0.0724	0.17	Q	V
6+35	0.0736	0.17	Q	V
6+40	0.0747	0.17	Q	V
6+45	0.0759	0.17	Q	V
6+50	0.0770	0.17	Q	V
6+55	0.0782	0.17	Q	V
7+ 0	0.0794	0.17	Q	V
7+ 5	0.0805	0.17	Q	V
7+10	0.0817	0.17	Q	V
7+15	0.0829	0.17	Q	V
7+20	0.0841	0.17	Q	V
7+25	0.0853	0.17	Q	V
7+30	0.0865	0.18	Q	V
7+35	0.0877	0.18	Q	V
7+40	0.0890	0.18	Q	V
7+45	0.0902	0.18	Q	V
7+50	0.0914	0.18	Q	V
7+55	0.0927	0.18	Q	V

8+ 0	0.0939	0.18	Q	V				
8+ 5	0.0952	0.18	Q	V				
8+10	0.0964	0.18	Q	V				
8+15	0.0977	0.18	Q	V				
8+20	0.0990	0.19	Q	V				
8+25	0.1003	0.19	Q	V				
8+30	0.1016	0.19	Q	V				
8+35	0.1029	0.19	Q	V				
8+40	0.1042	0.19	Q	V				
8+45	0.1055	0.19	Q	V				
8+50	0.1068	0.19	Q	V				
8+55	0.1082	0.19	Q	V				
9+ 0	0.1095	0.20	Q	V				
9+ 5	0.1109	0.20	Q	V				
9+10	0.1122	0.20	Q	V				
9+15	0.1136	0.20	Q	V				
9+20	0.1150	0.20	Q	V				
9+25	0.1164	0.20	Q	V				
9+30	0.1178	0.20	Q	V				
9+35	0.1192	0.20	Q	V				
9+40	0.1206	0.21	Q	V				
9+45	0.1220	0.21	Q	V				
9+50	0.1235	0.21	Q	V				
9+55	0.1249	0.21	Q	V				
10+ 0	0.1264	0.21	Q	V				
10+ 5	0.1278	0.21	Q	V				
10+10	0.1293	0.22	Q	V				
10+15	0.1308	0.22	Q	V				
10+20	0.1323	0.22	Q	V				
10+25	0.1338	0.22	Q	V				
10+30	0.1354	0.22	Q	V				
10+35	0.1369	0.22	Q	V				
10+40	0.1385	0.23	Q	V				
10+45	0.1400	0.23	Q	V				
10+50	0.1416	0.23	Q	V				
10+55	0.1432	0.23	Q	V				
11+ 0	0.1448	0.23	Q	V				
11+ 5	0.1464	0.24	Q	V				
11+10	0.1481	0.24	Q	V				
11+15	0.1497	0.24	Q	V				
11+20	0.1514	0.24	Q	V				
11+25	0.1531	0.24	Q	V				
11+30	0.1548	0.25	Q	V				
11+35	0.1565	0.25	Q	V				
11+40	0.1582	0.25	Q	V				
11+45	0.1600	0.25	Q	V				
11+50	0.1618	0.26	Q	V				
11+55	0.1636	0.26	Q	V				
12+ 0	0.1654	0.26	Q	V				
12+ 5	0.1672	0.27	Q	V				
12+10	0.1691	0.28	Q	V				
12+15	0.1711	0.29	Q	V				

12+20	0.1731	0.30	Q	V				
12+25	0.1753	0.31	Q	V				
12+30	0.1774	0.31	Q	V				
12+35	0.1796	0.32	Q	V				
12+40	0.1818	0.32	Q	V				
12+45	0.1841	0.33	Q	V				
12+50	0.1864	0.33	Q	V				
12+55	0.1887	0.34	Q	V				
13+ 0	0.1911	0.34	Q	V				
13+ 5	0.1935	0.35	Q	V				
13+10	0.1959	0.35	Q	V				
13+15	0.1984	0.36	Q	V				
13+20	0.2009	0.36	Q	V				
13+25	0.2035	0.37	Q	V				
13+30	0.2061	0.38	Q	V				
13+35	0.2087	0.38	Q	V				
13+40	0.2114	0.39	Q	V				
13+45	0.2141	0.39	Q	V				
13+50	0.2168	0.40	Q	V				
13+55	0.2196	0.41	Q	V				
14+ 0	0.2225	0.41	Q	V				
14+ 5	0.2254	0.42	Q	V				
14+10	0.2284	0.43	Q	V				
14+15	0.2314	0.44	Q	V				
14+20	0.2345	0.45	Q	V				
14+25	0.2376	0.46	Q	V				
14+30	0.2408	0.47	Q	V				
14+35	0.2441	0.48	Q	V				
14+40	0.2475	0.49	Q	V				
14+45	0.2510	0.50	Q	V				
14+50	0.2545	0.52	Q	V				
14+55	0.2582	0.53	Q	V				
15+ 0	0.2620	0.55	Q	V				
15+ 5	0.2659	0.57	Q	V				
15+10	0.2699	0.59	Q	V				
15+15	0.2741	0.61	Q	V				
15+20	0.2785	0.63	Q	V				
15+25	0.2830	0.66	Q	V				
15+30	0.2876	0.67	Q	V				
15+35	0.2923	0.68	Q	V				
15+40	0.2970	0.69	Q	V				
15+45	0.3021	0.73	Q	V				
15+50	0.3076	0.80	Q	V				
15+55	0.3139	0.91	Q	V				
16+ 0	0.3218	1.15	Q	V				
16+ 5	0.3355	2.00	Q	V				
16+10	0.3606	3.64	Q	V				
16+15	0.3942	4.88	Q	V				
16+20	0.4244	4.38	Q	V				
16+25	0.4441	2.86	Q	V				
16+30	0.4579	2.00	Q	V				
16+35	0.4692	1.63	Q	V				

16+40	0.4789	1.41	Q			V
16+45	0.4875	1.25	Q			V
16+50	0.4951	1.10	Q			V
16+55	0.5020	1.00	Q			V
17+ 0	0.5082	0.90	Q			V
17+ 5	0.5138	0.82	Q			V
17+10	0.5191	0.76	Q			V
17+15	0.5240	0.72	Q			V
17+20	0.5286	0.67	Q			V
17+25	0.5329	0.62	Q			V
17+30	0.5369	0.58	Q			V
17+35	0.5407	0.55	Q			V
17+40	0.5443	0.52	Q			V
17+45	0.5476	0.49	Q			V
17+50	0.5508	0.47	Q			V
17+55	0.5540	0.45	Q			V
18+ 0	0.5570	0.44	Q			V
18+ 5	0.5597	0.39	Q			V
18+10	0.5621	0.35	Q			V
18+15	0.5644	0.33	Q			V
18+20	0.5665	0.31	Q			V
18+25	0.5686	0.30	Q			V
18+30	0.5706	0.29	Q			V
18+35	0.5726	0.28	Q			V
18+40	0.5744	0.27	Q			V
18+45	0.5763	0.27	Q			V
18+50	0.5781	0.26	Q			V
18+55	0.5798	0.25	Q			V
19+ 0	0.5815	0.25	Q			V
19+ 5	0.5832	0.24	Q			V
19+10	0.5849	0.24	Q			V
19+15	0.5865	0.23	Q			V
19+20	0.5880	0.23	Q			V
19+25	0.5896	0.23	Q			V
19+30	0.5911	0.22	Q			V
19+35	0.5926	0.22	Q			V
19+40	0.5941	0.21	Q			V
19+45	0.5955	0.21	Q			V
19+50	0.5970	0.21	Q			V
19+55	0.5984	0.20	Q			V
20+ 0	0.5998	0.20	Q			V
20+ 5	0.6011	0.20	Q			V
20+10	0.6025	0.20	Q			V
20+15	0.6038	0.19	Q			V
20+20	0.6051	0.19	Q			V
20+25	0.6064	0.19	Q			V
20+30	0.6077	0.19	Q			V
20+35	0.6090	0.18	Q			V
20+40	0.6102	0.18	Q			V
20+45	0.6115	0.18	Q			V
20+50	0.6127	0.18	Q			V
20+55	0.6139	0.18	Q			V

21+ 0	0.6151	0.17	Q				V
21+ 5	0.6163	0.17	Q				V
21+10	0.6175	0.17	Q				V
21+15	0.6186	0.17	Q				V
21+20	0.6198	0.17	Q				V
21+25	0.6209	0.17	Q				V
21+30	0.6221	0.16	Q				V
21+35	0.6232	0.16	Q				V
21+40	0.6243	0.16	Q				V
21+45	0.6254	0.16	Q				V
21+50	0.6265	0.16	Q				V
21+55	0.6276	0.16	Q				V
22+ 0	0.6286	0.16	Q				V
22+ 5	0.6297	0.15	Q				V
22+10	0.6307	0.15	Q				V
22+15	0.6318	0.15	Q				V
22+20	0.6328	0.15	Q				V
22+25	0.6338	0.15	Q				V
22+30	0.6349	0.15	Q				V
22+35	0.6359	0.15	Q				V
22+40	0.6369	0.15	Q				V
22+45	0.6379	0.14	Q				V
22+50	0.6388	0.14	Q				V
22+55	0.6398	0.14	Q				V
23+ 0	0.6408	0.14	Q				V
23+ 5	0.6418	0.14	Q				V
23+10	0.6427	0.14	Q				V
23+15	0.6437	0.14	Q				V
23+20	0.6446	0.14	Q				V
23+25	0.6456	0.14	Q				V
23+30	0.6465	0.14	Q				V
23+35	0.6474	0.13	Q				V
23+40	0.6483	0.13	Q				V
23+45	0.6492	0.13	Q				V
23+50	0.6502	0.13	Q				V
23+55	0.6511	0.13	Q				V
24+ 0	0.6519	0.13	Q				V
24+ 5	0.6528	0.12	Q				V
24+10	0.6536	0.11	Q				V
24+15	0.6541	0.08	Q				V
24+20	0.6545	0.05	Q				V
24+25	0.6548	0.04	Q				V
24+30	0.6550	0.03	Q				V
24+35	0.6552	0.03	Q				V
24+40	0.6553	0.02	Q				V
24+45	0.6554	0.02	Q				V
24+50	0.6555	0.01	Q				V
24+55	0.6556	0.01	Q				V
25+ 0	0.6557	0.01	Q				V
25+ 5	0.6557	0.01	Q				V
25+10	0.6558	0.01	Q				V
25+15	0.6558	0.01	Q				V

25+20	0.6559	0.00	Q				V
25+25	0.6559	0.00	Q				V
25+30	0.6559	0.00	Q				V
25+35	0.6559	0.00	Q				V
25+40	0.6560	0.00	Q				V
25+45	0.6560	0.00	Q				V
25+50	0.6560	0.00	Q				V
25+55	0.6560	0.00	Q				V
26+ 0	0.6560	0.00	Q				V

C.2 – EXISTING 25-YEAR ANALYSIS

Unit Hydrograph Analysis

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Study date 04/19/24

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

Program License Serial Number 6568

TPM 20854
EXISTING UNIT HYDROGRAPH
25-YEAR
24-HOUR

Storm Event Year = 25

Antecedent Moisture Condition = 2

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		
5.55	1	0.73

Rainfall data for year 2		
5.55	6	1.15

Rainfall data for year 2		
5.55	24	2.05

Rainfall data for year 100		
5.55	1	1.16

Rainfall data for year 100

5.55 6 2.65

Rainfall data for year 100

5.55 24 4.82

+++++

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

SCS curve No.(AMCII)	SCS curve NO.(AMC 2)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
78.0	78.0	5.55	1.000	0.404	1.000	0.404

Area-averaged adjusted loss rate Fm (In/Hr) = 0.404

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

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
5.55	1.000	78.0	78.0	2.82	0.458

Area-averaged catchment yield fraction, Y = 0.458

Area-averaged low loss fraction, Yb = 0.542

User entry of time of concentration = 0.313 (hours)

+++++

Watershed area = 5.55(Ac.)

Catchment Lag time = 0.250 hours

Unit interval = 5.000 minutes

Unit interval percentage of lag time = 33.3014

Hydrograph baseflow = 0.00(CFS)

Average maximum watershed loss rate(Fm) = 0.404(In/Hr)

Average low loss rate fraction (Yb) = 0.542 (decimal)

VALLEY UNDEVELOPED S-Graph Selected

Computed peak 5-minute rainfall = 0.334(In)

Computed peak 30-minute rainfall = 0.685(In)

Specified peak 1-hour rainfall = 0.904(In)

Computed peak 3-hour rainfall = 1.524(In)

Specified peak 6-hour rainfall = 2.118(In)

Specified peak 24-hour rainfall = 3.838(In)

Rainfall depth area reduction factors:

Using a total area of 5.55(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000	Adjusted rainfall = 0.334(In)
30-minute factor = 1.000	Adjusted rainfall = 0.685(In)
1-hour factor = 1.000	Adjusted rainfall = 0.903(In)
3-hour factor = 1.000	Adjusted rainfall = 1.523(In)
6-hour factor = 1.000	Adjusted rainfall = 2.118(In)
24-hour factor = 1.000	Adjusted rainfall = 3.838(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 = 67.12 (CFS))		
1	3.346	2.246
2	16.202	8.629
3	37.964	14.606
4	58.047	13.480
5	69.166	7.463
6	75.483	4.240
7	79.955	3.001
8	83.427	2.331
9	86.263	1.903
10	88.482	1.489
11	90.416	1.298
12	91.950	1.030
13	93.221	0.852
14	94.278	0.710
15	95.286	0.676
16	96.156	0.584
17	96.873	0.481
18	97.490	0.414
19	98.025	0.359
20	98.476	0.303
21	98.827	0.236
22	99.160	0.224
23	99.493	0.224
24	99.826	0.224
25	100.000	0.117
Peak Unit	Adjusted mass rainfall	Unit rainfall
Number	(In)	(In)
1	0.3343	0.3343
2	0.4411	0.1068
3	0.5188	0.0777
4	0.5821	0.0633
5	0.6364	0.0543
6	0.6846	0.0481
7	0.7281	0.0435
8	0.7680	0.0399
9	0.8051	0.0371
10	0.8398	0.0347
11	0.8724	0.0326
12	0.9033	0.0309
13	0.9384	0.0351
14	0.9720	0.0337
15	1.0045	0.0324

16	1.0358	0.0313
17	1.0661	0.0303
18	1.0955	0.0294
19	1.1240	0.0285
20	1.1518	0.0278
21	1.1789	0.0271
22	1.2052	0.0264
23	1.2310	0.0258
24	1.2562	0.0252
25	1.2808	0.0246
26	1.3050	0.0241
27	1.3286	0.0236
28	1.3518	0.0232
29	1.3745	0.0228
30	1.3969	0.0224
31	1.4189	0.0220
32	1.4405	0.0216
33	1.4617	0.0212
34	1.4826	0.0209
35	1.5032	0.0206
36	1.5235	0.0203
37	1.5435	0.0200
38	1.5632	0.0197
39	1.5826	0.0194
40	1.6018	0.0192
41	1.6207	0.0189
42	1.6394	0.0187
43	1.6578	0.0184
44	1.6761	0.0182
45	1.6941	0.0180
46	1.7119	0.0178
47	1.7295	0.0176
48	1.7469	0.0174
49	1.7641	0.0172
50	1.7811	0.0170
51	1.7980	0.0169
52	1.8146	0.0167
53	1.8312	0.0165
54	1.8475	0.0164
55	1.8637	0.0162
56	1.8798	0.0160
57	1.8956	0.0159
58	1.9114	0.0157
59	1.9270	0.0156
60	1.9425	0.0155
61	1.9578	0.0153
62	1.9730	0.0152
63	1.9881	0.0151
64	2.0030	0.0149
65	2.0178	0.0148
66	2.0325	0.0147
67	2.0471	0.0146

68	2.0616	0.0145
69	2.0760	0.0144
70	2.0902	0.0143
71	2.1044	0.0141
72	2.1184	0.0140
73	2.1310	0.0126
74	2.1434	0.0125
75	2.1558	0.0124
76	2.1681	0.0123
77	2.1803	0.0122
78	2.1924	0.0121
79	2.2044	0.0120
80	2.2163	0.0119
81	2.2281	0.0118
82	2.2399	0.0118
83	2.2516	0.0117
84	2.2632	0.0116
85	2.2747	0.0115
86	2.2861	0.0114
87	2.2975	0.0114
88	2.3087	0.0113
89	2.3200	0.0112
90	2.3311	0.0111
91	2.3422	0.0111
92	2.3532	0.0110
93	2.3641	0.0109
94	2.3750	0.0109
95	2.3858	0.0108
96	2.3965	0.0107
97	2.4072	0.0107
98	2.4178	0.0106
99	2.4283	0.0105
100	2.4388	0.0105
101	2.4492	0.0104
102	2.4596	0.0104
103	2.4699	0.0103
104	2.4802	0.0103
105	2.4904	0.0102
106	2.5005	0.0101
107	2.5106	0.0101
108	2.5206	0.0100
109	2.5306	0.0100
110	2.5405	0.0099
111	2.5504	0.0099
112	2.5603	0.0098
113	2.5700	0.0098
114	2.5798	0.0097
115	2.5894	0.0097
116	2.5991	0.0096
117	2.6086	0.0096
118	2.6182	0.0095
119	2.6277	0.0095

120	2.6371	0.0094
121	2.6465	0.0094
122	2.6559	0.0094
123	2.6652	0.0093
124	2.6745	0.0093
125	2.6837	0.0092
126	2.6929	0.0092
127	2.7020	0.0091
128	2.7111	0.0091
129	2.7202	0.0091
130	2.7292	0.0090
131	2.7382	0.0090
132	2.7471	0.0089
133	2.7560	0.0089
134	2.7649	0.0089
135	2.7737	0.0088
136	2.7825	0.0088
137	2.7913	0.0088
138	2.8000	0.0087
139	2.8087	0.0087
140	2.8173	0.0086
141	2.8259	0.0086
142	2.8345	0.0086
143	2.8430	0.0085
144	2.8515	0.0085
145	2.8600	0.0085
146	2.8685	0.0084
147	2.8769	0.0084
148	2.8852	0.0084
149	2.8936	0.0083
150	2.9019	0.0083
151	2.9102	0.0083
152	2.9184	0.0082
153	2.9266	0.0082
154	2.9348	0.0082
155	2.9430	0.0082
156	2.9511	0.0081
157	2.9592	0.0081
158	2.9673	0.0081
159	2.9753	0.0080
160	2.9833	0.0080
161	2.9913	0.0080
162	2.9992	0.0080
163	3.0072	0.0079
164	3.0151	0.0079
165	3.0229	0.0079
166	3.0308	0.0078
167	3.0386	0.0078
168	3.0464	0.0078
169	3.0541	0.0078
170	3.0619	0.0077
171	3.0696	0.0077

172	3.0773	0.0077
173	3.0849	0.0077
174	3.0926	0.0076
175	3.1002	0.0076
176	3.1077	0.0076
177	3.1153	0.0076
178	3.1228	0.0075
179	3.1303	0.0075
180	3.1378	0.0075
181	3.1453	0.0075
182	3.1527	0.0074
183	3.1601	0.0074
184	3.1675	0.0074
185	3.1749	0.0074
186	3.1823	0.0073
187	3.1896	0.0073
188	3.1969	0.0073
189	3.2042	0.0073
190	3.2114	0.0073
191	3.2187	0.0072
192	3.2259	0.0072
193	3.2331	0.0072
194	3.2402	0.0072
195	3.2474	0.0072
196	3.2545	0.0071
197	3.2616	0.0071
198	3.2687	0.0071
199	3.2758	0.0071
200	3.2828	0.0070
201	3.2899	0.0070
202	3.2969	0.0070
203	3.3039	0.0070
204	3.3108	0.0070
205	3.3178	0.0069
206	3.3247	0.0069
207	3.3316	0.0069
208	3.3385	0.0069
209	3.3454	0.0069
210	3.3522	0.0069
211	3.3591	0.0068
212	3.3659	0.0068
213	3.3727	0.0068
214	3.3795	0.0068
215	3.3862	0.0068
216	3.3930	0.0067
217	3.3997	0.0067
218	3.4064	0.0067
219	3.4131	0.0067
220	3.4198	0.0067
221	3.4264	0.0067
222	3.4331	0.0066
223	3.4397	0.0066

224	3.4463	0.0066
225	3.4529	0.0066
226	3.4594	0.0066
227	3.4660	0.0066
228	3.4725	0.0065
229	3.4791	0.0065
230	3.4856	0.0065
231	3.4921	0.0065
232	3.4985	0.0065
233	3.5050	0.0065
234	3.5114	0.0064
235	3.5179	0.0064
236	3.5243	0.0064
237	3.5307	0.0064
238	3.5370	0.0064
239	3.5434	0.0064
240	3.5498	0.0063
241	3.5561	0.0063
242	3.5624	0.0063
243	3.5687	0.0063
244	3.5750	0.0063
245	3.5813	0.0063
246	3.5875	0.0063
247	3.5938	0.0062
248	3.6000	0.0062
249	3.6062	0.0062
250	3.6124	0.0062
251	3.6186	0.0062
252	3.6248	0.0062
253	3.6310	0.0062
254	3.6371	0.0061
255	3.6432	0.0061
256	3.6493	0.0061
257	3.6555	0.0061
258	3.6615	0.0061
259	3.6676	0.0061
260	3.6737	0.0061
261	3.6797	0.0061
262	3.6858	0.0060
263	3.6918	0.0060
264	3.6978	0.0060
265	3.7038	0.0060
266	3.7098	0.0060
267	3.7158	0.0060
268	3.7217	0.0060
269	3.7277	0.0059
270	3.7336	0.0059
271	3.7395	0.0059
272	3.7455	0.0059
273	3.7513	0.0059
274	3.7572	0.0059
275	3.7631	0.0059

276	3.7690	0.0059
277	3.7748	0.0058
278	3.7807	0.0058
279	3.7865	0.0058
280	3.7923	0.0058
281	3.7981	0.0058
282	3.8039	0.0058
283	3.8097	0.0058
284	3.8154	0.0058
285	3.8212	0.0058
286	3.8269	0.0057
287	3.8327	0.0057
288	3.8384	0.0057

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0057	0.0031	0.0026
2	0.0057	0.0031	0.0026
3	0.0058	0.0031	0.0026
4	0.0058	0.0031	0.0026
5	0.0058	0.0031	0.0027
6	0.0058	0.0031	0.0027
7	0.0058	0.0032	0.0027
8	0.0058	0.0032	0.0027
9	0.0059	0.0032	0.0027
10	0.0059	0.0032	0.0027
11	0.0059	0.0032	0.0027
12	0.0059	0.0032	0.0027
13	0.0059	0.0032	0.0027
14	0.0059	0.0032	0.0027
15	0.0060	0.0032	0.0027
16	0.0060	0.0032	0.0027
17	0.0060	0.0033	0.0028
18	0.0060	0.0033	0.0028
19	0.0061	0.0033	0.0028
20	0.0061	0.0033	0.0028
21	0.0061	0.0033	0.0028
22	0.0061	0.0033	0.0028
23	0.0061	0.0033	0.0028
24	0.0061	0.0033	0.0028
25	0.0062	0.0033	0.0028
26	0.0062	0.0034	0.0028
27	0.0062	0.0034	0.0028
28	0.0062	0.0034	0.0029
29	0.0063	0.0034	0.0029
30	0.0063	0.0034	0.0029
31	0.0063	0.0034	0.0029
32	0.0063	0.0034	0.0029
33	0.0063	0.0034	0.0029
34	0.0064	0.0034	0.0029

35	0.0064	0.0035	0.0029
36	0.0064	0.0035	0.0029
37	0.0064	0.0035	0.0030
38	0.0065	0.0035	0.0030
39	0.0065	0.0035	0.0030
40	0.0065	0.0035	0.0030
41	0.0065	0.0035	0.0030
42	0.0066	0.0036	0.0030
43	0.0066	0.0036	0.0030
44	0.0066	0.0036	0.0030
45	0.0066	0.0036	0.0030
46	0.0067	0.0036	0.0031
47	0.0067	0.0036	0.0031
48	0.0067	0.0036	0.0031
49	0.0067	0.0037	0.0031
50	0.0068	0.0037	0.0031
51	0.0068	0.0037	0.0031
52	0.0068	0.0037	0.0031
53	0.0069	0.0037	0.0031
54	0.0069	0.0037	0.0031
55	0.0069	0.0037	0.0032
56	0.0069	0.0038	0.0032
57	0.0070	0.0038	0.0032
58	0.0070	0.0038	0.0032
59	0.0070	0.0038	0.0032
60	0.0070	0.0038	0.0032
61	0.0071	0.0038	0.0032
62	0.0071	0.0039	0.0033
63	0.0072	0.0039	0.0033
64	0.0072	0.0039	0.0033
65	0.0072	0.0039	0.0033
66	0.0072	0.0039	0.0033
67	0.0073	0.0039	0.0033
68	0.0073	0.0040	0.0033
69	0.0073	0.0040	0.0034
70	0.0074	0.0040	0.0034
71	0.0074	0.0040	0.0034
72	0.0074	0.0040	0.0034
73	0.0075	0.0041	0.0034
74	0.0075	0.0041	0.0034
75	0.0076	0.0041	0.0035
76	0.0076	0.0041	0.0035
77	0.0076	0.0041	0.0035
78	0.0077	0.0041	0.0035
79	0.0077	0.0042	0.0035
80	0.0077	0.0042	0.0035
81	0.0078	0.0042	0.0036
82	0.0078	0.0042	0.0036
83	0.0079	0.0043	0.0036
84	0.0079	0.0043	0.0036
85	0.0080	0.0043	0.0036
86	0.0080	0.0043	0.0037

87	0.0080	0.0044	0.0037
88	0.0081	0.0044	0.0037
89	0.0081	0.0044	0.0037
90	0.0082	0.0044	0.0037
91	0.0082	0.0045	0.0038
92	0.0082	0.0045	0.0038
93	0.0083	0.0045	0.0038
94	0.0083	0.0045	0.0038
95	0.0084	0.0046	0.0039
96	0.0084	0.0046	0.0039
97	0.0085	0.0046	0.0039
98	0.0085	0.0046	0.0039
99	0.0086	0.0047	0.0039
100	0.0086	0.0047	0.0040
101	0.0087	0.0047	0.0040
102	0.0088	0.0047	0.0040
103	0.0088	0.0048	0.0040
104	0.0089	0.0048	0.0041
105	0.0089	0.0048	0.0041
106	0.0090	0.0049	0.0041
107	0.0091	0.0049	0.0042
108	0.0091	0.0049	0.0042
109	0.0092	0.0050	0.0042
110	0.0092	0.0050	0.0042
111	0.0093	0.0050	0.0043
112	0.0094	0.0051	0.0043
113	0.0094	0.0051	0.0043
114	0.0095	0.0051	0.0043
115	0.0096	0.0052	0.0044
116	0.0096	0.0052	0.0044
117	0.0097	0.0053	0.0045
118	0.0098	0.0053	0.0045
119	0.0099	0.0054	0.0045
120	0.0099	0.0054	0.0045
121	0.0100	0.0054	0.0046
122	0.0101	0.0055	0.0046
123	0.0102	0.0055	0.0047
124	0.0103	0.0056	0.0047
125	0.0104	0.0056	0.0048
126	0.0104	0.0056	0.0048
127	0.0105	0.0057	0.0048
128	0.0106	0.0057	0.0049
129	0.0107	0.0058	0.0049
130	0.0108	0.0059	0.0049
131	0.0109	0.0059	0.0050
132	0.0110	0.0060	0.0050
133	0.0111	0.0060	0.0051
134	0.0112	0.0061	0.0051
135	0.0114	0.0062	0.0052
136	0.0114	0.0062	0.0052
137	0.0116	0.0063	0.0053
138	0.0117	0.0063	0.0053

139	0.0118	0.0064	0.0054
140	0.0119	0.0065	0.0055
141	0.0121	0.0066	0.0055
142	0.0122	0.0066	0.0056
143	0.0124	0.0067	0.0057
144	0.0125	0.0068	0.0057
145	0.0140	0.0076	0.0064
146	0.0141	0.0077	0.0065
147	0.0144	0.0078	0.0066
148	0.0145	0.0078	0.0066
149	0.0147	0.0080	0.0067
150	0.0148	0.0080	0.0068
151	0.0151	0.0082	0.0069
152	0.0152	0.0082	0.0070
153	0.0155	0.0084	0.0071
154	0.0156	0.0085	0.0072
155	0.0159	0.0086	0.0073
156	0.0160	0.0087	0.0074
157	0.0164	0.0089	0.0075
158	0.0165	0.0089	0.0076
159	0.0169	0.0091	0.0077
160	0.0170	0.0092	0.0078
161	0.0174	0.0094	0.0080
162	0.0176	0.0095	0.0081
163	0.0180	0.0098	0.0083
164	0.0182	0.0099	0.0084
165	0.0187	0.0101	0.0086
166	0.0189	0.0103	0.0087
167	0.0194	0.0105	0.0089
168	0.0197	0.0107	0.0090
169	0.0203	0.0110	0.0093
170	0.0206	0.0112	0.0094
171	0.0212	0.0115	0.0097
172	0.0216	0.0117	0.0099
173	0.0224	0.0121	0.0102
174	0.0228	0.0123	0.0104
175	0.0236	0.0128	0.0108
176	0.0241	0.0131	0.0111
177	0.0252	0.0136	0.0115
178	0.0258	0.0140	0.0118
179	0.0271	0.0147	0.0124
180	0.0278	0.0150	0.0127
181	0.0294	0.0159	0.0135
182	0.0303	0.0164	0.0139
183	0.0324	0.0176	0.0149
184	0.0337	0.0182	0.0154
185	0.0309	0.0167	0.0142
186	0.0326	0.0177	0.0150
187	0.0371	0.0201	0.0170
188	0.0399	0.0216	0.0183
189	0.0481	0.0261	0.0221
190	0.0543	0.0294	0.0249

191	0.0777	0.0336	0.0440
192	0.1068	0.0336	0.0732
193	0.3343	0.0336	0.3007
194	0.0633	0.0336	0.0296
195	0.0435	0.0236	0.0200
196	0.0347	0.0188	0.0159
197	0.0351	0.0190	0.0161
198	0.0313	0.0170	0.0144
199	0.0285	0.0155	0.0131
200	0.0264	0.0143	0.0121
201	0.0246	0.0133	0.0113
202	0.0232	0.0126	0.0106
203	0.0220	0.0119	0.0101
204	0.0209	0.0113	0.0096
205	0.0200	0.0108	0.0092
206	0.0192	0.0104	0.0088
207	0.0184	0.0100	0.0085
208	0.0178	0.0096	0.0082
209	0.0172	0.0093	0.0079
210	0.0167	0.0090	0.0076
211	0.0162	0.0088	0.0074
212	0.0157	0.0085	0.0072
213	0.0153	0.0083	0.0070
214	0.0149	0.0081	0.0068
215	0.0146	0.0079	0.0067
216	0.0143	0.0077	0.0065
217	0.0126	0.0068	0.0058
218	0.0123	0.0067	0.0056
219	0.0120	0.0065	0.0055
220	0.0118	0.0064	0.0054
221	0.0115	0.0062	0.0053
222	0.0113	0.0061	0.0052
223	0.0111	0.0060	0.0051
224	0.0109	0.0059	0.0050
225	0.0107	0.0058	0.0049
226	0.0105	0.0057	0.0048
227	0.0103	0.0056	0.0047
228	0.0101	0.0055	0.0046
229	0.0100	0.0054	0.0046
230	0.0098	0.0053	0.0045
231	0.0097	0.0052	0.0044
232	0.0095	0.0052	0.0044
233	0.0094	0.0051	0.0043
234	0.0093	0.0050	0.0042
235	0.0091	0.0050	0.0042
236	0.0090	0.0049	0.0041
237	0.0089	0.0048	0.0041
238	0.0088	0.0048	0.0040
239	0.0087	0.0047	0.0040
240	0.0086	0.0046	0.0039
241	0.0085	0.0046	0.0039
242	0.0084	0.0045	0.0038

243	0.0083	0.0045	0.0038
244	0.0082	0.0044	0.0038
245	0.0081	0.0044	0.0037
246	0.0080	0.0043	0.0037
247	0.0079	0.0043	0.0036
248	0.0078	0.0042	0.0036
249	0.0078	0.0042	0.0036
250	0.0077	0.0042	0.0035
251	0.0076	0.0041	0.0035
252	0.0075	0.0041	0.0035
253	0.0075	0.0040	0.0034
254	0.0074	0.0040	0.0034
255	0.0073	0.0040	0.0034
256	0.0073	0.0039	0.0033
257	0.0072	0.0039	0.0033
258	0.0071	0.0039	0.0033
259	0.0071	0.0038	0.0032
260	0.0070	0.0038	0.0032
261	0.0069	0.0038	0.0032
262	0.0069	0.0037	0.0032
263	0.0068	0.0037	0.0031
264	0.0068	0.0037	0.0031
265	0.0067	0.0036	0.0031
266	0.0067	0.0036	0.0031
267	0.0066	0.0036	0.0030
268	0.0066	0.0036	0.0030
269	0.0065	0.0035	0.0030
270	0.0065	0.0035	0.0030
271	0.0064	0.0035	0.0029
272	0.0064	0.0035	0.0029
273	0.0063	0.0034	0.0029
274	0.0063	0.0034	0.0029
275	0.0062	0.0034	0.0029
276	0.0062	0.0034	0.0028
277	0.0062	0.0033	0.0028
278	0.0061	0.0033	0.0028
279	0.0061	0.0033	0.0028
280	0.0060	0.0033	0.0028
281	0.0060	0.0032	0.0027
282	0.0060	0.0032	0.0027
283	0.0059	0.0032	0.0027
284	0.0059	0.0032	0.0027
285	0.0058	0.0032	0.0027
286	0.0058	0.0031	0.0027
287	0.0058	0.0031	0.0026
288	0.0057	0.0031	0.0026

Total soil rain loss = 1.90(In)
Total effective rainfall = 1.94(In)
Peak flow rate in flood hydrograph = 6.38(CFS)

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

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume	Ac.Ft	Q(CFS)	0	2.5	5.0	7.5	10.0
0+ 5	0.0000		0.01	Q				
0+10	0.0002		0.03	Q				
0+15	0.0007		0.07	Q				
0+20	0.0014		0.10	Q				
0+25	0.0022		0.12	Q				
0+30	0.0032		0.13	Q				
0+35	0.0041		0.14	Q				
0+40	0.0052		0.15	Q				
0+45	0.0062		0.15	Q				
0+50	0.0073		0.16	Q				
0+55	0.0084		0.16	Q				
1+ 0	0.0096		0.17	Q				
1+ 5	0.0107		0.17	Q				
1+10	0.0119		0.17	Q				
1+15	0.0131		0.17	Q				
1+20	0.0143		0.17	Q				
1+25	0.0155		0.18	Q				
1+30	0.0167		0.18	Q				
1+35	0.0180		0.18	Q				
1+40	0.0192		0.18	Q				
1+45	0.0205		0.18	Q				
1+50	0.0218		0.18	Q				
1+55	0.0230		0.18	QV				
2+ 0	0.0243		0.19	QV				
2+ 5	0.0256		0.19	QV				
2+10	0.0269		0.19	QV				
2+15	0.0282		0.19	QV				
2+20	0.0295		0.19	QV				
2+25	0.0308		0.19	QV				
2+30	0.0321		0.19	QV				
2+35	0.0334		0.19	QV				
2+40	0.0347		0.19	QV				
2+45	0.0361		0.19	QV				
2+50	0.0374		0.19	QV				
2+55	0.0387		0.19	QV				
3+ 0	0.0401		0.19	QV				
3+ 5	0.0414		0.19	QV				
3+10	0.0427		0.20	QV				
3+15	0.0441		0.20	QV				
3+20	0.0455		0.20	Q V				
3+25	0.0468		0.20	Q V				
3+30	0.0482		0.20	Q V				
3+35	0.0496		0.20	Q V				

3+40	0.0509	0.20	Q	V
3+45	0.0523	0.20	Q	V
3+50	0.0537	0.20	Q	V
3+55	0.0551	0.20	Q	V
4+ 0	0.0565	0.20	Q	V
4+ 5	0.0579	0.20	Q	V
4+10	0.0593	0.20	Q	V
4+15	0.0607	0.21	Q	V
4+20	0.0621	0.21	Q	V
4+25	0.0636	0.21	Q	V
4+30	0.0650	0.21	Q	V
4+35	0.0664	0.21	Q	V
4+40	0.0679	0.21	Q	V
4+45	0.0693	0.21	Q	V
4+50	0.0708	0.21	Q	V
4+55	0.0722	0.21	Q	V
5+ 0	0.0737	0.21	Q	V
5+ 5	0.0752	0.21	Q	V
5+10	0.0767	0.21	Q	V
5+15	0.0781	0.22	Q	V
5+20	0.0796	0.22	Q	V
5+25	0.0811	0.22	Q	V
5+30	0.0826	0.22	Q	V
5+35	0.0841	0.22	Q	V
5+40	0.0857	0.22	Q	V
5+45	0.0872	0.22	Q	V
5+50	0.0887	0.22	Q	V
5+55	0.0903	0.22	Q	V
6+ 0	0.0918	0.22	Q	V
6+ 5	0.0934	0.23	Q	V
6+10	0.0949	0.23	Q	V
6+15	0.0965	0.23	Q	V
6+20	0.0981	0.23	Q	V
6+25	0.0996	0.23	Q	V
6+30	0.1012	0.23	Q	V
6+35	0.1028	0.23	Q	V
6+40	0.1044	0.23	Q	V
6+45	0.1060	0.23	Q	V
6+50	0.1077	0.24	Q	V
6+55	0.1093	0.24	Q	V
7+ 0	0.1109	0.24	Q	V
7+ 5	0.1126	0.24	Q	V
7+10	0.1142	0.24	Q	V
7+15	0.1159	0.24	Q	V
7+20	0.1176	0.24	Q	V
7+25	0.1192	0.24	Q	V
7+30	0.1209	0.25	Q	V
7+35	0.1226	0.25	Q	V
7+40	0.1243	0.25	Q	V
7+45	0.1260	0.25	Q	V
7+50	0.1278	0.25	Q	V
7+55	0.1295	0.25	Q	V

8+ 0	0.1312	0.25	Q	V				
8+ 5	0.1330	0.25	Q	V				
8+10	0.1348	0.26	Q	V				
8+15	0.1365	0.26	Q	V				
8+20	0.1383	0.26	Q	V				
8+25	0.1401	0.26	Q	V				
8+30	0.1419	0.26	Q	V				
8+35	0.1438	0.26	Q	V				
8+40	0.1456	0.27	Q	V				
8+45	0.1474	0.27	Q	V				
8+50	0.1493	0.27	Q	V				
8+55	0.1511	0.27	Q	V				
9+ 0	0.1530	0.27	Q	V				
9+ 5	0.1549	0.27	Q	V				
9+10	0.1568	0.28	Q	V				
9+15	0.1587	0.28	Q	V				
9+20	0.1606	0.28	Q	V				
9+25	0.1626	0.28	Q	V				
9+30	0.1645	0.28	Q	V				
9+35	0.1665	0.29	Q	V				
9+40	0.1685	0.29	Q	V				
9+45	0.1705	0.29	Q	V				
9+50	0.1725	0.29	Q	V				
9+55	0.1745	0.29	Q	V				
10+ 0	0.1765	0.30	Q	V				
10+ 5	0.1786	0.30	Q	V				
10+10	0.1807	0.30	Q	V				
10+15	0.1827	0.30	Q	V				
10+20	0.1848	0.30	Q	V				
10+25	0.1870	0.31	Q	V				
10+30	0.1891	0.31	Q	V				
10+35	0.1912	0.31	Q	V				
10+40	0.1934	0.31	Q	V				
10+45	0.1956	0.32	Q	V				
10+50	0.1978	0.32	Q	V				
10+55	0.2000	0.32	Q	V				
11+ 0	0.2023	0.33	Q	V				
11+ 5	0.2045	0.33	Q	V				
11+10	0.2068	0.33	Q	V				
11+15	0.2091	0.33	Q	V				
11+20	0.2115	0.34	Q	V				
11+25	0.2138	0.34	Q	V				
11+30	0.2162	0.34	Q	V				
11+35	0.2186	0.35	Q	V				
11+40	0.2210	0.35	Q	V				
11+45	0.2234	0.35	Q	V				
11+50	0.2259	0.36	Q	V				
11+55	0.2284	0.36	Q	V				
12+ 0	0.2309	0.37	Q	V				
12+ 5	0.2335	0.37	Q	V				
12+10	0.2361	0.38	Q	V				
12+15	0.2388	0.39	Q	V				

