Sixth Street Park, Arts and River Connectivity Improvements (PARC)

Preliminary Hydrology and Hydraulics Report – DRAFT

July, 2018

PRESENTED TO

City of Los Angeles
Department of Public Works
Bureau of Engineering
1149 S. Broadway, Suite 600
Los Angeles, CA 90015

PRESENTED BY

Tetra Tech
350 S Grand Ave, Suite 3310
Los Angeles, CA 90071
P (213) 279-3283
tetratech.com

Prepared by:

Justin Smith, PE

Reviewed by:

Mauricio Argente

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1.0 INTRODUCTION

The Sixth Street Viaduct Division of the City of Los Angeles (City) Department of Public Works (DPW), Bureau of Engineering (BOE), is proposing the construction of the Sixth Street Park, Arts, River & Connectivity Improvements (PARC) Project. The Sixth Street PARC Project includes the creation of public recreational space on approximately 12 acres in areas underneath and adjacent to the Sixth Street Viaduct (Viaduct) in the City of Los Angeles.

This scope of this report is to prepare hydrologic and hydraulic calculations for the proposed project in order to size storm drainage facilities to meet the stormwater management requirements of the City and County of Los Angeles.

2.0 PROJECT DESCRIPTION AND PURPOSE

The proposed Project is located under and adjacent to the Sixth Street Viaduct (Viaduct) between Mateo Street to the west and the United States Highway 101 (U.S. 101) to the east in the City of Los Angeles (Project Area). The proposed Project will connect the Downtown LA Arts District, Boyle Heights and the Los Angeles River (River). The Project Area is located in Council District 14 at the boundary of the City of Los Angeles' Central City North and Boyle Heights Community Plan areas.

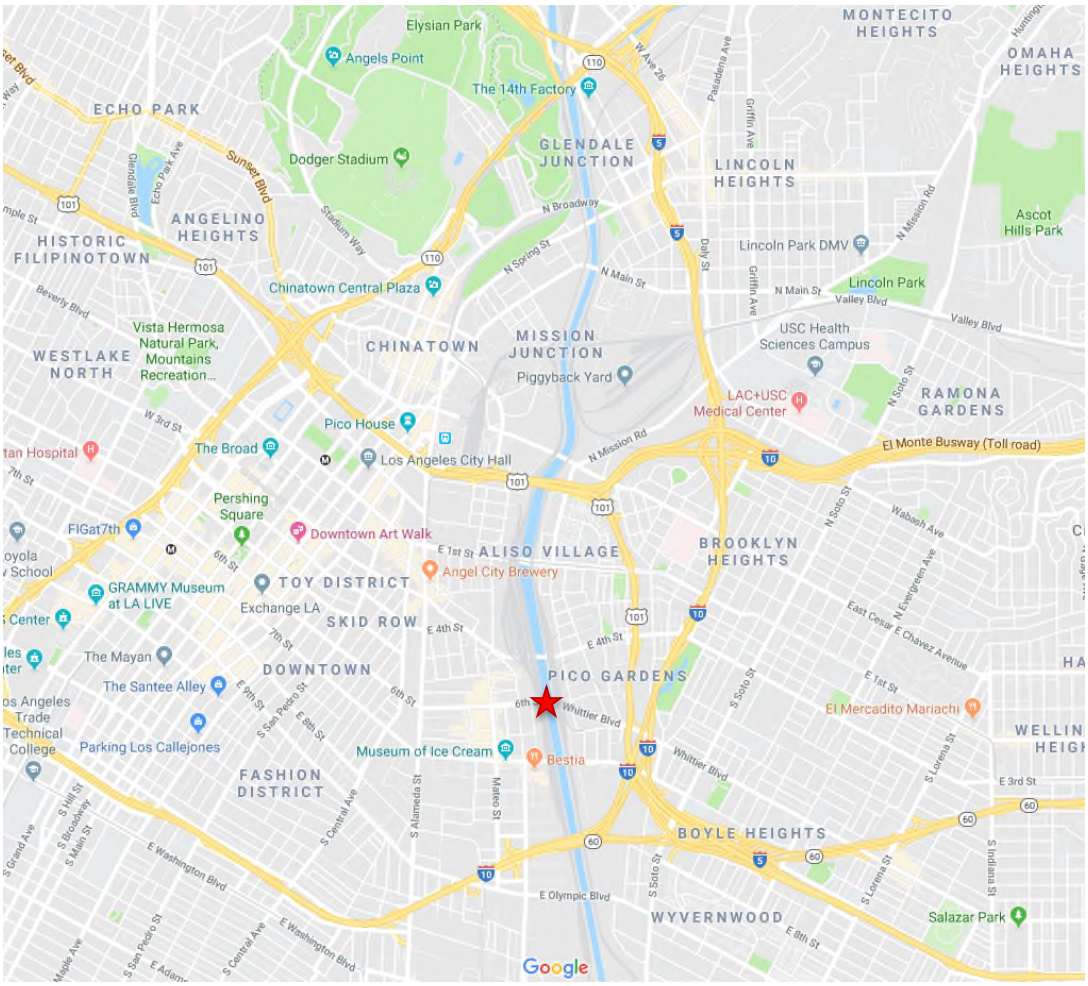


Figure 1. Project Location

The Project Area is located within a fully developed, mixed-use urban setting adjacent to the River. Land uses along the north and south sides of the Viaduct are predominately industrial and commercial. The existing space was primarily developed with industrial and commercial buildings, parking lots, and the old Viaduct that have since been removed as part of the new Sixth Street Viaduct's construction. Outside of the remaining paved roadways running through the Project Area, the site is currently primarily pervious with only minor areas of asphalt and concrete paving remaining within the Project Area. In the existing condition before the previous improvements were removed, runoff generally entered the streets via roof drains where it was intercepted by existing drainage facilities, or it was collected in local site drainage facilities and conveyed to the adjacent main line storm drainage facilities within the roadways. With the existing improvements removed, runoff generally sheet flows across the Project Area into the adjacent roadways where it is intercepted by the existing storm drainage facilities. The PARC Project proposes to redevelop the area with primarily pervious park space. When comparing the proposed Project (neglecting the new Viaduct to be constructed overhead) with the conditions before the existing improvements were removed, the Project Area impervious percentage will be reduced from nearly 100% to approximately 35%. When comparing the proposed Project (neglecting the new Viaduct to be constructed overhead) with the conditions after the existing improvements were removed, the Project Area impervious percentage will be increased from about 15% to approximately 35%. After accounting for the impact of the new Viaduct to be constructed overhead, the Project Area impervious percentage will be approximately 65% rather than 35%. Therefore, the Project Area runoff is anticipated to be reduced when compared to the condition without the existing improvements removed and to be increased when compared to the current condition with the existing improvements removed. Additional PARC Project improvements will include modifications to the adjacent roadways along Santa Fe Avenue, Mission Road, Anderson Street, and Clarence Street. However, the hydrologic condition of these areas will be similar to the current condition, and therefore runoff will be similar to the current condition. As part of the overall improvements, new storm drainage facilities will be sized and installed to manage runoff from the Project Area, tributary runoff from the Viaduct to be constructed overhead, and adjacent roadway runoff as discussed within this report and the Project's Low Impact Development Report (**See Appendix E**). The captured runoff will be conveyed to the existing storm drainage facilities adjacent to the site. Per the attachments in **Appendix G**, the Los Angeles River, a major floodway, is the only FEMA Flood Zone "A" mapped area in the vicinity of the Project Site.

3.0 HYDROLOGY CALCULATIONS

Hydrology analyses for the current Project Area condition with previous site improvements removed (existing condition per the PARC Project's environmental documents) and the proposed condition with the new Viaduct constructed overhead were performed in compliance with the Los Angeles County Department of Public Works Hydrology Manual dated January 2006. The HydroCalc program, developed by Los Angeles County, was used to calculate the peak flow rates and peak flow volumes for each of the subareas shown on the Hydrology Maps in **Appendix A**. The HydroCalc program utilizes the Modified Rational Method. The subareas for the current Project Area are shown on Sheets EH-1 and EH-2. The subareas were split into E-Subareas (PARC Areas) and ES-Subareas (adjacent street areas). The subareas for the proposed condition with the new Viaduct constructed overhead are shown on Sheets EH-3 and EH-4. The subareas were split into P-Subareas (PARC areas), V-Subareas (Viaduct areas above the PARC), and S-Subareas (adjacent street areas). Calculations were performed for the 2-Year, 5-Year, 10-Year, 25-Year, and 50-Year, 24-Hour Design Storm Events. Input data was obtained from the Los Angeles County Hydrology Map (located at http://dpw.lacounty.gov/wrd/hydrologygis/). This data is included in **Appendix B**. At the project location, the 50-Year, 24-Hour rainfall depth is equal to 5.9 inches. Existing site, proposed Viaduct, and Roadway Subarea flow lengths and slopes were based upon the Viaduct Construction Plans and the existing topographic data for the site and roadways. The flow lengths and slopes for the remaining proposed PARC Project Subareas were set equal to 100 feet and 2 percent respectively due to the relatively flat Project area in which runoff will be captured by area drains spread throughout the site. This assumption sets the time of concentration for each PARC subarea equal to the 5-minute minimum which results in conservative peak flow rates. Full reports generated by the HydroCalc program are included in **Appendix C**.

Tables 1 and 2 summarize the results of the calculations for the subareas shown on the Hydrology Maps in **Appendix A**. Refer to the results within **Appendix C** for additional information. Total subarea acreage varies between the existing and proposed condition due to the additional area included in the proposed condition due to some of the Viaduct subareas (Portion of Subarea V.2, Subarea V.3, Portion of Subarea V.4 and Portion of Subarea V.10). In the existing condition, runoff within these areas does not enter the Project Site. Additionally, the tributary area to Subarea S.1 is anticipated to slightly increase based upon a separate Metro project currently in construction. Peak flow rates to be used for the hydraulic calculations within Section 4.0 will be summed at junctions as necessary. This approach is conservative due to the fact that it yields a slightly higher peak runoff if compared to an alternative approach which analyzes all sub-areas and utilizes surface routing to generate lag time.

Sixth Street PARC Pre-Project Subareas							
Subarea	**Area, ac**	**% Imp.**	**Q_{2yr}, cfs**	**Q_{5yr}, cfs**	**Q_{10yr}, cfs**	**Q_{25yr}, cfs**	**Q_{50yr}, cfs**
E1	1.93	12	1.60	3.01	3.89	4.99	5.86
E2	1.78	75	1.21	2.23	2.90	3.84	4.71
E3	7.32	3	1.72	5.27	7.82	11.13	14.76
ES1	0.68	87	0.52	0.92	1.20	1.59	1.96
ES2	0.81	90	0.57	1.01	1.30	1.78	2.17
ES3	2.93	99	1.82	3.22	4.22	5.39	6.40
ES4	1.61	71	1.11	2.10	2.76	3.70	4.59
Totals	**17.06**	**42**	**8.55**	**17.76**	**24.09**	**32.42**	**40.45**

Table 1. Pre-Project 24-Hour Design Storm Event Results

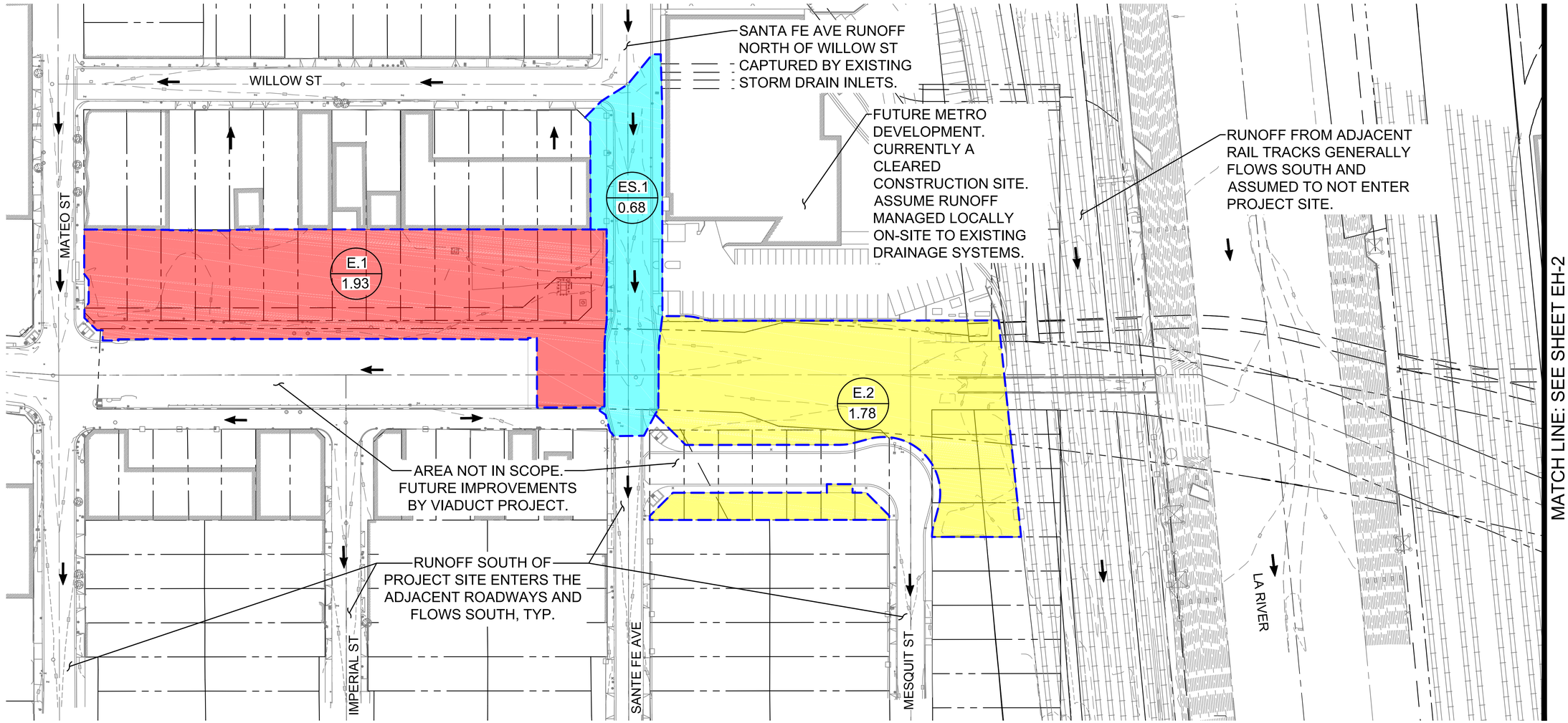
Sixth Street PARC and Viaduct Post-Project Subareas							
Subarea	Area, ac	% Imp.	Q_{2yr}, cfs	Q_{5yr}, cfs	Q_{10yr}, cfs	Q_{25yr}, cfs	Q_{50yr}, cfs
P1	1.78	42	1.83	2.95	3.74	4.72	5.49
P2	0.19	5	0.17	0.29	0.38	0.49	0.58
P3	0.20	65	0.22	0.35	0.43	0.54	0.62
P4	0.27	1	0.24	0.41	0.54	0.69	0.82
P5	0.19	5	0.17	0.29	0.38	0.49	0.58
P6	0.51	25	0.50	0.82	1.05	1.33	1.56
P7	0.15	6	0.14	0.23	0.30	0.39	0.45
P8	0.45	76	0.52	0.80	0.99	1.23	1.41
P9	1.44	43	1.49	2.39	3.03	3.82	4.44
P10	0.68	15	0.64	1.07	1.38	1.76	2.07
P11	0.34	30	0.34	0.55	0.70	0.89	1.04
P12	0.47	1	0.42	0.72	0.93	1.20	1.42
P13	0.02	1	0.02	0.03	0.04	0.05	0.06
V1	0.84	100	0.95	1.55	1.90	2.34	2.66
V2	0.74	100	0.77	1.37	1.67	2.06	2.34
V3	0.58	100	0.61	0.99	1.31	1.61	1.84
V4	0.72	100	0.67	1.22	1.49	2.00	2.28
V5	0.65	100	0.64	1.10	1.47	1.81	2.06
V6	0.69	100	0.68	1.17	1.56	1.92	2.19
V7	0.69	100	0.68	1.17	1.56	1.92	2.19
V8	0.69	100	0.68	1.17	1.56	1.92	2.19
V9	0.69	100	0.68	1.17	1.56	1.92	2.19
V10	0.64	100	0.67	1.09	1.45	1.78	2.03
S1	0.77	100	0.72	1.22	1.60	2.14	2.44
S2	0.49	100	0.43	0.77	1.02	1.36	1.55
S3	2.64	100	1.87	3.24	4.31	5.57	6.71
S4	1.43	69	1.19	2.11	2.83	3.88	4.47
Totals	**18.95**	**74**	**17.94**	**30.24**	**39.18**	**49.83**	**57.68**

Table 2. Post-Project 24-Hour Design Storm Event Results

4.0 HYDRAULIC CALCULATIONS

(Section to be completed at a later time.)

APPENDIX A – HYDROLOGY MAP



LEGEND:

- WEST PARK LIMIT OF WORK
- ARTS PLAZA LIMIT OF WORK
- EAST PARK LIMIT OF WORK
- SANTA FE AVENUE TRIBUTARY WATERSHED
- MISSION ROAD AVENUE TRIBUTARY WATERSHED
- ANDERSON STREET TRIBUTARY WATERSHED
- CLARENCE STREET TRIBUTARY WATERSHED
- DRAINAGE SUBAREA BOUNDARY
- TYP. DRAINAGE PATTERN
- X.X / XX.X — SUBAREA / ACREAGE

N

0 30' 60' 120'
SCALE: 1" = 60'

PLANS PREPARED BY:
TETRA TECH, INC.
350 SOUTH GRAND AVENUE, SUITE 3310
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Phone: (213) 279-3283

REVISION DATES (DESIGN STAGE ONLY)

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HORIZ. CONTROL:

SHEET TITLE: PRE-PROJECT HYDROLOGY MAP

PROJECT: SIXTH STREET PARK, ARTS AND RIVER CONNECTIVITY IMPROVEMENTS (PARC)

ADDRESS: SIXTH STREET OVER THE LOS ANGELES RIVER

WORK ORDER NO. E700235D
FILE NO. --
DRAWING NO. EH-1
SHEET 1 OF 4 SHEETS

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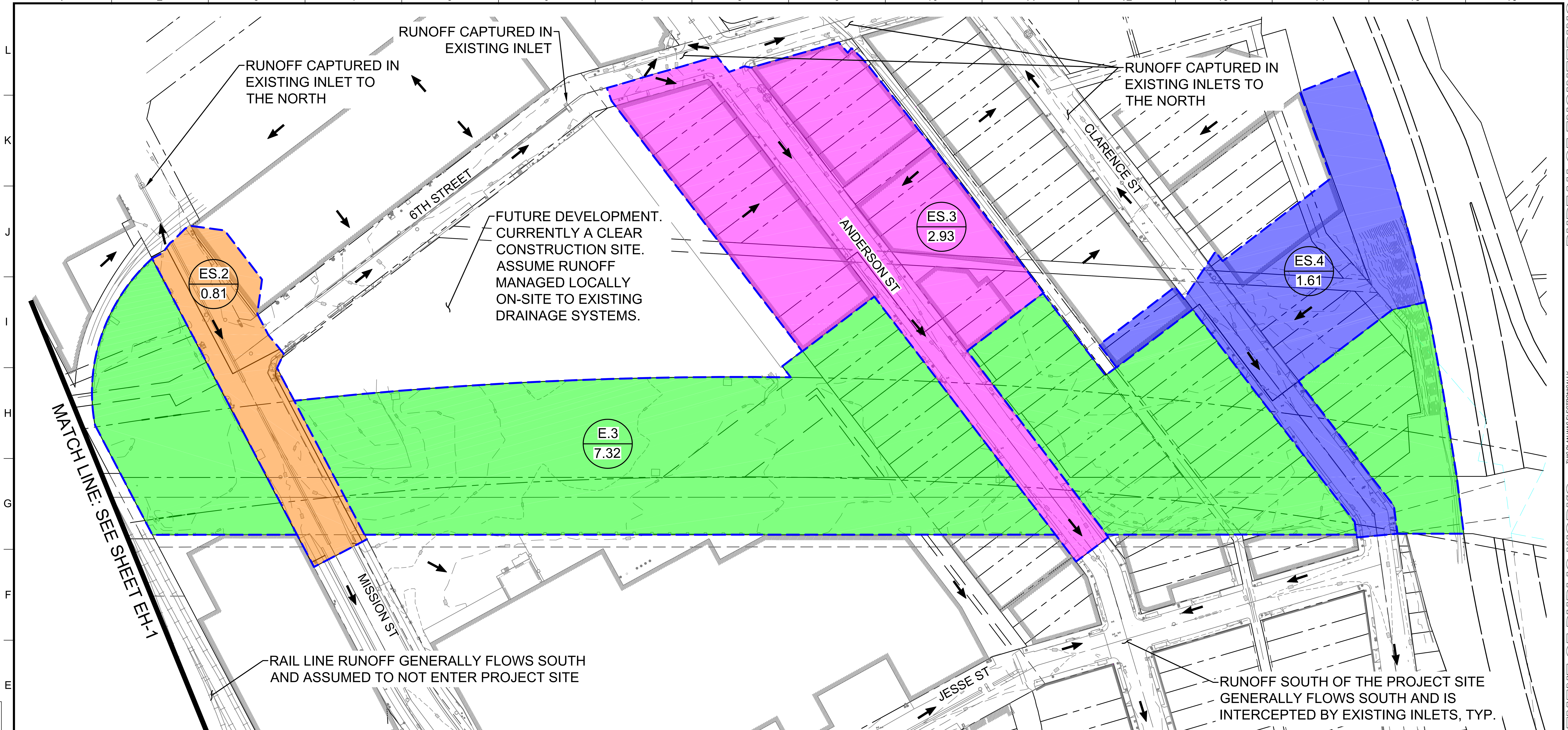

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SCALE: 1" = 60'

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SANTA FE AVE RUNOFF NORTH OF WILLOW ST CAPTURED BY EXISTING STORM DRAIN INLETS.

SITE DRAINAGE ASSUMED TO BE CAPTURED IN LOCAL SITE DRAINAGE SYSTEMS.

RUNOFF FROM ADJACENT RAIL TRACKS GENERALLY FLOWS SOUTH AND ASSUMED TO NOT ENTER PROJECT SITE.

WILLOW ST

MATEO ST

BMP NO. 7 - SEE LID REPORT

PARC MAIN LINE STORM DRAIN LINE A

BMP NO. 1 - SEE LID REPORT

S.1 0.77

P.1 1.78

P.2 0.19

VIADUCT DISCHARGE LOCATION, TYP.

V.1 0.77

V.2 0.74

V.3 0.58

V.4 0.72

P.3 0.20

P.4 0.27

P.5 0.19

MATCH LINE: SEE SHEET EH-4

PROPOSED VIADUCT STORM DRAIN FACILITIES

REMAINING VIADUCT DRAINAGE ENTERS EXISTING STORM DRAIN SYSTEM.

EXISTING STORM DRAIN FACILITIES

RUNOFF SOUTH OF PROJECT SITE ENTERS THE ADJACENT ROADWAYS AND FLOWS SOUTH, TYP.

PROPOSED VIADUCT STORM DRAIN FACILITY

IMPERIAL ST

SANTE FE AVE

MESQUIT ST

LA RIVER

LEGEND:

- TYPICAL VIADUCT DRAINAGE AREA - DISCHARGES TO PARC PROJECT
- VIADUCT DRAINAGE AREA - DISCHARGES DIRECTLY TO RIVER. FILTER INSERTS INSTALLED IN VIADUCT DECK DRAINS.
- VIADUCT DRAINAGE AREA - DISCHARGES TO ARTS PLAZA INVERT AND TO THE RIVER THROUGH THE TUNNEL. FILTER INSERTS INSTALLED IN VIADUCT DECK DRAINS.
- PARC PROJECT AREA OUTSIDE OF VIADUCT FOOTPRINT
- PARC PROJECT AREA OUTSIDE OF VIADUCT FOOTPRINT - DRAINS TO ARTS PLAZA
- ADJACENT ROADWAY DRAINAGE AREA TO BE MANAGED BY PARC PROJECT
- EPIC SYSTEM BMP BELOW LAWN AREA PER LID REPORT
- VIADUCT DISCHARGE LOCATION
- DRAINAGE SUBAREA BOUNDARY
- TYP. VIADUCT/ROADWAY DRAINAGE PATTERN
- TYP. PARC DRAINAGE PATTERN

X.X / XX.X — SUBAREA / ACREAGE

NOTES:

1. LOCAL PARC PROJECT MINOR STORM DRAINAGE SYSTEMS NOT SHOWN FOR CLARITY.

N

0 30' 60' 120'
SCALE: 1" = 60'

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RUNOFF CAPTURED IN EXISTING INLET

RUNOFF CAPTURED IN EXISTING INLET TO THE NORTH

RUNOFF CAPTURED IN EXISTING INLETS TO THE NORTH

PARC AREA WEST OF MISSION RELATIVELY FLAT

6TH STREET

FUTURE DEVELOPMENT DRAINAGE ASSUMED TO BE CAPTURED WITHIN LOCAL DRAINAGE SYSTEMS.

ANDERSON ST

CLARENCE ST

EXISTING STORM DRAIN FACILITY

VIADUCT DISCHARGE LOCATION, TYP.

EXISTING STORM DRAIN FACILITY

PARC MAIN LINE STORM DRAIN LINE B

BMP NO. 6 - SEE LID REPORT

PARC MAIN LINE STORM DRAIN LINE F

MATCH LINE: SEE SHEET EH-3

MISSION ST

BMP NO. 3 - SEE LID REPORT

BMP NO. 8 - SEE LID REPORT

PARC MAIN LINE STORM DRAIN LINE C

BMP NO. 4 - SEE LID REPORT

PARC MAIN LINE STORM DRAIN LINE D

BMP NO. 5 - SEE LID REPORT

BMP NO. 2 - SEE LID REPORT

EXISTING STORM DRAIN FACILITY

EXISTING STORM DRAIN FACILITIES, TYP.

PARC MAIN LINE STORM DRAIN LINE E

EXISTING STORM DRAIN FACILITIES, TYP.

JESSE ST

RAIL LINE RUNOFF GENERALLY FLOWS SOUTH AND ASSUMED TO NOT ENTER PROJECT SITE

RUNOFF SOUTH OF THE PROJECT SITE GENERALLY FLOWS SOUTH AND IS INTERCEPTED BY EXISTING INLETS, TYP.

S.2	0.49	
S.3	2.64	
S.4	1.43	
P.6	0.51	
P.7	0.15	
P.8	0.45	
P.9	1.44	
P.10	0.68	
P.11	0.34	
P.12	0.47	
P.13	0.02	
V.4	0.72	
V.5	0.65	
V.6	0.69	
V.7	0.69	
V.8	0.69	
V.9	0.69	
V.10	0.64	

LEGEND:

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APPENDIX B – LOS ANGELES COUNTY GIS DATA

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Hydrology Map

A GIS viewer application to view the data for the hydrology manual.

