ARLINGTON AVENUE MIXED-USE
PRELIMINARY DRAINAGE STATEMENT

PSOMAS

APPROVED
As Prelim.
Drainage
Study

05/22/23

Project Title: Arlington Mixed- Use

Project Address: 5261 Arlington Avenue, Riverside

Prepared for:

Foulger- Pratt

136 Calle De Los Molinos

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STATE OF CALIFORNIA

1.0 Introduction

1.1 Project Description

Foulger- Pratt proposes to demolish an existing retail department building and at grade parking lot and construct 388 residential units across 27 buildings with a leasing office, new grocery store, and a retail unit with on-site at-grade parking, drive aisles, amenities, and landscape withing a 17.43-acre site. The site is located at the northeast corner of the Arlington Avenue and Streeter Avenue. The approximate area after the dedication is 17.37-acres.

1.1 Purpose of the Study

The purpose of this drainage statement is to describe the existing and proposed conditions, and how the proposed drainage improvements comply with the City of Riverside and the Riverside County Flood Control and Water Conservation District requirements.

2.0 Pre- Development Condition Hydrology

2.1 Pre-Development Condition Hydrology

The project is tributary to the Santa Ana River, Reach 3. Under existing conditions, the entire project parcel (17.47 acres) slopes to the west. The lot drains into two existing 30" storm drains and one existing 33" storm drain within Streeter Avenue. From there, the stormwater collected in the municipally maintained stormwater system discharges into a flood control channel.

2.2 Methodology of Hydrology Study

Per the Riverside County Hydrology Design Manual, the 10-yr storm event will be considered the design storm for this project. The 100-yr pre-development peak flow has also been calculated and provided for additional data. The Riverside County Hydrology Design Manual uses the Rational Method for calculation of the pre-development peak discharges. The Rational Method (Q=CIA) calculates the discharge (Q) based on the runoff coefficient ©, rainfall intensity (I) and the area of the watersheds (A) within the project. The runoff coefficient for the existing site was calculated per standard "Urban Landscaping" "C" curves, Plates D-5.3. The rainfall intensity (I) was calculated using the standard Riverside area plate D-4. The project site has been evaluated as the following three drainage areas: EX-1, EX-2, and EX-3. The drainage area EX-2 includes the offsite runoff from the east. The drainage area of that runoff is O1.

2.3 Hydrology Calculations

The resulting 10-year pre-development peak discharges are summarized in **Table 1** below. In these calculations, there was an adjustment for the peak flow at the junction. Since the tributary areas have different times of concentration, the smaller tributary flows were corrected. Point 1 and Point 3 were corrected with the adjustment.

Table 1

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I10 (in/hr)	C	Q (ft³/s)	Q10 (ft³/s)
EX-1A	B	Commercial	94,023	2.16	2.23	0.9	4.33	4.33
EX-1B	B	Commercial	207,600	4.77	1.90	0.90	8.15	12.48
TOTAL - Point 1				**6.92**				**8.14**

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I10 (in/hr)	C	Q (ft³/s)	Q10 (ft³/s)
O1	B	Commercial	29,058	0.67	1.90	0.8	1.01	1.01
EX-2A	B	Commercial	58,296	1.34	1.40	0.9	1.69	2.70
EX-2B + EX-2C	B	Commercial	301,203	6.91	1.24	0.9	7.72	10.42
TOTAL - Point 2				**8.92**				**10.42**

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I10 (in/hr)	C	Q (ft³/s)	Q10 (ft³/s)
EX-3A	B	Commercial	97,888	2.25	2.07	0.9	4.19	4.19
-	B	Commercial	-	2.25	1.97	0.9	3.99	3.99
TOTAL - Point 3				**2.25**				**2.51**

2.4 Results of Pre- Development Hydrology Calculations

In these calculations, there was an adjustment for the peak flow at the junction. Since the tributary areas have different times of concentration, the smaller tributary flows were corrected. Point 1 and Point 3 were corrected with the adjustment. Please refer to **Appendix 1** for the pre-developed 10-year and 100-year calculations with adjustments. The combined pre-development 10-year peak discharge (Q_{10}) for the site results in 21.07cfs. Similarly, the combined pre- development 100-year peak discharge (Q_{100}) for the site results in 31.31cfs.

3.0 Post- Development Conditions

3.1 Post-Development Condition Hydrology

This project proposes to construct 27 buildings with a total of 388 residential units, a leasing office, new grocery store, and a retail unit with at-grade parking, drive aisles, amenities, and landscaping on a 17.37-acre site in the City of Riverside. The proposed condition incorporates stormwater runoff from Granada Avenue to the east. Due to the proposed site design, the computations for sizing the on- site storm drain system and water quality treatment devices there as a total of 8 Drainage Management Area (DMAs) with three discharge locations. Stormwater from Granada Avenue (O1) is conveyed through the site but bypasses the LID treatment devices. The north side of the site discharges to an existing 30" storm drain (Point 1), the middle of the site discharges to an existing 30" storm drain (Point 2), and the south side of the site discharges to an existing 33" storm drain (Point 3) within Streeter Avenue. The stormwater collected then discharges into a flood control channel.

3.2 Methodology of Hydrology Study

The 10-yr peak discharge generated onsite was calculated using the Rational Method. The resulting 10-yr peak discharge has been summarized in **Table 2** below.

Table 2

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I (in/hr)	C	Q (ft³/s)	Q10 (ft³/s)
PR-1A	B	Apartment	10,482	0.24	2.42	0.8	0.47	0.47
PR-1B	B	Apartment	111,748	2.57	1.65	0.8	3.39	3.85
-	-	-	0	0.00	1.60	0	0.00	3.85
TOTAL- Point 1				**2.81**				**2.79**

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I (in/hr)	C	Q (ft³/s)	Q10 (ft³/s)
PR-2A	B	Apartment	10,466	0.24	2.09	0.8	0.40	0.40
PR-2B	B	Apartment	113,984	2.62	1.81	0.8	3.79	4.19
O1	B	Commercial	29,058	0.67	1.79	0.89	1.06	1.06
PR-2C	B	Apartment	199,674	4.58	1.28	0.8	4.69	9.95
PR-2D	B	Apartment	93,221	2.14	1.17	0.8	2.00	11.95
-	B	-	0	0.00	1.16	0	0.00	11.95
TOTAL- Point 2				**10.25**				**11.95**

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I (in/hr)	C	Q (ft³/s)	Q10 (ft³/s)
PR-3A	B	Apartment	13,490	0.31	2.32	0.8	0.57	0.57
PR-3B	B	Apartment	111,609	2.56	1.82	0.8	3.73	4.31
-	B	-	0	0.00	1.67	0	0.00	4.31
TOTAL- Point 3				**2.87**				**2.99**

3.4 Results of Post- Development Hydrology Calculations

In these calculations, there was an adjustment for the peak flow at the junction. Since the tributary areas have different times of concentration, the smaller tributary flows were corrected. Point 1 and Point 3 were corrected with the adjustment. Please refer to **Appendix 2** for the post-developed 10-year and 100-year calculations with adjustments. The combined post- development Q_{10} for the site results in 17.73cfs. Similarly, the combined post- development Q_{100} for the site results in 25.45cfs.

4.0 Comparison of Post- Development and Pre- Development Hydrologic Conditions

4.1 Hydrologic Calculations Methodology

The site is in an area of a Hydrologic Condition of Concern. Therefore, a 2-year storm event was considered. RRIV[1] and Hydrographs[2] software packages were used to route the storm drain system and find the 2- year peak discharge (Q_2). The Q_2 at the point of compliance will generate 18.58cfs in the pre-developed condition. The Q_2 at the point of compliance will generate 16.44cfs in the post-developed condition. This results in a 2.14cfs reduction. This is due to the decrease in imperviousness area from 99% to approximately 72%. While the final impervious area will depend on the final design, a significant reduction of imperviousness generally decreases the peak discharge. Please see **Appendix 3** for the calculations.

5.0 Hydraulic Calculations

5.1 Hydraulic Calculations Methodology

The drainage from the building roofs and interior roadways will be collected through roof drains, site are drains, and catch basins. The site's storm drain system will then route the collected stormwater though the proposed storm drain system into the corresponding modular wetland BMP for biotreatment before it is discharges into the flood control channel on Streeter Avenue. The storm drain system has been preliminary sized using the Rational Method as listed as an acceptable method within the Riverside County Hydrology Manual. Please refer to **Appendix 2** which includes the preliminary pipe size and slope. The final pipe sizing will be analyzed to verify the hydraulic grade line (HGL) based on the 10-year storm event peak flow rates and a summary table will be provided to substantiate sizes during final engineering for the post- development onsite conveyance pipe. Catch basin sizing will also be analyzed and a summary table will be provided to substantiate the size during final engineering.

6.0 Conclusion

The storm drain system has been sized according to the Riverside Country Hydrology Manual by using the Rational Method. The proposed storm drain sizing throughout the site meets the design requirements for capture of the flow generated from the 10-yr storm event, meeting the City of Riverside requirements.
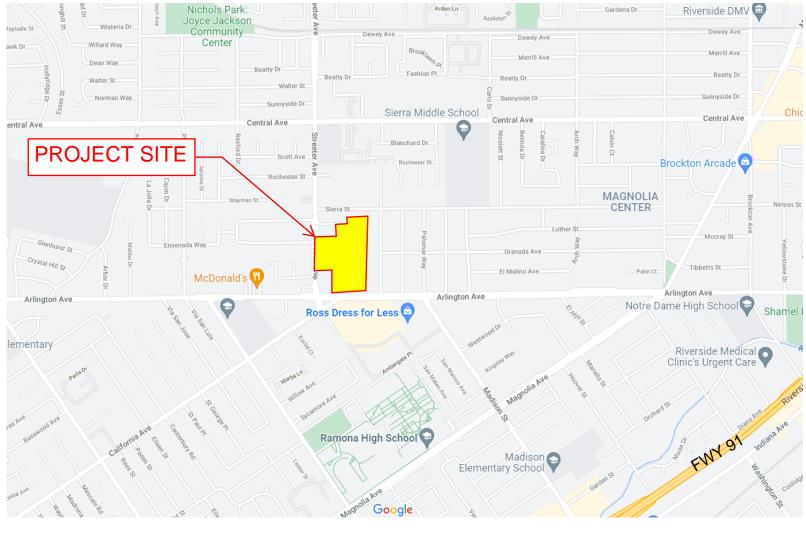
The overall site will generate a peak runoff for a 10-year event of 17.73cfs. The pre-developed site generates a peak runoff of 21.07cfs. The post- development peak runoff has been reduced from the pre- development condition. Therefore, the project will not have an adverse downstream effect or require offsite storm drain mitigation.