12+20	0.2416	0.41	Q	V				
12+25	0.2445	0.42	Q	V				
12+30	0.2474	0.42	Q	V				
12+35	0.2504	0.43	Q	V				
12+40	0.2534	0.44	Q	V				
12+45	0.2565	0.44	Q	V				
12+50	0.2596	0.45	Q	V				
12+55	0.2627	0.46	Q	V				
13+ 0	0.2659	0.46	Q	V				
13+ 5	0.2692	0.47	Q	V				
13+10	0.2724	0.48	Q	V				
13+15	0.2758	0.48	Q	V				
13+20	0.2792	0.49	Q	V				
13+25	0.2826	0.50	Q	V				
13+30	0.2861	0.51	Q	V				
13+35	0.2896	0.51	Q	V				
13+40	0.2932	0.52	Q	V				
13+45	0.2969	0.53	Q	V				
13+50	0.3006	0.54	Q	V				
13+55	0.3044	0.55	Q	V				
14+ 0	0.3083	0.56	Q	V				
14+ 5	0.3122	0.57	Q	V				
14+10	0.3162	0.58	Q	V				
14+15	0.3203	0.59	Q	V				
14+20	0.3245	0.61	Q	V				
14+25	0.3288	0.62	Q	V				
14+30	0.3332	0.63	Q	V				
14+35	0.3376	0.65	Q	V				
14+40	0.3422	0.67	Q	V				
14+45	0.3470	0.68	Q	V				
14+50	0.3518	0.70	Q	V				
14+55	0.3568	0.72	Q	V				
15+ 0	0.3619	0.75	Q	V				
15+ 5	0.3673	0.77	Q	V				
15+10	0.3728	0.80	Q	V				
15+15	0.3785	0.83	Q	V				
15+20	0.3845	0.87	Q	V				
15+25	0.3907	0.90	Q	V				
15+30	0.3971	0.93	Q	V				
15+35	0.4036	0.94	Q	V				
15+40	0.4103	0.97	Q	V				
15+45	0.4174	1.03	Q	V				
15+50	0.4252	1.13	Q	V				
15+55	0.4340	1.29	Q	V				
16+ 0	0.4453	1.64	Q	V				
16+ 5	0.4643	2.76		Q	V			
16+10	0.4977	4.85			Q	V		
16+15	0.5416	6.38				VQ		
16+20	0.5810	5.72				Q	V	
16+25	0.6071	3.79		Q			V	
16+30	0.6256	2.69		Q			V	
16+35	0.6407	2.20		Q			V	

16+40	0.6538	1.90	Q	V
16+45	0.6654	1.68	Q	V
16+50	0.6756	1.48	Q	V
16+55	0.6849	1.35	Q	V
17+ 0	0.6933	1.21	Q	V
17+ 5	0.7009	1.11	Q	V
17+10	0.7080	1.02	Q	V
17+15	0.7146	0.97	Q	V
17+20	0.7209	0.90	Q	V
17+25	0.7266	0.84	Q	V
17+30	0.7320	0.79	Q	V
17+35	0.7371	0.74	Q	V
17+40	0.7419	0.70	Q	V
17+45	0.7465	0.66	Q	V
17+50	0.7508	0.63	Q	V
17+55	0.7550	0.61	Q	V
18+ 0	0.7590	0.58	Q	V
18+ 5	0.7627	0.53	Q	V
18+10	0.7659	0.48	Q	V
18+15	0.7691	0.45	Q	V
18+20	0.7720	0.43	Q	V
18+25	0.7749	0.41	Q	V
18+30	0.7776	0.40	Q	V
18+35	0.7803	0.39	Q	V
18+40	0.7829	0.38	Q	V
18+45	0.7855	0.37	Q	V
18+50	0.7880	0.36	Q	V
18+55	0.7904	0.35	Q	V
19+ 0	0.7928	0.35	Q	V
19+ 5	0.7951	0.34	Q	V
19+10	0.7974	0.33	Q	V
19+15	0.7996	0.33	Q	V
19+20	0.8018	0.32	Q	V
19+25	0.8040	0.31	Q	V
19+30	0.8061	0.31	Q	V
19+35	0.8082	0.30	Q	V
19+40	0.8103	0.30	Q	V
19+45	0.8123	0.29	Q	V
19+50	0.8143	0.29	Q	V
19+55	0.8162	0.29	Q	V
20+ 0	0.8182	0.28	Q	V
20+ 5	0.8201	0.28	Q	V
20+10	0.8220	0.27	Q	V
20+15	0.8238	0.27	Q	V
20+20	0.8257	0.27	Q	V
20+25	0.8275	0.26	Q	V
20+30	0.8293	0.26	Q	V
20+35	0.8310	0.26	Q	V
20+40	0.8328	0.25	Q	V
20+45	0.8345	0.25	Q	V
20+50	0.8362	0.25	Q	V
20+55	0.8379	0.25	Q	V

21+ 0	0.8396	0.24	Q				V
21+ 5	0.8413	0.24	Q				V
21+10	0.8429	0.24	Q				V
21+15	0.8445	0.24	Q				V
21+20	0.8461	0.23	Q				V
21+25	0.8477	0.23	Q				V
21+30	0.8493	0.23	Q				V
21+35	0.8509	0.23	Q				V
21+40	0.8524	0.22	Q				V
21+45	0.8540	0.22	Q				V
21+50	0.8555	0.22	Q				V
21+55	0.8570	0.22	Q				V
22+ 0	0.8585	0.22	Q				V
22+ 5	0.8600	0.22	Q				V
22+10	0.8614	0.21	Q				V
22+15	0.8629	0.21	Q				V
22+20	0.8643	0.21	Q				V
22+25	0.8658	0.21	Q				V
22+30	0.8672	0.21	Q				V
22+35	0.8686	0.20	Q				V
22+40	0.8700	0.20	Q				V
22+45	0.8714	0.20	Q				V
22+50	0.8728	0.20	Q				V
22+55	0.8741	0.20	Q				V
23+ 0	0.8755	0.20	Q				V
23+ 5	0.8768	0.20	Q				V
23+10	0.8782	0.19	Q				V
23+15	0.8795	0.19	Q				V
23+20	0.8808	0.19	Q				V
23+25	0.8821	0.19	Q				V
23+30	0.8834	0.19	Q				V
23+35	0.8847	0.19	Q				V
23+40	0.8860	0.19	Q				V
23+45	0.8873	0.19	Q				V
23+50	0.8886	0.18	Q				V
23+55	0.8898	0.18	Q				V
24+ 0	0.8911	0.18	Q				V
24+ 5	0.8923	0.17	Q				V
24+10	0.8933	0.15	Q				V
24+15	0.8941	0.11	Q				V
24+20	0.8946	0.08	Q				V
24+25	0.8950	0.06	Q				V
24+30	0.8953	0.04	Q				V
24+35	0.8956	0.04	Q				V
24+40	0.8958	0.03	Q				V
24+45	0.8959	0.02	Q				V
24+50	0.8961	0.02	Q				V
24+55	0.8962	0.02	Q				V
25+ 0	0.8963	0.01	Q				V
25+ 5	0.8964	0.01	Q				V
25+10	0.8965	0.01	Q				V
25+15	0.8965	0.01	Q				V

25+20	0.8966	0.01	Q				V
25+25	0.8966	0.01	Q				V
25+30	0.8966	0.00	Q				V
25+35	0.8967	0.00	Q				V
25+40	0.8967	0.00	Q				V
25+45	0.8967	0.00	Q				V
25+50	0.8967	0.00	Q				V
25+55	0.8967	0.00	Q				V
26+ 0	0.8967	0.00	Q				V

C.3 – PROPOSED 10-YEAR ANALYSIS

Unit Hydrograph Analysis

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018, Version 9.0

Study date 08/26/24

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

Program License Serial Number 6568

TPM 20854
DEVELOPED CONDITION
10-YEAR
24-HOUR

Storm Event Year = 10

Antecedent Moisture Condition = 2

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		
4.40	1	0.73

Rainfall data for year 2		
4.40	6	1.15

Rainfall data for year 2		
4.40	24	2.05

Rainfall data for year 100		
4.40	1	1.16

Rainfall data for year 100

4.40 6 2.65

Rainfall data for year 100

4.40 24 4.82

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

SCS curve No.(AMCII)	SCS curve NO.(AMC 2)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
59.6	59.6	4.40	1.000	0.685	0.299	0.205

Area-averaged adjusted loss rate Fm (In/Hr) = 0.205

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

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC2)	S	Pervious Yield Fr
1.32	0.299	59.6	59.6	6.78	0.122
3.08	0.701	98.0	98.0	0.20	0.927

Area-averaged catchment yield fraction, Y = 0.687

Area-averaged low loss fraction, Yb = 0.313

User entry of time of concentration = 0.137 (hours)

+++++

Watershed area = 4.40(Ac.)

Catchment Lag time = 0.109 hours

Unit interval = 5.000 minutes

Unit interval percentage of lag time = 76.2009

Hydrograph baseflow = 0.00(CFS)

Average maximum watershed loss rate(Fm) = 0.205(In/Hr)

Average low loss rate fraction (Yb) = 0.313 (decimal)

VALLEY DEVELOPED S-Graph Selected

Computed peak 5-minute rainfall = 0.272(In)

Computed peak 30-minute rainfall = 0.556(In)

Specified peak 1-hour rainfall = 0.734(In)

Computed peak 3-hour rainfall = 1.258(In)

Specified peak 6-hour rainfall = 1.767(In)

Specified peak 24-hour rainfall = 3.190(In)

Rainfall depth area reduction factors:

Using a total area of 4.40(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000	Adjusted rainfall = 0.272(In)
30-minute factor = 1.000	Adjusted rainfall = 0.556(In)
1-hour factor = 1.000	Adjusted rainfall = 0.734(In)
3-hour factor = 1.000	Adjusted rainfall = 1.258(In)
6-hour factor = 1.000	Adjusted rainfall = 1.767(In)

24-hour factor = 1.000 Adjusted rainfall = 3.190(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 =	53.21 (CFS))
1	10.314	5.488
2	60.003	26.441
3	92.533	17.310
4	98.569	3.212
5	100.000	0.761

Peak Unit	Adjusted mass rainfall	Unit rainfall
Number	(In)	(In)
1	0.2716	0.2716
2	0.3584	0.0868
3	0.4215	0.0631
4	0.4729	0.0514
5	0.5170	0.0441
6	0.5562	0.0391
7	0.5915	0.0354
8	0.6240	0.0325
9	0.6541	0.0301
10	0.6822	0.0282
11	0.7087	0.0265
12	0.7338	0.0251
13	0.7632	0.0294
14	0.7915	0.0283
15	0.8187	0.0272
16	0.8451	0.0263
17	0.8706	0.0255
18	0.8953	0.0248
19	0.9194	0.0241
20	0.9428	0.0234
21	0.9657	0.0228
22	0.9879	0.0223
23	1.0097	0.0218
24	1.0310	0.0213
25	1.0519	0.0209
26	1.0723	0.0204
27	1.0923	0.0200
28	1.1120	0.0197
29	1.1313	0.0193
30	1.1503	0.0190
31	1.1689	0.0187
32	1.1873	0.0183
33	1.2053	0.0181
34	1.2231	0.0178

35	1.2406	0.0175
36	1.2579	0.0173
37	1.2749	0.0170
38	1.2917	0.0168
39	1.3082	0.0166
40	1.3246	0.0163
41	1.3407	0.0161
42	1.3567	0.0159
43	1.3724	0.0157
44	1.3880	0.0156
45	1.4033	0.0154
46	1.4185	0.0152
47	1.4336	0.0150
48	1.4485	0.0149
49	1.4632	0.0147
50	1.4778	0.0146
51	1.4922	0.0144
52	1.5064	0.0143
53	1.5206	0.0141
54	1.5346	0.0140
55	1.5485	0.0139
56	1.5622	0.0137
57	1.5758	0.0136
58	1.5893	0.0135
59	1.6027	0.0134
60	1.6160	0.0133
61	1.6291	0.0132
62	1.6422	0.0130
63	1.6551	0.0129
64	1.6679	0.0128
65	1.6806	0.0127
66	1.6933	0.0126
67	1.7058	0.0125
68	1.7182	0.0124
69	1.7306	0.0123
70	1.7428	0.0123
71	1.7550	0.0122
72	1.7671	0.0121
73	1.7775	0.0104
74	1.7878	0.0103
75	1.7981	0.0103
76	1.8083	0.0102
77	1.8184	0.0101
78	1.8284	0.0100
79	1.8383	0.0099
80	1.8482	0.0099
81	1.8580	0.0098
82	1.8678	0.0097
83	1.8774	0.0097
84	1.8870	0.0096
85	1.8966	0.0095
86	1.9060	0.0095

87	1.9154	0.0094
88	1.9248	0.0093
89	1.9341	0.0093
90	1.9433	0.0092
91	1.9525	0.0092
92	1.9616	0.0091
93	1.9706	0.0091
94	1.9796	0.0090
95	1.9886	0.0089
96	1.9975	0.0089
97	2.0063	0.0088
98	2.0151	0.0088
99	2.0238	0.0087
100	2.0325	0.0087
101	2.0412	0.0086
102	2.0497	0.0086
103	2.0583	0.0085
104	2.0668	0.0085
105	2.0752	0.0084
106	2.0836	0.0084
107	2.0920	0.0084
108	2.1003	0.0083
109	2.1085	0.0083
110	2.1167	0.0082
111	2.1249	0.0082
112	2.1330	0.0081
113	2.1411	0.0081
114	2.1492	0.0081
115	2.1572	0.0080
116	2.1652	0.0080
117	2.1731	0.0079
118	2.1810	0.0079
119	2.1889	0.0079
120	2.1967	0.0078
121	2.2045	0.0078
122	2.2122	0.0077
123	2.2199	0.0077
124	2.2276	0.0077
125	2.2352	0.0076
126	2.2428	0.0076
127	2.2504	0.0076
128	2.2579	0.0075
129	2.2654	0.0075
130	2.2729	0.0075
131	2.2803	0.0074
132	2.2877	0.0074
133	2.2951	0.0074
134	2.3024	0.0073
135	2.3097	0.0073
136	2.3170	0.0073
137	2.3242	0.0072
138	2.3314	0.0072

139	2.3386	0.0072
140	2.3458	0.0072
141	2.3529	0.0071
142	2.3600	0.0071
143	2.3670	0.0071
144	2.3741	0.0070
145	2.3811	0.0070
146	2.3881	0.0070
147	2.3950	0.0070
148	2.4020	0.0069
149	2.4089	0.0069
150	2.4157	0.0069
151	2.4226	0.0068
152	2.4294	0.0068
153	2.4362	0.0068
154	2.4430	0.0068
155	2.4497	0.0067
156	2.4564	0.0067
157	2.4631	0.0067
158	2.4698	0.0067
159	2.4764	0.0066
160	2.4831	0.0066
161	2.4897	0.0066
162	2.4962	0.0066
163	2.5028	0.0066
164	2.5093	0.0065
165	2.5158	0.0065
166	2.5223	0.0065
167	2.5288	0.0065
168	2.5352	0.0064
169	2.5416	0.0064
170	2.5480	0.0064
171	2.5544	0.0064
172	2.5608	0.0064
173	2.5671	0.0063
174	2.5734	0.0063
175	2.5797	0.0063
176	2.5860	0.0063
177	2.5922	0.0062
178	2.5984	0.0062
179	2.6046	0.0062
180	2.6108	0.0062
181	2.6170	0.0062
182	2.6232	0.0061
183	2.6293	0.0061
184	2.6354	0.0061
185	2.6415	0.0061
186	2.6476	0.0061
187	2.6536	0.0061
188	2.6596	0.0060
189	2.6657	0.0060
190	2.6717	0.0060

191	2.6776	0.0060
192	2.6836	0.0060
193	2.6896	0.0059
194	2.6955	0.0059
195	2.7014	0.0059
196	2.7073	0.0059
197	2.7132	0.0059
198	2.7190	0.0059
199	2.7249	0.0058
200	2.7307	0.0058
201	2.7365	0.0058
202	2.7423	0.0058
203	2.7481	0.0058
204	2.7538	0.0058
205	2.7596	0.0057
206	2.7653	0.0057
207	2.7710	0.0057
208	2.7767	0.0057
209	2.7824	0.0057
210	2.7880	0.0057
211	2.7937	0.0056
212	2.7993	0.0056
213	2.8049	0.0056
214	2.8105	0.0056
215	2.8161	0.0056
216	2.8217	0.0056
217	2.8273	0.0056
218	2.8328	0.0055
219	2.8383	0.0055
220	2.8438	0.0055
221	2.8493	0.0055
222	2.8548	0.0055
223	2.8603	0.0055
224	2.8658	0.0055
225	2.8712	0.0054
226	2.8766	0.0054
227	2.8820	0.0054
228	2.8874	0.0054
229	2.8928	0.0054
230	2.8982	0.0054
231	2.9036	0.0054
232	2.9089	0.0053
233	2.9142	0.0053
234	2.9196	0.0053
235	2.9249	0.0053
236	2.9302	0.0053
237	2.9355	0.0053
238	2.9407	0.0053
239	2.9460	0.0053
240	2.9512	0.0052
241	2.9565	0.0052
242	2.9617	0.0052

243	2.9669	0.0052	
244	2.9721	0.0052	
245	2.9773	0.0052	
246	2.9824	0.0052	
247	2.9876	0.0052	
248	2.9927	0.0051	
249	2.9979	0.0051	
250	3.0030	0.0051	
251	3.0081	0.0051	
252	3.0132	0.0051	
253	3.0183	0.0051	
254	3.0234	0.0051	
255	3.0284	0.0051	
256	3.0335	0.0051	
257	3.0385	0.0050	
258	3.0436	0.0050	
259	3.0486	0.0050	
260	3.0536	0.0050	
261	3.0586	0.0050	
262	3.0636	0.0050	
263	3.0686	0.0050	
264	3.0735	0.0050	
265	3.0785	0.0050	
266	3.0834	0.0049	
267	3.0884	0.0049	
268	3.0933	0.0049	
269	3.0982	0.0049	
270	3.1031	0.0049	
271	3.1080	0.0049	
272	3.1129	0.0049	
273	3.1177	0.0049	
274	3.1226	0.0049	
275	3.1274	0.0048	
276	3.1323	0.0048	
277	3.1371	0.0048	
278	3.1419	0.0048	
279	3.1467	0.0048	
280	3.1515	0.0048	
281	3.1563	0.0048	
282	3.1611	0.0048	
283	3.1659	0.0048	
284	3.1706	0.0048	
285	3.1754	0.0048	
286	3.1801	0.0047	
287	3.1849	0.0047	
288	3.1896	0.0047	

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

1	0.0047	0.0015	0.0032

2	0.0047	0.0015	0.0032
3	0.0048	0.0015	0.0033
4	0.0048	0.0015	0.0033
5	0.0048	0.0015	0.0033
6	0.0048	0.0015	0.0033
7	0.0048	0.0015	0.0033
8	0.0048	0.0015	0.0033
9	0.0048	0.0015	0.0033
10	0.0048	0.0015	0.0033
11	0.0049	0.0015	0.0033
12	0.0049	0.0015	0.0034
13	0.0049	0.0015	0.0034
14	0.0049	0.0015	0.0034
15	0.0049	0.0015	0.0034
16	0.0049	0.0015	0.0034
17	0.0050	0.0016	0.0034
18	0.0050	0.0016	0.0034
19	0.0050	0.0016	0.0034
20	0.0050	0.0016	0.0034
21	0.0050	0.0016	0.0035
22	0.0050	0.0016	0.0035
23	0.0051	0.0016	0.0035
24	0.0051	0.0016	0.0035
25	0.0051	0.0016	0.0035
26	0.0051	0.0016	0.0035
27	0.0051	0.0016	0.0035
28	0.0051	0.0016	0.0035
29	0.0052	0.0016	0.0035
30	0.0052	0.0016	0.0036
31	0.0052	0.0016	0.0036
32	0.0052	0.0016	0.0036
33	0.0052	0.0016	0.0036
34	0.0053	0.0016	0.0036
35	0.0053	0.0017	0.0036
36	0.0053	0.0017	0.0036
37	0.0053	0.0017	0.0037
38	0.0053	0.0017	0.0037
39	0.0054	0.0017	0.0037
40	0.0054	0.0017	0.0037
41	0.0054	0.0017	0.0037
42	0.0054	0.0017	0.0037
43	0.0054	0.0017	0.0037
44	0.0055	0.0017	0.0037
45	0.0055	0.0017	0.0038
46	0.0055	0.0017	0.0038
47	0.0055	0.0017	0.0038
48	0.0055	0.0017	0.0038
49	0.0056	0.0017	0.0038
50	0.0056	0.0018	0.0038
51	0.0056	0.0018	0.0039
52	0.0056	0.0018	0.0039
53	0.0057	0.0018	0.0039

54	0.0057	0.0018	0.0039
55	0.0057	0.0018	0.0039
56	0.0057	0.0018	0.0039
57	0.0058	0.0018	0.0040
58	0.0058	0.0018	0.0040
59	0.0058	0.0018	0.0040
60	0.0058	0.0018	0.0040
61	0.0059	0.0018	0.0040
62	0.0059	0.0018	0.0040
63	0.0059	0.0019	0.0041
64	0.0059	0.0019	0.0041
65	0.0060	0.0019	0.0041
66	0.0060	0.0019	0.0041
67	0.0060	0.0019	0.0041
68	0.0060	0.0019	0.0041
69	0.0061	0.0019	0.0042
70	0.0061	0.0019	0.0042
71	0.0061	0.0019	0.0042
72	0.0061	0.0019	0.0042
73	0.0062	0.0019	0.0042
74	0.0062	0.0019	0.0043
75	0.0062	0.0020	0.0043
76	0.0063	0.0020	0.0043
77	0.0063	0.0020	0.0043
78	0.0063	0.0020	0.0043
79	0.0064	0.0020	0.0044
80	0.0064	0.0020	0.0044
81	0.0064	0.0020	0.0044
82	0.0065	0.0020	0.0044
83	0.0065	0.0020	0.0045
84	0.0065	0.0020	0.0045
85	0.0066	0.0021	0.0045
86	0.0066	0.0021	0.0045
87	0.0066	0.0021	0.0046
88	0.0067	0.0021	0.0046
89	0.0067	0.0021	0.0046
90	0.0067	0.0021	0.0046
91	0.0068	0.0021	0.0047
92	0.0068	0.0021	0.0047
93	0.0069	0.0022	0.0047
94	0.0069	0.0022	0.0047
95	0.0070	0.0022	0.0048
96	0.0070	0.0022	0.0048
97	0.0070	0.0022	0.0048
98	0.0071	0.0022	0.0049
99	0.0071	0.0022	0.0049
100	0.0072	0.0022	0.0049
101	0.0072	0.0023	0.0050
102	0.0072	0.0023	0.0050
103	0.0073	0.0023	0.0050
104	0.0073	0.0023	0.0050
105	0.0074	0.0023	0.0051

106	0.0074	0.0023	0.0051
107	0.0075	0.0024	0.0051
108	0.0075	0.0024	0.0052
109	0.0076	0.0024	0.0052
110	0.0076	0.0024	0.0052
111	0.0077	0.0024	0.0053
112	0.0077	0.0024	0.0053
113	0.0078	0.0025	0.0054
114	0.0079	0.0025	0.0054
115	0.0079	0.0025	0.0054
116	0.0080	0.0025	0.0055
117	0.0081	0.0025	0.0055
118	0.0081	0.0025	0.0056
119	0.0082	0.0026	0.0056
120	0.0082	0.0026	0.0056
121	0.0083	0.0026	0.0057
122	0.0084	0.0026	0.0057
123	0.0084	0.0026	0.0058
124	0.0085	0.0027	0.0058
125	0.0086	0.0027	0.0059
126	0.0086	0.0027	0.0059
127	0.0087	0.0027	0.0060
128	0.0088	0.0028	0.0060
129	0.0089	0.0028	0.0061
130	0.0089	0.0028	0.0061
131	0.0091	0.0028	0.0062
132	0.0091	0.0029	0.0063
133	0.0092	0.0029	0.0063
134	0.0093	0.0029	0.0064
135	0.0094	0.0029	0.0065
136	0.0095	0.0030	0.0065
137	0.0096	0.0030	0.0066
138	0.0097	0.0030	0.0066
139	0.0098	0.0031	0.0067
140	0.0099	0.0031	0.0068
141	0.0100	0.0031	0.0069
142	0.0101	0.0032	0.0069
143	0.0103	0.0032	0.0070
144	0.0103	0.0032	0.0071
145	0.0121	0.0038	0.0083
146	0.0122	0.0038	0.0084
147	0.0123	0.0039	0.0085
148	0.0124	0.0039	0.0085
149	0.0126	0.0040	0.0087
150	0.0127	0.0040	0.0087
151	0.0129	0.0041	0.0089
152	0.0130	0.0041	0.0090
153	0.0133	0.0042	0.0091
154	0.0134	0.0042	0.0092
155	0.0136	0.0043	0.0093
156	0.0137	0.0043	0.0094
157	0.0140	0.0044	0.0096

158	0.0141	0.0044	0.0097
159	0.0144	0.0045	0.0099
160	0.0146	0.0046	0.0100
161	0.0149	0.0047	0.0102
162	0.0150	0.0047	0.0103
163	0.0154	0.0048	0.0106
164	0.0156	0.0049	0.0107
165	0.0159	0.0050	0.0109
166	0.0161	0.0051	0.0111
167	0.0166	0.0052	0.0114
168	0.0168	0.0053	0.0115
169	0.0173	0.0054	0.0119
170	0.0175	0.0055	0.0120
171	0.0181	0.0057	0.0124
172	0.0183	0.0058	0.0126
173	0.0190	0.0059	0.0130
174	0.0193	0.0061	0.0133
175	0.0200	0.0063	0.0138
176	0.0204	0.0064	0.0140
177	0.0213	0.0067	0.0146
178	0.0218	0.0068	0.0150
179	0.0228	0.0072	0.0157
180	0.0234	0.0073	0.0161
181	0.0248	0.0078	0.0170
182	0.0255	0.0080	0.0175
183	0.0272	0.0085	0.0187
184	0.0283	0.0089	0.0194
185	0.0251	0.0079	0.0172
186	0.0265	0.0083	0.0182
187	0.0301	0.0094	0.0207
188	0.0325	0.0102	0.0223
189	0.0391	0.0123	0.0269
190	0.0441	0.0138	0.0303
191	0.0631	0.0171	0.0460
192	0.0868	0.0171	0.0697
193	0.2716	0.0171	0.2545
194	0.0514	0.0161	0.0353
195	0.0354	0.0111	0.0243
196	0.0282	0.0088	0.0193
197	0.0294	0.0092	0.0202
198	0.0263	0.0083	0.0181
199	0.0241	0.0075	0.0165
200	0.0223	0.0070	0.0153
201	0.0209	0.0065	0.0143
202	0.0197	0.0062	0.0135
203	0.0187	0.0058	0.0128
204	0.0178	0.0056	0.0122
205	0.0170	0.0053	0.0117
206	0.0163	0.0051	0.0112
207	0.0157	0.0049	0.0108
208	0.0152	0.0048	0.0104
209	0.0147	0.0046	0.0101

210	0.0143	0.0045	0.0098
211	0.0139	0.0043	0.0095
212	0.0135	0.0042	0.0093
213	0.0132	0.0041	0.0090
214	0.0128	0.0040	0.0088
215	0.0125	0.0039	0.0086
216	0.0123	0.0038	0.0084
217	0.0104	0.0033	0.0071
218	0.0102	0.0032	0.0070
219	0.0099	0.0031	0.0068
220	0.0097	0.0031	0.0067
221	0.0095	0.0030	0.0065
222	0.0093	0.0029	0.0064
223	0.0092	0.0029	0.0063
224	0.0090	0.0028	0.0062
225	0.0088	0.0028	0.0061
226	0.0087	0.0027	0.0060
227	0.0085	0.0027	0.0059
228	0.0084	0.0026	0.0058
229	0.0083	0.0026	0.0057
230	0.0081	0.0025	0.0056
231	0.0080	0.0025	0.0055
232	0.0079	0.0025	0.0054
233	0.0078	0.0024	0.0053
234	0.0077	0.0024	0.0053
235	0.0076	0.0024	0.0052
236	0.0075	0.0023	0.0051
237	0.0074	0.0023	0.0051
238	0.0073	0.0023	0.0050
239	0.0072	0.0023	0.0049
240	0.0071	0.0022	0.0049
241	0.0070	0.0022	0.0048
242	0.0069	0.0022	0.0048
243	0.0068	0.0021	0.0047
244	0.0068	0.0021	0.0046
245	0.0067	0.0021	0.0046
246	0.0066	0.0021	0.0045
247	0.0066	0.0021	0.0045
248	0.0065	0.0020	0.0045
249	0.0064	0.0020	0.0044
250	0.0064	0.0020	0.0044
251	0.0063	0.0020	0.0043
252	0.0062	0.0020	0.0043
253	0.0062	0.0019	0.0042
254	0.0061	0.0019	0.0042
255	0.0061	0.0019	0.0042
256	0.0060	0.0019	0.0041
257	0.0059	0.0019	0.0041
258	0.0059	0.0018	0.0040
259	0.0058	0.0018	0.0040
260	0.0058	0.0018	0.0040
261	0.0057	0.0018	0.0039

262	0.0057	0.0018	0.0039
263	0.0056	0.0018	0.0039
264	0.0056	0.0018	0.0038
265	0.0056	0.0017	0.0038
266	0.0055	0.0017	0.0038
267	0.0055	0.0017	0.0038
268	0.0054	0.0017	0.0037
269	0.0054	0.0017	0.0037
270	0.0053	0.0017	0.0037
271	0.0053	0.0017	0.0036
272	0.0053	0.0017	0.0036
273	0.0052	0.0016	0.0036
274	0.0052	0.0016	0.0036
275	0.0052	0.0016	0.0035
276	0.0051	0.0016	0.0035
277	0.0051	0.0016	0.0035
278	0.0051	0.0016	0.0035
279	0.0050	0.0016	0.0034
280	0.0050	0.0016	0.0034
281	0.0050	0.0016	0.0034
282	0.0049	0.0015	0.0034
283	0.0049	0.0015	0.0034
284	0.0049	0.0015	0.0033
285	0.0048	0.0015	0.0033
286	0.0048	0.0015	0.0033
287	0.0048	0.0015	0.0033
288	0.0047	0.0015	0.0033

 Total soil rain loss = 0.92(In)
 Total effective rainfall = 2.27(In)
 Peak flow rate in flood hydrograph = 8.30(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	0.0001	0.02	Q					
0+10	0.0008	0.10	Q					
0+15	0.0019	0.16	Q					
0+20	0.0031	0.17	Q					
0+25	0.0043	0.17	Q					
0+30	0.0055	0.17	Q					
0+35	0.0067	0.17	Q					
0+40	0.0079	0.18	Q					
0+45	0.0091	0.18	Q					
0+50	0.0104	0.18	Q					

0+55	0.0116	0.18	Q
1+ 0	0.0128	0.18	Q
1+ 5	0.0140	0.18	Q
1+10	0.0153	0.18	Q
1+15	0.0165	0.18	Q
1+20	0.0177	0.18	Q
1+25	0.0190	0.18	Q
1+30	0.0202	0.18	Q
1+35	0.0215	0.18	QV
1+40	0.0227	0.18	QV
1+45	0.0240	0.18	QV
1+50	0.0252	0.18	QV
1+55	0.0265	0.18	QV
2+ 0	0.0278	0.18	QV
2+ 5	0.0291	0.19	QV
2+10	0.0303	0.19	QV
2+15	0.0316	0.19	QV
2+20	0.0329	0.19	QV
2+25	0.0342	0.19	QV
2+30	0.0355	0.19	QV
2+35	0.0368	0.19	QV
2+40	0.0381	0.19	QV
2+45	0.0394	0.19	QV
2+50	0.0407	0.19	QV
2+55	0.0421	0.19	Q V
3+ 0	0.0434	0.19	Q V
3+ 5	0.0447	0.19	Q V
3+10	0.0461	0.19	Q V
3+15	0.0474	0.19	Q V
3+20	0.0487	0.20	Q V
3+25	0.0501	0.20	Q V
3+30	0.0515	0.20	Q V
3+35	0.0528	0.20	Q V
3+40	0.0542	0.20	Q V
3+45	0.0556	0.20	Q V
3+50	0.0569	0.20	Q V
3+55	0.0583	0.20	Q V
4+ 0	0.0597	0.20	Q V
4+ 5	0.0611	0.20	Q V
4+10	0.0625	0.20	Q V
4+15	0.0639	0.20	Q V
4+20	0.0653	0.20	Q V
4+25	0.0667	0.21	Q V
4+30	0.0681	0.21	Q V
4+35	0.0696	0.21	Q V
4+40	0.0710	0.21	Q V
4+45	0.0724	0.21	Q V
4+50	0.0739	0.21	Q V
4+55	0.0753	0.21	Q V
5+ 0	0.0768	0.21	Q V
5+ 5	0.0783	0.21	Q V
5+10	0.0797	0.21	Q V

5+15	0.0812	0.21	Q	V				
5+20	0.0827	0.22	Q	V				
5+25	0.0842	0.22	Q	V				
5+30	0.0857	0.22	Q	V				
5+35	0.0872	0.22	Q	V				
5+40	0.0887	0.22	Q	V				
5+45	0.0902	0.22	Q	V				
5+50	0.0917	0.22	Q	V				
5+55	0.0933	0.22	Q	V				
6+ 0	0.0948	0.22	Q	V				
6+ 5	0.0964	0.22	Q	V				
6+10	0.0979	0.23	Q	V				
6+15	0.0995	0.23	Q	V				
6+20	0.1010	0.23	Q	V				
6+25	0.1026	0.23	Q	V				
6+30	0.1042	0.23	Q	V				
6+35	0.1058	0.23	Q	V				
6+40	0.1074	0.23	Q	V				
6+45	0.1090	0.23	Q	V				
6+50	0.1106	0.23	Q	V				
6+55	0.1122	0.24	Q	V				
7+ 0	0.1139	0.24	Q	V				
7+ 5	0.1155	0.24	Q	V				
7+10	0.1172	0.24	Q	V				
7+15	0.1188	0.24	Q	V				
7+20	0.1205	0.24	Q	V				
7+25	0.1222	0.24	Q	V				
7+30	0.1238	0.24	Q	V				
7+35	0.1255	0.25	Q	V				
7+40	0.1272	0.25	Q	V				
7+45	0.1290	0.25	Q	V				
7+50	0.1307	0.25	Q	V				
7+55	0.1324	0.25	Q	V				
8+ 0	0.1342	0.25	Q	V				
8+ 5	0.1359	0.25	Q	V				
8+10	0.1377	0.26	Q	V				
8+15	0.1395	0.26	Q	V				
8+20	0.1412	0.26	Q	V				
8+25	0.1430	0.26	Q	V				
8+30	0.1448	0.26	Q	V				
8+35	0.1467	0.26	Q	V				
8+40	0.1485	0.27	Q	V				
8+45	0.1503	0.27	Q	V				
8+50	0.1522	0.27	Q	V				
8+55	0.1541	0.27	Q	V				
9+ 0	0.1559	0.27	Q	V				
9+ 5	0.1578	0.27	Q	V				
9+10	0.1597	0.28	Q	V				
9+15	0.1617	0.28	Q	V				
9+20	0.1636	0.28	Q	V				
9+25	0.1655	0.28	Q	V				
9+30	0.1675	0.28	Q	V				

9+35	0.1695	0.29	Q	V				
9+40	0.1715	0.29	Q	V				
9+45	0.1735	0.29	Q	V				
9+50	0.1755	0.29	Q	V				
9+55	0.1775	0.30	Q	V				
10+ 0	0.1796	0.30	Q	V				
10+ 5	0.1816	0.30	Q	V				
10+10	0.1837	0.30	Q	V				
10+15	0.1858	0.30	Q	V				
10+20	0.1879	0.31	Q	V				
10+25	0.1900	0.31	Q	V				
10+30	0.1922	0.31	Q	V				
10+35	0.1944	0.31	Q	V				
10+40	0.1965	0.32	Q	V				
10+45	0.1988	0.32	Q	V				
10+50	0.2010	0.32	Q	V				
10+55	0.2032	0.33	Q	V				
11+ 0	0.2055	0.33	Q	V				
11+ 5	0.2078	0.33	Q	V				
11+10	0.2101	0.34	Q	V				
11+15	0.2124	0.34	Q	V				
11+20	0.2148	0.34	Q	V				
11+25	0.2172	0.35	Q	V				
11+30	0.2196	0.35	Q	V				
11+35	0.2220	0.35	Q	V				
11+40	0.2244	0.36	Q	V				
11+45	0.2269	0.36	Q	V				
11+50	0.2294	0.36	Q	V				
11+55	0.2320	0.37	Q	V				
12+ 0	0.2345	0.37	Q	V				
12+ 5	0.2372	0.38	Q	V				
12+10	0.2400	0.42	Q	V				
12+15	0.2430	0.44	Q	V				
12+20	0.2461	0.45	Q	V				
12+25	0.2492	0.45	Q	V				
12+30	0.2524	0.46	Q	V				
12+35	0.2556	0.46	Q	V				
12+40	0.2588	0.47	Q	V				
12+45	0.2621	0.48	Q	V				
12+50	0.2654	0.48	Q	V				
12+55	0.2688	0.49	Q	V				
13+ 0	0.2722	0.49	Q	V				
13+ 5	0.2756	0.50	Q	V				
13+10	0.2791	0.51	Q	V				
13+15	0.2827	0.51	Q	V				
13+20	0.2863	0.52	Q	V				
13+25	0.2899	0.53	Q	V				
13+30	0.2936	0.54	Q	V				
13+35	0.2974	0.55	Q	V				
13+40	0.3012	0.56	Q	V				
13+45	0.3051	0.57	Q	V				
13+50	0.3091	0.58	Q	V				

13+55	0.3131	0.59	Q	V			
14+ 0	0.3173	0.60	Q	V			
14+ 5	0.3215	0.61	Q	V			
14+10	0.3258	0.62	Q	V			
14+15	0.3302	0.64	Q	V			
14+20	0.3346	0.65	Q	V			
14+25	0.3392	0.67	Q	V			
14+30	0.3440	0.68	Q	V			
14+35	0.3488	0.70	Q	V			
14+40	0.3537	0.72	Q	V			
14+45	0.3589	0.74	Q	V			
14+50	0.3641	0.77	Q	V			
14+55	0.3696	0.79	Q	V			
15+ 0	0.3752	0.82	Q	V			
15+ 5	0.3811	0.85	Q	V			
15+10	0.3872	0.89	Q	V			
15+15	0.3935	0.92	Q	V			
15+20	0.4002	0.97	Q	V			
15+25	0.4071	1.00	Q	V			
15+30	0.4137	0.96	Q	V			
15+35	0.4204	0.97	Q	V			
15+40	0.4277	1.05	Q	V			
15+45	0.4357	1.17	Q	V			
15+50	0.4449	1.34	Q	V			
15+55	0.4560	1.61	Q	V			
16+ 0	0.4714	2.23	Q	V			
16+ 5	0.5000	4.15		Q	V		
16+10	0.5571	8.30			V		Q
16+15	0.5966	5.73			Q	V	
16+20	0.6120	2.23	Q			V	
16+25	0.6213	1.35	Q			V	
16+30	0.6286	1.07	Q			V	
16+35	0.6355	1.00	Q			V	
16+40	0.6418	0.91	Q			V	
16+45	0.6476	0.84	Q			V	
16+50	0.6530	0.78	Q			V	
16+55	0.6581	0.74	Q			V	
17+ 0	0.6629	0.70	Q			V	
17+ 5	0.6674	0.66	Q			V	
17+10	0.6718	0.63	Q			V	
17+15	0.6760	0.61	Q			V	
17+20	0.6800	0.58	Q			V	
17+25	0.6839	0.56	Q			V	
17+30	0.6876	0.54	Q			V	
17+35	0.6913	0.53	Q			V	
17+40	0.6948	0.51	Q			V	
17+45	0.6982	0.50	Q			V	
17+50	0.7016	0.49	Q			V	
17+55	0.7048	0.47	Q			V	
18+ 0	0.7080	0.46	Q			V	
18+ 5	0.7111	0.45	Q			V	
18+10	0.7139	0.41	Q			V	

18+15	0.7165	0.38	Q				V
18+20	0.7190	0.37	Q				V
18+25	0.7215	0.36	Q				V
18+30	0.7239	0.35	Q				V
18+35	0.7263	0.34	Q				V
18+40	0.7286	0.34	Q				V
18+45	0.7309	0.33	Q				V
18+50	0.7332	0.33	Q				V
18+55	0.7354	0.32	Q				V
19+ 0	0.7375	0.31	Q				V
19+ 5	0.7396	0.31	Q				V
19+10	0.7417	0.30	Q				V
19+15	0.7438	0.30	Q				V
19+20	0.7458	0.29	Q				V
19+25	0.7478	0.29	Q				V
19+30	0.7498	0.29	Q				V
19+35	0.7517	0.28	Q				V
19+40	0.7536	0.28	Q				V
19+45	0.7555	0.27	Q				V
19+50	0.7574	0.27	Q				V
19+55	0.7592	0.27	Q				V
20+ 0	0.7611	0.26	Q				V
20+ 5	0.7628	0.26	Q				V
20+10	0.7646	0.26	Q				V
20+15	0.7664	0.25	Q				V
20+20	0.7681	0.25	Q				V
20+25	0.7698	0.25	Q				V
20+30	0.7715	0.25	Q				V
20+35	0.7732	0.24	Q				V
20+40	0.7748	0.24	Q				V
20+45	0.7765	0.24	Q				V
20+50	0.7781	0.24	Q				V
20+55	0.7797	0.23	Q				V
21+ 0	0.7813	0.23	Q				V
21+ 5	0.7829	0.23	Q				V
21+10	0.7844	0.23	Q				V
21+15	0.7860	0.22	Q				V
21+20	0.7875	0.22	Q				V
21+25	0.7890	0.22	Q				V
21+30	0.7905	0.22	Q				V
21+35	0.7920	0.22	Q				V
21+40	0.7935	0.21	Q				V
21+45	0.7949	0.21	Q				V
21+50	0.7964	0.21	Q				V
21+55	0.7978	0.21	Q				V
22+ 0	0.7992	0.21	Q				V
22+ 5	0.8007	0.21	Q				V
22+10	0.8021	0.20	Q				V
22+15	0.8034	0.20	Q				V
22+20	0.8048	0.20	Q				V
22+25	0.8062	0.20	Q				V
22+30	0.8076	0.20	Q				V

22+35	0.8089	0.20	Q				V
22+40	0.8102	0.19	Q				V
22+45	0.8116	0.19	Q				V
22+50	0.8129	0.19	Q				V
22+55	0.8142	0.19	Q				V
23+ 0	0.8155	0.19	Q				V
23+ 5	0.8168	0.19	Q				V
23+10	0.8181	0.19	Q				V
23+15	0.8194	0.19	Q				V
23+20	0.8206	0.18	Q				V
23+25	0.8219	0.18	Q				V
23+30	0.8231	0.18	Q				V
23+35	0.8244	0.18	Q				V
23+40	0.8256	0.18	Q				V
23+45	0.8268	0.18	Q				V
23+50	0.8281	0.18	Q				V
23+55	0.8293	0.18	Q				V
24+ 0	0.8305	0.17	Q				V
24+ 5	0.8315	0.16	Q				V
24+10	0.8320	0.07	Q				V
24+15	0.8321	0.01	Q				V
24+20	0.8321	0.00	Q				V

C.4 – PROPOSED 100-YEAR ANALYSIS

Unit Hydrograph Analysis

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Study date 08/26/24

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

Program License Serial Number 6568

TPM 20854
DEVELOPED CONDITION
100-YEAR
24-HOUR

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		
4.40	1	0.73

Rainfall data for year 2		
4.40	6	1.15

Rainfall data for year 2		
4.40	24	2.05

Rainfall data for year 100		
4.40	1	1.16

Rainfall data for year 100

4.40 6 2.65

Rainfall data for year 100

4.40 24 4.82

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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)
59.6	78.7	4.40	1.000	0.392	0.299	0.117

Area-averaged adjusted loss rate Fm (In/Hr) = 0.117

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

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
1.32	0.299	59.6	78.7	2.71	0.543
3.08	0.701	98.0	98.0	0.20	0.951

Area-averaged catchment yield fraction, Y = 0.829

Area-averaged low loss fraction, Yb = 0.171

User entry of time of concentration = 0.132 (hours)

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Watershed area = 4.40(Ac.)