LAYERS

- [x] 50yr Two Tenths (Rainfall)
- [ ] DPA Zones
- [ ] Soils 2004
- [ ] TG Page
- [ ] Final 85th Percentile, 24-hr Rainfall
- [ ] Final 95th Percentile, 24-hr Rainfall
- [ ] 1-year, 1-hour Rainfall Intensity

SEARCH

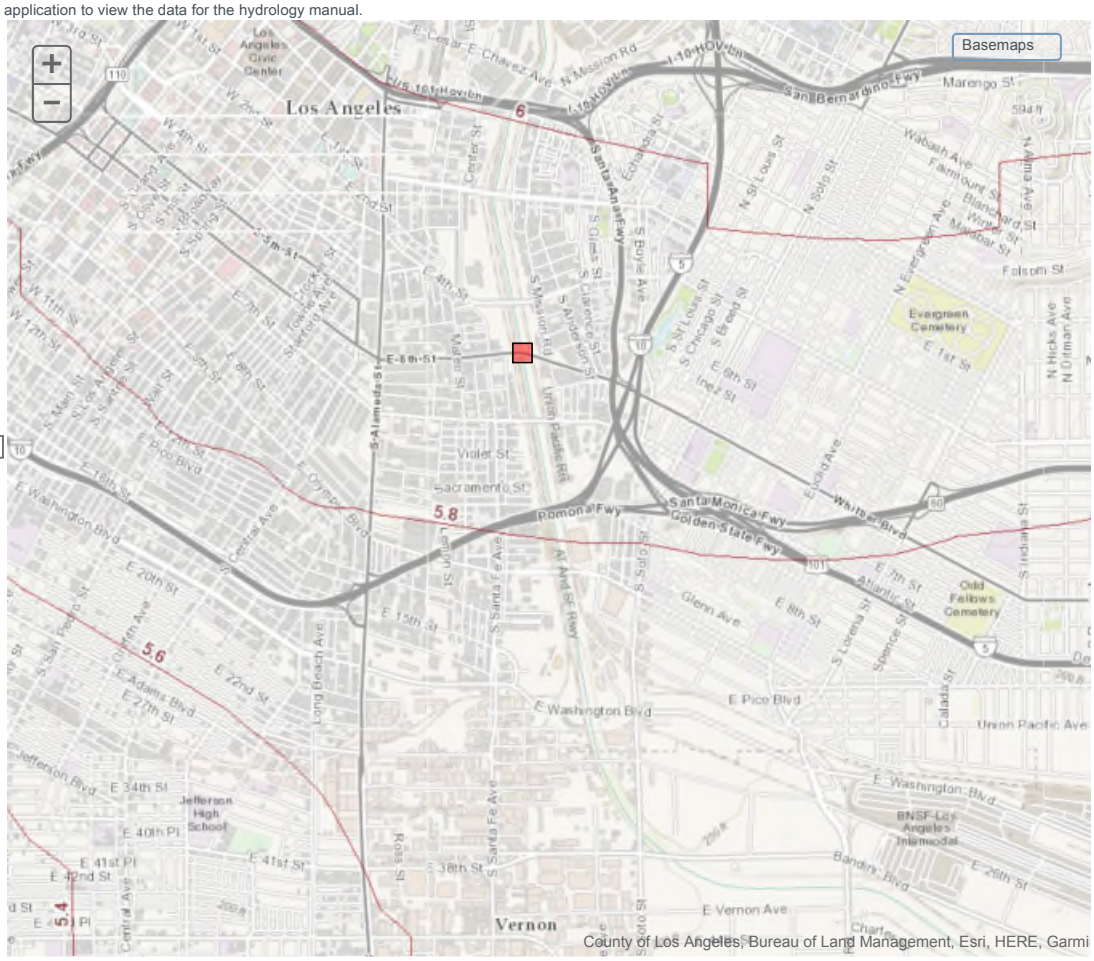
Zoom to TG Page:

Enter Address, Cross Street, or Parcel No.:
(ex: 900 S. Fremont Ave., Fremont@Valley, 5342005904)

Search

Address Search Results:

6th street viaduct



Map Tips

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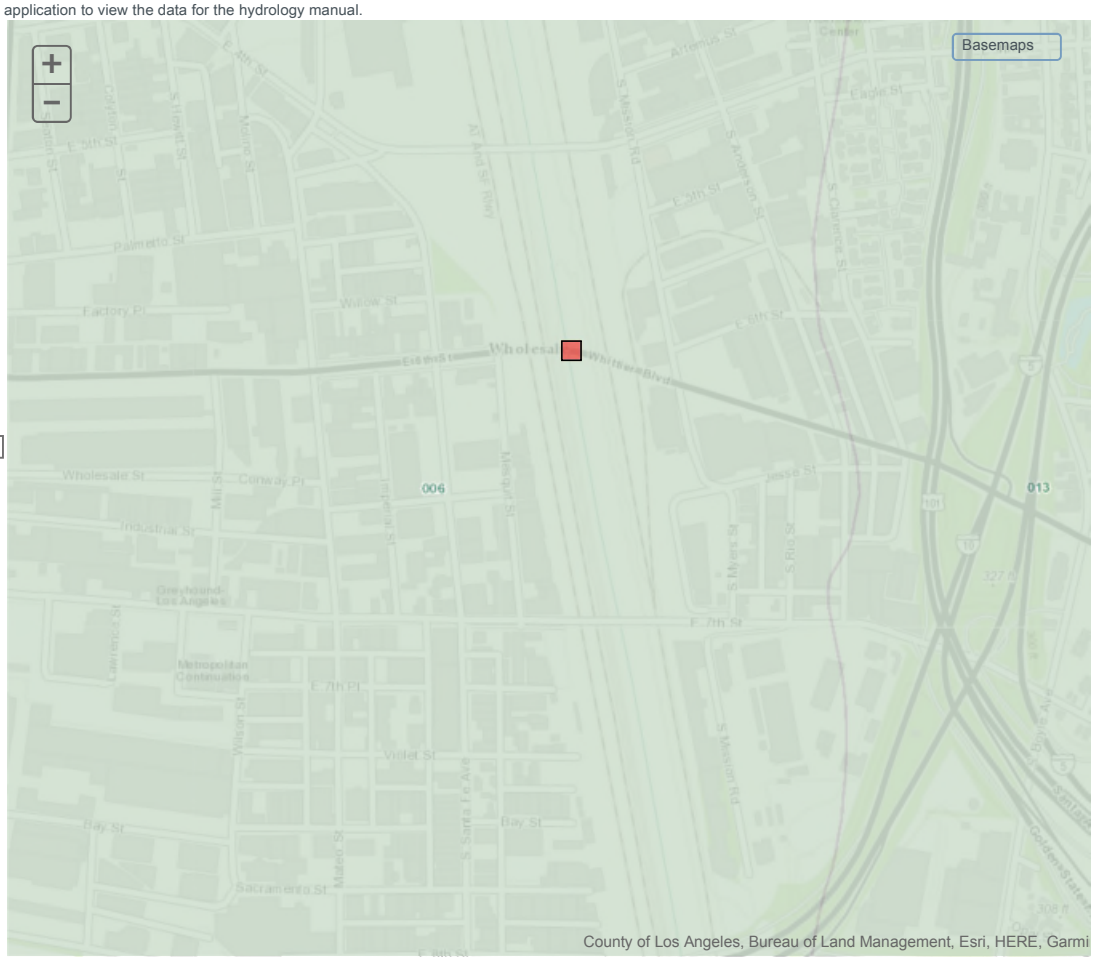
Enter Address, Cross Street, or Parcel No.:
(ex: 900 S. Fremont Ave., Fremont@Valley, 5342005904)

Search

Address Search Results:

6th street viaduct



Map Tips

APPENDIX C – HYDROCALC REPORTS

PRE-PROJECT CONDITION

Peak Flow Hydrologic Analysis

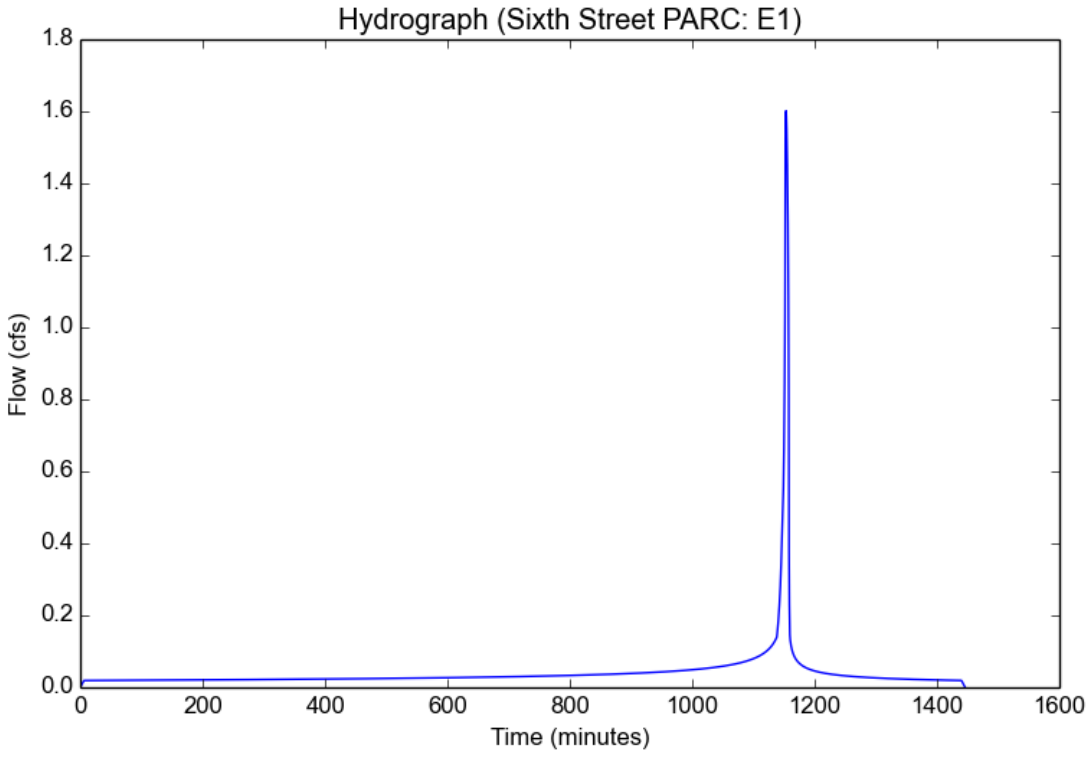
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/2-Yea
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	E1
Area (ac)	1.93
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.12
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	1.2504
Undeveloped Runoff Coefficient (Cu)	0.6314
Developed Runoff Coefficient (Cd)	0.6636
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	1.6015
Burned Peak Flow Rate (cfs)	1.6015
24-Hr Clear Runoff Volume (ac-ft)	0.0834
24-Hr Clear Runoff Volume (cu-ft)	3633.2793



Peak Flow Hydrologic Analysis

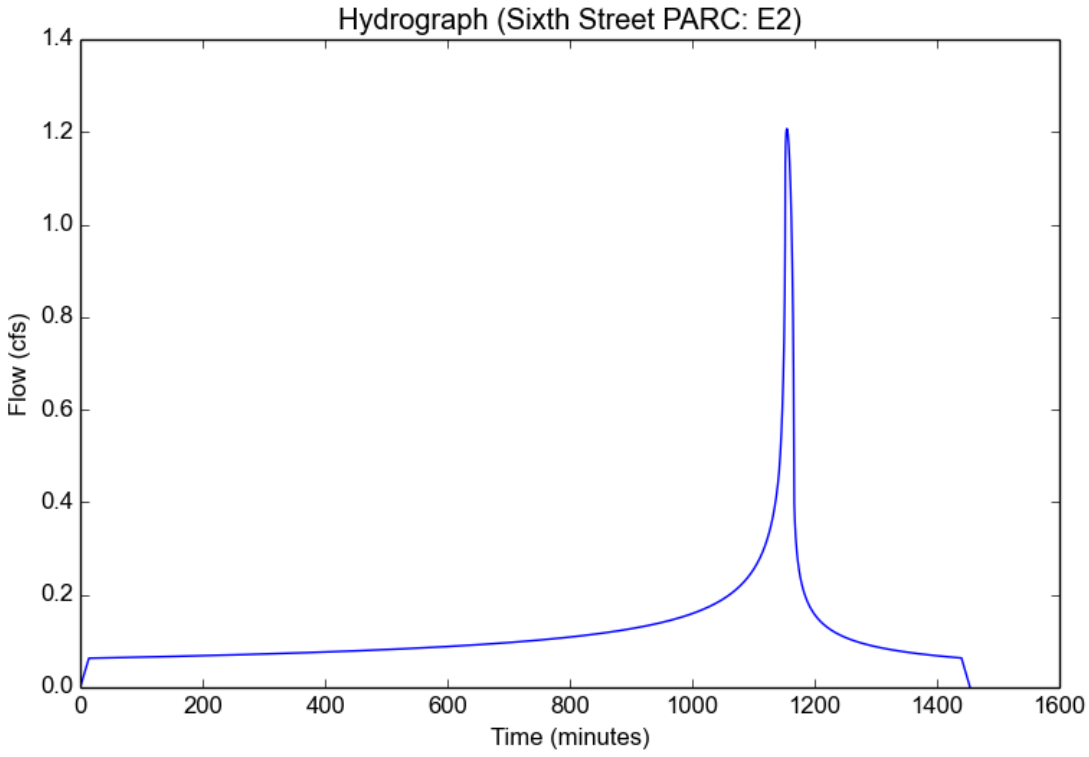
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/2-Yea
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	E2
Area (ac)	1.78
Flow Path Length (ft)	380.0
Flow Path Slope (vft/hft)	0.004
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.75
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	0.8397
Undeveloped Runoff Coefficient (Cu)	0.5305
Developed Runoff Coefficient (Cd)	0.8076
Time of Concentration (min)	14.0
Clear Peak Flow Rate (cfs)	1.2071
Burned Peak Flow Rate (cfs)	1.2071
24-Hr Clear Runoff Volume (ac-ft)	0.2382
24-Hr Clear Runoff Volume (cu-ft)	10373.9973



Peak Flow Hydrologic Analysis

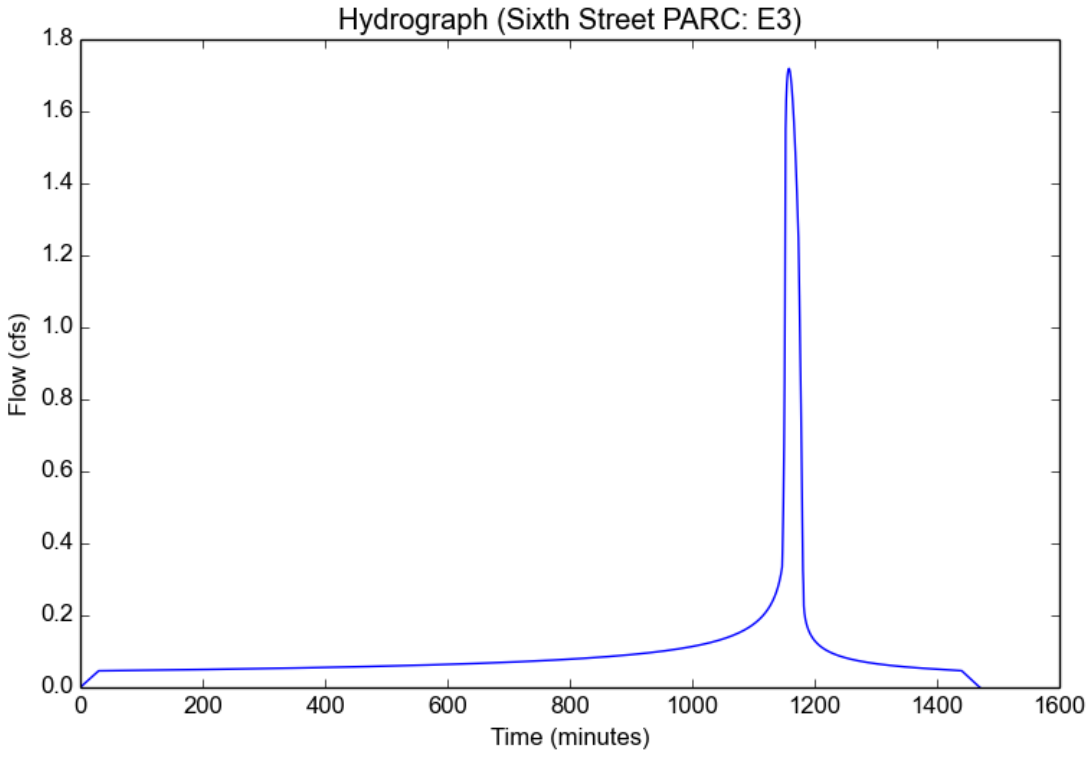
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/2-Yea
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	E3
Area (ac)	7.32
Flow Path Length (ft)	800.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.03
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	0.5869
Undeveloped Runoff Coefficient (Cu)	0.3847
Developed Runoff Coefficient (Cd)	0.4002
Time of Concentration (min)	30.0
Clear Peak Flow Rate (cfs)	1.719
Burned Peak Flow Rate (cfs)	1.719
24-Hr Clear Runoff Volume (ac-ft)	0.2092
24-Hr Clear Runoff Volume (cu-ft)	9112.5382



Peak Flow Hydrologic Analysis

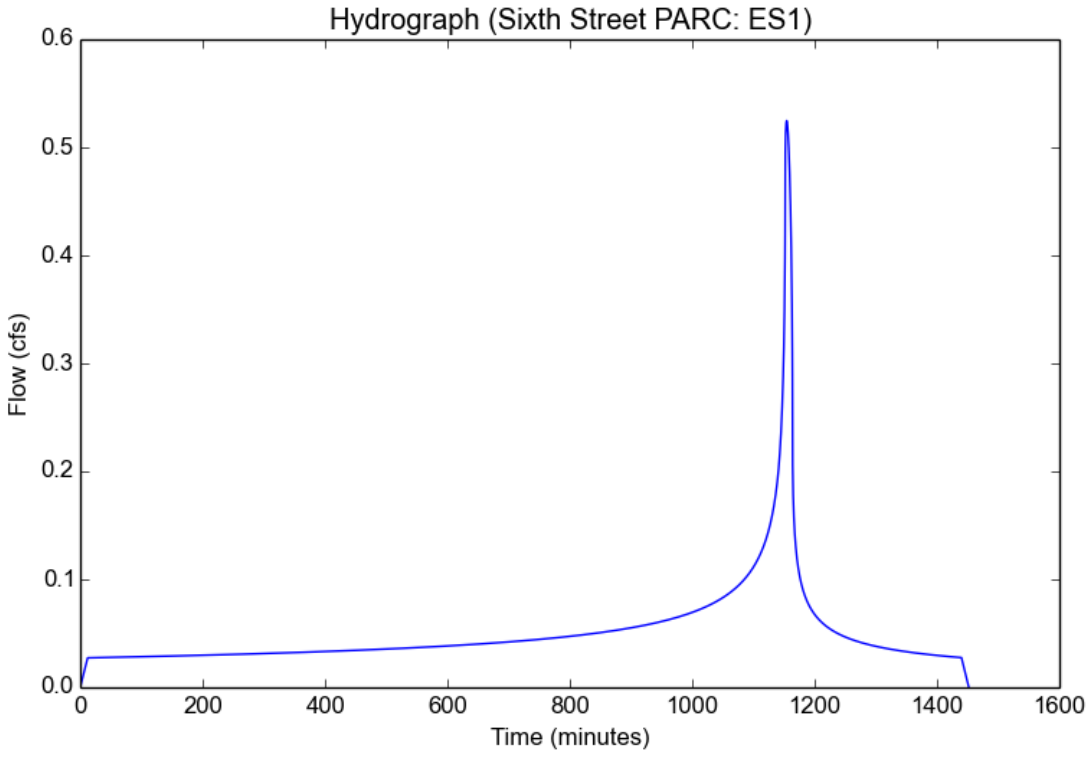
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/2-Yea
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	ES1
Area (ac)	0.68
Flow Path Length (ft)	415.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.87
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	0.9027
Undeveloped Runoff Coefficient (Cu)	0.552
Developed Runoff Coefficient (Cd)	0.8548
Time of Concentration (min)	12.0
Clear Peak Flow Rate (cfs)	0.5247
Burned Peak Flow Rate (cfs)	0.5247
24-Hr Clear Runoff Volume (ac-ft)	0.1028
24-Hr Clear Runoff Volume (cu-ft)	4475.8293



Peak Flow Hydrologic Analysis

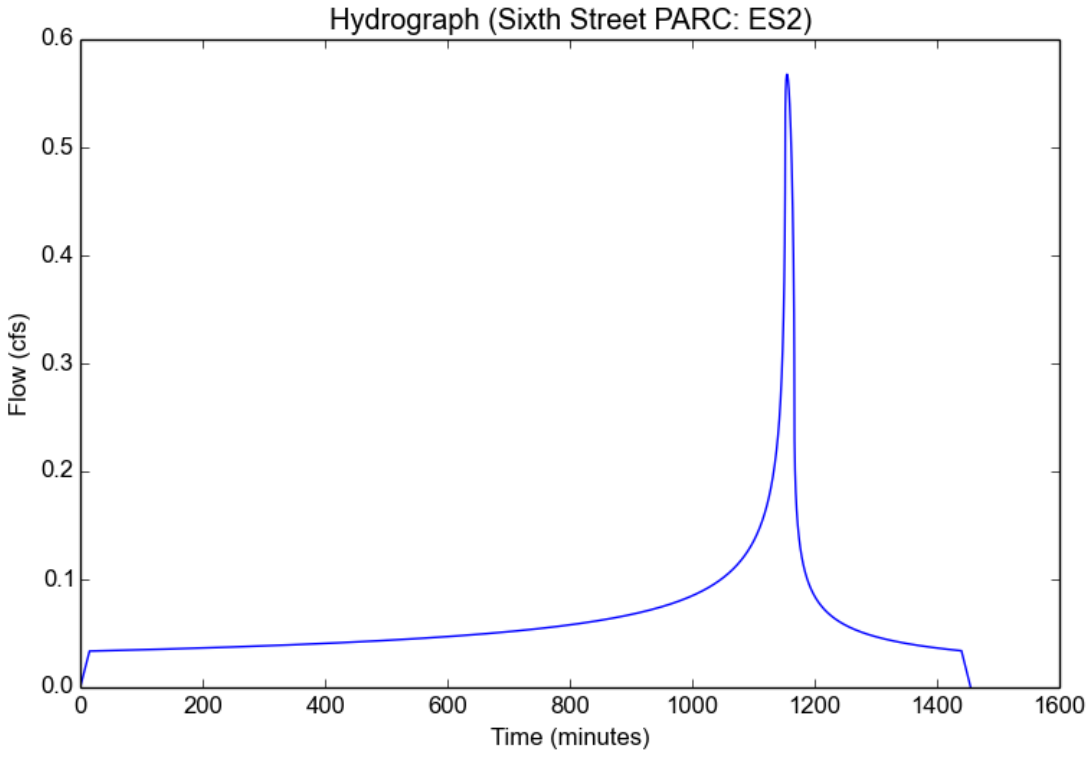
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/2-Yea
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	ES2
Area (ac)	0.81
Flow Path Length (ft)	435.0
Flow Path Slope (vft/hft)	0.004
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.9
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	0.8129
Undeveloped Runoff Coefficient (Cu)	0.5214
Developed Runoff Coefficient (Cd)	0.8621
Time of Concentration (min)	15.0
Clear Peak Flow Rate (cfs)	0.5676
Burned Peak Flow Rate (cfs)	0.5676
24-Hr Clear Runoff Volume (ac-ft)	0.1259
24-Hr Clear Runoff Volume (cu-ft)	5483.5123



Peak Flow Hydrologic Analysis

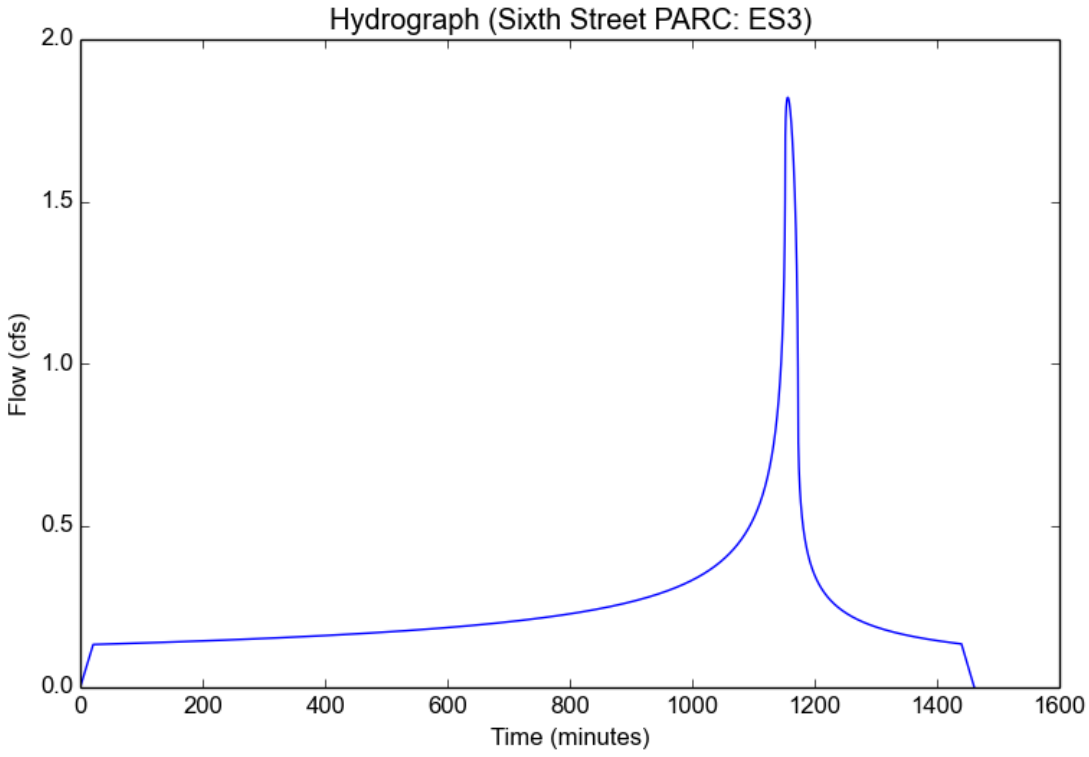
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/2-Yea
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	ES3
Area (ac)	2.93
Flow Path Length (ft)	735.0
Flow Path Slope (vft/hft)	0.0035
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.99
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	0.694
Undeveloped Runoff Coefficient (Cu)	0.4603
Developed Runoff Coefficient (Cd)	0.8956
Time of Concentration (min)	21.0
Clear Peak Flow Rate (cfs)	1.8211
Burned Peak Flow Rate (cfs)	1.8211
24-Hr Clear Runoff Volume (ac-ft)	0.4934
24-Hr Clear Runoff Volume (cu-ft)	21491.2049



