

D & D ENGINEERING, INC.

TTM 20576

Hydrology Report

October 17, 2023



INGLEWOOD

119 W. Hyde Park Boulevard
Inglewood, CA 90302

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North Hollywood

5708 Cahuenga Boulevard
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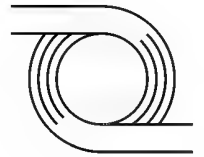
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I. Introduction

The purpose of this report is to outline and describe the existing and proposed peak flow characteristics of the TTM 20576 site as well as the required underground storm drain system and detention basins infrastructure to handle the proposed site.

II. Project Description

The TTM 20576 project site is located northwest of the intersection of Mesa Street and Topaz Road, within the City of Victorville. The project proposes 243 residential lots, open space areas, and streets within a 70.8-acre site. The site is currently vacant and drains in a northeasterly direction, sheet flowing toward the Oro Grande Wash.

III. Hydrologic Summary and Calculations

Per the San Bernardino County Hydrology Manual, the project must provide protection for the 100-year storm event. Existing and proposed 100-year storm peak runoff values were calculated with the Rational Method as shown in Appendix B. The project site is located within soil group A and has a 100-year, 24-hour precipitation depth of 5.85 inches (see Appendix A). In the pre-developed condition, the site is split into five subareas, which results in an existing peak flow of 136.9 CFS from the site as shown in Figure 1: Pre-Developed Hydrology Map and Table 1 below.

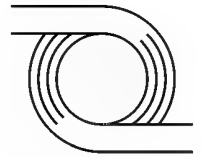
Table 1: Existing Condition Summary

<i>Subarea</i>	<i>Tributary Area [Ac.]</i>	<i>100-Year Peak Flow [CFS]</i>
A1	16.18	31.3
A2	12.21	23.6
A3	17.11	33.1
A4	19.39	37.5
A5	5.87	11.4
TOTAL	70.8	136.9

In the post-developed condition, the site is split into thirteen subareas, which results in a proposed peak flow of 170.8 CFS from the site as shown in Figure 2: Post-Developed Hydrology map and Table 2 below.

Table 2: Proposed Condition Summary

<i>Subarea</i>	<i>Tributary Area [Ac.]</i>	<i>100-Year Peak Flow [CFS]</i>
A1	9.05	21.7
A2	6.47	14.0
A3	10.38	24.9
A4	8.33	18.1
A5	3.83	8.3
A6	3.95	9.5



A7	5.95	13.4
A8	6.10	19.3
A9	6.73	17.9
A10	5.57	13.3
A11	2.06	4.9
A12	1.09	2.6
A13	1.28	2.9
TOTAL	70.8	170.8

IV. Hydraulics Summary and Calculations

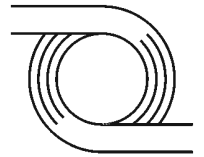
Based on the results above, the proposed peak flow is higher than the existing peak flow. This will be mitigated using a detention basin which will receive runoff from A1 through A10 and have a maximum storage volume of 7.2 acre-ft. The detention basin will outflow via the access ramp as a weir outlet into Topaz Road and flow north along Topaz Road, which will preserve the existing drainage pattern. Runoff from subareas A11, A12, and A13 represent public streets and will not drain to any detention basin.

The pre-developed peak flow is 136.9 CFS and the combined peak runoff from subareas A11-A13 is 10.5 CFS. The difference between both of these values represents the maximum allowable outflow from the East Detention Basin, which is 126.4 CFS. Hydrographs were created for subareas A1-A10 as shown in Appendix B and used to create a composite hydrograph for detention basin analysis. Note that the peak flow from the composite hydrograph is less than the peak flow obtained from adding the individual peak flows of each subarea. This is because the composite hydrograph is the sum of the individual hydrographs, which may have peak flows at different times. The detention basins were modeled using the FHWA Hydraulic Toolbox software. As shown in the detention basin calculations in Appendix C, the proposed detention basin receives a peak inflow of 150.1 CFS and has a peak outflow of 126.3 CFS, which is less than the allowable limit of 126.4 CFS. The total post-developed runoff from the site, after detention, will be 126.3 CFS + 10.5 CFS = 136.8 CFS, which is less than the pre-developed peak runoff of 136.9 CFS.

Pipe capacity calculations were performed using Manning’s equation, with a Manning’s roughness coefficient of 0.013. The full flow capacities are summarized in Table 3 below.

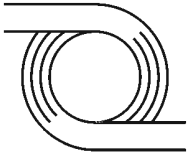
Table 3: Full Flow Pipe Capacity

<i>Diameter [inches]</i>	<i>Slope [%]</i>	<i>Full Flow Capacity [CFS]</i>
24	0.5	16.0
36	0.5	47.2
48	0.5	101.6

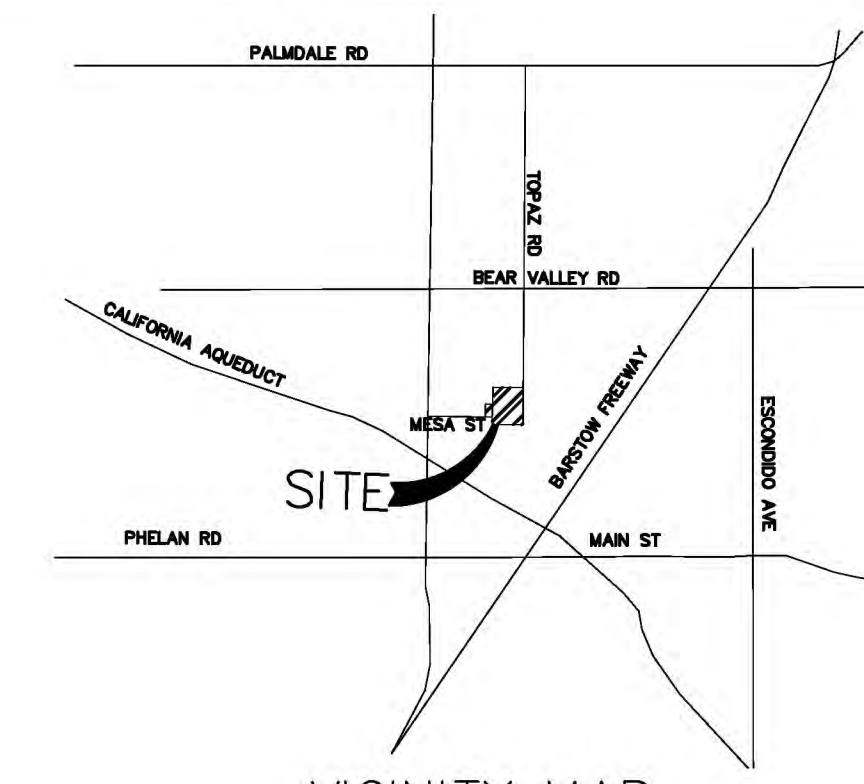
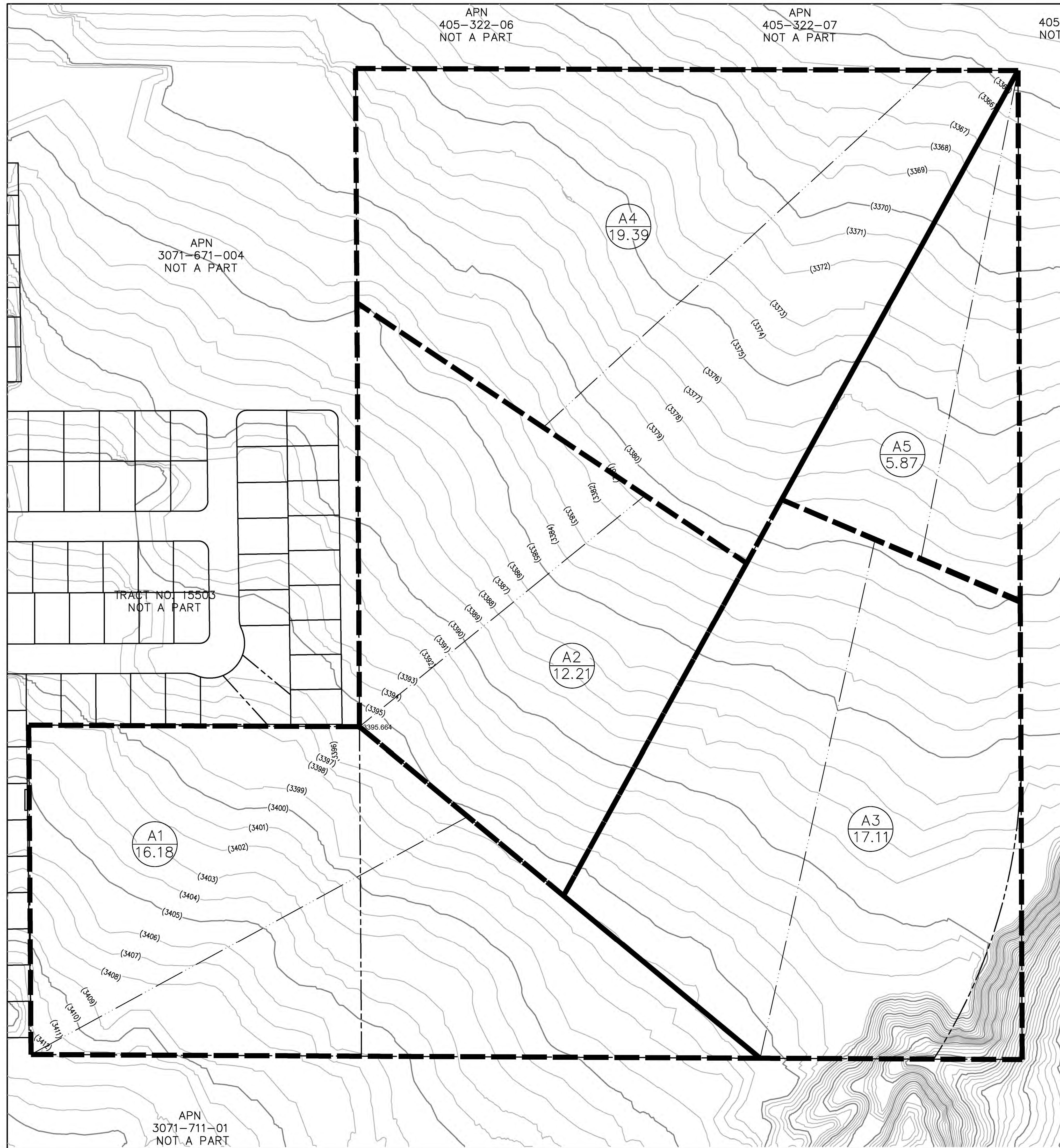


V. Conclusion

Based on the results shown above, the proposed storm drain infrastructure has the capacity to convey the proposed runoff from the TTM 20576 site. In addition, the proposed detention basin will reduce the post-developed runoff to less than the pre-developed condition. Runoff from the site will continue the same drainage pattern as the existing condition and will flow north via Topaz Road and east along Eucalyptus Street to the Oro Grande Wash.

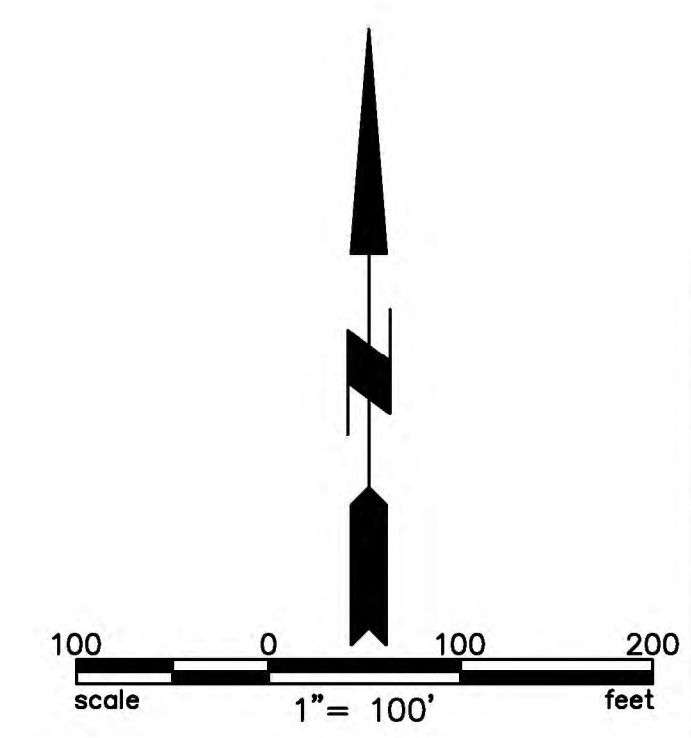
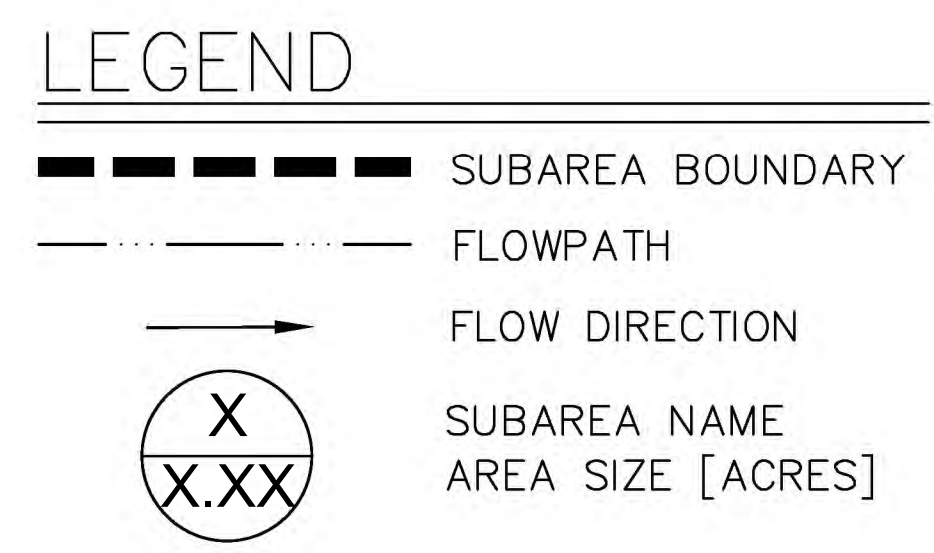