Catchment Lag time = 0.105 hours

Unit interval = 5.000 minutes

Unit interval percentage of lag time = 79.0939

Hydrograph baseflow = 0.00(CFS)

Average maximum watershed loss rate(Fm) = 0.117(In/Hr)

Average low loss rate fraction (Yb) = 0.171 (decimal)

VALLEY DEVELOPED S-Graph Selected

Computed peak 5-minute rainfall = 0.429(In)

Computed peak 30-minute rainfall = 0.879(In)

Specified peak 1-hour rainfall = 1.160(In)

Computed peak 3-hour rainfall = 1.925(In)

Specified peak 6-hour rainfall = 2.650(In)

Specified peak 24-hour rainfall = 4.820(In)

Rainfall depth area reduction factors:

Using a total area of 4.40(Ac.) (Ref: fig. E-4)

5-minute factor = 1.000	Adjusted rainfall = 0.429(In)
30-minute factor = 1.000	Adjusted rainfall = 0.879(In)
1-hour factor = 1.000	Adjusted rainfall = 1.160(In)
3-hour factor = 1.000	Adjusted rainfall = 1.925(In)
6-hour factor = 1.000	Adjusted rainfall = 2.650(In)

24-hour factor = 1.000 Adjusted rainfall = 4.820(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 =	53.21 (CFS))
1	11.067	5.889
2	62.890	27.576
3	93.659	16.373
4	98.782	2.726
5	100.000	0.648

Peak Unit	Adjusted mass rainfall	Unit rainfall
Number	(In)	(In)
1	0.4292	0.4292
2	0.5664	0.1371
3	0.6661	0.0997
4	0.7473	0.0812
5	0.8171	0.0698
6	0.8789	0.0618
7	0.9348	0.0559
8	0.9861	0.0513
9	1.0337	0.0476
10	1.0782	0.0445
11	1.1201	0.0419
12	1.1598	0.0397
13	1.2034	0.0436
14	1.2452	0.0418
15	1.2855	0.0403
16	1.3243	0.0388
17	1.3619	0.0376
18	1.3983	0.0364
19	1.4336	0.0353
20	1.4679	0.0343
21	1.5013	0.0334
22	1.5339	0.0326
23	1.5656	0.0318
24	1.5967	0.0310
25	1.6270	0.0303
26	1.6567	0.0297
27	1.6858	0.0291
28	1.7143	0.0285
29	1.7423	0.0280
30	1.7698	0.0275
31	1.7967	0.0270
32	1.8232	0.0265
33	1.8493	0.0261
34	1.8749	0.0256

35	1.9002	0.0252
36	1.9250	0.0249
37	1.9495	0.0245
38	1.9736	0.0241
39	1.9974	0.0238
40	2.0209	0.0235
41	2.0440	0.0231
42	2.0668	0.0228
43	2.0894	0.0225
44	2.1116	0.0223
45	2.1336	0.0220
46	2.1554	0.0217
47	2.1769	0.0215
48	2.1981	0.0212
49	2.2191	0.0210
50	2.2399	0.0208
51	2.2604	0.0205
52	2.2807	0.0203
53	2.3008	0.0201
54	2.3208	0.0199
55	2.3405	0.0197
56	2.3600	0.0195
57	2.3793	0.0193
58	2.3985	0.0192
59	2.4175	0.0190
60	2.4363	0.0188
61	2.4549	0.0186
62	2.4734	0.0185
63	2.4917	0.0183
64	2.5099	0.0182
65	2.5279	0.0180
66	2.5458	0.0179
67	2.5635	0.0177
68	2.5810	0.0176
69	2.5985	0.0174
70	2.6158	0.0173
71	2.6329	0.0172
72	2.6500	0.0170
73	2.6658	0.0158
74	2.6815	0.0157
75	2.6971	0.0156
76	2.7125	0.0155
77	2.7279	0.0153
78	2.7431	0.0152
79	2.7582	0.0151
80	2.7732	0.0150
81	2.7881	0.0149
82	2.8029	0.0148
83	2.8176	0.0147
84	2.8322	0.0146
85	2.8467	0.0145
86	2.8611	0.0144

87	2.8754	0.0143
88	2.8897	0.0142
89	2.9038	0.0141
90	2.9178	0.0140
91	2.9318	0.0139
92	2.9456	0.0139
93	2.9594	0.0138
94	2.9731	0.0137
95	2.9867	0.0136
96	3.0002	0.0135
97	3.0137	0.0134
98	3.0270	0.0134
99	3.0403	0.0133
100	3.0535	0.0132
101	3.0667	0.0131
102	3.0798	0.0131
103	3.0927	0.0130
104	3.1057	0.0129
105	3.1185	0.0129
106	3.1313	0.0128
107	3.1440	0.0127
108	3.1567	0.0126
109	3.1692	0.0126
110	3.1818	0.0125
111	3.1942	0.0124
112	3.2066	0.0124
113	3.2189	0.0123
114	3.2312	0.0123
115	3.2434	0.0122
116	3.2555	0.0121
117	3.2676	0.0121
118	3.2796	0.0120
119	3.2916	0.0120
120	3.3035	0.0119
121	3.3153	0.0119
122	3.3271	0.0118
123	3.3389	0.0117
124	3.3506	0.0117
125	3.3622	0.0116
126	3.3738	0.0116
127	3.3853	0.0115
128	3.3968	0.0115
129	3.4082	0.0114
130	3.4196	0.0114
131	3.4309	0.0113
132	3.4422	0.0113
133	3.4534	0.0112
134	3.4646	0.0112
135	3.4757	0.0111
136	3.4868	0.0111
137	3.4979	0.0110
138	3.5089	0.0110

139	3.5198	0.0109
140	3.5307	0.0109
141	3.5416	0.0109
142	3.5524	0.0108
143	3.5632	0.0108
144	3.5739	0.0107
145	3.5846	0.0107
146	3.5952	0.0106
147	3.6058	0.0106
148	3.6164	0.0106
149	3.6269	0.0105
150	3.6374	0.0105
151	3.6479	0.0104
152	3.6583	0.0104
153	3.6686	0.0104
154	3.6790	0.0103
155	3.6892	0.0103
156	3.6995	0.0103
157	3.7097	0.0102
158	3.7199	0.0102
159	3.7300	0.0101
160	3.7401	0.0101
161	3.7502	0.0101
162	3.7602	0.0100
163	3.7702	0.0100
164	3.7802	0.0100
165	3.7901	0.0099
166	3.8000	0.0099
167	3.8099	0.0099
168	3.8197	0.0098
169	3.8295	0.0098
170	3.8393	0.0098
171	3.8490	0.0097
172	3.8587	0.0097
173	3.8684	0.0097
174	3.8780	0.0096
175	3.8876	0.0096
176	3.8972	0.0096
177	3.9067	0.0095
178	3.9162	0.0095
179	3.9257	0.0095
180	3.9352	0.0094
181	3.9446	0.0094
182	3.9540	0.0094
183	3.9633	0.0094
184	3.9727	0.0093
185	3.9820	0.0093
186	3.9912	0.0093
187	4.0005	0.0092
188	4.0097	0.0092
189	4.0189	0.0092
190	4.0280	0.0092

191	4.0372	0.0091
192	4.0463	0.0091
193	4.0554	0.0091
194	4.0644	0.0091
195	4.0734	0.0090
196	4.0825	0.0090
197	4.0914	0.0090
198	4.1004	0.0089
199	4.1093	0.0089
200	4.1182	0.0089
201	4.1271	0.0089
202	4.1359	0.0088
203	4.1447	0.0088
204	4.1535	0.0088
205	4.1623	0.0088
206	4.1711	0.0087
207	4.1798	0.0087
208	4.1885	0.0087
209	4.1972	0.0087
210	4.2058	0.0087
211	4.2145	0.0086
212	4.2231	0.0086
213	4.2316	0.0086
214	4.2402	0.0086
215	4.2487	0.0085
216	4.2573	0.0085
217	4.2658	0.0085
218	4.2742	0.0085
219	4.2827	0.0084
220	4.2911	0.0084
221	4.2995	0.0084
222	4.3079	0.0084
223	4.3163	0.0084
224	4.3246	0.0083
225	4.3329	0.0083
226	4.3412	0.0083
227	4.3495	0.0083
228	4.3578	0.0083
229	4.3660	0.0082
230	4.3742	0.0082
231	4.3824	0.0082
232	4.3906	0.0082
233	4.3987	0.0082
234	4.4069	0.0081
235	4.4150	0.0081
236	4.4231	0.0081
237	4.4312	0.0081
238	4.4392	0.0081
239	4.4473	0.0080
240	4.4553	0.0080
241	4.4633	0.0080
242	4.4713	0.0080

243	4.4792	0.0080
244	4.4872	0.0079
245	4.4951	0.0079
246	4.5030	0.0079
247	4.5109	0.0079
248	4.5188	0.0079
249	4.5266	0.0079
250	4.5345	0.0078
251	4.5423	0.0078
252	4.5501	0.0078
253	4.5579	0.0078
254	4.5656	0.0078
255	4.5734	0.0077
256	4.5811	0.0077
257	4.5888	0.0077
258	4.5965	0.0077
259	4.6042	0.0077
260	4.6119	0.0077
261	4.6195	0.0076
262	4.6271	0.0076
263	4.6348	0.0076
264	4.6424	0.0076
265	4.6499	0.0076
266	4.6575	0.0076
267	4.6650	0.0075
268	4.6726	0.0075
269	4.6801	0.0075
270	4.6876	0.0075
271	4.6951	0.0075
272	4.7025	0.0075
273	4.7100	0.0075
274	4.7174	0.0074
275	4.7249	0.0074
276	4.7323	0.0074
277	4.7397	0.0074
278	4.7470	0.0074
279	4.7544	0.0074
280	4.7617	0.0073
281	4.7691	0.0073
282	4.7764	0.0073
283	4.7837	0.0073
284	4.7910	0.0073
285	4.7982	0.0073
286	4.8055	0.0073
287	4.8127	0.0072
288	4.8200	0.0072

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0072	0.0012	0.0060

2	0.0072	0.0012	0.0060
3	0.0073	0.0012	0.0060
4	0.0073	0.0012	0.0060
5	0.0073	0.0013	0.0061
6	0.0073	0.0013	0.0061
7	0.0074	0.0013	0.0061
8	0.0074	0.0013	0.0061
9	0.0074	0.0013	0.0061
10	0.0074	0.0013	0.0062
11	0.0075	0.0013	0.0062
12	0.0075	0.0013	0.0062
13	0.0075	0.0013	0.0062
14	0.0075	0.0013	0.0062
15	0.0075	0.0013	0.0063
16	0.0076	0.0013	0.0063
17	0.0076	0.0013	0.0063
18	0.0076	0.0013	0.0063
19	0.0076	0.0013	0.0063
20	0.0077	0.0013	0.0064
21	0.0077	0.0013	0.0064
22	0.0077	0.0013	0.0064
23	0.0077	0.0013	0.0064
24	0.0078	0.0013	0.0064
25	0.0078	0.0013	0.0065
26	0.0078	0.0013	0.0065
27	0.0079	0.0013	0.0065
28	0.0079	0.0013	0.0065
29	0.0079	0.0014	0.0066
30	0.0079	0.0014	0.0066
31	0.0080	0.0014	0.0066
32	0.0080	0.0014	0.0066
33	0.0080	0.0014	0.0066
34	0.0080	0.0014	0.0067
35	0.0081	0.0014	0.0067
36	0.0081	0.0014	0.0067
37	0.0081	0.0014	0.0067
38	0.0082	0.0014	0.0068
39	0.0082	0.0014	0.0068
40	0.0082	0.0014	0.0068
41	0.0083	0.0014	0.0068
42	0.0083	0.0014	0.0069
43	0.0083	0.0014	0.0069
44	0.0083	0.0014	0.0069
45	0.0084	0.0014	0.0070
46	0.0084	0.0014	0.0070
47	0.0084	0.0014	0.0070
48	0.0085	0.0014	0.0070
49	0.0085	0.0015	0.0071
50	0.0085	0.0015	0.0071
51	0.0086	0.0015	0.0071
52	0.0086	0.0015	0.0071
53	0.0087	0.0015	0.0072

54	0.0087	0.0015	0.0072
55	0.0087	0.0015	0.0072
56	0.0087	0.0015	0.0073
57	0.0088	0.0015	0.0073
58	0.0088	0.0015	0.0073
59	0.0089	0.0015	0.0074
60	0.0089	0.0015	0.0074
61	0.0089	0.0015	0.0074
62	0.0090	0.0015	0.0074
63	0.0090	0.0015	0.0075
64	0.0091	0.0015	0.0075
65	0.0091	0.0016	0.0076
66	0.0091	0.0016	0.0076
67	0.0092	0.0016	0.0076
68	0.0092	0.0016	0.0076
69	0.0093	0.0016	0.0077
70	0.0093	0.0016	0.0077
71	0.0094	0.0016	0.0078
72	0.0094	0.0016	0.0078
73	0.0094	0.0016	0.0078
74	0.0095	0.0016	0.0079
75	0.0095	0.0016	0.0079
76	0.0096	0.0016	0.0079
77	0.0096	0.0016	0.0080
78	0.0097	0.0017	0.0080
79	0.0097	0.0017	0.0081
80	0.0098	0.0017	0.0081
81	0.0098	0.0017	0.0081
82	0.0099	0.0017	0.0082
83	0.0099	0.0017	0.0082
84	0.0100	0.0017	0.0083
85	0.0100	0.0017	0.0083
86	0.0101	0.0017	0.0083
87	0.0101	0.0017	0.0084
88	0.0102	0.0017	0.0084
89	0.0103	0.0018	0.0085
90	0.0103	0.0018	0.0085
91	0.0104	0.0018	0.0086
92	0.0104	0.0018	0.0086
93	0.0105	0.0018	0.0087
94	0.0105	0.0018	0.0087
95	0.0106	0.0018	0.0088
96	0.0106	0.0018	0.0088
97	0.0107	0.0018	0.0089
98	0.0108	0.0018	0.0089
99	0.0109	0.0019	0.0090
100	0.0109	0.0019	0.0090
101	0.0110	0.0019	0.0091
102	0.0110	0.0019	0.0092
103	0.0111	0.0019	0.0092
104	0.0112	0.0019	0.0093
105	0.0113	0.0019	0.0093

106	0.0113	0.0019	0.0094
107	0.0114	0.0020	0.0095
108	0.0115	0.0020	0.0095
109	0.0116	0.0020	0.0096
110	0.0116	0.0020	0.0096
111	0.0117	0.0020	0.0097
112	0.0118	0.0020	0.0098
113	0.0119	0.0020	0.0099
114	0.0120	0.0020	0.0099
115	0.0121	0.0021	0.0100
116	0.0121	0.0021	0.0101
117	0.0123	0.0021	0.0102
118	0.0123	0.0021	0.0102
119	0.0124	0.0021	0.0103
120	0.0125	0.0021	0.0104
121	0.0126	0.0022	0.0105
122	0.0127	0.0022	0.0105
123	0.0129	0.0022	0.0107
124	0.0129	0.0022	0.0107
125	0.0131	0.0022	0.0108
126	0.0131	0.0022	0.0109
127	0.0133	0.0023	0.0110
128	0.0134	0.0023	0.0111
129	0.0135	0.0023	0.0112
130	0.0136	0.0023	0.0113
131	0.0138	0.0024	0.0114
132	0.0139	0.0024	0.0115
133	0.0140	0.0024	0.0116
134	0.0141	0.0024	0.0117
135	0.0143	0.0024	0.0119
136	0.0144	0.0025	0.0119
137	0.0146	0.0025	0.0121
138	0.0147	0.0025	0.0122
139	0.0149	0.0025	0.0124
140	0.0150	0.0026	0.0124
141	0.0152	0.0026	0.0126
142	0.0153	0.0026	0.0127
143	0.0156	0.0027	0.0129
144	0.0157	0.0027	0.0130
145	0.0170	0.0029	0.0141
146	0.0172	0.0029	0.0142
147	0.0174	0.0030	0.0145
148	0.0176	0.0030	0.0146
149	0.0179	0.0031	0.0148
150	0.0180	0.0031	0.0149
151	0.0183	0.0031	0.0152
152	0.0185	0.0032	0.0153
153	0.0188	0.0032	0.0156
154	0.0190	0.0032	0.0157
155	0.0193	0.0033	0.0160
156	0.0195	0.0033	0.0162
157	0.0199	0.0034	0.0165

158	0.0201	0.0034	0.0167
159	0.0205	0.0035	0.0170
160	0.0208	0.0035	0.0172
161	0.0212	0.0036	0.0176
162	0.0215	0.0037	0.0178
163	0.0220	0.0038	0.0182
164	0.0223	0.0038	0.0185
165	0.0228	0.0039	0.0189
166	0.0231	0.0040	0.0192
167	0.0238	0.0041	0.0197
168	0.0241	0.0041	0.0200
169	0.0249	0.0042	0.0206
170	0.0252	0.0043	0.0209
171	0.0261	0.0045	0.0216
172	0.0265	0.0045	0.0220
173	0.0275	0.0047	0.0228
174	0.0280	0.0048	0.0232
175	0.0291	0.0050	0.0241
176	0.0297	0.0051	0.0246
177	0.0310	0.0053	0.0257
178	0.0318	0.0054	0.0263
179	0.0334	0.0057	0.0277
180	0.0343	0.0059	0.0285
181	0.0364	0.0062	0.0302
182	0.0376	0.0064	0.0311
183	0.0403	0.0069	0.0334
184	0.0418	0.0072	0.0347
185	0.0397	0.0068	0.0329
186	0.0419	0.0072	0.0347
187	0.0476	0.0081	0.0394
188	0.0513	0.0088	0.0425
189	0.0618	0.0098	0.0520
190	0.0698	0.0098	0.0600
191	0.0997	0.0098	0.0900
192	0.1371	0.0098	0.1274
193	0.4292	0.0098	0.4195
194	0.0812	0.0098	0.0715
195	0.0559	0.0096	0.0463
196	0.0445	0.0076	0.0369
197	0.0436	0.0075	0.0362
198	0.0388	0.0066	0.0322
199	0.0353	0.0060	0.0293
200	0.0326	0.0056	0.0270
201	0.0303	0.0052	0.0252
202	0.0285	0.0049	0.0236
203	0.0270	0.0046	0.0224
204	0.0256	0.0044	0.0213
205	0.0245	0.0042	0.0203
206	0.0235	0.0040	0.0194
207	0.0225	0.0039	0.0187
208	0.0217	0.0037	0.0180
209	0.0210	0.0036	0.0174

210	0.0203	0.0035	0.0169
211	0.0197	0.0034	0.0163
212	0.0192	0.0033	0.0159
213	0.0186	0.0032	0.0155
214	0.0182	0.0031	0.0151
215	0.0177	0.0030	0.0147
216	0.0173	0.0030	0.0143
217	0.0158	0.0027	0.0131
218	0.0155	0.0026	0.0128
219	0.0151	0.0026	0.0125
220	0.0148	0.0025	0.0123
221	0.0145	0.0025	0.0120
222	0.0142	0.0024	0.0118
223	0.0139	0.0024	0.0116
224	0.0137	0.0023	0.0114
225	0.0134	0.0023	0.0111
226	0.0132	0.0023	0.0110
227	0.0130	0.0022	0.0108
228	0.0128	0.0022	0.0106
229	0.0126	0.0022	0.0104
230	0.0124	0.0021	0.0103
231	0.0122	0.0021	0.0101
232	0.0120	0.0021	0.0100
233	0.0119	0.0020	0.0098
234	0.0117	0.0020	0.0097
235	0.0115	0.0020	0.0096
236	0.0114	0.0019	0.0094
237	0.0112	0.0019	0.0093
238	0.0111	0.0019	0.0092
239	0.0109	0.0019	0.0091
240	0.0108	0.0018	0.0090
241	0.0107	0.0018	0.0089
242	0.0106	0.0018	0.0088
243	0.0104	0.0018	0.0087
244	0.0103	0.0018	0.0086
245	0.0102	0.0017	0.0085
246	0.0101	0.0017	0.0084
247	0.0100	0.0017	0.0083
248	0.0099	0.0017	0.0082
249	0.0098	0.0017	0.0081
250	0.0097	0.0017	0.0080
251	0.0096	0.0016	0.0080
252	0.0095	0.0016	0.0079
253	0.0094	0.0016	0.0078
254	0.0093	0.0016	0.0077
255	0.0092	0.0016	0.0077
256	0.0092	0.0016	0.0076
257	0.0091	0.0016	0.0075
258	0.0090	0.0015	0.0075
259	0.0089	0.0015	0.0074
260	0.0088	0.0015	0.0073
261	0.0088	0.0015	0.0073

262	0.0087	0.0015	0.0072
263	0.0086	0.0015	0.0072
264	0.0086	0.0015	0.0071
265	0.0085	0.0015	0.0070
266	0.0084	0.0014	0.0070
267	0.0084	0.0014	0.0069
268	0.0083	0.0014	0.0069
269	0.0082	0.0014	0.0068
270	0.0082	0.0014	0.0068
271	0.0081	0.0014	0.0067
272	0.0081	0.0014	0.0067
273	0.0080	0.0014	0.0066
274	0.0079	0.0014	0.0066
275	0.0079	0.0013	0.0065
276	0.0078	0.0013	0.0065
277	0.0078	0.0013	0.0065
278	0.0077	0.0013	0.0064
279	0.0077	0.0013	0.0064
280	0.0076	0.0013	0.0063
281	0.0076	0.0013	0.0063
282	0.0075	0.0013	0.0062
283	0.0075	0.0013	0.0062
284	0.0074	0.0013	0.0062
285	0.0074	0.0013	0.0061
286	0.0073	0.0013	0.0061
287	0.0073	0.0012	0.0061
288	0.0073	0.0012	0.0060

Total soil rain loss = 0.73(In)
Total effective rainfall = 4.09(In)
Peak flow rate in flood hydrograph = 14.36(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	0.04	Q					
0+10	0.0016	0.20	Q					
0+15	0.0037	0.30	Q					
0+20	0.0059	0.32	Q					
0+25	0.0081	0.32	Q					
0+30	0.0103	0.32	Q					
0+35	0.0125	0.32	Q					
0+40	0.0148	0.32	Q					
0+45	0.0170	0.33	Q					
0+50	0.0192	0.33	Q					

0+55	0.0215	0.33	Q
1+ 0	0.0238	0.33	Q
1+ 5	0.0260	0.33	Q
1+10	0.0283	0.33	Q
1+15	0.0306	0.33	Q
1+20	0.0329	0.33	Q
1+25	0.0352	0.33	Q
1+30	0.0375	0.33	QV
1+35	0.0398	0.34	QV
1+40	0.0421	0.34	QV
1+45	0.0444	0.34	QV
1+50	0.0468	0.34	QV
1+55	0.0491	0.34	QV
2+ 0	0.0515	0.34	QV
2+ 5	0.0538	0.34	QV
2+10	0.0562	0.34	QV
2+15	0.0586	0.34	QV
2+20	0.0609	0.35	QV
2+25	0.0633	0.35	QV
2+30	0.0657	0.35	QV
2+35	0.0681	0.35	QV
2+40	0.0706	0.35	QV
2+45	0.0730	0.35	QV
2+50	0.0754	0.35	Q V
2+55	0.0779	0.35	Q V
3+ 0	0.0803	0.36	Q V
3+ 5	0.0828	0.36	Q V
3+10	0.0852	0.36	Q V
3+15	0.0877	0.36	Q V
3+20	0.0902	0.36	Q V
3+25	0.0927	0.36	Q V
3+30	0.0952	0.36	Q V
3+35	0.0977	0.36	Q V
3+40	0.1002	0.37	Q V
3+45	0.1028	0.37	Q V
3+50	0.1053	0.37	Q V
3+55	0.1079	0.37	Q V
4+ 0	0.1104	0.37	Q V
4+ 5	0.1130	0.37	Q V
4+10	0.1156	0.38	Q V
4+15	0.1182	0.38	Q V
4+20	0.1208	0.38	Q V
4+25	0.1234	0.38	Q V
4+30	0.1260	0.38	Q V
4+35	0.1286	0.38	Q V
4+40	0.1313	0.38	Q V
4+45	0.1339	0.39	Q V
4+50	0.1366	0.39	Q V
4+55	0.1393	0.39	Q V
5+ 0	0.1420	0.39	Q V
5+ 5	0.1447	0.39	Q V
5+10	0.1474	0.39	Q V

5+15	0.1501	0.40	Q	V				
5+20	0.1529	0.40	Q	V				
5+25	0.1556	0.40	Q	V				
5+30	0.1584	0.40	Q	V				
5+35	0.1611	0.40	Q	V				
5+40	0.1639	0.40	Q	V				
5+45	0.1667	0.41	Q	V				
5+50	0.1695	0.41	Q	V				
5+55	0.1724	0.41	Q	V				
6+ 0	0.1752	0.41	Q	V				
6+ 5	0.1780	0.41	Q	V				
6+10	0.1809	0.42	Q	V				
6+15	0.1838	0.42	Q	V				
6+20	0.1867	0.42	Q	V				
6+25	0.1896	0.42	Q	V				
6+30	0.1925	0.42	Q	V				
6+35	0.1954	0.43	Q	V				
6+40	0.1984	0.43	Q	V				
6+45	0.2014	0.43	Q	V				
6+50	0.2043	0.43	Q	V				
6+55	0.2073	0.43	Q	V				
7+ 0	0.2103	0.44	Q	V				
7+ 5	0.2134	0.44	Q	V				
7+10	0.2164	0.44	Q	V				
7+15	0.2195	0.44	Q	V				
7+20	0.2225	0.45	Q	V				
7+25	0.2256	0.45	Q	V				
7+30	0.2287	0.45	Q	V				
7+35	0.2318	0.45	Q	V				
7+40	0.2350	0.46	Q	V				
7+45	0.2381	0.46	Q	V				
7+50	0.2413	0.46	Q	V				
7+55	0.2445	0.46	Q	V				
8+ 0	0.2477	0.47	Q	V				
8+ 5	0.2510	0.47	Q	V				
8+10	0.2542	0.47	Q	V				
8+15	0.2575	0.47	Q	V				
8+20	0.2608	0.48	Q	V				
8+25	0.2641	0.48	Q	V				
8+30	0.2674	0.48	Q	V				
8+35	0.2708	0.49	Q	V				
8+40	0.2741	0.49	Q	V				
8+45	0.2775	0.49	Q	V				
8+50	0.2809	0.50	Q	V				
8+55	0.2844	0.50	Q	V				
9+ 0	0.2878	0.50	Q	V				
9+ 5	0.2913	0.51	Q	V				
9+10	0.2948	0.51	Q	V				
9+15	0.2984	0.51	Q	V				
9+20	0.3019	0.52	Q	V				
9+25	0.3055	0.52	Q	V				
9+30	0.3091	0.52	Q	V				

9+35	0.3127	0.53	Q	V				
9+40	0.3164	0.53	Q	V				
9+45	0.3201	0.53	Q	V				
9+50	0.3238	0.54	Q	V				
9+55	0.3275	0.54	Q	V				
10+ 0	0.3313	0.55	Q	V				
10+ 5	0.3351	0.55	Q	V				
10+10	0.3389	0.56	Q	V				
10+15	0.3428	0.56	Q	V				
10+20	0.3467	0.56	Q	V				
10+25	0.3506	0.57	Q	V				
10+30	0.3545	0.57	Q	V				
10+35	0.3585	0.58	Q	V				
10+40	0.3626	0.58	Q	V				
10+45	0.3666	0.59	Q	V				
10+50	0.3707	0.59	Q	V				
10+55	0.3748	0.60	Q	V				
11+ 0	0.3790	0.61	Q	V				
11+ 5	0.3832	0.61	Q	V				
11+10	0.3874	0.62	Q	V				
11+15	0.3917	0.62	Q	V				
11+20	0.3961	0.63	Q	V				
11+25	0.4004	0.63	Q	V				
11+30	0.4048	0.64	Q	V				
11+35	0.4093	0.65	Q	V				
11+40	0.4138	0.65	Q	V				
11+45	0.4184	0.66	Q	V				
11+50	0.4230	0.67	Q	V				
11+55	0.4276	0.68	Q	V				
12+ 0	0.4323	0.68	Q	V				
12+ 5	0.4371	0.70	Q	V				
12+10	0.4421	0.73	Q	V				
12+15	0.4473	0.75	Q	V				
12+20	0.4526	0.76	Q	V				
12+25	0.4579	0.77	Q	V				
12+30	0.4633	0.78	Q	V				
12+35	0.4688	0.79	Q	V				
12+40	0.4743	0.80	Q	V				
12+45	0.4799	0.81	Q	V				
12+50	0.4856	0.82	Q	V				
12+55	0.4913	0.84	Q	V				
13+ 0	0.4972	0.85	Q	V				
13+ 5	0.5031	0.86	Q	V				
13+10	0.5091	0.87	Q	V				
13+15	0.5152	0.89	Q	V				
13+20	0.5214	0.90	Q	V				
13+25	0.5277	0.91	Q	V				
13+30	0.5341	0.93	Q	V				
13+35	0.5406	0.94	Q	V				
13+40	0.5472	0.96	Q	V				
13+45	0.5540	0.98	Q	V				
13+50	0.5608	1.00	Q	V				

13+55	0.5678	1.02	Q	V			
14+ 0	0.5750	1.04	Q	V			
14+ 5	0.5823	1.06	Q	V			
14+10	0.5898	1.08	Q	V			
14+15	0.5974	1.11	Q	V			
14+20	0.6052	1.14	Q	V			
14+25	0.6133	1.16	Q	V			
14+30	0.6215	1.20	Q	V			
14+35	0.6300	1.23	Q	V			
14+40	0.6387	1.27	Q	V			
14+45	0.6477	1.30	Q	V			
14+50	0.6569	1.35	Q	V			
14+55	0.6665	1.39	Q	V			
15+ 0	0.6765	1.45	Q	V			
15+ 5	0.6869	1.50	Q	V			
15+10	0.6977	1.57	Q	V			
15+15	0.7090	1.64	Q	V			
15+20	0.7210	1.74	Q	V			
15+25	0.7334	1.80	Q	V			
15+30	0.7457	1.79	Q	V			
15+35	0.7584	1.84	Q	V			
15+40	0.7723	2.02	Q	V			
15+45	0.7878	2.24	Q	V			
15+50	0.8058	2.61	Q	V			
15+55	0.8277	3.18	Q	V			
16+ 0	0.8579	4.38	Q	V			
16+ 5	0.9106	7.65		Q	V		
16+10	1.0094	14.36			V	Q	
16+15	1.0750	9.52		Q		V	
16+20	1.1018	3.89	Q			V	
16+25	1.1187	2.46	Q			V	
16+30	1.1322	1.96	Q			V	
16+35	1.1445	1.78	Q			V	
16+40	1.1556	1.62	Q			V	
16+45	1.1659	1.48	Q			V	
16+50	1.1753	1.38	Q			V	
16+55	1.1842	1.29	Q			V	
17+ 0	1.1926	1.21	Q			V	
17+ 5	1.2005	1.15	Q			V	
17+10	1.2081	1.10	Q			V	
17+15	1.2153	1.05	Q			V	
17+20	1.2223	1.01	Q			V	
17+25	1.2289	0.97	Q			V	
17+30	1.2354	0.94	Q			V	
17+35	1.2417	0.91	Q			V	
17+40	1.2477	0.88	Q			V	
17+45	1.2536	0.85	Q			V	
17+50	1.2593	0.83	Q			V	
17+55	1.2649	0.81	Q			V	
18+ 0	1.2703	0.79	Q			V	
18+ 5	1.2756	0.76	Q			V	
18+10	1.2805	0.72	Q			V	

18+15	1.2853	0.69	Q				V
18+20	1.2899	0.67	Q				V
18+25	1.2945	0.66	Q				V
18+30	1.2989	0.64	Q				V
18+35	1.3033	0.63	Q				V
18+40	1.3075	0.62	Q				V
18+45	1.3117	0.61	Q				V
18+50	1.3158	0.60	Q				V
18+55	1.3199	0.59	Q				V
19+ 0	1.3238	0.58	Q				V
19+ 5	1.3277	0.57	Q				V
19+10	1.3316	0.56	Q				V
19+15	1.3354	0.55	Q				V
19+20	1.3391	0.54	Q				V
19+25	1.3428	0.53	Q				V
19+30	1.3464	0.53	Q				V
19+35	1.3499	0.52	Q				V
19+40	1.3535	0.51	Q				V
19+45	1.3569	0.50	Q				V
19+50	1.3604	0.50	Q				V
19+55	1.3637	0.49	Q				V
20+ 0	1.3671	0.49	Q				V
20+ 5	1.3704	0.48	Q				V
20+10	1.3736	0.47	Q				V
20+15	1.3769	0.47	Q				V
20+20	1.3801	0.46	Q				V
20+25	1.3832	0.46	Q				V
20+30	1.3863	0.45	Q				V
20+35	1.3894	0.45	Q				V
20+40	1.3925	0.44	Q				V
20+45	1.3955	0.44	Q				V
20+50	1.3985	0.43	Q				V
20+55	1.4014	0.43	Q				V
21+ 0	1.4043	0.43	Q				V
21+ 5	1.4072	0.42	Q				V
21+10	1.4101	0.42	Q				V
21+15	1.4130	0.41	Q				V
21+20	1.4158	0.41	Q				V
21+25	1.4186	0.41	Q				V
21+30	1.4213	0.40	Q				V
21+35	1.4241	0.40	Q				V
21+40	1.4268	0.39	Q				V
21+45	1.4295	0.39	Q				V
21+50	1.4322	0.39	Q				V
21+55	1.4348	0.38	Q				V
22+ 0	1.4374	0.38	Q				V
22+ 5	1.4401	0.38	Q				V
22+10	1.4426	0.38	Q				V
22+15	1.4452	0.37	Q				V
22+20	1.4478	0.37	Q				V
22+25	1.4503	0.37	Q				V
22+30	1.4528	0.36	Q				V

22+35	1.4553	0.36	Q				V
22+40	1.4578	0.36	Q				V
22+45	1.4602	0.36	Q				V
22+50	1.4627	0.35	Q				V
22+55	1.4651	0.35	Q				V
23+ 0	1.4675	0.35	Q				V
23+ 5	1.4699	0.35	Q				V
23+10	1.4722	0.34	Q				V
23+15	1.4746	0.34	Q				V
23+20	1.4769	0.34	Q				V
23+25	1.4792	0.34	Q				V
23+30	1.4816	0.34	Q				V
23+35	1.4838	0.33	Q				V
23+40	1.4861	0.33	Q				V
23+45	1.4884	0.33	Q				V
23+50	1.4906	0.33	Q				V
23+55	1.4929	0.32	Q				V
24+ 0	1.4951	0.32	Q				V
24+ 5	1.4971	0.29	Q				V
24+10	1.4979	0.12	Q				V
24+15	1.4980	0.02	Q				V
24+20	1.4981	0.00	Q				V

FLOOD ROUTING MODELS..... D

- D.1 - BASIN “A” STAGE-STORAGE-OUTFLOW SUMMARY & ROUTING

D.1 – BASIN “A” STAGE-STORAGE-OUTFLOW SUMMARY & 100-YEAR ROUTING

Proposed Infiltration Basin "A"											
Input	Basin Depth (ft)	Total Vol. (af)	Infiltration Outflow (cfs)	Orifice #1 (cfs)	Weir 1 Outflow (cfs)	Weir 2 - Emergency Overflow (cfs)	Total Q outflow (cfs)	Contour Elevation	Contour Area (sf)	Inc. Volume (cf)	Inc. Volume (af)
1	0.00	0.00	0.07				0.07	1145.00	7,474		
2	1.00	0.19	0.10				0.10	1146.00	9,529	8,480	0.19
3	2.00	0.44	0.12	0.39			0.51	1147.00	11,794	10,641	0.24
4	3.00	0.74	0.14	0.60			0.75	1148.00	14,293	13,023	0.30
5	4.00	1.10	0.17	0.76	14.79		15.72	1149.00	16,915	15,585	0.36
6	5.00	1.52	0.20	0.89	76.88	23.55	101.51	1150.00	19,690	18,285	0.42

Infiltration				
In-Situ:	1.3	in/hr		
Factor of Safety:	3			
k _{design} =	0.43	in/hr	0.00001	cfs/sq-ft

Orifice Outflow [Q=CA(2g(h _{el} -h _{fl})]		
	#1	#2
d (in)=	4	0
C=	0.66	0.66
A (ft ²)=	0.087	0.000
FL Elev.	1146.30	

Weir Flow [Q=(C _w)(L)(H) ^{3/2}]		
	#1	#2
L (ft)	12.57	0
C _w	3.33	3.33
A (ft ²)=	12.56637	0
FL Elev.	1148.50	

Emergency Overflow	
L (ft)	20
C _w	3.33
FL Elev.	1149.5

Target 100-yr outflow: 6.9 cfs

WATER QUALITY CALCULATIONS

VOLUME-BASED BMP FOR SAN BERNARDINO COUNTY

Project number:	2023.08008
Project Name:	913 California St. Redlands
Project Region:	VALLEY

Equations: $R_C = 0.858i^3 - 0.78i^2 + 0.774i + 0.04$
 $P_6 = (P_{2yr, 1hr})(C_1)$
 $P_{2yr, 1hr} = 0.47$ (FROM FIGURE D-1 NOAA Atlas 14 INSET MAP)
 $DCV = 1/12 \times DA \times R_C \times P_6 \times C_2$

Location	DA (ft ²)	<i>i</i>	R_C	P_6	C_2	DCV (ft ³)
DA1	215,657	0.64	0.44	0.70	1.963	10,795
						0
						0
						0
						0
						0
						0
Total	215,657					10,795

Where: DA = Project Drainage Area, in square feet

i = watershed imperviousness ratio which is equal to the percent total impervious divided by 100

R_C = runoff coefficient

$P_{2yr, 1hr}$ = 1-hour rainfall depth for a 2-year return period, in inches

P_6 = mean annual runoff-producing rainfall depths. In watershed inches, Table #-1 in Appendix D
valley, $C_1 = 1.4807$
mountain, $C_1 = 1.9090$
desert, $C_1 = 1.2371$

C_2 = regression constant, 1.582 and 1.963 for 24 and 48 hour draw down, respectively

DCV = Design Capture Volume, in cubic feet

Urban Runoff Quality Management Approach
(WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87)

Routing Anaylsis: Infiltration Basin "A"		
	10-YR	100-YR
Basin Capacity	1.52 ac-ft	
Total Depth	5 ft	
Peak Inflow, Q (cfs)	8.3	14.4
Peak Outflow, Q (cfs)	0.6	4.2
Runoff reduction (%)	92.7%	70.7%
Peak Basin Depth (ft)	2.38	3.23
Peak W.S.E.	1147.38	1148.23
Max. Freeboard (ft)	2.62	1.77

FLOOD HYDROGRAPH ROUTING PROGRAM
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Study date: 08/26/24

TPM 20854
PROPOSED INFILTRATION BASIN ROUTING ANALYSIS
BASIN "A"
10-YR; 24-HOUR

Program License Serial Number 6545

***** HYDROGRAPH INFORMATION *****

From study/file name: D10.rte
*****HYDROGRAPH DATA*****
Number of intervals = 292
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 8.301 (CFS)
Total volume = 0.832 (Ac.Ft)
Status of hydrographs being held in storage
Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
Peak (CFS) 0.000 0.000 0.000 0.000 0.000
Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000

+++++
Process from Point/Station 1.000 to Point/Station 15.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 292
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 1.22(Ft.)