Peak Flow Hydrologic Analysis

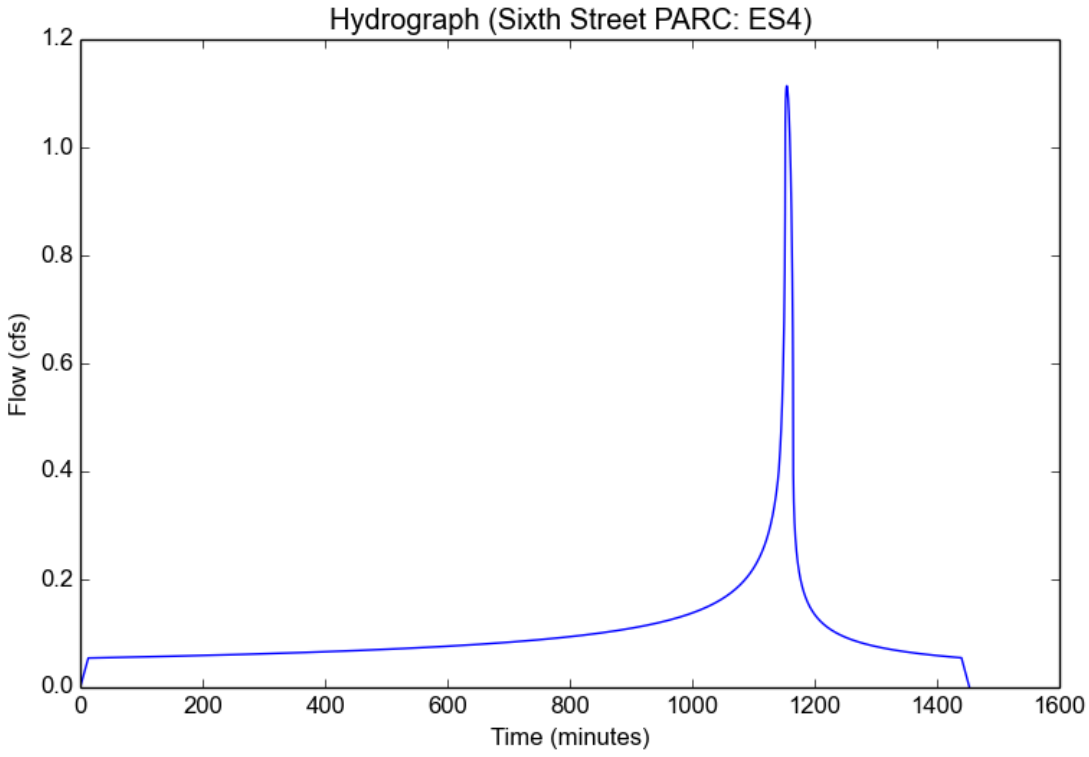
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/2-Yea
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	ES4
Area (ac)	1.61
Flow Path Length (ft)	400.0
Flow Path Slope (vft/hft)	0.008
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.71
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	0.8694
Undeveloped Runoff Coefficient (Cu)	0.5407
Developed Runoff Coefficient (Cd)	0.7958
Time of Concentration (min)	13.0
Clear Peak Flow Rate (cfs)	1.1139
Burned Peak Flow Rate (cfs)	1.1139
24-Hr Clear Runoff Volume (ac-ft)	0.2061
24-Hr Clear Runoff Volume (cu-ft)	8979.736



Peak Flow Hydrologic Analysis

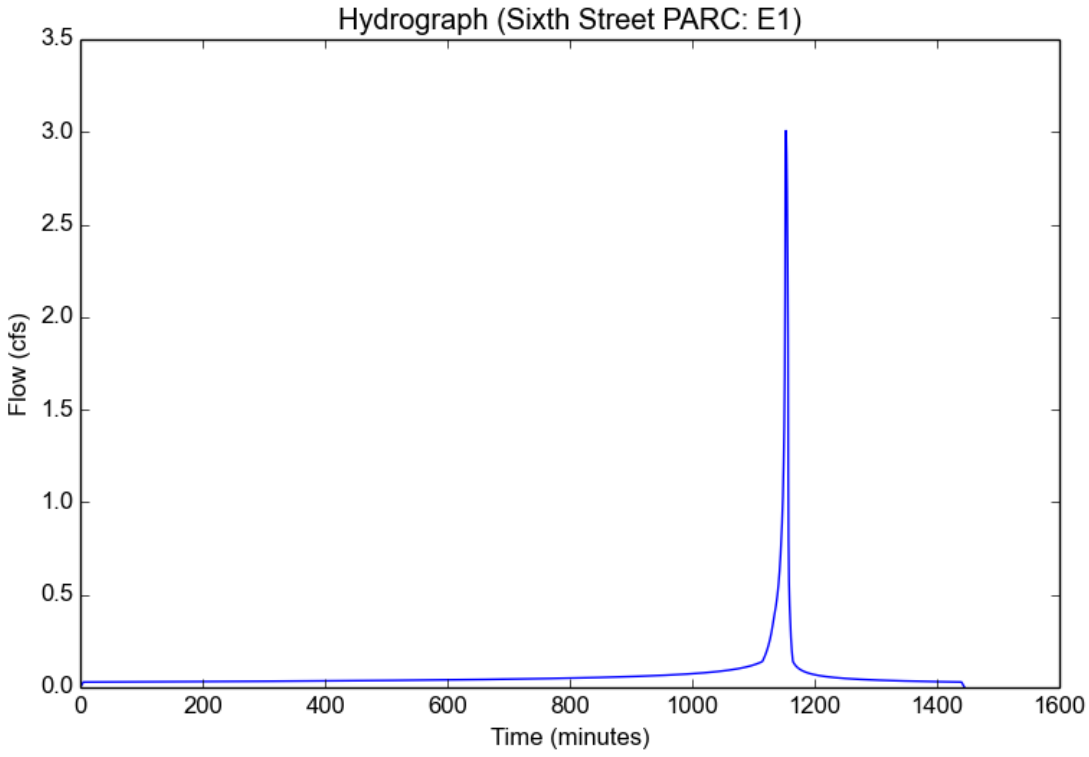
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/5-Yea
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	E1
Area (ac)	1.93
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.12
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	2.0557
Undeveloped Runoff Coefficient (Cu)	0.7384
Developed Runoff Coefficient (Cd)	0.7578
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	3.0066
Burned Peak Flow Rate (cfs)	3.0066
24-Hr Clear Runoff Volume (ac-ft)	0.1372
24-Hr Clear Runoff Volume (cu-ft)	5976.4203



Peak Flow Hydrologic Analysis

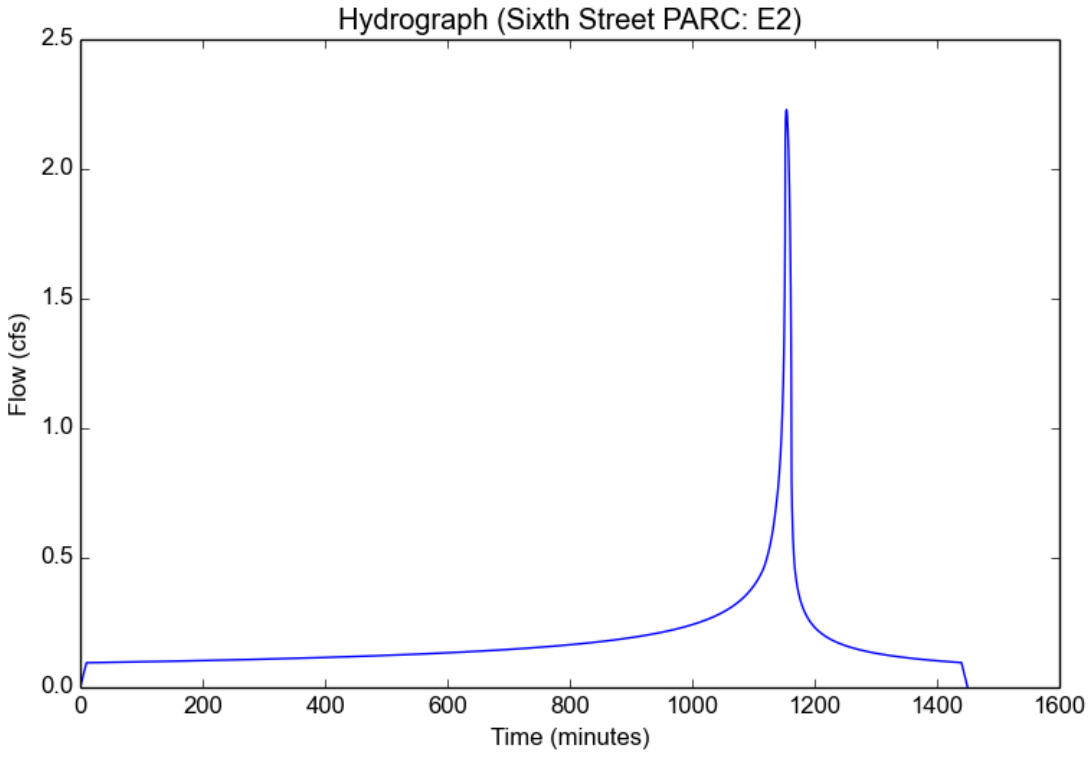
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/5-Year
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	E2
Area (ac)	1.78
Flow Path Length (ft)	380.0
Flow Path Slope (vft/hft)	0.004
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.75
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	1.4842
Undeveloped Runoff Coefficient (Cu)	0.6745
Developed Runoff Coefficient (Cd)	0.8436
Time of Concentration (min)	10.0
Clear Peak Flow Rate (cfs)	2.2287
Burned Peak Flow Rate (cfs)	2.2287
24-Hr Clear Runoff Volume (ac-ft)	0.3624
24-Hr Clear Runoff Volume (cu-ft)	15788.1733



Peak Flow Hydrologic Analysis

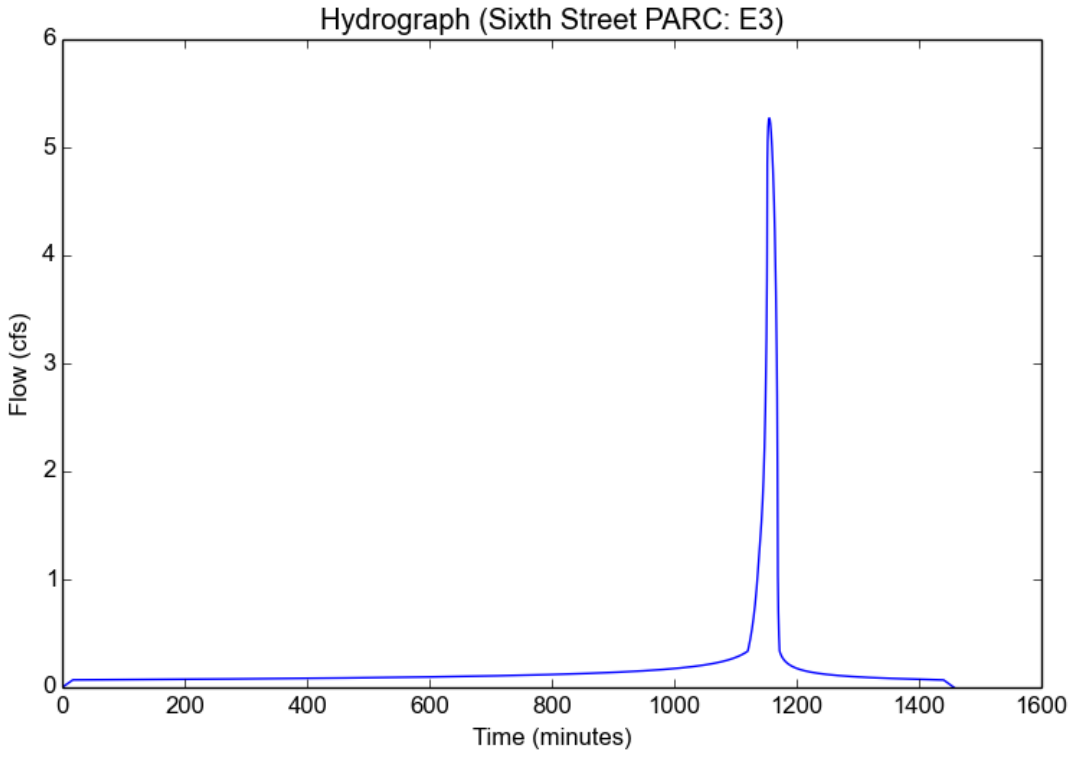
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/5-Yea
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	E3
Area (ac)	7.32
Flow Path Length (ft)	800.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.03
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	1.1566
Undeveloped Runoff Coefficient (Cu)	0.6141
Developed Runoff Coefficient (Cd)	0.6227
Time of Concentration (min)	17.0
Clear Peak Flow Rate (cfs)	5.2715
Burned Peak Flow Rate (cfs)	5.2715
24-Hr Clear Runoff Volume (ac-ft)	0.3788
24-Hr Clear Runoff Volume (cu-ft)	16501.8076



Peak Flow Hydrologic Analysis

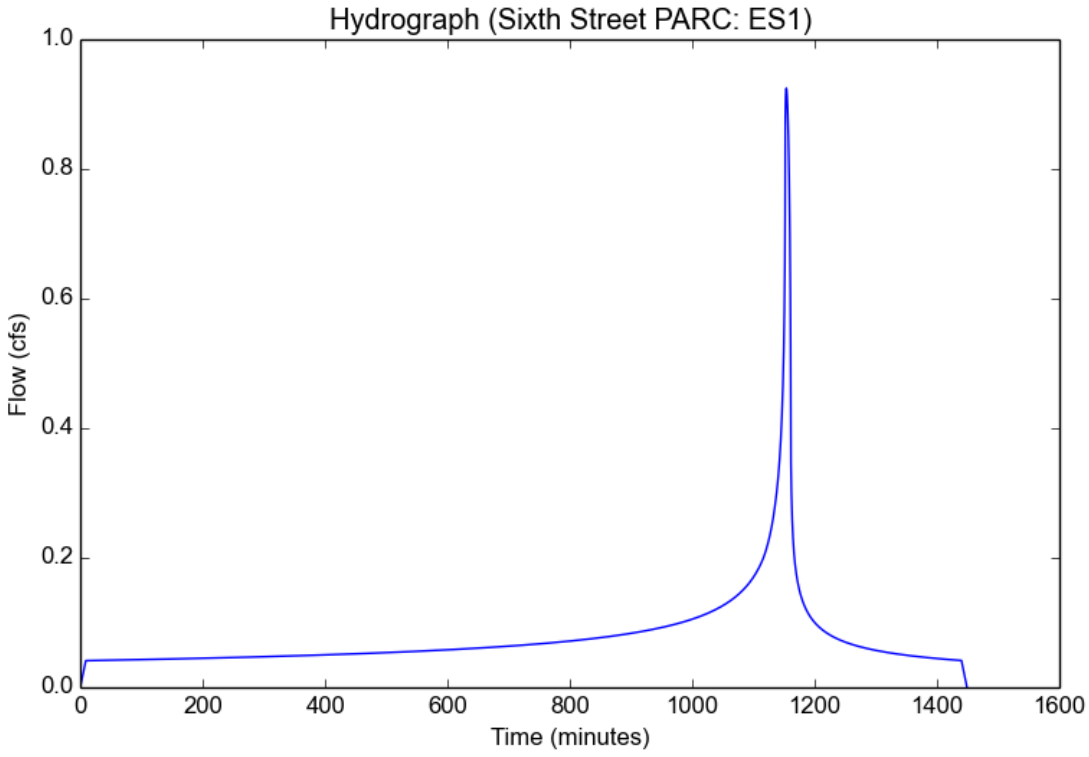
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/5-Yea
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	ES1
Area (ac)	0.68
Flow Path Length (ft)	415.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.87
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	1.5595
Undeveloped Runoff Coefficient (Cu)	0.6839
Developed Runoff Coefficient (Cd)	0.8719
Time of Concentration (min)	9.0
Clear Peak Flow Rate (cfs)	0.9246
Burned Peak Flow Rate (cfs)	0.9246
24-Hr Clear Runoff Volume (ac-ft)	0.1557
24-Hr Clear Runoff Volume (cu-ft)	6780.363



Peak Flow Hydrologic Analysis

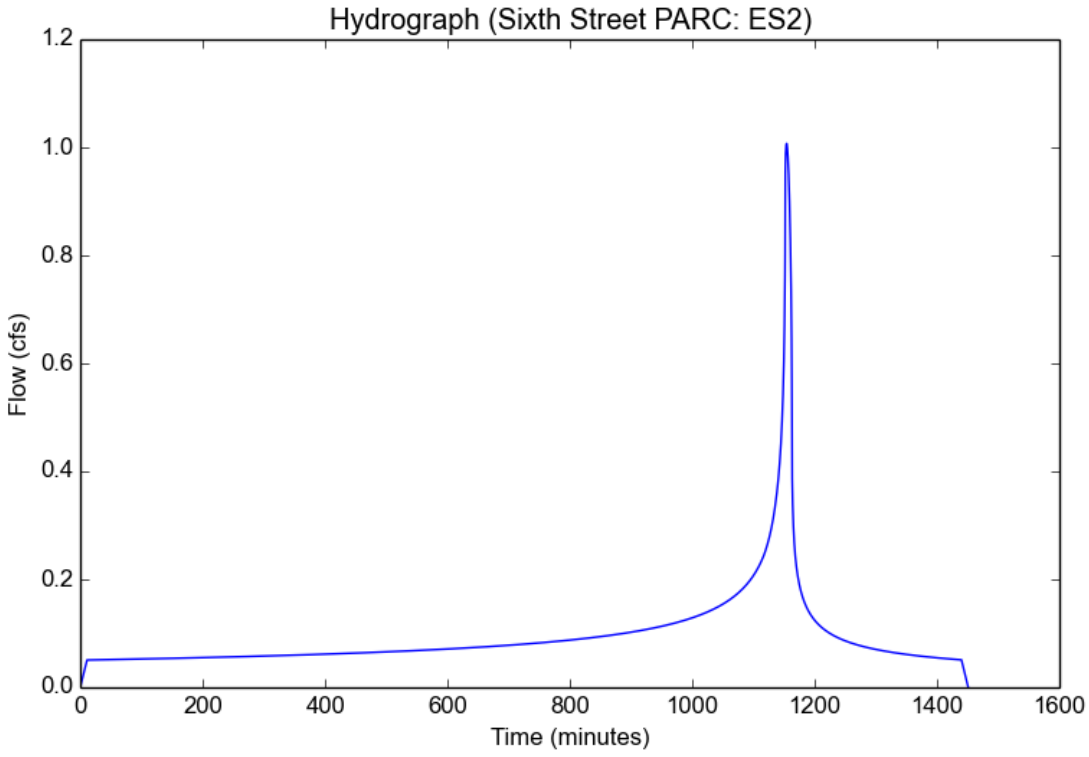
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/5-Yea
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	ES2
Area (ac)	0.81
Flow Path Length (ft)	435.0
Flow Path Slope (vft/hft)	0.004
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.9
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	1.4192
Undeveloped Runoff Coefficient (Cu)	0.6625
Developed Runoff Coefficient (Cd)	0.8763
Time of Concentration (min)	11.0
Clear Peak Flow Rate (cfs)	1.0073
Burned Peak Flow Rate (cfs)	1.0073
24-Hr Clear Runoff Volume (ac-ft)	0.1905
24-Hr Clear Runoff Volume (cu-ft)	8299.2035



Peak Flow Hydrologic Analysis

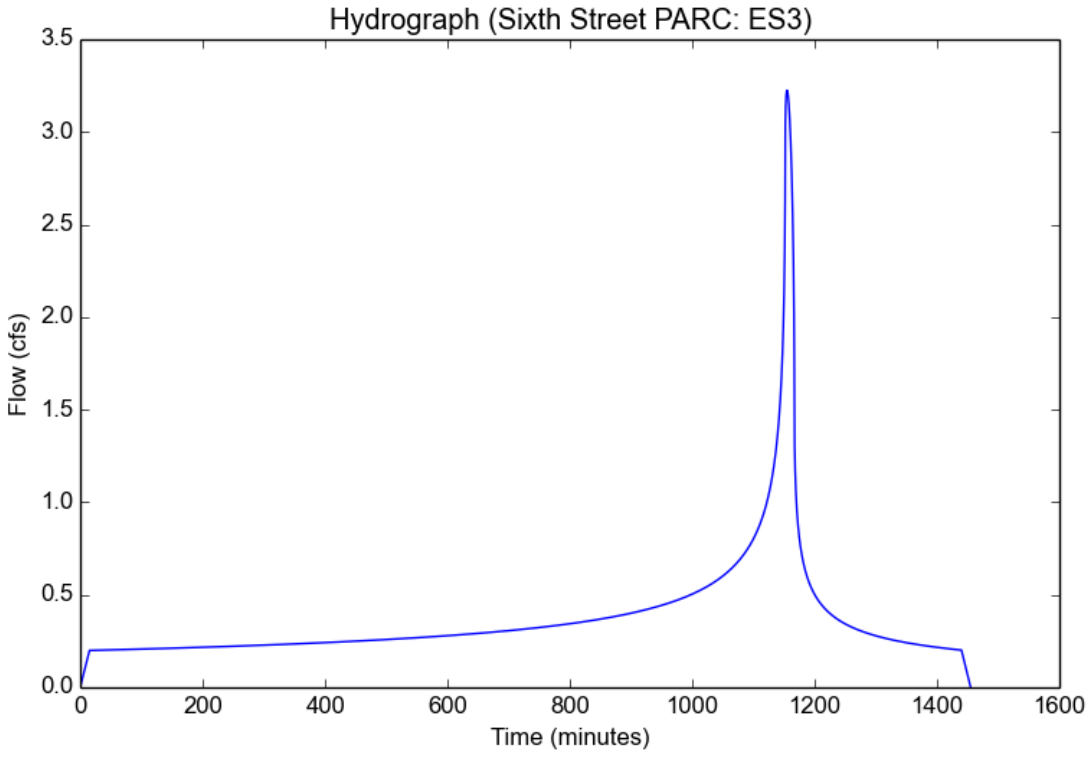
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/5-Yea
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	ES3
Area (ac)	2.93
Flow Path Length (ft)	735.0
Flow Path Slope (vft/hft)	0.0035
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.99
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	1.2267
Undeveloped Runoff Coefficient (Cu)	0.627
Developed Runoff Coefficient (Cd)	0.8973
Time of Concentration (min)	15.0
Clear Peak Flow Rate (cfs)	3.2249
Burned Peak Flow Rate (cfs)	3.2249
24-Hr Clear Runoff Volume (ac-ft)	0.7447
24-Hr Clear Runoff Volume (cu-ft)	32440.7835



Peak Flow Hydrologic Analysis

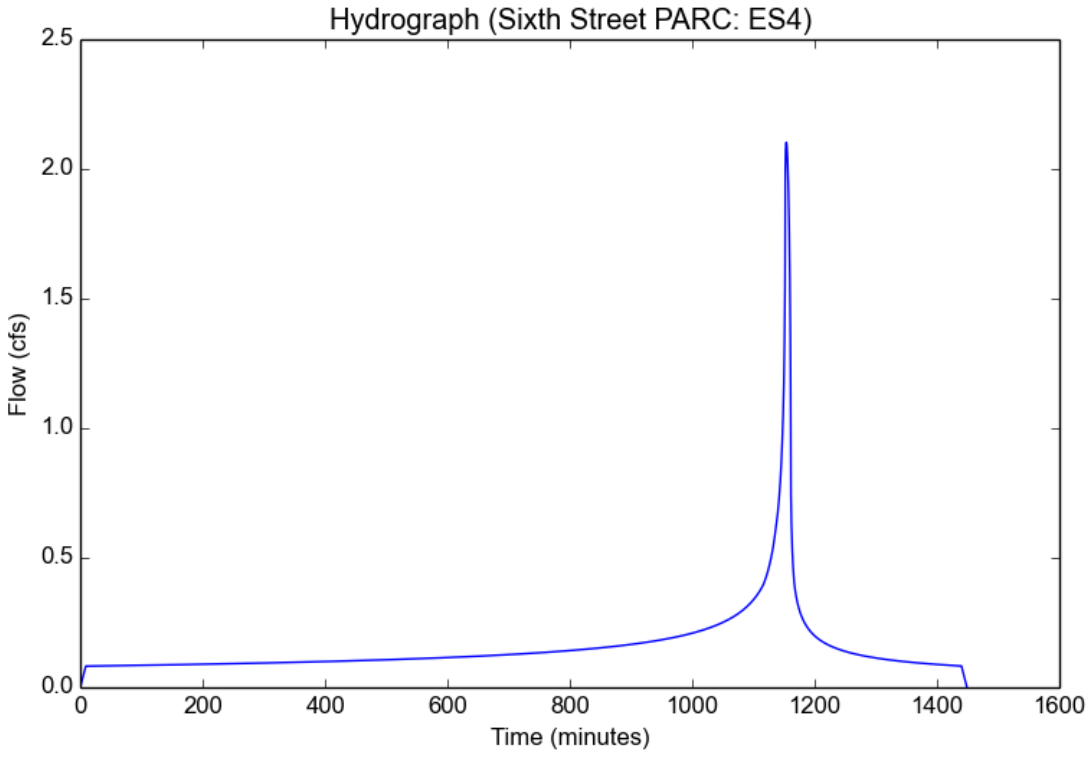
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/5-Yea
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	ES4
Area (ac)	1.61
Flow Path Length (ft)	400.0
Flow Path Slope (vft/hft)	0.008
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.71
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	1.5595
Undeveloped Runoff Coefficient (Cu)	0.6839
Developed Runoff Coefficient (Cd)	0.8373
Time of Concentration (min)	9.0
Clear Peak Flow Rate (cfs)	2.1024
Burned Peak Flow Rate (cfs)	2.1024
24-Hr Clear Runoff Volume (ac-ft)	0.3143
24-Hr Clear Runoff Volume (cu-ft)	13690.2575



Peak Flow Hydrologic Analysis

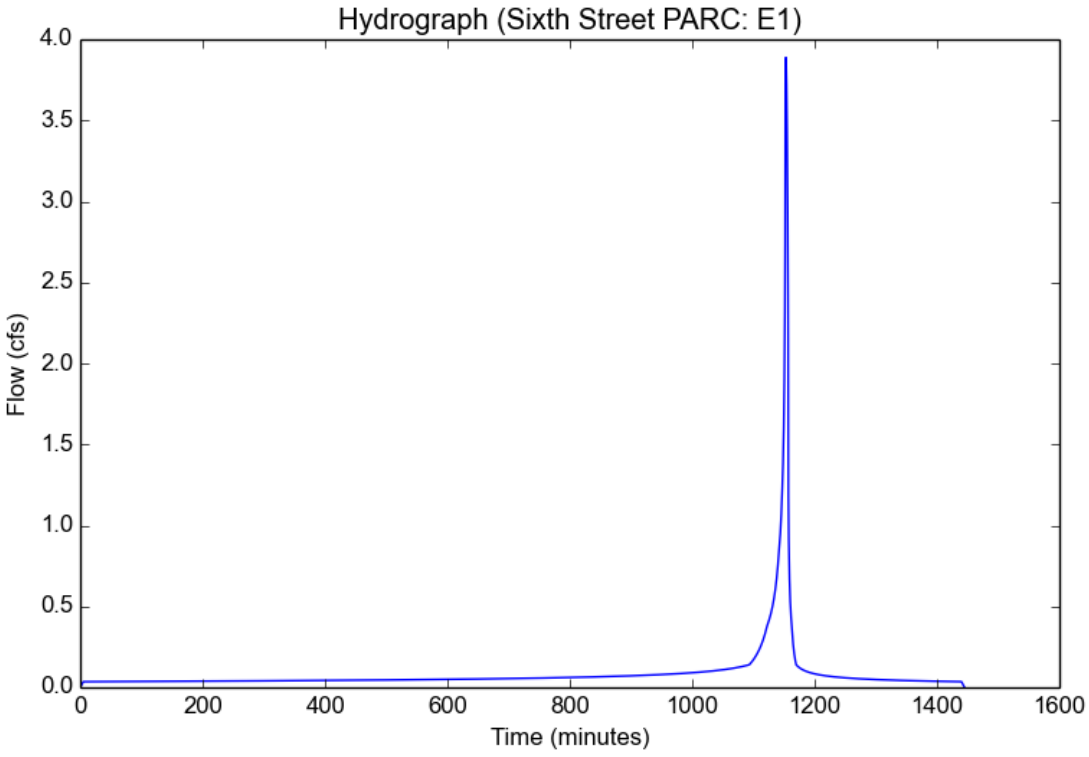
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/10-Ye
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	E1
Area (ac)	1.93
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.12
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	2.5134
Undeveloped Runoff Coefficient (Cu)	0.7881
Developed Runoff Coefficient (Cd)	0.8015
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	3.8881
Burned Peak Flow Rate (cfs)	3.8881
24-Hr Clear Runoff Volume (ac-ft)	0.1774
24-Hr Clear Runoff Volume (cu-ft)	7727.8309