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[1] PRIV: Rational Hydrology Method, Riverside County developed by CivilDesign is a widely available and accepted software package for preparing hydrology calculations based on the Riverside County Flood Control and Water Conservation District, Hydrology Manual.
[2] Hydrographs is a software application that is part of the Autodesk Civil 3D suite. It allows users to perform a variety of storm water management tasks, including hydrologic analysis and hydraulic modeling of watersheds.
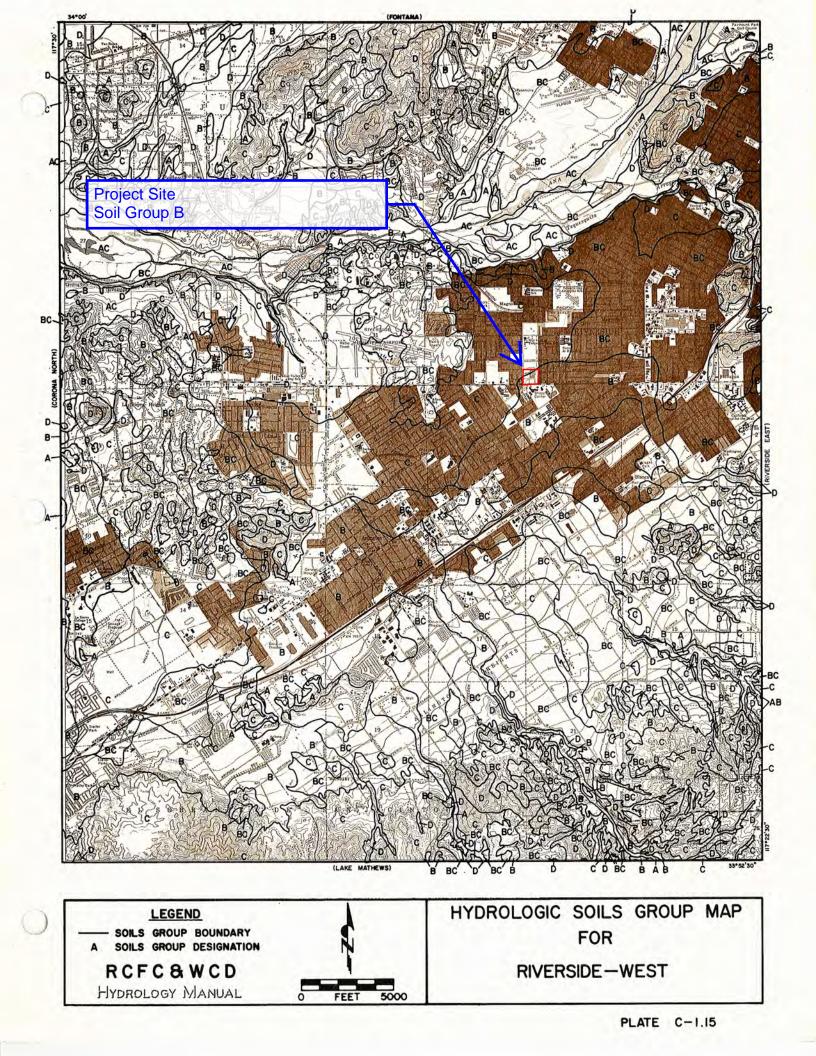
7.0 Exhibits

Exhibit A: Location Map

PROJECT SITE
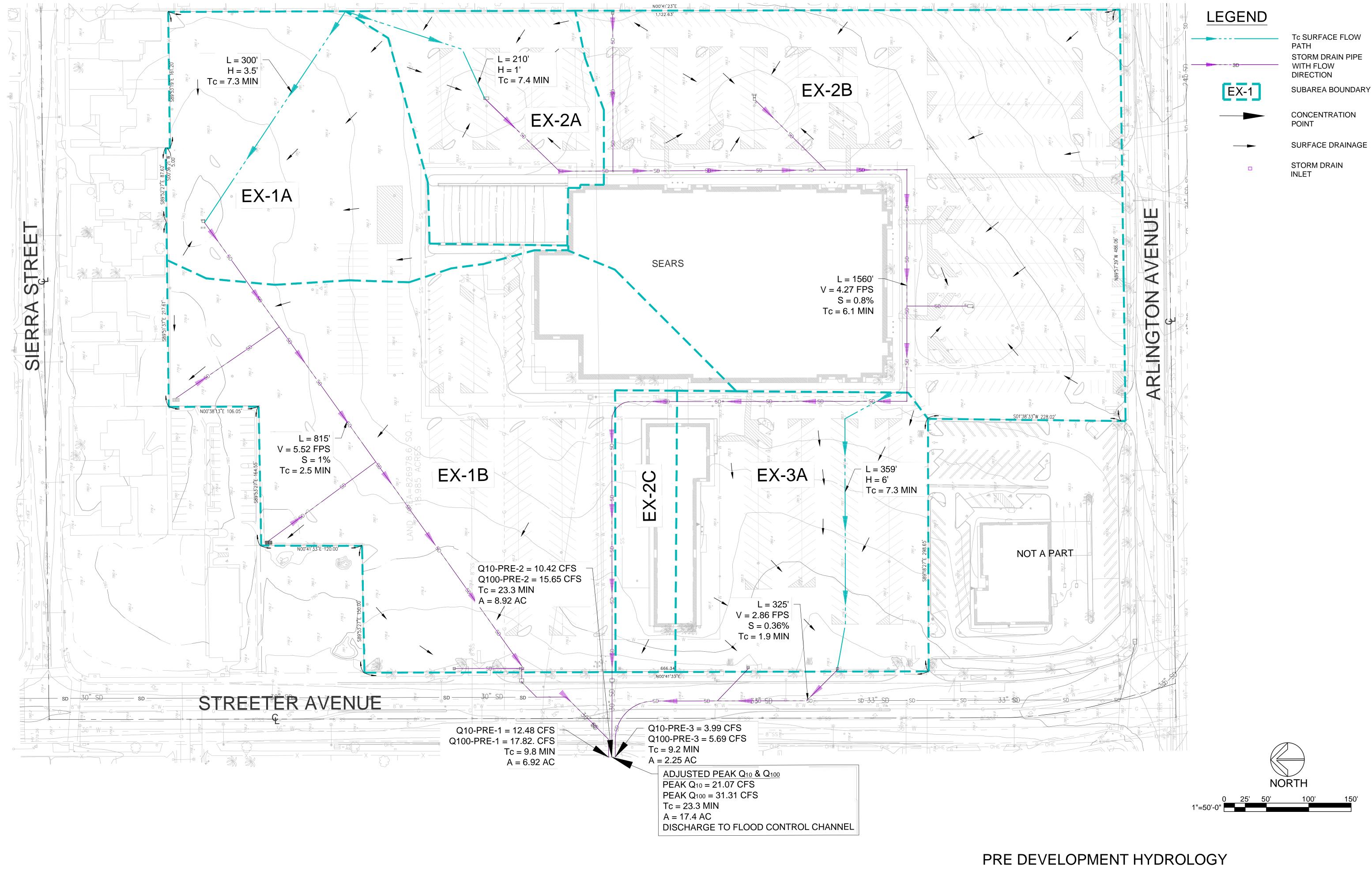
PROJECT LOCATION MAP

Exhibit B: Hydrologic Soil Group Map

Project Site
Soil Group B

LEGEND

— SOILS GROUP BOUNDARY
A SOILS GROUP DESIGNATION

R C F C & W C D
HYDROLOGY MANUAL

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HYDROLOGIC SOILS GROUP MAP
FOR
RIVERSIDE—WEST

PLATE C-1.15

Exhibit C: Pre- Development Hydrology Map

ARLINGTON MIXED USE

RIVERSIDE, CA

SIERRA STREET

ARLINGTON AVENUE

STREETER AVENUE

LEGEND

▬▬	Tc SURFACE FLOW PATH
▬▬ SD ▬▬	STORM DRAIN PIPE WITH FLOW DIRECTION
[EX-1]	SUBAREA BOUNDARY
→	CONCENTRATION POINT
→	SURFACE DRAINAGE
▫	STORM DRAIN INLET

EX-1A

L = 300'
H = 3.5'
Tc = 7.3 MIN

EX-2A

L = 210'
H = 1'
Tc = 7.4 MIN

EX-2B

SEARS

L = 1560'
V = 4.27 FPS
S = 0.8%
Tc = 6.1 MIN

EX-1B

L = 815'
V = 5.52 FPS
S = 1%
Tc = 2.5 MIN

EX-2C

EX-3A

L = 359'
H = 6'
Tc = 7.3 MIN

L = 325'
V = 2.86 FPS
S = 0.36%
Tc = 1.9 MIN

NOT A PART

Q10-PRE-2 = 10.42 CFS
Q100-PRE-2 = 15.65 CFS
Tc = 23.3 MIN
A = 8.92 AC

Q10-PRE-1 = 12.48 CFS
Q100-PRE-1 = 17.82. CFS
Tc = 9.8 MIN
A = 6.92 AC

Q10-PRE-3 = 3.99 CFS
Q100-PRE-3 = 5.69 CFS
Tc = 9.2 MIN
A = 2.25 AC

ADJUSTED PEAK Q10 & Q100
PEAK Q10 = 21.07 CFS
PEAK Q100 = 31.31 CFS
Tc = 23.3 MIN
A = 17.4 AC
DISCHARGE TO FLOOD CONTROL CHANNEL

NORTH

1"=50'-0"

0   25'   50'   100'   150'

PRE DEVELOPMENT HYDROLOGY

DATE: 8-05-2022
JOB NO.: 2020-055

P S O M A S
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FOULGER-PRATT

SERITAGE
GROWTH PROPERTIES

ARCHITECTS ORANGE
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

AO
Architecture.
Design.
Relationships.