Initial basin depth = 1.22 (Ft.)
Initial basin storage = 0.25 (Ac.Ft)
Initial basin outflow = 0.19 (CFS)

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	0.190	0.100	0.190	0.190
2.000	0.440	0.510	0.438	0.442
3.000	0.740	0.750	0.737	0.743
4.000	1.100	15.720	1.046	1.154
5.000	1.520	101.510	1.170	1.870

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	0	2.1	4.15	6.23	8.30	Depth (Ft.)
0.083	0.02	0.19	0.243	0					1.21
0.167	0.10	0.19	0.242	0					1.21
0.250	0.16	0.19	0.242	0					1.21
0.333	0.17	0.18	0.242	0					1.21
0.417	0.17	0.18	0.242	0					1.21
0.500	0.17	0.18	0.242	0					1.21
0.583	0.17	0.18	0.242	0					1.21
0.667	0.18	0.18	0.241	0					1.21
0.750	0.18	0.18	0.241	0					1.21
0.833	0.18	0.18	0.241	0					1.21
0.917	0.18	0.18	0.241	0					1.21
1.000	0.18	0.18	0.241	0					1.20
1.083	0.18	0.18	0.241	0					1.20
1.167	0.18	0.18	0.241	0					1.20
1.250	0.18	0.18	0.241	0					1.20
1.333	0.18	0.18	0.241	0					1.20
1.417	0.18	0.18	0.241	0					1.20
1.500	0.18	0.18	0.241	0					1.20
1.583	0.18	0.18	0.241	0					1.20
1.667	0.18	0.18	0.241	0					1.20
1.750	0.18	0.18	0.241	0					1.20
1.833	0.18	0.18	0.241	0					1.20
1.917	0.18	0.18	0.241	0					1.20
2.000	0.18	0.18	0.241	0					1.20
2.083	0.19	0.18	0.241	0					1.20
2.167	0.19	0.18	0.241	0					1.20
2.250	0.19	0.18	0.241	0					1.20
2.333	0.19	0.18	0.241	0					1.20
2.417	0.19	0.18	0.241	0					1.20
2.500	0.19	0.18	0.241	0					1.20
2.583	0.19	0.18	0.241	0					1.20
2.667	0.19	0.18	0.241	0					1.20
2.750	0.19	0.18	0.241	0					1.20
2.833	0.19	0.18	0.241	0					1.21

2.917	0.19	0.18	0.241	0					1.21
3.000	0.19	0.18	0.241	0					1.21
3.083	0.19	0.18	0.241	0					1.21
3.167	0.19	0.18	0.242	0					1.21
3.250	0.19	0.18	0.242	0					1.21
3.333	0.20	0.18	0.242	0					1.21
3.417	0.20	0.18	0.242	0					1.21
3.500	0.20	0.18	0.242	0					1.21
3.583	0.20	0.19	0.242	0					1.21
3.667	0.20	0.19	0.242	0					1.21
3.750	0.20	0.19	0.242	0					1.21
3.833	0.20	0.19	0.242	0					1.21
3.917	0.20	0.19	0.242	0					1.21
4.000	0.20	0.19	0.242	0					1.21
4.083	0.20	0.19	0.242	0					1.21
4.167	0.20	0.19	0.243	0					1.21
4.250	0.20	0.19	0.243	0					1.21
4.333	0.20	0.19	0.243	0					1.21
4.417	0.21	0.19	0.243	0					1.21
4.500	0.21	0.19	0.243	0					1.21
4.583	0.21	0.19	0.243	0					1.21
4.667	0.21	0.19	0.243	0					1.21
4.750	0.21	0.19	0.244	0					1.21
4.833	0.21	0.19	0.244	0					1.21
4.917	0.21	0.19	0.244	0					1.22
5.000	0.21	0.19	0.244	0					1.22
5.083	0.21	0.19	0.244	0					1.22
5.167	0.21	0.19	0.244	0					1.22
5.250	0.21	0.19	0.244	0					1.22
5.333	0.22	0.19	0.245	0					1.22
5.417	0.22	0.19	0.245	0					1.22
5.500	0.22	0.19	0.245	0					1.22
5.583	0.22	0.19	0.245	0					1.22
5.667	0.22	0.19	0.245	0					1.22
5.750	0.22	0.19	0.246	0					1.22
5.833	0.22	0.19	0.246	0					1.22
5.917	0.22	0.19	0.246	0					1.22
6.000	0.22	0.19	0.246	0					1.22
6.083	0.22	0.19	0.246	0					1.23
6.167	0.23	0.19	0.247	0					1.23
6.250	0.23	0.19	0.247	0					1.23
6.333	0.23	0.19	0.247	0					1.23
6.417	0.23	0.19	0.247	0					1.23
6.500	0.23	0.19	0.248	0					1.23
6.583	0.23	0.19	0.248	0					1.23
6.667	0.23	0.20	0.248	0					1.23
6.750	0.23	0.20	0.248	0					1.23
6.833	0.23	0.20	0.249	0					1.23
6.917	0.24	0.20	0.249	0					1.24
7.000	0.24	0.20	0.249	0					1.24
7.083	0.24	0.20	0.249	0					1.24
7.167	0.24	0.20	0.250	0					1.24

7.250	0.24	0.20	0.250	O					1.24
7.333	0.24	0.20	0.250	O					1.24
7.417	0.24	0.20	0.251	O					1.24
7.500	0.24	0.20	0.251	O					1.24
7.583	0.25	0.20	0.251	O					1.24
7.667	0.25	0.20	0.252	O					1.25
7.750	0.25	0.20	0.252	O					1.25
7.833	0.25	0.20	0.252	O					1.25
7.917	0.25	0.20	0.253	O					1.25
8.000	0.25	0.20	0.253	O					1.25
8.083	0.25	0.20	0.253	O					1.25
8.167	0.26	0.20	0.254	O					1.25
8.250	0.26	0.20	0.254	O					1.26
8.333	0.26	0.21	0.254	O					1.26
8.417	0.26	0.21	0.255	OI					1.26
8.500	0.26	0.21	0.255	OI					1.26
8.583	0.26	0.21	0.255	OI					1.26
8.667	0.27	0.21	0.256	OI					1.26
8.750	0.27	0.21	0.256	OI					1.26
8.833	0.27	0.21	0.257	OI					1.27
8.917	0.27	0.21	0.257	OI					1.27
9.000	0.27	0.21	0.257	OI					1.27
9.083	0.27	0.21	0.258	OI					1.27
9.167	0.28	0.21	0.258	OI					1.27
9.250	0.28	0.21	0.259	OI					1.28
9.333	0.28	0.21	0.259	OI					1.28
9.417	0.28	0.21	0.260	OI					1.28
9.500	0.28	0.22	0.260	OI					1.28
9.583	0.29	0.22	0.261	OI					1.28
9.667	0.29	0.22	0.261	OI					1.28
9.750	0.29	0.22	0.262	OI					1.29
9.833	0.29	0.22	0.262	OI					1.29
9.917	0.30	0.22	0.263	OI					1.29
10.000	0.30	0.22	0.263	OI					1.29
10.083	0.30	0.22	0.264	OI					1.30
10.167	0.30	0.22	0.264	OI					1.30
10.250	0.30	0.22	0.265	OI					1.30
10.333	0.31	0.22	0.265	OI					1.30
10.417	0.31	0.22	0.266	OI					1.30
10.500	0.31	0.23	0.267	OI					1.31
10.583	0.31	0.23	0.267	OI					1.31
10.667	0.32	0.23	0.268	OI					1.31
10.750	0.32	0.23	0.268	OI					1.31
10.833	0.32	0.23	0.269	OI					1.32
10.917	0.33	0.23	0.270	OI					1.32
11.000	0.33	0.23	0.270	OI					1.32
11.083	0.33	0.23	0.271	OI					1.32
11.167	0.34	0.23	0.272	OI					1.33
11.250	0.34	0.24	0.272	OI					1.33
11.333	0.34	0.24	0.273	OI					1.33
11.417	0.35	0.24	0.274	OI					1.34
11.500	0.35	0.24	0.275	OI					1.34

11.583	0.35	0.24	0.275	OI					1.34
11.667	0.36	0.24	0.276	OI					1.34
11.750	0.36	0.24	0.277	OI					1.35
11.833	0.36	0.24	0.278	OI					1.35
11.917	0.37	0.25	0.279	OI					1.35
12.000	0.37	0.25	0.280	OI					1.36
12.083	0.38	0.25	0.280	OI					1.36
12.167	0.42	0.25	0.281	OI					1.37
12.250	0.44	0.25	0.283	OI					1.37
12.333	0.45	0.25	0.284	OI					1.38
12.417	0.45	0.26	0.285	OI					1.38
12.500	0.46	0.26	0.287	OI					1.39
12.583	0.46	0.26	0.288	O					1.39
12.667	0.47	0.26	0.289	O					1.40
12.750	0.48	0.27	0.291	O					1.40
12.833	0.48	0.27	0.292	O					1.41
12.917	0.49	0.27	0.294	O					1.42
13.000	0.49	0.27	0.295	O					1.42
13.083	0.50	0.28	0.297	O					1.43
13.167	0.51	0.28	0.298	O					1.43
13.250	0.51	0.28	0.300	O					1.44
13.333	0.52	0.28	0.302	OI					1.45
13.417	0.53	0.29	0.303	OI					1.45
13.500	0.54	0.29	0.305	OI					1.46
13.583	0.55	0.29	0.307	OI					1.47
13.667	0.56	0.29	0.309	OI					1.47
13.750	0.57	0.30	0.310	OI					1.48
13.833	0.58	0.30	0.312	OI					1.49
13.917	0.59	0.30	0.314	OI					1.50
14.000	0.60	0.31	0.316	OI					1.50
14.083	0.61	0.31	0.318	OI					1.51
14.167	0.62	0.31	0.320	OI					1.52
14.250	0.64	0.32	0.323	OI					1.53
14.333	0.65	0.32	0.325	OI					1.54
14.417	0.67	0.32	0.327	OI					1.55
14.500	0.68	0.33	0.329	OI					1.56
14.583	0.70	0.33	0.332	OI					1.57
14.667	0.72	0.34	0.335	OI					1.58
14.750	0.74	0.34	0.337	OI					1.59
14.833	0.77	0.35	0.340	OI					1.60
14.917	0.79	0.35	0.343	O I					1.61
15.000	0.82	0.36	0.346	O I					1.62
15.083	0.85	0.36	0.349	O I					1.64
15.167	0.89	0.37	0.353	O I					1.65
15.250	0.92	0.37	0.357	O I					1.67
15.333	0.97	0.38	0.360	O I					1.68
15.417	1.00	0.39	0.365	O I					1.70
15.500	0.96	0.39	0.369	O I					1.71
15.583	0.97	0.40	0.373	O I					1.73
15.667	1.05	0.41	0.377	O I					1.75
15.750	1.17	0.41	0.382	O I					1.77
15.833	1.34	0.42	0.387	O I					1.79

15.917	1.61	0.44	0.395	O	I					1.82
16.000	2.23	0.45	0.405	O		I				1.86
16.083	4.15	0.48	0.424	O			I			1.93
16.167	8.30	0.53	0.463	O					I	2.08
16.250	5.73	0.56	0.507	O			I			2.22
16.333	2.23	0.58	0.531	O		I				2.30
16.417	1.35	0.59	0.539	O	I					2.33
16.500	1.07	0.59	0.544	O	I					2.35
16.583	1.00	0.60	0.547	O	I					2.36
16.667	0.91	0.60	0.549	O	I					2.36
16.750	0.84	0.60	0.551	O	I					2.37
16.833	0.78	0.60	0.552	O	I					2.37
16.917	0.74	0.60	0.554	O						2.38
17.000	0.70	0.60	0.554	O						2.38
17.083	0.66	0.60	0.555	O						2.38
17.167	0.63	0.60	0.555	O						2.38
17.250	0.61	0.60	0.555	O						2.38
17.333	0.58	0.60	0.555	O						2.38
17.417	0.56	0.60	0.555	O						2.38
17.500	0.54	0.60	0.555	O						2.38
17.583	0.53	0.60	0.554	O						2.38
17.667	0.51	0.60	0.554	O	I					2.38
17.750	0.50	0.60	0.553	O	I					2.38
17.833	0.49	0.60	0.552	O	I					2.37
17.917	0.47	0.60	0.551	O	I					2.37
18.000	0.46	0.60	0.551	O	I					2.37
18.083	0.45	0.60	0.550	O	I					2.37
18.167	0.41	0.60	0.548	O	I					2.36
18.250	0.38	0.60	0.547	O	I					2.36
18.333	0.37	0.59	0.546	O	I					2.35
18.417	0.36	0.59	0.544	O	I					2.35
18.500	0.35	0.59	0.542	O	I					2.34
18.583	0.34	0.59	0.541	O	I					2.34
18.667	0.34	0.59	0.539	O	I					2.33
18.750	0.33	0.59	0.537	O	I					2.32
18.833	0.33	0.59	0.535	O	I					2.32
18.917	0.32	0.58	0.534	O	I					2.31
19.000	0.31	0.58	0.532	O	I					2.31
19.083	0.31	0.58	0.530	O	I					2.30
19.167	0.30	0.58	0.528	O	I					2.29
19.250	0.30	0.58	0.526	O	I					2.29
19.333	0.29	0.58	0.524	O	I					2.28
19.417	0.29	0.58	0.522	O	I					2.27
19.500	0.29	0.57	0.520	O	I					2.27
19.583	0.28	0.57	0.518	O	I					2.26
19.667	0.28	0.57	0.516	O	I					2.25
19.750	0.27	0.57	0.514	O	I					2.25
19.833	0.27	0.57	0.512	O	I					2.24
19.917	0.27	0.57	0.510	O	I					2.23
20.000	0.26	0.56	0.508	O	I					2.23
20.083	0.26	0.56	0.506	O	I					2.22
20.167	0.26	0.56	0.504	O	I					2.21

20.250	0.25	0.56	0.502	I 0					2.21
20.333	0.25	0.56	0.500	I 0					2.20
20.417	0.25	0.56	0.497	I 0					2.19
20.500	0.25	0.55	0.495	I 0					2.18
20.583	0.24	0.55	0.493	I 0					2.18
20.667	0.24	0.55	0.491	I 0					2.17
20.750	0.24	0.55	0.489	I 0					2.16
20.833	0.24	0.55	0.487	I 0					2.16
20.917	0.23	0.55	0.485	I 0					2.15
21.000	0.23	0.54	0.483	I 0					2.14
21.083	0.23	0.54	0.480	I 0					2.13
21.167	0.23	0.54	0.478	I 0					2.13
21.250	0.22	0.54	0.476	I 0					2.12
21.333	0.22	0.54	0.474	I 0					2.11
21.417	0.22	0.54	0.472	I 0					2.11
21.500	0.22	0.53	0.470	I 0					2.10
21.583	0.22	0.53	0.467	I 0					2.09
21.667	0.21	0.53	0.465	I 0					2.08
21.750	0.21	0.53	0.463	I 0					2.08
21.833	0.21	0.53	0.461	I 0					2.07
21.917	0.21	0.52	0.459	I 0					2.06
22.000	0.21	0.52	0.456	I 0					2.05
22.083	0.21	0.52	0.454	I 0					2.05
22.167	0.20	0.52	0.452	I 0					2.04
22.250	0.20	0.52	0.450	IO					2.03
22.333	0.20	0.52	0.448	IO					2.03
22.417	0.20	0.51	0.446	IO					2.02
22.500	0.20	0.51	0.443	IO					2.01
22.583	0.20	0.51	0.441	IO					2.00
22.667	0.19	0.51	0.439	IO					2.00
22.750	0.19	0.50	0.437	IO					1.99
22.833	0.19	0.50	0.435	IO					1.98
22.917	0.19	0.50	0.433	IO					1.97
23.000	0.19	0.49	0.431	IO					1.96
23.083	0.19	0.49	0.428	IO					1.95
23.167	0.19	0.49	0.426	IO					1.95
23.250	0.19	0.48	0.424	IO					1.94
23.333	0.18	0.48	0.422	IO					1.93
23.417	0.18	0.48	0.420	IO					1.92
23.500	0.18	0.47	0.418	IO					1.91
23.583	0.18	0.47	0.416	IO					1.90
23.667	0.18	0.47	0.414	IO					1.90
23.750	0.18	0.46	0.412	IO					1.89
23.833	0.18	0.46	0.410	IO					1.88
23.917	0.18	0.46	0.408	IO					1.87
24.000	0.17	0.45	0.406	IO					1.87
24.083	0.16	0.45	0.404	IO					1.86
24.167	0.07	0.45	0.402	IO					1.85
24.250	0.01	0.44	0.399	IO					1.84
24.333	0.00	0.44	0.396	IO					1.83
24.417	0.00	0.43	0.393	IO					1.81
24.500	0.00	0.43	0.390	IO					1.80

24.583	0.00	0.42	0.387	IO					1.79
24.667	0.00	0.42	0.384	IO					1.78
24.750	0.00	0.41	0.382	IO					1.77
24.833	0.00	0.41	0.379	IO					1.76
24.917	0.00	0.40	0.376	IO					1.74
25.000	0.00	0.40	0.373	IO					1.73
25.083	0.00	0.40	0.370	IO					1.72
25.167	0.00	0.39	0.368	IO					1.71
25.250	0.00	0.39	0.365	IO					1.70
25.333	0.00	0.38	0.362	IO					1.69
25.417	0.00	0.38	0.360	IO					1.68
25.500	0.00	0.37	0.357	IO					1.67
25.583	0.00	0.37	0.355	IO					1.66
25.667	0.00	0.37	0.352	IO					1.65
25.750	0.00	0.36	0.350	IO					1.64
25.833	0.00	0.36	0.347	IO					1.63
25.917	0.00	0.35	0.345	IO					1.62
26.000	0.00	0.35	0.342	IO					1.61
26.083	0.00	0.35	0.340	IO					1.60
26.167	0.00	0.34	0.337	IO					1.59
26.250	0.00	0.34	0.335	IO					1.58
26.333	0.00	0.33	0.333	IO					1.57
26.417	0.00	0.33	0.331	IO					1.56
26.500	0.00	0.33	0.328	IO					1.55
26.583	0.00	0.32	0.326	IO					1.54
26.667	0.00	0.32	0.324	IO					1.54
26.750	0.00	0.32	0.322	IO					1.53
26.833	0.00	0.31	0.319	IO					1.52
26.917	0.00	0.31	0.317	IO					1.51
27.000	0.00	0.31	0.315	IO					1.50
27.083	0.00	0.30	0.313	IO					1.49
27.167	0.00	0.30	0.311	IO					1.48
27.250	0.00	0.30	0.309	IO					1.48
27.333	0.00	0.29	0.307	IO					1.47
27.417	0.00	0.29	0.305	IO					1.46
27.500	0.00	0.29	0.303	IO					1.45
27.583	0.00	0.28	0.301	IO					1.44
27.667	0.00	0.28	0.299	IO					1.44
27.750	0.00	0.28	0.297	IO					1.43
27.833	0.00	0.27	0.295	IO					1.42
27.917	0.00	0.27	0.293	IO					1.41
28.000	0.00	0.27	0.292	IO					1.41
28.083	0.00	0.26	0.290	IO					1.40
28.167	0.00	0.26	0.288	IO					1.39
28.250	0.00	0.26	0.286	O					1.38
28.333	0.00	0.25	0.284	O					1.38
28.417	0.00	0.25	0.283	O					1.37
28.500	0.00	0.25	0.281	O					1.36
28.583	0.00	0.25	0.279	O					1.36
28.667	0.00	0.24	0.278	O					1.35
28.750	0.00	0.24	0.276	O					1.34
28.833	0.00	0.24	0.274	O					1.34

28.917	0.00	0.24	0.273	0					1.33
29.000	0.00	0.23	0.271	0					1.32
29.083	0.00	0.23	0.269	0					1.32
29.167	0.00	0.23	0.268	0					1.31
29.250	0.00	0.23	0.266	0					1.31
29.333	0.00	0.22	0.265	0					1.30
29.417	0.00	0.22	0.263	0					1.29
29.500	0.00	0.22	0.262	0					1.29
29.583	0.00	0.22	0.260	0					1.28
29.667	0.00	0.21	0.259	0					1.27
29.750	0.00	0.21	0.257	0					1.27
29.833	0.00	0.21	0.256	0					1.26
29.917	0.00	0.21	0.254	0					1.26
30.000	0.00	0.20	0.253	0					1.25
30.083	0.00	0.20	0.252	0					1.25
30.167	0.00	0.20	0.250	0					1.24
30.250	0.00	0.20	0.249	0					1.24
30.333	0.00	0.19	0.248	0					1.23
30.417	0.00	0.19	0.246	0					1.22
30.500	0.00	0.19	0.245	0					1.22
30.583	0.00	0.19	0.244	0					1.21
30.667	0.00	0.19	0.242	0					1.21
30.750	0.00	0.18	0.241	0					1.20
30.833	0.00	0.18	0.240	0					1.20
30.917	0.00	0.18	0.239	0					1.19
31.000	0.00	0.18	0.237	0					1.19
31.083	0.00	0.18	0.236	0					1.18
31.167	0.00	0.17	0.235	0					1.18
31.250	0.00	0.17	0.234	0					1.17
31.333	0.00	0.17	0.233	0					1.17
31.417	0.00	0.17	0.231	0					1.17
31.500	0.00	0.17	0.230	0					1.16
31.583	0.00	0.16	0.229	0					1.16
31.667	0.00	0.16	0.228	0					1.15
31.750	0.00	0.16	0.227	0					1.15
31.833	0.00	0.16	0.226	0					1.14
31.917	0.00	0.16	0.225	0					1.14
32.000	0.00	0.16	0.224	0					1.13
32.083	0.00	0.15	0.223	0					1.13
32.167	0.00	0.15	0.221	0					1.13
32.250	0.00	0.15	0.220	0					1.12
32.333	0.00	0.15	0.219	0					1.12
32.417	0.00	0.15	0.218	0					1.11
32.500	0.00	0.14	0.217	0					1.11
32.583	0.00	0.14	0.216	0					1.11
32.667	0.00	0.14	0.215	0					1.10
32.750	0.00	0.14	0.214	0					1.10
32.833	0.00	0.14	0.213	0					1.09
32.917	0.00	0.14	0.213	0					1.09
33.000	0.00	0.14	0.212	0					1.09
33.083	0.00	0.13	0.211	0					1.08
33.167	0.00	0.13	0.210	0					1.08

33.250	0.00	0.13	0.209	0					1.08
33.333	0.00	0.13	0.208	0					1.07
33.417	0.00	0.13	0.207	0					1.07
33.500	0.00	0.13	0.206	0					1.06
33.583	0.00	0.13	0.205	0					1.06
33.667	0.00	0.12	0.204	0					1.06
33.750	0.00	0.12	0.204	0					1.05
33.833	0.00	0.12	0.203	0					1.05
33.917	0.00	0.12	0.202	0					1.05
34.000	0.00	0.12	0.201	0					1.04
34.083	0.00	0.12	0.200	0					1.04
34.167	0.00	0.12	0.200	0					1.04
34.250	0.00	0.11	0.199	0					1.03
34.333	0.00	0.11	0.198	0					1.03
34.417	0.00	0.11	0.197	0					1.03
34.500	0.00	0.11	0.196	0					1.03
34.583	0.00	0.11	0.196	0					1.02
34.667	0.00	0.11	0.195	0					1.02
34.750	0.00	0.11	0.194	0					1.02
34.833	0.00	0.11	0.193	0					1.01
34.917	0.00	0.10	0.193	0					1.01
35.000	0.00	0.10	0.192	0					1.01
35.083	0.00	0.10	0.191	0					1.01
35.167	0.00	0.10	0.191	0					1.00
35.250	0.00	0.10	0.190	0					1.00
35.333	0.00	0.10	0.189	0					1.00
35.417	0.00	0.10	0.189	0					0.99
35.500	0.00	0.10	0.188	0					0.99
35.583	0.00	0.10	0.187	0					0.98
35.667	0.00	0.10	0.186	0					0.98
35.750	0.00	0.10	0.186	0					0.98
35.833	0.00	0.10	0.185	0					0.97
35.917	0.00	0.10	0.184	0					0.97
36.000	0.00	0.10	0.184	0					0.97
36.083	0.00	0.10	0.183	0					0.96
36.167	0.00	0.10	0.182	0					0.96
36.250	0.00	0.10	0.182	0					0.96
36.333	0.00	0.10	0.181	0					0.95
36.417	0.00	0.09	0.180	0					0.95
36.500	0.00	0.09	0.180	0					0.95
36.583	0.00	0.09	0.179	0					0.94
36.667	0.00	0.09	0.179	0					0.94
36.750	0.00	0.09	0.178	0					0.94
36.833	0.00	0.09	0.177	0					0.93
36.917	0.00	0.09	0.177	0					0.93
37.000	0.00	0.09	0.176	0					0.93
37.083	0.00	0.09	0.175	0					0.92
37.167	0.00	0.09	0.175	0					0.92
37.250	0.00	0.09	0.174	0					0.92
37.333	0.00	0.09	0.173	0					0.91
37.417	0.00	0.09	0.173	0					0.91
37.500	0.00	0.09	0.172	0					0.91

37.583	0.00	0.09	0.172	0					0.90
37.667	0.00	0.09	0.171	0					0.90
37.750	0.00	0.09	0.170	0					0.90
37.833	0.00	0.09	0.170	0					0.89
37.917	0.00	0.09	0.169	0					0.89
38.000	0.00	0.09	0.168	0					0.89
38.083	0.00	0.09	0.168	0					0.88
38.167	0.00	0.09	0.167	0					0.88
38.250	0.00	0.09	0.167	0					0.88
38.333	0.00	0.09	0.166	0					0.87
38.417	0.00	0.09	0.165	0					0.87
38.500	0.00	0.09	0.165	0					0.87
38.583	0.00	0.09	0.164	0					0.86
38.667	0.00	0.09	0.164	0					0.86
38.750	0.00	0.09	0.163	0					0.86
38.833	0.00	0.09	0.162	0					0.86
38.917	0.00	0.09	0.162	0					0.85
39.000	0.00	0.08	0.161	0					0.85
39.083	0.00	0.08	0.161	0					0.85
39.167	0.00	0.08	0.160	0					0.84
39.250	0.00	0.08	0.160	0					0.84
39.333	0.00	0.08	0.159	0					0.84
39.417	0.00	0.08	0.158	0					0.83
39.500	0.00	0.08	0.158	0					0.83
39.583	0.00	0.08	0.157	0					0.83
39.667	0.00	0.08	0.157	0					0.82
39.750	0.00	0.08	0.156	0					0.82
39.833	0.00	0.08	0.156	0					0.82
39.917	0.00	0.08	0.155	0					0.82
40.000	0.00	0.08	0.154	0					0.81
40.083	0.00	0.08	0.154	0					0.81
40.167	0.00	0.08	0.153	0					0.81
40.250	0.00	0.08	0.153	0					0.80
40.333	0.00	0.08	0.152	0					0.80
40.417	0.00	0.08	0.152	0					0.80
40.500	0.00	0.08	0.151	0					0.80
40.583	0.00	0.08	0.151	0					0.79
40.667	0.00	0.08	0.150	0					0.79
40.750	0.00	0.08	0.149	0					0.79
40.833	0.00	0.08	0.149	0					0.78
40.917	0.00	0.08	0.148	0					0.78
41.000	0.00	0.08	0.148	0					0.78
41.083	0.00	0.08	0.147	0					0.78
41.167	0.00	0.08	0.147	0					0.77
41.250	0.00	0.08	0.146	0					0.77
41.333	0.00	0.08	0.146	0					0.77
41.417	0.00	0.08	0.145	0					0.76
41.500	0.00	0.08	0.145	0					0.76
41.583	0.00	0.08	0.144	0					0.76
41.667	0.00	0.08	0.144	0					0.76
41.750	0.00	0.08	0.143	0					0.75
41.833	0.00	0.08	0.143	0					0.75

41.917	0.00	0.07	0.142	0					0.75
42.000	0.00	0.07	0.142	0					0.75
42.083	0.00	0.07	0.141	0					0.74
42.167	0.00	0.07	0.141	0					0.74
42.250	0.00	0.07	0.140	0					0.74
42.333	0.00	0.07	0.140	0					0.73
42.417	0.00	0.07	0.139	0					0.73
42.500	0.00	0.07	0.139	0					0.73
42.583	0.00	0.07	0.138	0					0.73
42.667	0.00	0.07	0.138	0					0.72
42.750	0.00	0.07	0.137	0					0.72
42.833	0.00	0.07	0.137	0					0.72
42.917	0.00	0.07	0.136	0					0.72
43.000	0.00	0.07	0.136	0					0.71
43.083	0.00	0.07	0.135	0					0.71
43.167	0.00	0.07	0.135	0					0.71
43.250	0.00	0.07	0.134	0					0.71
43.333	0.00	0.07	0.134	0					0.70
43.417	0.00	0.07	0.133	0					0.70
43.500	0.00	0.07	0.133	0					0.70
43.583	0.00	0.07	0.132	0					0.70
43.667	0.00	0.07	0.132	0					0.69
43.750	0.00	0.07	0.131	0					0.69
43.833	0.00	0.07	0.131	0					0.69
43.917	0.00	0.07	0.130	0					0.69
44.000	0.00	0.07	0.130	0					0.68
44.083	0.00	0.07	0.129	0					0.68
44.167	0.00	0.07	0.129	0					0.68
44.250	0.00	0.07	0.128	0					0.68
44.333	0.00	0.07	0.128	0					0.67
44.417	0.00	0.07	0.127	0					0.67
44.500	0.00	0.07	0.127	0					0.67
44.583	0.00	0.07	0.127	0					0.67
44.667	0.00	0.07	0.126	0					0.66
44.750	0.00	0.07	0.126	0					0.66
44.833	0.00	0.07	0.125	0					0.66
44.917	0.00	0.07	0.125	0					0.66
45.000	0.00	0.07	0.124	0					0.65
45.083	0.00	0.07	0.124	0					0.65
45.167	0.00	0.06	0.123	0					0.65
45.250	0.00	0.06	0.123	0					0.65
45.333	0.00	0.06	0.122	0					0.64
45.417	0.00	0.06	0.122	0					0.64
45.500	0.00	0.06	0.122	0					0.64
45.583	0.00	0.06	0.121	0					0.64
45.667	0.00	0.06	0.121	0					0.64
45.750	0.00	0.06	0.120	0					0.63
45.833	0.00	0.06	0.120	0					0.63
45.917	0.00	0.06	0.119	0					0.63
46.000	0.00	0.06	0.119	0					0.63
46.083	0.00	0.06	0.119	0					0.62
46.167	0.00	0.06	0.118	0					0.62

46.250	0.00	0.06	0.118	0					0.62
46.333	0.00	0.06	0.117	0					0.62
46.417	0.00	0.06	0.117	0					0.61
46.500	0.00	0.06	0.116	0					0.61
46.583	0.00	0.06	0.116	0					0.61
46.667	0.00	0.06	0.116	0					0.61
46.750	0.00	0.06	0.115	0					0.61
46.833	0.00	0.06	0.115	0					0.60
46.917	0.00	0.06	0.114	0					0.60
47.000	0.00	0.06	0.114	0					0.60
47.083	0.00	0.06	0.113	0					0.60
47.167	0.00	0.06	0.113	0					0.60
47.250	0.00	0.06	0.113	0					0.59
47.333	0.00	0.06	0.112	0					0.59
47.417	0.00	0.06	0.112	0					0.59
47.500	0.00	0.06	0.111	0					0.59
47.583	0.00	0.06	0.111	0					0.58
47.667	0.00	0.06	0.111	0					0.58
47.750	0.00	0.06	0.110	0					0.58
47.833	0.00	0.06	0.110	0					0.58
47.917	0.00	0.06	0.109	0					0.58
48.000	0.00	0.06	0.109	0					0.57
48.083	0.00	0.06	0.109	0					0.57
48.167	0.00	0.06	0.108	0					0.57
48.250	0.00	0.06	0.108	0					0.57
48.333	0.00	0.06	0.107	0					0.57
48.417	0.00	0.06	0.107	0					0.56
48.500	0.00	0.06	0.107	0					0.56
48.583	0.00	0.06	0.106	0					0.56
48.667	0.00	0.06	0.106	0					0.56
48.750	0.00	0.06	0.106	0					0.56
48.833	0.00	0.06	0.105	0					0.55
48.917	0.00	0.06	0.105	0					0.55
49.000	0.00	0.05	0.104	0					0.55
49.083	0.00	0.05	0.104	0					0.55
49.167	0.00	0.05	0.104	0					0.55
49.250	0.00	0.05	0.103	0					0.54
49.333	0.00	0.05	0.103	0					0.54
49.417	0.00	0.05	0.103	0					0.54
49.500	0.00	0.05	0.102	0					0.54
49.583	0.00	0.05	0.102	0					0.54
49.667	0.00	0.05	0.101	0					0.53
49.750	0.00	0.05	0.101	0					0.53
49.833	0.00	0.05	0.101	0					0.53
49.917	0.00	0.05	0.100	0					0.53
50.000	0.00	0.05	0.100	0					0.53
50.083	0.00	0.05	0.100	0					0.52
50.167	0.00	0.05	0.099	0					0.52
50.250	0.00	0.05	0.099	0					0.52
50.333	0.00	0.05	0.099	0					0.52
50.417	0.00	0.05	0.098	0					0.52
50.500	0.00	0.05	0.098	0					0.51

50.583	0.00	0.05	0.097	0					0.51
50.667	0.00	0.05	0.097	0					0.51
50.750	0.00	0.05	0.097	0					0.51
50.833	0.00	0.05	0.096	0					0.51
50.917	0.00	0.05	0.096	0					0.51
51.000	0.00	0.05	0.096	0					0.50
51.083	0.00	0.05	0.095	0					0.50
51.167	0.00	0.05	0.095	0					0.50
51.250	0.00	0.05	0.095	0					0.50
51.333	0.00	0.05	0.094	0					0.50
51.417	0.00	0.05	0.094	0					0.49
51.500	0.00	0.05	0.094	0					0.49
51.583	0.00	0.05	0.093	0					0.49
51.667	0.00	0.05	0.093	0					0.49
51.750	0.00	0.05	0.093	0					0.49
51.833	0.00	0.05	0.092	0					0.49
51.917	0.00	0.05	0.092	0					0.48
52.000	0.00	0.05	0.092	0					0.48
52.083	0.00	0.05	0.091	0					0.48
52.167	0.00	0.05	0.091	0					0.48
52.250	0.00	0.05	0.091	0					0.48
52.333	0.00	0.05	0.090	0					0.48
52.417	0.00	0.05	0.090	0					0.47
52.500	0.00	0.05	0.090	0					0.47
52.583	0.00	0.05	0.089	0					0.47
52.667	0.00	0.05	0.089	0					0.47
52.750	0.00	0.05	0.089	0					0.47
52.833	0.00	0.05	0.088	0					0.47
52.917	0.00	0.05	0.088	0					0.46
53.000	0.00	0.05	0.088	0					0.46
53.083	0.00	0.05	0.087	0					0.46
53.167	0.00	0.05	0.087	0					0.46
53.250	0.00	0.05	0.087	0					0.46
53.333	0.00	0.05	0.086	0					0.46
53.417	0.00	0.05	0.086	0					0.45
53.500	0.00	0.05	0.086	0					0.45
53.583	0.00	0.05	0.086	0					0.45
53.667	0.00	0.04	0.085	0					0.45
53.750	0.00	0.04	0.085	0					0.45
53.833	0.00	0.04	0.085	0					0.45
53.917	0.00	0.04	0.084	0					0.44
54.000	0.00	0.04	0.084	0					0.44
54.083	0.00	0.04	0.084	0					0.44
54.167	0.00	0.04	0.083	0					0.44
54.250	0.00	0.04	0.083	0					0.44
54.333	0.00	0.04	0.083	0					0.44
54.417	0.00	0.04	0.082	0					0.43
54.500	0.00	0.04	0.082	0					0.43
54.583	0.00	0.04	0.082	0					0.43
54.667	0.00	0.04	0.082	0					0.43
54.750	0.00	0.04	0.081	0					0.43
54.833	0.00	0.04	0.081	0					0.43

54.917	0.00	0.04	0.081	0					0.42
55.000	0.00	0.04	0.080	0					0.42
55.083	0.00	0.04	0.080	0					0.42
55.167	0.00	0.04	0.080	0					0.42
55.250	0.00	0.04	0.080	0					0.42
55.333	0.00	0.04	0.079	0					0.42
55.417	0.00	0.04	0.079	0					0.42
55.500	0.00	0.04	0.079	0					0.41
55.583	0.00	0.04	0.078	0					0.41
55.667	0.00	0.04	0.078	0					0.41
55.750	0.00	0.04	0.078	0					0.41
55.833	0.00	0.04	0.078	0					0.41
55.917	0.00	0.04	0.077	0					0.41
56.000	0.00	0.04	0.077	0					0.41
56.083	0.00	0.04	0.077	0					0.40
56.167	0.00	0.04	0.076	0					0.40
56.250	0.00	0.04	0.076	0					0.40
56.333	0.00	0.04	0.076	0					0.40
56.417	0.00	0.04	0.076	0					0.40
56.500	0.00	0.04	0.075	0					0.40
56.583	0.00	0.04	0.075	0					0.40
56.667	0.00	0.04	0.075	0					0.39
56.750	0.00	0.04	0.075	0					0.39
56.833	0.00	0.04	0.074	0					0.39
56.917	0.00	0.04	0.074	0					0.39
57.000	0.00	0.04	0.074	0					0.39
57.083	0.00	0.04	0.073	0					0.39
57.167	0.00	0.04	0.073	0					0.39
57.250	0.00	0.04	0.073	0					0.38
57.333	0.00	0.04	0.073	0					0.38
57.417	0.00	0.04	0.072	0					0.38
57.500	0.00	0.04	0.072	0					0.38
57.583	0.00	0.04	0.072	0					0.38
57.667	0.00	0.04	0.072	0					0.38
57.750	0.00	0.04	0.071	0					0.38
57.833	0.00	0.04	0.071	0					0.37
57.917	0.00	0.04	0.071	0					0.37
58.000	0.00	0.04	0.071	0					0.37
58.083	0.00	0.04	0.070	0					0.37
58.167	0.00	0.04	0.070	0					0.37
58.250	0.00	0.04	0.070	0					0.37
58.333	0.00	0.04	0.070	0					0.37
58.417	0.00	0.04	0.069	0					0.36
58.500	0.00	0.04	0.069	0					0.36
58.583	0.00	0.04	0.069	0					0.36
58.667	0.00	0.04	0.069	0					0.36
58.750	0.00	0.04	0.068	0					0.36
58.833	0.00	0.04	0.068	0					0.36
58.917	0.00	0.04	0.068	0					0.36
59.000	0.00	0.04	0.068	0					0.36
59.083	0.00	0.04	0.067	0					0.35
59.167	0.00	0.04	0.067	0					0.35