Peak Flow Hydrologic Analysis

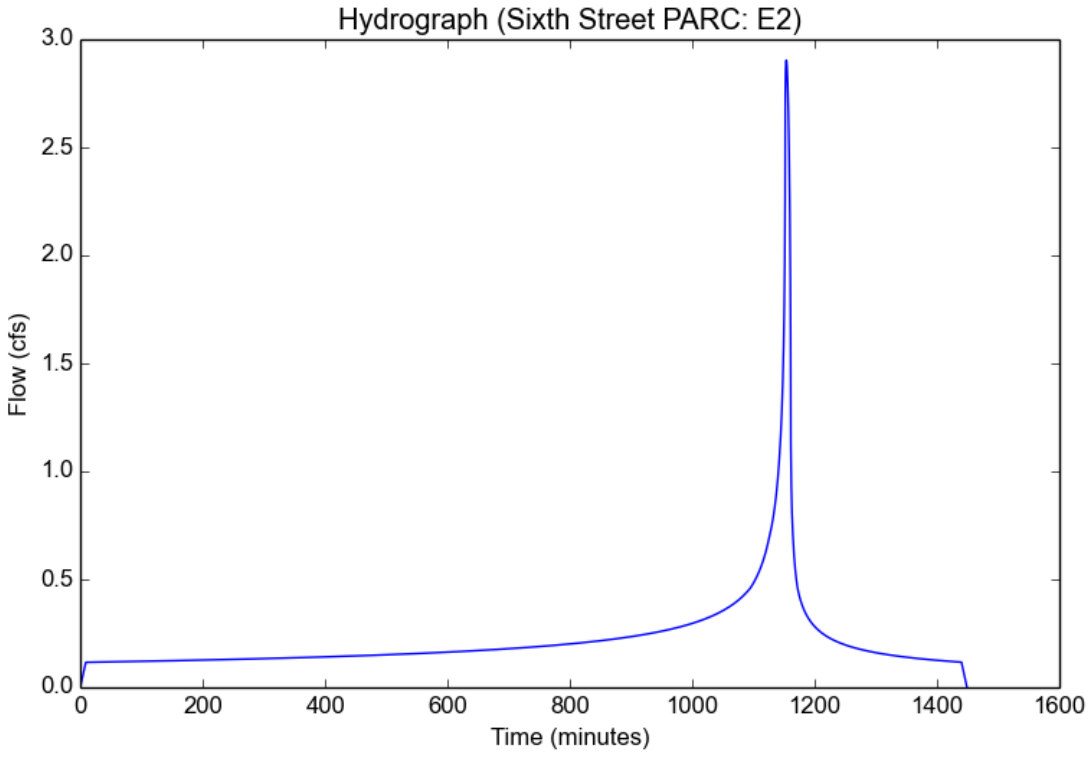
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/10-Ye
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	E2
Area (ac)	1.78
Flow Path Length (ft)	380.0
Flow Path Slope (vft/hft)	0.004
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.75
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	1.9067
Undeveloped Runoff Coefficient (Cu)	0.722
Developed Runoff Coefficient (Cd)	0.8555
Time of Concentration (min)	9.0
Clear Peak Flow Rate (cfs)	2.9035
Burned Peak Flow Rate (cfs)	2.9035
24-Hr Clear Runoff Volume (ac-ft)	0.4456
24-Hr Clear Runoff Volume (cu-ft)	19410.4018



Peak Flow Hydrologic Analysis

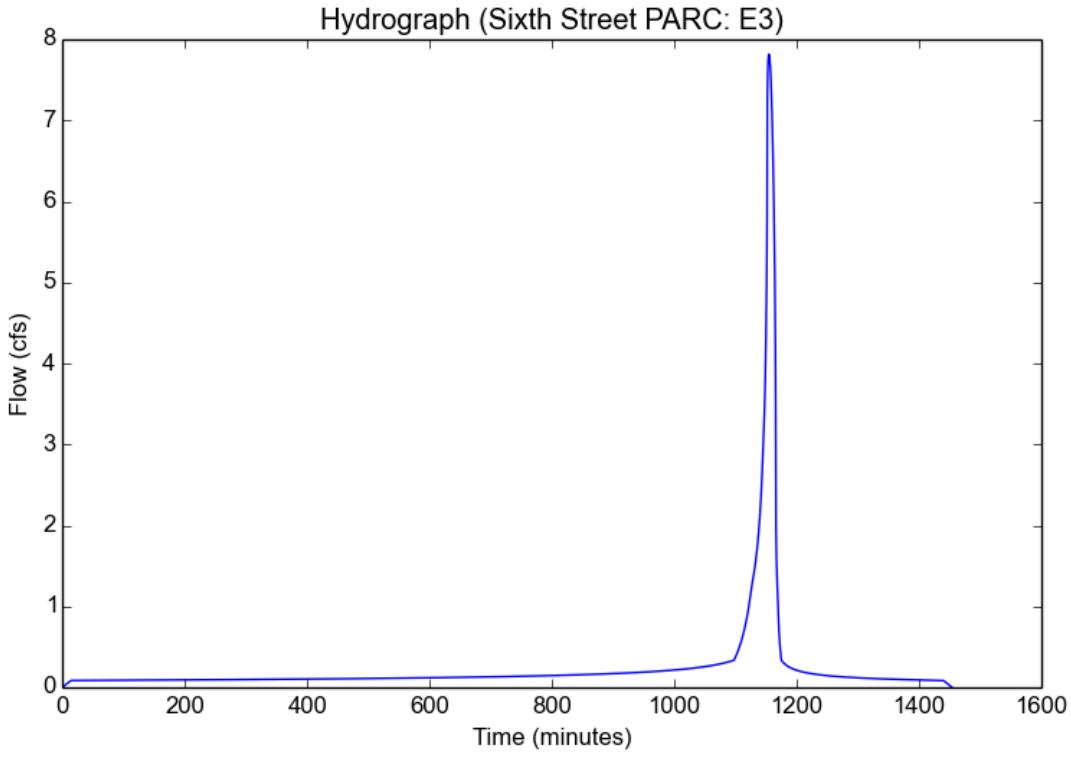
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/10-Ye
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	E3
Area (ac)	7.32
Flow Path Length (ft)	800.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.03
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	1.5491
Undeveloped Runoff Coefficient (Cu)	0.6828
Developed Runoff Coefficient (Cd)	0.6893
Time of Concentration (min)	14.0
Clear Peak Flow Rate (cfs)	7.8167
Burned Peak Flow Rate (cfs)	7.8167
24-Hr Clear Runoff Volume (ac-ft)	0.5033
24-Hr Clear Runoff Volume (cu-ft)	21921.9567



Peak Flow Hydrologic Analysis

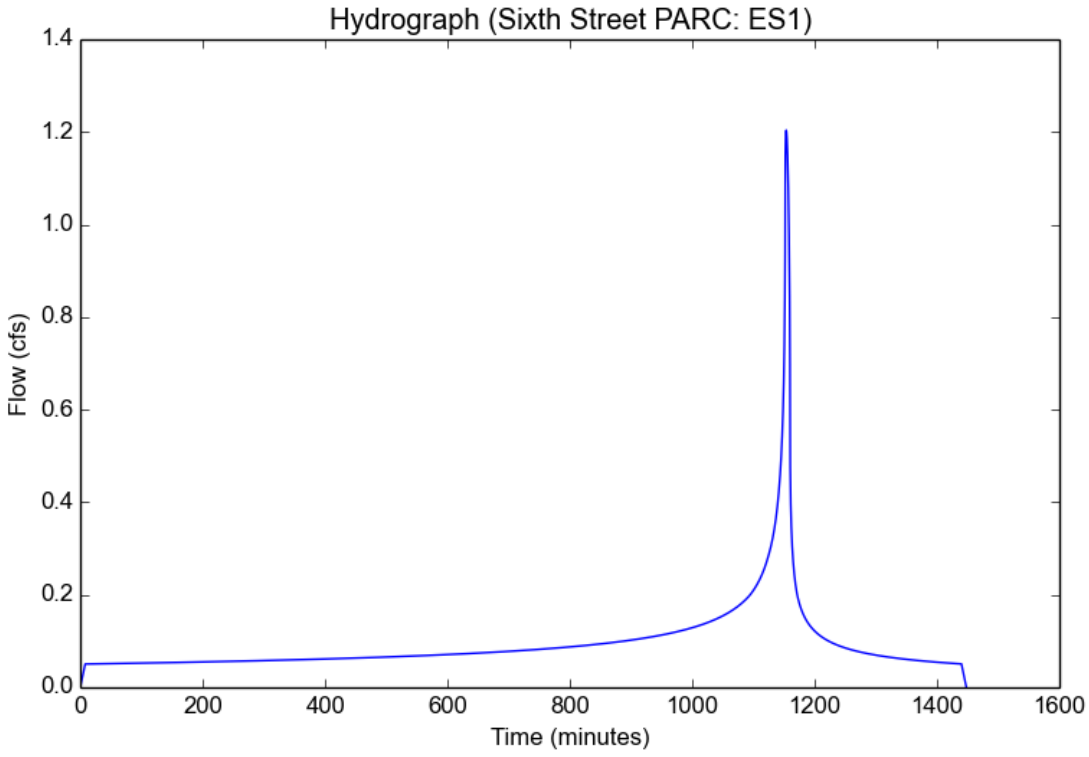
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/10-Ye
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	ES1
Area (ac)	0.68
Flow Path Length (ft)	415.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.87
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	2.0152
Undeveloped Runoff Coefficient (Cu)	0.734
Developed Runoff Coefficient (Cd)	0.8784
Time of Concentration (min)	8.0
Clear Peak Flow Rate (cfs)	1.2037
Burned Peak Flow Rate (cfs)	1.2037
24-Hr Clear Runoff Volume (ac-ft)	0.1908
24-Hr Clear Runoff Volume (cu-ft)	8311.121



Peak Flow Hydrologic Analysis

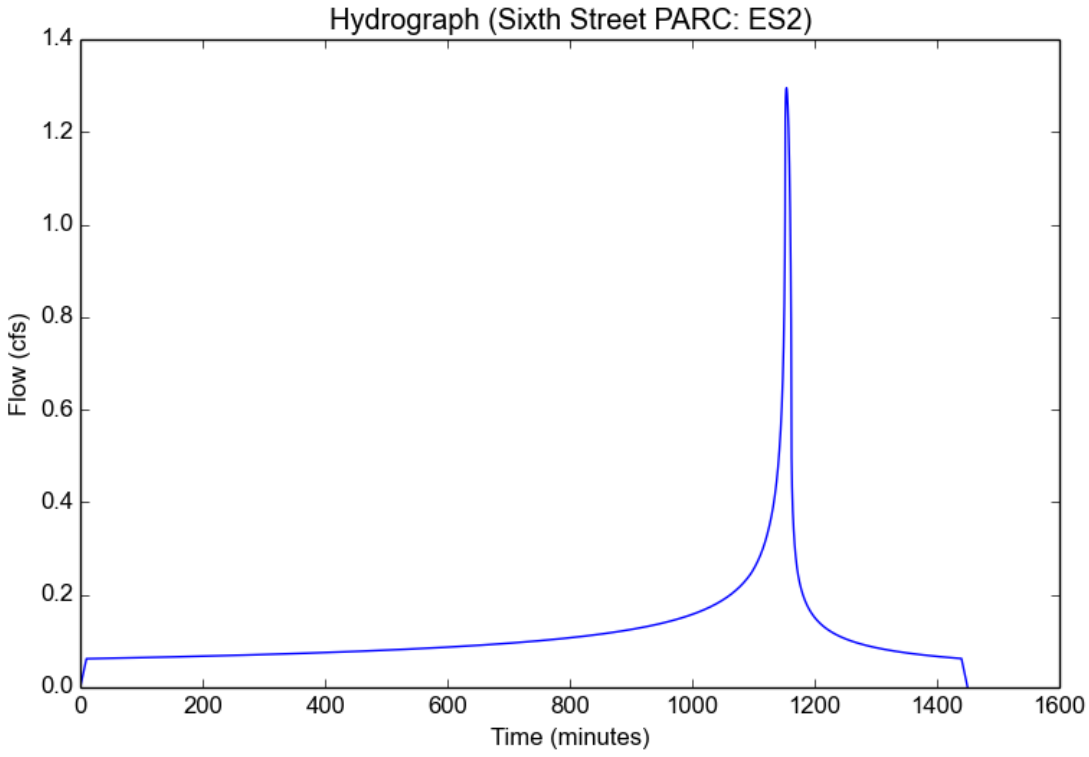
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/10-Ye
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	ES2
Area (ac)	0.81
Flow Path Length (ft)	435.0
Flow Path Slope (vft/hft)	0.004
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.9
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	1.8146
Undeveloped Runoff Coefficient (Cu)	0.7119
Developed Runoff Coefficient (Cd)	0.8812
Time of Concentration (min)	10.0
Clear Peak Flow Rate (cfs)	1.2952
Burned Peak Flow Rate (cfs)	1.2952
24-Hr Clear Runoff Volume (ac-ft)	0.2334
24-Hr Clear Runoff Volume (cu-ft)	10166.3037



Peak Flow Hydrologic Analysis

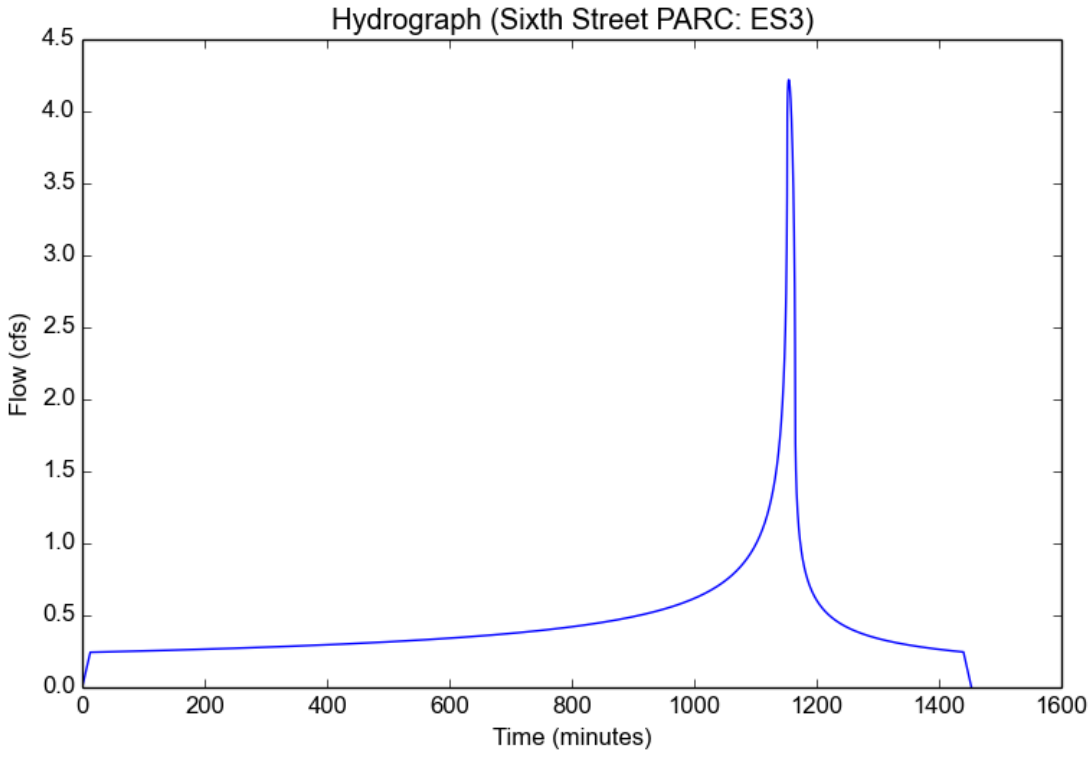
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/10-Ye
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	ES3
Area (ac)	2.93
Flow Path Length (ft)	735.0
Flow Path Slope (vft/hft)	0.0035
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.99
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	1.604
Undeveloped Runoff Coefficient (Cu)	0.6888
Developed Runoff Coefficient (Cd)	0.8979
Time of Concentration (min)	13.0
Clear Peak Flow Rate (cfs)	4.2199
Burned Peak Flow Rate (cfs)	4.2199
24-Hr Clear Runoff Volume (ac-ft)	0.9107
24-Hr Clear Runoff Volume (cu-ft)	39669.356



Peak Flow Hydrologic Analysis

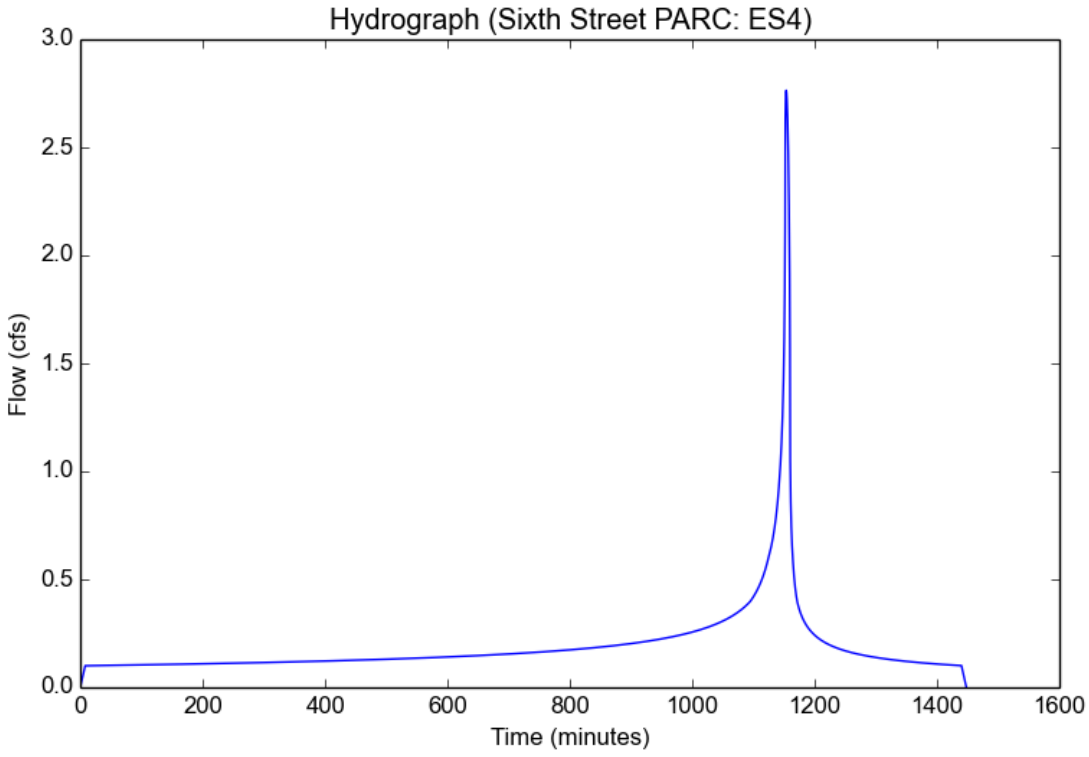
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/10-Ye
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	ES4
Area (ac)	1.61
Flow Path Length (ft)	400.0
Flow Path Slope (vft/hft)	0.008
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.71
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	2.0152
Undeveloped Runoff Coefficient (Cu)	0.734
Developed Runoff Coefficient (Cd)	0.8518
Time of Concentration (min)	8.0
Clear Peak Flow Rate (cfs)	2.7638
Burned Peak Flow Rate (cfs)	2.7638
24-Hr Clear Runoff Volume (ac-ft)	0.3868
24-Hr Clear Runoff Volume (cu-ft)	16850.942



Peak Flow Hydrologic Analysis

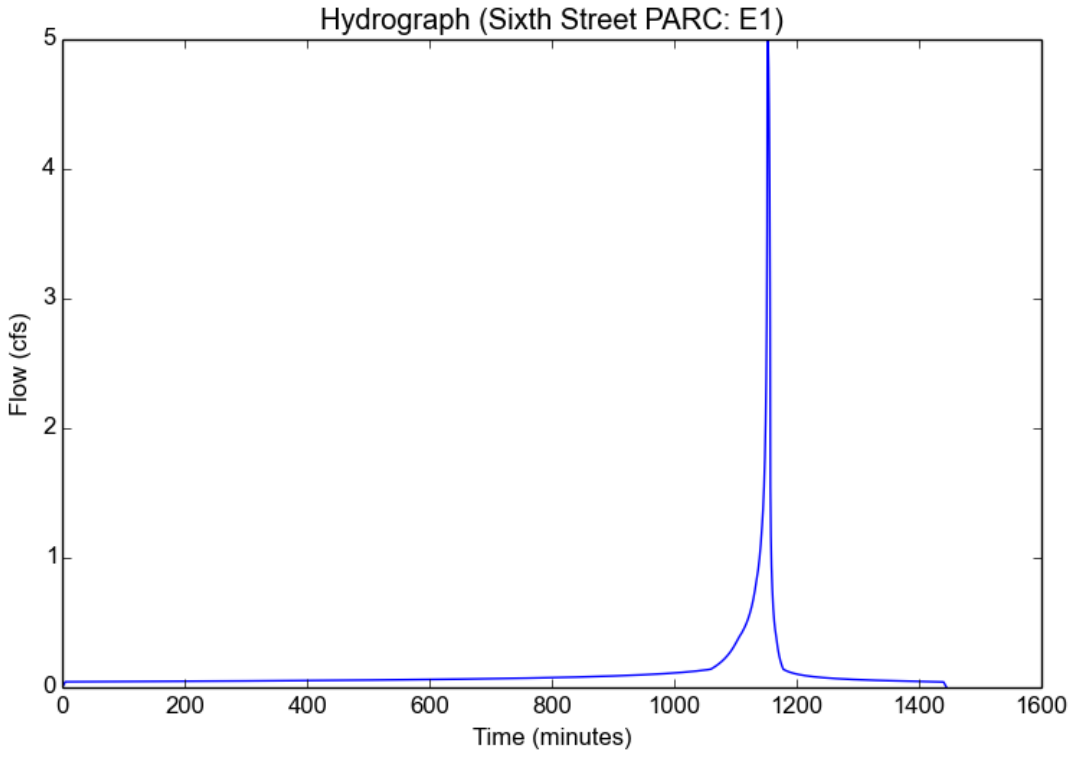
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/25-Ye
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	E1
Area (ac)	1.93
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.12
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	3.0906
Undeveloped Runoff Coefficient (Cu)	0.8286
Developed Runoff Coefficient (Cd)	0.8372
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	4.9939
Burned Peak Flow Rate (cfs)	4.9939
24-Hr Clear Runoff Volume (ac-ft)	0.2334
24-Hr Clear Runoff Volume (cu-ft)	10168.809



Peak Flow Hydrologic Analysis

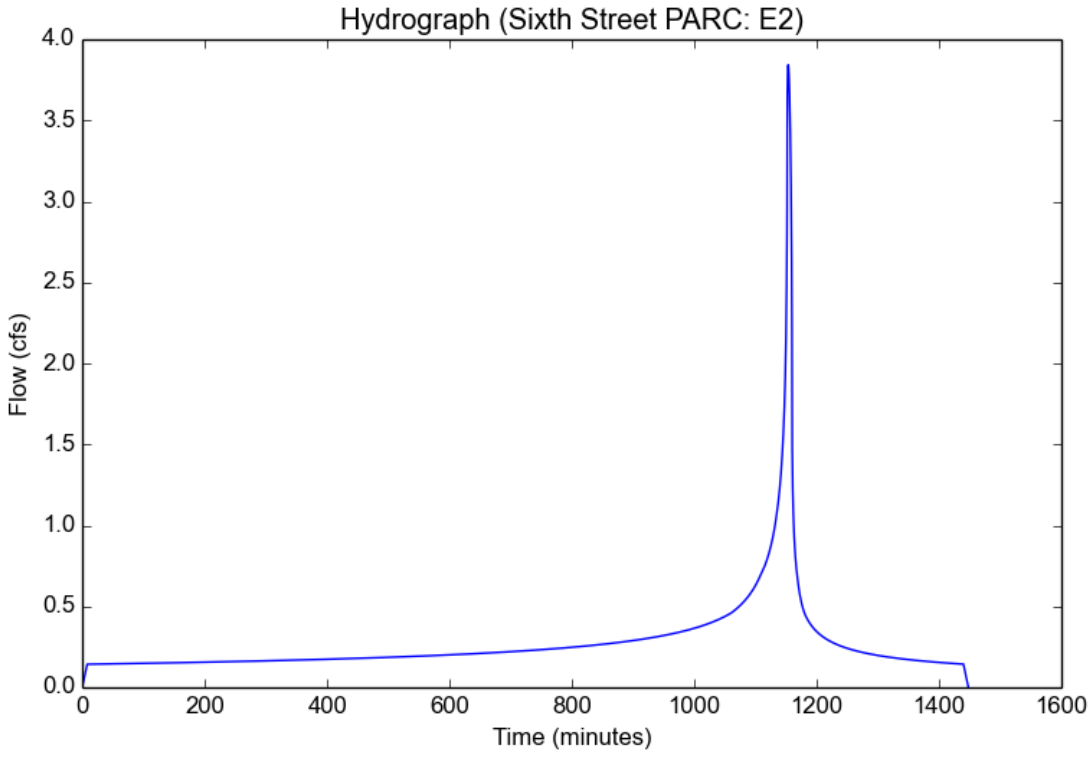
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/25-Ye
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	E2
Area (ac)	1.78
Flow Path Length (ft)	380.0
Flow Path Slope (vft/hft)	0.004
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.75
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	2.4781
Undeveloped Runoff Coefficient (Cu)	0.7848
Developed Runoff Coefficient (Cd)	0.8712
Time of Concentration (min)	8.0
Clear Peak Flow Rate (cfs)	3.8428
Burned Peak Flow Rate (cfs)	3.8428
24-Hr Clear Runoff Volume (ac-ft)	0.552
24-Hr Clear Runoff Volume (cu-ft)	24045.6058



Peak Flow Hydrologic Analysis

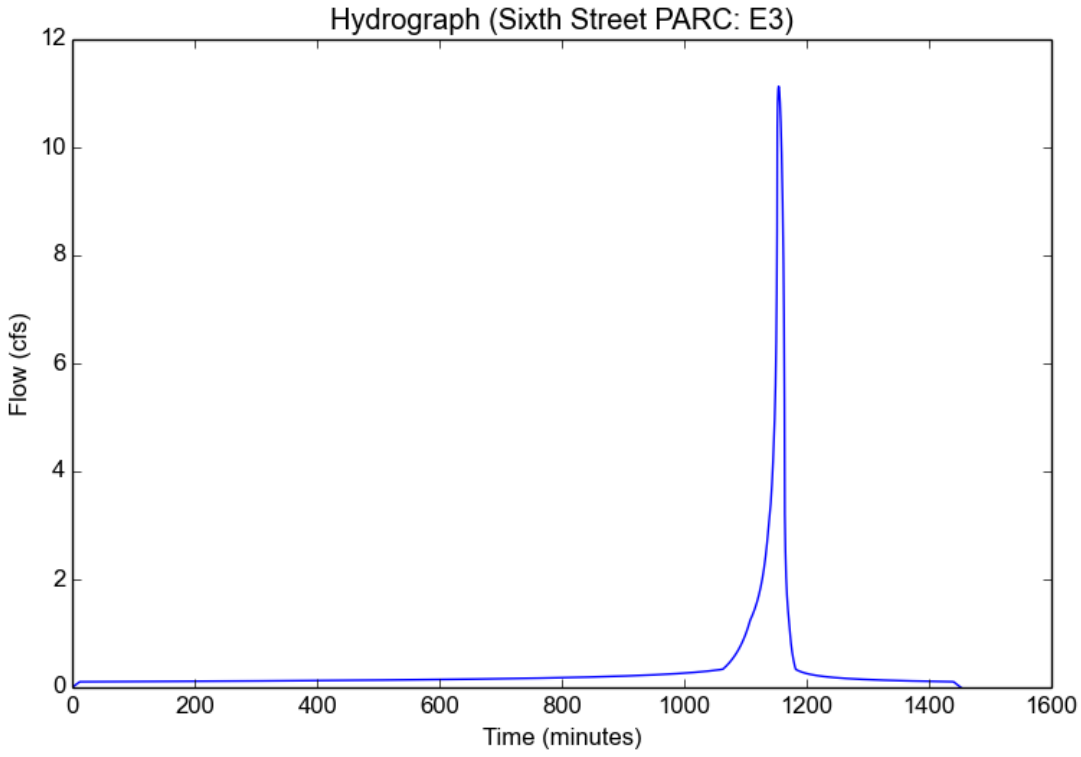
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/25-Ye
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	E3
Area (ac)	7.32
Flow Path Length (ft)	800.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.03
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	2.0481
Undeveloped Runoff Coefficient (Cu)	0.7376
Developed Runoff Coefficient (Cd)	0.7424
Time of Concentration (min)	12.0
Clear Peak Flow Rate (cfs)	11.1308
Burned Peak Flow Rate (cfs)	11.1308
24-Hr Clear Runoff Volume (ac-ft)	0.682
24-Hr Clear Runoff Volume (cu-ft)	29707.1985