Figures



HYDROLOGY SUMMARY

SUBAREA	AREA [ACRES]	Q100 [CFS]
A1	16.18	31.3
A2	12.21	23.6
A3	17.11	33.1
A4	19.39	37.5
A5	5.87	11.4
TOTAL	70.76	136.9



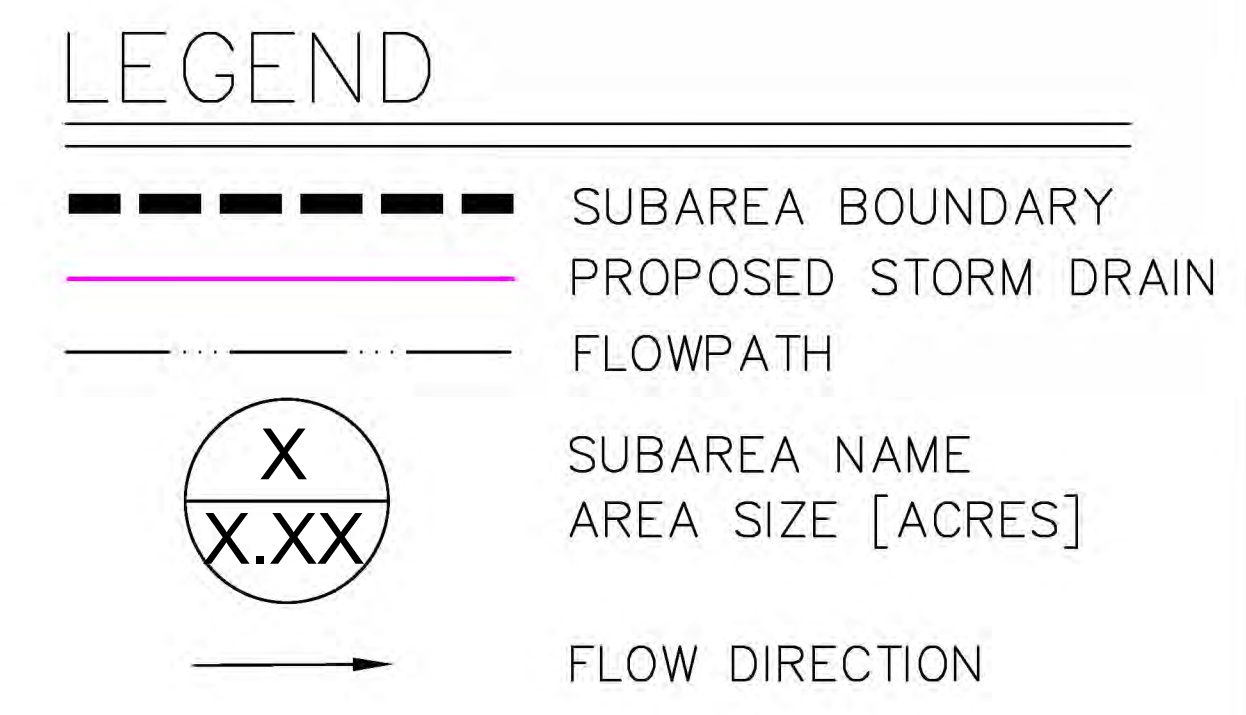
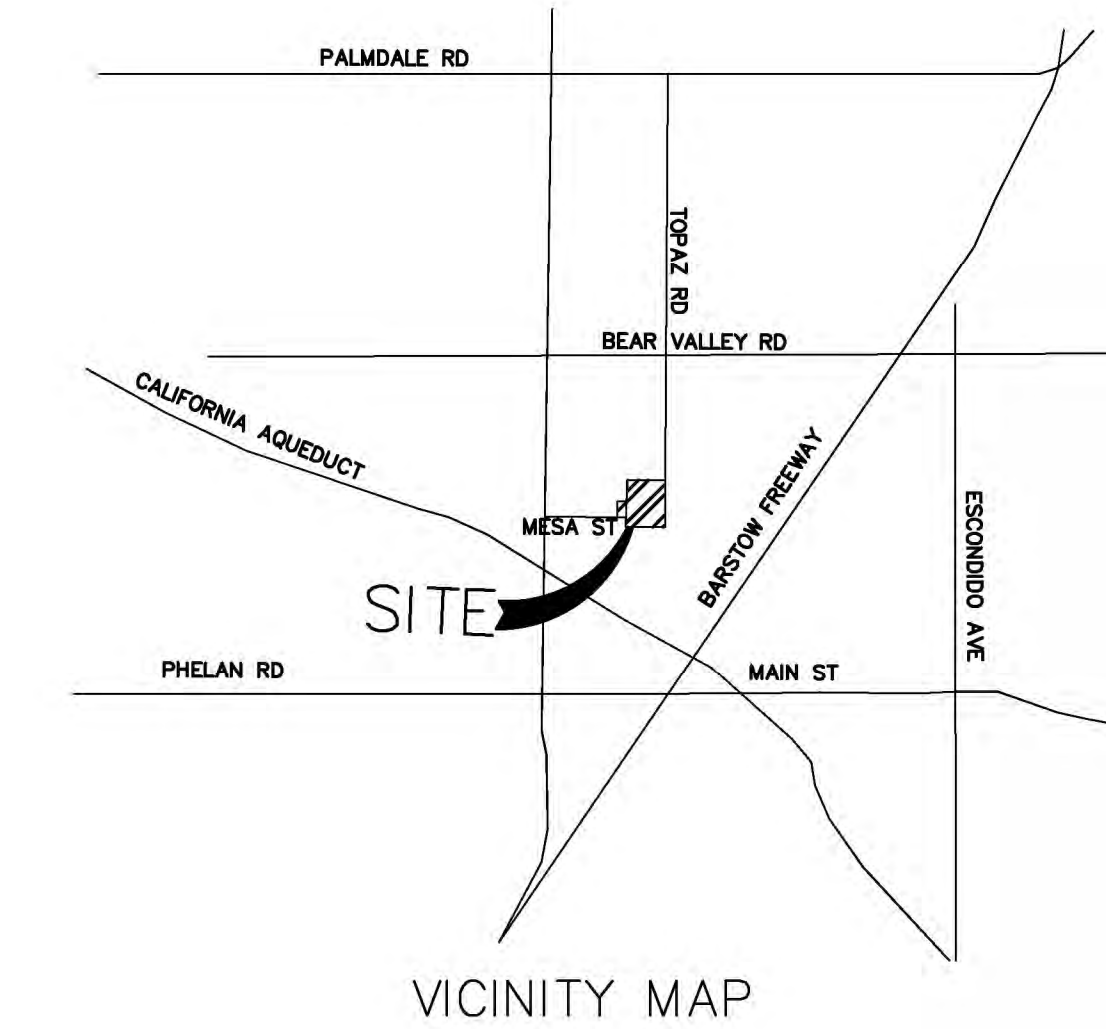
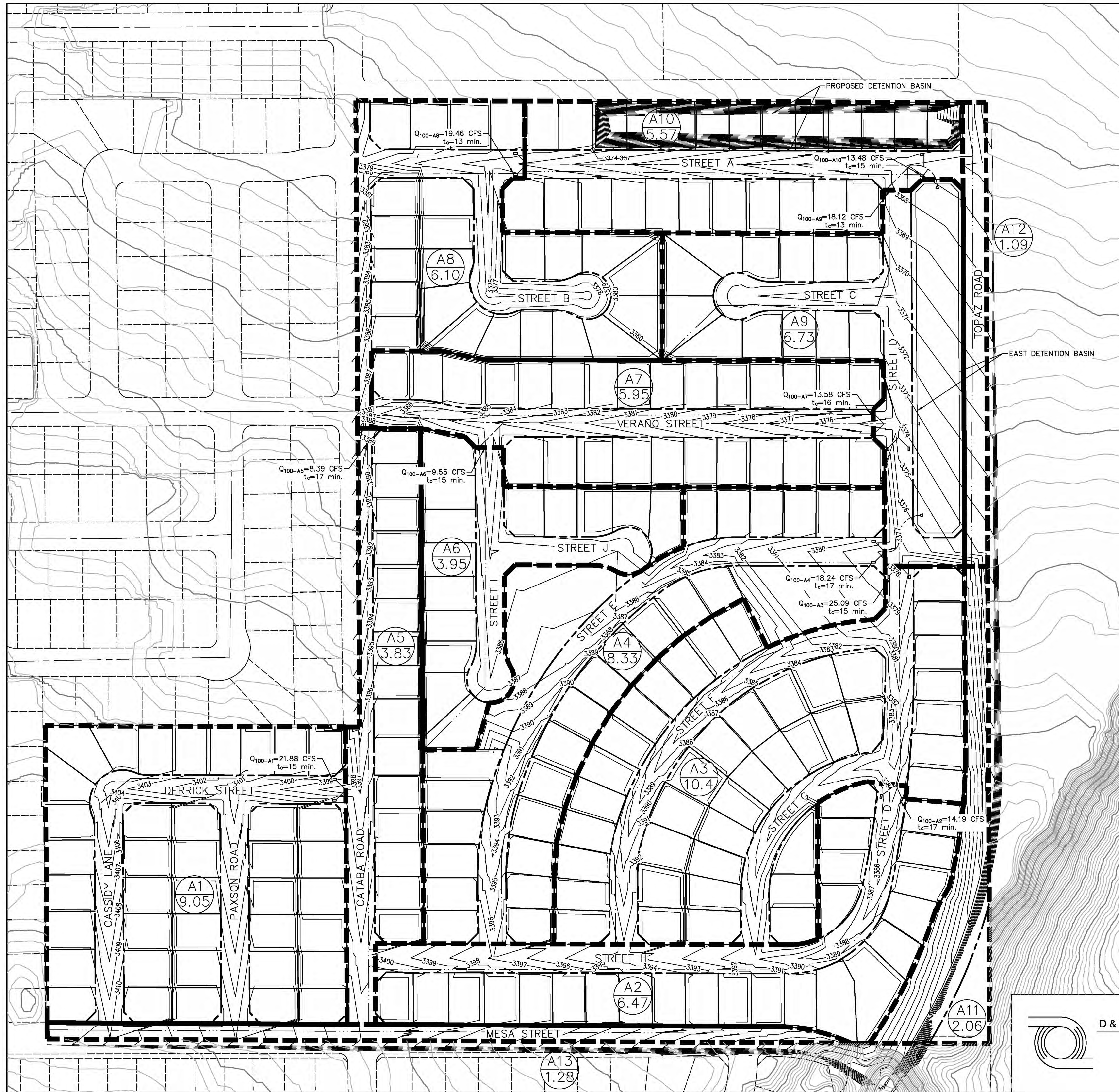
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TTM 20576

FIGURE 1:
PRE-DEVELOPED HYDROLOGY MAP

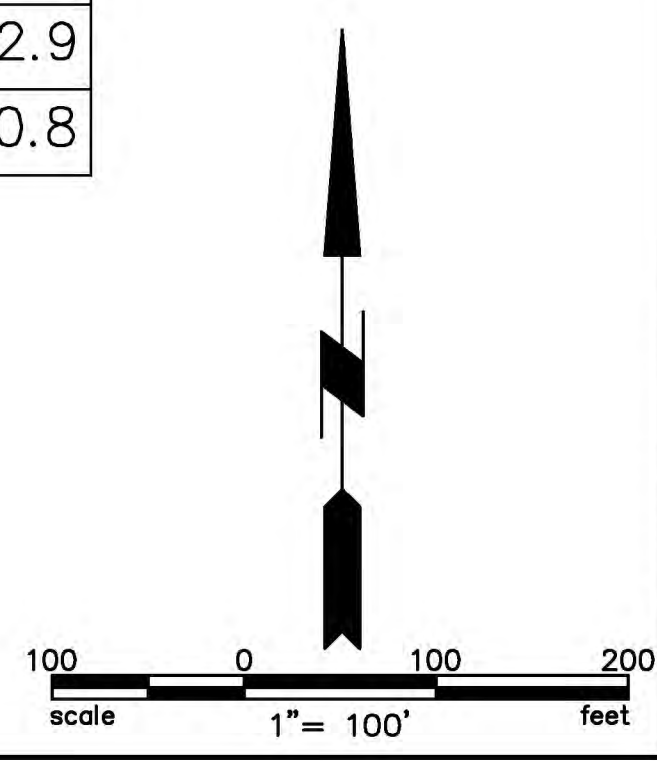
SCALE: 1" = 100'
 DATE: 12/23/2022
 SHEET NO.: 01 of 01

Drawing No. TTM 20576 (12/23/2022) Hydrology/Planning, Urban & Civil/PA, hydrology/2022.dwg
 Last Update: Dec 23, 2022 11:45:00 AM by: [unclear]



HYDROLOGY SUMMARY

SUBAREA	AREA [ACRES]	Q100 [CFS]
A1	9.05	21.7
A2	6.47	14.0
A3	10.38	24.9
A4	8.33	18.1
A5	3.83	8.3
A6	3.95	9.5
A7	5.95	13.4
A8	6.10	19.3
A9	6.73	17.9
A10	5.57	13.3
A11	2.06	4.9
A12	1.09	2.6
A13	1.28	2.9
TOTAL	70.79	170.8

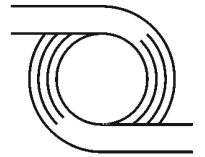


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FIGURE 2:
 POST-DEVELOPED HYDROLOGY MAP

SCALE: 1" = 100'
 DATE: 09/21/2023
 SHT NO.: 01 OF 01

Drawing Name: D:\2023\09\21\2023\Hydrology\Hydrology.dwg, Date: 09/21/2023, User: jkennedy, Plot Date: 09/21/2023, Plot Time: 12:30pm, Plot By: Laster



Appendix A



NOAA Atlas 14, Volume 6, Version 2
Location name: Victorville, California, USA*
Latitude: 34.4508°, Longitude: -117.3845°
Elevation: 3388.64 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 Tryppaluk, 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 & aeriels](#)

PF tabular

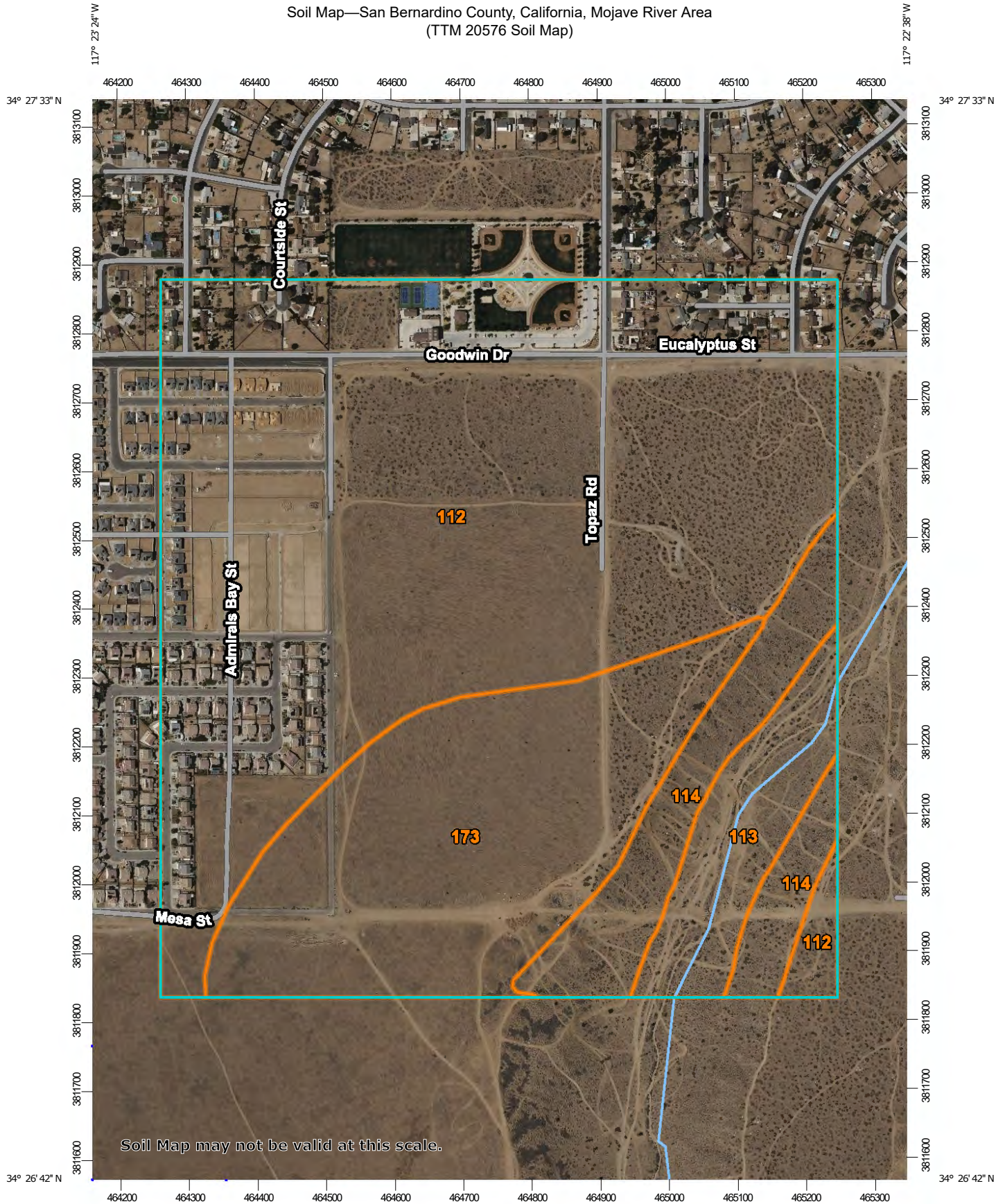
PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.080 (0.066-0.097)	0.115 (0.095-0.141)	0.162 (0.133-0.198)	0.200 (0.163-0.247)	0.251 (0.198-0.321)	0.291 (0.225-0.380)	0.331 (0.250-0.443)	0.373 (0.274-0.513)	0.429 (0.302-0.616)	0.474 (0.322-0.703)
10-min	0.114 (0.094-0.139)	0.165 (0.136-0.202)	0.232 (0.191-0.284)	0.286 (0.234-0.354)	0.360 (0.284-0.460)	0.417 (0.323-0.544)	0.475 (0.358-0.635)	0.534 (0.392-0.735)	0.616 (0.434-0.883)	0.679 (0.462-1.01)
15-min	0.138 (0.114-0.169)	0.200 (0.165-0.244)	0.280 (0.231-0.344)	0.346 (0.283-0.428)	0.435 (0.344-0.556)	0.504 (0.390-0.658)	0.574 (0.433-0.768)	0.646 (0.475-0.889)	0.744 (0.524-1.07)	0.821 (0.559-1.22)
30-min	0.211 (0.174-0.257)	0.305 (0.252-0.373)	0.428 (0.353-0.525)	0.528 (0.432-0.653)	0.665 (0.525-0.850)	0.770 (0.596-1.00)	0.877 (0.662-1.17)	0.987 (0.725-1.36)	1.14 (0.801-1.63)	1.25 (0.853-1.86)
60-min	0.292 (0.241-0.356)	0.422 (0.348-0.516)	0.592 (0.488-0.726)	0.731 (0.597-0.903)	0.920 (0.727-1.18)	1.07 (0.824-1.39)	1.21 (0.916-1.62)	1.37 (1.00-1.88)	1.57 (1.11-2.26)	1.73 (1.18-2.58)
2-hr	0.415 (0.343-0.506)	0.565 (0.466-0.690)	0.768 (0.633-0.941)	0.939 (0.767-1.16)	1.18 (0.932-1.51)	1.37 (1.06-1.79)	1.57 (1.19-2.10)	1.78 (1.31-2.45)	2.08 (1.47-2.98)	2.32 (1.58-3.44)
3-hr	0.524 (0.433-0.639)	0.700 (0.578-0.856)	0.943 (0.777-1.16)	1.15 (0.940-1.42)	1.45 (1.14-1.85)	1.69 (1.31-2.20)	1.94 (1.47-2.59)	2.21 (1.63-3.04)	2.60 (1.83-3.73)	2.92 (1.99-4.34)
6-hr	0.724 (0.599-0.885)	0.959 (0.793-1.17)	1.29 (1.06-1.58)	1.58 (1.29-1.95)	2.00 (1.58-2.55)	2.34 (1.81-3.06)	2.71 (2.05-3.63)	3.12 (2.29-4.29)	3.72 (2.62-5.33)	4.21 (2.87-6.25)
12-hr	0.914 (0.756-1.12)	1.26 (1.04-1.54)	1.74 (1.43-2.13)	2.16 (1.76-2.67)	2.77 (2.19-3.54)	3.28 (2.54-4.28)	3.83 (2.89-5.12)	4.43 (3.25-6.09)	5.31 (3.74-7.61)	6.04 (4.11-8.97)
24-hr	1.25 (1.11-1.44)	1.80 (1.59-2.07)	2.56 (2.26-2.96)	3.22 (2.82-3.75)	4.19 (3.55-5.04)	4.98 (4.14-6.13)	5.85 (4.73-7.36)	6.79 (5.35-8.79)	8.16 (6.17-11.0)	9.30 (6.79-13.0)
2-day	1.37 (1.21-1.57)	1.95 (1.72-2.24)	2.77 (2.44-3.20)	3.48 (3.05-4.06)	4.54 (3.85-5.47)	5.42 (4.50-6.67)	6.38 (5.17-8.04)	7.44 (5.86-9.64)	9.00 (6.80-12.1)	10.3 (7.53-14.4)
3-day	1.46 (1.29-1.68)	2.06 (1.82-2.37)	2.92 (2.57-3.37)	3.67 (3.21-4.27)	4.78 (4.05-5.76)	5.71 (4.74-7.03)	6.73 (5.45-8.48)	7.86 (6.19-10.2)	9.53 (7.20-12.9)	10.9 (7.99-15.3)
4-day	1.58 (1.40-1.81)	2.21 (1.96-2.55)	3.12 (2.76-3.61)	3.92 (3.44-4.57)	5.11 (4.33-6.15)	6.10 (5.06-7.50)	7.18 (5.82-9.05)	8.38 (6.60-10.9)	10.2 (7.68-13.7)	11.7 (8.51-16.3)
7-day	1.73 (1.54-2.00)	2.41 (2.13-2.77)	3.36 (2.97-3.88)	4.20 (3.68-4.89)	5.43 (4.60-6.54)	6.45 (5.35-7.93)	7.57 (6.13-9.53)	8.79 (6.93-11.4)	10.6 (8.01-14.3)	12.1 (8.85-16.9)
10-day	1.86 (1.65-2.14)	2.57 (2.28-2.96)	3.57 (3.15-4.12)	4.43 (3.88-5.17)	5.71 (4.84-6.87)	6.76 (5.61-8.31)	7.91 (6.41-9.96)	9.17 (7.22-11.9)	11.0 (8.32-14.9)	12.5 (9.17-17.5)
20-day	2.28 (2.02-2.62)	3.11 (2.75-3.58)	4.27 (3.77-4.94)	5.28 (4.63-6.16)	6.76 (5.72-8.13)	7.97 (6.61-9.80)	9.28 (7.51-11.7)	10.7 (8.44-13.9)	12.8 (9.67-17.3)	14.5 (10.6-20.3)
30-day	2.69 (2.38-3.09)	3.64 (3.22-4.19)	4.96 (4.38-5.73)	6.10 (5.35-7.11)	7.77 (6.58-9.35)	9.13 (7.58-11.2)	10.6 (8.59-13.4)	12.2 (9.63-15.8)	14.6 (11.0-19.7)	16.5 (12.1-23.1)
45-day	3.17 (2.81-3.65)	4.23 (3.75-4.88)	5.70 (5.04-6.59)	6.98 (6.11-8.13)	8.82 (7.47-10.6)	10.3 (8.58-12.7)	12.0 (9.69-15.1)	13.8 (10.8-17.8)	16.3 (12.4-22.1)	18.5 (13.5-25.8)
60-day	3.60 (3.19-4.14)	4.72 (4.18-5.44)	6.29 (5.55-7.27)	7.64 (6.69-8.90)	9.60 (8.13-11.6)	11.2 (9.30-13.8)	12.9 (10.5-16.3)	14.8 (11.7-19.2)	17.6 (13.3-23.8)	19.9 (14.5-27.8)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).
 Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.
 Please refer to NOAA Atlas 14 document for more information.