59.250	0.00	0.04	0.067	0					0.35
59.333	0.00	0.04	0.067	0					0.35
59.417	0.00	0.03	0.066	0					0.35
59.500	0.00	0.03	0.066	0					0.35
59.583	0.00	0.03	0.066	0					0.35
59.667	0.00	0.03	0.066	0					0.35
59.750	0.00	0.03	0.065	0					0.34
59.833	0.00	0.03	0.065	0					0.34
59.917	0.00	0.03	0.065	0					0.34
60.000	0.00	0.03	0.065	0					0.34
60.083	0.00	0.03	0.064	0					0.34
60.167	0.00	0.03	0.064	0					0.34
60.250	0.00	0.03	0.064	0					0.34
60.333	0.00	0.03	0.064	0					0.34
60.417	0.00	0.03	0.064	0					0.33
60.500	0.00	0.03	0.063	0					0.33
60.583	0.00	0.03	0.063	0					0.33
60.667	0.00	0.03	0.063	0					0.33
60.750	0.00	0.03	0.063	0					0.33
60.833	0.00	0.03	0.062	0					0.33
60.917	0.00	0.03	0.062	0					0.33
61.000	0.00	0.03	0.062	0					0.33
61.083	0.00	0.03	0.062	0					0.32
61.167	0.00	0.03	0.062	0					0.32
61.250	0.00	0.03	0.061	0					0.32
61.333	0.00	0.03	0.061	0					0.32
61.417	0.00	0.03	0.061	0					0.32
61.500	0.00	0.03	0.061	0					0.32
61.583	0.00	0.03	0.060	0					0.32
61.667	0.00	0.03	0.060	0					0.32
61.750	0.00	0.03	0.060	0					0.32
61.833	0.00	0.03	0.060	0					0.31
61.917	0.00	0.03	0.060	0					0.31
62.000	0.00	0.03	0.059	0					0.31
62.083	0.00	0.03	0.059	0					0.31
62.167	0.00	0.03	0.059	0					0.31
62.250	0.00	0.03	0.059	0					0.31
62.333	0.00	0.03	0.058	0					0.31
62.417	0.00	0.03	0.058	0					0.31
62.500	0.00	0.03	0.058	0					0.31
62.583	0.00	0.03	0.058	0					0.30
62.667	0.00	0.03	0.058	0					0.30
62.750	0.00	0.03	0.057	0					0.30
62.833	0.00	0.03	0.057	0					0.30
62.917	0.00	0.03	0.057	0					0.30
63.000	0.00	0.03	0.057	0					0.30
63.083	0.00	0.03	0.057	0					0.30
63.167	0.00	0.03	0.056	0					0.30
63.250	0.00	0.03	0.056	0					0.30
63.333	0.00	0.03	0.056	0					0.29
63.417	0.00	0.03	0.056	0					0.29
63.500	0.00	0.03	0.056	0					0.29

63.583	0.00	0.03	0.055	0					0.29
63.667	0.00	0.03	0.055	0					0.29
63.750	0.00	0.03	0.055	0					0.29
63.833	0.00	0.03	0.055	0					0.29
63.917	0.00	0.03	0.055	0					0.29
64.000	0.00	0.03	0.054	0					0.29
64.083	0.00	0.03	0.054	0					0.29
64.167	0.00	0.03	0.054	0					0.28
64.250	0.00	0.03	0.054	0					0.28
64.333	0.00	0.03	0.054	0					0.28
64.417	0.00	0.03	0.053	0					0.28
64.500	0.00	0.03	0.053	0					0.28
64.583	0.00	0.03	0.053	0					0.28
64.667	0.00	0.03	0.053	0					0.28
64.750	0.00	0.03	0.053	0					0.28
64.833	0.00	0.03	0.052	0					0.28
64.917	0.00	0.03	0.052	0					0.27
65.000	0.00	0.03	0.052	0					0.27
65.083	0.00	0.03	0.052	0					0.27
65.167	0.00	0.03	0.052	0					0.27
65.250	0.00	0.03	0.051	0					0.27
65.333	0.00	0.03	0.051	0					0.27
65.417	0.00	0.03	0.051	0					0.27
65.500	0.00	0.03	0.051	0					0.27
65.583	0.00	0.03	0.051	0					0.27
65.667	0.00	0.03	0.051	0					0.27
65.750	0.00	0.03	0.050	0					0.27
65.833	0.00	0.03	0.050	0					0.26
65.917	0.00	0.03	0.050	0					0.26
66.000	0.00	0.03	0.050	0					0.26
66.083	0.00	0.03	0.050	0					0.26
66.167	0.00	0.03	0.049	0					0.26
66.250	0.00	0.03	0.049	0					0.26
66.333	0.00	0.03	0.049	0					0.26
66.417	0.00	0.03	0.049	0					0.26
66.500	0.00	0.03	0.049	0					0.26
66.583	0.00	0.03	0.049	0					0.26
66.667	0.00	0.03	0.048	0					0.25
66.750	0.00	0.03	0.048	0					0.25
66.833	0.00	0.03	0.048	0					0.25
66.917	0.00	0.03	0.048	0					0.25
67.000	0.00	0.03	0.048	0					0.25
67.083	0.00	0.03	0.048	0					0.25
67.167	0.00	0.02	0.047	0					0.25
67.250	0.00	0.02	0.047	0					0.25
67.333	0.00	0.02	0.047	0					0.25
67.417	0.00	0.02	0.047	0					0.25
67.500	0.00	0.02	0.047	0					0.25
67.583	0.00	0.02	0.047	0					0.24
67.667	0.00	0.02	0.046	0					0.24
67.750	0.00	0.02	0.046	0					0.24
67.833	0.00	0.02	0.046	0					0.24

67.917	0.00	0.02	0.046	0					0.24
68.000	0.00	0.02	0.046	0					0.24
68.083	0.00	0.02	0.046	0					0.24
68.167	0.00	0.02	0.045	0					0.24
68.250	0.00	0.02	0.045	0					0.24
68.333	0.00	0.02	0.045	0					0.24
68.417	0.00	0.02	0.045	0					0.24
68.500	0.00	0.02	0.045	0					0.24
68.583	0.00	0.02	0.045	0					0.23
68.667	0.00	0.02	0.044	0					0.23
68.750	0.00	0.02	0.044	0					0.23
68.833	0.00	0.02	0.044	0					0.23
68.917	0.00	0.02	0.044	0					0.23
69.000	0.00	0.02	0.044	0					0.23
69.083	0.00	0.02	0.044	0					0.23
69.167	0.00	0.02	0.043	0					0.23
69.250	0.00	0.02	0.043	0					0.23
69.333	0.00	0.02	0.043	0					0.23
69.417	0.00	0.02	0.043	0					0.23
69.500	0.00	0.02	0.043	0					0.23
69.583	0.00	0.02	0.043	0					0.22
69.667	0.00	0.02	0.042	0					0.22
69.750	0.00	0.02	0.042	0					0.22
69.833	0.00	0.02	0.042	0					0.22
69.917	0.00	0.02	0.042	0					0.22
70.000	0.00	0.02	0.042	0					0.22
70.083	0.00	0.02	0.042	0					0.22
70.167	0.00	0.02	0.042	0					0.22
70.250	0.00	0.02	0.041	0					0.22
70.333	0.00	0.02	0.041	0					0.22
70.417	0.00	0.02	0.041	0					0.22
70.500	0.00	0.02	0.041	0					0.22
70.583	0.00	0.02	0.041	0					0.21
70.667	0.00	0.02	0.041	0					0.21
70.750	0.00	0.02	0.041	0					0.21
70.833	0.00	0.02	0.040	0					0.21
70.917	0.00	0.02	0.040	0					0.21
71.000	0.00	0.02	0.040	0					0.21
71.083	0.00	0.02	0.040	0					0.21
71.167	0.00	0.02	0.040	0					0.21
71.250	0.00	0.02	0.040	0					0.21
71.333	0.00	0.02	0.040	0					0.21
71.417	0.00	0.02	0.039	0					0.21
71.500	0.00	0.02	0.039	0					0.21
71.583	0.00	0.02	0.039	0					0.21
71.667	0.00	0.02	0.039	0					0.21
71.750	0.00	0.02	0.039	0					0.20
71.833	0.00	0.02	0.039	0					0.20
71.917	0.00	0.02	0.039	0					0.20
72.000	0.00	0.02	0.038	0					0.20
72.083	0.00	0.02	0.038	0					0.20
72.167	0.00	0.02	0.038	0					0.20

72.250	0.00	0.02	0.038	0					0.20
72.333	0.00	0.02	0.038	0					0.20
72.417	0.00	0.02	0.038	0					0.20
72.500	0.00	0.02	0.038	0					0.20
72.583	0.00	0.02	0.037	0					0.20
72.667	0.00	0.02	0.037	0					0.20
72.750	0.00	0.02	0.037	0					0.20
72.833	0.00	0.02	0.037	0					0.19
72.917	0.00	0.02	0.037	0					0.19
73.000	0.00	0.02	0.037	0					0.19
73.083	0.00	0.02	0.037	0					0.19
73.167	0.00	0.02	0.036	0					0.19
73.250	0.00	0.02	0.036	0					0.19
73.333	0.00	0.02	0.036	0					0.19
73.417	0.00	0.02	0.036	0					0.19
73.500	0.00	0.02	0.036	0					0.19
73.583	0.00	0.02	0.036	0					0.19
73.667	0.00	0.02	0.036	0					0.19
73.750	0.00	0.02	0.036	0					0.19
73.833	0.00	0.02	0.035	0					0.19
73.917	0.00	0.02	0.035	0					0.19
74.000	0.00	0.02	0.035	0					0.19
74.083	0.00	0.02	0.035	0					0.18
74.167	0.00	0.02	0.035	0					0.18
74.250	0.00	0.02	0.035	0					0.18
74.333	0.00	0.02	0.035	0					0.18
74.417	0.00	0.02	0.035	0					0.18
74.500	0.00	0.02	0.034	0					0.18
74.583	0.00	0.02	0.034	0					0.18
74.667	0.00	0.02	0.034	0					0.18
74.750	0.00	0.02	0.034	0					0.18
74.833	0.00	0.02	0.034	0					0.18
74.917	0.00	0.02	0.034	0					0.18
75.000	0.00	0.02	0.034	0					0.18
75.083	0.00	0.02	0.034	0					0.18
75.167	0.00	0.02	0.033	0					0.18
75.250	0.00	0.02	0.033	0					0.18
75.333	0.00	0.02	0.033	0					0.17
75.417	0.00	0.02	0.033	0					0.17
75.500	0.00	0.02	0.033	0					0.17
75.583	0.00	0.02	0.033	0					0.17
75.667	0.00	0.02	0.033	0					0.17
75.750	0.00	0.02	0.033	0					0.17
75.833	0.00	0.02	0.032	0					0.17
75.917	0.00	0.02	0.032	0					0.17
76.000	0.00	0.02	0.032	0					0.17
76.083	0.00	0.02	0.032	0					0.17
76.167	0.00	0.02	0.032	0					0.17
76.250	0.00	0.02	0.032	0					0.17
76.333	0.00	0.02	0.032	0					0.17
76.417	0.00	0.02	0.032	0					0.17
76.500	0.00	0.02	0.032	0					0.17

76.583	0.00	0.02	0.031	0					0.17
76.667	0.00	0.02	0.031	0					0.16
76.750	0.00	0.02	0.031	0					0.16
76.833	0.00	0.02	0.031	0					0.16
76.917	0.00	0.02	0.031	0					0.16
77.000	0.00	0.02	0.031	0					0.16
77.083	0.00	0.02	0.031	0					0.16
77.167	0.00	0.02	0.031	0					0.16
77.250	0.00	0.02	0.031	0					0.16
77.333	0.00	0.02	0.030	0					0.16
77.417	0.00	0.02	0.030	0					0.16
77.500	0.00	0.02	0.030	0					0.16
77.583	0.00	0.02	0.030	0					0.16
77.667	0.00	0.02	0.030	0					0.16
77.750	0.00	0.02	0.030	0					0.16
77.833	0.00	0.02	0.030	0					0.16
77.917	0.00	0.02	0.030	0					0.16
78.000	0.00	0.02	0.030	0					0.16
78.083	0.00	0.02	0.029	0					0.16
78.167	0.00	0.02	0.029	0					0.15
78.250	0.00	0.02	0.029	0					0.15
78.333	0.00	0.02	0.029	0					0.15
78.417	0.00	0.02	0.029	0					0.15
78.500	0.00	0.02	0.029	0					0.15
78.583	0.00	0.02	0.029	0					0.15
78.667	0.00	0.02	0.029	0					0.15
78.750	0.00	0.02	0.029	0					0.15
78.833	0.00	0.02	0.029	0					0.15
78.917	0.00	0.01	0.028	0					0.15
79.000	0.00	0.01	0.028	0					0.15
79.083	0.00	0.01	0.028	0					0.15
79.167	0.00	0.01	0.028	0					0.15
79.250	0.00	0.01	0.028	0					0.15
79.333	0.00	0.01	0.028	0					0.15
79.417	0.00	0.01	0.028	0					0.15
79.500	0.00	0.01	0.028	0					0.15
79.583	0.00	0.01	0.028	0					0.15
79.667	0.00	0.01	0.028	0					0.14
79.750	0.00	0.01	0.027	0					0.14
79.833	0.00	0.01	0.027	0					0.14
79.917	0.00	0.01	0.027	0					0.14
80.000	0.00	0.01	0.027	0					0.14
80.083	0.00	0.01	0.027	0					0.14
80.167	0.00	0.01	0.027	0					0.14
80.250	0.00	0.01	0.027	0					0.14
80.333	0.00	0.01	0.027	0					0.14
80.417	0.00	0.01	0.027	0					0.14
80.500	0.00	0.01	0.027	0					0.14
80.583	0.00	0.01	0.026	0					0.14
80.667	0.00	0.01	0.026	0					0.14
80.750	0.00	0.01	0.026	0					0.14
80.833	0.00	0.01	0.026	0					0.14

80.917	0.00	0.01	0.026	0					0.14
81.000	0.00	0.01	0.026	0					0.14
81.083	0.00	0.01	0.026	0					0.14
81.167	0.00	0.01	0.026	0					0.14
81.250	0.00	0.01	0.026	0					0.14
81.333	0.00	0.01	0.026	0					0.13
81.417	0.00	0.01	0.025	0					0.13
81.500	0.00	0.01	0.025	0					0.13
81.583	0.00	0.01	0.025	0					0.13
81.667	0.00	0.01	0.025	0					0.13
81.750	0.00	0.01	0.025	0					0.13
81.833	0.00	0.01	0.025	0					0.13
81.917	0.00	0.01	0.025	0					0.13
82.000	0.00	0.01	0.025	0					0.13
82.083	0.00	0.01	0.025	0					0.13
82.167	0.00	0.01	0.025	0					0.13
82.250	0.00	0.01	0.025	0					0.13
82.333	0.00	0.01	0.024	0					0.13
82.417	0.00	0.01	0.024	0					0.13
82.500	0.00	0.01	0.024	0					0.13
82.583	0.00	0.01	0.024	0					0.13
82.667	0.00	0.01	0.024	0					0.13
82.750	0.00	0.01	0.024	0					0.13
82.833	0.00	0.01	0.024	0					0.13
82.917	0.00	0.01	0.024	0					0.13
83.000	0.00	0.01	0.024	0					0.13
83.083	0.00	0.01	0.024	0					0.12
83.167	0.00	0.01	0.024	0					0.12
83.250	0.00	0.01	0.024	0					0.12
83.333	0.00	0.01	0.023	0					0.12
83.417	0.00	0.01	0.023	0					0.12
83.500	0.00	0.01	0.023	0					0.12
83.583	0.00	0.01	0.023	0					0.12
83.667	0.00	0.01	0.023	0					0.12
83.750	0.00	0.01	0.023	0					0.12
83.833	0.00	0.01	0.023	0					0.12
83.917	0.00	0.01	0.023	0					0.12
84.000	0.00	0.01	0.023	0					0.12
84.083	0.00	0.01	0.023	0					0.12
84.167	0.00	0.01	0.023	0					0.12
84.250	0.00	0.01	0.023	0					0.12
84.333	0.00	0.01	0.022	0					0.12
84.417	0.00	0.01	0.022	0					0.12
84.500	0.00	0.01	0.022	0					0.12
84.583	0.00	0.01	0.022	0					0.12
84.667	0.00	0.01	0.022	0					0.12
84.750	0.00	0.01	0.022	0					0.12
84.833	0.00	0.01	0.022	0					0.12
84.917	0.00	0.01	0.022	0					0.12
85.000	0.00	0.01	0.022	0					0.11
85.083	0.00	0.01	0.022	0					0.11
85.167	0.00	0.01	0.022	0					0.11

85.250	0.00	0.01	0.022	0					0.11
85.333	0.00	0.01	0.021	0					0.11
85.417	0.00	0.01	0.021	0					0.11
85.500	0.00	0.01	0.021	0					0.11
85.583	0.00	0.01	0.021	0					0.11
85.667	0.00	0.01	0.021	0					0.11
85.750	0.00	0.01	0.021	0					0.11
85.833	0.00	0.01	0.021	0					0.11
85.917	0.00	0.01	0.021	0					0.11
86.000	0.00	0.01	0.021	0					0.11
86.083	0.00	0.01	0.021	0					0.11
86.167	0.00	0.01	0.021	0					0.11
86.250	0.00	0.01	0.021	0					0.11
86.333	0.00	0.01	0.021	0					0.11
86.417	0.00	0.01	0.021	0					0.11
86.500	0.00	0.01	0.020	0					0.11
86.583	0.00	0.01	0.020	0					0.11
86.667	0.00	0.01	0.020	0					0.11
86.750	0.00	0.01	0.020	0					0.11
86.833	0.00	0.01	0.020	0					0.11
86.917	0.00	0.01	0.020	0					0.11
87.000	0.00	0.01	0.020	0					0.11
87.083	0.00	0.01	0.020	0					0.10
87.167	0.00	0.01	0.020	0					0.10
87.250	0.00	0.01	0.020	0					0.10
87.333	0.00	0.01	0.020	0					0.10
87.417	0.00	0.01	0.020	0					0.10
87.500	0.00	0.01	0.020	0					0.10
87.583	0.00	0.01	0.019	0					0.10
87.667	0.00	0.01	0.019	0					0.10
87.750	0.00	0.01	0.019	0					0.10
87.833	0.00	0.01	0.019	0					0.10
87.917	0.00	0.01	0.019	0					0.10
88.000	0.00	0.01	0.019	0					0.10
88.083	0.00	0.01	0.019	0					0.10
88.167	0.00	0.01	0.019	0					0.10
88.250	0.00	0.01	0.019	0					0.10
88.333	0.00	0.01	0.019	0					0.10
88.417	0.00	0.01	0.019	0					0.10
88.500	0.00	0.01	0.019	0					0.10
88.583	0.00	0.01	0.019	0					0.10
88.667	0.00	0.01	0.019	0					0.10
88.750	0.00	0.01	0.019	0					0.10
88.833	0.00	0.01	0.018	0					0.10
88.917	0.00	0.01	0.018	0					0.10
89.000	0.00	0.01	0.018	0					0.10
89.083	0.00	0.01	0.018	0					0.10
89.167	0.00	0.01	0.018	0					0.10
89.250	0.00	0.01	0.018	0					0.10
89.333	0.00	0.01	0.018	0					0.10
89.417	0.00	0.01	0.018	0					0.09
89.500	0.00	0.01	0.018	0					0.09

89.583	0.00	0.01	0.018	0					0.09
89.667	0.00	0.01	0.018	0					0.09
89.750	0.00	0.01	0.018	0					0.09
89.833	0.00	0.01	0.018	0					0.09
89.917	0.00	0.01	0.018	0					0.09
90.000	0.00	0.01	0.018	0					0.09
90.083	0.00	0.01	0.017	0					0.09
90.167	0.00	0.01	0.017	0					0.09
90.250	0.00	0.01	0.017	0					0.09
90.333	0.00	0.01	0.017	0					0.09
90.417	0.00	0.01	0.017	0					0.09
90.500	0.00	0.01	0.017	0					0.09
90.583	0.00	0.01	0.017	0					0.09
90.667	0.00	0.01	0.017	0					0.09
90.750	0.00	0.01	0.017	0					0.09
90.833	0.00	0.01	0.017	0					0.09
90.917	0.00	0.01	0.017	0					0.09
91.000	0.00	0.01	0.017	0					0.09
91.083	0.00	0.01	0.017	0					0.09
91.167	0.00	0.01	0.017	0					0.09
91.250	0.00	0.01	0.017	0					0.09
91.333	0.00	0.01	0.017	0					0.09
91.417	0.00	0.01	0.016	0					0.09
91.500	0.00	0.01	0.016	0					0.09
91.583	0.00	0.01	0.016	0					0.09
91.667	0.00	0.01	0.016	0					0.09
91.750	0.00	0.01	0.016	0					0.09
91.833	0.00	0.01	0.016	0					0.09
91.917	0.00	0.01	0.016	0					0.08
92.000	0.00	0.01	0.016	0					0.08
92.083	0.00	0.01	0.016	0					0.08
92.167	0.00	0.01	0.016	0					0.08
92.250	0.00	0.01	0.016	0					0.08
92.333	0.00	0.01	0.016	0					0.08
92.417	0.00	0.01	0.016	0					0.08
92.500	0.00	0.01	0.016	0					0.08
92.583	0.00	0.01	0.016	0					0.08
92.667	0.00	0.01	0.016	0					0.08
92.750	0.00	0.01	0.016	0					0.08
92.833	0.00	0.01	0.016	0					0.08
92.917	0.00	0.01	0.015	0					0.08
93.000	0.00	0.01	0.015	0					0.08
93.083	0.00	0.01	0.015	0					0.08
93.167	0.00	0.01	0.015	0					0.08
93.250	0.00	0.01	0.015	0					0.08
93.333	0.00	0.01	0.015	0					0.08
93.417	0.00	0.01	0.015	0					0.08
93.500	0.00	0.01	0.015	0					0.08
93.583	0.00	0.01	0.015	0					0.08
93.667	0.00	0.01	0.015	0					0.08
93.750	0.00	0.01	0.015	0					0.08
93.833	0.00	0.01	0.015	0					0.08

93.917	0.00	0.01	0.015	0					0.08
94.000	0.00	0.01	0.015	0					0.08
94.083	0.00	0.01	0.015	0					0.08
94.167	0.00	0.01	0.015	0					0.08
94.250	0.00	0.01	0.015	0					0.08
94.333	0.00	0.01	0.015	0					0.08
94.417	0.00	0.01	0.014	0					0.08
94.500	0.00	0.01	0.014	0					0.08
94.583	0.00	0.01	0.014	0					0.08
94.667	0.00	0.01	0.014	0					0.08
94.750	0.00	0.01	0.014	0					0.08
94.833	0.00	0.01	0.014	0					0.07
94.917	0.00	0.01	0.014	0					0.07
95.000	0.00	0.01	0.014	0					0.07
95.083	0.00	0.01	0.014	0					0.07
95.167	0.00	0.01	0.014	0					0.07
95.250	0.00	0.01	0.014	0					0.07
95.333	0.00	0.01	0.014	0					0.07
95.417	0.00	0.01	0.014	0					0.07
95.500	0.00	0.01	0.014	0					0.07
95.583	0.00	0.01	0.014	0					0.07
95.667	0.00	0.01	0.014	0					0.07
95.750	0.00	0.01	0.014	0					0.07
95.833	0.00	0.01	0.014	0					0.07
95.917	0.00	0.01	0.014	0					0.07
96.000	0.00	0.01	0.014	0					0.07
96.083	0.00	0.01	0.013	0					0.07
96.167	0.00	0.01	0.013	0					0.07
96.250	0.00	0.01	0.013	0					0.07
96.333	0.00	0.01	0.013	0					0.07
96.417	0.00	0.01	0.013	0					0.07
96.500	0.00	0.01	0.013	0					0.07
96.583	0.00	0.01	0.013	0					0.07
96.667	0.00	0.01	0.013	0					0.07
96.750	0.00	0.01	0.013	0					0.07
96.833	0.00	0.01	0.013	0					0.07
96.917	0.00	0.01	0.013	0					0.07
97.000	0.00	0.01	0.013	0					0.07
97.083	0.00	0.01	0.013	0					0.07
97.167	0.00	0.01	0.013	0					0.07
97.250	0.00	0.01	0.013	0					0.07
97.333	0.00	0.01	0.013	0					0.07
97.417	0.00	0.01	0.013	0					0.07
97.500	0.00	0.01	0.013	0					0.07
97.583	0.00	0.01	0.013	0					0.07
97.667	0.00	0.01	0.013	0					0.07
97.750	0.00	0.01	0.013	0					0.07
97.833	0.00	0.01	0.012	0					0.07
97.917	0.00	0.01	0.012	0					0.07
98.000	0.00	0.01	0.012	0					0.07
98.083	0.00	0.01	0.012	0					0.06
98.167	0.00	0.01	0.012	0					0.06

98.250	0.00	0.01	0.012	0					0.06
98.333	0.00	0.01	0.012	0					0.06
98.417	0.00	0.01	0.012	0					0.06
98.500	0.00	0.01	0.012	0					0.06
98.583	0.00	0.01	0.012	0					0.06
98.667	0.00	0.01	0.012	0					0.06
98.750	0.00	0.01	0.012	0					0.06
98.833	0.00	0.01	0.012	0					0.06
98.917	0.00	0.01	0.012	0					0.06
99.000	0.00	0.01	0.012	0					0.06
99.083	0.00	0.01	0.012	0					0.06
99.167	0.00	0.01	0.012	0					0.06
99.250	0.00	0.01	0.012	0					0.06
99.333	0.00	0.01	0.012	0					0.06
99.417	0.00	0.01	0.012	0					0.06
99.500	0.00	0.01	0.012	0					0.06
99.583	0.00	0.01	0.012	0					0.06
99.667	0.00	0.01	0.012	0					0.06
99.750	0.00	0.01	0.011	0					0.06
99.833	0.00	0.01	0.011	0					0.06
99.917	0.00	0.01	0.011	0					0.06
100.000	0.00	0.01	0.011	0					0.06
100.083	0.00	0.01	0.011	0					0.06
100.167	0.00	0.01	0.011	0					0.06
100.250	0.00	0.01	0.011	0					0.06
100.333	0.00	0.01	0.011	0					0.06
100.417	0.00	0.01	0.011	0					0.06
100.500	0.00	0.01	0.011	0					0.06
100.583	0.00	0.01	0.011	0					0.06
100.667	0.00	0.01	0.011	0					0.06
100.750	0.00	0.01	0.011	0					0.06
100.833	0.00	0.01	0.011	0					0.06
100.917	0.00	0.01	0.011	0					0.06
101.000	0.00	0.01	0.011	0					0.06
101.083	0.00	0.01	0.011	0					0.06
101.167	0.00	0.01	0.011	0					0.06
101.250	0.00	0.01	0.011	0					0.06
101.333	0.00	0.01	0.011	0					0.06
101.417	0.00	0.01	0.011	0					0.06
101.500	0.00	0.01	0.011	0					0.06
101.583	0.00	0.01	0.011	0					0.06
101.667	0.00	0.01	0.011	0					0.06
101.750	0.00	0.01	0.011	0					0.06
101.833	0.00	0.01	0.010	0					0.06
101.917	0.00	0.01	0.010	0					0.05
102.000	0.00	0.01	0.010	0					0.05
102.083	0.00	0.01	0.010	0					0.05
102.167	0.00	0.01	0.010	0					0.05
102.250	0.00	0.01	0.010	0					0.05
102.333	0.00	0.01	0.010	0					0.05
102.417	0.00	0.01	0.010	0					0.05
102.500	0.00	0.01	0.010	0					0.05

102.583	0.00	0.01	0.010	0					0.05
102.667	0.00	0.01	0.010	0					0.05
102.750	0.00	0.01	0.010	0					0.05
102.833	0.00	0.01	0.010	0					0.05
102.917	0.00	0.01	0.010	0					0.05
103.000	0.00	0.01	0.010	0					0.05
103.083	0.00	0.01	0.010	0					0.05
103.167	0.00	0.01	0.010	0					0.05
103.250	0.00	0.01	0.010	0					0.05
103.333	0.00	0.01	0.010	0					0.05
103.417	0.00	0.01	0.010	0					0.05
103.500	0.00	0.01	0.010	0					0.05
103.583	0.00	0.01	0.010	0					0.05
103.667	0.00	0.01	0.010	0					0.05
103.750	0.00	0.01	0.010	0					0.05
103.833	0.00	0.01	0.010	0					0.05
103.917	0.00	0.01	0.010	0					0.05
104.000	0.00	0.01	0.010	0					0.05
104.083	0.00	0.01	0.010	0					0.05
104.167	0.00	0.00	0.009	0					0.05
104.250	0.00	0.00	0.009	0					0.05
104.333	0.00	0.00	0.009	0					0.05
104.417	0.00	0.00	0.009	0					0.05
104.500	0.00	0.00	0.009	0					0.05
104.583	0.00	0.00	0.009	0					0.05
104.667	0.00	0.00	0.009	0					0.05
104.750	0.00	0.00	0.009	0					0.05
104.833	0.00	0.00	0.009	0					0.05
104.917	0.00	0.00	0.009	0					0.05
105.000	0.00	0.00	0.009	0					0.05
105.083	0.00	0.00	0.009	0					0.05
105.167	0.00	0.00	0.009	0					0.05
105.250	0.00	0.00	0.009	0					0.05
105.333	0.00	0.00	0.009	0					0.05
105.417	0.00	0.00	0.009	0					0.05
105.500	0.00	0.00	0.009	0					0.05
105.583	0.00	0.00	0.009	0					0.05
105.667	0.00	0.00	0.009	0					0.05
105.750	0.00	0.00	0.009	0					0.05
105.833	0.00	0.00	0.009	0					0.05
105.917	0.00	0.00	0.009	0					0.05
106.000	0.00	0.00	0.009	0					0.05
106.083	0.00	0.00	0.009	0					0.05
106.167	0.00	0.00	0.009	0					0.05
106.250	0.00	0.00	0.009	0					0.05
106.333	0.00	0.00	0.009	0					0.05
106.417	0.00	0.00	0.009	0					0.05
106.500	0.00	0.00	0.009	0					0.05
106.583	0.00	0.00	0.009	0					0.04
106.667	0.00	0.00	0.008	0					0.04
106.750	0.00	0.00	0.008	0					0.04
106.833	0.00	0.00	0.008	0					0.04

106.917	0.00	0.00	0.008	0					0.04
107.000	0.00	0.00	0.008	0					0.04
107.083	0.00	0.00	0.008	0					0.04
107.167	0.00	0.00	0.008	0					0.04
107.250	0.00	0.00	0.008	0					0.04
107.333	0.00	0.00	0.008	0					0.04
107.417	0.00	0.00	0.008	0					0.04
107.500	0.00	0.00	0.008	0					0.04
107.583	0.00	0.00	0.008	0					0.04
107.667	0.00	0.00	0.008	0					0.04
107.750	0.00	0.00	0.008	0					0.04
107.833	0.00	0.00	0.008	0					0.04
107.917	0.00	0.00	0.008	0					0.04
108.000	0.00	0.00	0.008	0					0.04
108.083	0.00	0.00	0.008	0					0.04
108.167	0.00	0.00	0.008	0					0.04
108.250	0.00	0.00	0.008	0					0.04
108.333	0.00	0.00	0.008	0					0.04
108.417	0.00	0.00	0.008	0					0.04
108.500	0.00	0.00	0.008	0					0.04
108.583	0.00	0.00	0.008	0					0.04
108.667	0.00	0.00	0.008	0					0.04
108.750	0.00	0.00	0.008	0					0.04
108.833	0.00	0.00	0.008	0					0.04
108.917	0.00	0.00	0.008	0					0.04
109.000	0.00	0.00	0.008	0					0.04
109.083	0.00	0.00	0.008	0					0.04
109.167	0.00	0.00	0.008	0					0.04
109.250	0.00	0.00	0.008	0					0.04
109.333	0.00	0.00	0.008	0					0.04
109.417	0.00	0.00	0.008	0					0.04
109.500	0.00	0.00	0.008	0					0.04
109.583	0.00	0.00	0.007	0					0.04
109.667	0.00	0.00	0.007	0					0.04
109.750	0.00	0.00	0.007	0					0.04
109.833	0.00	0.00	0.007	0					0.04
109.917	0.00	0.00	0.007	0					0.04
110.000	0.00	0.00	0.007	0					0.04
110.083	0.00	0.00	0.007	0					0.04
110.167	0.00	0.00	0.007	0					0.04
110.250	0.00	0.00	0.007	0					0.04
110.333	0.00	0.00	0.007	0					0.04
110.417	0.00	0.00	0.007	0					0.04
110.500	0.00	0.00	0.007	0					0.04
110.583	0.00	0.00	0.007	0					0.04
110.667	0.00	0.00	0.007	0					0.04
110.750	0.00	0.00	0.007	0					0.04
110.833	0.00	0.00	0.007	0					0.04
110.917	0.00	0.00	0.007	0					0.04
111.000	0.00	0.00	0.007	0					0.04
111.083	0.00	0.00	0.007	0					0.04
111.167	0.00	0.00	0.007	0					0.04

111.250	0.00	0.00	0.007	0					0.04
111.333	0.00	0.00	0.007	0					0.04
111.417	0.00	0.00	0.007	0					0.04
111.500	0.00	0.00	0.007	0					0.04
111.583	0.00	0.00	0.007	0					0.04
111.667	0.00	0.00	0.007	0					0.04
111.750	0.00	0.00	0.007	0					0.04
111.833	0.00	0.00	0.007	0					0.04
111.917	0.00	0.00	0.007	0					0.04
112.000	0.00	0.00	0.007	0					0.04
112.083	0.00	0.00	0.007	0					0.04
112.167	0.00	0.00	0.007	0					0.04
112.250	0.00	0.00	0.007	0					0.04
112.333	0.00	0.00	0.007	0					0.03
112.417	0.00	0.00	0.007	0					0.03
112.500	0.00	0.00	0.007	0					0.03
112.583	0.00	0.00	0.007	0					0.03
112.667	0.00	0.00	0.007	0					0.03
112.750	0.00	0.00	0.007	0					0.03
112.833	0.00	0.00	0.006	0					0.03
112.917	0.00	0.00	0.006	0					0.03
113.000	0.00	0.00	0.006	0					0.03
113.083	0.00	0.00	0.006	0					0.03
113.167	0.00	0.00	0.006	0					0.03
113.250	0.00	0.00	0.006	0					0.03
113.333	0.00	0.00	0.006	0					0.03
113.417	0.00	0.00	0.006	0					0.03
113.500	0.00	0.00	0.006	0					0.03
113.583	0.00	0.00	0.006	0					0.03
113.667	0.00	0.00	0.006	0					0.03
113.750	0.00	0.00	0.006	0					0.03
113.833	0.00	0.00	0.006	0					0.03
113.917	0.00	0.00	0.006	0					0.03
114.000	0.00	0.00	0.006	0					0.03
114.083	0.00	0.00	0.006	0					0.03
114.167	0.00	0.00	0.006	0					0.03
114.250	0.00	0.00	0.006	0					0.03
114.333	0.00	0.00	0.006	0					0.03
114.417	0.00	0.00	0.006	0					0.03
114.500	0.00	0.00	0.006	0					0.03
114.583	0.00	0.00	0.006	0					0.03
114.667	0.00	0.00	0.006	0					0.03
114.750	0.00	0.00	0.006	0					0.03
114.833	0.00	0.00	0.006	0					0.03
114.917	0.00	0.00	0.006	0					0.03
115.000	0.00	0.00	0.006	0					0.03
115.083	0.00	0.00	0.006	0					0.03
115.167	0.00	0.00	0.006	0					0.03
115.250	0.00	0.00	0.006	0					0.03
115.333	0.00	0.00	0.006	0					0.03
115.417	0.00	0.00	0.006	0					0.03
115.500	0.00	0.00	0.006	0					0.03

115.583	0.00	0.00	0.006	0					0.03
115.667	0.00	0.00	0.006	0					0.03
115.750	0.00	0.00	0.006	0					0.03
115.833	0.00	0.00	0.006	0					0.03
115.917	0.00	0.00	0.006	0					0.03
116.000	0.00	0.00	0.006	0					0.03
116.083	0.00	0.00	0.006	0					0.03
116.167	0.00	0.00	0.006	0					0.03
116.250	0.00	0.00	0.006	0					0.03
116.333	0.00	0.00	0.006	0					0.03
116.417	0.00	0.00	0.006	0					0.03
116.500	0.00	0.00	0.006	0					0.03
116.583	0.00	0.00	0.006	0					0.03
116.667	0.00	0.00	0.006	0					0.03
116.750	0.00	0.00	0.005	0					0.03
116.833	0.00	0.00	0.005	0					0.03
116.917	0.00	0.00	0.005	0					0.03
117.000	0.00	0.00	0.005	0					0.03
117.083	0.00	0.00	0.005	0					0.03
117.167	0.00	0.00	0.005	0					0.03
117.250	0.00	0.00	0.005	0					0.03
117.333	0.00	0.00	0.005	0					0.03
117.417	0.00	0.00	0.005	0					0.03
117.500	0.00	0.00	0.005	0					0.03
117.583	0.00	0.00	0.005	0					0.03
117.667	0.00	0.00	0.005	0					0.03
117.750	0.00	0.00	0.005	0					0.03
117.833	0.00	0.00	0.005	0					0.03
117.917	0.00	0.00	0.005	0					0.03
118.000	0.00	0.00	0.005	0					0.03
118.083	0.00	0.00	0.005	0					0.03
118.167	0.00	0.00	0.005	0					0.03
118.250	0.00	0.00	0.005	0					0.03
118.333	0.00	0.00	0.005	0					0.03
118.417	0.00	0.00	0.005	0					0.03
118.500	0.00	0.00	0.005	0					0.03
118.583	0.00	0.00	0.005	0					0.03
118.667	0.00	0.00	0.005	0					0.03
118.750	0.00	0.00	0.005	0					0.03
118.833	0.00	0.00	0.005	0					0.03
118.917	0.00	0.00	0.005	0					0.03
119.000	0.00	0.00	0.005	0					0.03
119.083	0.00	0.00	0.005	0					0.03
119.167	0.00	0.00	0.005	0					0.03
119.250	0.00	0.00	0.005	0					0.03
119.333	0.00	0.00	0.005	0					0.03
119.417	0.00	0.00	0.005	0					0.03
119.500	0.00	0.00	0.005	0					0.03
119.583	0.00	0.00	0.005	0					0.03
119.667	0.00	0.00	0.005	0					0.03
119.750	0.00	0.00	0.005	0					0.03
119.833	0.00	0.00	0.005	0					0.03