Exhibit D: Post- Development Hydrology Map

LEGEND

▨ BIO-RETENTION

▭ SUBAREA - BOUNDARY

— · — Tc SURFACE FLOW PATH

—■—· Tc STORM DRAIN PIPE WITH FLOW DIRECTION

—SD— PROPOSED STORM DRAIN

→ CONCENTRATION POINT

→ SURFACE DRAINAGE DIRECTION

▫ STORM DRAIN INLET

SIERRA STREET

ARLINGTON AVENUE

STREETER AVENUE

Subarea labels

PR-2A

PR-2B

PR-2C

PR-2D

PR-2E

PR-3A

PR-3B

PR-1A

PR-1B

Flow data callouts

L = 579'
V = 3.80 FPS
S = 0.4%
Tc = 2.5 MIN

L = 265'
V = 5.2 FPS
S = 0.3%
Tc = 0.8 MIN

L = 215'
H = 6.7'
Tc = 6.8 MIN

L = 131'
H = 0.7'
Tc = 8.2 MIN

L = 737'
V = 3.20 FPS
S = 0.4%
Tc = 3.8 MIN

L = 127'
H = 0.7'
Tc = 6.3 MIN

L = 643'
V = 4.1 FPS
S = 0.4%
Tc = 2.6 MIN

L = 814'
V = 2.2 FPS
S = 0.4%
Tc = 6.3 MIN

L = 130'
V = 2.0 FPS
S = 1.0%
Tc = 0.7 MIN

L = 73'
V = 5.4 FPS
S = 0.4%
Tc = 0.2 MIN

L = 389'
V = 3.66 FPS
S = 1.0%
Tc = 1.8 MIN

Concentration point data

Q10-POST-1 = 2.79 CFS
Q100-POST-1 = 3.97 CFS
Tc = 13.3 MIN
A = 2.81 AC

Q10-POST-3 = 3.86 CFS
Tc = 12.4 MIN
A = 2.87 AC

Q10-POST-2 = 11.95 CFS
Q100-POST-2 = 17.22 CFS
Tc = 24.1 MIN
A = 10.25 AC

ADJUSTED PEAK Q_{10} & Q_{100}
PEAK Q_{10} = 17.73 CFS
PEAK Q_{100} = 25.45 CFS
Tc = 24.1 MIN
A = 17.4 AC
DISCHARGE TO FLOOD CONTROL CHANNEL

NORTH

1"=50'-0"

0 25' 50' 100' 150'

POST DEVELOPMENT HYDROLOGY

ARLINGTON MIXED USE

RIVERSIDE, CA

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7.0 Appendices

Appendix 1: Pre-Development Hydrology Calculations

Riverside County Pre Development Flow Calculations

Riverside County Flood Control and Water Conservation District Hydrology
Rational Method Calculation Form

Project: Arlington Mixed Use, Riverside, CA

Condition:			Pre Development												
Frequency:			10-yr												
Calculated By:			NT	4/24/2023											

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I10 (in/hr)	C	Q (ft³/s)	Q10 (ft³/s)	Slope	Section	V (ft/s)	L (ft)	H (ft)	T (min)	T (min)	Remarks
EX-1A	B	Commercial	94,023	2.16	2.23	0.9	4.33	4.33	-	-	-	300	3.5	7.3	7.3	H = 9'; Initial Area (Plate D-3)
EX-1B	B	Commercial	207,600	4.77	1.90	0.90	8.15	12.48	0.010	30" Conc Pipe	5.52	815	8.000	2.5	9.8	Assume 18" @ 1% Conc Pipe
					Adjust Q to Tc = 23.3 min.											
TOTAL - Point 1				6.92				8.14							23.3	Peak Q at Tp = 23.3 min.

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I10 (in/hr)	C	Q (ft³/s)	Q10 (ft³/s)	Slope	Section	V (ft/s)	L (ft)	H (ft)	T (min)	T (min)	Remarks
O1	B	Commercial	29,058	0.67	1.90	0.8	1.01	1.01	-	-	-	150	0.5	9.8	9.8	
EX-2A	B	Commercial	58,296	1.34	1.40	0.9	1.69	2.70	-	-	-	210	1.0	7.4	17.2	Initial Area (Plate D-3)
EX-2B + EX-2C	B	Commercial	301,203	6.91	1.24	0.9	7.72	10.42	0.008	30" Conc Pipe	4.27	1560	12.5	6.1	23.3	Assume 18" @ 0.8% Conc Pipe
TOTAL - Point 2				8.92				10.42							23.3	Peak Q at Tp = 23.3 min.

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I10 (in/hr)	C	Q (ft³/s)	Q10 (ft³/s)	Slope	Section	V (ft/s)	L (ft)	H (ft)	T (min)	T (min)	Remarks
EX-3A	B	Commercial	97,888	2.25	2.07	0.9	4.19	4.19	-	-	-	359	6.0	7.3	7.3	Initial Area (Plate D-3)
-	B	Commercial	-	2.25	1.97	0.9	3.99	3.99	0.0036	33" Conc Pipe	2.86	325	-	1.9	9.2	33" RCP @ 0.36% Conc Pipe
					Adjust Q to Tc = 23.3 min.											
TOTAL - Point 3				2.25				2.51							23.3	Peak Q at Tp = 23.3 min.

Notes

1 Intensity data per standard Riverside area (Plate D-4.1)
2 Runoff coefficient per standard "Urban Landscaping" "C" curves (Plates D-5.3)
3 Site is located entirely within Soil Group BC as classified by USFS. For the purpose of Hydrology analysis, Soil Group B is used as the more conservative approach.

ADJUSTMENTS TO POINT 1

Adjust T_B to T_A =	23.3	min
Q_B =	12.48	cfs (Flow at Tc = 9.8 min)
I_A =	1.24	in/hr (intensity at Tc = 23.3 min)
I_B =	1.90	in/hr (intensity at Tc = 9.8 min)

$Q_{ADJUSTED}$ = 12.48 x (1.24 / 1.9)

$Q_{ADJUSTED}$ =	8.14	cfs

ADJUSTMENTS TO POINT 3

Adjust T_B to T_A =	23.3	min
Q_B =	3.99	cfs (Flow at Tc = 9.2 min)
I_A =	1.24	in/hr (intensity at Tc = 23.3 min)
I_B =	1.97	in/hr (intensity at Tc = 9.2 min)

$Q_{ADJUSTED}$ = 3.99 x (1.24 / 1.97)

$Q_{ADJUSTED}$ =	2.51	cfs

TOTAL DISCHARGE FROM SITE =   8.14 + 10.42 + 2.51

TOTAL PRE-DEVELOPMENT DISCHARGE FROM SITE =   **21.07 CFS @ Tc = 23.3 MIN**

Riverside County Pre Development Flow Calculations

Riverside County Flood Control and Water Conservation District Hydrology
Rational Method Calculation Form

Project: Arlington Mixed Use, Riverside, CA

Condition: Pre Development
Frequency: 100-yr
Calculated By: NT   4/24/2023

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I100 (in/hr)	C	Q (ft³/s)	Q100 (ft³/s)	Slope	Section	V (ft/s)	L (ft)	H (ft)	T (min)	T (min)	Remarks
EX-1A	B	Commercial	94,023	2.16	3.19	0.9	6.20	6.20	-	-	-	300	3.5	7.3	7.3	H = 9'; Initial Area (Plate D-3)
EX-1B	B	Commercial	207,600	4.77	2.71	0.90	11.62	17.82	0.010	30" Conc Pipe	5.520	8.150	8.000	2.5	9.8	Assume 18" @ 1% Conc Pipe
				Adjust Q to Tc = 23.3 min.												
TOTAL - Point 1				**6.92**				**11.97**							**23.3**	Peak Q at Tp = 23.3 min.

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I100 (in/hr)	C	Q (ft³/s)	Q100 (ft³/s)	Slope	Section	V (ft/s)	L (ft)	H (ft)	T (min)	T (min)	Remarks
O1	B	Commercial	29,058	0.67	2.99	0.9	1.80	1.80				150	0.5	9.8	9.8	
EX-2A	B	Commercial	58,296	1.34	2.10	0.9	2.53	4.32	-	-	-	210	1.0	7.4	17.2	Initial Area (Plate D-3)
EX-2B + EX-2C	B	Commercial	301,203	6.91	1.82	0.9	11.33	15.65	0.008	30" Conc Pipe	4.27	1560	12.5	6.1	23.3	Assume 18" @ 0.8% Conc Pipe
TOTAL - Point 2				**8.92**				**15.65**							**23.3**	Peak Q at Tp = 23.3 min.

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I100 (in/hr)	C	Q (ft³/s)	Q100 (ft³/s)	Slope	Section	V (ft/s)	L (ft)	H (ft)	T (min)	T (min)	Remarks
EX-3A	B	Commercial	97,888	2.25	3.19	0.9	6.45	6.45	-	-	-	359	6.0	7.3	7.3	Initial Area (Plate D-3)
-	B	Commercial	-	2.25	2.81	0.9	5.69	5.69	0.0036	33" Conc Pipe	2.86	325	-	1.9	9.2	33" RCP @ 0.36% Conc Pipe
				Adjust Q to Tc = 23.3 min.												
TOTAL - Point 3				**2.25**				**3.69**							**23.3**	Peak Q at Tp = 23.3 min.

Notes

  1 Intensity data per standard Riverside area (Plate D-4.1)

  2 Runoff coefficient per standard "Urban Landscaping" "C" curves (Plates D-5.3)

  3 Site is located entirely within Soil Group BC as classified by USFS. For the purpose of Hydrology analysis, Soil Group B is used as the more conservative approach.