Peak Flow Hydrologic Analysis

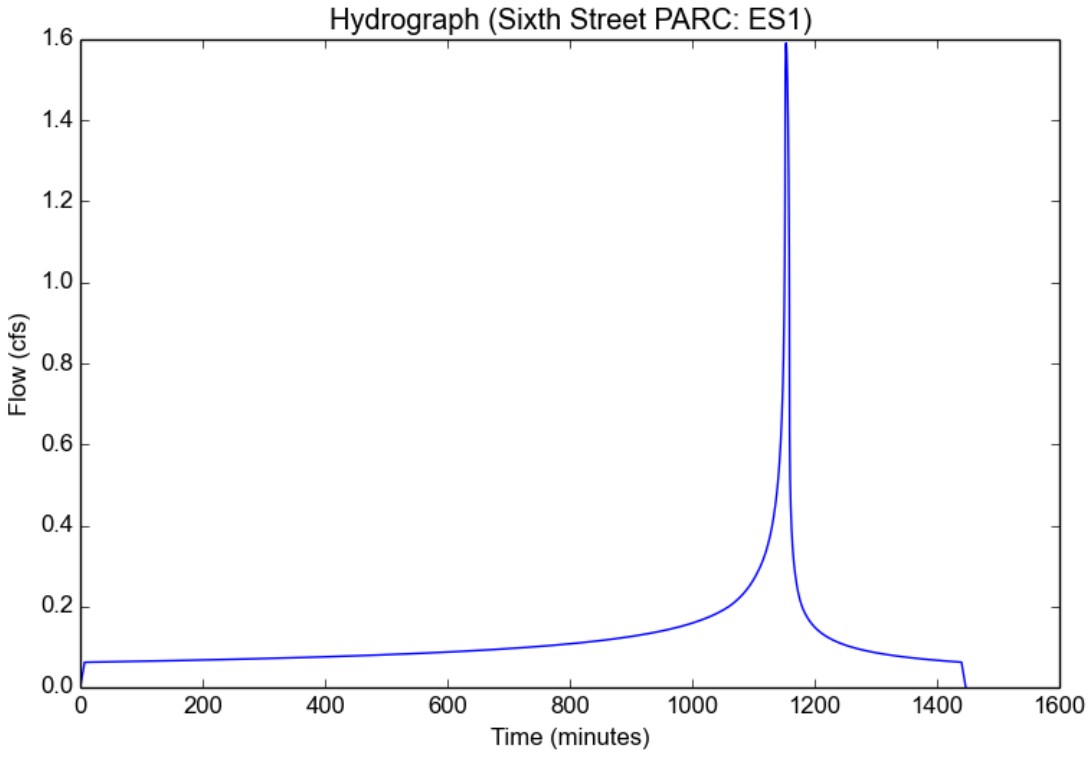
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/25-Ye
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	ES1
Area (ac)	0.68
Flow Path Length (ft)	415.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.87
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	2.6386
Undeveloped Runoff Coefficient (Cu)	0.7969
Developed Runoff Coefficient (Cd)	0.8866
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	1.5908
Burned Peak Flow Rate (cfs)	1.5908
24-Hr Clear Runoff Volume (ac-ft)	0.2354
24-Hr Clear Runoff Volume (cu-ft)	10255.4132



Peak Flow Hydrologic Analysis

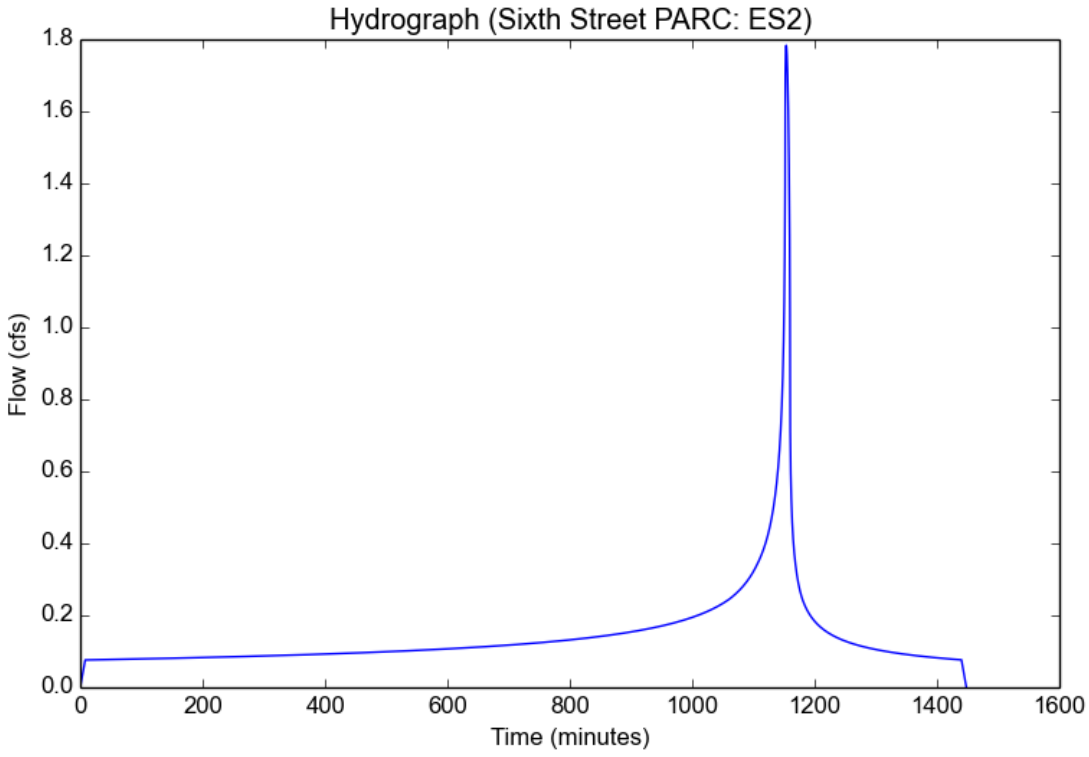
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/25-Ye
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	ES2
Area (ac)	0.81
Flow Path Length (ft)	435.0
Flow Path Slope (vft/hft)	0.004
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.9
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	2.4781
Undeveloped Runoff Coefficient (Cu)	0.7848
Developed Runoff Coefficient (Cd)	0.8885
Time of Concentration (min)	8.0
Clear Peak Flow Rate (cfs)	1.7834
Burned Peak Flow Rate (cfs)	1.7834
24-Hr Clear Runoff Volume (ac-ft)	0.2877
24-Hr Clear Runoff Volume (cu-ft)	12533.7973



Peak Flow Hydrologic Analysis

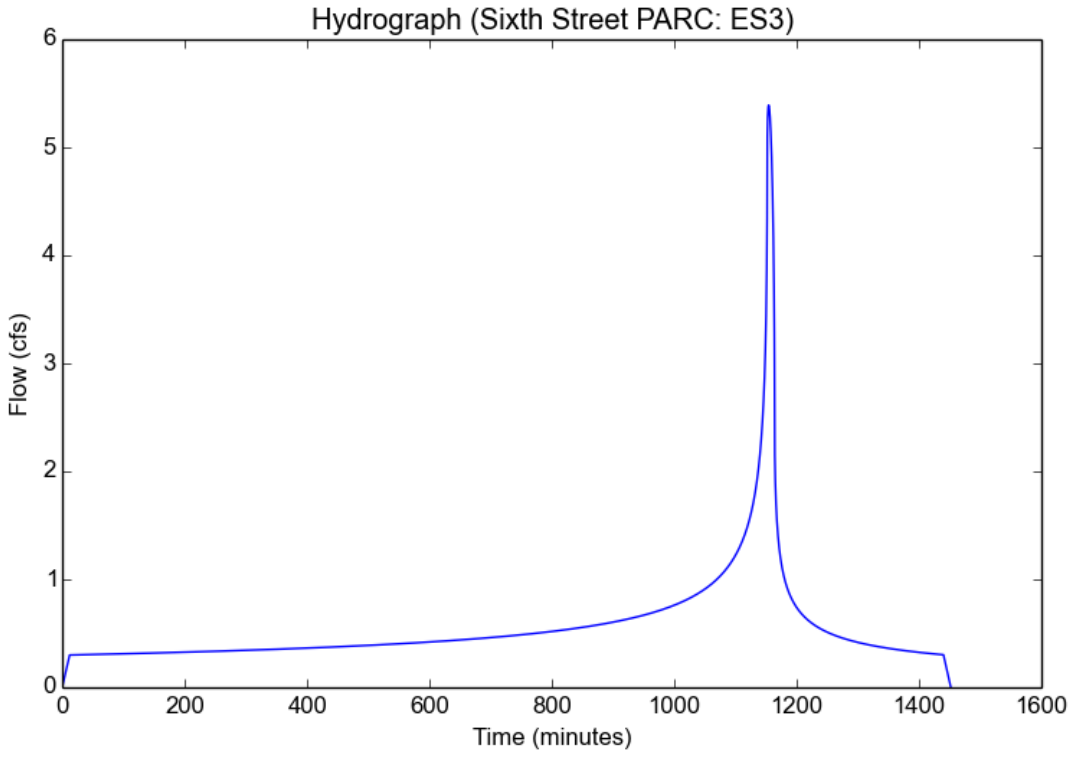
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/25-Ye
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	ES3
Area (ac)	2.93
Flow Path Length (ft)	735.0
Flow Path Slope (vft/hft)	0.0035
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.99
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	2.0481
Undeveloped Runoff Coefficient (Cu)	0.7376
Developed Runoff Coefficient (Cd)	0.8984
Time of Concentration (min)	12.0
Clear Peak Flow Rate (cfs)	5.3911
Burned Peak Flow Rate (cfs)	5.3911
24-Hr Clear Runoff Volume (ac-ft)	1.1201
24-Hr Clear Runoff Volume (cu-ft)	48792.3746



Peak Flow Hydrologic Analysis

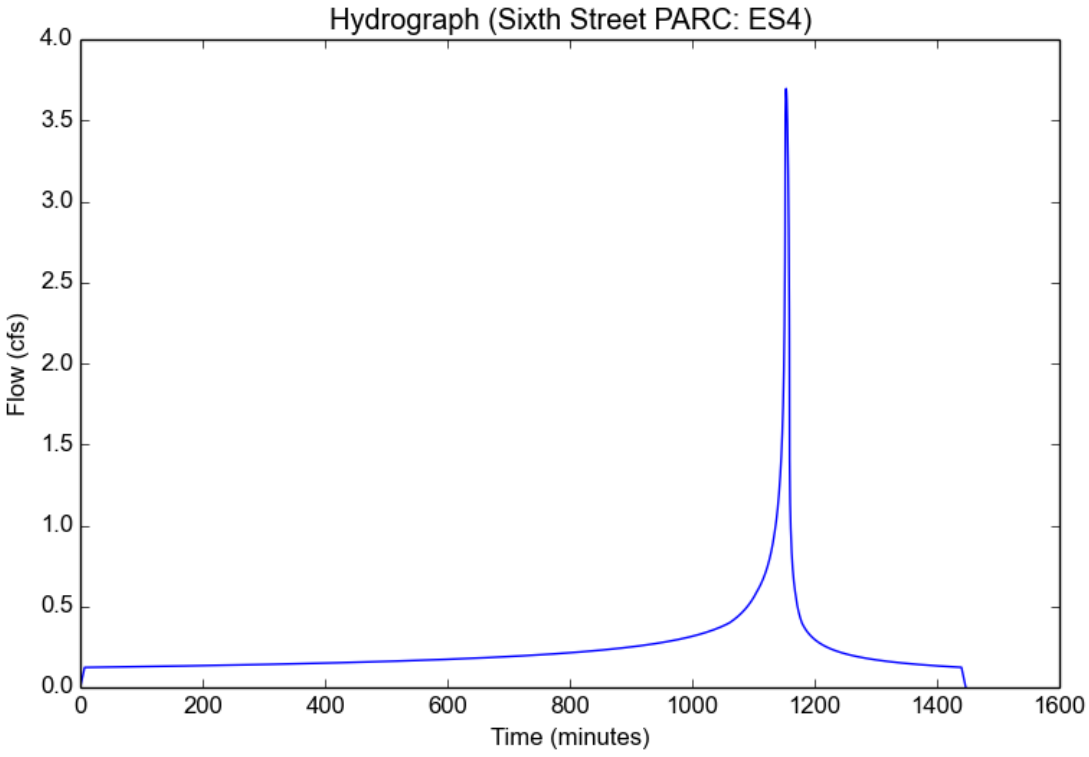
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/25-Ye
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	ES4
Area (ac)	1.61
Flow Path Length (ft)	400.0
Flow Path Slope (vft/hft)	0.008
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.71
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	2.6386
Undeveloped Runoff Coefficient (Cu)	0.7969
Developed Runoff Coefficient (Cd)	0.8701
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	3.6963
Burned Peak Flow Rate (cfs)	3.6963
24-Hr Clear Runoff Volume (ac-ft)	0.48
24-Hr Clear Runoff Volume (cu-ft)	20907.8905



Peak Flow Hydrologic Analysis

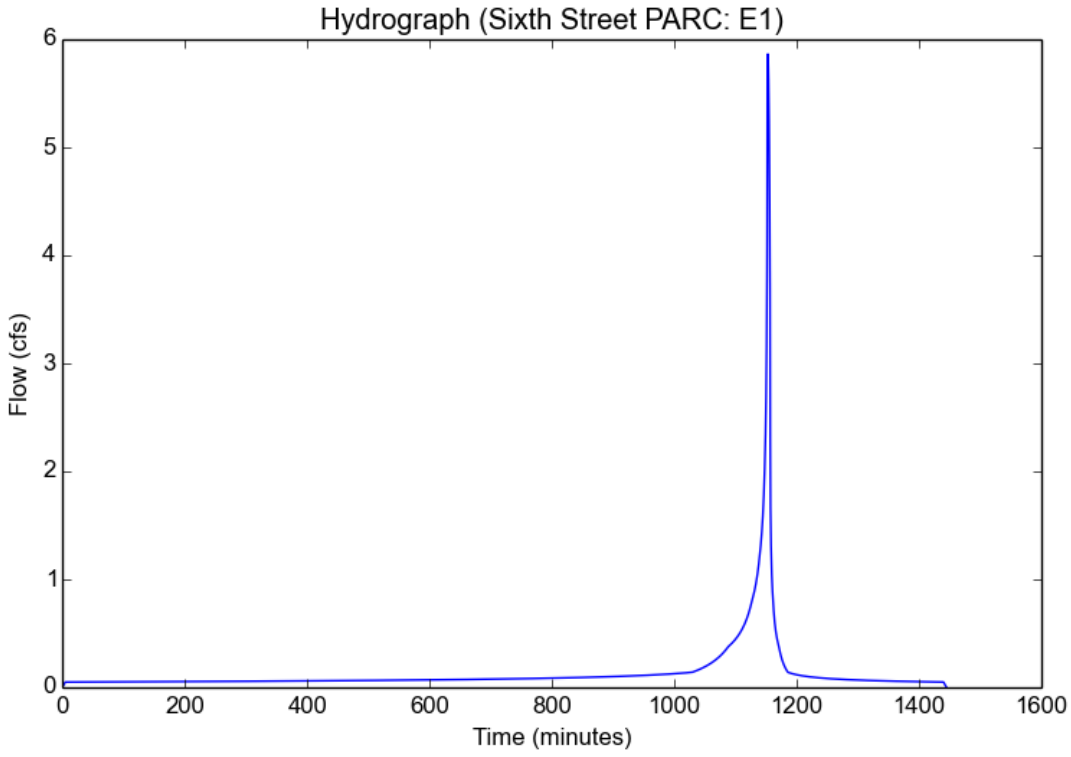
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/50-Ye
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	E1
Area (ac)	1.93
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.12
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.8632
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	5.8642
Burned Peak Flow Rate (cfs)	5.8642
24-Hr Clear Runoff Volume (ac-ft)	0.2792
24-Hr Clear Runoff Volume (cu-ft)	12161.5113



Peak Flow Hydrologic Analysis

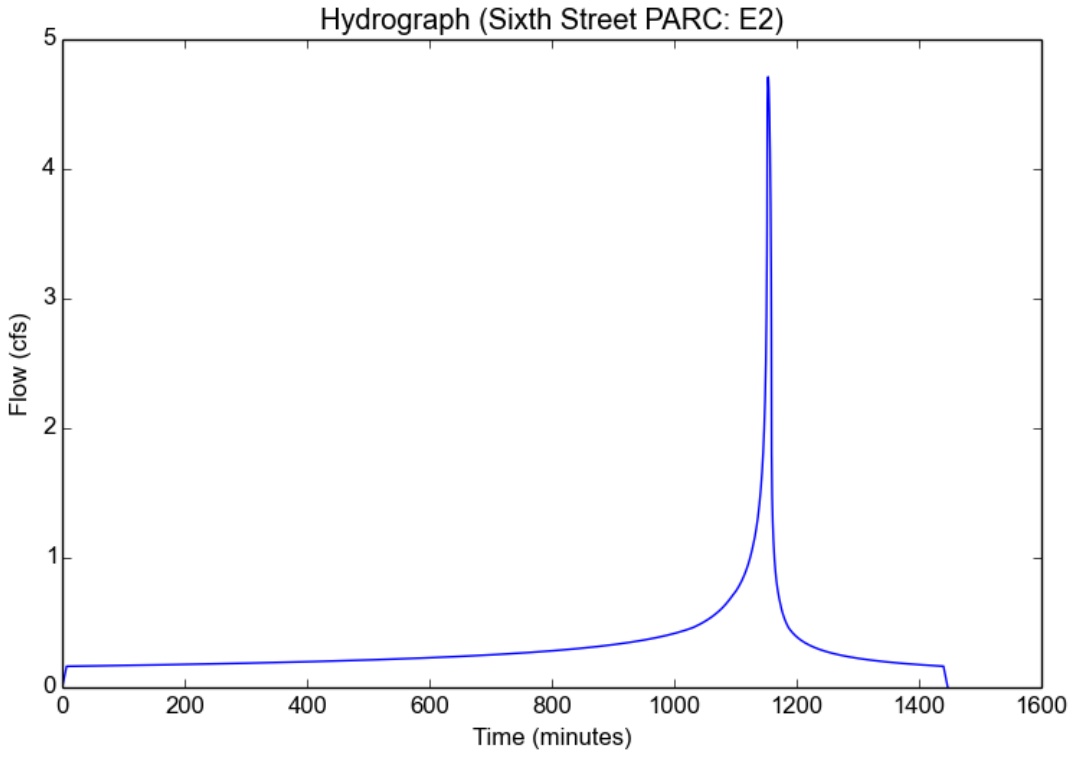
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/50-Ye
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	E2
Area (ac)	1.78
Flow Path Length (ft)	380.0
Flow Path Slope (vft/hft)	0.004
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.75
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.0052
Undeveloped Runoff Coefficient (Cu)	0.8226
Developed Runoff Coefficient (Cd)	0.8807
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	4.7109
Burned Peak Flow Rate (cfs)	4.7109
24-Hr Clear Runoff Volume (ac-ft)	0.6322
24-Hr Clear Runoff Volume (cu-ft)	27540.2578



Peak Flow Hydrologic Analysis

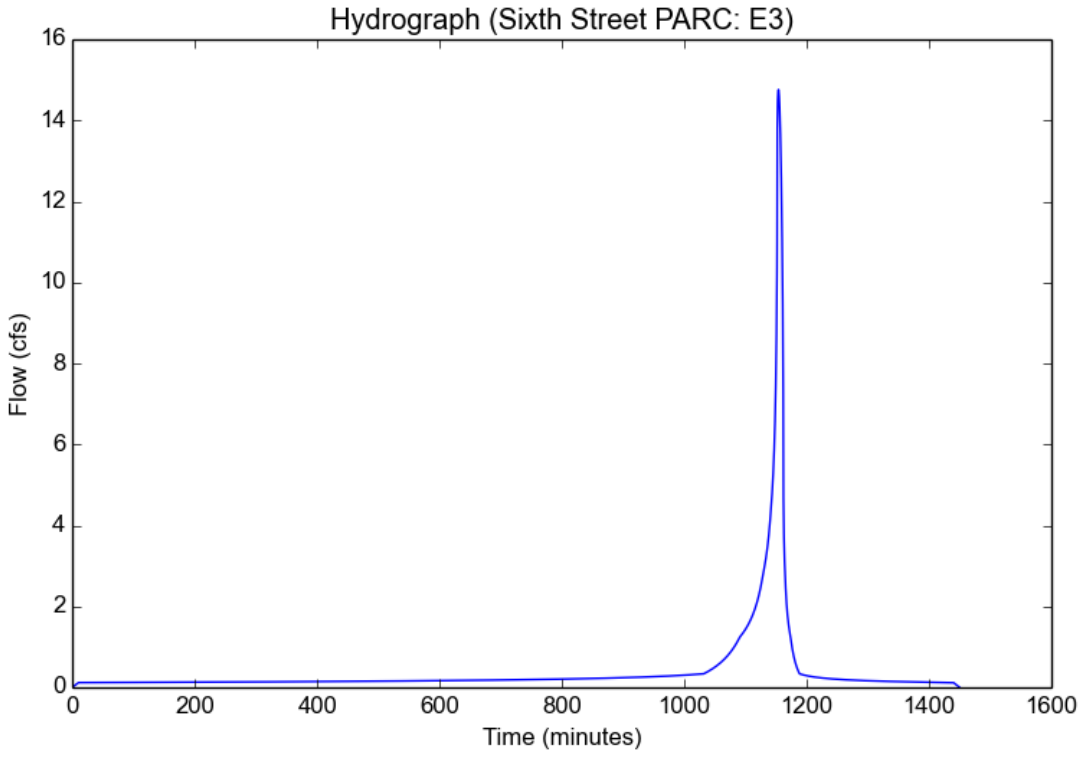
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/50-Ye
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	E3
Area (ac)	7.32
Flow Path Length (ft)	800.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.03
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	2.5414
Undeveloped Runoff Coefficient (Cu)	0.7901
Developed Runoff Coefficient (Cd)	0.7934
Time of Concentration (min)	10.0
Clear Peak Flow Rate (cfs)	14.7591
Burned Peak Flow Rate (cfs)	14.7591
24-Hr Clear Runoff Volume (ac-ft)	0.8341
24-Hr Clear Runoff Volume (cu-ft)	36333.7902



Peak Flow Hydrologic Analysis

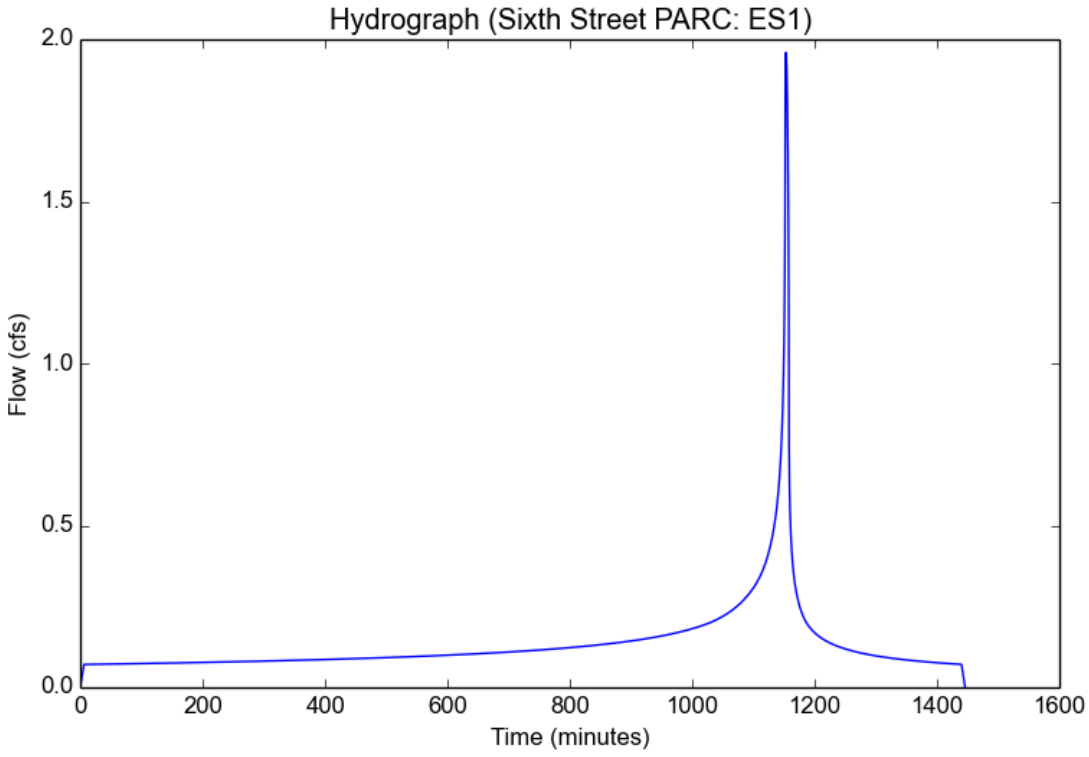
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/50-Ye
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	ES1
Area (ac)	0.68
Flow Path Length (ft)	415.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.87
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.231
Undeveloped Runoff Coefficient (Cu)	0.8385
Developed Runoff Coefficient (Cd)	0.892
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	1.9598
Burned Peak Flow Rate (cfs)	1.9598
24-Hr Clear Runoff Volume (ac-ft)	0.2688
24-Hr Clear Runoff Volume (cu-ft)	11710.9285