119.917	0.00	0.00	0.005	0					0.03
120.000	0.00	0.00	0.005	0					0.03
120.083	0.00	0.00	0.005	0					0.02
120.167	0.00	0.00	0.005	0					0.02
120.250	0.00	0.00	0.005	0					0.02
120.333	0.00	0.00	0.005	0					0.02
120.417	0.00	0.00	0.005	0					0.02
120.500	0.00	0.00	0.005	0					0.02
120.583	0.00	0.00	0.005	0					0.02
120.667	0.00	0.00	0.005	0					0.02
120.750	0.00	0.00	0.005	0					0.02
120.833	0.00	0.00	0.005	0					0.02
120.917	0.00	0.00	0.005	0					0.02
121.000	0.00	0.00	0.005	0					0.02
121.083	0.00	0.00	0.005	0					0.02
121.167	0.00	0.00	0.005	0					0.02
121.250	0.00	0.00	0.005	0					0.02
121.333	0.00	0.00	0.004	0					0.02
121.417	0.00	0.00	0.004	0					0.02
121.500	0.00	0.00	0.004	0					0.02
121.583	0.00	0.00	0.004	0					0.02
121.667	0.00	0.00	0.004	0					0.02
121.750	0.00	0.00	0.004	0					0.02
121.833	0.00	0.00	0.004	0					0.02
121.917	0.00	0.00	0.004	0					0.02
122.000	0.00	0.00	0.004	0					0.02
122.083	0.00	0.00	0.004	0					0.02
122.167	0.00	0.00	0.004	0					0.02
122.250	0.00	0.00	0.004	0					0.02
122.333	0.00	0.00	0.004	0					0.02
122.417	0.00	0.00	0.004	0					0.02
122.500	0.00	0.00	0.004	0					0.02
122.583	0.00	0.00	0.004	0					0.02
122.667	0.00	0.00	0.004	0					0.02
122.750	0.00	0.00	0.004	0					0.02
122.833	0.00	0.00	0.004	0					0.02
122.917	0.00	0.00	0.004	0					0.02
123.000	0.00	0.00	0.004	0					0.02
123.083	0.00	0.00	0.004	0					0.02
123.167	0.00	0.00	0.004	0					0.02
123.250	0.00	0.00	0.004	0					0.02
123.333	0.00	0.00	0.004	0					0.02
123.417	0.00	0.00	0.004	0					0.02
123.500	0.00	0.00	0.004	0					0.02
123.583	0.00	0.00	0.004	0					0.02
123.667	0.00	0.00	0.004	0					0.02
123.750	0.00	0.00	0.004	0					0.02
123.833	0.00	0.00	0.004	0					0.02
123.917	0.00	0.00	0.004	0					0.02
124.000	0.00	0.00	0.004	0					0.02
124.083	0.00	0.00	0.004	0					0.02
124.167	0.00	0.00	0.004	0					0.02

124.250	0.00	0.00	0.004	0					0.02
124.333	0.00	0.00	0.004	0					0.02
124.417	0.00	0.00	0.004	0					0.02
124.500	0.00	0.00	0.004	0					0.02
124.583	0.00	0.00	0.004	0					0.02
124.667	0.00	0.00	0.004	0					0.02
124.750	0.00	0.00	0.004	0					0.02
124.833	0.00	0.00	0.004	0					0.02
124.917	0.00	0.00	0.004	0					0.02
125.000	0.00	0.00	0.004	0					0.02
125.083	0.00	0.00	0.004	0					0.02
125.167	0.00	0.00	0.004	0					0.02
125.250	0.00	0.00	0.004	0					0.02
125.333	0.00	0.00	0.004	0					0.02
125.417	0.00	0.00	0.004	0					0.02
125.500	0.00	0.00	0.004	0					0.02
125.583	0.00	0.00	0.004	0					0.02
125.667	0.00	0.00	0.004	0					0.02
125.750	0.00	0.00	0.004	0					0.02
125.833	0.00	0.00	0.004	0					0.02
125.917	0.00	0.00	0.004	0					0.02
126.000	0.00	0.00	0.004	0					0.02
126.083	0.00	0.00	0.004	0					0.02
126.167	0.00	0.00	0.004	0					0.02
126.250	0.00	0.00	0.004	0					0.02
126.333	0.00	0.00	0.004	0					0.02
126.417	0.00	0.00	0.004	0					0.02
126.500	0.00	0.00	0.004	0					0.02
126.583	0.00	0.00	0.004	0					0.02
126.667	0.00	0.00	0.004	0					0.02
126.750	0.00	0.00	0.004	0					0.02
126.833	0.00	0.00	0.004	0					0.02
126.917	0.00	0.00	0.004	0					0.02
127.000	0.00	0.00	0.004	0					0.02
127.083	0.00	0.00	0.003	0					0.02
127.167	0.00	0.00	0.003	0					0.02
127.250	0.00	0.00	0.003	0					0.02
127.333	0.00	0.00	0.003	0					0.02
127.417	0.00	0.00	0.003	0					0.02
127.500	0.00	0.00	0.003	0					0.02
127.583	0.00	0.00	0.003	0					0.02
127.667	0.00	0.00	0.003	0					0.02
127.750	0.00	0.00	0.003	0					0.02
127.833	0.00	0.00	0.003	0					0.02
127.917	0.00	0.00	0.003	0					0.02
128.000	0.00	0.00	0.003	0					0.02
128.083	0.00	0.00	0.003	0					0.02
128.167	0.00	0.00	0.003	0					0.02
128.250	0.00	0.00	0.003	0					0.02
128.333	0.00	0.00	0.003	0					0.02
128.417	0.00	0.00	0.003	0					0.02
128.500	0.00	0.00	0.003	0					0.02

128.583	0.00	0.00	0.003	0					0.02
128.667	0.00	0.00	0.003	0					0.02
128.750	0.00	0.00	0.003	0					0.02
128.833	0.00	0.00	0.003	0					0.02
128.917	0.00	0.00	0.003	0					0.02
129.000	0.00	0.00	0.003	0					0.02
129.083	0.00	0.00	0.003	0					0.02
129.167	0.00	0.00	0.003	0					0.02
129.250	0.00	0.00	0.003	0					0.02
129.333	0.00	0.00	0.003	0					0.02
129.417	0.00	0.00	0.003	0					0.02
129.500	0.00	0.00	0.003	0					0.02
129.583	0.00	0.00	0.003	0					0.02
129.667	0.00	0.00	0.003	0					0.02
129.750	0.00	0.00	0.003	0					0.02
129.833	0.00	0.00	0.003	0					0.02
129.917	0.00	0.00	0.003	0					0.02
130.000	0.00	0.00	0.003	0					0.02
130.083	0.00	0.00	0.003	0					0.02
130.167	0.00	0.00	0.003	0					0.02
130.250	0.00	0.00	0.003	0					0.02
130.333	0.00	0.00	0.003	0					0.02
130.417	0.00	0.00	0.003	0					0.02
130.500	0.00	0.00	0.003	0					0.02
130.583	0.00	0.00	0.003	0					0.02
130.667	0.00	0.00	0.003	0					0.02
130.750	0.00	0.00	0.003	0					0.02
130.833	0.00	0.00	0.003	0					0.02
130.917	0.00	0.00	0.003	0					0.02
131.000	0.00	0.00	0.003	0					0.02
131.083	0.00	0.00	0.003	0					0.02
131.167	0.00	0.00	0.003	0					0.02
131.250	0.00	0.00	0.003	0					0.02
131.333	0.00	0.00	0.003	0					0.02
131.417	0.00	0.00	0.003	0					0.02
131.500	0.00	0.00	0.003	0					0.02
131.583	0.00	0.00	0.003	0					0.02
131.667	0.00	0.00	0.003	0					0.02
131.750	0.00	0.00	0.003	0					0.02
131.833	0.00	0.00	0.003	0					0.01
131.917	0.00	0.00	0.003	0					0.01
132.000	0.00	0.00	0.003	0					0.01
132.083	0.00	0.00	0.003	0					0.01
132.167	0.00	0.00	0.003	0					0.01
132.250	0.00	0.00	0.003	0					0.01
132.333	0.00	0.00	0.003	0					0.01
132.417	0.00	0.00	0.003	0					0.01
132.500	0.00	0.00	0.003	0					0.01
132.583	0.00	0.00	0.003	0					0.01
132.667	0.00	0.00	0.003	0					0.01
132.750	0.00	0.00	0.003	0					0.01
132.833	0.00	0.00	0.003	0					0.01

132.917	0.00	0.00	0.003	0					0.01
133.000	0.00	0.00	0.003	0					0.01
133.083	0.00	0.00	0.003	0					0.01
133.167	0.00	0.00	0.003	0					0.01
133.250	0.00	0.00	0.003	0					0.01
133.333	0.00	0.00	0.003	0					0.01
133.417	0.00	0.00	0.003	0					0.01
133.500	0.00	0.00	0.003	0					0.01
133.583	0.00	0.00	0.003	0					0.01
133.667	0.00	0.00	0.003	0					0.01
133.750	0.00	0.00	0.003	0					0.01
133.833	0.00	0.00	0.003	0					0.01
133.917	0.00	0.00	0.003	0					0.01
134.000	0.00	0.00	0.003	0					0.01
134.083	0.00	0.00	0.003	0					0.01
134.167	0.00	0.00	0.003	0					0.01
134.250	0.00	0.00	0.003	0					0.01
134.333	0.00	0.00	0.003	0					0.01
134.417	0.00	0.00	0.003	0					0.01
134.500	0.00	0.00	0.003	0					0.01
134.583	0.00	0.00	0.003	0					0.01
134.667	0.00	0.00	0.003	0					0.01
134.750	0.00	0.00	0.003	0					0.01
134.833	0.00	0.00	0.002	0					0.01
134.917	0.00	0.00	0.002	0					0.01
135.000	0.00	0.00	0.002	0					0.01
135.083	0.00	0.00	0.002	0					0.01
135.167	0.00	0.00	0.002	0					0.01
135.250	0.00	0.00	0.002	0					0.01
135.333	0.00	0.00	0.002	0					0.01
135.417	0.00	0.00	0.002	0					0.01
135.500	0.00	0.00	0.002	0					0.01
135.583	0.00	0.00	0.002	0					0.01
135.667	0.00	0.00	0.002	0					0.01
135.750	0.00	0.00	0.002	0					0.01
135.833	0.00	0.00	0.002	0					0.01
135.917	0.00	0.00	0.002	0					0.01
136.000	0.00	0.00	0.002	0					0.01
136.083	0.00	0.00	0.002	0					0.01
136.167	0.00	0.00	0.002	0					0.01
136.250	0.00	0.00	0.002	0					0.01
136.333	0.00	0.00	0.002	0					0.01
136.417	0.00	0.00	0.002	0					0.01
136.500	0.00	0.00	0.002	0					0.01
136.583	0.00	0.00	0.002	0					0.01
136.667	0.00	0.00	0.002	0					0.01
136.750	0.00	0.00	0.002	0					0.01
136.833	0.00	0.00	0.002	0					0.01
136.917	0.00	0.00	0.002	0					0.01
137.000	0.00	0.00	0.002	0					0.01
137.083	0.00	0.00	0.002	0					0.01
137.167	0.00	0.00	0.002	0					0.01

137.250	0.00	0.00	0.002	0					0.01
137.333	0.00	0.00	0.002	0					0.01
137.417	0.00	0.00	0.002	0					0.01
137.500	0.00	0.00	0.002	0					0.01
137.583	0.00	0.00	0.002	0					0.01
137.667	0.00	0.00	0.002	0					0.01
137.750	0.00	0.00	0.002	0					0.01
137.833	0.00	0.00	0.002	0					0.01
137.917	0.00	0.00	0.002	0					0.01
138.000	0.00	0.00	0.002	0					0.01
138.083	0.00	0.00	0.002	0					0.01
138.167	0.00	0.00	0.002	0					0.01
138.250	0.00	0.00	0.002	0					0.01
138.333	0.00	0.00	0.002	0					0.01
138.417	0.00	0.00	0.002	0					0.01
138.500	0.00	0.00	0.002	0					0.01
138.583	0.00	0.00	0.002	0					0.01
138.667	0.00	0.00	0.002	0					0.01
138.750	0.00	0.00	0.002	0					0.01
138.833	0.00	0.00	0.002	0					0.01
138.917	0.00	0.00	0.002	0					0.01
139.000	0.00	0.00	0.002	0					0.01
139.083	0.00	0.00	0.002	0					0.01
139.167	0.00	0.00	0.002	0					0.01
139.250	0.00	0.00	0.002	0					0.01
139.333	0.00	0.00	0.002	0					0.01
139.417	0.00	0.00	0.002	0					0.01
139.500	0.00	0.00	0.002	0					0.01
139.583	0.00	0.00	0.002	0					0.01
139.667	0.00	0.00	0.002	0					0.01
139.750	0.00	0.00	0.002	0					0.01
139.833	0.00	0.00	0.002	0					0.01
139.917	0.00	0.00	0.002	0					0.01
140.000	0.00	0.00	0.002	0					0.01
140.083	0.00	0.00	0.002	0					0.01
140.167	0.00	0.00	0.002	0					0.01
140.250	0.00	0.00	0.002	0					0.01
140.333	0.00	0.00	0.002	0					0.01
140.417	0.00	0.00	0.002	0					0.01
140.500	0.00	0.00	0.002	0					0.01
140.583	0.00	0.00	0.002	0					0.01
140.667	0.00	0.00	0.002	0					0.01
140.750	0.00	0.00	0.002	0					0.01
140.833	0.00	0.00	0.002	0					0.01
140.917	0.00	0.00	0.002	0					0.01
141.000	0.00	0.00	0.002	0					0.01
141.083	0.00	0.00	0.002	0					0.01
141.167	0.00	0.00	0.002	0					0.01

*****HYDROGRAPH DATA*****

Number of intervals = 1694

Time interval = 5.0 (Min.)

Maximum/Peak flow rate = 0.602 (CFS)
Total volume = 1.074 (Ac.Ft)
Status of hydrographs being held in storage
Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
Peak (CFS) 0.000 0.000 0.000 0.000 0.000
Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000

FLOOD HYDROGRAPH ROUTING PROGRAM
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Study date: 08/26/24

TPM 20854
PROPOSED INFILTRATION BASIN ROUTING ANALYSIS
BASIN "A"
100-YR; 24-HOUR

Program License Serial Number 6545

***** HYDROGRAPH INFORMATION *****

From study/file name: D100.rte
*****HYDROGRAPH DATA*****
Number of intervals = 292
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 14.358 (CFS)
Total volume = 1.498 (Ac.Ft)
Status of hydrographs being held in storage
Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
Peak (CFS) 0.000 0.000 0.000 0.000 0.000
Vol (Ac.Ft) 0.000 0.000 0.000 0.000 0.000

+++++
Process from Point/Station 1.000 to Point/Station 15.000
**** RETARDING BASIN ROUTING ****

User entry of depth-outflow-storage data

Total number of inflow hydrograph intervals = 292
Hydrograph time unit = 5.000 (Min.)
Initial depth in storage basin = 1.22(Ft.)

Initial basin depth = 1.22 (Ft.)
Initial basin storage = 0.25 (Ac.Ft)
Initial basin outflow = 0.19 (CFS)

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	0.190	0.100	0.190	0.190
2.000	0.440	0.510	0.438	0.442
3.000	0.740	0.750	0.737	0.743
4.000	1.100	15.720	1.046	1.154
5.000	1.520	101.510	1.170	1.870

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	0	3.6	7.18	10.77	14.36	Depth (Ft.)
0.083	0.04	0.19	0.243	0					1.21
0.167	0.20	0.19	0.243	0					1.21
0.250	0.30	0.19	0.243	0					1.21
0.333	0.32	0.19	0.244	0					1.22
0.417	0.32	0.19	0.245	0					1.22
0.500	0.32	0.19	0.246	0					1.22
0.583	0.32	0.19	0.247	0					1.23
0.667	0.32	0.19	0.248	0					1.23
0.750	0.33	0.20	0.248	0					1.23
0.833	0.33	0.20	0.249	0					1.24
0.917	0.33	0.20	0.250	0					1.24
1.000	0.33	0.20	0.251	0					1.24
1.083	0.33	0.20	0.252	0					1.25
1.167	0.33	0.20	0.253	0					1.25
1.250	0.33	0.20	0.254	0					1.25
1.333	0.33	0.21	0.255	0					1.26
1.417	0.33	0.21	0.255	0					1.26
1.500	0.33	0.21	0.256	0					1.27
1.583	0.34	0.21	0.257	0					1.27
1.667	0.34	0.21	0.258	0					1.27
1.750	0.34	0.21	0.259	0					1.28
1.833	0.34	0.21	0.260	0					1.28
1.917	0.34	0.22	0.261	0					1.28
2.000	0.34	0.22	0.262	0					1.29
2.083	0.34	0.22	0.262	0					1.29
2.167	0.34	0.22	0.263	0					1.29
2.250	0.34	0.22	0.264	0					1.30
2.333	0.35	0.22	0.265	0					1.30
2.417	0.35	0.22	0.266	0					1.30
2.500	0.35	0.23	0.267	0					1.31
2.583	0.35	0.23	0.267	0					1.31
2.667	0.35	0.23	0.268	0					1.31
2.750	0.35	0.23	0.269	0					1.32
2.833	0.35	0.23	0.270	0					1.32

2.917	0.35	0.23	0.271	0					1.32
3.000	0.36	0.23	0.272	0					1.33
3.083	0.36	0.24	0.272	0					1.33
3.167	0.36	0.24	0.273	0					1.33
3.250	0.36	0.24	0.274	0					1.34
3.333	0.36	0.24	0.275	0					1.34
3.417	0.36	0.24	0.276	0					1.34
3.500	0.36	0.24	0.277	0					1.35
3.583	0.36	0.24	0.278	0					1.35
3.667	0.37	0.24	0.278	0					1.35
3.750	0.37	0.25	0.279	0					1.36
3.833	0.37	0.25	0.280	0					1.36
3.917	0.37	0.25	0.281	0					1.36
4.000	0.37	0.25	0.282	0					1.37
4.083	0.37	0.25	0.283	0					1.37
4.167	0.38	0.25	0.283	0					1.37
4.250	0.38	0.25	0.284	0					1.38
4.333	0.38	0.26	0.285	0					1.38
4.417	0.38	0.26	0.286	0					1.38
4.500	0.38	0.26	0.287	0					1.39
4.583	0.38	0.26	0.288	0					1.39
4.667	0.38	0.26	0.288	0					1.39
4.750	0.39	0.26	0.289	0					1.40
4.833	0.39	0.26	0.290	0					1.40
4.917	0.39	0.27	0.291	0					1.40
5.000	0.39	0.27	0.292	0					1.41
5.083	0.39	0.27	0.293	0					1.41
5.167	0.39	0.27	0.294	0					1.41
5.250	0.40	0.27	0.294	0					1.42
5.333	0.40	0.27	0.295	0					1.42
5.417	0.40	0.27	0.296	0					1.42
5.500	0.40	0.28	0.297	0					1.43
5.583	0.40	0.28	0.298	0					1.43
5.667	0.40	0.28	0.299	0					1.43
5.750	0.41	0.28	0.300	0					1.44
5.833	0.41	0.28	0.300	0					1.44
5.917	0.41	0.28	0.301	0					1.45
6.000	0.41	0.28	0.302	0					1.45
6.083	0.41	0.29	0.303	0					1.45
6.167	0.42	0.29	0.304	0					1.46
6.250	0.42	0.29	0.305	0					1.46
6.333	0.42	0.29	0.306	0					1.46
6.417	0.42	0.29	0.307	0					1.47
6.500	0.42	0.29	0.308	0					1.47
6.583	0.43	0.29	0.308	0					1.47
6.667	0.43	0.30	0.309	0					1.48
6.750	0.43	0.30	0.310	0					1.48
6.833	0.43	0.30	0.311	0					1.48
6.917	0.43	0.30	0.312	0					1.49
7.000	0.44	0.30	0.313	0					1.49
7.083	0.44	0.30	0.314	0					1.50
7.167	0.44	0.30	0.315	0					1.50

7.250	0.44	0.31	0.316	O					1.50
7.333	0.45	0.31	0.317	O					1.51
7.417	0.45	0.31	0.318	O					1.51
7.500	0.45	0.31	0.319	OI					1.51
7.583	0.45	0.31	0.320	OI					1.52
7.667	0.46	0.31	0.321	OI					1.52
7.750	0.46	0.32	0.322	OI					1.53
7.833	0.46	0.32	0.323	OI					1.53
7.917	0.46	0.32	0.324	OI					1.53
8.000	0.47	0.32	0.325	OI					1.54
8.083	0.47	0.32	0.326	OI					1.54
8.167	0.47	0.32	0.327	OI					1.55
8.250	0.47	0.33	0.328	OI					1.55
8.333	0.48	0.33	0.329	OI					1.55
8.417	0.48	0.33	0.330	OI					1.56
8.500	0.48	0.33	0.331	OI					1.56
8.583	0.49	0.33	0.332	OI					1.57
8.667	0.49	0.33	0.333	OI					1.57
8.750	0.49	0.34	0.334	OI					1.58
8.833	0.50	0.34	0.335	OI					1.58
8.917	0.50	0.34	0.336	OI					1.58
9.000	0.50	0.34	0.337	OI					1.59
9.083	0.51	0.34	0.338	OI					1.59
9.167	0.51	0.35	0.340	OI					1.60
9.250	0.51	0.35	0.341	OI					1.60
9.333	0.52	0.35	0.342	OI					1.61
9.417	0.52	0.35	0.343	OI					1.61
9.500	0.52	0.35	0.344	OI					1.62
9.583	0.53	0.35	0.345	OI					1.62
9.667	0.53	0.36	0.346	OI					1.63
9.750	0.53	0.36	0.348	OI					1.63
9.833	0.54	0.36	0.349	OI					1.64
9.917	0.54	0.36	0.350	OI					1.64
10.000	0.55	0.36	0.351	OI					1.65
10.083	0.55	0.37	0.353	OI					1.65
10.167	0.56	0.37	0.354	OI					1.66
10.250	0.56	0.37	0.355	OI					1.66
10.333	0.56	0.37	0.357	OI					1.67
10.417	0.57	0.38	0.358	OI					1.67
10.500	0.57	0.38	0.359	OI					1.68
10.583	0.58	0.38	0.361	OI					1.68
10.667	0.58	0.38	0.362	OI					1.69
10.750	0.59	0.38	0.363	OI					1.69
10.833	0.59	0.39	0.365	OI					1.70
10.917	0.60	0.39	0.366	OI					1.70
11.000	0.61	0.39	0.368	OI					1.71
11.083	0.61	0.39	0.369	OI					1.72
11.167	0.62	0.40	0.371	OI					1.72
11.250	0.62	0.40	0.372	OI					1.73
11.333	0.63	0.40	0.374	OI					1.73
11.417	0.63	0.40	0.375	OI					1.74
11.500	0.64	0.41	0.377	OI					1.75

11.583	0.65	0.41	0.379	OI					1.75
11.667	0.65	0.41	0.380	OI					1.76
11.750	0.66	0.41	0.382	OI					1.77
11.833	0.67	0.42	0.384	OI					1.77
11.917	0.68	0.42	0.385	OI					1.78
12.000	0.68	0.42	0.387	OI					1.79
12.083	0.70	0.43	0.389	OI					1.80
12.167	0.73	0.43	0.391	OI					1.80
12.250	0.75	0.43	0.393	OI					1.81
12.333	0.76	0.44	0.395	OI					1.82
12.417	0.77	0.44	0.398	OI					1.83
12.500	0.78	0.44	0.400	OI					1.84
12.583	0.79	0.45	0.402	OI					1.85
12.667	0.80	0.45	0.405	O					1.86
12.750	0.81	0.46	0.407	O					1.87
12.833	0.82	0.46	0.410	O					1.88
12.917	0.84	0.46	0.412	O					1.89
13.000	0.85	0.47	0.415	O					1.90
13.083	0.86	0.47	0.417	O					1.91
13.167	0.87	0.48	0.420	O					1.92
13.250	0.89	0.48	0.423	O					1.93
13.333	0.90	0.49	0.426	OI					1.94
13.417	0.91	0.49	0.428	OI					1.95
13.500	0.93	0.50	0.431	OI					1.97
13.583	0.94	0.50	0.434	OI					1.98
13.667	0.96	0.51	0.437	OI					1.99
13.750	0.98	0.51	0.441	OI					2.00
13.833	1.00	0.51	0.444	OI					2.01
13.917	1.02	0.52	0.447	OI					2.02
14.000	1.04	0.52	0.451	OI					2.04
14.083	1.06	0.52	0.455	OI					2.05
14.167	1.08	0.52	0.458	OI					2.06
14.250	1.11	0.53	0.462	OI					2.07
14.333	1.14	0.53	0.466	OI					2.09
14.417	1.16	0.53	0.471	OI					2.10
14.500	1.20	0.54	0.475	OI					2.12
14.583	1.23	0.54	0.480	OI					2.13
14.667	1.27	0.55	0.484	OI					2.15
14.750	1.30	0.55	0.490	OI					2.17
14.833	1.35	0.55	0.495	O I					2.18
14.917	1.39	0.56	0.501	O I					2.20
15.000	1.45	0.56	0.506	O I					2.22
15.083	1.50	0.57	0.513	O I					2.24
15.167	1.57	0.57	0.519	O I					2.26
15.250	1.64	0.58	0.526	O I					2.29
15.333	1.74	0.59	0.534	O I					2.31
15.417	1.80	0.59	0.542	O I					2.34
15.500	1.79	0.60	0.551	O I					2.37
15.583	1.84	0.61	0.559	O I					2.40
15.667	2.02	0.61	0.568	O I					2.43
15.750	2.24	0.62	0.578	O I					2.46
15.833	2.61	0.63	0.591	O I					2.50

15.917	3.18	0.64	0.606	0	I				2.55
16.000	4.38	0.66	0.628	0		I			2.63
16.083	7.65	0.69	0.665	0			I		2.75
16.167	14.36	0.75	0.736	0				I	2.99
16.250	9.52	3.39	0.804		0		I		3.18
16.333	3.89	4.22	0.824			IO			3.23
16.417	2.46	3.96	0.817		I	0			3.21
16.500	1.96	3.52	0.807		I	0			3.19
16.583	1.78	3.11	0.797		I	0			3.16
16.667	1.62	2.76	0.788		I	0			3.13
16.750	1.48	2.45	0.781		I	0			3.11
16.833	1.38	2.20	0.775		IO				3.10
16.917	1.29	1.98	0.770		I	0			3.08
17.000	1.21	1.80	0.765		I	0			3.07
17.083	1.15	1.64	0.761		IO				3.06
17.167	1.10	1.51	0.758		IO				3.05
17.250	1.05	1.40	0.756		IO				3.04
17.333	1.01	1.31	0.753		0				3.04
17.417	0.97	1.23	0.752		0				3.03
17.500	0.94	1.16	0.750		0				3.03
17.583	0.91	1.10	0.748		0				3.02
17.667	0.88	1.05	0.747		IO				3.02
17.750	0.85	1.00	0.746		IO				3.02
17.833	0.83	0.96	0.745		IO				3.01
17.917	0.81	0.93	0.744		IO				3.01
18.000	0.79	0.89	0.743		0				3.01
18.083	0.76	0.87	0.743		0				3.01
18.167	0.72	0.83	0.742		0				3.01
18.250	0.69	0.80	0.741		0				3.00
18.333	0.67	0.77	0.741		0				3.00
18.417	0.66	0.75	0.740		0				3.00
18.500	0.64	0.75	0.739		0				3.00
18.583	0.63	0.75	0.738		0				2.99
18.667	0.62	0.75	0.738		0				2.99
18.750	0.61	0.75	0.737		0				2.99
18.833	0.60	0.75	0.736		0				2.99
18.917	0.59	0.75	0.735		0				2.98
19.000	0.58	0.74	0.733		0				2.98
19.083	0.57	0.74	0.732		0				2.97
19.167	0.56	0.74	0.731		0				2.97
19.250	0.55	0.74	0.730		0				2.97
19.333	0.54	0.74	0.728		0				2.96
19.417	0.53	0.74	0.727		0				2.96
19.500	0.53	0.74	0.726		0				2.95
19.583	0.52	0.74	0.724		0				2.95
19.667	0.51	0.74	0.723		0				2.94
19.750	0.50	0.73	0.721		0				2.94
19.833	0.50	0.73	0.719		0				2.93
19.917	0.49	0.73	0.718		0				2.93
20.000	0.49	0.73	0.716		0				2.92
20.083	0.48	0.73	0.714		0				2.91
20.167	0.47	0.73	0.713		0				2.91

20.250	0.47	0.73	0.711	0					2.90
20.333	0.46	0.73	0.709	0					2.90
20.417	0.46	0.72	0.707	0					2.89
20.500	0.45	0.72	0.705	0					2.88
20.583	0.45	0.72	0.703	IO					2.88
20.667	0.44	0.72	0.702	IO					2.87
20.750	0.44	0.72	0.700	IO					2.87
20.833	0.43	0.72	0.698	IO					2.86
20.917	0.43	0.71	0.696	IO					2.85
21.000	0.43	0.71	0.694	IO					2.85
21.083	0.42	0.71	0.692	IO					2.84
21.167	0.42	0.71	0.690	IO					2.83
21.250	0.41	0.71	0.688	IO					2.83
21.333	0.41	0.71	0.686	IO					2.82
21.417	0.41	0.70	0.684	IO					2.81
21.500	0.40	0.70	0.682	IO					2.81
21.583	0.40	0.70	0.680	IO					2.80
21.667	0.39	0.70	0.677	IO					2.79
21.750	0.39	0.70	0.675	IO					2.78
21.833	0.39	0.70	0.673	IO					2.78
21.917	0.38	0.69	0.671	IO					2.77
22.000	0.38	0.69	0.669	IO					2.76
22.083	0.38	0.69	0.667	IO					2.76
22.167	0.38	0.69	0.665	IO					2.75
22.250	0.37	0.69	0.662	IO					2.74
22.333	0.37	0.69	0.660	IO					2.73
22.417	0.37	0.68	0.658	IO					2.73
22.500	0.36	0.68	0.656	IO					2.72
22.583	0.36	0.68	0.654	IO					2.71
22.667	0.36	0.68	0.652	IO					2.71
22.750	0.36	0.68	0.649	IO					2.70
22.833	0.35	0.68	0.647	IO					2.69
22.917	0.35	0.67	0.645	IO					2.68
23.000	0.35	0.67	0.643	IO					2.68
23.083	0.35	0.67	0.640	IO					2.67
23.167	0.34	0.67	0.638	IO					2.66
23.250	0.34	0.67	0.636	IO					2.65
23.333	0.34	0.66	0.634	IO					2.65
23.417	0.34	0.66	0.631	IO					2.64
23.500	0.34	0.66	0.629	IO					2.63
23.583	0.33	0.66	0.627	IO					2.62
23.667	0.33	0.66	0.625	IO					2.62
23.750	0.33	0.66	0.622	IO					2.61
23.833	0.33	0.65	0.620	IO					2.60
23.917	0.32	0.65	0.618	IO					2.59
24.000	0.32	0.65	0.616	IO					2.59
24.083	0.29	0.65	0.613	IO					2.58
24.167	0.12	0.65	0.610	IO					2.57
24.250	0.02	0.64	0.606	IO					2.55
24.333	0.00	0.64	0.602	IO					2.54
24.417	0.00	0.64	0.598	IO					2.53
24.500	0.00	0.63	0.593	IO					2.51

24.583	0.00	0.63	0.589	IO					2.50
24.667	0.00	0.63	0.585	IO					2.48
24.750	0.00	0.62	0.580	IO					2.47
24.833	0.00	0.62	0.576	IO					2.45
24.917	0.00	0.62	0.572	IO					2.44
25.000	0.00	0.61	0.568	IO					2.43
25.083	0.00	0.61	0.563	IO					2.41
25.167	0.00	0.61	0.559	IO					2.40
25.250	0.00	0.60	0.555	IO					2.38
25.333	0.00	0.60	0.551	IO					2.37
25.417	0.00	0.60	0.547	IO					2.36
25.500	0.00	0.59	0.543	IO					2.34
25.583	0.00	0.59	0.539	IO					2.33
25.667	0.00	0.59	0.535	IO					2.32
25.750	0.00	0.58	0.531	IO					2.30
25.833	0.00	0.58	0.527	IO					2.29
25.917	0.00	0.58	0.523	IO					2.28
26.000	0.00	0.57	0.519	IO					2.26
26.083	0.00	0.57	0.515	IO					2.25
26.167	0.00	0.57	0.511	IO					2.24
26.250	0.00	0.56	0.507	IO					2.22
26.333	0.00	0.56	0.503	IO					2.21
26.417	0.00	0.56	0.499	IO					2.20
26.500	0.00	0.55	0.495	IO					2.18
26.583	0.00	0.55	0.491	IO					2.17
26.667	0.00	0.55	0.488	IO					2.16
26.750	0.00	0.55	0.484	IO					2.15
26.833	0.00	0.54	0.480	IO					2.13
26.917	0.00	0.54	0.476	IO					2.12
27.000	0.00	0.54	0.473	IO					2.11
27.083	0.00	0.53	0.469	IO					2.10
27.167	0.00	0.53	0.465	IO					2.08
27.250	0.00	0.53	0.462	IO					2.07
27.333	0.00	0.52	0.458	IO					2.06
27.417	0.00	0.52	0.455	IO					2.05
27.500	0.00	0.52	0.451	IO					2.04
27.583	0.00	0.52	0.447	IO					2.02
27.667	0.00	0.51	0.444	IO					2.01
27.750	0.00	0.51	0.440	IO					2.00
27.833	0.00	0.50	0.437	IO					1.99
27.917	0.00	0.50	0.433	IO					1.97
28.000	0.00	0.49	0.430	IO					1.96
28.083	0.00	0.49	0.427	IO					1.95
28.167	0.00	0.48	0.423	IO					1.93
28.250	0.00	0.48	0.420	IO					1.92
28.333	0.00	0.47	0.417	IO					1.91
28.417	0.00	0.47	0.413	IO					1.89
28.500	0.00	0.46	0.410	IO					1.88
28.583	0.00	0.46	0.407	IO					1.87
28.667	0.00	0.45	0.404	IO					1.86
28.750	0.00	0.45	0.401	O					1.84
28.833	0.00	0.44	0.398	O					1.83

28.917	0.00	0.44	0.395	0					1.82
29.000	0.00	0.43	0.392	0					1.81
29.083	0.00	0.43	0.389	0					1.80
29.167	0.00	0.42	0.386	0					1.78
29.250	0.00	0.42	0.383	0					1.77
29.333	0.00	0.41	0.380	0					1.76
29.417	0.00	0.41	0.377	0					1.75
29.500	0.00	0.40	0.375	0					1.74
29.583	0.00	0.40	0.372	0					1.73
29.667	0.00	0.39	0.369	0					1.72
29.750	0.00	0.39	0.366	0					1.71
29.833	0.00	0.38	0.364	0					1.70
29.917	0.00	0.38	0.361	0					1.68
30.000	0.00	0.38	0.359	0					1.67
30.083	0.00	0.37	0.356	0					1.66
30.167	0.00	0.37	0.353	0					1.65
30.250	0.00	0.36	0.351	0					1.64
30.333	0.00	0.36	0.348	0					1.63
30.417	0.00	0.36	0.346	0					1.62
30.500	0.00	0.35	0.343	0					1.61
30.583	0.00	0.35	0.341	0					1.60
30.667	0.00	0.34	0.339	0					1.59
30.750	0.00	0.34	0.336	0					1.59
30.833	0.00	0.34	0.334	0					1.58
30.917	0.00	0.33	0.332	0					1.57
31.000	0.00	0.33	0.329	0					1.56
31.083	0.00	0.32	0.327	0					1.55
31.167	0.00	0.32	0.325	0					1.54
31.250	0.00	0.32	0.323	0					1.53
31.333	0.00	0.31	0.321	0					1.52
31.417	0.00	0.31	0.318	0					1.51
31.500	0.00	0.31	0.316	0					1.51
31.583	0.00	0.30	0.314	0					1.50
31.667	0.00	0.30	0.312	0					1.49
31.750	0.00	0.30	0.310	0					1.48
31.833	0.00	0.29	0.308	0					1.47
31.917	0.00	0.29	0.306	0					1.46
32.000	0.00	0.29	0.304	0					1.46
32.083	0.00	0.28	0.302	0					1.45
32.167	0.00	0.28	0.300	0					1.44
32.250	0.00	0.28	0.298	0					1.43
32.333	0.00	0.27	0.296	0					1.43
32.417	0.00	0.27	0.294	0					1.42
32.500	0.00	0.27	0.293	0					1.41
32.583	0.00	0.27	0.291	0					1.40
32.667	0.00	0.26	0.289	0					1.40
32.750	0.00	0.26	0.287	0					1.39
32.833	0.00	0.26	0.285	0					1.38
32.917	0.00	0.25	0.284	0					1.37
33.000	0.00	0.25	0.282	0					1.37
33.083	0.00	0.25	0.280	0					1.36
33.167	0.00	0.25	0.278	0					1.35

33.250	0.00	0.24	0.277	0					1.35
33.333	0.00	0.24	0.275	0					1.34
33.417	0.00	0.24	0.273	0					1.33
33.500	0.00	0.23	0.272	0					1.33
33.583	0.00	0.23	0.270	0					1.32
33.667	0.00	0.23	0.269	0					1.31
33.750	0.00	0.23	0.267	0					1.31
33.833	0.00	0.22	0.266	0					1.30
33.917	0.00	0.22	0.264	0					1.30
34.000	0.00	0.22	0.262	0					1.29
34.083	0.00	0.22	0.261	0					1.28
34.167	0.00	0.21	0.259	0					1.28
34.250	0.00	0.21	0.258	0					1.27
34.333	0.00	0.21	0.257	0					1.27
34.417	0.00	0.21	0.255	0					1.26
34.500	0.00	0.20	0.254	0					1.25
34.583	0.00	0.20	0.252	0					1.25
34.667	0.00	0.20	0.251	0					1.24
34.750	0.00	0.20	0.250	0					1.24
34.833	0.00	0.20	0.248	0					1.23
34.917	0.00	0.19	0.247	0					1.23
35.000	0.00	0.19	0.246	0					1.22
35.083	0.00	0.19	0.244	0					1.22
35.167	0.00	0.19	0.243	0					1.21
35.250	0.00	0.18	0.242	0					1.21
35.333	0.00	0.18	0.240	0					1.20
35.417	0.00	0.18	0.239	0					1.20
35.500	0.00	0.18	0.238	0					1.19
35.583	0.00	0.18	0.237	0					1.19
35.667	0.00	0.17	0.235	0					1.18
35.750	0.00	0.17	0.234	0					1.18
35.833	0.00	0.17	0.233	0					1.17
35.917	0.00	0.17	0.232	0					1.17
36.000	0.00	0.17	0.231	0					1.16
36.083	0.00	0.17	0.230	0					1.16
36.167	0.00	0.16	0.229	0					1.15
36.250	0.00	0.16	0.227	0					1.15
36.333	0.00	0.16	0.226	0					1.15
36.417	0.00	0.16	0.225	0					1.14
36.500	0.00	0.16	0.224	0					1.14
36.583	0.00	0.15	0.223	0					1.13
36.667	0.00	0.15	0.222	0					1.13
36.750	0.00	0.15	0.221	0					1.12
36.833	0.00	0.15	0.220	0					1.12
36.917	0.00	0.15	0.219	0					1.12
37.000	0.00	0.15	0.218	0					1.11
37.083	0.00	0.14	0.217	0					1.11
37.167	0.00	0.14	0.216	0					1.10
37.250	0.00	0.14	0.215	0					1.10
37.333	0.00	0.14	0.214	0					1.10
37.417	0.00	0.14	0.213	0					1.09
37.500	0.00	0.14	0.212	0					1.09

37.583	0.00	0.13	0.211	0					1.08
37.667	0.00	0.13	0.210	0					1.08
37.750	0.00	0.13	0.209	0					1.08
37.833	0.00	0.13	0.208	0					1.07
37.917	0.00	0.13	0.208	0					1.07
38.000	0.00	0.13	0.207	0					1.07
38.083	0.00	0.13	0.206	0					1.06
38.167	0.00	0.12	0.205	0					1.06
38.250	0.00	0.12	0.204	0					1.06
38.333	0.00	0.12	0.203	0					1.05
38.417	0.00	0.12	0.202	0					1.05
38.500	0.00	0.12	0.202	0					1.05
38.583	0.00	0.12	0.201	0					1.04
38.667	0.00	0.12	0.200	0					1.04
38.750	0.00	0.11	0.199	0					1.04
38.833	0.00	0.11	0.198	0					1.03
38.917	0.00	0.11	0.198	0					1.03
39.000	0.00	0.11	0.197	0					1.03
39.083	0.00	0.11	0.196	0					1.02
39.167	0.00	0.11	0.195	0					1.02
39.250	0.00	0.11	0.195	0					1.02
39.333	0.00	0.11	0.194	0					1.02
39.417	0.00	0.11	0.193	0					1.01
39.500	0.00	0.10	0.192	0					1.01
39.583	0.00	0.10	0.192	0					1.01
39.667	0.00	0.10	0.191	0					1.00
39.750	0.00	0.10	0.190	0					1.00
39.833	0.00	0.10	0.190	0					1.00
39.917	0.00	0.10	0.189	0					0.99
40.000	0.00	0.10	0.188	0					0.99
40.083	0.00	0.10	0.187	0					0.99
40.167	0.00	0.10	0.187	0					0.98
40.250	0.00	0.10	0.186	0					0.98
40.333	0.00	0.10	0.185	0					0.98
40.417	0.00	0.10	0.185	0					0.97
40.500	0.00	0.10	0.184	0					0.97
40.583	0.00	0.10	0.183	0					0.97
40.667	0.00	0.10	0.183	0					0.96
40.750	0.00	0.10	0.182	0					0.96
40.833	0.00	0.10	0.181	0					0.96
40.917	0.00	0.10	0.181	0					0.95
41.000	0.00	0.09	0.180	0					0.95
41.083	0.00	0.09	0.180	0					0.94
41.167	0.00	0.09	0.179	0					0.94
41.250	0.00	0.09	0.178	0					0.94
41.333	0.00	0.09	0.178	0					0.93
41.417	0.00	0.09	0.177	0					0.93
41.500	0.00	0.09	0.176	0					0.93
41.583	0.00	0.09	0.176	0					0.92
41.667	0.00	0.09	0.175	0					0.92
41.750	0.00	0.09	0.174	0					0.92
41.833	0.00	0.09	0.174	0					0.91