ADJUSTMENTS TO POINT 1

$\quad$ Adjust T_B to T_A =   23.3   min

$\quad\quad\quad Q_B$ =   17.82   cfs (Flow at Tc = 9.8 min)

$\quad\quad\quad\quad I_A$ =   1.82   in/hr (intensity at Tc = 23.3 min)

$\quad\quad\quad\quad I_B$ =   2.71   in/hr (intensity at Tc = 9.8 min)

$\quad\quad$ $Q_{ADJUSTED}$ = 17.82 x (1.82 / 2.71)

$\quad\quad$ **$Q_{ADJUSTED}$ =   11.97   cfs**

ADJUSTMENTS TO POINT 3

$\quad$ Adjust T_B to T_A =   23.3   min

$\quad\quad\quad Q_B$ =   5.69   cfs (Flow at Tc = 9.2 min)

$\quad\quad\quad\quad I_A$ =   1.82   in/hr (intensity at Tc = 23.3 min)

$\quad\quad\quad\quad I_B$ =   2.81   in/hr (intensity at Tc = 9.2 min)

$\quad\quad$ $Q_{ADJUSTED}$ = 5.69 x (1.82 / 2.81)

$\quad\quad$ **$Q_{ADJUSTED}$ =   3.69   cfs**

TOTAL DISCHARGE FROM SITE =   **11.97 + 15.65 + 3.69**

TOTAL PRE-DEVELOPMENT DISCHARGE FROM SITE =   **31.31 CFS @ Tc = 23.3 MIN**

Appendix 2: Post-Development Hydrology Calculations

Riverside County Post Development Flow Calculations

Riverside County Flood Control and Water Conservation District Hydrology
Rational Method Calculation Form

Project: 3001 Iowa Ave, Riverside, CA

Condition: Post Development
Frequency: 10-yr
Calculated By: NT   4/27/2023

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I (in/hr)	C	Q (ft³/s)	Q10 (ft³/s)	Slope	Section (Pipe Dia.)	Manning's (n)	Vf (ft/s)	Qf	Q/Qf	d/D	V/Vf	V (ft/s)	L (ft)	H (ft)	T (min)	T (min)	Remarks
PR-1A	B	Apartment	10,482	0.24	2.42	0.8	0.47	0.47	-	-	-	-	-	-	-	-	-	127	0.7	6.3	6.3	Initial Area (Plate D-3)
PR-1B	B	Apartment	111,748	2.57	1.65	0.8	3.39	3.85	0.004	15.0	0.012	3.617	4.44	86.8%	0.7	1.1	2.2	815	-	6.3	12.6	
-	-	-	0	0.00	1.60	0	0.00	3.85	0.010	30.0	0.012	9.077	44.56	8.6%	0.2	0.6	2.0	130	-	0.7	13.3	At Flood Control Basin
TOTAL- Point 1				2.81				2.79													24.1	Peak Q at Tp = 24.1 min.

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I (in/hr)	C	Q (ft³/s)	Q10 (ft³/s)	Slope	Section	Manning's (n)	Vf (ft/s)	Qf	Q/Qf	d/D	V/Vf	V (ft/s)	L (ft)	H (ft)	T (min)	T (min)	Remarks
PR-2A	B	Apartment	10,466	0.24	2.09	0.8	0.40	0.40	-	-	-	-	-	-	-	-	-	131	0.7	8.2	8.2	Initial Area (Plate D-3)
PR-2B	B	Apartment	113,984	2.62	1.81	0.8	3.79	4.19	0.004	15.0	0.012	3.617	4.44	94.4%	0.8	1.1	3.8	579	-	2.5	10.7	
O1	B	Commercial	29,058	0.67	1.79	0.89	1.06	1.06	-	-	-	-	-	-	-	-	-	150	0.5	9.8	9.8	
PR-2C	B	Apartment	199,674	4.58	1.28	0.8	4.69	9.95	0.004	24.0	0.012	4.947	15.54	64.0%	0.6	1.1	5.2	265	-	0.8	21.3	
PR-2D	B	Apartment	93,221	2.14	1.17	0.8	2.00	11.95	0.004	24.0	0.012	4.947	15.54	76.9%	0.7	1.1	4.1	643	-	2.6	23.9	
-	B	-	0	0.00	1.16	0	0.00	11.95	0.010	30.0	0.012	9.077	44.56	26.8%	0.4	0.9	5.4	73	-	0.2	24.1	At Flood Control Basin
TOTAL- Point 2				10.25				11.95													24.1	Peak Q at Tp = 24.1 min.

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I (in/hr)	C	Q (ft³/s)	Q10 (ft³/s)	Slope	Section	Manning's (n)	Vf (ft/s)	Qf	Q/Qf	d/D	V/Vf	V (ft/s)	L (ft)	H (ft)	T (min)	T (min)	Remarks
PR-3A	B	Apartment	13,490	0.31	2.32	0.8	0.57	0.57	-	-	-	-	-	-	-	-	-	215	6.7	6.8	6.8	Initial Area (Plate D-3)
PR-3B	B	Apartment	111,609	2.56	1.82	0.8	3.73	4.31	0.004	18.0	0.012	4.084	7.22	59.7%	0.6	1.1	3.2	737	-	3.8	10.6	
-	B	-	0	0.00	1.67	0	0.00	4.31	0.010	33.0	0.012	9.672	57.45	7.5%	0.2	0.5	3.7	389	-	1.8	12.4	At Flood Control Basin
TOTAL- Point 3				2.87				2.99													24.1	Peak Q at Tp = 24.1 min.

ADJUSTMENTS TO POINT 1

Adjust T_B to T_A =   24.1   min
Q_B =   3.85   cfs (Flow at Tc = 13.3 min)
I_A =   1.16   in/hr (intensity at Tc = 24.1 min)
I_B =   1.60   in/hr (intensity at Tc = 13.3 min)
$Q_{ADJUSTED}$ = 3.85 x (1.16 / 1.6)
$Q_{ADJUSTED}$ =   2.79   cfs

ADJUSTMENTS TO POINT 3

Adjust T_B to T_A =   24.1   min
Q_B =   4.31   cfs (Flow at Tc = 12.4 min)
I_A =   1.16   in/hr (intensity at Tc = 24.1 min)
I_B =   1.67   in/hr (intensity at Tc = 12.4 min)
$Q_{ADJUSTED}$ = 4.31 x (1.16 / 1.67)
$Q_{ADJUSTED}$ =   2.99   cfs

TOTAL DISCHARGE FROM SITE =   2.79 + 11.95 + 2.99

TOTAL POST-DEVELOPMENT DISCHARGE FROM SITE =   17.73 CFS @ Tc = 24.1 MIN

Riverside County Post Development Flow Calculations

Riverside County Flood Control and Water Conservation District Hydrology
Rational Method Calculation Form

Project: 3001 Iowa Ave, Riverside, CA

Condition:	Post Development		
Frequency:	100-yr		
Calculated By:	NT	4/27/2023

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I (in/hr)	C	Q (ft³/s)	Q100 (ft³/s)	Slope	Section (Pipe Dia.)	Manning's (n)	Vf (ft/s)	Qf	Q/Qf	d/D	V/Vf	V (ft/s)	L (ft)	H (ft)	T (min)	T (min)	Remarks
PR-1A	C	Apartment	10,482	0.24	3.46	0.8	0.67	0.67	-	-	-	-	-	-	-	-	-	127	0.7	6.3	6.3	Initial Area (Plate D-3)
PR-1B	C	Apartment	111,748	2.57	2.36	0.8	4.84	5.51	0.004	18.0	0.012	3.874	6.85	80.5%	0.7	1.1	2.2	794	-	6.3	12.6	
-	-	-	0	0.00	2.29	0	0.00	5.51	0.010	30.0	0.012	9.077	44.56	12.4%	0.2	0.6	2.0	130	-	0.7	13.3	At Flood Control Basin
					Adjust Q to Tc = 24.1 min.																	
TOTAL- Point 1				2.81				3.97													24.1	Peak Q at Tp = 24.1 min.

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I (in/hr)	C	Q (ft³/s)	Q100 (ft³/s)	Slope	Section	Manning's (n)	Vf (ft/s)	Qf	Q/Qf	d/D	V/Vf	V (ft/s)	L (ft)	H (ft)	T (min)	T (min)	Remarks
PR-2A	B	Apartment	10,466	0.24	2.97	0.8	0.57	0.57	-	-	-	-	-	-	-	-	-	131	0.7	8.2	8.2	Initial Area (Plate D-3)
PR-2B	B	Apartment	113,984	2.62	2.58	0.8	5.40	5.97	0.004	18.0	0.012	3.874	6.85	87.2%	0.7	1.1	3.8	579	-	2.5	10.7	
O1	B	Commercial	29,058	0.67	2.71	0.89	1.61	1.61										150	0.5	9.8	9.8	
PR-2C	B	Apartment	199,674	4.58	1.82	0.8	6.67	14.25	0.004	24.0	0.012	4.947	15.54	91.7%	0.7	1.1	5.2	265	-	0.8	21.3	
PR-2D	B	Apartment	93,221	2.14	1.73	0.8	2.96	17.22	0.005	24.0	0.012	5.531	17.38	99.1%	0.8	1.2	4.1	643	-	2.6	23.9	
-	B	-	0	0.00	1.65	0	0.00	17.22	0.010	30.0	0.012	9.077	44.56	38.6%	0.4	0.9	5.4	73	-	0.2	24.1	At Flood Control Basin
TOTAL- Point 2				10.25				17.22													24.1	Peak Q at Tp = 24.1 min.

Drainage Area	Soil Group	Development	Area (sf)	Area (acre)	I (in/hr)	C	Q (ft³/s)	Q100 (ft³/s)	Slope	Section	Manning's (n)	Vf (ft/s)	Qf	Q/Qf	d/D	V/Vf	V (ft/s)	L (ft)	H (ft)	T (min)	T (min)	Remarks
PR-3A	B	Apartment	13,490	0.31	3.32	0.8	0.82	0.82	-	-	-	-	-	-	-	-	-	215	6.7	6.8	6.8	Initial Area (Plate D-3)
PR-3B	B	Apartment	111,609	2.56	2.60	0.8	5.33	6.15	0.004	18.0	0.012	4.084	7.22	85.2%	0.7	1.1	3.2	737	-	3.8	10.6	
-	B	-	0	0.00	2.38	0	0.00	6.15	0.004	33.0	0.012	5.803	34.47	17.8%	0.3	0.7	3.7	389	-	1.8	12.4	At Flood Control Basin
					Adjust Q to Tc = 24.1 min.																	
TOTAL- Point 3				2.87				4.26													24.1	Peak Q at Tp = 24.1 min.