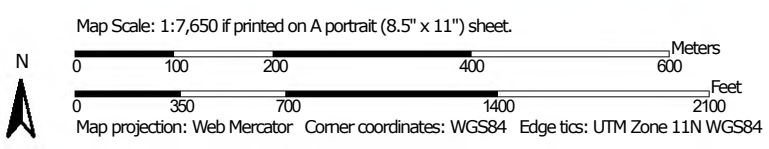
[Back to Top](#)

PF graphical

Soil Map—San Bernardino County, California, Mojave River Area
(TTM 20576 Soil Map)




Soil Map may not be valid at this scale.




MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: San Bernardino County, California, Mojave River Area
Survey Area Data: Version 14, Sep 1, 2022

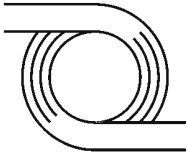
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 17, 2022—Jun 12, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
112	CAJON SAND, 0 TO 2 PERCENT SLOPES	160.2	62.8%
113	CAJON SAND, 2 TO 9 PERCENT SLOPES	15.6	6.1%
114	CAJON SAND, 9 TO 15 PERCENT SLOPES	22.4	8.8%
173	WASCO SANDY LOAM, COOL, 0 TO 2 PERCENT SLOPES	56.9	22.3%
Totals for Area of Interest		255.1	100.0%



Appendix B

Study Name:		TTM 20576 Existing				1-Hour Rainfall [inches] =			1.21		Slope Intensity Duration Curve (S) =					0.70				Victorville	
Storm Return Interval:		100 Year				24-Hour Rainfall [inches] =			5.85									Date:		9/21/2023	
Pervious CN (AMC-II) =		46				Pervious CN =			66		for					AMC-III					
Subarea Name	Concentration Point	Subarea [Acres]	Total [Acres]	Soil Type	Development Type	Percent Impervious (Ai)	Percent Pervious (Ap)	Weighted Curve Number	Tc [min]	I [in / hr]	Fm [in / hr]	Storm Runoff Yield Fraction (Y)	Low Loss Fraction (F*)	Qpeak [CFS]	Flow Path Length [FT]	Elevation Difference [FT]	Slope	Hydraulic Notes			
A1		16.18		A	Vacant	0.00	1.00	66	19	2.50	0.35	0.40	1.50	31.31	1000	17.0	0.017				
A2		12.21		A	Vacant	0.00	1.00	66	19	2.50	0.35	0.40	1.50	23.63	1000	15.0	0.015				
A3		17.11		A	Vacant	0.00	1.00	66	19	2.50	0.35	0.40	1.50	33.11	1000	16.0	0.016				
A4		19.39		A	Vacant	0.00	1.00	66	19	2.50	0.35	0.40	1.50	37.52	1000	17.0	0.017				
A5		5.87		A	Vacant	0.00	1.00	66	19	2.50	0.35	0.40	1.50	11.36	1000	15.0	0.015				
	Site Total		70.76											136.92							

Study Name:		TTM 20576 Proposed				1-Hour Rainfall [inches] =			1.21		Slope Intensity Duration Curve (S) =			0.70				Victorville	
Storm Return Interval:		100 Year				24-Hour Rainfall [inches] =			5.85							Date:		9/18/2023	
Pervious CN (AMC-II) =		32				Pervious CN =			52		Impervious CN =			98		for AMC-III			
Subarea Name	Concentration Point	Subarea [Acres]	Total [Acres]	Soil Type	Development Type	Percent Impervious (Ai)	Percent Pervious (Ap)	Weighted Curve Number	Tc [min]	I [in / hr]	Fm [in / hr]	Storm Runoff Yield Fraction (Y)	Low Loss Fraction (F*)	Qpeak [CFS]	Flow Path Length [FT]	Elevation Difference [FT]	Slope	Total Runoff Volume [Acre-Ft]	Hydraulic Notes
A1		9.05		A	Residential	0.60	0.40	79.6	15	2.95	0.29	0.62	1.13	21.67	980	12.0	0.012	2.720	
A2		6.47		A	Residential	0.60	0.40	79.6	17	2.70	0.29	0.62	1.04	14.03	1300	16.0	0.012	1.944	
A3		10.38		A	Residential	0.60	0.40	79.6	15	2.95	0.29	0.62	1.13	24.85	1090	16.0	0.015	3.119	
A4		8.33		A	Residential	0.60	0.40	79.6	17	2.70	0.29	0.62	1.04	18.07	1300	18.0	0.014	2.503	
A5		3.83		A	Residential	0.60	0.40	79.6	17	2.70	0.29	0.62	1.04	8.31	1200	13.0	0.011	1.151	
A6		3.95		A	Residential	0.60	0.40	79.6	15	2.95	0.29	0.62	1.13	9.46	680	4.5	0.007	1.187	
A7		5.95		A	Residential	0.60	0.40	79.6	16	2.80	0.29	0.62	1.07	13.44	1100	11.0	0.010	1.788	
A8		6.10		A	Residential	0.60	0.40	79.6	13	3.80	0.29	0.62	1.46	19.27	830	13.0	0.016	1.833	
A9		6.73		A	Residential	0.60	0.40	79.6	13	3.25	0.29	0.62	1.25	17.93	750	12.0	0.016	2.022	
A10		5.57		A	Residential	0.60	0.40	79.6	15	2.95	0.29	0.62	1.13	13.33	840	8.0	0.010	1.674	
A11		2.06		A	Residential	0.60	0.40	79.6	15	2.95	0.29	0.62	1.13	4.93	1000	8.0	0.008	0.619	
A12		1.09		A	Residential	0.60	0.40	79.6	15	2.95	0.29	0.62	1.13	2.61	1000	11.0	0.011	0.328	
A13		1.28		A	Residential	0.60	0.40	79.6	16	2.80	0.29	0.62	1.07	2.89	1300	19.0	0.015	0.385	
Site Total			70.79									0.62		170.79				21.27	

Study Name:		TTM 20576 Proposed			1-Hour Rainfall [inches] =			0.731			Slope Intensity Duration Curve (S) =			0.70			Victorville		
Storm Return Interval:		10 Year			24-Hour Rainfall [inches] =			3.22						Date:			9/21/2023		
Pervious CN (AMC-II) =		32			Pervious CN =			32			Impervious CN =			98					
Subarea Name	Concentration Point	Subarea [Acres]	Total [Acres]	Soil Type	Development Type	Percent Impervious (Ai)	Percent Pervious (Ap)	Weighted Curve Number	Tc [min]	I [in / hr]	Fm [in / hr]	Storm Runoff Yield Fraction (Y)	Low Loss Fraction (F*)	Qpeak [CFS]	Flow Path Length [FT]	Elevation Difference [FT]	Slope	Total Runoff Volume [Acre-Ft]	Hydraulic Notes
A1		9.05		A	Residential	0.60	0.40	71.6	15	1.94	0.39	0.29	1.39	12.62	980	12.0	0.012	0.695	
A2		6.47		A	Residential	0.60	0.40	71.6	17	1.75	0.39	0.29	1.25	7.92	1300	16.0	0.012	0.497	
A3		10.38		A	Residential	0.60	0.40	71.6	15	1.94	0.39	0.29	1.39	14.48	1090	16.0	0.015	0.797	
A4		8.33		A	Residential	0.60	0.40	71.6	17	1.75	0.39	0.29	1.25	10.20	1300	18.0	0.014	0.639	
A5		3.83		A	Residential	0.60	0.40	71.6	17	1.75	0.39	0.29	1.25	4.69	1200	13.0	0.011	0.294	
A6		3.95		A	Residential	0.60	0.40	71.6	15	1.94	0.39	0.29	1.39	5.51	680	4.5	0.007	0.303	
A7		5.95		A	Residential	0.60	0.40	71.6	16	1.85	0.39	0.29	1.32	7.82	1100	11.0	0.010	0.457	
A8		6.10		A	Residential	0.60	0.40	71.6	13	2.15	0.39	0.29	1.53	9.66	830	13.0	0.016	0.468	
A9		6.73		A	Residential	0.60	0.40	71.6	13	2.15	0.39	0.29	1.53	10.66	750	12.0	0.016	0.517	
A10		5.57		A	Residential	0.60	0.40	71.6	15	1.94	0.39	0.29	1.39	7.77	840	8.0	0.010	0.428	
A11		2.06		A	Residential	0.60	0.40	71.6	15	1.94	0.39	0.29	1.39	2.87	1000	8.0	0.008	0.158	
A12		1.09		A	Residential	0.60	0.40	71.6	15	1.94	0.39	0.29	1.39	1.52	1000	11.0	0.011	0.084	
A13		1.28		A	Residential	0.60	0.40	71.6	15	1.94	0.39	0.29	1.39	1.79	1300	19.0	0.015	0.098	
Site Total			70.79									0.29		97.51				5.43	

Study Name:		TTM 20576 Proposed - Subarea A1			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		15			
Calculated Peak Flow [CFS]			21.67		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			66		
Tributary Subarea A1					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
0	0.0	0.000	0.00	-	-
5	3.3	0.700	0.52	52	52
10	6.6	1.500	1.12	163	215
15	9.9	2.500	1.87	297	512
20	13.2	3.700	2.77	460	972
25	16.5	5.000	3.75	646	1,618
30	19.8	6.500	4.87	854	2,472
35	23.1	8.200	6.15	1,091	3,563
40	26.4	10.300	7.72	1,373	4,936
45	29.7	11.900	8.92	1,648	6,584
50	33.0	13.500	10.12	1,886	8,470
55	36.3	15.700	11.77	2,168	10,638
60	39.6	17.800	13.35	2,487	13,124
65	42.9	19.800	14.85	2,791	15,916
70	46.2	21.700	16.27	3,081	18,996
75	49.5	23.700	17.77	3,370	22,366
80	52.8	25.400	19.05	3,645	26,011
85	56.1	26.900	20.17	3,882	29,894
90	59.4	28.300	21.22	4,098	33,991
95	62.7	28.900	21.67	4,246	38,237
100	66.0	28.800	21.60	4,283	42,521
105	69.3	28.500	21.37	4,254	46,774
110	72.6	27.700	20.77	4,172	50,946
115	75.9	26.400	19.80	4,016	54,962
120	79.2	24.700	18.52	3,793	58,755
125	82.5	22.700	17.02	3,519	62,274
130	85.8	20.600	15.45	3,214	65,488
135	89.1	18.400	13.80	2,895	68,383
140	92.4	16.600	12.45	2,598	70,981
145	95.7	14.700	11.02	2,323	73,305
150	99.0	13.200	9.90	2,071	75,376
155	102.3	11.900	8.92	1,863	77,239
160	105.6	10.900	8.17	1,693	78,932
165	108.9	10.200	7.65	1,566	80,498
170	112.2	9.600	7.20	1,470	81,968
175	115.5	9.000	6.75	1,381	83,349

Study Name:		TTM 20576 Proposed - Subarea A1			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		15			
Calculated Peak Flow [CFS]			21.67		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			66		
Tributary Subarea A1					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
180	118.8	8.400	6.30	1,292	84,640
185	122.1	8.100	6.07	1,225	85,865
190	125.4	7.800	5.85	1,180	87,045
195	128.7	7.500	5.62	1,136	88,181
200	132.0	7.100	5.32	1,084	89,265
205	135.3	6.600	4.95	1,017	90,282
210	138.6	6.100	4.57	943	91,225
215	141.9	5.700	4.27	876	92,101
220	145.2	5.500	4.12	831	92,932
225	148.5	5.300	3.97	802	93,734
230	151.8	4.900	3.67	757	94,491
235	155.1	4.500	3.37	698	95,189
240	158.4	4.200	3.15	646	95,835
245	161.7	4.000	3.00	609	96,443
250	165.0	3.800	2.85	579	97,022
255	168.3	3.600	2.70	549	97,572
260	171.6	3.400	2.55	520	98,091
265	174.9	3.200	2.40	490	98,581
270	178.2	3.200	2.40	475	99,056
275	181.5	3.200	2.40	475	99,531
280	184.8	3.200	2.40	475	100,007
285	188.1	3.200	2.40	475	100,482
290	191.4	3.200	2.40	475	100,957
295	194.7	3.200	2.40	475	101,432
300	198.0	3.200	2.40	475	101,907
305	201.3	3.200	2.40	475	102,382
310	204.6	3.200	2.40	475	102,857
315	207.9	3.200	2.40	475	103,332
320	211.2	3.200	2.40	475	103,807
325	214.5	3.000	2.25	460	104,267
330	217.8	2.800	2.10	431	104,698
335	221.1	2.600	1.95	401	105,099
340	224.4	2.400	1.80	371	105,470
345	227.7	2.200	1.65	341	105,812
350	231.0	2.000	1.50	312	106,123
355	234.3	1.800	1.35	282	106,405