Peak Flow Hydrologic Analysis

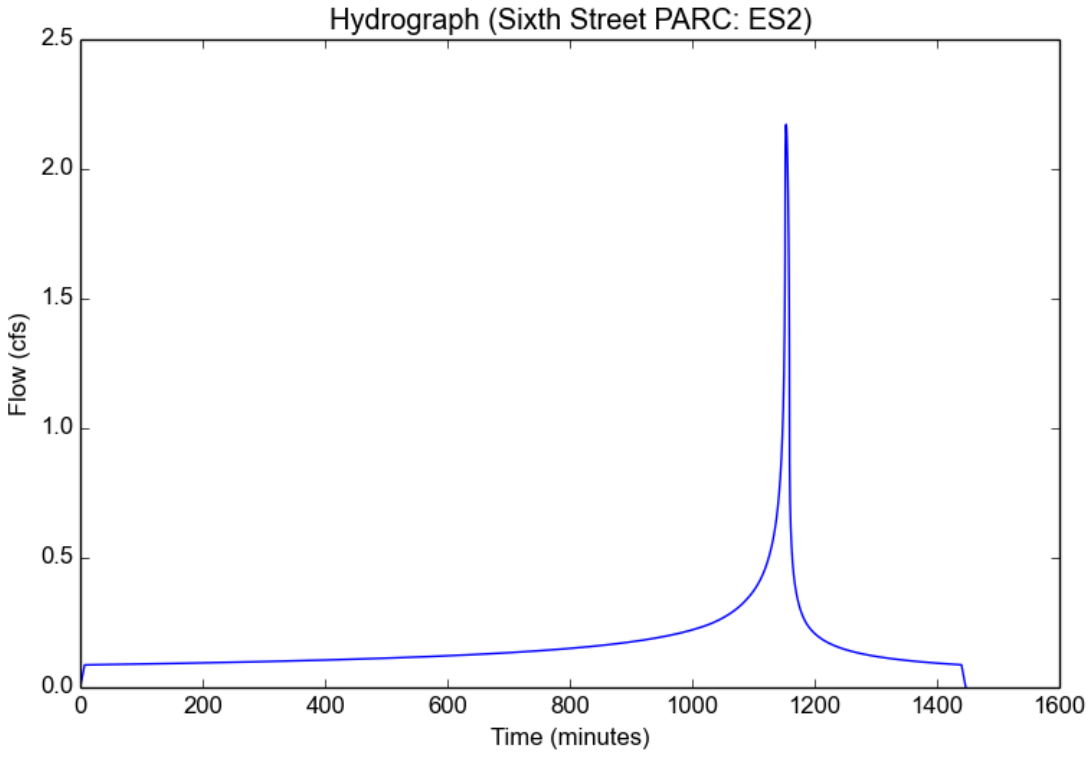
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/50-Ye
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	ES2
Area (ac)	0.81
Flow Path Length (ft)	435.0
Flow Path Slope (vft/hft)	0.004
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.9
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.0052
Undeveloped Runoff Coefficient (Cu)	0.8226
Developed Runoff Coefficient (Cd)	0.8923
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	2.172
Burned Peak Flow Rate (cfs)	2.172
24-Hr Clear Runoff Volume (ac-ft)	0.3284
24-Hr Clear Runoff Volume (cu-ft)	14303.3275



Peak Flow Hydrologic Analysis

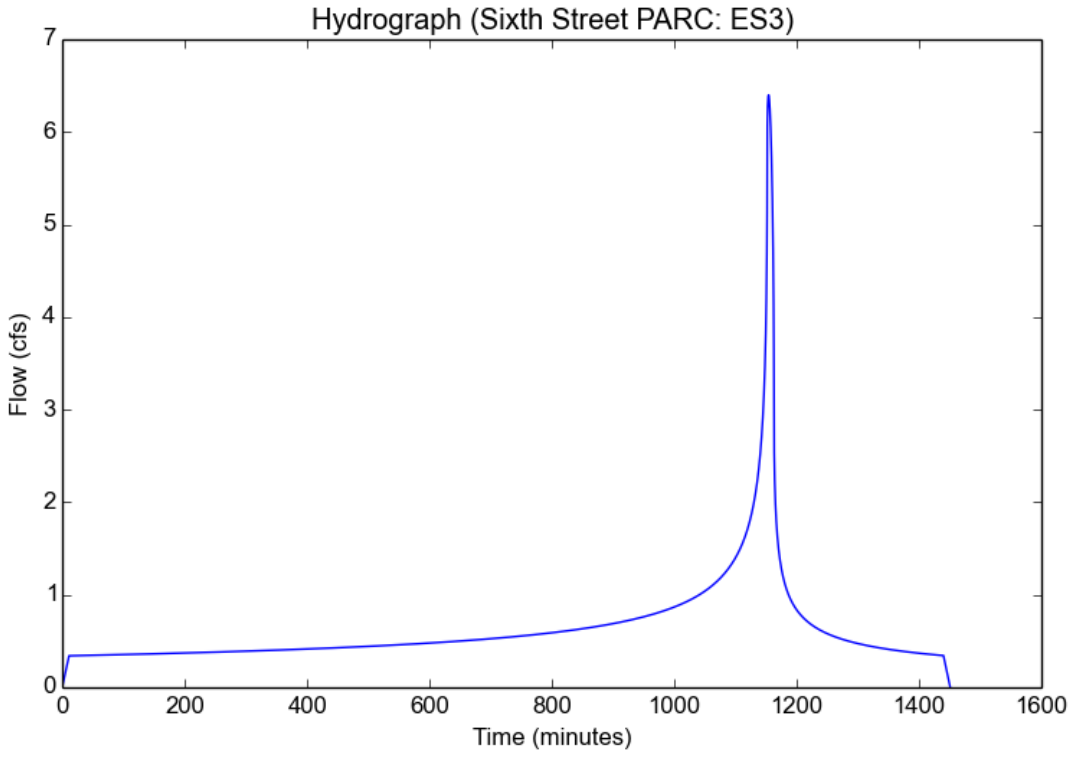
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/50-Ye
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	ES3
Area (ac)	2.93
Flow Path Length (ft)	735.0
Flow Path Slope (vft/hft)	0.0035
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.99
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	2.4301
Undeveloped Runoff Coefficient (Cu)	0.7795
Developed Runoff Coefficient (Cd)	0.8988
Time of Concentration (min)	11.0
Clear Peak Flow Rate (cfs)	6.3995
Burned Peak Flow Rate (cfs)	6.3995
24-Hr Clear Runoff Volume (ac-ft)	1.276
24-Hr Clear Runoff Volume (cu-ft)	55582.295



Peak Flow Hydrologic Analysis

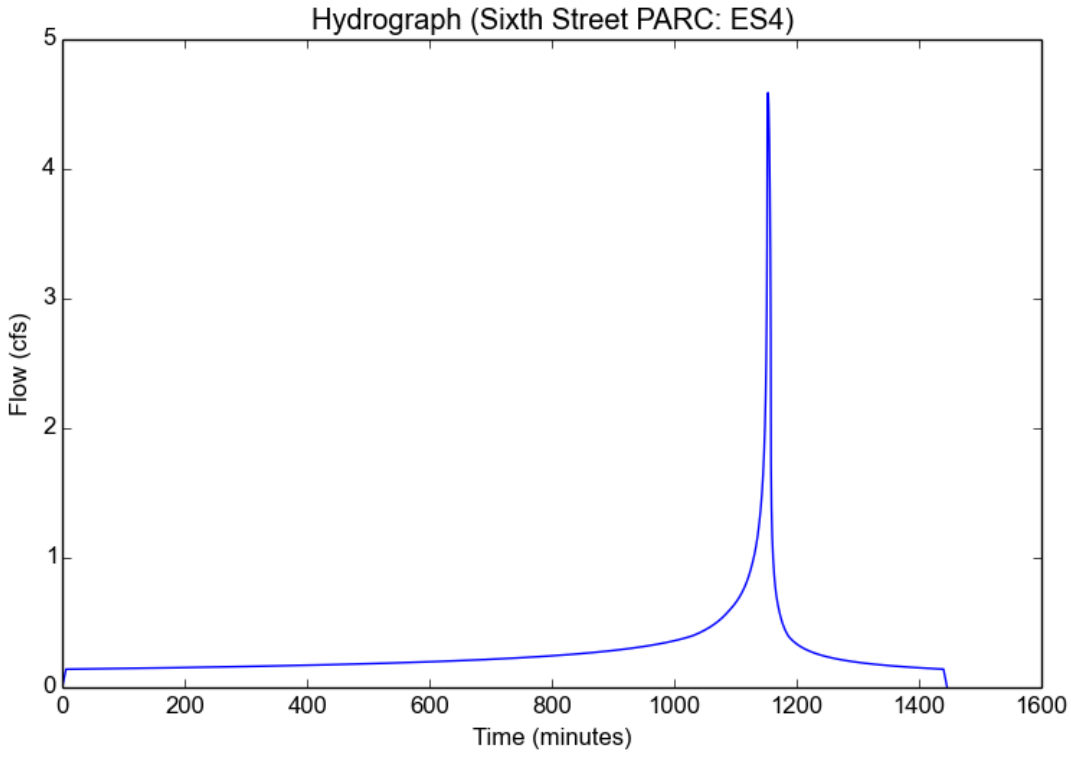
File location: O:/Projects/Irvine/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/Pre-Project/50-Ye
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	ES4
Area (ac)	1.61
Flow Path Length (ft)	400.0
Flow Path Slope (vft/hft)	0.008
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.71
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.231
Undeveloped Runoff Coefficient (Cu)	0.8385
Developed Runoff Coefficient (Cd)	0.8822
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	4.589
Burned Peak Flow Rate (cfs)	4.589
24-Hr Clear Runoff Volume (ac-ft)	0.5504
24-Hr Clear Runoff Volume (cu-ft)	23974.2026



POST-PROJECT CONDITION

Peak Flow Hydrologic Analysis

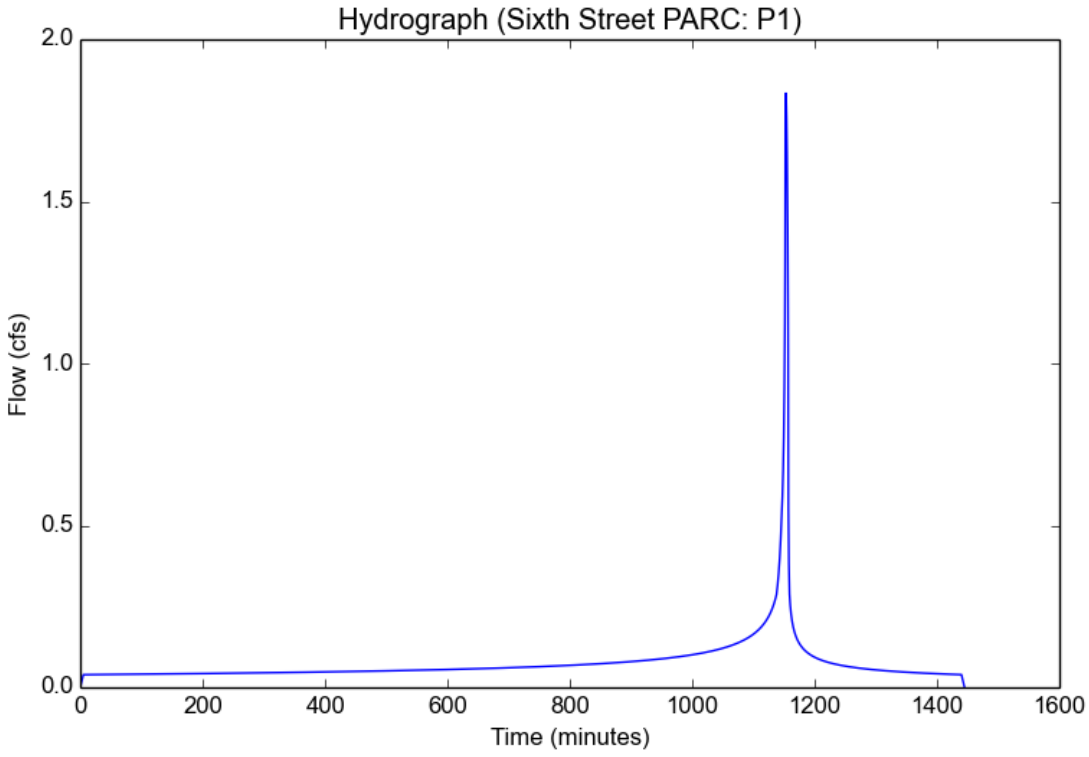
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/2-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P1
Area (ac)	1.78
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.42
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	1.3623
Undeveloped Runoff Coefficient (Cu)	0.652
Developed Runoff Coefficient (Cd)	0.7562
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.8336
Burned Peak Flow Rate (cfs)	1.8336
24-Hr Clear Runoff Volume (ac-ft)	0.1538
24-Hr Clear Runoff Volume (cu-ft)	6698.9624



Peak Flow Hydrologic Analysis

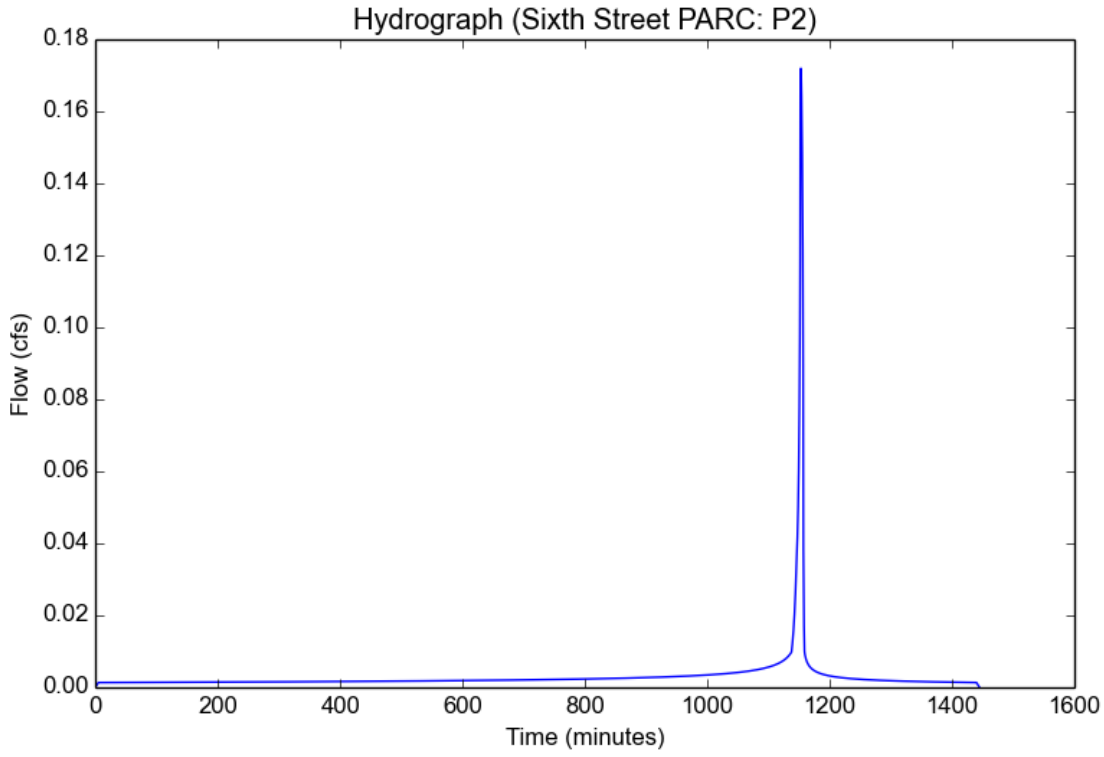
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/2-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P2
Area (ac)	0.19
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.05
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	1.3623
Undeveloped Runoff Coefficient (Cu)	0.652
Developed Runoff Coefficient (Cd)	0.6644
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.172
Burned Peak Flow Rate (cfs)	0.172
24-Hr Clear Runoff Volume (ac-ft)	0.0063
24-Hr Clear Runoff Volume (cu-ft)	274.5395



Peak Flow Hydrologic Analysis

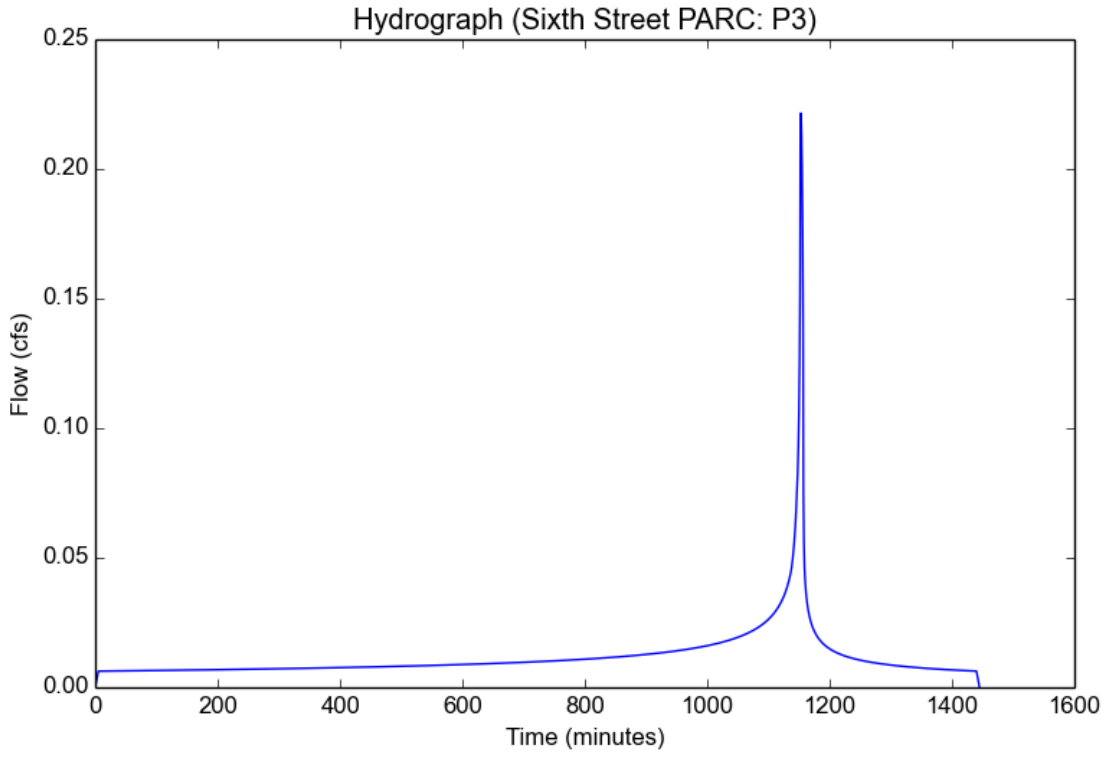
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/2-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P3
Area (ac)	0.2
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.65
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	1.3623
Undeveloped Runoff Coefficient (Cu)	0.652
Developed Runoff Coefficient (Cd)	0.8132
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.2216
Burned Peak Flow Rate (cfs)	0.2216
24-Hr Clear Runoff Volume (ac-ft)	0.0239
24-Hr Clear Runoff Volume (cu-ft)	1040.9405



Peak Flow Hydrologic Analysis

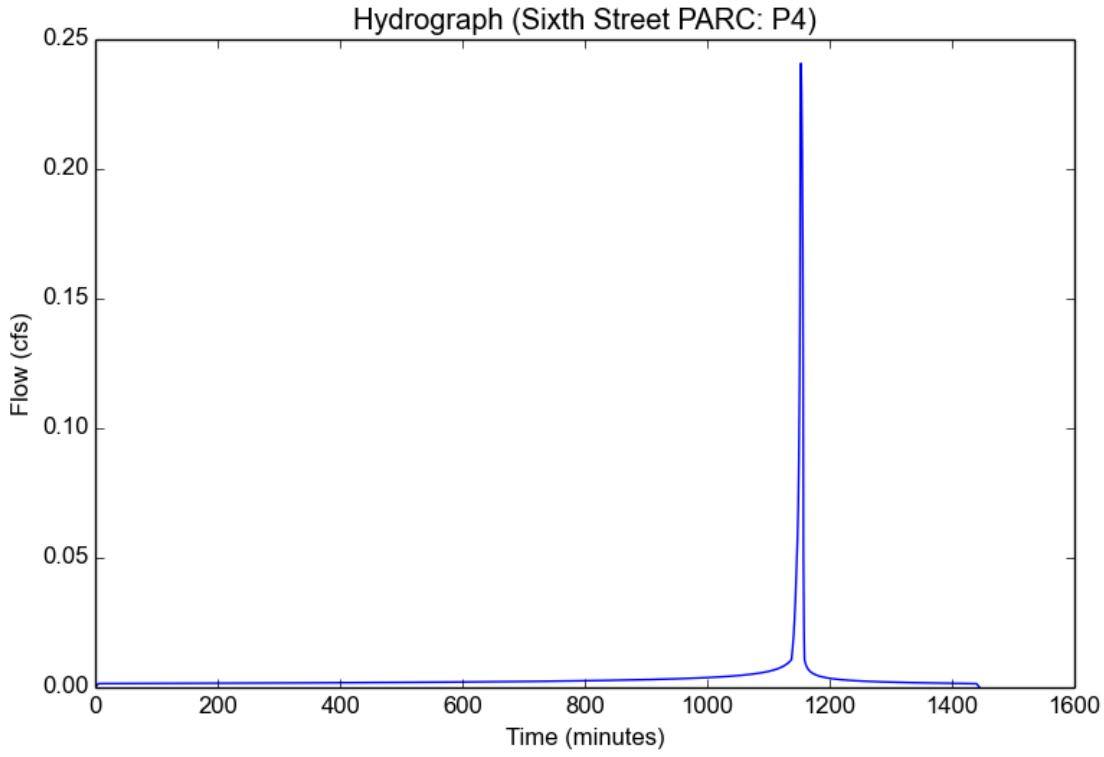
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/2-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P4
Area (ac)	0.27
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.01
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	1.3623
Undeveloped Runoff Coefficient (Cu)	0.652
Developed Runoff Coefficient (Cd)	0.6545
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.2407
Burned Peak Flow Rate (cfs)	0.2407
24-Hr Clear Runoff Volume (ac-ft)	0.0074
24-Hr Clear Runoff Volume (cu-ft)	322.4595



Peak Flow Hydrologic Analysis

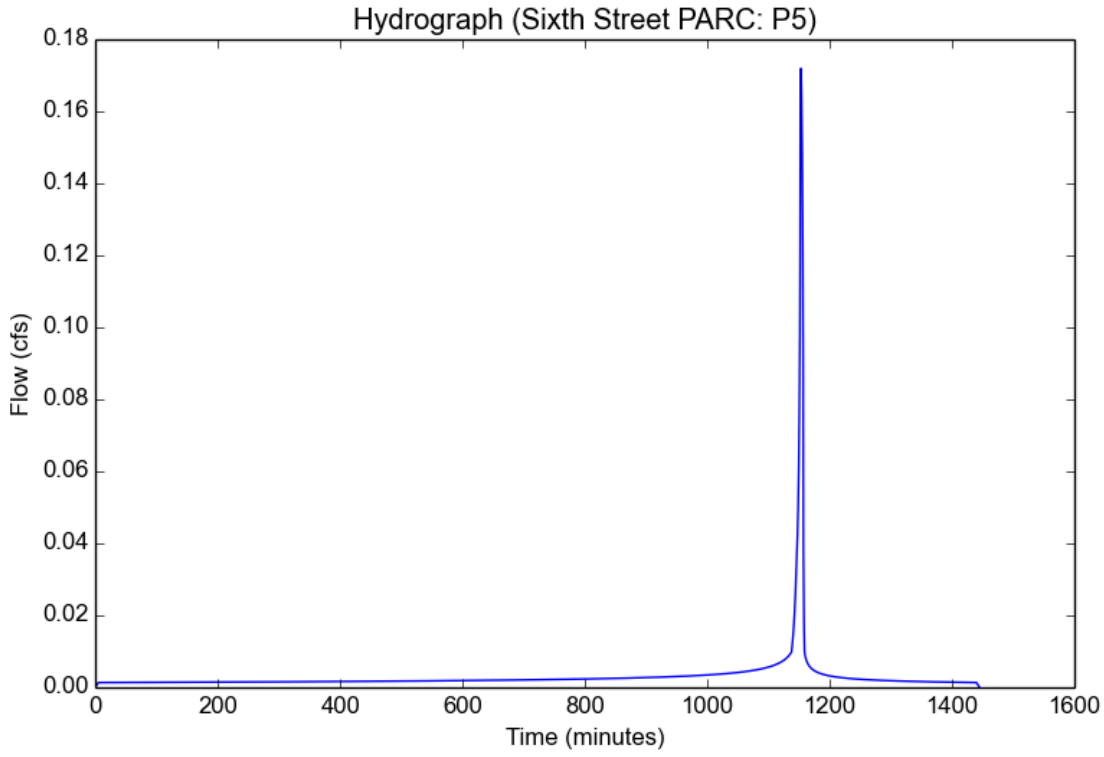
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/2-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P5
Area (ac)	0.19
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.05
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	1.3623
Undeveloped Runoff Coefficient (Cu)	0.652
Developed Runoff Coefficient (Cd)	0.6644
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.172
Burned Peak Flow Rate (cfs)	0.172
24-Hr Clear Runoff Volume (ac-ft)	0.0063
24-Hr Clear Runoff Volume (cu-ft)	274.5395



Peak Flow Hydrologic Analysis

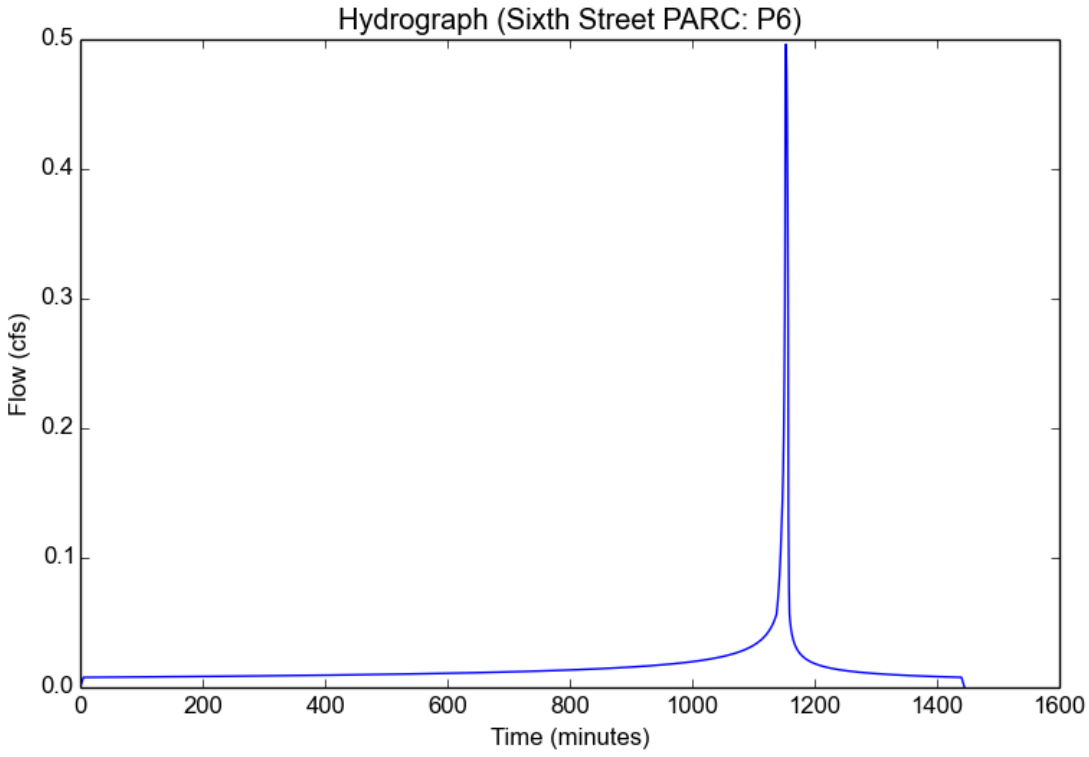
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/2-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P6
Area (ac)	0.51
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.25
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	1.3623
Undeveloped Runoff Coefficient (Cu)	0.652
Developed Runoff Coefficient (Cd)	0.714
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.4961
Burned Peak Flow Rate (cfs)	0.4961
24-Hr Clear Runoff Volume (ac-ft)	0.0316
24-Hr Clear Runoff Volume (cu-ft)	1376.0807