ADJUSTMENTS TO POINT 1

Adjust T_B to T_A = **24.1** min

Q_B = 5.51 cfs (Flow at Tc = 13.3 min)

I_A = **1.65** in/hr (intensity at Tc = 24.1 min)

I_B = **2.29** in/hr (intensity at Tc = 13.3 min)

$Q_{ADJUSTED}$ = 5.51 x (1.65 / 2.29)

$Q_{ADJUSTED}$ = 3.97 cfs

ADJUSTMENTS TO POINT 3

Adjust T_B to T_A = **24.1** min

Q_B = 6.15 cfs (Flow at Tc = 12.4 min)

I_A = **1.65** in/hr (intensity at Tc = 24.1 min)

I_B = **2.38** in/hr (intensity at Tc = 12.4 min)

$Q_{ADJUSTED}$ = 6.15 x (1.65 / 2.38)

$Q_{ADJUSTED}$ = 4.26 cfs

TOTAL DISCHARGE FROM SITE = 3.97 + 17.22 + 4.26

TOTAL POST-DEVELOPMENT DISCHARGE FROM SITE = 25.45 CFS @ Tc = 24.1 MIN

Appendix 3: Hydraulic Conditions of Concern Calculations

         Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2018, Version 9.0
              Study date 03/15/23 File: EXARLINGTON112.out

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

Program License Serial Number 6538

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

 English Units used in output format

EXISTING POINT 1
ARLINGTON
03/15/2023

Drainage Area =   6.92(Ac.)   =   0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =   6.92(Ac.) =   0.011 Sq. Mi.
Length along longest watercourse =   1115.00(Ft.)
Length along longest watercourse measured to centroid =   708.00(Ft.)
Length along longest watercourse =   0.211 Mi.
Length along longest watercourse measured to centroid =   0.134 Mi.
Difference in elevation =   5.50(Ft.)
Slope along watercourse =   26.0448 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =   0.050 Hr.
Lag time =   3.00 Min.
25% of lag time =   0.75 Min.
40% of lag time =   1.20 Min.
Unit time =   5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =   0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]   Rainfall(In)[2]   Weighting[1*2]
      6.92   0.50   3.46

100 YEAR Area rainfall data:

Area(Ac.)[1]   Rainfall(In)[2]   Weighting[1*2]
      6.92   1.00   6.92

```
        STORM EVENT (YEAR) =     2.00
        Area Averaged 2-Year Rainfall =    0.500(In)
        Area Averaged 100-Year Rainfall =   1.000(In)

        Point rain (area averaged) =    0.500(In)
        Areal adjustment factor =   99.99 %
        Adjusted average point rain =    0.500(In)

        Sub-Area Data:
        Area(Ac.)          Runoff Index    Impervious %
            6.920              56.00           0.900
         Total Area Entered =      6.92(Ac.)


        RI    RI    Infil. Rate Impervious   Adj. Infil. Rate  Area%      F
        AMC2 AMC-2    (In/Hr)     (Dec.%)        (In/Hr)       (Dec.)   (In/Hr)
        56.0  56.0     0.511      0.900          0.097         1.000     0.097
                                                            Sum (F) =   0.097
        Area averaged mean soil loss (F) (In/Hr) =   0.097
        Minimum soil loss rate ((In/Hr)) =  0.049
        (for 24 hour storm duration)
        Soil low loss rate (decimal) =   0.180
        ---------------------------------------------------------------------------
        Slope of intensity-duration curve for a 1 hour storm =0.5500
        ---------------------------------------------------------------------------

                        U n i t   H y d r o g r a p h
                            VALLEY S-Curve
        ---------------------------------------------------------------------------
                        Unit Hydrograph Data
        ---------------------------------------------------------------------------
        Unit time period   Time % of lag   Distribution   Unit Hydrograph
            (hrs)                            Graph %           (CFS)
        ---------------------------------------------------------------------------
            1    0.083         166.620          36.969          2.578
            2    0.167         333.241          45.769          3.192
            3    0.250         499.861          10.303          0.719
            4    0.333         666.481           4.370          0.305
            5    0.417         833.102           2.589          0.181
                                       Sum = 100.000   Sum=     6.974
------------------------------------------------------------------------------


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

 Unit Time   Pattern   Storm Rain    Loss rate(In./Hr)      Effective
    (Hr.)    Percent   (In/Hr)       Max    |   Low          (In/Hr)
  1   0.08    3.30      0.198     (   0.097)      0.036          0.162
  2   0.17    4.20      0.252     (   0.097)      0.045          0.207
  3   0.25    4.40      0.264     (   0.097)      0.048          0.216
  4   0.33    4.80      0.288     (   0.097)      0.052          0.236
  5   0.42    5.20      0.312     (   0.097)      0.056          0.256
  6   0.50    6.20      0.372     (   0.097)      0.067          0.305
  7   0.58    6.80      0.408     (   0.097)      0.073          0.335
  8   0.67    8.80      0.528     (   0.097)      0.095          0.433
  9   0.75   13.90      0.834         0.097    (  0.150)         0.737
```

```
10   0.83    31.40      1.884          0.097    ( 0.339)         1.787
11   0.92     7.20      0.432       ( 0.097)      0.078          0.354
12   1.00     3.80      0.228       ( 0.097)      0.041          0.187
                (Loss Rate Not Used)
   Sum =     100.0                                 Sum =      5.2
      Flood volume = Effective rainfall      0.43(In)
       times area      6.9(Ac.)/[(In)/(Ft.)] =       0.3(Ac.Ft)
      Total soil loss =      0.07(In)
      Total soil loss =     0.038(Ac.Ft)
      Total rainfall =      0.50(In)
      Flood volume =     10916.1 Cubic Feet
      Total soil loss =      1642.9 Cubic Feet
      -------------------------------------------------------------------
      Peak flow rate of this hydrograph =     7.431(CFS)
      -------------------------------------------------------------------
      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                      1 - H O U R    S T O R M
                   R u n o f f    H y d r o g r a p h
      -------------------------------------------------------------------
                 Hydrograph in   5   Minute intervals ((CFS))


      -------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0         2.5        5.0        7.5       10.0
      -------------------------------------------------------------------
  0+ 5     0.0029       0.42  VQ        |         |          |          |
  0+10     0.0101       1.05  |V   Q    |         |          |          |
  0+15     0.0193       1.33  |   V Q   |         |          |          |
  0+20     0.0296       1.50  |    VQ   |         |          |          |
  0+25     0.0411       1.66  |     Q   |         |          |          |
  0+30     0.0540       1.88  |      QV |         |          |          |
  0+35     0.0687       2.13  |       Q V        |          |          |
  0+40     0.0861       2.53  |        Q  V      |          |          |
  0+45     0.1113       3.66  |        |   Q  V  |          |          |
  0+50     0.1625       7.43  |        |         |    V    Q|          |
  0+55     0.2131       7.34  |        |         |         Q|   V      |
  1+ 0     0.2351       3.20  |        |  Q      |          |     V    |
  1+ 5     0.2456       1.53  |     Q  |         |          |          V|
  1+10     0.2495       0.57  | Q      |         |          |          V|
  1+15     0.2504       0.12  Q        |         |          |          V|
  1+20     0.2506       0.03  Q        |         |          |           V
      -------------------------------------------------------------------
```

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

Program License Serial Number 6538

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

 English Units used in output format

EXISTING POINT 2
ARLINGTON
03/15/2023

Drainage Area =   8.25(Ac.)   =   0.013 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =   8.25(Ac.)   =   0.013 Sq. Mi.
Length along longest watercourse =   1770.00(Ft.)
Length along longest watercourse measured to centroid =   730.00(Ft.)
Length along longest watercourse =   0.335 Mi.
Length along longest watercourse measured to centroid =   0.138 Mi.
Difference in elevation =   5.50(Ft.)
Slope along watercourse =   16.4068 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =   0.066 Hr.
Lag time =   3.95 Min.
25% of lag time =   0.99 Min.
40% of lag time =   1.58 Min.
Unit time =   5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =   0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]   Rainfall(In)[2]   Weighting[1*2]
      8.25   0.50   4.13