Study Name:		TTM 20576 Proposed - Subarea A1			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		15			
Calculated Peak Flow [CFS]			21.67		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			66		
Tributary Subarea A1					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
360	237.6	1.600	1.20	252	106,658
365	240.9	1.600	1.20	238	106,895
370	244.2	1.600	1.20	238	107,133
375	247.5	1.600	1.20	238	107,370
380	250.8	1.600	1.20	238	107,608
385	254.1	1.600	1.20	238	107,846
390	257.4	1.600	1.20	238	108,083
395	260.7	1.600	1.20	238	108,321
400	264.0	1.600	1.20	238	108,558
405	267.3	1.580	1.18	236	108,794
410	270.6	1.560	1.17	233	109,027
415	273.9	1.540	1.15	230	109,257
420	277.2	1.520	1.14	227	109,485
425	280.5	1.500	1.12	224	109,709
430	283.8	1.480	1.11	221	109,930
435	287.1	1.460	1.09	218	110,148
440	290.4	1.440	1.08	215	110,363
445	293.7	1.440	1.08	214	110,577
450	297.0	1.440	1.08	214	110,791
455	300.3	1.440	1.08	214	111,005
460	303.6	1.440	1.08	214	111,219
465	306.9	1.440	1.08	214	111,432
470	310.2	1.440	1.08	214	111,646
475	313.5	1.440	1.08	214	111,860
480	316.8	1.440	1.08	214	112,074
485	320.1	1.440	1.08	214	112,288
490	323.4	1.440	1.08	214	112,501
495	326.7	1.440	1.08	214	112,715
500	330.0	1.440	1.08	214	112,929
505	333.3	1.360	1.02	208	113,137
510	336.6	1.280	0.96	196	113,333
515	339.9	1.200	0.90	184	113,517
520	343.2	1.120	0.84	172	113,689
525	346.5	1.040	0.78	160	113,849
530	349.8	0.960	0.72	148	113,998
535	353.1	0.880	0.66	137	114,135

Study Name:		TTM 20576 Proposed - Subarea A1			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		15			
Calculated Peak Flow [CFS]			21.67		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			66		
Tributary Subarea A1					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
540	356.4	0.800	0.60	125	114,259
545	359.7	0.800	0.60	119	114,378
550	363.0	0.800	0.60	119	114,497
555	366.3	0.800	0.60	119	114,616
560	369.6	0.800	0.60	119	114,734
565	372.9	0.800	0.60	119	114,853
570	376.2	0.800	0.60	119	114,972
575	379.5	0.800	0.60	119	115,091
580	382.8	0.800	0.60	119	115,209
585	386.1	0.800	0.60	119	115,328
590	389.4	0.800	0.60	119	115,447
595	392.7	0.800	0.60	119	115,566
600	396.0	0.800	0.60	119	115,685
605	399.3	0.770	0.58	117	115,801
610	402.6	0.740	0.55	112	115,913
615	405.9	0.710	0.53	108	116,021
620	409.2	0.680	0.51	103	116,124
625	412.5	0.650	0.49	99	116,223
630	415.8	0.620	0.46	94	116,317
635	419.1	0.590	0.44	90	116,407
640	422.4	0.560	0.42	85	116,492
645	425.7	0.560	0.42	83	116,575
650	429.0	0.560	0.42	83	116,658
655	432.3	0.560	0.42	83	116,742
660	435.6	0.560	0.42	83	116,825
665	438.9	0.560	0.42	83	116,908
670	442.2	0.560	0.42	83	116,991
675	445.5	0.560	0.42	83	117,074
680	448.8	0.560	0.42	83	117,157
685	452.1	0.560	0.42	83	117,240
690	455.4	0.560	0.42	83	117,324
695	458.7	0.560	0.42	83	117,407
700	462.0	0.560	0.42	83	117,490
705	465.3	0.530	0.40	81	117,571
710	468.6	0.500	0.37	76	117,647
715	471.9	0.470	0.35	72	117,719

Study Name:		TTM 20576 Proposed - Subarea A1			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		15			
Calculated Peak Flow [CFS]			21.67		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			66		
Tributary Subarea A1					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
720	475.2	0.440	0.33	68	117,787
725	478.5	0.410	0.31	63	117,850
730	481.8	0.380	0.28	59	117,909
735	485.1	0.350	0.26	54	117,963
740	488.4	0.320	0.24	50	118,012
745	491.7	0.320	0.24	48	118,060
750	495.0	0.320	0.24	48	118,107
755	498.3	0.320	0.24	48	118,155
760	501.6	0.320	0.24	48	118,202
765	504.9	0.320	0.24	48	118,250
770	508.2	0.320	0.24	48	118,298
775	511.5	0.320	0.24	48	118,345
780	514.8	0.320	0.24	48	118,393
785	518.1	0.320	0.24	48	118,440
790	521.4	0.320	0.24	48	118,488
795	524.7	0.320	0.24	48	118,535
800	528.0	0.320	0.24	48	118,583

Study Name:		TTM 20576 Proposed - Subarea A2			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		17			
Calculated Peak Flow [CFS]			14.03		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			72		
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
0	0.0	0.000	0.00	-	-
5	3.6	0.700	0.34	37	37
10	7.2	1.500	0.73	115	152
15	10.8	2.500	1.21	210	362
20	14.4	3.700	1.80	325	687
25	18.0	5.000	2.43	456	1,143
30	21.6	6.500	3.16	603	1,746
35	25.2	8.200	3.98	771	2,517
40	28.8	10.300	5.00	970	3,487
45	32.4	11.900	5.78	1,164	4,651
50	36.0	13.500	6.55	1,332	5,982
55	39.6	15.700	7.62	1,531	7,513
60	43.2	17.800	8.64	1,756	9,270
65	46.8	19.800	9.61	1,971	11,241
70	50.4	21.700	10.53	2,176	13,417
75	54.0	23.700	11.51	2,380	15,797
80	57.6	25.400	12.33	2,574	18,372
85	61.2	26.900	13.06	2,742	21,114
90	64.8	28.300	13.74	2,894	24,008
95	68.4	28.900	14.03	2,999	27,007
100	72.0	28.800	13.98	3,025	30,032
105	75.6	28.500	13.84	3,004	33,036
110	79.2	27.700	13.45	2,947	35,983
115	82.8	26.400	12.82	2,836	38,820
120	86.4	24.700	11.99	2,679	41,499
125	90.0	22.700	11.02	2,485	43,984
130	93.6	20.600	10.00	2,270	46,254
135	97.2	18.400	8.93	2,045	48,299
140	100.8	16.600	8.06	1,835	50,134
145	104.4	14.700	7.14	1,641	51,775
150	108.0	13.200	6.41	1,463	53,238
155	111.6	11.900	5.78	1,316	54,554
160	115.2	10.900	5.29	1,195	55,749
165	118.8	10.200	4.95	1,106	56,856
170	122.4	9.600	4.66	1,038	57,894
175	126.0	9.000	4.37	975	58,869

Study Name:		TTM 20576 Proposed - Subarea A2			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		17			
Calculated Peak Flow [CFS]				14.03	
S-Graph Type				Valley: Undeveloped	
Lag [Min]				72	
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
180	129.6	8.400	4.08	912	59,781
185	133.2	8.100	3.93	865	60,646
190	136.8	7.800	3.79	834	61,480
195	140.4	7.500	3.64	802	62,282
200	144.0	7.100	3.45	765	63,048
205	147.6	6.600	3.20	718	63,766
210	151.2	6.100	2.96	666	64,432
215	154.8	5.700	2.77	619	65,050
220	158.4	5.500	2.67	587	65,638
225	162.0	5.300	2.57	566	66,204
230	165.6	4.900	2.38	535	66,739
235	169.2	4.500	2.18	493	67,232
240	172.8	4.200	2.04	456	67,688
245	176.4	4.000	1.94	430	68,118
250	180.0	3.800	1.84	409	68,527
255	183.6	3.600	1.75	388	68,915
260	187.2	3.400	1.65	367	69,282
265	190.8	3.200	1.55	346	69,628
270	194.4	3.200	1.55	336	69,963
275	198.0	3.200	1.55	336	70,299
280	201.6	3.200	1.55	336	70,634
285	205.2	3.200	1.55	336	70,970
290	208.8	3.200	1.55	336	71,305
295	212.4	3.200	1.55	336	71,641
300	216.0	3.200	1.55	336	71,977
305	219.6	3.200	1.55	336	72,312
310	223.2	3.200	1.55	336	72,648
315	226.8	3.200	1.55	336	72,983
320	230.4	3.200	1.55	336	73,319
325	234.0	3.000	1.46	325	73,644
330	237.6	2.800	1.36	304	73,948
335	241.2	2.600	1.26	283	74,231
340	244.8	2.400	1.17	262	74,493
345	248.4	2.200	1.07	241	74,734
350	252.0	2.000	0.97	220	74,955
355	255.6	1.800	0.87	199	75,154

Study Name:		TTM 20576 Proposed - Subarea A2			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		17			
Calculated Peak Flow [CFS]				14.03	
S-Graph Type				Valley: Undeveloped	
Lag [Min]				72	
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
360	259.2	1.600	0.78	178	75,332
365	262.8	1.600	0.78	168	75,500
370	266.4	1.600	0.78	168	75,668
375	270.0	1.600	0.78	168	75,835
380	273.6	1.600	0.78	168	76,003
385	277.2	1.600	0.78	168	76,171
390	280.8	1.600	0.78	168	76,339
395	284.4	1.600	0.78	168	76,507
400	288.0	1.600	0.78	168	76,674
405	291.6	1.580	0.77	167	76,841
410	295.2	1.560	0.76	165	77,006
415	298.8	1.540	0.75	163	77,168
420	302.4	1.520	0.74	160	77,329
425	306.0	1.500	0.73	158	77,487
430	309.6	1.480	0.72	156	77,643
435	313.2	1.460	0.71	154	77,797
440	316.8	1.440	0.70	152	77,949
445	320.4	1.440	0.70	151	78,100
450	324.0	1.440	0.70	151	78,251
455	327.6	1.440	0.70	151	78,402
460	331.2	1.440	0.70	151	78,553
465	334.8	1.440	0.70	151	78,704
470	338.4	1.440	0.70	151	78,855
475	342.0	1.440	0.70	151	79,006
480	345.6	1.440	0.70	151	79,157
485	349.2	1.440	0.70	151	79,308
490	352.8	1.440	0.70	151	79,459
495	356.4	1.440	0.70	151	79,610
500	360.0	1.440	0.70	151	79,761
505	363.6	1.360	0.66	147	79,908
510	367.2	1.280	0.62	138	80,047
515	370.8	1.200	0.58	130	80,177
520	374.4	1.120	0.54	122	80,298
525	378.0	1.040	0.50	113	80,412
530	381.6	0.960	0.47	105	80,516
535	385.2	0.880	0.43	96	80,613

Study Name:		TTM 20576 Proposed - Subarea A2			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		17			
Calculated Peak Flow [CFS]			14.03		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			72		
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
540	388.8	0.800	0.39	88	80,701
545	392.4	0.800	0.39	84	80,785
550	396.0	0.800	0.39	84	80,869
555	399.6	0.800	0.39	84	80,953
560	403.2	0.800	0.39	84	81,037
565	406.8	0.800	0.39	84	81,120
570	410.4	0.800	0.39	84	81,204
575	414.0	0.800	0.39	84	81,288
580	417.6	0.800	0.39	84	81,372
585	421.2	0.800	0.39	84	81,456
590	424.8	0.800	0.39	84	81,540
595	428.4	0.800	0.39	84	81,624
600	432.0	0.800	0.39	84	81,708
605	435.6	0.770	0.37	82	81,790
610	439.2	0.740	0.36	79	81,869
615	442.8	0.710	0.34	76	81,945
620	446.4	0.680	0.33	73	82,018
625	450.0	0.650	0.32	70	82,088
630	453.6	0.620	0.30	67	82,154
635	457.2	0.590	0.29	63	82,218
640	460.8	0.560	0.27	60	82,278
645	464.4	0.560	0.27	59	82,337
650	468.0	0.560	0.27	59	82,396
655	471.6	0.560	0.27	59	82,454
660	475.2	0.560	0.27	59	82,513
665	478.8	0.560	0.27	59	82,572
670	482.4	0.560	0.27	59	82,630
675	486.0	0.560	0.27	59	82,689
680	489.6	0.560	0.27	59	82,748
685	493.2	0.560	0.27	59	82,807
690	496.8	0.560	0.27	59	82,865
695	500.4	0.560	0.27	59	82,924
700	504.0	0.560	0.27	59	82,983
705	507.6	0.530	0.26	57	83,040
710	511.2	0.500	0.24	54	83,094
715	514.8	0.470	0.23	51	83,145

Study Name:		TTM 20576 Proposed - Subarea A2			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		17			
Calculated Peak Flow [CFS]			14.03		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			72		
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
720	518.4	0.440	0.21	48	83,192
725	522.0	0.410	0.20	45	83,237
730	525.6	0.380	0.18	41	83,278
735	529.2	0.350	0.17	38	83,317
740	532.8	0.320	0.16	35	83,352
745	536.4	0.320	0.16	34	83,385
750	540.0	0.320	0.16	34	83,419
755	543.6	0.320	0.16	34	83,452
760	547.2	0.320	0.16	34	83,486
765	550.8	0.320	0.16	34	83,520
770	554.4	0.320	0.16	34	83,553
775	558.0	0.320	0.16	34	83,587
780	561.6	0.320	0.16	34	83,620
785	565.2	0.320	0.16	34	83,654
790	568.8	0.320	0.16	34	83,687
795	572.4	0.320	0.16	34	83,721
800	576.0	0.320	0.16	34	83,754

Study Name:		TTM 20576 Proposed - Subarea A3			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		15			
Calculated Peak Flow [CFS]			24.85		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			64		
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
0	0.0	0.000	0.00	-	-
5	3.2	0.700	0.60	58	58
10	6.4	1.500	1.29	182	239
15	9.6	2.500	2.15	330	570
20	12.8	3.700	3.18	512	1,081
25	16.0	5.000	4.30	718	1,800
30	19.2	6.500	5.59	949	2,749
35	22.4	8.200	7.05	1,213	3,962
40	25.6	10.300	8.86	1,527	5,489
45	28.8	11.900	10.23	1,833	7,322
50	32.0	13.500	11.61	2,097	9,419
55	35.2	15.700	13.50	2,410	11,829
60	38.4	17.800	15.31	2,765	14,594
65	41.6	19.800	17.03	3,104	17,698
70	44.8	21.700	18.66	3,426	21,124
75	48.0	23.700	20.38	3,748	24,871
80	51.2	25.400	21.84	4,053	28,924
85	54.4	26.900	23.13	4,317	33,242
90	57.6	28.300	24.33	4,557	37,798
95	60.8	28.900	24.85	4,722	42,520
100	64.0	28.800	24.76	4,763	47,283
105	67.2	28.500	24.51	4,730	52,013
110	70.4	27.700	23.82	4,639	56,652
115	73.6	26.400	22.70	4,466	61,118
120	76.8	24.700	21.24	4,218	65,336
125	80.0	22.700	19.52	3,913	69,248
130	83.2	20.600	17.71	3,574	72,823
135	86.4	18.400	15.82	3,219	76,042
140	89.6	16.600	14.27	2,889	78,931
145	92.8	14.700	12.64	2,584	81,515
150	96.0	13.200	11.35	2,303	83,818
155	99.2	11.900	10.23	2,072	85,890
160	102.4	10.900	9.37	1,882	87,772
165	105.6	10.200	8.77	1,742	89,514
170	108.8	9.600	8.25	1,634	91,148
175	112.0	9.000	7.74	1,535	92,683