Peak Flow Hydrologic Analysis

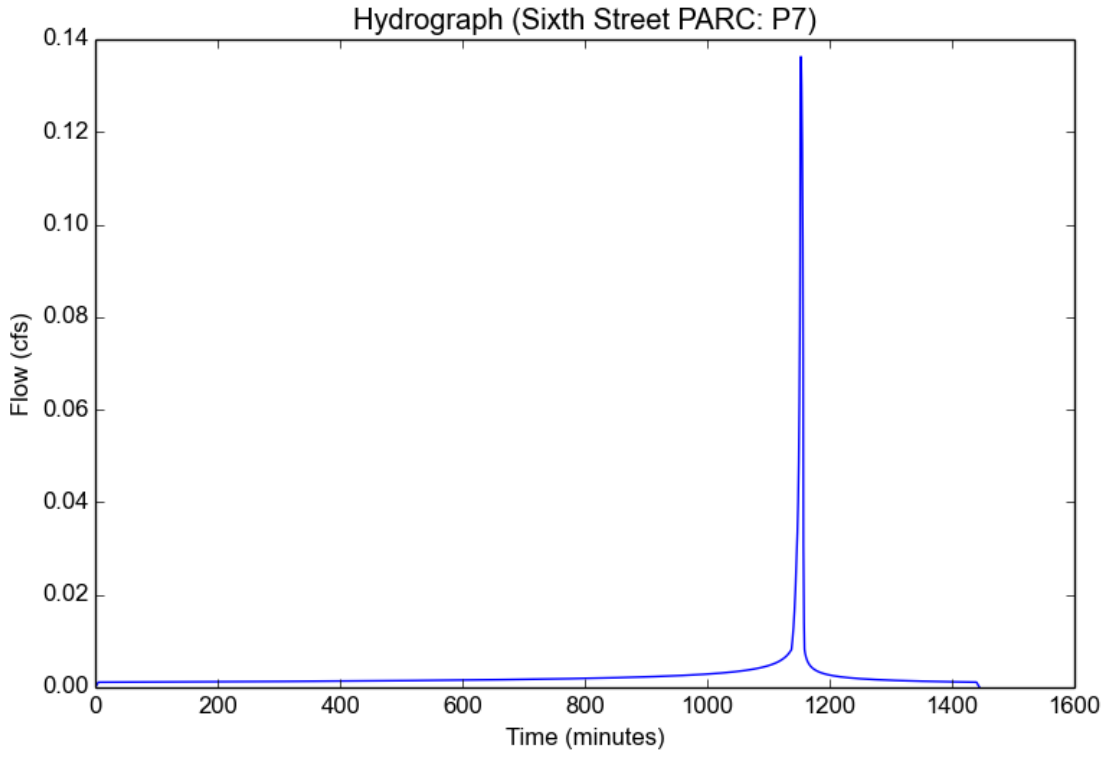
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/2-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P7
Area (ac)	0.15
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.06
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	1.3623
Undeveloped Runoff Coefficient (Cu)	0.652
Developed Runoff Coefficient (Cd)	0.6669
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.1363
Burned Peak Flow Rate (cfs)	0.1363
24-Hr Clear Runoff Volume (ac-ft)	0.0052
24-Hr Clear Runoff Volume (cu-ft)	226.1411



Peak Flow Hydrologic Analysis

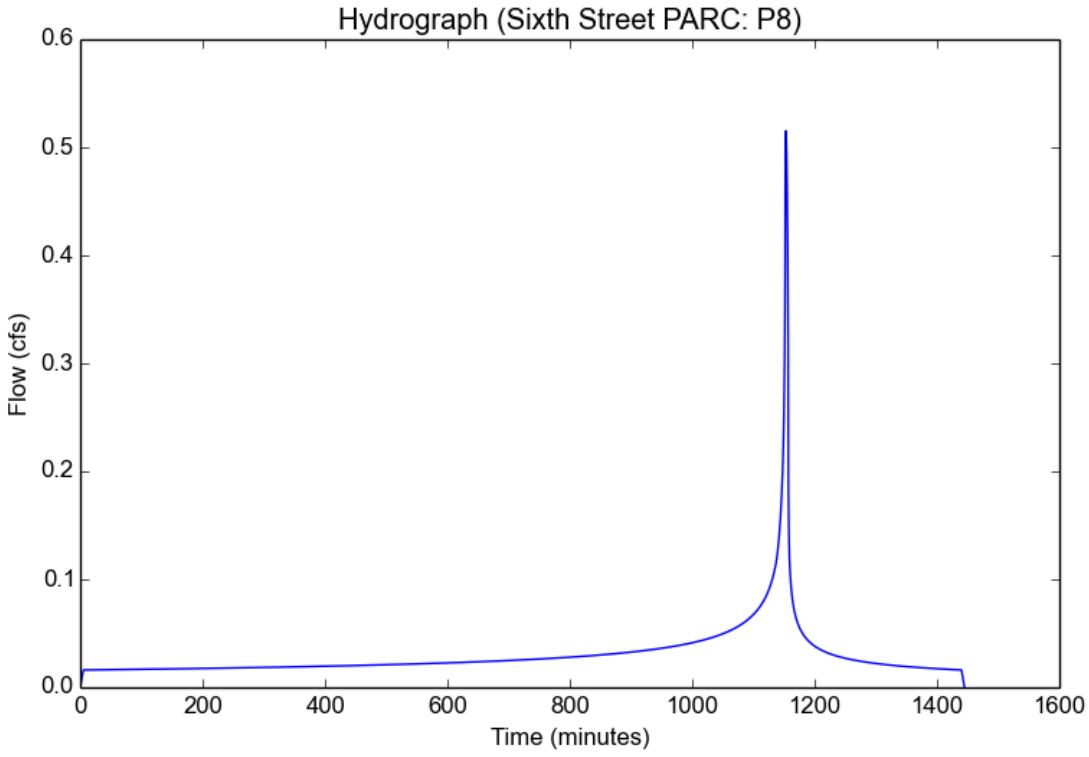
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/2-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P8
Area (ac)	0.45
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.76
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	1.3623
Undeveloped Runoff Coefficient (Cu)	0.652
Developed Runoff Coefficient (Cd)	0.8405
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.5152
Burned Peak Flow Rate (cfs)	0.5152
24-Hr Clear Runoff Volume (ac-ft)	0.0609
24-Hr Clear Runoff Volume (cu-ft)	2652.2961



Peak Flow Hydrologic Analysis

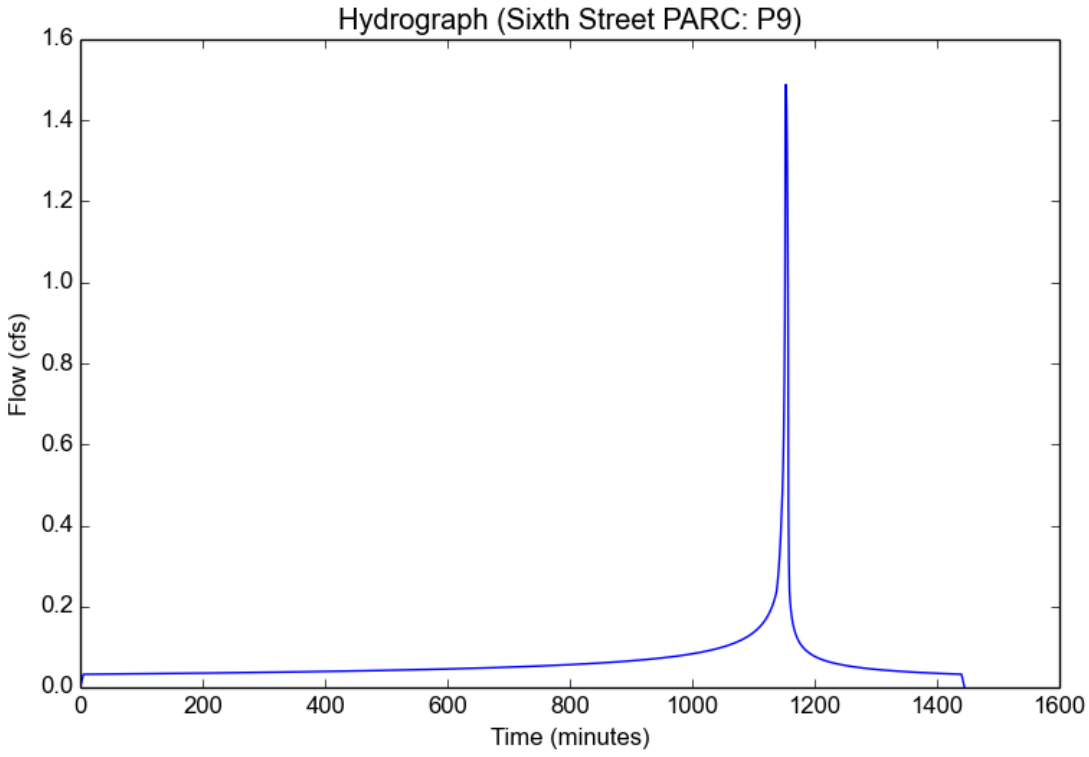
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/2-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P9
Area (ac)	1.44
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.43
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	1.3623
Undeveloped Runoff Coefficient (Cu)	0.652
Developed Runoff Coefficient (Cd)	0.7586
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.4882
Burned Peak Flow Rate (cfs)	1.4882
24-Hr Clear Runoff Volume (ac-ft)	0.1265
24-Hr Clear Runoff Volume (cu-ft)	5509.6195



Peak Flow Hydrologic Analysis

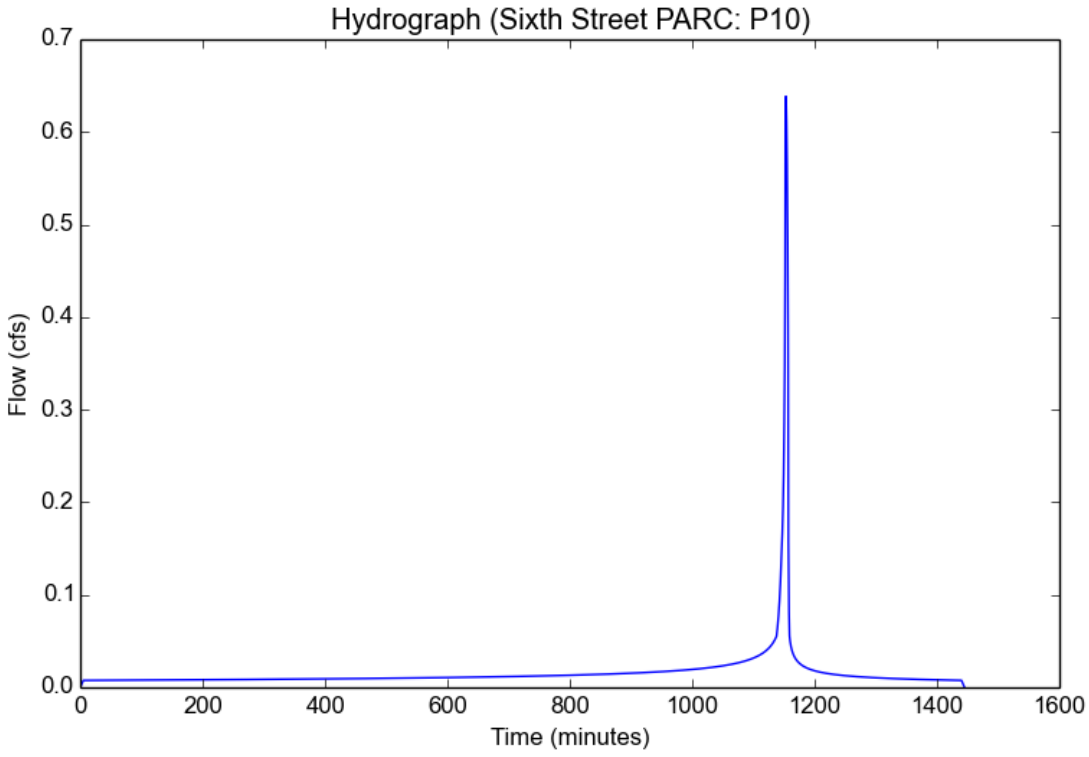
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/2-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P10
Area (ac)	0.68
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.15
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	1.3623
Undeveloped Runoff Coefficient (Cu)	0.652
Developed Runoff Coefficient (Cd)	0.6892
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.6385
Burned Peak Flow Rate (cfs)	0.6385
24-Hr Clear Runoff Volume (ac-ft)	0.0323
24-Hr Clear Runoff Volume (cu-ft)	1408.6684



Peak Flow Hydrologic Analysis

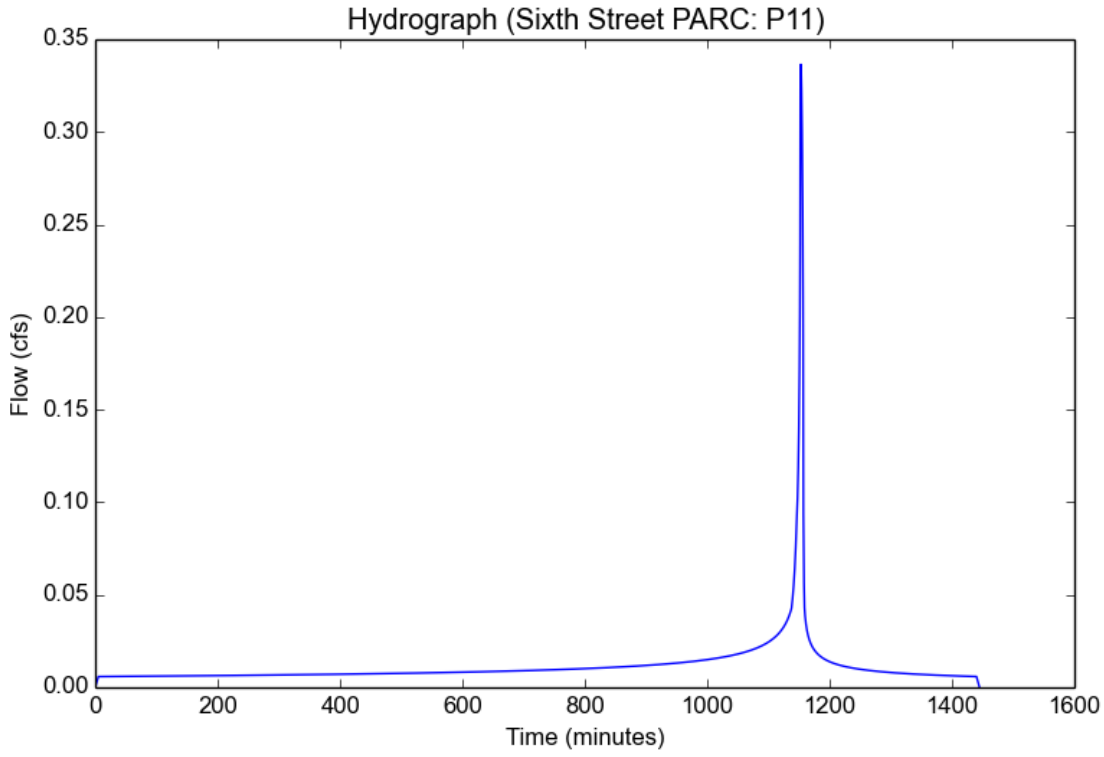
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/2-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P11
Area (ac)	0.34
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.3
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	1.3623
Undeveloped Runoff Coefficient (Cu)	0.652
Developed Runoff Coefficient (Cd)	0.7264
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.3365
Burned Peak Flow Rate (cfs)	0.3365
24-Hr Clear Runoff Volume (ac-ft)	0.0235
24-Hr Clear Runoff Volume (cu-ft)	1023.9136



Peak Flow Hydrologic Analysis

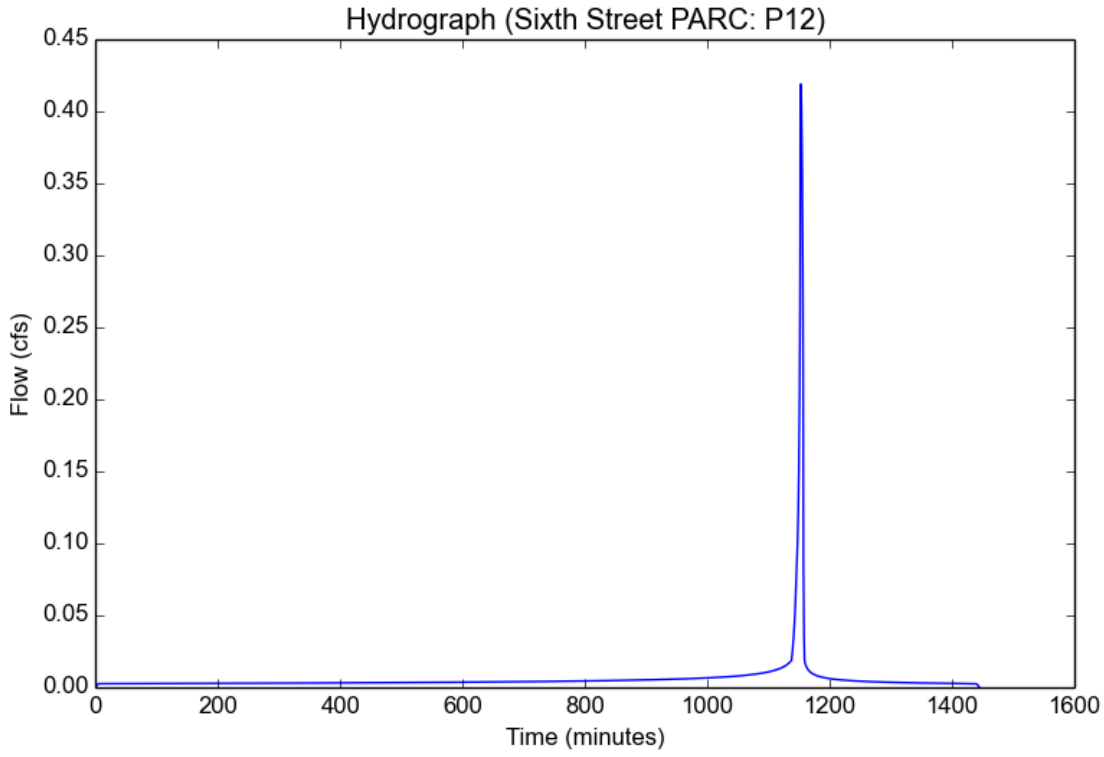
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/2-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P12
Area (ac)	0.47
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.01
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	1.3623
Undeveloped Runoff Coefficient (Cu)	0.652
Developed Runoff Coefficient (Cd)	0.6545
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.4191
Burned Peak Flow Rate (cfs)	0.4191
24-Hr Clear Runoff Volume (ac-ft)	0.0129
24-Hr Clear Runoff Volume (cu-ft)	561.3184



Peak Flow Hydrologic Analysis

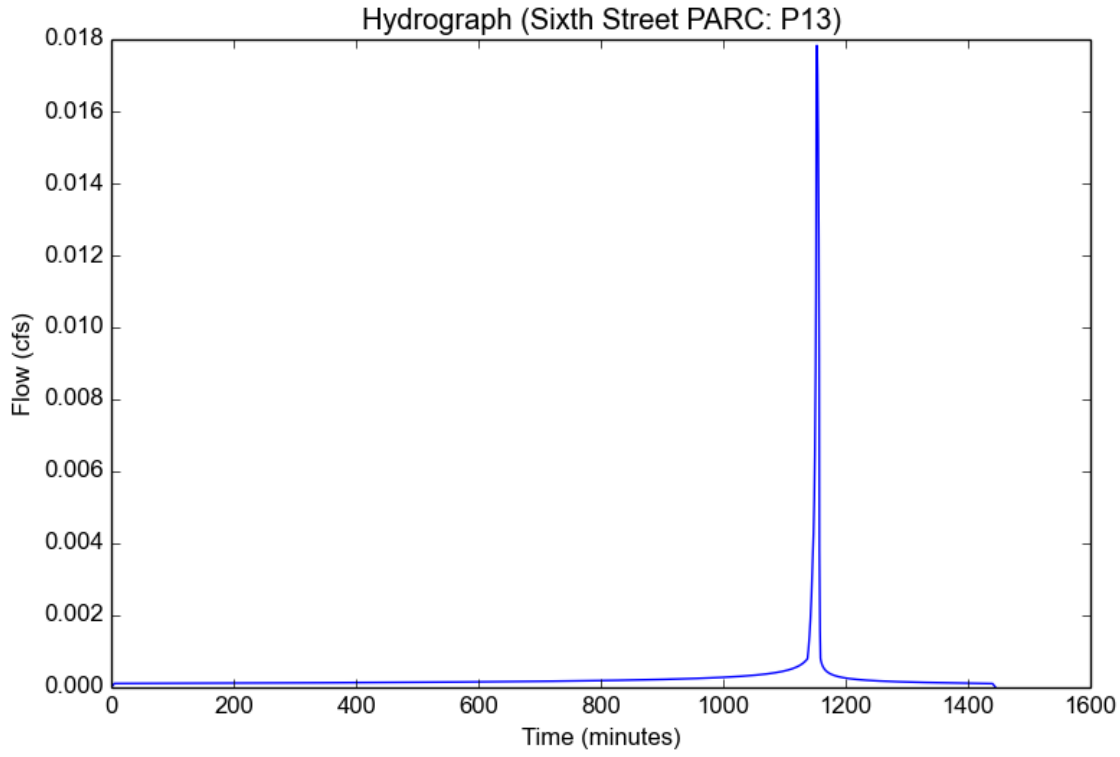
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/2-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P13
Area (ac)	0.02
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.01
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	1.3623
Undeveloped Runoff Coefficient (Cu)	0.652
Developed Runoff Coefficient (Cd)	0.6545
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.0178
Burned Peak Flow Rate (cfs)	0.0178
24-Hr Clear Runoff Volume (ac-ft)	0.0005
24-Hr Clear Runoff Volume (cu-ft)	23.8859



Peak Flow Hydrologic Analysis

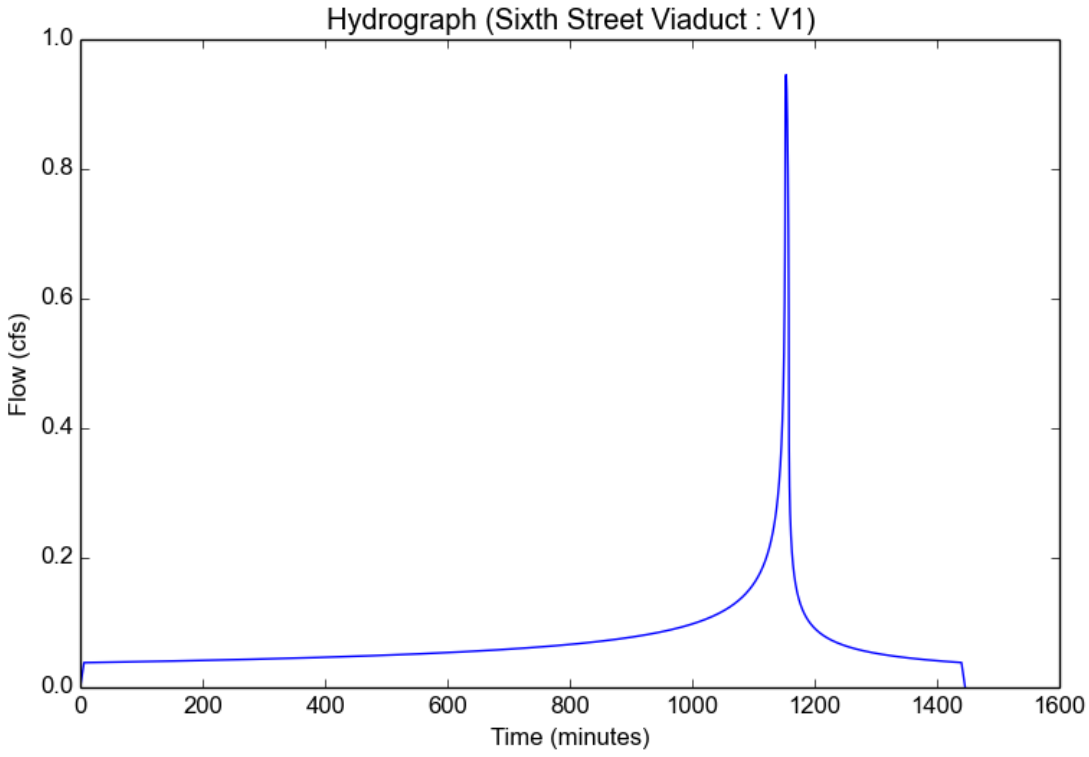
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/2-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V1
Area (ac)	0.84
Flow Path Length (ft)	225.0
Flow Path Slope (vft/hft)	0.05
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	1.2504
Undeveloped Runoff Coefficient (Cu)	0.6314
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	0.9453
Burned Peak Flow Rate (cfs)	0.9453
24-Hr Clear Runoff Volume (ac-ft)	0.1427
24-Hr Clear Runoff Volume (cu-ft)	6214.2321



Peak Flow Hydrologic Analysis

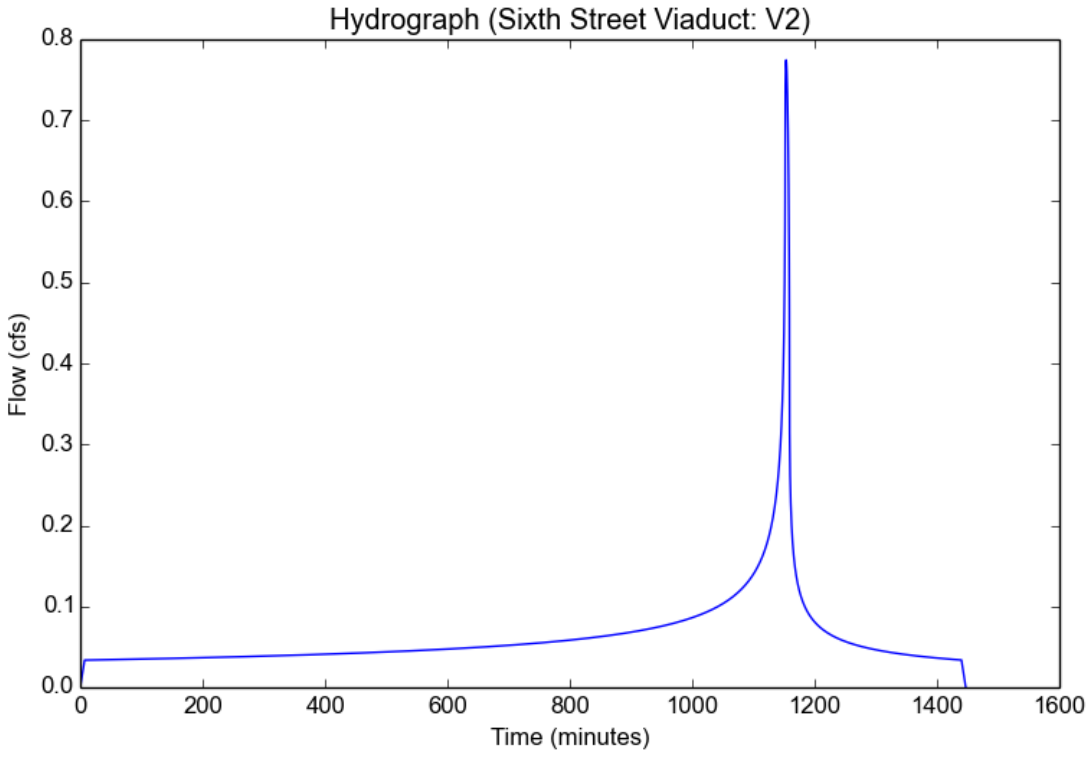
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/2-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V2
Area (ac)	0.74
Flow Path Length (ft)	250.0
Flow Path Slope (vft/hft)	0.03
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	1.163
Undeveloped Runoff Coefficient (Cu)	0.6153
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	0.7746
Burned Peak Flow Rate (cfs)	0.7746
24-Hr Clear Runoff Volume (ac-ft)	0.1257
24-Hr Clear Runoff Volume (cu-ft)	5474.4434