100 YEAR Area rainfall data:

Area(Ac.)[1]   Rainfall(In)[2]   Weighting[1*2]
      8.25   1.00   8.25

```
      STORM EVENT (YEAR) =    2.00
      Area Averaged 2-Year Rainfall =    0.500(In)
      Area Averaged 100-Year Rainfall =   1.000(In)

      Point rain (area averaged) =    0.500(In)
      Areal adjustment factor =   99.99 %
      Adjusted average point rain =    0.500(In)

      Sub-Area Data:
      Area(Ac.)          Runoff Index   Impervious %
           8.250              56.00          0.900
       Total Area Entered =      8.25(Ac.)


      RI    RI    Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
      AMC2 AMC-2    (In/Hr)    (Dec.%)        (In/Hr)       (Dec.)   (In/Hr)
      56.0  56.0    0.511      0.900          0.097         1.000    0.097
                                                         Sum (F) =   0.097
      Area averaged mean soil loss (F) (In/Hr) =   0.097
      Minimum soil loss rate ((In/Hr)) =  0.049
      (for 24 hour storm duration)
      Soil low loss rate (decimal) =   0.180
      ----------------------------------------------------------------------
      Slope of intensity-duration curve for a 1 hour storm =0.5500
      ----------------------------------------------------------------------

                      U n i t   H y d r o g r a p h
                          VALLEY S-Curve
      ----------------------------------------------------------------------
                      Unit Hydrograph Data
      ----------------------------------------------------------------------
      Unit time period   Time % of lag   Distribution   Unit Hydrograph
           (hrs)                          Graph %            (CFS)
      ----------------------------------------------------------------------
           1    0.083        126.555         27.068           2.251
           2    0.167        253.110         48.461           4.029
           3    0.250        379.666         12.764           1.061
           4    0.333        506.221          5.735           0.477
           5    0.417        632.776          3.175           0.264
           6    0.500        759.331          1.752           0.146
           7    0.583        885.886          1.044           0.087
                                   Sum = 100.000    Sum=      8.314
  ----------------------------------------------------------------------------


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

  Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)      Effective
      (Hr.)   Percent   (In/Hr)        Max   |   Low          (In/Hr)
   1   0.08     3.30      0.198      (  0.097)       0.036       0.162
   2   0.17     4.20      0.252      (  0.097)       0.045       0.207
   3   0.25     4.40      0.264      (  0.097)       0.048       0.216
   4   0.33     4.80      0.288      (  0.097)       0.052       0.236
   5   0.42     5.20      0.312      (  0.097)       0.056       0.256
   6   0.50     6.20      0.372      (  0.097)       0.067       0.305
   7   0.58     6.80      0.408      (  0.097)       0.073       0.335
```

```
 8   0.67     8.80     0.528    (  0.097)      0.095        0.433
 9   0.75    13.90     0.834       0.097    (  0.150)       0.737
10   0.83    31.40     1.884       0.097    (  0.339)       1.787
11   0.92     7.20     0.432    (  0.097)      0.078        0.354
12   1.00     3.80     0.228    (  0.097)      0.041        0.187
                 (Loss Rate Not Used)
   Sum =      100.0                            Sum =      5.2
      Flood volume = Effective rainfall      0.43(In)
       times area      8.3(Ac.)/[(In)/(Ft.)] =      0.3(Ac.Ft)
      Total soil loss =      0.07(In)
      Total soil loss =      0.045(Ac.Ft)
      Total rainfall =      0.50(In)
      Flood volume =      13014.0 Cubic Feet
      Total soil loss =      1958.6 Cubic Feet
      -----------------------------------------------------------------
      Peak flow rate of this hydrograph =      9.145(CFS)
      -----------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                      1 - H O U R    S T O R M
                  R u n o f f      H y d r o g r a p h
      -----------------------------------------------------------------
                 Hydrograph in    5    Minute intervals ((CFS))


      -----------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
      -----------------------------------------------------------------
  0+ 5      0.0025     0.37  VQ       |         |         |         |
  0+10      0.0102     1.12  |V   Q   |         |         |         |
  0+15      0.0205     1.49  | V    Q |         |         |         |
  0+20      0.0322     1.70  |    V Q |         |         |         |
  0+25      0.0453     1.90  |      VQ |         |         |         |
  0+30      0.0601     2.15  |       Q |         |         |         |
  0+35      0.0771     2.47  |        QV        |         |         |
  0+40      0.0970     2.88  |        |QV       |         |         |
  0+45      0.1247     4.03  |        |      Q  |         |         |
  0+50      0.1781     7.75  |        |         |   V     |Q        |
  0+55      0.2411     9.14  |        |         |         | V    Q  |
  1+ 0      0.2706     4.29  |        |      Q  |         |      V   |
  1+ 5      0.2862     2.27  |       Q|         |         |        V |
  1+10      0.2930     0.98  |  Q     |         |         |        V|
  1+15      0.2965     0.51  | Q      |         |         |        V|
  1+20      0.2982     0.26  |Q       |         |         |        V|
  1+25      0.2986     0.06  Q        |         |         |        V|
  1+30      0.2988     0.02  Q        |         |         |        V
      -----------------------------------------------------------------
```

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

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                Study date   03/15/23 File: EXARLINGTON312.out

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

Program License Serial Number 6538

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

 English Units used in output format

EXISTING POINT 3
ARLINGTON
03/15/2023

Drainage Area =   2.25(Ac.) =   0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =   2.25(Ac.) =   0.004 Sq. Mi.
Length along longest watercourse =   359.00(Ft.)
Length along longest watercourse measured to centroid =   180.00(Ft.)
Length along longest watercourse =   0.068 Mi.
Length along longest watercourse measured to centroid =   0.034 Mi.
Difference in elevation =   5.50(Ft.)
Slope along watercourse =   80.8914 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =   0.016 Hr.
Lag time =   0.93 Min.
25% of lag time =   0.23 Min.
40% of lag time =   0.37 Min.
Unit time =   5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =   0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]   Rainfall(In)[2]   Weighting[1*2]
      2.25   0.50   1.13

100 YEAR Area rainfall data:

Area(Ac.)[1]   Rainfall(In)[2]   Weighting[1*2]
      2.25   1.00   2.25

```
          STORM EVENT (YEAR) =      2.00
          Area Averaged 2-Year Rainfall =     0.500(In)
          Area Averaged 100-Year Rainfall =    1.000(In)

          Point rain (area averaged) =     0.500(In)
          Areal adjustment factor =   100.00 %
          Adjusted average point rain =     0.500(In)

          Sub-Area Data:
          Area(Ac.)          Runoff Index    Impervious %
              2.250             56.00            0.900
           Total Area Entered =      2.25(Ac.)


          RI     RI    Infil. Rate Impervious   Adj. Infil. Rate  Area%      F
          AMC2 AMC-2     (In/Hr)     (Dec.%)        (In/Hr)        (Dec.)    (In/Hr)
          56.0  56.0     0.511       0.900          0.097          1.000     0.097
                                                                  Sum (F) =   0.097
          Area averaged mean soil loss (F) (In/Hr) =   0.097
          Minimum soil loss rate ((In/Hr)) =  0.049
          (for 24 hour storm duration)
          Soil low loss rate (decimal) =   0.180
          --------------------------------------------------------------------------
          Slope of intensity-duration curve for a 1 hour storm =0.5500
          --------------------------------------------------------------------------

                        U n i t   H y d r o g r a p h
                             VALLEY S-Curve
          --------------------------------------------------------------------------
                        Unit Hydrograph Data
          --------------------------------------------------------------------------
          Unit time period    Time % of lag    Distribution    Unit Hydrograph
              (hrs)                               Graph %            (CFS)
          --------------------------------------------------------------------------
             1    0.083         534.909           72.572            1.646
             2    0.167        1069.818           27.428            0.622
                                          Sum = 100.000    Sum=     2.268
-------------------------------------------------------------------------------


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

  Unit Time   Pattern    Storm Rain      Loss rate(In./Hr)       Effective
      (Hr.)   Percent    (In/Hr)        Max    |   Low           (In/Hr)
   1   0.08    3.30       0.198       (  0.097)        0.036        0.162
   2   0.17    4.20       0.252       (  0.097)        0.045        0.207
   3   0.25    4.40       0.264       (  0.097)        0.048        0.216
   4   0.33    4.80       0.288       (  0.097)        0.052        0.236
   5   0.42    5.20       0.312       (  0.097)        0.056        0.256
   6   0.50    6.20       0.372       (  0.097)        0.067        0.305
   7   0.58    6.80       0.408       (  0.097)        0.073        0.335
   8   0.67    8.80       0.528       (  0.097)        0.095        0.433
   9   0.75   13.90       0.834          0.097      (  0.150)       0.737
  10   0.83   31.40       1.884          0.097      (  0.339)       1.787
  11   0.92    7.20       0.432       (  0.097)        0.078        0.354
  12   1.00    3.80       0.228       (  0.097)        0.041        0.187
```

```
                     (Loss Rate Not Used)
     Sum =      100.0                              Sum =      5.2
         Flood volume = Effective rainfall      0.43(In)
          times area       2.3(Ac.)/[(In)/(Ft.)] =       0.1(Ac.Ft)
         Total soil loss =       0.07(In)
         Total soil loss =      0.012(Ac.Ft)
         Total rainfall =       0.50(In)
         Flood volume =         3549.5 Cubic Feet
         Total soil loss =       534.2 Cubic Feet
         ----------------------------------------------------------------
          Peak flow rate of this hydrograph =      3.401(CFS)
         ----------------------------------------------------------------
         ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          1 - H O U R    S T O R M
                      R u n o f f     H y d r o g r a p h
         ----------------------------------------------------------------
                   Hydrograph in   5   Minute intervals ((CFS))


              ----------------------------------------------------------------
      Time(h+m) Volume Ac.Ft   Q(CFS)  0          2.5        5.0        7.5        10.0
      ----------------------------------------------------------------
       0+ 5       0.0018      0.27  VQ         |          |          |          |
       0+10       0.0049      0.44  |QV        |          |          |          |
       0+15       0.0082      0.49  |Q  V      |          |          |          |
       0+20       0.0118      0.52  | Q   V    |          |          |          |
       0+25       0.0157      0.57  | Q      V |          |          |          |
       0+30       0.0203      0.66  | Q        V|         |          |          |
       0+35       0.0254      0.74  | Q        | V        |          |          |
       0+40       0.0317      0.92  |  Q       |    V     |          |          |
       0+45       0.0419      1.48  |     Q    |          V         |          |
       0+50       0.0654      3.40  |          |  Q       |         | V        |
       0+55       0.0770      1.70  |      Q   |          |         |       V  |
       1+ 0       0.0807      0.53  | Q        |          |         |         V|
       1+ 5       0.0815      0.12  Q          |          |         |         V|
      ----------------------------------------------------------------
```

Hydrograph Report

Hyd. No. 4

EXISTING COMBINED

Hydrograph type	= Combine		Peak discharge	= 18.58 cfs
Storm frequency	= 2 yrs		Time to peak	= 50 min
Time interval	= 5 min		Hyd. volume	= 27,483 cuft
Inflow hyds.	= 1, 2, 3		Contrib. drain. area	= 0.000 ac

EXISTING COMBINED

Hyd. No. 4 -- 2 Year

Legend: Hyd No. 4 — Hyd No. 1 — Hyd No. 2 — Hyd No. 3

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

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                Study date  03/15/23 File: POSTARLINGTON112.out


+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
-------------------------------------------------------------------------

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


Program License Serial Number 6538

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

 English Units used in output format




-------------------------------------------------------------------------
POST POINT 1
ARLINGTON
03/15/2023

-------------------------------------------------------------------------
Drainage Area =        2.81(Ac.)  =      0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =      2.81(Ac.)  =      0.004 Sq. Mi.
Length along longest watercourse =     921.00(Ft.)
Length along longest watercourse measured to centroid =     524.00(Ft.)
Length along longest watercourse =       0.174 Mi.
Length along longest watercourse measured to centroid =      0.099 Mi.
Difference in elevation =        2.50(Ft.)
Slope along watercourse =     14.3322 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =    0.046 Hr.
Lag time =     2.79 Min.
25% of lag time =      0.70 Min.
40% of lag time =      1.12 Min.
Unit time =      5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]        Rainfall(In)[2]        Weighting[1*2]
      2.81              0.50                    1.41

100 YEAR Area rainfall data:


Area(Ac.)[1]        Rainfall(In)[2]        Weighting[1*2]
      2.81              1.00                    2.81
```

```
          STORM EVENT (YEAR) =     2.00
          Area Averaged 2-Year Rainfall =     0.500(In)
          Area Averaged 100-Year Rainfall =    1.000(In)

          Point rain (area averaged) =     0.500(In)
          Areal adjustment factor =  100.00 %
          Adjusted average point rain =     0.500(In)

          Sub-Area Data:
          Area(Ac.)          Runoff Index    Impervious %
               2.810              56.00           0.900
           Total Area Entered =      2.81(Ac.)