Study Name:		TTM 20576 Proposed - Subarea A3			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		15			
Calculated Peak Flow [CFS]			24.85		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			64		
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
180	115.2	8.400	7.22	1,436	94,120
185	118.4	8.100	6.96	1,362	95,482
190	121.6	7.800	6.71	1,312	96,794
195	124.8	7.500	6.45	1,263	98,057
200	128.0	7.100	6.11	1,205	99,262
205	131.2	6.600	5.68	1,131	100,393
210	134.4	6.100	5.25	1,048	101,442
215	137.6	5.700	4.90	974	102,416
220	140.8	5.500	4.73	925	103,340
225	144.0	5.300	4.56	892	104,232
230	147.2	4.900	4.21	842	105,074
235	150.4	4.500	3.87	776	105,850
240	153.6	4.200	3.61	718	106,568
245	156.8	4.000	3.44	677	107,245
250	160.0	3.800	3.27	644	107,889
255	163.2	3.600	3.10	611	108,499
260	166.4	3.400	2.92	578	109,077
265	169.6	3.200	2.75	545	109,622
270	172.8	3.200	2.75	528	110,150
275	176.0	3.200	2.75	528	110,679
280	179.2	3.200	2.75	528	111,207
285	182.4	3.200	2.75	528	111,735
290	185.6	3.200	2.75	528	112,264
295	188.8	3.200	2.75	528	112,792
300	192.0	3.200	2.75	528	113,320
305	195.2	3.200	2.75	528	113,848
310	198.4	3.200	2.75	528	114,377
315	201.6	3.200	2.75	528	114,905
320	204.8	3.200	2.75	528	115,433
325	208.0	3.000	2.58	512	115,945
330	211.2	2.800	2.41	479	116,424
335	214.4	2.600	2.24	446	116,870
340	217.6	2.400	2.06	413	117,282
345	220.8	2.200	1.89	380	117,662
350	224.0	2.000	1.72	347	118,009
355	227.2	1.800	1.55	314	118,322

Study Name:		TTM 20576 Proposed - Subarea A3			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		15			
Calculated Peak Flow [CFS]			24.85		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			64		
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
360	230.4	1.600	1.38	281	118,603
365	233.6	1.600	1.38	264	118,867
370	236.8	1.600	1.38	264	119,131
375	240.0	1.600	1.38	264	119,396
380	243.2	1.600	1.38	264	119,660
385	246.4	1.600	1.38	264	119,924
390	249.6	1.600	1.38	264	120,188
395	252.8	1.600	1.38	264	120,452
400	256.0	1.600	1.38	264	120,716
405	259.2	1.580	1.36	262	120,979
410	262.4	1.560	1.34	259	121,238
415	265.6	1.540	1.32	256	121,494
420	268.8	1.520	1.31	253	121,746
425	272.0	1.500	1.29	249	121,996
430	275.2	1.480	1.27	246	122,242
435	278.4	1.460	1.26	243	122,484
440	281.6	1.440	1.24	239	122,724
445	284.8	1.440	1.24	238	122,962
450	288.0	1.440	1.24	238	123,199
455	291.2	1.440	1.24	238	123,437
460	294.4	1.440	1.24	238	123,675
465	297.6	1.440	1.24	238	123,913
470	300.8	1.440	1.24	238	124,150
475	304.0	1.440	1.24	238	124,388
480	307.2	1.440	1.24	238	124,626
485	310.4	1.440	1.24	238	124,863
490	313.6	1.440	1.24	238	125,101
495	316.8	1.440	1.24	238	125,339
500	320.0	1.440	1.24	238	125,577
505	323.2	1.360	1.17	231	125,808
510	326.4	1.280	1.10	218	126,026
515	329.6	1.200	1.03	205	126,230
520	332.8	1.120	0.96	192	126,422
525	336.0	1.040	0.89	178	126,600
530	339.2	0.960	0.83	165	126,765
535	342.4	0.880	0.76	152	126,917

Study Name:		TTM 20576 Proposed - Subarea A3			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		15			
Calculated Peak Flow [CFS]				24.85	
S-Graph Type				Valley: Undeveloped	
Lag [Min]				64	
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
540	345.6	0.800	0.69	139	127,056
545	348.8	0.800	0.69	132	127,188
550	352.0	0.800	0.69	132	127,320
555	355.2	0.800	0.69	132	127,452
560	358.4	0.800	0.69	132	127,584
565	361.6	0.800	0.69	132	127,716
570	364.8	0.800	0.69	132	127,848
575	368.0	0.800	0.69	132	127,980
580	371.2	0.800	0.69	132	128,112
585	374.4	0.800	0.69	132	128,245
590	377.6	0.800	0.69	132	128,377
595	380.8	0.800	0.69	132	128,509
600	384.0	0.800	0.69	132	128,641
605	387.2	0.770	0.66	130	128,770
610	390.4	0.740	0.64	125	128,895
615	393.6	0.710	0.61	120	129,015
620	396.8	0.680	0.58	115	129,129
625	400.0	0.650	0.56	110	129,239
630	403.2	0.620	0.53	105	129,344
635	406.4	0.590	0.51	100	129,444
640	409.6	0.560	0.48	95	129,539
645	412.8	0.560	0.48	92	129,631
650	416.0	0.560	0.48	92	129,724
655	419.2	0.560	0.48	92	129,816
660	422.4	0.560	0.48	92	129,909
665	425.6	0.560	0.48	92	130,001
670	428.8	0.560	0.48	92	130,094
675	432.0	0.560	0.48	92	130,186
680	435.2	0.560	0.48	92	130,279
685	438.4	0.560	0.48	92	130,371
690	441.6	0.560	0.48	92	130,463
695	444.8	0.560	0.48	92	130,556
700	448.0	0.560	0.48	92	130,648
705	451.2	0.530	0.46	90	130,738
710	454.4	0.500	0.43	85	130,823
715	457.6	0.470	0.40	80	130,903

Study Name:		TTM 20576 Proposed - Subarea A3			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		15			
Calculated Peak Flow [CFS]			24.85		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			64		
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
720	460.8	0.440	0.38	75	130,979
725	464.0	0.410	0.35	70	131,049
730	467.2	0.380	0.33	65	131,114
735	470.4	0.350	0.30	60	131,174
740	473.6	0.320	0.28	55	131,229
745	476.8	0.320	0.28	53	131,282
750	480.0	0.320	0.28	53	131,335
755	483.2	0.320	0.28	53	131,388
760	486.4	0.320	0.28	53	131,441
765	489.6	0.320	0.28	53	131,494
770	492.8	0.320	0.28	53	131,546
775	496.0	0.320	0.28	53	131,599
780	499.2	0.320	0.28	53	131,652
785	502.4	0.320	0.28	53	131,705
790	505.6	0.320	0.28	53	131,758
795	508.8	0.320	0.28	53	131,811
800	512.0	0.320	0.28	53	131,863

Study Name:		TTM 20576 Proposed - Subarea A4			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		17			
Calculated Peak Flow [CFS]			18.07		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			72		
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
0	0.0	0.000	0.00	-	-
5	3.6	0.700	0.44	47	47
10	7.2	1.500	0.94	149	196
15	10.8	2.500	1.56	270	466
20	14.4	3.700	2.31	419	885
25	18.0	5.000	3.13	587	1,472
30	21.6	6.500	4.06	777	2,249
35	25.2	8.200	5.13	993	3,241
40	28.8	10.300	6.44	1,249	4,491
45	32.4	11.900	7.44	1,499	5,990
50	36.0	13.500	8.44	1,715	7,705
55	39.6	15.700	9.82	1,972	9,677
60	43.2	17.800	11.13	2,262	11,939
65	46.8	19.800	12.38	2,539	14,478
70	50.4	21.700	13.57	2,802	17,280
75	54.0	23.700	14.82	3,066	20,346
80	57.6	25.400	15.88	3,316	23,662
85	61.2	26.900	16.82	3,532	27,194
90	64.8	28.300	17.69	3,728	30,921
95	68.4	28.900	18.07	3,863	34,784
100	72.0	28.800	18.01	3,896	38,680
105	75.6	28.500	17.82	3,869	42,549
110	79.2	27.700	17.32	3,795	46,344
115	82.8	26.400	16.51	3,653	49,998
120	86.4	24.700	15.44	3,451	53,448
125	90.0	22.700	14.19	3,201	56,649
130	93.6	20.600	12.88	2,924	59,573
135	97.2	18.400	11.50	2,634	62,207
140	100.8	16.600	10.38	2,363	64,570
145	104.4	14.700	9.19	2,114	66,684
150	108.0	13.200	8.25	1,884	68,568
155	111.6	11.900	7.44	1,695	70,263
160	115.2	10.900	6.82	1,540	71,803
165	118.8	10.200	6.38	1,425	73,227
170	122.4	9.600	6.00	1,337	74,564
175	126.0	9.000	5.63	1,256	75,820

Study Name:		TTM 20576 Proposed - Subarea A4			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		17			
Calculated Peak Flow [CFS]			18.07		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			72		
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
180	129.6	8.400	5.25	1,175	76,995
185	133.2	8.100	5.06	1,114	78,110
190	136.8	7.800	4.88	1,074	79,183
195	140.4	7.500	4.69	1,033	80,217
200	144.0	7.100	4.44	986	81,202
205	147.6	6.600	4.13	925	82,128
210	151.2	6.100	3.81	858	82,985
215	154.8	5.700	3.56	797	83,782
220	158.4	5.500	3.44	756	84,538
225	162.0	5.300	3.31	729	85,268
230	165.6	4.900	3.06	689	85,956
235	169.2	4.500	2.81	635	86,591
240	172.8	4.200	2.63	587	87,179
245	176.4	4.000	2.50	554	87,732
250	180.0	3.800	2.38	527	88,259
255	183.6	3.600	2.25	500	88,759
260	187.2	3.400	2.13	473	89,232
265	190.8	3.200	2.00	446	89,677
270	194.4	3.200	2.00	432	90,109
275	198.0	3.200	2.00	432	90,542
280	201.6	3.200	2.00	432	90,974
285	205.2	3.200	2.00	432	91,406
290	208.8	3.200	2.00	432	91,838
295	212.4	3.200	2.00	432	92,270
300	216.0	3.200	2.00	432	92,702
305	219.6	3.200	2.00	432	93,135
310	223.2	3.200	2.00	432	93,567
315	226.8	3.200	2.00	432	93,999
320	230.4	3.200	2.00	432	94,431
325	234.0	3.000	1.88	419	94,850
330	237.6	2.800	1.75	392	95,242
335	241.2	2.600	1.63	365	95,606
340	244.8	2.400	1.50	338	95,944
345	248.4	2.200	1.38	311	96,254
350	252.0	2.000	1.25	284	96,538
355	255.6	1.800	1.13	257	96,795

Study Name:		TTM 20576 Proposed - Subarea A4			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		17			
Calculated Peak Flow [CFS]			18.07		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			72		
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
360	259.2	1.600	1.00	230	97,024
365	262.8	1.600	1.00	216	97,240
370	266.4	1.600	1.00	216	97,456
375	270.0	1.600	1.00	216	97,673
380	273.6	1.600	1.00	216	97,889
385	277.2	1.600	1.00	216	98,105
390	280.8	1.600	1.00	216	98,321
395	284.4	1.600	1.00	216	98,537
400	288.0	1.600	1.00	216	98,753
405	291.6	1.580	0.99	215	98,968
410	295.2	1.560	0.98	212	99,180
415	298.8	1.540	0.96	209	99,389
420	302.4	1.520	0.95	207	99,596
425	306.0	1.500	0.94	204	99,800
430	309.6	1.480	0.93	201	100,001
435	313.2	1.460	0.91	199	100,199
440	316.8	1.440	0.90	196	100,395
445	320.4	1.440	0.90	194	100,590
450	324.0	1.440	0.90	194	100,784
455	327.6	1.440	0.90	194	100,979
460	331.2	1.440	0.90	194	101,173
465	334.8	1.440	0.90	194	101,368
470	338.4	1.440	0.90	194	101,562
475	342.0	1.440	0.90	194	101,757
480	345.6	1.440	0.90	194	101,951
485	349.2	1.440	0.90	194	102,146
490	352.8	1.440	0.90	194	102,340
495	356.4	1.440	0.90	194	102,535
500	360.0	1.440	0.90	194	102,729
505	363.6	1.360	0.85	189	102,918
510	367.2	1.280	0.80	178	103,096
515	370.8	1.200	0.75	167	103,264
520	374.4	1.120	0.70	157	103,421
525	378.0	1.040	0.65	146	103,566
530	381.6	0.960	0.60	135	103,701
535	385.2	0.880	0.55	124	103,826

Study Name:		TTM 20576 Proposed - Subarea A4			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		17			
Calculated Peak Flow [CFS]			18.07		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			72		
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
540	388.8	0.800	0.50	113	103,939
545	392.4	0.800	0.50	108	104,047
550	396.0	0.800	0.50	108	104,155
555	399.6	0.800	0.50	108	104,263
560	403.2	0.800	0.50	108	104,371
565	406.8	0.800	0.50	108	104,479
570	410.4	0.800	0.50	108	104,587
575	414.0	0.800	0.50	108	104,695
580	417.6	0.800	0.50	108	104,803
585	421.2	0.800	0.50	108	104,912
590	424.8	0.800	0.50	108	105,020
595	428.4	0.800	0.50	108	105,128
600	432.0	0.800	0.50	108	105,236
605	435.6	0.770	0.48	106	105,342
610	439.2	0.740	0.46	102	105,444
615	442.8	0.710	0.44	98	105,542
620	446.4	0.680	0.43	94	105,635
625	450.0	0.650	0.41	90	105,725
630	453.6	0.620	0.39	86	105,811
635	457.2	0.590	0.37	82	105,893
640	460.8	0.560	0.35	78	105,970
645	464.4	0.560	0.35	76	106,046
650	468.0	0.560	0.35	76	106,122
655	471.6	0.560	0.35	76	106,197
660	475.2	0.560	0.35	76	106,273
665	478.8	0.560	0.35	76	106,349
670	482.4	0.560	0.35	76	106,424
675	486.0	0.560	0.35	76	106,500
680	489.6	0.560	0.35	76	106,575
685	493.2	0.560	0.35	76	106,651
690	496.8	0.560	0.35	76	106,727
695	500.4	0.560	0.35	76	106,802
700	504.0	0.560	0.35	76	106,878
705	507.6	0.530	0.33	74	106,952
710	511.2	0.500	0.31	70	107,021
715	514.8	0.470	0.29	66	107,087

Study Name:		TTM 20576 Proposed - Subarea A4			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		17			
Calculated Peak Flow [CFS]			18.07		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			72		
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
720	518.4	0.440	0.28	61	107,148
725	522.0	0.410	0.26	57	107,205
730	525.6	0.380	0.24	53	107,259
735	529.2	0.350	0.22	49	107,308
740	532.8	0.320	0.20	45	107,353
745	536.4	0.320	0.20	43	107,397
750	540.0	0.320	0.20	43	107,440
755	543.6	0.320	0.20	43	107,483
760	547.2	0.320	0.20	43	107,526
765	550.8	0.320	0.20	43	107,569
770	554.4	0.320	0.20	43	107,613
775	558.0	0.320	0.20	43	107,656
780	561.6	0.320	0.20	43	107,699
785	565.2	0.320	0.20	43	107,742
790	568.8	0.320	0.20	43	107,786
795	572.4	0.320	0.20	43	107,829
800	576.0	0.320	0.20	43	107,872

Study Name:		TTM 20576 Proposed - Subarea A5			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		17			
Calculated Peak Flow [CFS]				8.31	
S-Graph Type				Valley: Undeveloped	
Lag [Min]				73	
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
0	0.0	0.000	0.00	-	-
5	3.7	0.700	0.20	22	22
10	7.3	1.500	0.43	69	91
15	11.0	2.500	0.72	126	217
20	14.6	3.700	1.06	195	412
25	18.3	5.000	1.44	274	686
30	21.9	6.500	1.87	362	1,048
35	25.6	8.200	2.36	463	1,511
40	29.2	10.300	2.96	582	2,094
45	32.9	11.900	3.42	699	2,793
50	36.5	13.500	3.88	800	3,593
55	40.2	15.700	4.51	919	4,512
60	43.8	17.800	5.12	1,055	5,567
65	47.5	19.800	5.69	1,184	6,751
70	51.1	21.700	6.24	1,307	8,057
75	54.8	23.700	6.81	1,429	9,487
80	58.4	25.400	7.30	1,546	11,033
85	62.1	26.900	7.73	1,647	12,679
90	65.7	28.300	8.14	1,738	14,417
95	69.4	28.900	8.31	1,801	16,218
100	73.0	28.800	8.28	1,817	18,035
105	76.7	28.500	8.19	1,804	19,839
110	80.3	27.700	7.96	1,770	21,609
115	84.0	26.400	7.59	1,703	23,312
120	87.6	24.700	7.10	1,609	24,921
125	91.3	22.700	6.53	1,492	26,414
130	94.9	20.600	5.92	1,363	27,777
135	98.6	18.400	5.29	1,228	29,005
140	102.2	16.600	4.77	1,102	30,107
145	105.9	14.700	4.23	986	31,092
150	109.5	13.200	3.80	878	31,971
155	113.2	11.900	3.42	790	32,761
160	116.8	10.900	3.13	718	33,479
165	120.5	10.200	2.93	664	34,143
170	124.1	9.600	2.76	623	34,767
175	127.8	9.000	2.59	586	35,352