41.917	0.00	0.09	0.173	0					0.91
42.000	0.00	0.09	0.173	0					0.91
42.083	0.00	0.09	0.172	0					0.90
42.167	0.00	0.09	0.171	0					0.90
42.250	0.00	0.09	0.171	0					0.90
42.333	0.00	0.09	0.170	0					0.89
42.417	0.00	0.09	0.169	0					0.89
42.500	0.00	0.09	0.169	0					0.89
42.583	0.00	0.09	0.168	0					0.89
42.667	0.00	0.09	0.168	0					0.88
42.750	0.00	0.09	0.167	0					0.88
42.833	0.00	0.09	0.166	0					0.88
42.917	0.00	0.09	0.166	0					0.87
43.000	0.00	0.09	0.165	0					0.87
43.083	0.00	0.09	0.165	0					0.87
43.167	0.00	0.09	0.164	0					0.86
43.250	0.00	0.09	0.163	0					0.86
43.333	0.00	0.09	0.163	0					0.86
43.417	0.00	0.09	0.162	0					0.85
43.500	0.00	0.09	0.162	0					0.85
43.583	0.00	0.08	0.161	0					0.85
43.667	0.00	0.08	0.160	0					0.84
43.750	0.00	0.08	0.160	0					0.84
43.833	0.00	0.08	0.159	0					0.84
43.917	0.00	0.08	0.159	0					0.84
44.000	0.00	0.08	0.158	0					0.83
44.083	0.00	0.08	0.158	0					0.83
44.167	0.00	0.08	0.157	0					0.83
44.250	0.00	0.08	0.156	0					0.82
44.333	0.00	0.08	0.156	0					0.82
44.417	0.00	0.08	0.155	0					0.82
44.500	0.00	0.08	0.155	0					0.81
44.583	0.00	0.08	0.154	0					0.81
44.667	0.00	0.08	0.154	0					0.81
44.750	0.00	0.08	0.153	0					0.81
44.833	0.00	0.08	0.152	0					0.80
44.917	0.00	0.08	0.152	0					0.80
45.000	0.00	0.08	0.151	0					0.80
45.083	0.00	0.08	0.151	0					0.79
45.167	0.00	0.08	0.150	0					0.79
45.250	0.00	0.08	0.150	0					0.79
45.333	0.00	0.08	0.149	0					0.79
45.417	0.00	0.08	0.149	0					0.78
45.500	0.00	0.08	0.148	0					0.78
45.583	0.00	0.08	0.148	0					0.78
45.667	0.00	0.08	0.147	0					0.77
45.750	0.00	0.08	0.147	0					0.77
45.833	0.00	0.08	0.146	0					0.77
45.917	0.00	0.08	0.145	0					0.77
46.000	0.00	0.08	0.145	0					0.76
46.083	0.00	0.08	0.144	0					0.76
46.167	0.00	0.08	0.144	0					0.76

46.250	0.00	0.08	0.143	0					0.75
46.333	0.00	0.08	0.143	0					0.75
46.417	0.00	0.07	0.142	0					0.75
46.500	0.00	0.07	0.142	0					0.75
46.583	0.00	0.07	0.141	0					0.74
46.667	0.00	0.07	0.141	0					0.74
46.750	0.00	0.07	0.140	0					0.74
46.833	0.00	0.07	0.140	0					0.74
46.917	0.00	0.07	0.139	0					0.73
47.000	0.00	0.07	0.139	0					0.73
47.083	0.00	0.07	0.138	0					0.73
47.167	0.00	0.07	0.138	0					0.73
47.250	0.00	0.07	0.137	0					0.72
47.333	0.00	0.07	0.137	0					0.72
47.417	0.00	0.07	0.136	0					0.72
47.500	0.00	0.07	0.136	0					0.71
47.583	0.00	0.07	0.135	0					0.71
47.667	0.00	0.07	0.135	0					0.71
47.750	0.00	0.07	0.134	0					0.71
47.833	0.00	0.07	0.134	0					0.70
47.917	0.00	0.07	0.133	0					0.70
48.000	0.00	0.07	0.133	0					0.70
48.083	0.00	0.07	0.132	0					0.70
48.167	0.00	0.07	0.132	0					0.69
48.250	0.00	0.07	0.131	0					0.69
48.333	0.00	0.07	0.131	0					0.69
48.417	0.00	0.07	0.130	0					0.69
48.500	0.00	0.07	0.130	0					0.68
48.583	0.00	0.07	0.130	0					0.68
48.667	0.00	0.07	0.129	0					0.68
48.750	0.00	0.07	0.129	0					0.68
48.833	0.00	0.07	0.128	0					0.67
48.917	0.00	0.07	0.128	0					0.67
49.000	0.00	0.07	0.127	0					0.67
49.083	0.00	0.07	0.127	0					0.67
49.167	0.00	0.07	0.126	0					0.66
49.250	0.00	0.07	0.126	0					0.66
49.333	0.00	0.07	0.125	0					0.66
49.417	0.00	0.07	0.125	0					0.66
49.500	0.00	0.07	0.124	0					0.66
49.583	0.00	0.07	0.124	0					0.65
49.667	0.00	0.07	0.124	0					0.65
49.750	0.00	0.06	0.123	0					0.65
49.833	0.00	0.06	0.123	0					0.65
49.917	0.00	0.06	0.122	0					0.64
50.000	0.00	0.06	0.122	0					0.64
50.083	0.00	0.06	0.121	0					0.64
50.167	0.00	0.06	0.121	0					0.64
50.250	0.00	0.06	0.120	0					0.63
50.333	0.00	0.06	0.120	0					0.63
50.417	0.00	0.06	0.120	0					0.63
50.500	0.00	0.06	0.119	0					0.63

50.583	0.00	0.06	0.119	0					0.63
50.667	0.00	0.06	0.118	0					0.62
50.750	0.00	0.06	0.118	0					0.62
50.833	0.00	0.06	0.117	0					0.62
50.917	0.00	0.06	0.117	0					0.62
51.000	0.00	0.06	0.117	0					0.61
51.083	0.00	0.06	0.116	0					0.61
51.167	0.00	0.06	0.116	0					0.61
51.250	0.00	0.06	0.115	0					0.61
51.333	0.00	0.06	0.115	0					0.60
51.417	0.00	0.06	0.115	0					0.60
51.500	0.00	0.06	0.114	0					0.60
51.583	0.00	0.06	0.114	0					0.60
51.667	0.00	0.06	0.113	0					0.60
51.750	0.00	0.06	0.113	0					0.59
51.833	0.00	0.06	0.112	0					0.59
51.917	0.00	0.06	0.112	0					0.59
52.000	0.00	0.06	0.112	0					0.59
52.083	0.00	0.06	0.111	0					0.59
52.167	0.00	0.06	0.111	0					0.58
52.250	0.00	0.06	0.110	0					0.58
52.333	0.00	0.06	0.110	0					0.58
52.417	0.00	0.06	0.110	0					0.58
52.500	0.00	0.06	0.109	0					0.58
52.583	0.00	0.06	0.109	0					0.57
52.667	0.00	0.06	0.108	0					0.57
52.750	0.00	0.06	0.108	0					0.57
52.833	0.00	0.06	0.108	0					0.57
52.917	0.00	0.06	0.107	0					0.56
53.000	0.00	0.06	0.107	0					0.56
53.083	0.00	0.06	0.107	0					0.56
53.167	0.00	0.06	0.106	0					0.56
53.250	0.00	0.06	0.106	0					0.56
53.333	0.00	0.06	0.105	0					0.55
53.417	0.00	0.06	0.105	0					0.55
53.500	0.00	0.06	0.105	0					0.55
53.583	0.00	0.05	0.104	0					0.55
53.667	0.00	0.05	0.104	0					0.55
53.750	0.00	0.05	0.103	0					0.54
53.833	0.00	0.05	0.103	0					0.54
53.917	0.00	0.05	0.103	0					0.54
54.000	0.00	0.05	0.102	0					0.54
54.083	0.00	0.05	0.102	0					0.54
54.167	0.00	0.05	0.102	0					0.53
54.250	0.00	0.05	0.101	0					0.53
54.333	0.00	0.05	0.101	0					0.53
54.417	0.00	0.05	0.101	0					0.53
54.500	0.00	0.05	0.100	0					0.53
54.583	0.00	0.05	0.100	0					0.53
54.667	0.00	0.05	0.099	0					0.52
54.750	0.00	0.05	0.099	0					0.52
54.833	0.00	0.05	0.099	0					0.52

54.917	0.00	0.05	0.098	0					0.52
55.000	0.00	0.05	0.098	0					0.52
55.083	0.00	0.05	0.098	0					0.51
55.167	0.00	0.05	0.097	0					0.51
55.250	0.00	0.05	0.097	0					0.51
55.333	0.00	0.05	0.097	0					0.51
55.417	0.00	0.05	0.096	0					0.51
55.500	0.00	0.05	0.096	0					0.50
55.583	0.00	0.05	0.096	0					0.50
55.667	0.00	0.05	0.095	0					0.50
55.750	0.00	0.05	0.095	0					0.50
55.833	0.00	0.05	0.095	0					0.50
55.917	0.00	0.05	0.094	0					0.50
56.000	0.00	0.05	0.094	0					0.49
56.083	0.00	0.05	0.093	0					0.49
56.167	0.00	0.05	0.093	0					0.49
56.250	0.00	0.05	0.093	0					0.49
56.333	0.00	0.05	0.092	0					0.49
56.417	0.00	0.05	0.092	0					0.48
56.500	0.00	0.05	0.092	0					0.48
56.583	0.00	0.05	0.091	0					0.48
56.667	0.00	0.05	0.091	0					0.48
56.750	0.00	0.05	0.091	0					0.48
56.833	0.00	0.05	0.090	0					0.48
56.917	0.00	0.05	0.090	0					0.47
57.000	0.00	0.05	0.090	0					0.47
57.083	0.00	0.05	0.090	0					0.47
57.167	0.00	0.05	0.089	0					0.47
57.250	0.00	0.05	0.089	0					0.47
57.333	0.00	0.05	0.089	0					0.47
57.417	0.00	0.05	0.088	0					0.46
57.500	0.00	0.05	0.088	0					0.46
57.583	0.00	0.05	0.088	0					0.46
57.667	0.00	0.05	0.087	0					0.46
57.750	0.00	0.05	0.087	0					0.46
57.833	0.00	0.05	0.087	0					0.46
57.917	0.00	0.05	0.086	0					0.45
58.000	0.00	0.05	0.086	0					0.45
58.083	0.00	0.05	0.086	0					0.45
58.167	0.00	0.04	0.085	0					0.45
58.250	0.00	0.04	0.085	0					0.45
58.333	0.00	0.04	0.085	0					0.45
58.417	0.00	0.04	0.084	0					0.44
58.500	0.00	0.04	0.084	0					0.44
58.583	0.00	0.04	0.084	0					0.44
58.667	0.00	0.04	0.084	0					0.44
58.750	0.00	0.04	0.083	0					0.44
58.833	0.00	0.04	0.083	0					0.44
58.917	0.00	0.04	0.083	0					0.43
59.000	0.00	0.04	0.082	0					0.43
59.083	0.00	0.04	0.082	0					0.43
59.167	0.00	0.04	0.082	0					0.43

59.250	0.00	0.04	0.081	0					0.43
59.333	0.00	0.04	0.081	0					0.43
59.417	0.00	0.04	0.081	0					0.43
59.500	0.00	0.04	0.081	0					0.42
59.583	0.00	0.04	0.080	0					0.42
59.667	0.00	0.04	0.080	0					0.42
59.750	0.00	0.04	0.080	0					0.42
59.833	0.00	0.04	0.079	0					0.42
59.917	0.00	0.04	0.079	0					0.42
60.000	0.00	0.04	0.079	0					0.41
60.083	0.00	0.04	0.079	0					0.41
60.167	0.00	0.04	0.078	0					0.41
60.250	0.00	0.04	0.078	0					0.41
60.333	0.00	0.04	0.078	0					0.41
60.417	0.00	0.04	0.077	0					0.41
60.500	0.00	0.04	0.077	0					0.41
60.583	0.00	0.04	0.077	0					0.40
60.667	0.00	0.04	0.077	0					0.40
60.750	0.00	0.04	0.076	0					0.40
60.833	0.00	0.04	0.076	0					0.40
60.917	0.00	0.04	0.076	0					0.40
61.000	0.00	0.04	0.075	0					0.40
61.083	0.00	0.04	0.075	0					0.40
61.167	0.00	0.04	0.075	0					0.39
61.250	0.00	0.04	0.075	0					0.39
61.333	0.00	0.04	0.074	0					0.39
61.417	0.00	0.04	0.074	0					0.39
61.500	0.00	0.04	0.074	0					0.39
61.583	0.00	0.04	0.074	0					0.39
61.667	0.00	0.04	0.073	0					0.39
61.750	0.00	0.04	0.073	0					0.38
61.833	0.00	0.04	0.073	0					0.38
61.917	0.00	0.04	0.073	0					0.38
62.000	0.00	0.04	0.072	0					0.38
62.083	0.00	0.04	0.072	0					0.38
62.167	0.00	0.04	0.072	0					0.38
62.250	0.00	0.04	0.071	0					0.38
62.333	0.00	0.04	0.071	0					0.37
62.417	0.00	0.04	0.071	0					0.37
62.500	0.00	0.04	0.071	0					0.37
62.583	0.00	0.04	0.070	0					0.37
62.667	0.00	0.04	0.070	0					0.37
62.750	0.00	0.04	0.070	0					0.37
62.833	0.00	0.04	0.070	0					0.37
62.917	0.00	0.04	0.069	0					0.37
63.000	0.00	0.04	0.069	0					0.36
63.083	0.00	0.04	0.069	0					0.36
63.167	0.00	0.04	0.069	0					0.36
63.250	0.00	0.04	0.068	0					0.36
63.333	0.00	0.04	0.068	0					0.36
63.417	0.00	0.04	0.068	0					0.36
63.500	0.00	0.04	0.068	0					0.36

63.583	0.00	0.04	0.067	0					0.36
63.667	0.00	0.04	0.067	0					0.35
63.750	0.00	0.04	0.067	0					0.35
63.833	0.00	0.04	0.067	0					0.35
63.917	0.00	0.03	0.066	0					0.35
64.000	0.00	0.03	0.066	0					0.35
64.083	0.00	0.03	0.066	0					0.35
64.167	0.00	0.03	0.066	0					0.35
64.250	0.00	0.03	0.066	0					0.34
64.333	0.00	0.03	0.065	0					0.34
64.417	0.00	0.03	0.065	0					0.34
64.500	0.00	0.03	0.065	0					0.34
64.583	0.00	0.03	0.065	0					0.34
64.667	0.00	0.03	0.064	0					0.34
64.750	0.00	0.03	0.064	0					0.34
64.833	0.00	0.03	0.064	0					0.34
64.917	0.00	0.03	0.064	0					0.34
65.000	0.00	0.03	0.063	0					0.33
65.083	0.00	0.03	0.063	0					0.33
65.167	0.00	0.03	0.063	0					0.33
65.250	0.00	0.03	0.063	0					0.33
65.333	0.00	0.03	0.063	0					0.33
65.417	0.00	0.03	0.062	0					0.33
65.500	0.00	0.03	0.062	0					0.33
65.583	0.00	0.03	0.062	0					0.33
65.667	0.00	0.03	0.062	0					0.32
65.750	0.00	0.03	0.061	0					0.32
65.833	0.00	0.03	0.061	0					0.32
65.917	0.00	0.03	0.061	0					0.32
66.000	0.00	0.03	0.061	0					0.32
66.083	0.00	0.03	0.061	0					0.32
66.167	0.00	0.03	0.060	0					0.32
66.250	0.00	0.03	0.060	0					0.32
66.333	0.00	0.03	0.060	0					0.32
66.417	0.00	0.03	0.060	0					0.31
66.500	0.00	0.03	0.059	0					0.31
66.583	0.00	0.03	0.059	0					0.31
66.667	0.00	0.03	0.059	0					0.31
66.750	0.00	0.03	0.059	0					0.31
66.833	0.00	0.03	0.059	0					0.31
66.917	0.00	0.03	0.058	0					0.31
67.000	0.00	0.03	0.058	0					0.31
67.083	0.00	0.03	0.058	0					0.30
67.167	0.00	0.03	0.058	0					0.30
67.250	0.00	0.03	0.058	0					0.30
67.333	0.00	0.03	0.057	0					0.30
67.417	0.00	0.03	0.057	0					0.30
67.500	0.00	0.03	0.057	0					0.30
67.583	0.00	0.03	0.057	0					0.30
67.667	0.00	0.03	0.056	0					0.30
67.750	0.00	0.03	0.056	0					0.30
67.833	0.00	0.03	0.056	0					0.30

67.917	0.00	0.03	0.056	0					0.29
68.000	0.00	0.03	0.056	0					0.29
68.083	0.00	0.03	0.055	0					0.29
68.167	0.00	0.03	0.055	0					0.29
68.250	0.00	0.03	0.055	0					0.29
68.333	0.00	0.03	0.055	0					0.29
68.417	0.00	0.03	0.055	0					0.29
68.500	0.00	0.03	0.054	0					0.29
68.583	0.00	0.03	0.054	0					0.29
68.667	0.00	0.03	0.054	0					0.28
68.750	0.00	0.03	0.054	0					0.28
68.833	0.00	0.03	0.054	0					0.28
68.917	0.00	0.03	0.053	0					0.28
69.000	0.00	0.03	0.053	0					0.28
69.083	0.00	0.03	0.053	0					0.28
69.167	0.00	0.03	0.053	0					0.28
69.250	0.00	0.03	0.053	0					0.28
69.333	0.00	0.03	0.053	0					0.28
69.417	0.00	0.03	0.052	0					0.28
69.500	0.00	0.03	0.052	0					0.27
69.583	0.00	0.03	0.052	0					0.27
69.667	0.00	0.03	0.052	0					0.27
69.750	0.00	0.03	0.052	0					0.27
69.833	0.00	0.03	0.051	0					0.27
69.917	0.00	0.03	0.051	0					0.27
70.000	0.00	0.03	0.051	0					0.27
70.083	0.00	0.03	0.051	0					0.27
70.167	0.00	0.03	0.051	0					0.27
70.250	0.00	0.03	0.050	0					0.27
70.333	0.00	0.03	0.050	0					0.26
70.417	0.00	0.03	0.050	0					0.26
70.500	0.00	0.03	0.050	0					0.26
70.583	0.00	0.03	0.050	0					0.26
70.667	0.00	0.03	0.050	0					0.26
70.750	0.00	0.03	0.049	0					0.26
70.833	0.00	0.03	0.049	0					0.26
70.917	0.00	0.03	0.049	0					0.26
71.000	0.00	0.03	0.049	0					0.26
71.083	0.00	0.03	0.049	0					0.26
71.167	0.00	0.03	0.049	0					0.26
71.250	0.00	0.03	0.048	0					0.25
71.333	0.00	0.03	0.048	0					0.25
71.417	0.00	0.03	0.048	0					0.25
71.500	0.00	0.03	0.048	0					0.25
71.583	0.00	0.03	0.048	0					0.25
71.667	0.00	0.02	0.047	0					0.25
71.750	0.00	0.02	0.047	0					0.25
71.833	0.00	0.02	0.047	0					0.25
71.917	0.00	0.02	0.047	0					0.25
72.000	0.00	0.02	0.047	0					0.25
72.083	0.00	0.02	0.047	0					0.25
72.167	0.00	0.02	0.046	0					0.24

72.250	0.00	0.02	0.046	0					0.24
72.333	0.00	0.02	0.046	0					0.24
72.417	0.00	0.02	0.046	0					0.24
72.500	0.00	0.02	0.046	0					0.24
72.583	0.00	0.02	0.046	0					0.24
72.667	0.00	0.02	0.045	0					0.24
72.750	0.00	0.02	0.045	0					0.24
72.833	0.00	0.02	0.045	0					0.24
72.917	0.00	0.02	0.045	0					0.24
73.000	0.00	0.02	0.045	0					0.24
73.083	0.00	0.02	0.045	0					0.23
73.167	0.00	0.02	0.044	0					0.23
73.250	0.00	0.02	0.044	0					0.23
73.333	0.00	0.02	0.044	0					0.23
73.417	0.00	0.02	0.044	0					0.23
73.500	0.00	0.02	0.044	0					0.23
73.583	0.00	0.02	0.044	0					0.23
73.667	0.00	0.02	0.044	0					0.23
73.750	0.00	0.02	0.043	0					0.23
73.833	0.00	0.02	0.043	0					0.23
73.917	0.00	0.02	0.043	0					0.23
74.000	0.00	0.02	0.043	0					0.23
74.083	0.00	0.02	0.043	0					0.22
74.167	0.00	0.02	0.043	0					0.22
74.250	0.00	0.02	0.042	0					0.22
74.333	0.00	0.02	0.042	0					0.22
74.417	0.00	0.02	0.042	0					0.22
74.500	0.00	0.02	0.042	0					0.22
74.583	0.00	0.02	0.042	0					0.22
74.667	0.00	0.02	0.042	0					0.22
74.750	0.00	0.02	0.042	0					0.22
74.833	0.00	0.02	0.041	0					0.22
74.917	0.00	0.02	0.041	0					0.22
75.000	0.00	0.02	0.041	0					0.22
75.083	0.00	0.02	0.041	0					0.22
75.167	0.00	0.02	0.041	0					0.21
75.250	0.00	0.02	0.041	0					0.21
75.333	0.00	0.02	0.040	0					0.21
75.417	0.00	0.02	0.040	0					0.21
75.500	0.00	0.02	0.040	0					0.21
75.583	0.00	0.02	0.040	0					0.21
75.667	0.00	0.02	0.040	0					0.21
75.750	0.00	0.02	0.040	0					0.21
75.833	0.00	0.02	0.040	0					0.21
75.917	0.00	0.02	0.039	0					0.21
76.000	0.00	0.02	0.039	0					0.21
76.083	0.00	0.02	0.039	0					0.21
76.167	0.00	0.02	0.039	0					0.21
76.250	0.00	0.02	0.039	0					0.20
76.333	0.00	0.02	0.039	0					0.20
76.417	0.00	0.02	0.039	0					0.20
76.500	0.00	0.02	0.038	0					0.20

76.583	0.00	0.02	0.038	0					0.20
76.667	0.00	0.02	0.038	0					0.20
76.750	0.00	0.02	0.038	0					0.20
76.833	0.00	0.02	0.038	0					0.20
76.917	0.00	0.02	0.038	0					0.20
77.000	0.00	0.02	0.038	0					0.20
77.083	0.00	0.02	0.038	0					0.20
77.167	0.00	0.02	0.037	0					0.20
77.250	0.00	0.02	0.037	0					0.20
77.333	0.00	0.02	0.037	0					0.20
77.417	0.00	0.02	0.037	0					0.19
77.500	0.00	0.02	0.037	0					0.19
77.583	0.00	0.02	0.037	0					0.19
77.667	0.00	0.02	0.037	0					0.19
77.750	0.00	0.02	0.036	0					0.19
77.833	0.00	0.02	0.036	0					0.19
77.917	0.00	0.02	0.036	0					0.19
78.000	0.00	0.02	0.036	0					0.19
78.083	0.00	0.02	0.036	0					0.19
78.167	0.00	0.02	0.036	0					0.19
78.250	0.00	0.02	0.036	0					0.19
78.333	0.00	0.02	0.036	0					0.19
78.417	0.00	0.02	0.035	0					0.19
78.500	0.00	0.02	0.035	0					0.19
78.583	0.00	0.02	0.035	0					0.18
78.667	0.00	0.02	0.035	0					0.18
78.750	0.00	0.02	0.035	0					0.18
78.833	0.00	0.02	0.035	0					0.18
78.917	0.00	0.02	0.035	0					0.18
79.000	0.00	0.02	0.035	0					0.18
79.083	0.00	0.02	0.034	0					0.18
79.167	0.00	0.02	0.034	0					0.18
79.250	0.00	0.02	0.034	0					0.18
79.333	0.00	0.02	0.034	0					0.18
79.417	0.00	0.02	0.034	0					0.18
79.500	0.00	0.02	0.034	0					0.18
79.583	0.00	0.02	0.034	0					0.18
79.667	0.00	0.02	0.034	0					0.18
79.750	0.00	0.02	0.033	0					0.18
79.833	0.00	0.02	0.033	0					0.18
79.917	0.00	0.02	0.033	0					0.17
80.000	0.00	0.02	0.033	0					0.17
80.083	0.00	0.02	0.033	0					0.17
80.167	0.00	0.02	0.033	0					0.17
80.250	0.00	0.02	0.033	0					0.17
80.333	0.00	0.02	0.033	0					0.17
80.417	0.00	0.02	0.032	0					0.17
80.500	0.00	0.02	0.032	0					0.17
80.583	0.00	0.02	0.032	0					0.17
80.667	0.00	0.02	0.032	0					0.17
80.750	0.00	0.02	0.032	0					0.17
80.833	0.00	0.02	0.032	0					0.17

80.917	0.00	0.02	0.032	0					0.17
81.000	0.00	0.02	0.032	0					0.17
81.083	0.00	0.02	0.032	0					0.17
81.167	0.00	0.02	0.031	0					0.17
81.250	0.00	0.02	0.031	0					0.16
81.333	0.00	0.02	0.031	0					0.16
81.417	0.00	0.02	0.031	0					0.16
81.500	0.00	0.02	0.031	0					0.16
81.583	0.00	0.02	0.031	0					0.16
81.667	0.00	0.02	0.031	0					0.16
81.750	0.00	0.02	0.031	0					0.16
81.833	0.00	0.02	0.031	0					0.16
81.917	0.00	0.02	0.030	0					0.16
82.000	0.00	0.02	0.030	0					0.16
82.083	0.00	0.02	0.030	0					0.16
82.167	0.00	0.02	0.030	0					0.16
82.250	0.00	0.02	0.030	0					0.16
82.333	0.00	0.02	0.030	0					0.16
82.417	0.00	0.02	0.030	0					0.16
82.500	0.00	0.02	0.030	0					0.16
82.583	0.00	0.02	0.030	0					0.16
82.667	0.00	0.02	0.029	0					0.15
82.750	0.00	0.02	0.029	0					0.15
82.833	0.00	0.02	0.029	0					0.15
82.917	0.00	0.02	0.029	0					0.15
83.000	0.00	0.02	0.029	0					0.15
83.083	0.00	0.02	0.029	0					0.15
83.167	0.00	0.02	0.029	0					0.15
83.250	0.00	0.02	0.029	0					0.15
83.333	0.00	0.02	0.029	0					0.15
83.417	0.00	0.01	0.028	0					0.15
83.500	0.00	0.01	0.028	0					0.15
83.583	0.00	0.01	0.028	0					0.15
83.667	0.00	0.01	0.028	0					0.15
83.750	0.00	0.01	0.028	0					0.15
83.833	0.00	0.01	0.028	0					0.15
83.917	0.00	0.01	0.028	0					0.15
84.000	0.00	0.01	0.028	0					0.15
84.083	0.00	0.01	0.028	0					0.15
84.167	0.00	0.01	0.028	0					0.15
84.250	0.00	0.01	0.027	0					0.14
84.333	0.00	0.01	0.027	0					0.14
84.417	0.00	0.01	0.027	0					0.14
84.500	0.00	0.01	0.027	0					0.14
84.583	0.00	0.01	0.027	0					0.14
84.667	0.00	0.01	0.027	0					0.14
84.750	0.00	0.01	0.027	0					0.14
84.833	0.00	0.01	0.027	0					0.14
84.917	0.00	0.01	0.027	0					0.14
85.000	0.00	0.01	0.027	0					0.14
85.083	0.00	0.01	0.026	0					0.14
85.167	0.00	0.01	0.026	0					0.14

85.250	0.00	0.01	0.026	0					0.14
85.333	0.00	0.01	0.026	0					0.14
85.417	0.00	0.01	0.026	0					0.14
85.500	0.00	0.01	0.026	0					0.14
85.583	0.00	0.01	0.026	0					0.14
85.667	0.00	0.01	0.026	0					0.14
85.750	0.00	0.01	0.026	0					0.14
85.833	0.00	0.01	0.026	0					0.13
85.917	0.00	0.01	0.026	0					0.13
86.000	0.00	0.01	0.025	0					0.13
86.083	0.00	0.01	0.025	0					0.13
86.167	0.00	0.01	0.025	0					0.13
86.250	0.00	0.01	0.025	0					0.13
86.333	0.00	0.01	0.025	0					0.13
86.417	0.00	0.01	0.025	0					0.13
86.500	0.00	0.01	0.025	0					0.13
86.583	0.00	0.01	0.025	0					0.13
86.667	0.00	0.01	0.025	0					0.13
86.750	0.00	0.01	0.025	0					0.13
86.833	0.00	0.01	0.025	0					0.13
86.917	0.00	0.01	0.024	0					0.13
87.000	0.00	0.01	0.024	0					0.13
87.083	0.00	0.01	0.024	0					0.13
87.167	0.00	0.01	0.024	0					0.13
87.250	0.00	0.01	0.024	0					0.13
87.333	0.00	0.01	0.024	0					0.13
87.417	0.00	0.01	0.024	0					0.13
87.500	0.00	0.01	0.024	0					0.13
87.583	0.00	0.01	0.024	0					0.13
87.667	0.00	0.01	0.024	0					0.12
87.750	0.00	0.01	0.024	0					0.12
87.833	0.00	0.01	0.023	0					0.12
87.917	0.00	0.01	0.023	0					0.12
88.000	0.00	0.01	0.023	0					0.12
88.083	0.00	0.01	0.023	0					0.12
88.167	0.00	0.01	0.023	0					0.12
88.250	0.00	0.01	0.023	0					0.12
88.333	0.00	0.01	0.023	0					0.12
88.417	0.00	0.01	0.023	0					0.12
88.500	0.00	0.01	0.023	0					0.12
88.583	0.00	0.01	0.023	0					0.12
88.667	0.00	0.01	0.023	0					0.12
88.750	0.00	0.01	0.023	0					0.12
88.833	0.00	0.01	0.022	0					0.12
88.917	0.00	0.01	0.022	0					0.12
89.000	0.00	0.01	0.022	0					0.12
89.083	0.00	0.01	0.022	0					0.12
89.167	0.00	0.01	0.022	0					0.12
89.250	0.00	0.01	0.022	0					0.12
89.333	0.00	0.01	0.022	0					0.12
89.417	0.00	0.01	0.022	0					0.12
89.500	0.00	0.01	0.022	0					0.12

89.583	0.00	0.01	0.022	0					0.11
89.667	0.00	0.01	0.022	0					0.11
89.750	0.00	0.01	0.022	0					0.11
89.833	0.00	0.01	0.022	0					0.11
89.917	0.00	0.01	0.021	0					0.11
90.000	0.00	0.01	0.021	0					0.11
90.083	0.00	0.01	0.021	0					0.11
90.167	0.00	0.01	0.021	0					0.11
90.250	0.00	0.01	0.021	0					0.11
90.333	0.00	0.01	0.021	0					0.11
90.417	0.00	0.01	0.021	0					0.11
90.500	0.00	0.01	0.021	0					0.11
90.583	0.00	0.01	0.021	0					0.11
90.667	0.00	0.01	0.021	0					0.11
90.750	0.00	0.01	0.021	0					0.11
90.833	0.00	0.01	0.021	0					0.11
90.917	0.00	0.01	0.021	0					0.11
91.000	0.00	0.01	0.020	0					0.11
91.083	0.00	0.01	0.020	0					0.11
91.167	0.00	0.01	0.020	0					0.11
91.250	0.00	0.01	0.020	0					0.11
91.333	0.00	0.01	0.020	0					0.11
91.417	0.00	0.01	0.020	0					0.11
91.500	0.00	0.01	0.020	0					0.11
91.583	0.00	0.01	0.020	0					0.11
91.667	0.00	0.01	0.020	0					0.10
91.750	0.00	0.01	0.020	0					0.10
91.833	0.00	0.01	0.020	0					0.10
91.917	0.00	0.01	0.020	0					0.10
92.000	0.00	0.01	0.020	0					0.10
92.083	0.00	0.01	0.020	0					0.10
92.167	0.00	0.01	0.019	0					0.10
92.250	0.00	0.01	0.019	0					0.10
92.333	0.00	0.01	0.019	0					0.10
92.417	0.00	0.01	0.019	0					0.10
92.500	0.00	0.01	0.019	0					0.10
92.583	0.00	0.01	0.019	0					0.10
92.667	0.00	0.01	0.019	0					0.10
92.750	0.00	0.01	0.019	0					0.10
92.833	0.00	0.01	0.019	0					0.10
92.917	0.00	0.01	0.019	0					0.10
93.000	0.00	0.01	0.019	0					0.10
93.083	0.00	0.01	0.019	0					0.10
93.167	0.00	0.01	0.019	0					0.10
93.250	0.00	0.01	0.019	0					0.10
93.333	0.00	0.01	0.018	0					0.10
93.417	0.00	0.01	0.018	0					0.10
93.500	0.00	0.01	0.018	0					0.10
93.583	0.00	0.01	0.018	0					0.10
93.667	0.00	0.01	0.018	0					0.10
93.750	0.00	0.01	0.018	0					0.10
93.833	0.00	0.01	0.018	0					0.10

93.917	0.00	0.01	0.018	0					0.09
94.000	0.00	0.01	0.018	0					0.09
94.083	0.00	0.01	0.018	0					0.09
94.167	0.00	0.01	0.018	0					0.09
94.250	0.00	0.01	0.018	0					0.09
94.333	0.00	0.01	0.018	0					0.09
94.417	0.00	0.01	0.018	0					0.09
94.500	0.00	0.01	0.018	0					0.09
94.583	0.00	0.01	0.018	0					0.09
94.667	0.00	0.01	0.017	0					0.09
94.750	0.00	0.01	0.017	0					0.09
94.833	0.00	0.01	0.017	0					0.09
94.917	0.00	0.01	0.017	0					0.09
95.000	0.00	0.01	0.017	0					0.09
95.083	0.00	0.01	0.017	0					0.09
95.167	0.00	0.01	0.017	0					0.09
95.250	0.00	0.01	0.017	0					0.09
95.333	0.00	0.01	0.017	0					0.09
95.417	0.00	0.01	0.017	0					0.09
95.500	0.00	0.01	0.017	0					0.09
95.583	0.00	0.01	0.017	0					0.09
95.667	0.00	0.01	0.017	0					0.09
95.750	0.00	0.01	0.017	0					0.09
95.833	0.00	0.01	0.017	0					0.09
95.917	0.00	0.01	0.017	0					0.09
96.000	0.00	0.01	0.016	0					0.09
96.083	0.00	0.01	0.016	0					0.09
96.167	0.00	0.01	0.016	0					0.09
96.250	0.00	0.01	0.016	0					0.09
96.333	0.00	0.01	0.016	0					0.09
96.417	0.00	0.01	0.016	0					0.09
96.500	0.00	0.01	0.016	0					0.08
96.583	0.00	0.01	0.016	0					0.08
96.667	0.00	0.01	0.016	0					0.08
96.750	0.00	0.01	0.016	0					0.08
96.833	0.00	0.01	0.016	0					0.08
96.917	0.00	0.01	0.016	0					0.08
97.000	0.00	0.01	0.016	0					0.08
97.083	0.00	0.01	0.016	0					0.08
97.167	0.00	0.01	0.016	0					0.08
97.250	0.00	0.01	0.016	0					0.08
97.333	0.00	0.01	0.016	0					0.08
97.417	0.00	0.01	0.015	0					0.08
97.500	0.00	0.01	0.015	0					0.08
97.583	0.00	0.01	0.015	0					0.08
97.667	0.00	0.01	0.015	0					0.08
97.750	0.00	0.01	0.015	0					0.08
97.833	0.00	0.01	0.015	0					0.08
97.917	0.00	0.01	0.015	0					0.08
98.000	0.00	0.01	0.015	0					0.08
98.083	0.00	0.01	0.015	0					0.08
98.167	0.00	0.01	0.015	0					0.08

98.250	0.00	0.01	0.015	0					0.08
98.333	0.00	0.01	0.015	0					0.08
98.417	0.00	0.01	0.015	0					0.08
98.500	0.00	0.01	0.015	0					0.08
98.583	0.00	0.01	0.015	0					0.08
98.667	0.00	0.01	0.015	0					0.08
98.750	0.00	0.01	0.015	0					0.08
98.833	0.00	0.01	0.015	0					0.08
98.917	0.00	0.01	0.015	0					0.08
99.000	0.00	0.01	0.014	0					0.08
99.083	0.00	0.01	0.014	0					0.08
99.167	0.00	0.01	0.014	0					0.08
99.250	0.00	0.01	0.014	0					0.08
99.333	0.00	0.01	0.014	0					0.07
99.417	0.00	0.01	0.014	0					0.07
99.500	0.00	0.01	0.014	0					0.07
99.583	0.00	0.01	0.014	0					0.07
99.667	0.00	0.01	0.014	0					0.07
99.750	0.00	0.01	0.014	0					0.07
99.833	0.00	0.01	0.014	0					0.07
99.917	0.00	0.01	0.014	0					0.07
100.000	0.00	0.01	0.014	0					0.07
100.083	0.00	0.01	0.014	0					0.07
100.167	0.00	0.01	0.014	0					0.07
100.250	0.00	0.01	0.014	0					0.07
100.333	0.00	0.01	0.014	0					0.07
100.417	0.00	0.01	0.014	0					0.07
100.500	0.00	0.01	0.014	0					0.07
100.583	0.00	0.01	0.013	0					0.07
100.667	0.00	0.01	0.013	0					0.07
100.750	0.00	0.01	0.013	0					0.07
100.833	0.00	0.01	0.013	0					0.07
100.917	0.00	0.01	0.013	0					0.07
101.000	0.00	0.01	0.013	0					0.07
101.083	0.00	0.01	0.013	0					0.07
101.167	0.00	0.01	0.013	0					0.07
101.250	0.00	0.01	0.013	0					0.07
101.333	0.00	0.01	0.013	0					0.07
101.417	0.00	0.01	0.013	0					0.07
101.500	0.00	0.01	0.013	0					0.07
101.583	0.00	0.01	0.013	0					0.07
101.667	0.00	0.01	0.013	0					0.07
101.750	0.00	0.01	0.013	0					0.07
101.833	0.00	0.01	0.013	0					0.07
101.917	0.00	0.01	0.013	0					0.07
102.000	0.00	0.01	0.013	0					0.07
102.083	0.00	0.01	0.013	0					0.07
102.167	0.00	0.01	0.013	0					0.07
102.250	0.00	0.01	0.013	0					0.07
102.333	0.00	0.01	0.013	0					0.07
102.417	0.00	0.01	0.012	0					0.07
102.500	0.00	0.01	0.012	0					0.07