          RI    RI    Infil. Rate Impervious   Adj. Infil. Rate  Area%       F
          AMC2 AMC-2    (In/Hr)     (Dec.%)        (In/Hr)        (Dec.)    (In/Hr)
          56.0  56.0     0.511      0.900          0.097          1.000      0.097
                                                              Sum (F) =    0.097
          Area averaged mean soil loss (F) (In/Hr) =   0.097
          Minimum soil loss rate ((In/Hr)) =  0.049
          (for 24 hour storm duration)
          Soil low loss rate (decimal) =   0.180
          ---------------------------------------------------------------------
          Slope of intensity-duration curve for a 1 hour storm =0.5500
          ---------------------------------------------------------------------

                         U n i t   H y d r o g r a p h
                             VALLEY S-Curve
          ---------------------------------------------------------------------
                         Unit Hydrograph Data
          ---------------------------------------------------------------------
          Unit time period   Time % of lag   Distribution   Unit Hydrograph
              (hrs)                            Graph %          (CFS)
          ---------------------------------------------------------------------
              1    0.083        179.330          39.590          1.121
              2    0.167        358.660          44.834          1.270
              3    0.250        537.990           9.690          0.274
              4    0.333        717.320           3.978          0.113
              5    0.417        896.651           1.908          0.054
                                          Sum = 100.000   Sum=    2.832
 ---------------------------------------------------------------------------


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

 Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)     Effective
    (Hr.)    Percent   (In/Hr)        Max   |  Low          (In/Hr)
   1   0.08    3.30      0.198      (  0.097)     0.036        0.162
   2   0.17    4.20      0.252      (  0.097)     0.045        0.207
   3   0.25    4.40      0.264      (  0.097)     0.048        0.216
   4   0.33    4.80      0.288      (  0.097)     0.052        0.236
   5   0.42    5.20      0.312      (  0.097)     0.056        0.256
   6   0.50    6.20      0.372      (  0.097)     0.067        0.305
   7   0.58    6.80      0.408      (  0.097)     0.073        0.335
   8   0.67    8.80      0.528      (  0.097)     0.095        0.433
   9   0.75   13.90      0.834         0.097   (  0.150)       0.737
```

```
10   0.83     31.40         1.884              0.097    ( 0.339)            1.787
11   0.92      7.20         0.432         ( 0.097)           0.078           0.354
12   1.00      3.80         0.228         ( 0.097)           0.041           0.187
              (Loss Rate Not Used)
   Sum =      100.0                                          Sum =      5.2
      Flood volume = Effective rainfall      0.43(In)
       times area       2.8(Ac.)/[(In)/(Ft.)] =         0.1(Ac.Ft)
      Total soil loss =       0.07(In)
      Total soil loss =     0.015(Ac.Ft)
      Total rainfall =      0.50(In)
      Flood volume =        4432.9 Cubic Feet
      Total soil loss =        667.1 Cubic Feet
      ------------------------------------------------------------------------
      Peak flow rate of this hydrograph =      3.114(CFS)
      ------------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                     1 - H O U R    S T O R M
                  R u n o f f      H y d r o g r a p h
      ------------------------------------------------------------------------
                Hydrograph in   5   Minute intervals ((CFS))

      ------------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0           2.5         5.0         7.5         10.0
      ------------------------------------------------------------------------
  0+ 5       0.0013       0.18  Q          |           |           |           |
  0+10       0.0043       0.44  |Q         |           |           |           |
  0+15       0.0081       0.55  | QV       |           |           |           |
  0+20       0.0123       0.61  | Q V      |           |           |           |
  0+25       0.0170       0.68  | Q    V   |           |           |           |
  0+30       0.0223       0.77  |  Q     V |           |           |           |
  0+35       0.0283       0.87  |  Q       |V          |           |           |
  0+40       0.0354       1.04  |    Q     |  V        |           |           |
  0+45       0.0458       1.52  |      Q   |       V   |           |           |
  0+50       0.0673       3.11  |          |  Q        |      V    |           |
  0+55       0.0875       2.94  |          |Q          |           |     V     |
  1+ 0       0.0962       1.26  |     Q    |           |           |         V |
  1+ 5       0.1001       0.58  | Q        |           |           |          V|
  1+10       0.1014       0.19  Q          |           |           |          V|
  1+15       0.1017       0.04  Q          |           |           |          V|
  1+20       0.1018       0.01  Q          |           |           |         V
      ------------------------------------------------------------------------
```
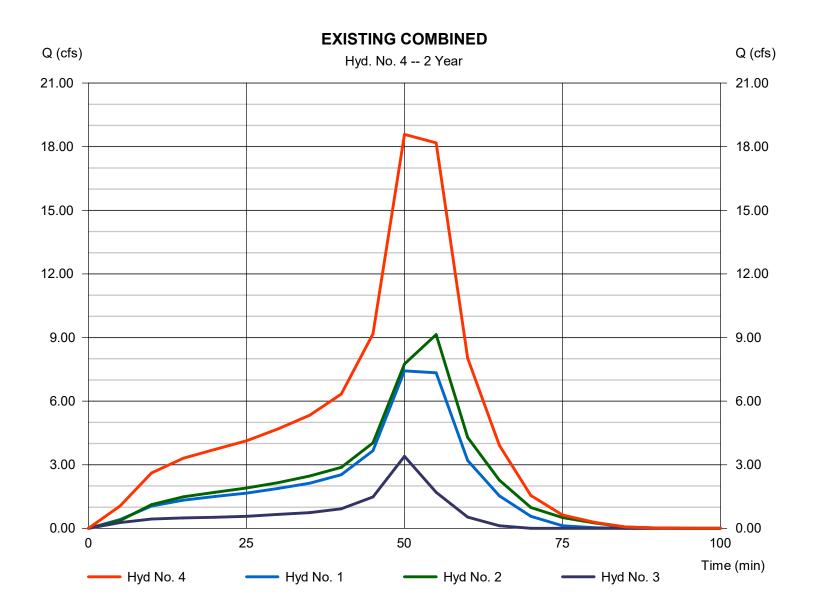
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Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6538

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

 English Units used in output format

POST POINT 2
ARLINGTON
03/15/2023

Drainage Area =   9.58(Ac.) =   0.015 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =   9.58(Ac.) =   0.015 Sq. Mi.
Length along longest watercourse =   1796.00(Ft.)
Length along longest watercourse measured to centroid =   898.00(Ft.)
Length along longest watercourse =   0.340 Mi.
Length along longest watercourse measured to centroid =   0.170 Mi.
Difference in elevation =   4.00(Ft.)
Slope along watercourse =   11.7595 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =   0.076 Hr.
Lag time =   4.58 Min.
25% of lag time =   1.14 Min.
40% of lag time =   1.83 Min.
Unit time =   5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =   0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]   Rainfall(In)[2]   Weighting[1*2]
       9.58   0.50   4.79

100 YEAR Area rainfall data:

Area(Ac.)[1]   Rainfall(In)[2]   Weighting[1*2]
       9.58   1.00   9.58

```
        STORM EVENT (YEAR) =     2.00
        Area Averaged 2-Year Rainfall =     0.500(In)
        Area Averaged 100-Year Rainfall =    1.000(In)

        Point rain (area averaged) =     0.500(In)
        Areal adjustment factor =    99.99 %
        Adjusted average point rain =     0.500(In)

        Sub-Area Data:
        Area(Ac.)           Runoff Index    Impervious %
            9.580               56.00           0.900
         Total Area Entered =       9.58(Ac.)