Study Name:		TTM 20576 Proposed - Subarea A5			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		17			
Calculated Peak Flow [CFS]				8.31	
S-Graph Type				Valley: Undeveloped	
Lag [Min]				73	
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
180	131.4	8.400	2.42	548	35,900
185	135.1	8.100	2.33	520	36,420
190	138.7	7.800	2.24	501	36,920
195	142.4	7.500	2.16	482	37,402
200	146.0	7.100	2.04	460	37,862
205	149.7	6.600	1.90	431	38,293
210	153.3	6.100	1.75	400	38,693
215	157.0	5.700	1.64	372	39,065
220	160.6	5.500	1.58	353	39,417
225	164.3	5.300	1.52	340	39,757
230	167.9	4.900	1.41	321	40,079
235	171.6	4.500	1.29	296	40,374
240	175.2	4.200	1.21	274	40,648
245	178.9	4.000	1.15	258	40,907
250	182.5	3.800	1.09	246	41,152
255	186.2	3.600	1.04	233	41,385
260	189.8	3.400	0.98	220	41,606
265	193.5	3.200	0.92	208	41,813
270	197.1	3.200	0.92	202	42,015
275	200.8	3.200	0.92	202	42,216
280	204.4	3.200	0.92	202	42,418
285	208.1	3.200	0.92	202	42,619
290	211.7	3.200	0.92	202	42,821
295	215.4	3.200	0.92	202	43,022
300	219.0	3.200	0.92	202	43,224
305	222.7	3.200	0.92	202	43,425
310	226.3	3.200	0.92	202	43,627
315	230.0	3.200	0.92	202	43,828
320	233.6	3.200	0.92	202	44,030
325	237.3	3.000	0.86	195	44,225
330	240.9	2.800	0.81	183	44,408
335	244.6	2.600	0.75	170	44,578
340	248.2	2.400	0.69	157	44,735
345	251.9	2.200	0.63	145	44,880
350	255.5	2.000	0.58	132	45,012
355	259.2	1.800	0.52	120	45,132

Study Name:		TTM 20576 Proposed - Subarea A5			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		17			
Calculated Peak Flow [CFS]				8.31	
S-Graph Type				Valley: Undeveloped	
Lag [Min]				73	
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
360	262.8	1.600	0.46	107	45,239
365	266.5	1.600	0.46	101	45,340
370	270.1	1.600	0.46	101	45,441
375	273.8	1.600	0.46	101	45,541
380	277.4	1.600	0.46	101	45,642
385	281.1	1.600	0.46	101	45,743
390	284.7	1.600	0.46	101	45,844
395	288.4	1.600	0.46	101	45,944
400	292.0	1.600	0.46	101	46,045
405	295.7	1.580	0.45	100	46,145
410	299.3	1.560	0.45	99	46,244
415	303.0	1.540	0.44	98	46,342
420	306.6	1.520	0.44	96	46,438
425	310.3	1.500	0.43	95	46,533
430	313.9	1.480	0.43	94	46,627
435	317.6	1.460	0.42	93	46,720
440	321.2	1.440	0.41	91	46,811
445	324.9	1.440	0.41	91	46,902
450	328.5	1.440	0.41	91	46,992
455	332.2	1.440	0.41	91	47,083
460	335.8	1.440	0.41	91	47,174
465	339.5	1.440	0.41	91	47,264
470	343.1	1.440	0.41	91	47,355
475	346.8	1.440	0.41	91	47,446
480	350.4	1.440	0.41	91	47,536
485	354.1	1.440	0.41	91	47,627
490	357.7	1.440	0.41	91	47,718
495	361.4	1.440	0.41	91	47,808
500	365.0	1.440	0.41	91	47,899
505	368.7	1.360	0.39	88	47,987
510	372.3	1.280	0.37	83	48,070
515	376.0	1.200	0.35	78	48,148
520	379.6	1.120	0.32	73	48,221
525	383.3	1.040	0.30	68	48,289
530	386.9	0.960	0.28	63	48,352
535	390.6	0.880	0.25	58	48,410

Study Name:		TTM 20576 Proposed - Subarea A5			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		17			
Calculated Peak Flow [CFS]			8.31		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			73		
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
540	394.2	0.800	0.23	53	48,463
545	397.9	0.800	0.23	50	48,514
550	401.5	0.800	0.23	50	48,564
555	405.2	0.800	0.23	50	48,614
560	408.8	0.800	0.23	50	48,665
565	412.5	0.800	0.23	50	48,715
570	416.1	0.800	0.23	50	48,765
575	419.8	0.800	0.23	50	48,816
580	423.4	0.800	0.23	50	48,866
585	427.1	0.800	0.23	50	48,917
590	430.7	0.800	0.23	50	48,967
595	434.4	0.800	0.23	50	49,017
600	438.0	0.800	0.23	50	49,068
605	441.7	0.770	0.22	49	49,117
610	445.3	0.740	0.21	48	49,165
615	449.0	0.710	0.20	46	49,210
620	452.6	0.680	0.20	44	49,254
625	456.3	0.650	0.19	42	49,296
630	459.9	0.620	0.18	40	49,336
635	463.6	0.590	0.17	38	49,374
640	467.2	0.560	0.16	36	49,410
645	470.9	0.560	0.16	35	49,446
650	474.5	0.560	0.16	35	49,481
655	478.2	0.560	0.16	35	49,516
660	481.8	0.560	0.16	35	49,551
665	485.5	0.560	0.16	35	49,587
670	489.1	0.560	0.16	35	49,622
675	492.8	0.560	0.16	35	49,657
680	496.4	0.560	0.16	35	49,692
685	500.1	0.560	0.16	35	49,728
690	503.7	0.560	0.16	35	49,763
695	507.4	0.560	0.16	35	49,798
700	511.0	0.560	0.16	35	49,834
705	514.7	0.530	0.15	34	49,868
710	518.3	0.500	0.14	32	49,900
715	522.0	0.470	0.14	31	49,931

Study Name:		TTM 20576 Proposed - Subarea A5			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		17			
Calculated Peak Flow [CFS]				8.31	
S-Graph Type				Valley: Undeveloped	
Lag [Min]				73	
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
720	525.6	0.440	0.13	29	49,959
725	529.3	0.410	0.12	27	49,986
730	532.9	0.380	0.11	25	50,011
735	536.6	0.350	0.10	23	50,034
740	540.2	0.320	0.09	21	50,055
745	543.9	0.320	0.09	20	50,075
750	547.5	0.320	0.09	20	50,095
755	551.2	0.320	0.09	20	50,116
760	554.8	0.320	0.09	20	50,136
765	558.5	0.320	0.09	20	50,156
770	562.1	0.320	0.09	20	50,176
775	565.8	0.320	0.09	20	50,196
780	569.4	0.320	0.09	20	50,216
785	573.1	0.320	0.09	20	50,237
790	576.7	0.320	0.09	20	50,257
795	580.4	0.320	0.09	20	50,277
800	584.0	0.320	0.09	20	50,297

Study Name:		TTM 20576 Proposed - Subarea A6			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		15			
Calculated Peak Flow [CFS]				9.46	
S-Graph Type				Valley: Undeveloped	
Lag [Min]				66	
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
0	0.0	0.000	0.00	-	-
5	3.3	0.700	0.23	23	23
10	6.6	1.500	0.49	71	94
15	9.9	2.500	0.82	130	224
20	13.2	3.700	1.21	201	425
25	16.5	5.000	1.64	282	706
30	19.8	6.500	2.13	373	1,079
35	23.1	8.200	2.68	476	1,555
40	26.4	10.300	3.37	600	2,155
45	29.7	11.900	3.90	719	2,874
50	33.0	13.500	4.42	823	3,698
55	36.3	15.700	5.14	946	4,644
60	39.6	17.800	5.83	1,086	5,729
65	42.9	19.800	6.48	1,218	6,948
70	46.2	21.700	7.10	1,345	8,293
75	49.5	23.700	7.76	1,471	9,764
80	52.8	25.400	8.31	1,591	11,355
85	56.1	26.900	8.81	1,695	13,050
90	59.4	28.300	9.26	1,789	14,839
95	62.7	28.900	9.46	1,854	16,692
100	66.0	28.800	9.43	1,870	18,562
105	69.3	28.500	9.33	1,857	20,419
110	72.6	27.700	9.07	1,821	22,240
115	75.9	26.400	8.64	1,753	23,994
120	79.2	24.700	8.09	1,656	25,650
125	82.5	22.700	7.43	1,536	27,186
130	85.8	20.600	6.74	1,403	28,589
135	89.1	18.400	6.02	1,264	29,853
140	92.4	16.600	5.43	1,134	30,987
145	95.7	14.700	4.81	1,014	32,001
150	99.0	13.200	4.32	904	32,905
155	102.3	11.900	3.90	813	33,719
160	105.6	10.900	3.57	739	34,458
165	108.9	10.200	3.34	684	35,141
170	112.2	9.600	3.14	642	35,783
175	115.5	9.000	2.95	603	36,386

Study Name:		TTM 20576 Proposed - Subarea A6			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		15			
Calculated Peak Flow [CFS]			9.46		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			66		
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
180	118.8	8.400	2.75	564	36,950
185	122.1	8.100	2.65	535	37,484
190	125.4	7.800	2.55	515	38,000
195	128.7	7.500	2.46	496	38,495
200	132.0	7.100	2.32	473	38,968
205	135.3	6.600	2.16	444	39,412
210	138.6	6.100	2.00	412	39,824
215	141.9	5.700	1.87	382	40,206
220	145.2	5.500	1.80	363	40,569
225	148.5	5.300	1.73	350	40,919
230	151.8	4.900	1.60	331	41,250
235	155.1	4.500	1.47	305	41,555
240	158.4	4.200	1.37	282	41,836
245	161.7	4.000	1.31	266	42,102
250	165.0	3.800	1.24	253	42,355
255	168.3	3.600	1.18	240	42,595
260	171.6	3.400	1.11	227	42,822
265	174.9	3.200	1.05	214	43,035
270	178.2	3.200	1.05	207	43,243
275	181.5	3.200	1.05	207	43,450
280	184.8	3.200	1.05	207	43,658
285	188.1	3.200	1.05	207	43,865
290	191.4	3.200	1.05	207	44,072
295	194.7	3.200	1.05	207	44,280
300	198.0	3.200	1.05	207	44,487
305	201.3	3.200	1.05	207	44,695
310	204.6	3.200	1.05	207	44,902
315	207.9	3.200	1.05	207	45,109
320	211.2	3.200	1.05	207	45,317
325	214.5	3.000	0.98	201	45,518
330	217.8	2.800	0.92	188	45,706
335	221.1	2.600	0.85	175	45,881
340	224.4	2.400	0.79	162	46,043
345	227.7	2.200	0.72	149	46,192
350	231.0	2.000	0.65	136	46,328
355	234.3	1.800	0.59	123	46,451

Study Name:		TTM 20576 Proposed - Subarea A6			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		15			
Calculated Peak Flow [CFS]				9.46	
S-Graph Type				Valley: Undeveloped	
Lag [Min]				66	
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
360	237.6	1.600	0.52	110	46,561
365	240.9	1.600	0.52	104	46,665
370	244.2	1.600	0.52	104	46,769
375	247.5	1.600	0.52	104	46,872
380	250.8	1.600	0.52	104	46,976
385	254.1	1.600	0.52	104	47,080
390	257.4	1.600	0.52	104	47,183
395	260.7	1.600	0.52	104	47,287
400	264.0	1.600	0.52	104	47,391
405	267.3	1.580	0.52	103	47,494
410	270.6	1.560	0.51	102	47,596
415	273.9	1.540	0.50	100	47,696
420	277.2	1.520	0.50	99	47,795
425	280.5	1.500	0.49	98	47,893
430	283.8	1.480	0.48	97	47,990
435	287.1	1.460	0.48	95	48,085
440	290.4	1.440	0.47	94	48,179
445	293.7	1.440	0.47	93	48,272
450	297.0	1.440	0.47	93	48,366
455	300.3	1.440	0.47	93	48,459
460	303.6	1.440	0.47	93	48,552
465	306.9	1.440	0.47	93	48,646
470	310.2	1.440	0.47	93	48,739
475	313.5	1.440	0.47	93	48,832
480	316.8	1.440	0.47	93	48,926
485	320.1	1.440	0.47	93	49,019
490	323.4	1.440	0.47	93	49,112
495	326.7	1.440	0.47	93	49,206
500	330.0	1.440	0.47	93	49,299
505	333.3	1.360	0.45	91	49,390
510	336.6	1.280	0.42	86	49,475
515	339.9	1.200	0.39	80	49,556
520	343.2	1.120	0.37	75	49,631
525	346.5	1.040	0.34	70	49,701
530	349.8	0.960	0.31	65	49,766
535	353.1	0.880	0.29	60	49,825

Study Name:		TTM 20576 Proposed - Subarea A6			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		15			
Calculated Peak Flow [CFS]				9.46	
S-Graph Type				Valley: Undeveloped	
Lag [Min]				66	
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
540	356.4	0.800	0.26	54	49,880
545	359.7	0.800	0.26	52	49,932
550	363.0	0.800	0.26	52	49,983
555	366.3	0.800	0.26	52	50,035
560	369.6	0.800	0.26	52	50,087
565	372.9	0.800	0.26	52	50,139
570	376.2	0.800	0.26	52	50,191
575	379.5	0.800	0.26	52	50,243
580	382.8	0.800	0.26	52	50,294
585	386.1	0.800	0.26	52	50,346
590	389.4	0.800	0.26	52	50,398
595	392.7	0.800	0.26	52	50,450
600	396.0	0.800	0.26	52	50,502
605	399.3	0.770	0.25	51	50,553
610	402.6	0.740	0.24	49	50,602
615	405.9	0.710	0.23	47	50,649
620	409.2	0.680	0.22	45	50,694
625	412.5	0.650	0.21	43	50,737
630	415.8	0.620	0.20	41	50,778
635	419.1	0.590	0.19	39	50,817
640	422.4	0.560	0.18	37	50,854
645	425.7	0.560	0.18	36	50,891
650	429.0	0.560	0.18	36	50,927
655	432.3	0.560	0.18	36	50,963
660	435.6	0.560	0.18	36	51,000
665	438.9	0.560	0.18	36	51,036
670	442.2	0.560	0.18	36	51,072
675	445.5	0.560	0.18	36	51,109
680	448.8	0.560	0.18	36	51,145
685	452.1	0.560	0.18	36	51,181
690	455.4	0.560	0.18	36	51,217
695	458.7	0.560	0.18	36	51,254
700	462.0	0.560	0.18	36	51,290
705	465.3	0.530	0.17	35	51,325
710	468.6	0.500	0.16	33	51,359
715	471.9	0.470	0.15	31	51,390

Study Name:		TTM 20576 Proposed - Subarea A6			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		15			
Calculated Peak Flow [CFS]				9.46	
S-Graph Type				Valley: Undeveloped	
Lag [Min]				66	
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
720	475.2	0.440	0.14	29	51,420
725	478.5	0.410	0.13	28	51,447
730	481.8	0.380	0.12	26	51,473
735	485.1	0.350	0.11	24	51,496
740	488.4	0.320	0.10	22	51,518
745	491.7	0.320	0.10	21	51,539
750	495.0	0.320	0.10	21	51,560
755	498.3	0.320	0.10	21	51,580
760	501.6	0.320	0.10	21	51,601
765	504.9	0.320	0.10	21	51,622
770	508.2	0.320	0.10	21	51,643
775	511.5	0.320	0.10	21	51,663
780	514.8	0.320	0.10	21	51,684
785	518.1	0.320	0.10	21	51,705
790	521.4	0.320	0.10	21	51,726
795	524.7	0.320	0.10	21	51,746
800	528.0	0.320	0.10	21	51,767

Study Name:		TTM 20576 Proposed - Subarea A7			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		16			
Calculated Peak Flow [CFS]			13.44		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			70		
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
0	0.0	0.000	0.00	-	-
5	3.5	0.700	0.33	34	34
10	7.0	1.500	0.70	107	142
15	10.5	2.500	1.16	195	337
20	14.0	3.700	1.72	303	640
25	17.5	5.000	2.33	425	1,065
30	21.0	6.500	3.02	562	1,626
35	24.5	8.200	3.81	718	2,344
40	28.0	10.300	4.79	903	3,247
45	31.5	11.900	5.53	1,084	4,331
50	35.0	13.500	6.28	1,240	5,572
55	38.5	15.700	7.30	1,426	6,997
60	42.0	17.800	8.28	1,636	8,633
65	45.5	19.800	9.21	1,836	10,469
70	49.0	21.700	10.09	2,026	12,496
75	52.5	23.700	11.02	2,217	14,713
80	56.0	25.400	11.81	2,398	17,110
85	59.5	26.900	12.51	2,554	19,664
90	63.0	28.300	13.16	2,695	22,359
95	66.5	28.900	13.44	2,793	25,153
100	70.0	28.800	13.39	2,818	27,970
105	73.5	28.500	13.25	2,798	30,768
110	77.0	27.700	12.88	2,744	33,512
115	80.5	26.400	12.28	2,642	36,154
120	84.0	24.700	11.49	2,495	38,649
125	87.5	22.700	10.56	2,315	40,964
130	91.0	20.600	9.58	2,114	43,078
135	94.5	18.400	8.56	1,904	44,983
140	98.0	16.600	7.72	1,709	46,692
145	101.5	14.700	6.84	1,528	48,220
150	105.0	13.200	6.14	1,362	49,582
155	108.5	11.900	5.53	1,226	50,808
160	112.0	10.900	5.07	1,113	51,921
165	115.5	10.200	4.74	1,030	52,952
170	119.0	9.600	4.46	967	53,919
175	122.5	9.000	4.19	908	54,827