102.583	0.00	0.01	0.012	0					0.07
102.667	0.00	0.01	0.012	0					0.06
102.750	0.00	0.01	0.012	0					0.06
102.833	0.00	0.01	0.012	0					0.06
102.917	0.00	0.01	0.012	0					0.06
103.000	0.00	0.01	0.012	0					0.06
103.083	0.00	0.01	0.012	0					0.06
103.167	0.00	0.01	0.012	0					0.06
103.250	0.00	0.01	0.012	0					0.06
103.333	0.00	0.01	0.012	0					0.06
103.417	0.00	0.01	0.012	0					0.06
103.500	0.00	0.01	0.012	0					0.06
103.583	0.00	0.01	0.012	0					0.06
103.667	0.00	0.01	0.012	0					0.06
103.750	0.00	0.01	0.012	0					0.06
103.833	0.00	0.01	0.012	0					0.06
103.917	0.00	0.01	0.012	0					0.06
104.000	0.00	0.01	0.012	0					0.06
104.083	0.00	0.01	0.012	0					0.06
104.167	0.00	0.01	0.012	0					0.06
104.250	0.00	0.01	0.012	0					0.06
104.333	0.00	0.01	0.011	0					0.06
104.417	0.00	0.01	0.011	0					0.06
104.500	0.00	0.01	0.011	0					0.06
104.583	0.00	0.01	0.011	0					0.06
104.667	0.00	0.01	0.011	0					0.06
104.750	0.00	0.01	0.011	0					0.06
104.833	0.00	0.01	0.011	0					0.06
104.917	0.00	0.01	0.011	0					0.06
105.000	0.00	0.01	0.011	0					0.06
105.083	0.00	0.01	0.011	0					0.06
105.167	0.00	0.01	0.011	0					0.06
105.250	0.00	0.01	0.011	0					0.06
105.333	0.00	0.01	0.011	0					0.06
105.417	0.00	0.01	0.011	0					0.06
105.500	0.00	0.01	0.011	0					0.06
105.583	0.00	0.01	0.011	0					0.06
105.667	0.00	0.01	0.011	0					0.06
105.750	0.00	0.01	0.011	0					0.06
105.833	0.00	0.01	0.011	0					0.06
105.917	0.00	0.01	0.011	0					0.06
106.000	0.00	0.01	0.011	0					0.06
106.083	0.00	0.01	0.011	0					0.06
106.167	0.00	0.01	0.011	0					0.06
106.250	0.00	0.01	0.011	0					0.06
106.333	0.00	0.01	0.011	0					0.06
106.417	0.00	0.01	0.010	0					0.06
106.500	0.00	0.01	0.010	0					0.05
106.583	0.00	0.01	0.010	0					0.05
106.667	0.00	0.01	0.010	0					0.05
106.750	0.00	0.01	0.010	0					0.05
106.833	0.00	0.01	0.010	0					0.05

106.917	0.00	0.01	0.010	0					0.05
107.000	0.00	0.01	0.010	0					0.05
107.083	0.00	0.01	0.010	0					0.05
107.167	0.00	0.01	0.010	0					0.05
107.250	0.00	0.01	0.010	0					0.05
107.333	0.00	0.01	0.010	0					0.05
107.417	0.00	0.01	0.010	0					0.05
107.500	0.00	0.01	0.010	0					0.05
107.583	0.00	0.01	0.010	0					0.05
107.667	0.00	0.01	0.010	0					0.05
107.750	0.00	0.01	0.010	0					0.05
107.833	0.00	0.01	0.010	0					0.05
107.917	0.00	0.01	0.010	0					0.05
108.000	0.00	0.01	0.010	0					0.05
108.083	0.00	0.01	0.010	0					0.05
108.167	0.00	0.01	0.010	0					0.05
108.250	0.00	0.01	0.010	0					0.05
108.333	0.00	0.01	0.010	0					0.05
108.417	0.00	0.01	0.010	0					0.05
108.500	0.00	0.01	0.010	0					0.05
108.583	0.00	0.01	0.010	0					0.05
108.667	0.00	0.00	0.009	0					0.05
108.750	0.00	0.00	0.009	0					0.05
108.833	0.00	0.00	0.009	0					0.05
108.917	0.00	0.00	0.009	0					0.05
109.000	0.00	0.00	0.009	0					0.05
109.083	0.00	0.00	0.009	0					0.05
109.167	0.00	0.00	0.009	0					0.05
109.250	0.00	0.00	0.009	0					0.05
109.333	0.00	0.00	0.009	0					0.05
109.417	0.00	0.00	0.009	0					0.05
109.500	0.00	0.00	0.009	0					0.05
109.583	0.00	0.00	0.009	0					0.05
109.667	0.00	0.00	0.009	0					0.05
109.750	0.00	0.00	0.009	0					0.05
109.833	0.00	0.00	0.009	0					0.05
109.917	0.00	0.00	0.009	0					0.05
110.000	0.00	0.00	0.009	0					0.05
110.083	0.00	0.00	0.009	0					0.05
110.167	0.00	0.00	0.009	0					0.05
110.250	0.00	0.00	0.009	0					0.05
110.333	0.00	0.00	0.009	0					0.05
110.417	0.00	0.00	0.009	0					0.05
110.500	0.00	0.00	0.009	0					0.05
110.583	0.00	0.00	0.009	0					0.05
110.667	0.00	0.00	0.009	0					0.05
110.750	0.00	0.00	0.009	0					0.05
110.833	0.00	0.00	0.009	0					0.05
110.917	0.00	0.00	0.009	0					0.05
111.000	0.00	0.00	0.009	0					0.05
111.083	0.00	0.00	0.009	0					0.04
111.167	0.00	0.00	0.009	0					0.04

111.250	0.00	0.00	0.008	0					0.04
111.333	0.00	0.00	0.008	0					0.04
111.417	0.00	0.00	0.008	0					0.04
111.500	0.00	0.00	0.008	0					0.04
111.583	0.00	0.00	0.008	0					0.04
111.667	0.00	0.00	0.008	0					0.04
111.750	0.00	0.00	0.008	0					0.04
111.833	0.00	0.00	0.008	0					0.04
111.917	0.00	0.00	0.008	0					0.04
112.000	0.00	0.00	0.008	0					0.04
112.083	0.00	0.00	0.008	0					0.04
112.167	0.00	0.00	0.008	0					0.04
112.250	0.00	0.00	0.008	0					0.04
112.333	0.00	0.00	0.008	0					0.04
112.417	0.00	0.00	0.008	0					0.04
112.500	0.00	0.00	0.008	0					0.04
112.583	0.00	0.00	0.008	0					0.04
112.667	0.00	0.00	0.008	0					0.04
112.750	0.00	0.00	0.008	0					0.04
112.833	0.00	0.00	0.008	0					0.04
112.917	0.00	0.00	0.008	0					0.04
113.000	0.00	0.00	0.008	0					0.04
113.083	0.00	0.00	0.008	0					0.04
113.167	0.00	0.00	0.008	0					0.04
113.250	0.00	0.00	0.008	0					0.04
113.333	0.00	0.00	0.008	0					0.04
113.417	0.00	0.00	0.008	0					0.04
113.500	0.00	0.00	0.008	0					0.04
113.583	0.00	0.00	0.008	0					0.04
113.667	0.00	0.00	0.008	0					0.04
113.750	0.00	0.00	0.008	0					0.04
113.833	0.00	0.00	0.008	0					0.04
113.917	0.00	0.00	0.008	0					0.04
114.000	0.00	0.00	0.008	0					0.04
114.083	0.00	0.00	0.008	0					0.04
114.167	0.00	0.00	0.007	0					0.04
114.250	0.00	0.00	0.007	0					0.04
114.333	0.00	0.00	0.007	0					0.04
114.417	0.00	0.00	0.007	0					0.04
114.500	0.00	0.00	0.007	0					0.04
114.583	0.00	0.00	0.007	0					0.04
114.667	0.00	0.00	0.007	0					0.04
114.750	0.00	0.00	0.007	0					0.04
114.833	0.00	0.00	0.007	0					0.04
114.917	0.00	0.00	0.007	0					0.04
115.000	0.00	0.00	0.007	0					0.04
115.083	0.00	0.00	0.007	0					0.04
115.167	0.00	0.00	0.007	0					0.04
115.250	0.00	0.00	0.007	0					0.04
115.333	0.00	0.00	0.007	0					0.04
115.417	0.00	0.00	0.007	0					0.04
115.500	0.00	0.00	0.007	0					0.04

115.583	0.00	0.00	0.007	0					0.04
115.667	0.00	0.00	0.007	0					0.04
115.750	0.00	0.00	0.007	0					0.04
115.833	0.00	0.00	0.007	0					0.04
115.917	0.00	0.00	0.007	0					0.04
116.000	0.00	0.00	0.007	0					0.04
116.083	0.00	0.00	0.007	0					0.04
116.167	0.00	0.00	0.007	0					0.04
116.250	0.00	0.00	0.007	0					0.04
116.333	0.00	0.00	0.007	0					0.04
116.417	0.00	0.00	0.007	0					0.04
116.500	0.00	0.00	0.007	0					0.04
116.583	0.00	0.00	0.007	0					0.04
116.667	0.00	0.00	0.007	0					0.04
116.750	0.00	0.00	0.007	0					0.04
116.833	0.00	0.00	0.007	0					0.04
116.917	0.00	0.00	0.007	0					0.03
117.000	0.00	0.00	0.007	0					0.03
117.083	0.00	0.00	0.007	0					0.03
117.167	0.00	0.00	0.007	0					0.03
117.250	0.00	0.00	0.007	0					0.03
117.333	0.00	0.00	0.007	0					0.03
117.417	0.00	0.00	0.006	0					0.03
117.500	0.00	0.00	0.006	0					0.03
117.583	0.00	0.00	0.006	0					0.03
117.667	0.00	0.00	0.006	0					0.03
117.750	0.00	0.00	0.006	0					0.03
117.833	0.00	0.00	0.006	0					0.03
117.917	0.00	0.00	0.006	0					0.03
118.000	0.00	0.00	0.006	0					0.03
118.083	0.00	0.00	0.006	0					0.03
118.167	0.00	0.00	0.006	0					0.03
118.250	0.00	0.00	0.006	0					0.03
118.333	0.00	0.00	0.006	0					0.03
118.417	0.00	0.00	0.006	0					0.03
118.500	0.00	0.00	0.006	0					0.03
118.583	0.00	0.00	0.006	0					0.03
118.667	0.00	0.00	0.006	0					0.03
118.750	0.00	0.00	0.006	0					0.03
118.833	0.00	0.00	0.006	0					0.03
118.917	0.00	0.00	0.006	0					0.03
119.000	0.00	0.00	0.006	0					0.03
119.083	0.00	0.00	0.006	0					0.03
119.167	0.00	0.00	0.006	0					0.03
119.250	0.00	0.00	0.006	0					0.03
119.333	0.00	0.00	0.006	0					0.03
119.417	0.00	0.00	0.006	0					0.03
119.500	0.00	0.00	0.006	0					0.03
119.583	0.00	0.00	0.006	0					0.03
119.667	0.00	0.00	0.006	0					0.03
119.750	0.00	0.00	0.006	0					0.03
119.833	0.00	0.00	0.006	0					0.03

119.917	0.00	0.00	0.006	0					0.03
120.000	0.00	0.00	0.006	0					0.03
120.083	0.00	0.00	0.006	0					0.03
120.167	0.00	0.00	0.006	0					0.03
120.250	0.00	0.00	0.006	0					0.03
120.333	0.00	0.00	0.006	0					0.03
120.417	0.00	0.00	0.006	0					0.03
120.500	0.00	0.00	0.006	0					0.03
120.583	0.00	0.00	0.006	0					0.03
120.667	0.00	0.00	0.006	0					0.03
120.750	0.00	0.00	0.006	0					0.03
120.833	0.00	0.00	0.006	0					0.03
120.917	0.00	0.00	0.006	0					0.03
121.000	0.00	0.00	0.006	0					0.03
121.083	0.00	0.00	0.006	0					0.03
121.167	0.00	0.00	0.006	0					0.03
121.250	0.00	0.00	0.005	0					0.03
121.333	0.00	0.00	0.005	0					0.03
121.417	0.00	0.00	0.005	0					0.03
121.500	0.00	0.00	0.005	0					0.03
121.583	0.00	0.00	0.005	0					0.03
121.667	0.00	0.00	0.005	0					0.03
121.750	0.00	0.00	0.005	0					0.03
121.833	0.00	0.00	0.005	0					0.03
121.917	0.00	0.00	0.005	0					0.03
122.000	0.00	0.00	0.005	0					0.03
122.083	0.00	0.00	0.005	0					0.03
122.167	0.00	0.00	0.005	0					0.03
122.250	0.00	0.00	0.005	0					0.03
122.333	0.00	0.00	0.005	0					0.03
122.417	0.00	0.00	0.005	0					0.03
122.500	0.00	0.00	0.005	0					0.03
122.583	0.00	0.00	0.005	0					0.03
122.667	0.00	0.00	0.005	0					0.03
122.750	0.00	0.00	0.005	0					0.03
122.833	0.00	0.00	0.005	0					0.03
122.917	0.00	0.00	0.005	0					0.03
123.000	0.00	0.00	0.005	0					0.03
123.083	0.00	0.00	0.005	0					0.03
123.167	0.00	0.00	0.005	0					0.03
123.250	0.00	0.00	0.005	0					0.03
123.333	0.00	0.00	0.005	0					0.03
123.417	0.00	0.00	0.005	0					0.03
123.500	0.00	0.00	0.005	0					0.03
123.583	0.00	0.00	0.005	0					0.03
123.667	0.00	0.00	0.005	0					0.03
123.750	0.00	0.00	0.005	0					0.03
123.833	0.00	0.00	0.005	0					0.03
123.917	0.00	0.00	0.005	0					0.03
124.000	0.00	0.00	0.005	0					0.03
124.083	0.00	0.00	0.005	0					0.03
124.167	0.00	0.00	0.005	0					0.03

124.250	0.00	0.00	0.005	0					0.03
124.333	0.00	0.00	0.005	0					0.03
124.417	0.00	0.00	0.005	0					0.03
124.500	0.00	0.00	0.005	0					0.03
124.583	0.00	0.00	0.005	0					0.03
124.667	0.00	0.00	0.005	0					0.02
124.750	0.00	0.00	0.005	0					0.02
124.833	0.00	0.00	0.005	0					0.02
124.917	0.00	0.00	0.005	0					0.02
125.000	0.00	0.00	0.005	0					0.02
125.083	0.00	0.00	0.005	0					0.02
125.167	0.00	0.00	0.005	0					0.02
125.250	0.00	0.00	0.005	0					0.02
125.333	0.00	0.00	0.005	0					0.02
125.417	0.00	0.00	0.005	0					0.02
125.500	0.00	0.00	0.005	0					0.02
125.583	0.00	0.00	0.005	0					0.02
125.667	0.00	0.00	0.005	0					0.02
125.750	0.00	0.00	0.005	0					0.02
125.833	0.00	0.00	0.004	0					0.02
125.917	0.00	0.00	0.004	0					0.02
126.000	0.00	0.00	0.004	0					0.02
126.083	0.00	0.00	0.004	0					0.02
126.167	0.00	0.00	0.004	0					0.02
126.250	0.00	0.00	0.004	0					0.02
126.333	0.00	0.00	0.004	0					0.02
126.417	0.00	0.00	0.004	0					0.02
126.500	0.00	0.00	0.004	0					0.02
126.583	0.00	0.00	0.004	0					0.02
126.667	0.00	0.00	0.004	0					0.02
126.750	0.00	0.00	0.004	0					0.02
126.833	0.00	0.00	0.004	0					0.02
126.917	0.00	0.00	0.004	0					0.02
127.000	0.00	0.00	0.004	0					0.02
127.083	0.00	0.00	0.004	0					0.02
127.167	0.00	0.00	0.004	0					0.02
127.250	0.00	0.00	0.004	0					0.02
127.333	0.00	0.00	0.004	0					0.02
127.417	0.00	0.00	0.004	0					0.02
127.500	0.00	0.00	0.004	0					0.02
127.583	0.00	0.00	0.004	0					0.02
127.667	0.00	0.00	0.004	0					0.02
127.750	0.00	0.00	0.004	0					0.02
127.833	0.00	0.00	0.004	0					0.02
127.917	0.00	0.00	0.004	0					0.02
128.000	0.00	0.00	0.004	0					0.02
128.083	0.00	0.00	0.004	0					0.02
128.167	0.00	0.00	0.004	0					0.02
128.250	0.00	0.00	0.004	0					0.02
128.333	0.00	0.00	0.004	0					0.02
128.417	0.00	0.00	0.004	0					0.02
128.500	0.00	0.00	0.004	0					0.02

128.583	0.00	0.00	0.004	0					0.02
128.667	0.00	0.00	0.004	0					0.02
128.750	0.00	0.00	0.004	0					0.02
128.833	0.00	0.00	0.004	0					0.02
128.917	0.00	0.00	0.004	0					0.02
129.000	0.00	0.00	0.004	0					0.02
129.083	0.00	0.00	0.004	0					0.02
129.167	0.00	0.00	0.004	0					0.02
129.250	0.00	0.00	0.004	0					0.02
129.333	0.00	0.00	0.004	0					0.02
129.417	0.00	0.00	0.004	0					0.02
129.500	0.00	0.00	0.004	0					0.02
129.583	0.00	0.00	0.004	0					0.02
129.667	0.00	0.00	0.004	0					0.02
129.750	0.00	0.00	0.004	0					0.02
129.833	0.00	0.00	0.004	0					0.02
129.917	0.00	0.00	0.004	0					0.02
130.000	0.00	0.00	0.004	0					0.02
130.083	0.00	0.00	0.004	0					0.02
130.167	0.00	0.00	0.004	0					0.02
130.250	0.00	0.00	0.004	0					0.02
130.333	0.00	0.00	0.004	0					0.02
130.417	0.00	0.00	0.004	0					0.02
130.500	0.00	0.00	0.004	0					0.02
130.583	0.00	0.00	0.004	0					0.02
130.667	0.00	0.00	0.004	0					0.02
130.750	0.00	0.00	0.004	0					0.02
130.833	0.00	0.00	0.004	0					0.02
130.917	0.00	0.00	0.004	0					0.02
131.000	0.00	0.00	0.004	0					0.02
131.083	0.00	0.00	0.004	0					0.02
131.167	0.00	0.00	0.004	0					0.02
131.250	0.00	0.00	0.004	0					0.02
131.333	0.00	0.00	0.004	0					0.02
131.417	0.00	0.00	0.004	0					0.02
131.500	0.00	0.00	0.004	0					0.02
131.583	0.00	0.00	0.004	0					0.02
131.667	0.00	0.00	0.003	0					0.02
131.750	0.00	0.00	0.003	0					0.02
131.833	0.00	0.00	0.003	0					0.02
131.917	0.00	0.00	0.003	0					0.02
132.000	0.00	0.00	0.003	0					0.02
132.083	0.00	0.00	0.003	0					0.02
132.167	0.00	0.00	0.003	0					0.02
132.250	0.00	0.00	0.003	0					0.02
132.333	0.00	0.00	0.003	0					0.02
132.417	0.00	0.00	0.003	0					0.02
132.500	0.00	0.00	0.003	0					0.02
132.583	0.00	0.00	0.003	0					0.02
132.667	0.00	0.00	0.003	0					0.02
132.750	0.00	0.00	0.003	0					0.02
132.833	0.00	0.00	0.003	0					0.02

132.917	0.00	0.00	0.003	0					0.02
133.000	0.00	0.00	0.003	0					0.02
133.083	0.00	0.00	0.003	0					0.02
133.167	0.00	0.00	0.003	0					0.02
133.250	0.00	0.00	0.003	0					0.02
133.333	0.00	0.00	0.003	0					0.02
133.417	0.00	0.00	0.003	0					0.02
133.500	0.00	0.00	0.003	0					0.02
133.583	0.00	0.00	0.003	0					0.02
133.667	0.00	0.00	0.003	0					0.02
133.750	0.00	0.00	0.003	0					0.02
133.833	0.00	0.00	0.003	0					0.02
133.917	0.00	0.00	0.003	0					0.02
134.000	0.00	0.00	0.003	0					0.02
134.083	0.00	0.00	0.003	0					0.02
134.167	0.00	0.00	0.003	0					0.02
134.250	0.00	0.00	0.003	0					0.02
134.333	0.00	0.00	0.003	0					0.02
134.417	0.00	0.00	0.003	0					0.02
134.500	0.00	0.00	0.003	0					0.02
134.583	0.00	0.00	0.003	0					0.02
134.667	0.00	0.00	0.003	0					0.02
134.750	0.00	0.00	0.003	0					0.02
134.833	0.00	0.00	0.003	0					0.02
134.917	0.00	0.00	0.003	0					0.02
135.000	0.00	0.00	0.003	0					0.02
135.083	0.00	0.00	0.003	0					0.02
135.167	0.00	0.00	0.003	0					0.02
135.250	0.00	0.00	0.003	0					0.02
135.333	0.00	0.00	0.003	0					0.02
135.417	0.00	0.00	0.003	0					0.02
135.500	0.00	0.00	0.003	0					0.02
135.583	0.00	0.00	0.003	0					0.02
135.667	0.00	0.00	0.003	0					0.02
135.750	0.00	0.00	0.003	0					0.02
135.833	0.00	0.00	0.003	0					0.02
135.917	0.00	0.00	0.003	0					0.02
136.000	0.00	0.00	0.003	0					0.02
136.083	0.00	0.00	0.003	0					0.02
136.167	0.00	0.00	0.003	0					0.02
136.250	0.00	0.00	0.003	0					0.02
136.333	0.00	0.00	0.003	0					0.01
136.417	0.00	0.00	0.003	0					0.01
136.500	0.00	0.00	0.003	0					0.01
136.583	0.00	0.00	0.003	0					0.01
136.667	0.00	0.00	0.003	0					0.01
136.750	0.00	0.00	0.003	0					0.01
136.833	0.00	0.00	0.003	0					0.01
136.917	0.00	0.00	0.003	0					0.01
137.000	0.00	0.00	0.003	0					0.01
137.083	0.00	0.00	0.003	0					0.01
137.167	0.00	0.00	0.003	0					0.01

137.250	0.00	0.00	0.003	0					0.01
137.333	0.00	0.00	0.003	0					0.01
137.417	0.00	0.00	0.003	0					0.01
137.500	0.00	0.00	0.003	0					0.01
137.583	0.00	0.00	0.003	0					0.01
137.667	0.00	0.00	0.003	0					0.01
137.750	0.00	0.00	0.003	0					0.01
137.833	0.00	0.00	0.003	0					0.01
137.917	0.00	0.00	0.003	0					0.01
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138.083	0.00	0.00	0.003	0					0.01
138.167	0.00	0.00	0.003	0					0.01
138.250	0.00	0.00	0.003	0					0.01
138.333	0.00	0.00	0.003	0					0.01
138.417	0.00	0.00	0.003	0					0.01
138.500	0.00	0.00	0.003	0					0.01
138.583	0.00	0.00	0.003	0					0.01
138.667	0.00	0.00	0.003	0					0.01
138.750	0.00	0.00	0.003	0					0.01
138.833	0.00	0.00	0.003	0					0.01
138.917	0.00	0.00	0.003	0					0.01
139.000	0.00	0.00	0.003	0					0.01
139.083	0.00	0.00	0.003	0					0.01
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139.417	0.00	0.00	0.002	0					0.01
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139.583	0.00	0.00	0.002	0					0.01
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139.750	0.00	0.00	0.002	0					0.01
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139.917	0.00	0.00	0.002	0					0.01
140.000	0.00	0.00	0.002	0					0.01
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140.167	0.00	0.00	0.002	0					0.01
140.250	0.00	0.00	0.002	0					0.01
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140.417	0.00	0.00	0.002	0					0.01
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141.250	0.00	0.00	0.002	0					0.01
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141.500	0.00	0.00	0.002	0					0.01

141.583	0.00	0.00	0.002	0					0.01
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142.750	0.00	0.00	0.002	0					0.01
142.833	0.00	0.00	0.002	0					0.01
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144.083	0.00	0.00	0.002	0					0.01
144.167	0.00	0.00	0.002	0					0.01
144.250	0.00	0.00	0.002	0					0.01
144.333	0.00	0.00	0.002	0					0.01
144.417	0.00	0.00	0.002	0					0.01
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144.583	0.00	0.00	0.002	0					0.01
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145.500	0.00	0.00	0.002	0					0.01
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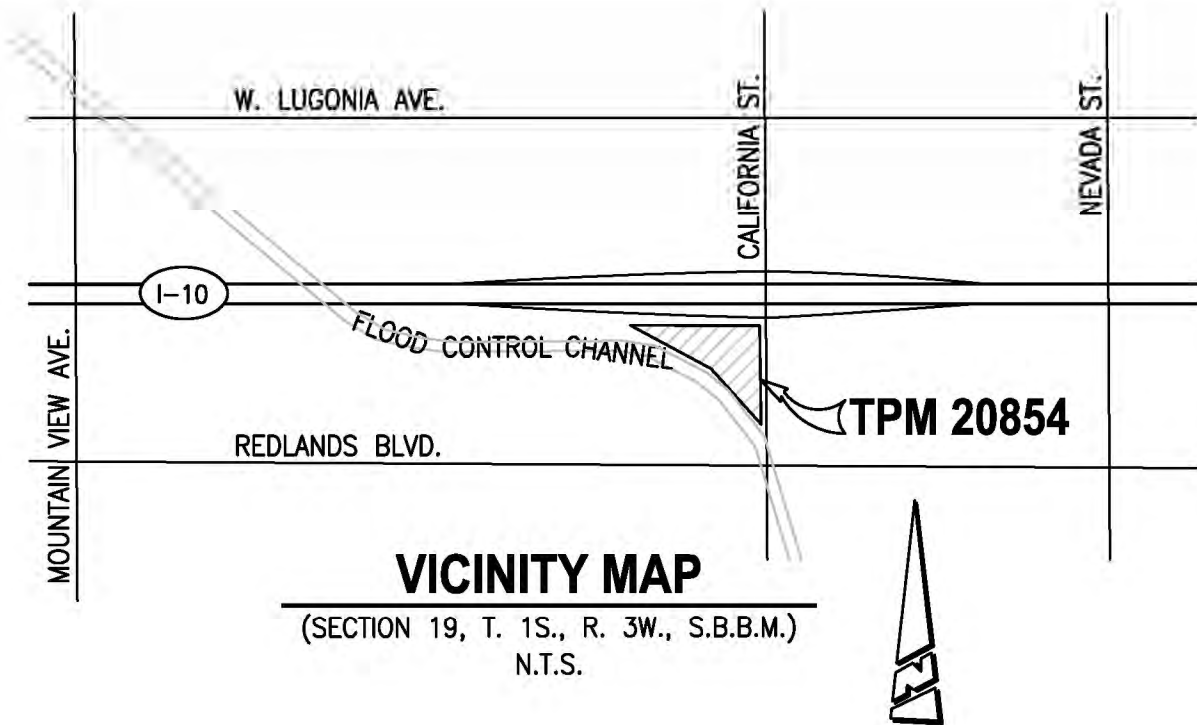
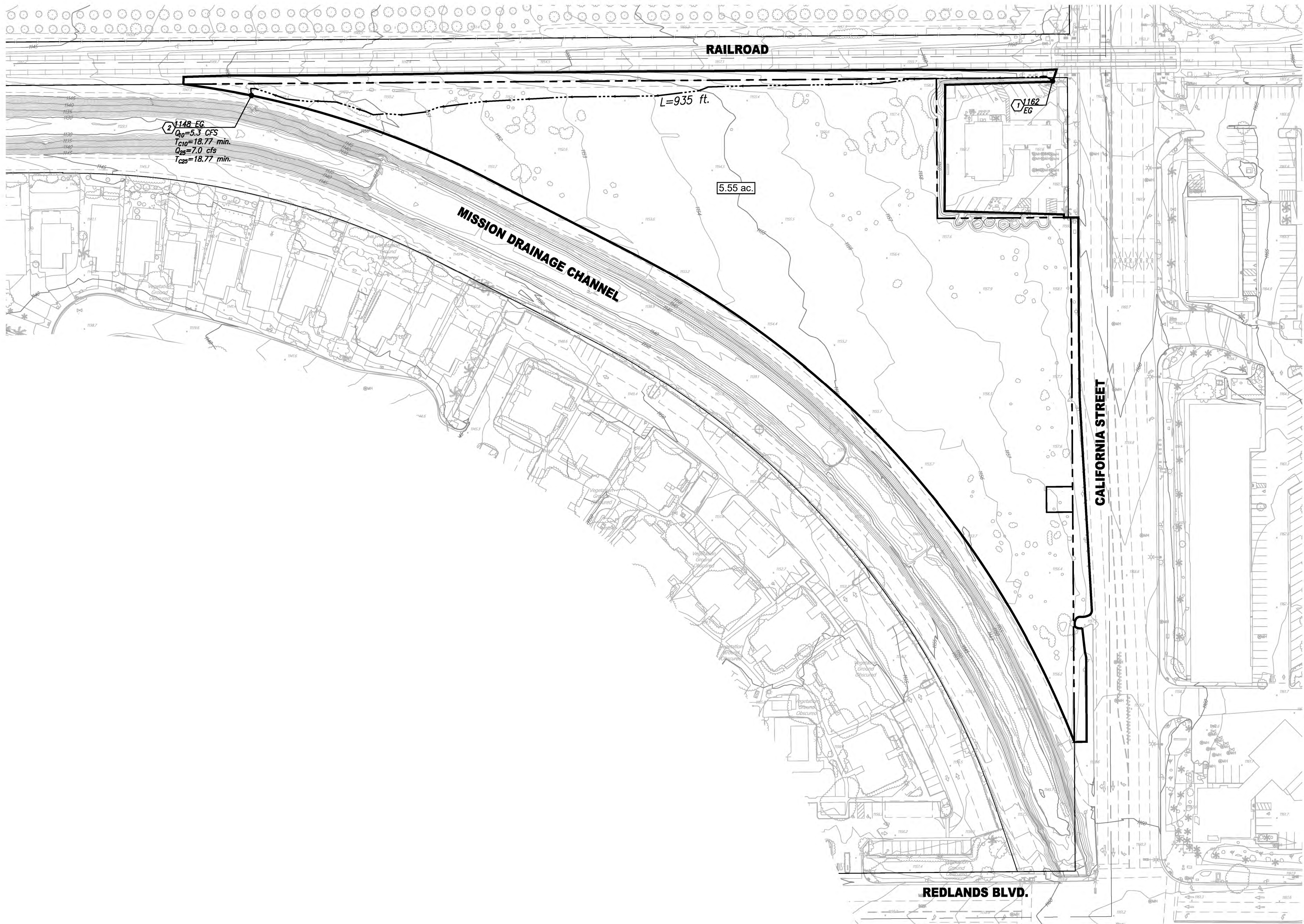
*****HYDROGRAPH DATA*****

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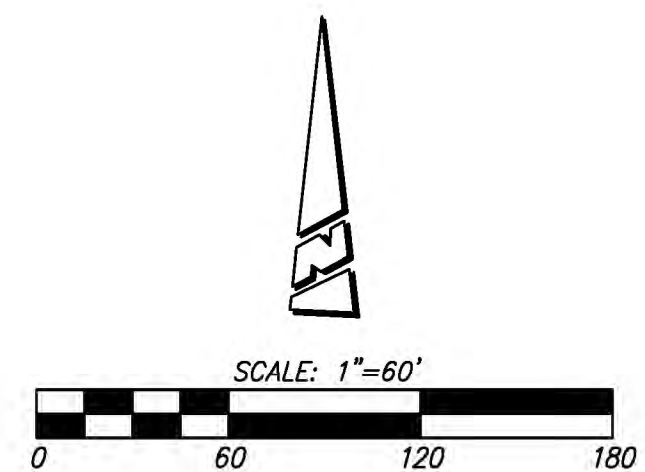
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      Time interval = 5.0 (Min.)
      Maximum/Peak flow rate = 4.223 (CFS)
      Total volume = 1.740 (Ac.Ft)
      Status of hydrographs being held in storage
            Stream 1 Stream 2 Stream 3 Stream 4 Stream 5
      Peak (CFS)      0.000      0.000      0.000      0.000      0.000
      Vol (Ac.Ft)      0.000      0.000      0.000      0.000      0.000
      *****

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EXHIBITS	E
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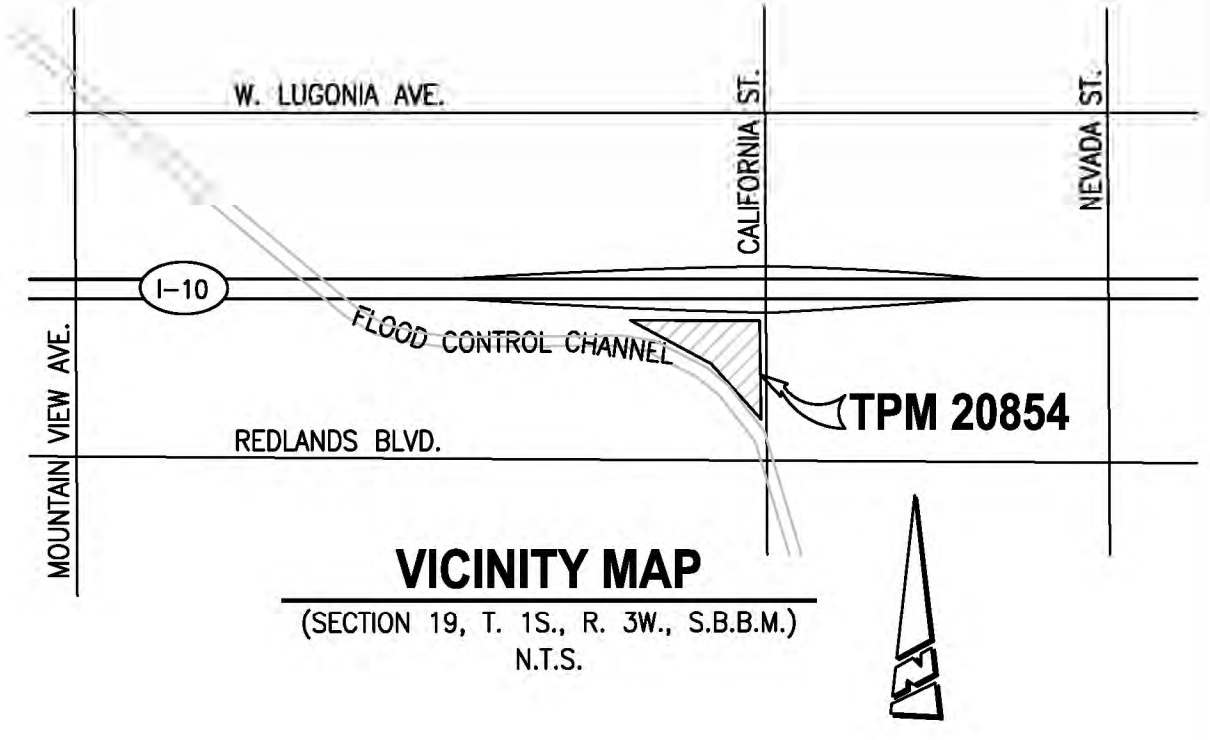
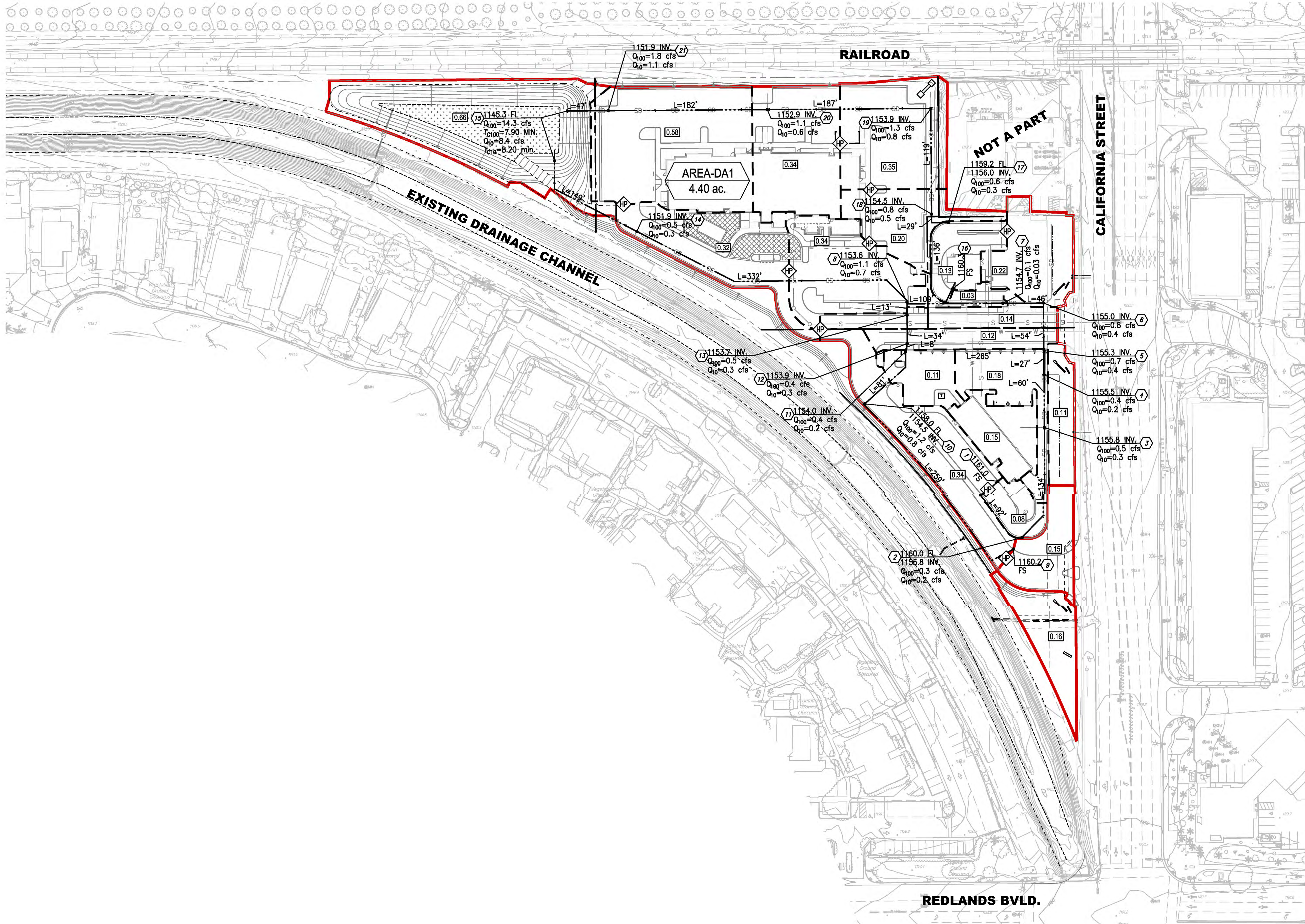


- LEGEND**
- MAJOR DRAINAGE BOUNDARY
 - FLOW PATH
 - XX.XX** DRAINAGE TRIBUTARY ACREAGE
 - ELEVATION** HYDROLOGY NODE AND ELEVATION

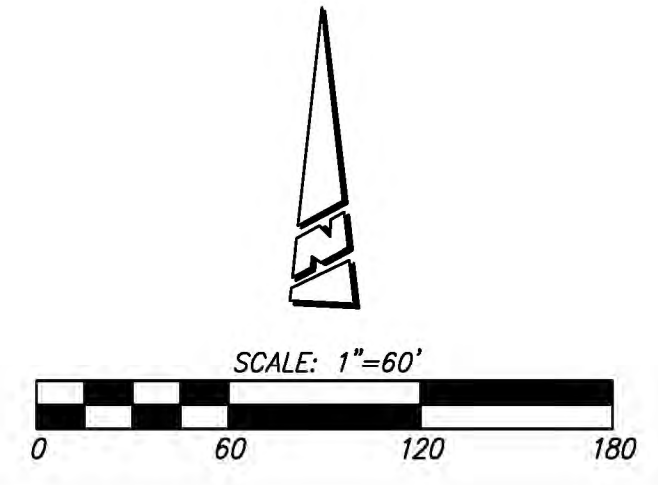


SP2 & Co.
 A LAND DEVELOPMENT SERVICES COMPANY
 451 W LAMBERT RD. STE 216
 BREA, CA 92821
 PHONE: (714) 490-1500
 SERVING THE DEVELOPMENT COMMUNITY SINCE 1985

TENTATIVE PARCEL MAP 20854
PRELIMINARY HYDROLOGY KEY MAP
EXISTING CONDITION



- LEGEND**
- MAJOR DRAINAGE BOUNDARY
 - MINOR DRAINAGE SUB-BOUNDARY
 - FLOW PATH
 - AREA-X
XX.XX DRAINAGE AREA NUMBER AND ACREAGE
 - XX.XX MINOR DRAINAGE ACREAGE
 - ELEVATION / (D) HYDROLOGY NODE AND ELEVATION



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TENTATIVE PARCEL MAP 20854
PRELIMINARY HYDROLOGY KEY MAP
EXISTING CONDITION

DWG: Map2-naz2SP2-DraftSP2-Active2023 08008 913 California St. Redlands - Chantresh Ravallan Stormwater Preliminary Drainage/Callos/Prin/Proposed RM Key Map.dwg
By: Alexander Jaramillo
Printed: Aug 27, 2024 - 8:59am