        RI     RI    Infil. Rate Impervious   Adj. Infil. Rate  Area%      F
        AMC2 AMC-2    (In/Hr)     (Dec.%)        (In/Hr)        (Dec.)    (In/Hr)
        56.0  56.0     0.511      0.900          0.097          1.000     0.097
                                                            Sum (F) =    0.097
        Area averaged mean soil loss (F) (In/Hr) =   0.097
        Minimum soil loss rate ((In/Hr)) =   0.049
        (for 24 hour storm duration)
        Soil low loss rate (decimal) =    0.180
        ------------------------------------------------------------------------
        Slope of intensity-duration curve for a 1 hour storm =0.5500
        ------------------------------------------------------------------------

                         U n i t   H y d r o g r a p h
                              VALLEY S-Curve
        ------------------------------------------------------------------------
                         Unit Hydrograph Data
        ------------------------------------------------------------------------
        Unit time period   Time % of lag    Distribution   Unit Hydrograph
             (hrs)                            Graph %           (CFS)
        ------------------------------------------------------------------------
            1    0.083          109.197          21.998           2.124
            2    0.167          218.394          48.820           4.714
            3    0.250          327.591          14.402           1.390
            4    0.333          436.788           6.585           0.636
            5    0.417          545.984           3.657           0.353
            6    0.500          655.181           2.291           0.221
            7    0.583          764.378           1.344           0.130
            8    0.667          873.575           0.902           0.087
                                          Sum = 100.000   Sum=        9.655
    ------------------------------------------------------------------------


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

 Unit Time   Pattern    Storm Rain      Loss rate(In./Hr)       Effective
     (Hr.)   Percent    (In/Hr)         Max   |   Low           (In/Hr)
  1   0.08    3.30        0.198       (  0.097)       0.036        0.162
  2   0.17    4.20        0.252       (  0.097)       0.045        0.207
  3   0.25    4.40        0.264       (  0.097)       0.048        0.216
  4   0.33    4.80        0.288       (  0.097)       0.052        0.236
  5   0.42    5.20        0.312       (  0.097)       0.056        0.256
  6   0.50    6.20        0.372       (  0.097)       0.067        0.305
```

```
  7   0.58      6.80      0.408       (  0.097)        0.073        0.335
  8   0.67      8.80      0.528       (  0.097)        0.095        0.433
  9   0.75     13.90      0.834          0.097      (  0.150)       0.737
 10   0.83     31.40      1.884          0.097      (  0.339)       1.787
 11   0.92      7.20      0.432       (  0.097)        0.078        0.354
 12   1.00      3.80      0.228       (  0.097)        0.041        0.187
                    (Loss Rate Not Used)
     Sum =      100.0                              Sum =      5.2
         Flood volume = Effective rainfall      0.43(In)
          times area       9.6(Ac.)/[(In)/(Ft.)] =       0.3(Ac.Ft)
         Total soil loss =      0.07(In)
         Total soil loss =    0.052(Ac.Ft)
         Total rainfall =      0.50(In)
         Flood volume =      15111.8 Cubic Feet
         Total soil loss =     2274.3 Cubic Feet
         -----------------------------------------------------------------
         Peak flow rate of this hydrograph =     10.719(CFS)
         -----------------------------------------------------------------
         +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                         1 - H O U R    S T O R M
                     R u n o f f     H y d r o g r a p h
         -----------------------------------------------------------------
                   Hydrograph in    5   Minute intervals ((CFS))


         -----------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0          5.0        10.0       15.0       20.0
         -----------------------------------------------------------------
   0+ 5       0.0024      0.34  Q         |          |          |          |
   0+10       0.0107      1.20  |VQ       |          |          |          |
   0+15       0.0221      1.66  | VQ      |          |          |          |
   0+20       0.0353      1.91  |  QV     |          |          |          |
   0+25       0.0501      2.15  |    QV   |          |          |          |
   0+30       0.0668      2.43  |   Q  V  |          |          |          |
   0+35       0.0861      2.80  |     Q    V|        |          |          |
   0+40       0.1085      3.26  |       Q  | V        |          |          |
   0+45       0.1392      4.46  |          Q |      V |          |          |
   0+50       0.1964      8.30  |          |        Q  | V        |          |
   0+55       0.2702     10.72  |          |          |Q         |V         |
   1+ 0       0.3068      5.31  |          Q          |          |    V     |
   1+ 5       0.3270      2.94  |     Q    |          |          |      V   |
   1+10       0.3364      1.37  | Q        |          |          |       V  |
   1+15       0.3417      0.77  |Q         |          |          |        V|
   1+20       0.3448      0.44  Q          |          |          |        V|
   1+25       0.3464      0.24  Q          |          |          |        V|
   1+30       0.3468      0.06  Q          |          |          |        V|
   1+35       0.3469      0.02  Q          |          |          |        V
         -----------------------------------------------------------------
```

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

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                 Study date  03/15/23 File: POSTARLINGTON312.out


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--------------------------------------------------------------------------

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


Program License Serial Number 6538

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

 English Units used in output format




--------------------------------------------------------------------------
POST POINT 3
ARLINGTON
03/15/2023

--------------------------------------------------------------------------
Drainage Area =        2.87(Ac.)  =       0.004 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       2.87(Ac.)  =       0.004 Sq. Mi.
Length along longest watercourse =     952.00(Ft.)
Length along longest watercourse measured to centroid =     476.00(Ft.)
Length along longest watercourse =      0.180 Mi.
Length along longest watercourse measured to centroid =      0.090 Mi.
Difference in elevation =      12.00(Ft.)
Slope along watercourse =     66.5546 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =    0.034 Hr.
Lag time =    2.03 Min.
25% of lag time =     0.51 Min.
40% of lag time =     0.81 Min.
Unit time =     5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]      Rainfall(In)[2]      Weighting[1*2]
      2.87             0.50                   1.44


100 YEAR Area rainfall data:


Area(Ac.)[1]      Rainfall(In)[2]      Weighting[1*2]
      2.87             1.00                   2.87
```

```
        STORM EVENT (YEAR) =     2.00
        Area Averaged 2-Year Rainfall =     0.500(In)
        Area Averaged 100-Year Rainfall =    1.000(In)

        Point rain (area averaged) =    0.500(In)
        Areal adjustment factor =   100.00 %
        Adjusted average point rain =    0.500(In)

        Sub-Area Data:
        Area(Ac.)          Runoff Index    Impervious %
            2.870              56.00            0.900
         Total Area Entered =     2.87(Ac.)


        RI     RI    Infil. Rate Impervious   Adj. Infil. Rate  Area%      F
        AMC2 AMC-2     (In/Hr)     (Dec.%)        (In/Hr)        (Dec.)   (In/Hr)
        56.0  56.0     0.511       0.900          0.097          1.000     0.097
                                                               Sum (F) =   0.097
        Area averaged mean soil loss (F) (In/Hr) =   0.097
        Minimum soil loss rate ((In/Hr)) =  0.049
        (for 24 hour storm duration)
        Soil low loss rate (decimal) =   0.180
        ------------------------------------------------------------------------
        Slope of intensity-duration curve for a 1 hour storm =0.5500
        ------------------------------------------------------------------------

                        U n i t   H y d r o g r a p h
                            VALLEY S-Curve
        ------------------------------------------------------------------------
                        Unit Hydrograph Data
        ------------------------------------------------------------------------
        Unit time period   Time % of lag   Distribution   Unit Hydrograph
            (hrs)                            Graph %           (CFS)
        ------------------------------------------------------------------------
            1    0.083        245.895          50.355           1.456
            2    0.167        491.789          40.309           1.166
            3    0.250        737.684           7.156           0.207
            4    0.333        983.579           2.180           0.063
                                        Sum = 100.000   Sum=     2.892
        ---------------------------------------------------------------------


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

    Unit Time   Pattern   Storm Rain     Loss rate(In./Hr)      Effective
       (Hr.)    Percent    (In/Hr)       Max   |   Low          (In/Hr)
     1   0.08    3.30       0.198      (  0.097)      0.036       0.162
     2   0.17    4.20       0.252      (  0.097)      0.045       0.207
     3   0.25    4.40       0.264      (  0.097)      0.048       0.216
     4   0.33    4.80       0.288      (  0.097)      0.052       0.236
     5   0.42    5.20       0.312      (  0.097)      0.056       0.256
     6   0.50    6.20       0.372      (  0.097)      0.067       0.305
     7   0.58    6.80       0.408      (  0.097)      0.073       0.335
     8   0.67    8.80       0.528      (  0.097)      0.095       0.433
     9   0.75   13.90       0.834         0.097    (  0.150)      0.737
    10   0.83   31.40       1.884         0.097    (  0.339)      1.787
```

```
11   0.92      7.20       0.432       (  0.097)        0.078         0.354
12   1.00      3.80       0.228       (  0.097)        0.041         0.187
                 (Loss Rate Not Used)
   Sum =       100.0                                    Sum =      5.2
      Flood volume = Effective rainfall      0.43(In)
       times area      2.9(Ac.)/[(In)/(Ft.)] =        0.1(Ac.Ft)
      Total soil loss =      0.07(In)
      Total soil loss =     0.016(Ac.Ft)
      Total rainfall =      0.50(In)
      Flood volume =       4527.5 Cubic Feet
      Total soil loss =       681.4 Cubic Feet
     ---------------------------------------------------------------------
      Peak flow rate of this hydrograph =      3.574(CFS)
     ---------------------------------------------------------------------
      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                         1 - H O U R    S T O R M
                    R u n o f f    H y d r o g r a p h
     ---------------------------------------------------------------------
                  Hydrograph in    5   Minute intervals ((CFS))


     ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0          2.5         5.0         7.5         10.0
     ---------------------------------------------------------------------
   0+ 5        0.0016      0.24  Q        |          |          |          |
   0+10        0.0050      0.49  |Q       |          |          |          |
   0+15        0.0091      0.59  | QV     |          |          |          |
   0+20        0.0135      0.65  | Q  V   |          |          |          |
   0+25        0.0184      0.71  | Q     V|          |          |          |
   0+30        0.0240      0.81  |   Q      V|        |          |          |
   0+35        0.0302      0.91  |   Q      |V        |          |          |
   0+40        0.0378      1.10  |    Q     |   V     |          |          |
   0+45        0.0493      1.67  |      Q   |      V  |          |          |
   0+50        0.0739      3.57  |         |    Q    |       V  |          |
   0+55        0.0931      2.78  |         |Q        |          |     V    |
   1+ 0        0.1007      1.10  |    Q    |         |          |        V |
   1+ 5        0.1034      0.40  |Q       |          |          |         V|
   1+10        0.1039      0.06  Q        |          |          |         V|
   1+15        0.1039      0.01  Q        |          |          |         V
     ---------------------------------------------------------------------
```

Hydrograph Report

Wednesday, 03 / 15 / 2023

Hyd. No. 4

POST COMBINED

Hydrograph type	= Combine		Peak discharge	= 16.44 cfs
Storm frequency	= 2 yrs		Time to peak	= 55 min
Time interval	= 5 min		Hyd. volume	= 24,078 cuft
Inflow hyds.	= 1, 2, 3		Contrib. drain. area	= 0.000 ac

POST COMBINED

Hyd. No. 4 -- 2 Year