Study Name:		TTM 20576 Proposed - Subarea A7			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		16			
Calculated Peak Flow [CFS]				13.44	
S-Graph Type				Valley: Undeveloped	
Lag [Min]				70	
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
180	126.0	8.400	3.91	850	55,676
185	129.5	8.100	3.77	806	56,482
190	133.0	7.800	3.63	776	57,259
195	136.5	7.500	3.49	747	58,006
200	140.0	7.100	3.30	713	58,719
205	143.5	6.600	3.07	669	59,388
210	147.0	6.100	2.84	620	60,008
215	150.5	5.700	2.65	576	60,584
220	154.0	5.500	2.56	547	61,131
225	157.5	5.300	2.46	527	61,658
230	161.0	4.900	2.28	498	62,156
235	164.5	4.500	2.09	459	62,615
240	168.0	4.200	1.95	425	63,040
245	171.5	4.000	1.86	400	63,441
250	175.0	3.800	1.77	381	63,821
255	178.5	3.600	1.67	361	64,183
260	182.0	3.400	1.58	342	64,525
265	185.5	3.200	1.49	322	64,847
270	189.0	3.200	1.49	313	65,159
275	192.5	3.200	1.49	313	65,472
280	196.0	3.200	1.49	313	65,784
285	199.5	3.200	1.49	313	66,097
290	203.0	3.200	1.49	313	66,409
295	206.5	3.200	1.49	313	66,722
300	210.0	3.200	1.49	313	67,034
305	213.5	3.200	1.49	313	67,347
310	217.0	3.200	1.49	313	67,659
315	220.5	3.200	1.49	313	67,972
320	224.0	3.200	1.49	313	68,285
325	227.5	3.000	1.40	303	68,587
330	231.0	2.800	1.30	283	68,870
335	234.5	2.600	1.21	264	69,134
340	238.0	2.400	1.12	244	69,378
345	241.5	2.200	1.02	225	69,603
350	245.0	2.000	0.93	205	69,808
355	248.5	1.800	0.84	186	69,994

Study Name:		TTM 20576 Proposed - Subarea A7			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		16			
Calculated Peak Flow [CFS]			13.44		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			70		
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
360	252.0	1.600	0.74	166	70,160
365	255.5	1.600	0.74	156	70,316
370	259.0	1.600	0.74	156	70,472
375	262.5	1.600	0.74	156	70,628
380	266.0	1.600	0.74	156	70,785
385	269.5	1.600	0.74	156	70,941
390	273.0	1.600	0.74	156	71,097
395	276.5	1.600	0.74	156	71,253
400	280.0	1.600	0.74	156	71,410
405	283.5	1.580	0.73	155	71,565
410	287.0	1.560	0.73	153	71,718
415	290.5	1.540	0.72	151	71,870
420	294.0	1.520	0.71	149	72,019
425	297.5	1.500	0.70	147	72,167
430	301.0	1.480	0.69	146	72,312
435	304.5	1.460	0.68	144	72,456
440	308.0	1.440	0.67	142	72,597
445	311.5	1.440	0.67	141	72,738
450	315.0	1.440	0.67	141	72,878
455	318.5	1.440	0.67	141	73,019
460	322.0	1.440	0.67	141	73,160
465	325.5	1.440	0.67	141	73,300
470	329.0	1.440	0.67	141	73,441
475	332.5	1.440	0.67	141	73,582
480	336.0	1.440	0.67	141	73,722
485	339.5	1.440	0.67	141	73,863
490	343.0	1.440	0.67	141	74,004
495	346.5	1.440	0.67	141	74,144
500	350.0	1.440	0.67	141	74,285
505	353.5	1.360	0.63	137	74,422
510	357.0	1.280	0.60	129	74,550
515	360.5	1.200	0.56	121	74,672
520	364.0	1.120	0.52	113	74,785
525	367.5	1.040	0.48	105	74,890
530	371.0	0.960	0.45	98	74,988
535	374.5	0.880	0.41	90	75,078

Study Name:		TTM 20576 Proposed - Subarea A7			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		16			
Calculated Peak Flow [CFS]			13.44		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			70		
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
540	378.0	0.800	0.37	82	75,160
545	381.5	0.800	0.37	78	75,238
550	385.0	0.800	0.37	78	75,316
555	388.5	0.800	0.37	78	75,394
560	392.0	0.800	0.37	78	75,472
565	395.5	0.800	0.37	78	75,550
570	399.0	0.800	0.37	78	75,629
575	402.5	0.800	0.37	78	75,707
580	406.0	0.800	0.37	78	75,785
585	409.5	0.800	0.37	78	75,863
590	413.0	0.800	0.37	78	75,941
595	416.5	0.800	0.37	78	76,019
600	420.0	0.800	0.37	78	76,097
605	423.5	0.770	0.36	77	76,174
610	427.0	0.740	0.34	74	76,248
615	430.5	0.710	0.33	71	76,319
620	434.0	0.680	0.32	68	76,386
625	437.5	0.650	0.30	65	76,451
630	441.0	0.620	0.29	62	76,513
635	444.5	0.590	0.27	59	76,572
640	448.0	0.560	0.26	56	76,629
645	451.5	0.560	0.26	55	76,683
650	455.0	0.560	0.26	55	76,738
655	458.5	0.560	0.26	55	76,793
660	462.0	0.560	0.26	55	76,847
665	465.5	0.560	0.26	55	76,902
670	469.0	0.560	0.26	55	76,957
675	472.5	0.560	0.26	55	77,011
680	476.0	0.560	0.26	55	77,066
685	479.5	0.560	0.26	55	77,121
690	483.0	0.560	0.26	55	77,176
695	486.5	0.560	0.26	55	77,230
700	490.0	0.560	0.26	55	77,285
705	493.5	0.530	0.25	53	77,338
710	497.0	0.500	0.23	50	77,388
715	500.5	0.470	0.22	47	77,436

Study Name:		TTM 20576 Proposed - Subarea A7			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		16			
Calculated Peak Flow [CFS]			13.44		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			70		
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
720	504.0	0.440	0.20	44	77,480
725	507.5	0.410	0.19	42	77,522
730	511.0	0.380	0.18	39	77,560
735	514.5	0.350	0.16	36	77,596
740	518.0	0.320	0.15	33	77,629
745	521.5	0.320	0.15	31	77,660
750	525.0	0.320	0.15	31	77,691
755	528.5	0.320	0.15	31	77,722
760	532.0	0.320	0.15	31	77,754
765	535.5	0.320	0.15	31	77,785
770	539.0	0.320	0.15	31	77,816
775	542.5	0.320	0.15	31	77,847
780	546.0	0.320	0.15	31	77,879
785	549.5	0.320	0.15	31	77,910
790	553.0	0.320	0.15	31	77,941
795	556.5	0.320	0.15	31	77,972
800	560.0	0.320	0.15	31	78,004

Study Name:		TTM 20576 Proposed - Subarea A8			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		13			
Calculated Peak Flow [CFS]				19.27	
S-Graph Type				Valley: Undeveloped	
Lag [Min]				50	
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
0	0.0	0.000	0.00	-	-
5	2.5	0.700	0.47	35	35
10	5.0	1.500	1.00	110	145
15	7.5	2.500	1.67	200	345
20	10.0	3.700	2.47	310	655
25	12.5	5.000	3.33	435	1,090
30	15.0	6.500	4.33	575	1,665
35	17.5	8.200	5.47	735	2,400
40	20.0	10.300	6.87	925	3,326
45	22.5	11.900	7.93	1,110	4,436
50	25.0	13.500	9.00	1,270	5,706
55	27.5	15.700	10.47	1,460	7,166
60	30.0	17.800	11.87	1,675	8,842
65	32.5	19.800	13.20	1,880	10,722
70	35.0	21.700	14.47	2,075	12,797
75	37.5	23.700	15.80	2,270	15,068
80	40.0	25.400	16.94	2,455	17,523
85	42.5	26.900	17.94	2,615	20,138
90	45.0	28.300	18.87	2,760	22,899
95	47.5	28.900	19.27	2,860	25,759
100	50.0	28.800	19.20	2,885	28,645
105	52.5	28.500	19.00	2,865	31,510
110	55.0	27.700	18.47	2,810	34,321
115	57.5	26.400	17.60	2,705	37,026
120	60.0	24.700	16.47	2,555	39,582
125	62.5	22.700	15.14	2,370	41,952
130	65.0	20.600	13.74	2,165	44,118
135	67.5	18.400	12.27	1,950	46,068
140	70.0	16.600	11.07	1,750	47,818
145	72.5	14.700	9.80	1,565	49,384
150	75.0	13.200	8.80	1,395	50,779
155	77.5	11.900	7.93	1,255	52,034
160	80.0	10.900	7.27	1,140	53,174
165	82.5	10.200	6.80	1,055	54,229
170	85.0	9.600	6.40	990	55,220
175	87.5	9.000	6.00	930	56,150

Study Name:		TTM 20576 Proposed - Subarea A8			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		13			
Calculated Peak Flow [CFS]				19.27	
S-Graph Type				Valley: Undeveloped	
Lag [Min]				50	
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
180	90.0	8.400	5.60	870	57,020
185	92.5	8.100	5.40	825	57,845
190	95.0	7.800	5.20	795	58,640
195	97.5	7.500	5.00	765	59,405
200	100.0	7.100	4.73	730	60,135
205	102.5	6.600	4.40	685	60,821
210	105.0	6.100	4.07	635	61,456
215	107.5	5.700	3.80	590	62,046
220	110.0	5.500	3.67	560	62,606
225	112.5	5.300	3.53	540	63,146
230	115.0	4.900	3.27	510	63,656
235	117.5	4.500	3.00	470	64,126
240	120.0	4.200	2.80	435	64,561
245	122.5	4.000	2.67	410	64,971
250	125.0	3.800	2.53	390	65,361
255	127.5	3.600	2.40	370	65,731
260	130.0	3.400	2.27	350	66,081
265	132.5	3.200	2.13	330	66,411
270	135.0	3.200	2.13	320	66,732
275	137.5	3.200	2.13	320	67,052
280	140.0	3.200	2.13	320	67,372
285	142.5	3.200	2.13	320	67,692
290	145.0	3.200	2.13	320	68,012
295	147.5	3.200	2.13	320	68,332
300	150.0	3.200	2.13	320	68,652
305	152.5	3.200	2.13	320	68,972
310	155.0	3.200	2.13	320	69,292
315	157.5	3.200	2.13	320	69,612
320	160.0	3.200	2.13	320	69,932
325	162.5	3.000	2.00	310	70,242
330	165.0	2.800	1.87	290	70,532
335	167.5	2.600	1.73	270	70,802
340	170.0	2.400	1.60	250	71,052
345	172.5	2.200	1.47	230	71,282
350	175.0	2.000	1.33	210	71,492
355	177.5	1.800	1.20	190	71,682

Study Name:		TTM 20576 Proposed - Subarea A8			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		13			
Calculated Peak Flow [CFS]			19.27		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			50		
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
360	180.0	1.600	1.07	170	71,852
365	182.5	1.600	1.07	160	72,012
370	185.0	1.600	1.07	160	72,172
375	187.5	1.600	1.07	160	72,333
380	190.0	1.600	1.07	160	72,493
385	192.5	1.600	1.07	160	72,653
390	195.0	1.600	1.07	160	72,813
395	197.5	1.600	1.07	160	72,973
400	200.0	1.600	1.07	160	73,133
405	202.5	1.580	1.05	159	73,292
410	205.0	1.560	1.04	157	73,449
415	207.5	1.540	1.03	155	73,604
420	210.0	1.520	1.01	153	73,757
425	212.5	1.500	1.00	151	73,908
430	215.0	1.480	0.99	149	74,057
435	217.5	1.460	0.97	147	74,204
440	220.0	1.440	0.96	145	74,349
445	222.5	1.440	0.96	144	74,493
450	225.0	1.440	0.96	144	74,637
455	227.5	1.440	0.96	144	74,781
460	230.0	1.440	0.96	144	74,925
465	232.5	1.440	0.96	144	75,069
470	235.0	1.440	0.96	144	75,213
475	237.5	1.440	0.96	144	75,357
480	240.0	1.440	0.96	144	75,501
485	242.5	1.440	0.96	144	75,645
490	245.0	1.440	0.96	144	75,789
495	247.5	1.440	0.96	144	75,933
500	250.0	1.440	0.96	144	76,077
505	252.5	1.360	0.91	140	76,217
510	255.0	1.280	0.85	132	76,349
515	257.5	1.200	0.80	124	76,473
520	260.0	1.120	0.75	116	76,589
525	262.5	1.040	0.69	108	76,697
530	265.0	0.960	0.64	100	76,797
535	267.5	0.880	0.59	92	76,889

Study Name:		TTM 20576 Proposed - Subarea A8			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		13			
Calculated Peak Flow [CFS]			19.27		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			50		
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
540	270.0	0.800	0.53	84	76,973
545	272.5	0.800	0.53	80	77,053
550	275.0	0.800	0.53	80	77,133
555	277.5	0.800	0.53	80	77,213
560	280.0	0.800	0.53	80	77,293
565	282.5	0.800	0.53	80	77,373
570	285.0	0.800	0.53	80	77,453
575	287.5	0.800	0.53	80	77,533
580	290.0	0.800	0.53	80	77,613
585	292.5	0.800	0.53	80	77,693
590	295.0	0.800	0.53	80	77,773
595	297.5	0.800	0.53	80	77,853
600	300.0	0.800	0.53	80	77,933
605	302.5	0.770	0.51	79	78,012
610	305.0	0.740	0.49	76	78,088
615	307.5	0.710	0.47	73	78,160
620	310.0	0.680	0.45	70	78,230
625	312.5	0.650	0.43	67	78,296
630	315.0	0.620	0.41	64	78,360
635	317.5	0.590	0.39	61	78,420
640	320.0	0.560	0.37	58	78,478
645	322.5	0.560	0.37	56	78,534
650	325.0	0.560	0.37	56	78,590
655	327.5	0.560	0.37	56	78,646
660	330.0	0.560	0.37	56	78,702
665	332.5	0.560	0.37	56	78,758
670	335.0	0.560	0.37	56	78,814
675	337.5	0.560	0.37	56	78,870
680	340.0	0.560	0.37	56	78,926
685	342.5	0.560	0.37	56	78,982
690	345.0	0.560	0.37	56	79,038
695	347.5	0.560	0.37	56	79,094
700	350.0	0.560	0.37	56	79,150
705	352.5	0.530	0.35	55	79,204
710	355.0	0.500	0.33	52	79,256
715	357.5	0.470	0.31	49	79,304

Study Name:		TTM 20576 Proposed - Subarea A8			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		13			
Calculated Peak Flow [CFS]			19.27		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			50		
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
720	360.0	0.440	0.29	46	79,350
725	362.5	0.410	0.27	43	79,392
730	365.0	0.380	0.25	40	79,432
735	367.5	0.350	0.23	37	79,468
740	370.0	0.320	0.21	34	79,502
745	372.5	0.320	0.21	32	79,534
750	375.0	0.320	0.21	32	79,566
755	377.5	0.320	0.21	32	79,598
760	380.0	0.320	0.21	32	79,630
765	382.5	0.320	0.21	32	79,662
770	385.0	0.320	0.21	32	79,694
775	387.5	0.320	0.21	32	79,726
780	390.0	0.320	0.21	32	79,758
785	392.5	0.320	0.21	32	79,790
790	395.0	0.320	0.21	32	79,822
795	397.5	0.320	0.21	32	79,854
800	400.0	0.320	0.21	32	79,886

Study Name:		TTM 20576 Proposed - Subarea A9			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		13			
Calculated Peak Flow [CFS]			17.93		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			59		
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
0	0.0	0.000	0.00	-	-
5	3.0	0.700	0.43	38	38
10	5.9	1.500	0.93	121	159
15	8.9	2.500	1.55	220	379
20	11.8	3.700	2.30	340	719
25	14.8	5.000	3.10	478	1,197
30	17.7	6.500	4.03	631	1,828
35	20.7	8.200	5.09	807	2,636
40	23.6	10.300	6.39	1,016	3,651
45	26.6	11.900	7.38	1,219	4,870
50	29.5	13.500	8.38	1,395	6,265
55	32.5	15.700	9.74	1,603	7,868
60	35.4	17.800	11.04	1,839	9,708
65	38.4	19.800	12.28	2,064	11,772
70	41.3	21.700	13.46	2,279	14,051
75	44.3	23.700	14.70	2,493	16,543
80	47.2	25.400	15.76	2,696	19,239
85	50.2	26.900	16.69	2,872	22,111
90	53.1	28.300	17.56	3,031	25,142
95	56.1	28.900	17.93	3,141	28,282
100	59.0	28.800	17.87	3,168	31,451
105	62.0	28.500	17.68	3,146	34,597
110	64.9	27.700	17.19	3,086	37,683
115	67.9	26.400	16.38	2,970	40,653
120	70.8	24.700	15.32	2,806	43,459
125	73.8	22.700	14.08	2,603	46,061
130	76.7	20.600	12.78	2,377	48,439
135	79.7	18.400	11.42	2,141	50,580
140	82.6	16.600	10.30	1,922	52,502
145	85.6	14.700	9.12	1,719	54,220
150	88.5	13.200	8.19	1,532	55,752
155	91.5	11.900	7.38	1,378	57,130
160	94.4	10.900	6.76	1,252	58,382
165	97.4	10.200	6.33	1,159	59,541
170	100.3	9.600	5.96	1,087	60,628
175	103.3	9.000	5.58	1,021	61,649

Study Name:		TTM 20576 Proposed - Subarea A9			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		13			
Calculated Peak Flow [CFS]			17.93		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			59		
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
180	106.2	8.400	5.21	955	62,605
185	109.2	8.100	5.03	906	63,511
190	112.1	7.800	4.84	873	64,384
195	115.1	7.500	4.65	840	65,224
200	118.0	7.100	4.40	802	66,025
205	121.0	6.600	4.09	752	66,778
210	123.9	6.100	3.78	697	67,475
215	126.9	5.700	3.54	648	68,123
220	129.8	5.500	3.41	615	68,738
225	132.8	5.300	3.29	593	69,331
230	135.7	4.900	3.04	560	69,891
235	138.7	4.500	2.79	516	70,407
240	141.6	4.200	2.61	478	70,885
245	144.6	4.000	2.48	450	71,335
250	147.5	3.800	2.36	428	71,763
255	150.5	3.600	2.23	406	72,169
260	153.4	3.400	2.11	384	72,554
265	156.4	3.200	1.99	362	72,916
270	159.3	3.200	1.99	351	73,268
275	162.3	3.200	1.99	351	73,619
280	165.2	3.200	1.99	351	73,970
285	168.2	3.200	1.99	351	74,322
290	171.1	3.200	1.99	351	74,673
295	174.1	3.200	1.99	351	75,025
300	177.0	3.200	1.99	351	75,376
305	180.0	3.200	1.99	351	75,727
310	182.9	3.200	1.99	351	76,079
315	185.9	3.200	1.99	351	76,430
320	188.8	3.200	1.99	351	76,782
325	191.8	3.000	1.86	340	77,122
330	194.7	2.800	1.74	318	77,440
335	197.7	2.600	1.61	296	77,737
340	200.6	2.400	1.49	275	78,012
345	203.6	2.200	1.36	253	78,264
350	206.5	2.000	1.24	231	78,495
355	209.5	1.800	1.12	209	78,703

Study Name:		TTM 20576 Proposed - Subarea A9			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		13			
Calculated Peak Flow [CFS]			17.93		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			59		
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
360	212.4	1.600	0.99	187	78,890
365	215.4	1.600	0.99	176	79,066
370	218.3	1.600	0.99	176	79,241
375	221.3	1.600	0.99	176	79,417
380	224.2	1.600	0.99	176	79,593
385	227.2	1.600	0.99	176	79,769
390	230.1	1.600	0.99	176	79,944
395	233.1	1.600	0.99	176	80,120
400	236.0	1.600	0.99	176	80,296
405	239.0	1.580	0.98	175	80,470
410	241.9	1.560	0.97	172	80,643
415	244.9	1.540	0.96	170	80,813
420	247.8	1.520	0.94	168	80,981
425	250.8	1.500	0.93	166	81,147
430	253.7	1.480	0.92	164	81,310
435	256.7	1.460	0.91	161	81,472
440	259.6	1.440	0.89	159	81,631
445	262.6	1.440	0.89	158	81,789
450	265.5	1.440	0.89	158	81,947
455	268.5	1.440	0.89	158	82,105
460	271.4	1.440	0.89	158	82,263
465	274.4	1.440	0.89	158	82,422
470	277.3	1.440	0.89	158	82,580
475	280.3	1.440	0.89	158	82,738
480	283.2	1.440	0.89	158	82,896
485	286.2	1.440	0.89	158	83,054
490	289.1	1.440	0.89	158	83,212
495	292.1	1.440	0.89	158	83,370
500	295.0	1.440	0.89	158	83,529
505	298.0	1.360	0.84	154	83,682
510	300.9	1.280	0.79	145	83,827
515	303.9	1.200	0.74	136	83,963
520	306.8	1.120	0.69	127	84,091
525	309.8	1.040	0.65	119	84,209
530	312.7	0.960	0.60	110	84,319
535	315.7	0.880	0.55	101	84,420

Study Name:		TTM 20576 Proposed - Subarea A9			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		13			
Calculated Peak Flow [CFS]			17.93		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			59		
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
540	318.6	0.800	0.50	92	84,512
545	321.6	0.800	0.50	88	84,600
550	324.5	0.800	0.50	88	84,688
555	327.5	0.800	0.50	88	84,776
560	330.4	0.800	0.50	88	84,864
565	333.4	0.800	0.50	88	84,952
570	336.3	0.800	0.50	88	85,040
575	339.3	0.800	0.50	88	85,127
580	342.2	0.800	0.50	88	85,215
585	345.2	0.800	0.50	88	85,303
590	348.1	0.800	0.50	88	85,391
595	351.1	0.800	0.50	88	85,479
600	354.0	0.800	0.50	88	85,567
605	357.0	0.770	0.48	86	85,653
610	359.9	0.740	0.46	83	85,736
615	362.9	0.710	0.44	80	85,815
620	365.8	0.680	0.42	76	85,892
625	368.8	0.650	0.40	73	85,965
630	371.7	0.620	0.38	70	86,034
635	374.7	0.590	0.37	66	86,101
640	377.6	0.560	0.35	63	86,164
645	380.6	0.560	0.35	61	86,226
650	383.5	0.560	0.35	61	86,287
655	386.5	0.560	0.35	61	86,349
660	389.4	0.560	0.35	61	86,410
665	392.4	0.560	0.35	61	86,472
670	395.3	0.560	0.35	61	86,533
675	398.3	0.560	0.35	61	86,595
680	401.2	0.560	0.35	61	86,656
685	404.2	0.560	0.35	61	86,718
690	407.1	0.560	0.35	61	86,779
695	410.1	0.560	0.35	61	86,841
700	413.0	0.560	0.35	61	86,902
705	416.0	0.530	0.33	60	86,962
710	418.9	0.500	0.31	57	87,018
715	421.9	0.470	0.29	53	87,072

Study Name:		TTM 20576 Proposed - Subarea A9			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		13			
Calculated Peak Flow [CFS]			17.93		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			59		
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
720	424.8	0.440	0.27	50	87,122
725	427.8	0.410	0.25	47	87,168
730	430.7	0.380	0.24	43	87,212
735	433.7	0.350	0.22	40	87,252
740	436.6	0.320	0.20	37	87,289
745	439.6	0.320	0.20	35	87,324
750	442.5	0.320	0.20	35	87,359
755	445.5	0.320	0.20	35	87,394
760	448.4	0.320	0.20	35	87,429
765	451.4	0.320	0.20	35	87,464
770	454.3	0.320	0.20	35	87,499
775	457.3	0.320	0.20	35	87,535
780	460.2	0.320	0.20	35	87,570
785	463.2	0.320	0.20	35	87,605
790	466.1	0.320	0.20	35	87,640
795	469.1	0.320	0.20	35	87,675
800	472.0	0.320	0.20	35	87,710

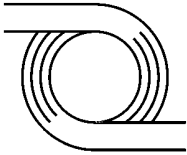
Study Name:		TTM 20576 Proposed - Subarea A10			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		15			
Calculated Peak Flow [CFS]				13.33	
S-Graph Type				Valley: Undeveloped	
Lag [Min]				66	
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
0	0.0	0.000	0.00	-	-
5	3.3	0.700	0.32	32	32
10	6.6	1.500	0.69	100	132
15	9.9	2.500	1.15	183	315
20	13.2	3.700	1.71	283	598
25	16.5	5.000	2.31	397	995
30	19.8	6.500	3.00	525	1,521
35	23.1	8.200	3.78	671	2,192
40	26.4	10.300	4.75	845	3,037
45	29.7	11.900	5.49	1,014	4,050
50	33.0	13.500	6.23	1,160	5,210
55	36.3	15.700	7.24	1,333	6,544
60	39.6	17.800	8.21	1,530	8,073
65	42.9	19.800	9.13	1,717	9,790
70	46.2	21.700	10.01	1,895	11,685
75	49.5	23.700	10.93	2,073	13,758
80	52.8	25.400	11.72	2,242	16,000
85	56.1	26.900	12.41	2,388	18,389
90	59.4	28.300	13.05	2,521	20,909
95	62.7	28.900	13.33	2,612	23,521
100	66.0	28.800	13.28	2,635	26,156
105	69.3	28.500	13.15	2,617	28,772
110	72.6	27.700	12.78	2,566	31,339
115	75.9	26.400	12.18	2,470	33,809
120	79.2	24.700	11.39	2,333	36,143
125	82.5	22.700	10.47	2,164	38,307
130	85.8	20.600	9.50	1,977	40,284
135	89.1	18.400	8.49	1,781	42,065
140	92.4	16.600	7.66	1,598	43,663
145	95.7	14.700	6.78	1,429	45,093
150	99.0	13.200	6.09	1,274	46,367
155	102.3	11.900	5.49	1,146	47,513
160	105.6	10.900	5.03	1,041	48,554
165	108.9	10.200	4.70	963	49,517
170	112.2	9.600	4.43	904	50,421
175	115.5	9.000	4.15	849	51,271

Study Name:		TTM 20576 Proposed - Subarea A10			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		15			
Calculated Peak Flow [CFS]				13.33	
S-Graph Type				Valley: Undeveloped	
Lag [Min]				66	
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
180	118.8	8.400	3.87	795	52,065
185	122.1	8.100	3.74	753	52,819
190	125.4	7.800	3.60	726	53,545
195	128.7	7.500	3.46	699	54,243
200	132.0	7.100	3.27	667	54,910
205	135.3	6.600	3.04	626	55,536
210	138.6	6.100	2.81	580	56,116
215	141.9	5.700	2.63	539	56,654
220	145.2	5.500	2.54	511	57,166
225	148.5	5.300	2.44	493	57,659
230	151.8	4.900	2.26	466	58,125
235	155.1	4.500	2.08	429	58,554
240	158.4	4.200	1.94	397	58,951
245	161.7	4.000	1.84	374	59,326
250	165.0	3.800	1.75	356	59,682
255	168.3	3.600	1.66	338	60,020
260	171.6	3.400	1.57	320	60,340
265	174.9	3.200	1.48	301	60,641
270	178.2	3.200	1.48	292	60,933
275	181.5	3.200	1.48	292	61,225
280	184.8	3.200	1.48	292	61,518
285	188.1	3.200	1.48	292	61,810
290	191.4	3.200	1.48	292	62,102
295	194.7	3.200	1.48	292	62,394
300	198.0	3.200	1.48	292	62,687
305	201.3	3.200	1.48	292	62,979
310	204.6	3.200	1.48	292	63,271
315	207.9	3.200	1.48	292	63,563
320	211.2	3.200	1.48	292	63,856
325	214.5	3.000	1.38	283	64,139
330	217.8	2.800	1.29	265	64,404
335	221.1	2.600	1.20	247	64,650
340	224.4	2.400	1.11	228	64,878
345	227.7	2.200	1.01	210	65,088
350	231.0	2.000	0.92	192	65,280
355	234.3	1.800	0.83	174	65,454

Study Name:		TTM 20576 Proposed - Subarea A10			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		15			
Calculated Peak Flow [CFS]			13.33		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			66		
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
360	237.6	1.600	0.74	155	65,609
365	240.9	1.600	0.74	146	65,755
370	244.2	1.600	0.74	146	65,901
375	247.5	1.600	0.74	146	66,047
380	250.8	1.600	0.74	146	66,194
385	254.1	1.600	0.74	146	66,340
390	257.4	1.600	0.74	146	66,486
395	260.7	1.600	0.74	146	66,632
400	264.0	1.600	0.74	146	66,778
405	267.3	1.580	0.73	145	66,923
410	270.6	1.560	0.72	143	67,067
415	273.9	1.540	0.71	142	67,208
420	277.2	1.520	0.70	140	67,348
425	280.5	1.500	0.69	138	67,486
430	283.8	1.480	0.68	136	67,622
435	287.1	1.460	0.67	134	67,756
440	290.4	1.440	0.66	132	67,889
445	293.7	1.440	0.66	132	68,020
450	297.0	1.440	0.66	132	68,152
455	300.3	1.440	0.66	132	68,283
460	303.6	1.440	0.66	132	68,415
465	306.9	1.440	0.66	132	68,546
470	310.2	1.440	0.66	132	68,678
475	313.5	1.440	0.66	132	68,809
480	316.8	1.440	0.66	132	68,941
485	320.1	1.440	0.66	132	69,072
490	323.4	1.440	0.66	132	69,204
495	326.7	1.440	0.66	132	69,335
500	330.0	1.440	0.66	132	69,467
505	333.3	1.360	0.63	128	69,595
510	336.6	1.280	0.59	121	69,715
515	339.9	1.200	0.55	113	69,828
520	343.2	1.120	0.52	106	69,934
525	346.5	1.040	0.48	99	70,033
530	349.8	0.960	0.44	91	70,124
535	353.1	0.880	0.41	84	70,208

Study Name:		TTM 20576 Proposed - Subarea A10			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		15			
Calculated Peak Flow [CFS]			13.33		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			66		
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
540	356.4	0.800	0.37	77	70,285
545	359.7	0.800	0.37	73	70,358
550	363.0	0.800	0.37	73	70,431
555	366.3	0.800	0.37	73	70,504
560	369.6	0.800	0.37	73	70,577
565	372.9	0.800	0.37	73	70,650
570	376.2	0.800	0.37	73	70,723
575	379.5	0.800	0.37	73	70,796
580	382.8	0.800	0.37	73	70,869
585	386.1	0.800	0.37	73	70,943
590	389.4	0.800	0.37	73	71,016
595	392.7	0.800	0.37	73	71,089
600	396.0	0.800	0.37	73	71,162
605	399.3	0.770	0.36	72	71,233
610	402.6	0.740	0.34	69	71,302
615	405.9	0.710	0.33	66	71,369
620	409.2	0.680	0.31	63	71,432
625	412.5	0.650	0.30	61	71,493
630	415.8	0.620	0.29	58	71,551
635	419.1	0.590	0.27	55	71,606
640	422.4	0.560	0.26	53	71,659
645	425.7	0.560	0.26	51	71,710
650	429.0	0.560	0.26	51	71,761
655	432.3	0.560	0.26	51	71,812
660	435.6	0.560	0.26	51	71,863
665	438.9	0.560	0.26	51	71,914
670	442.2	0.560	0.26	51	71,965
675	445.5	0.560	0.26	51	72,017
680	448.8	0.560	0.26	51	72,068
685	452.1	0.560	0.26	51	72,119
690	455.4	0.560	0.26	51	72,170
695	458.7	0.560	0.26	51	72,221
700	462.0	0.560	0.26	51	72,272
705	465.3	0.530	0.24	50	72,322
710	468.6	0.500	0.23	47	72,369
715	471.9	0.470	0.22	44	72,413

Study Name:		TTM 20576 Proposed - Subarea A10			
Storm Return Interval:		100 Year			
Estimated Tc [Min] =		15			
Calculated Peak Flow [CFS]			13.33		
S-Graph Type			Valley: Undeveloped		
Lag [Min]			66		
Onsite Tributary Areas					
S-Graph Percent of Lag [%]	Time [Min]	Unit Hydrograph	Flow [CFS]	Interval Volume [CF]	Cumulative Volume [CF]
720	475.2	0.440	0.20	42	72,455
725	478.5	0.410	0.19	39	72,494
730	481.8	0.380	0.18	36	72,530
735	485.1	0.350	0.16	33	72,563
740	488.4	0.320	0.15	31	72,594
745	491.7	0.320	0.15	29	72,623
750	495.0	0.320	0.15	29	72,652
755	498.3	0.320	0.15	29	72,681
760	501.6	0.320	0.15	29	72,711
765	504.9	0.320	0.15	29	72,740
770	508.2	0.320	0.15	29	72,769
775	511.5	0.320	0.15	29	72,798
780	514.8	0.320	0.15	29	72,828
785	518.1	0.320	0.15	29	72,857
790	521.4	0.320	0.15	29	72,886
795	524.7	0.320	0.15	29	72,915
800	528.0	0.320	0.15	29	72,944



Appendix C

TTM 20576

Detention Basin Hydrographs