Peak Flow Hydrologic Analysis

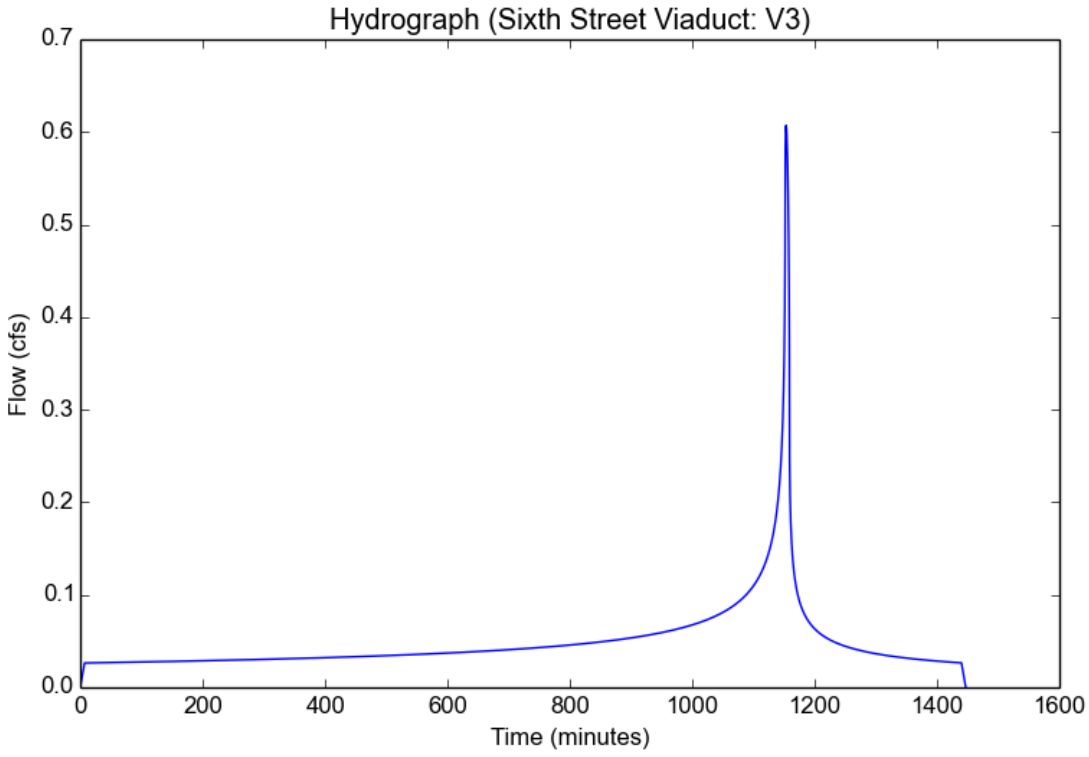
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/2-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V3
Area (ac)	0.58
Flow Path Length (ft)	200.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	1.163
Undeveloped Runoff Coefficient (Cu)	0.6153
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	0.6071
Burned Peak Flow Rate (cfs)	0.6071
24-Hr Clear Runoff Volume (ac-ft)	0.0985
24-Hr Clear Runoff Volume (cu-ft)	4290.78



Peak Flow Hydrologic Analysis

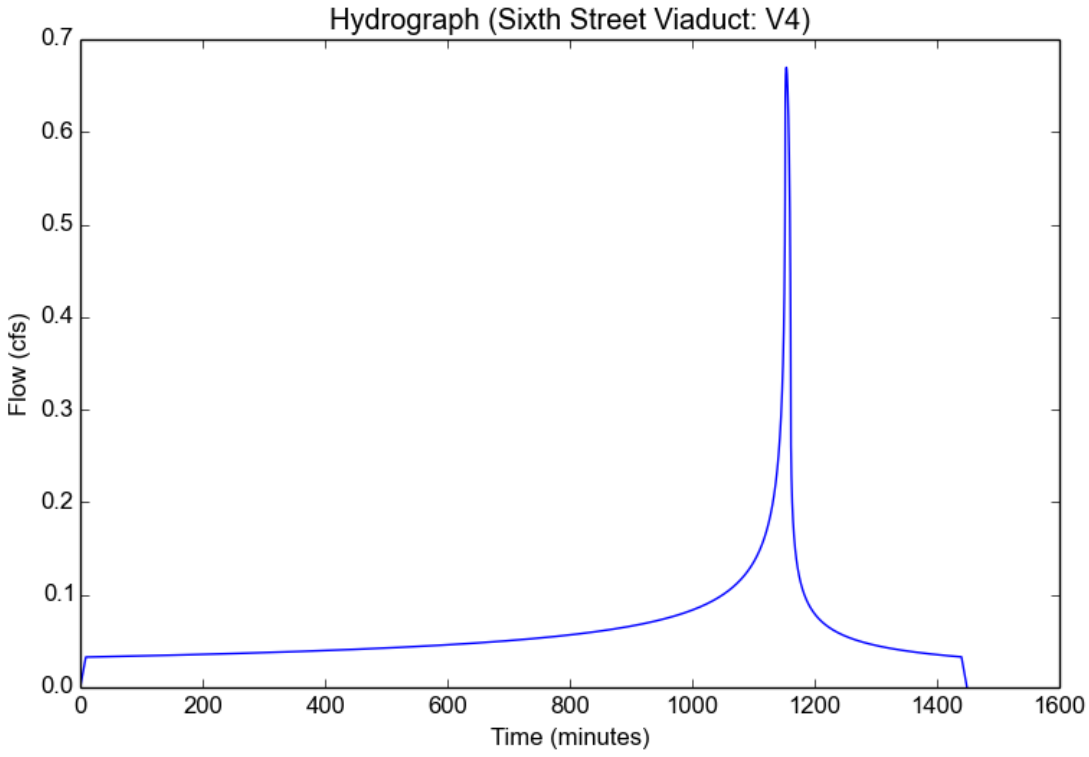
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/2-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V4
Area (ac)	0.72
Flow Path Length (ft)	250.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	1.0334
Undeveloped Runoff Coefficient (Cu)	0.5914
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	9.0
Clear Peak Flow Rate (cfs)	0.6697
Burned Peak Flow Rate (cfs)	0.6697
24-Hr Clear Runoff Volume (ac-ft)	0.1223
24-Hr Clear Runoff Volume (cu-ft)	5326.4877



Peak Flow Hydrologic Analysis

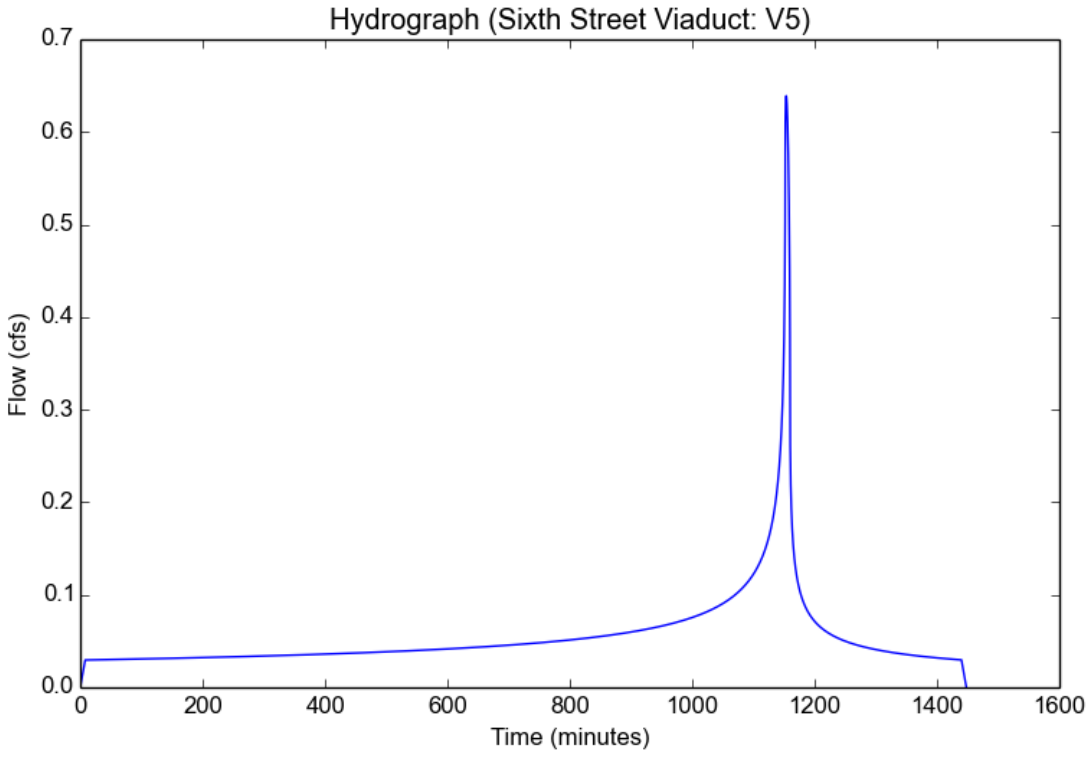
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/2-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V5
Area (ac)	0.65
Flow Path Length (ft)	210.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	1.0923
Undeveloped Runoff Coefficient (Cu)	0.6022
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	8.0
Clear Peak Flow Rate (cfs)	0.639
Burned Peak Flow Rate (cfs)	0.639
24-Hr Clear Runoff Volume (ac-ft)	0.1104
24-Hr Clear Runoff Volume (cu-ft)	4808.6337



Peak Flow Hydrologic Analysis

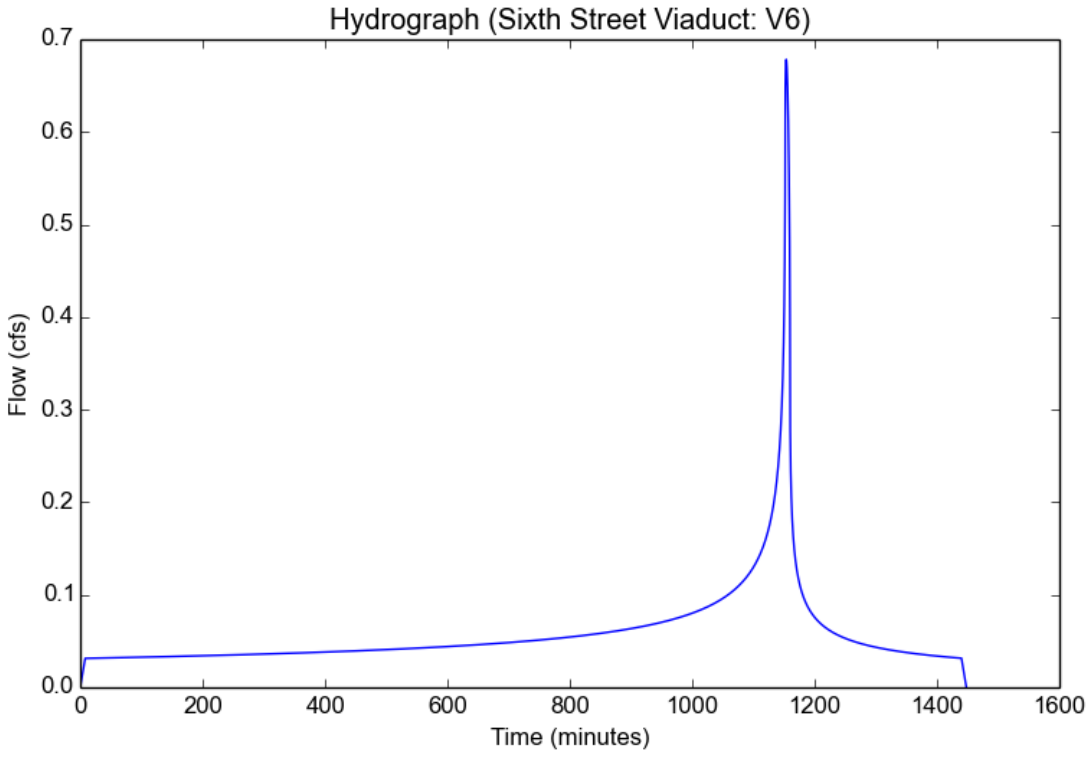
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/2-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V6
Area (ac)	0.69
Flow Path Length (ft)	210.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	1.0923
Undeveloped Runoff Coefficient (Cu)	0.6022
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	8.0
Clear Peak Flow Rate (cfs)	0.6783
Burned Peak Flow Rate (cfs)	0.6783
24-Hr Clear Runoff Volume (ac-ft)	0.1172
24-Hr Clear Runoff Volume (cu-ft)	5104.5496



Peak Flow Hydrologic Analysis

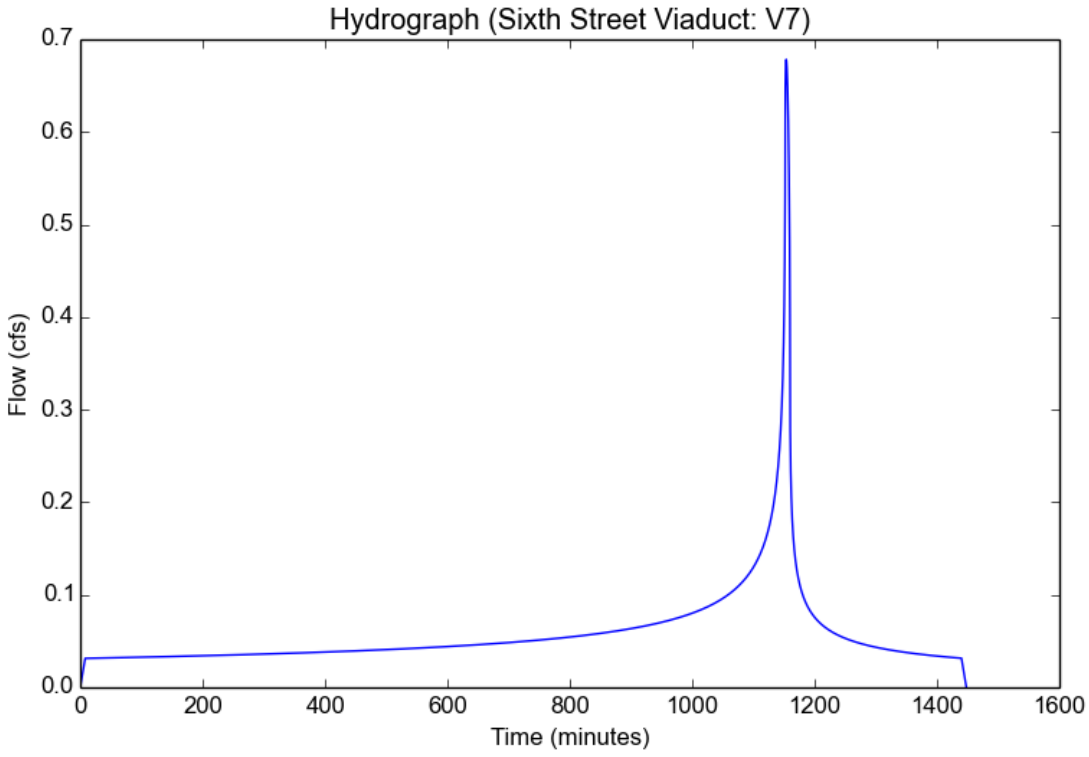
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/2-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V7
Area (ac)	0.69
Flow Path Length (ft)	210.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	1.0923
Undeveloped Runoff Coefficient (Cu)	0.6022
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	8.0
Clear Peak Flow Rate (cfs)	0.6783
Burned Peak Flow Rate (cfs)	0.6783
24-Hr Clear Runoff Volume (ac-ft)	0.1172
24-Hr Clear Runoff Volume (cu-ft)	5104.5496



Peak Flow Hydrologic Analysis

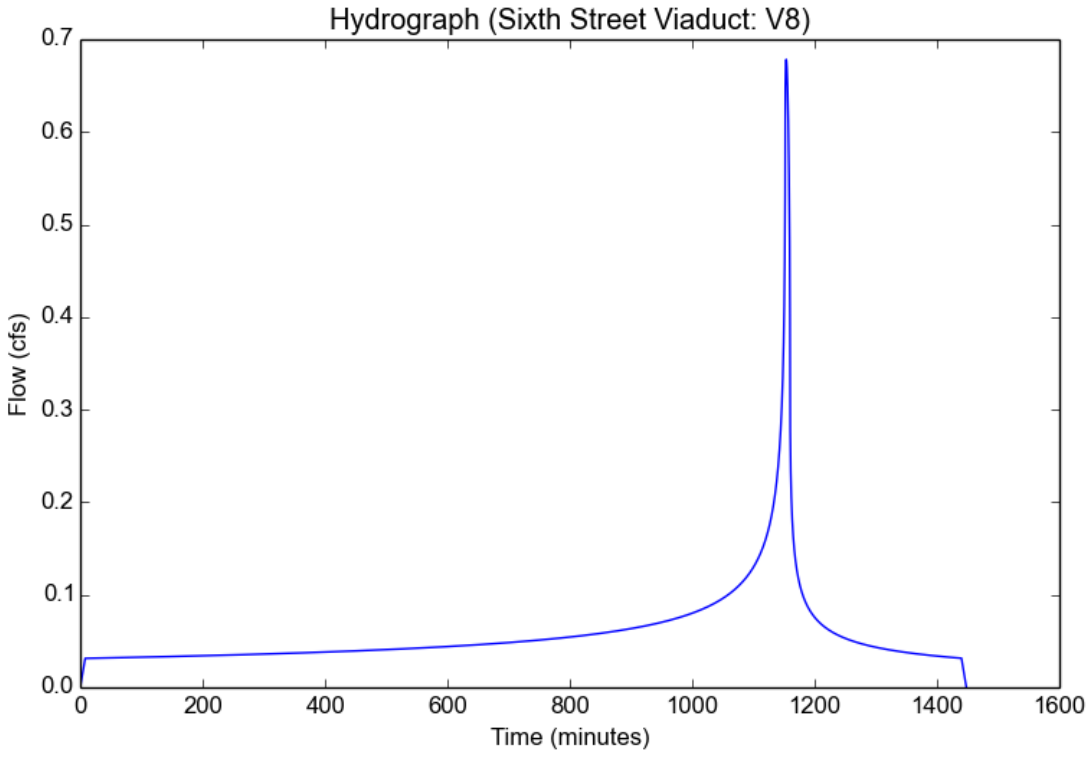
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/2-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V8
Area (ac)	0.69
Flow Path Length (ft)	210.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	1.0923
Undeveloped Runoff Coefficient (Cu)	0.6022
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	8.0
Clear Peak Flow Rate (cfs)	0.6783
Burned Peak Flow Rate (cfs)	0.6783
24-Hr Clear Runoff Volume (ac-ft)	0.1172
24-Hr Clear Runoff Volume (cu-ft)	5104.5496



Peak Flow Hydrologic Analysis

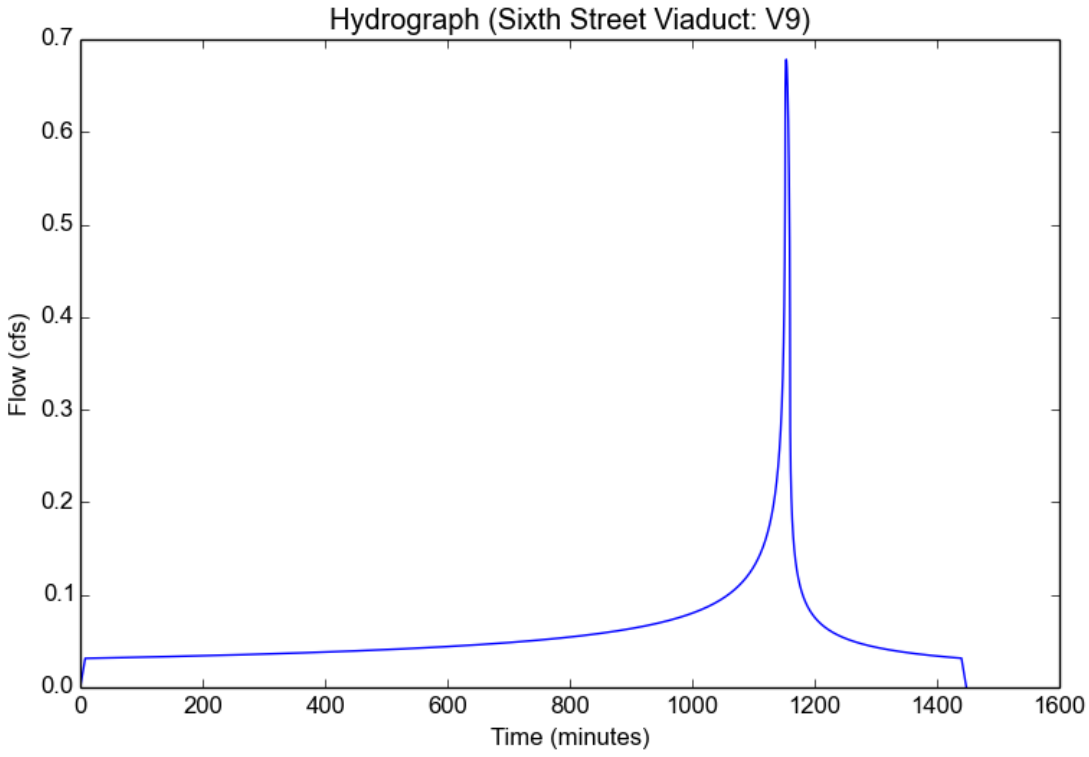
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/2-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V9
Area (ac)	0.69
Flow Path Length (ft)	210.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	1.0923
Undeveloped Runoff Coefficient (Cu)	0.6022
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	8.0
Clear Peak Flow Rate (cfs)	0.6783
Burned Peak Flow Rate (cfs)	0.6783
24-Hr Clear Runoff Volume (ac-ft)	0.1172
24-Hr Clear Runoff Volume (cu-ft)	5104.5496



Peak Flow Hydrologic Analysis

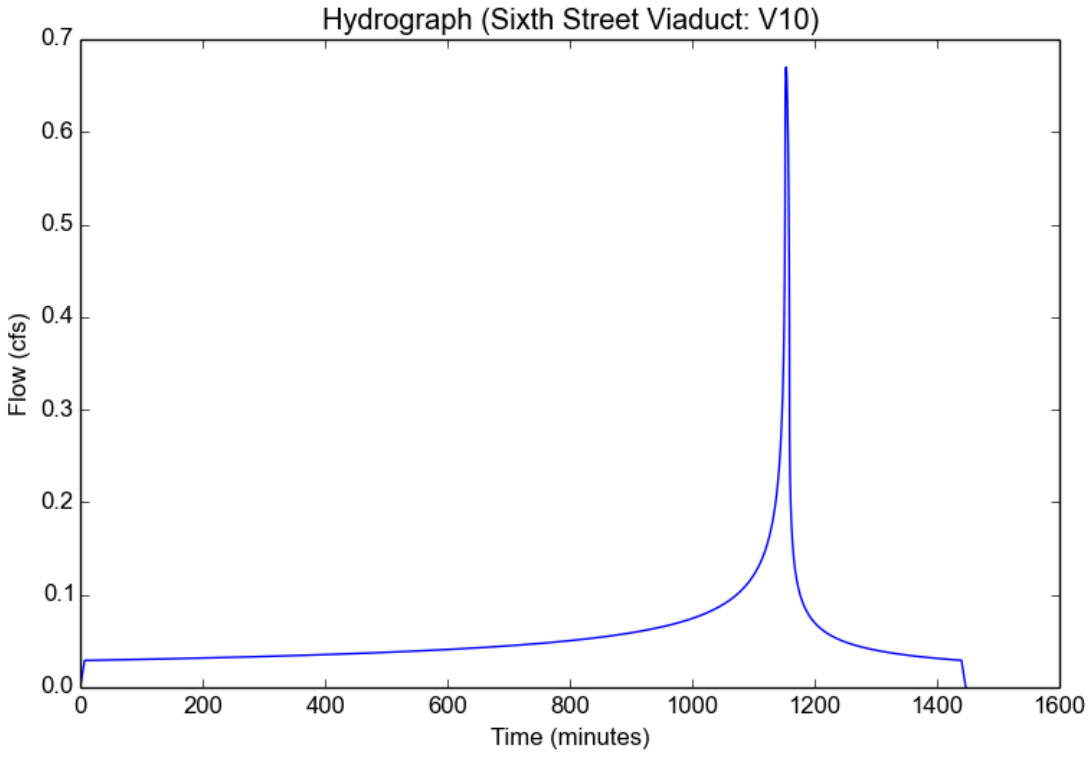
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/2-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V10
Area (ac)	0.64
Flow Path Length (ft)	200.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	1.163
Undeveloped Runoff Coefficient (Cu)	0.6153
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	0.6699
Burned Peak Flow Rate (cfs)	0.6699
24-Hr Clear Runoff Volume (ac-ft)	0.1087
24-Hr Clear Runoff Volume (cu-ft)	4734.6538



Peak Flow Hydrologic Analysis

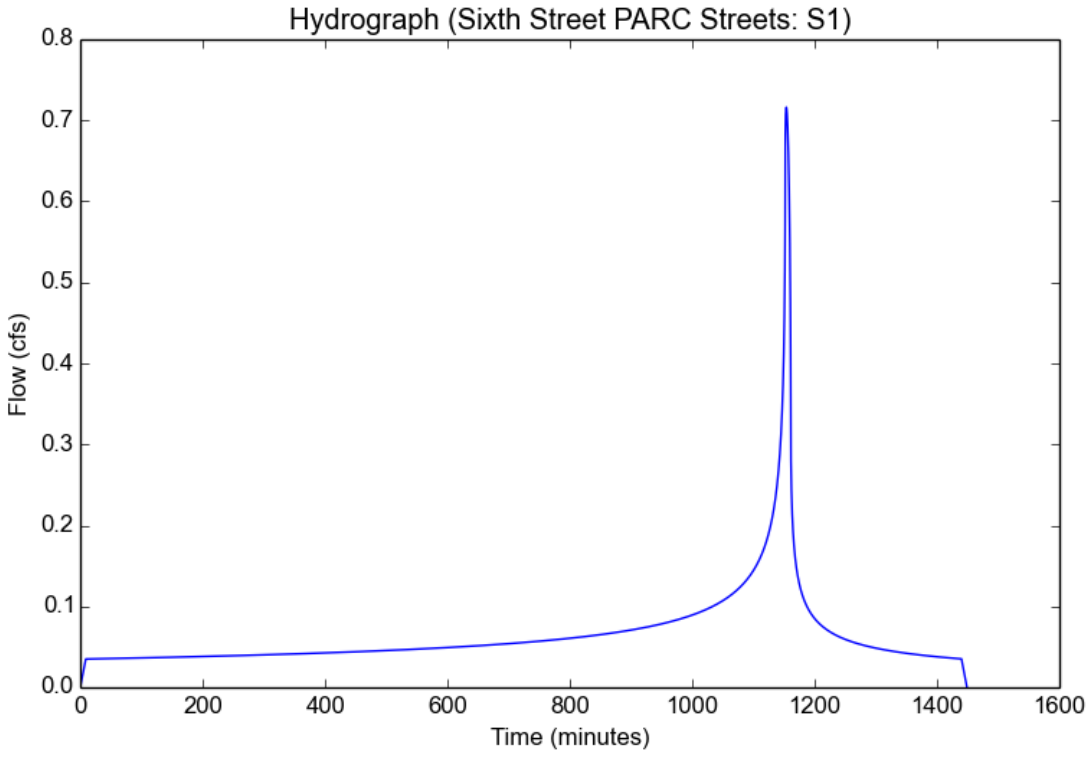
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/2-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC Streets
Subarea ID	S1
Area (ac)	0.77
Flow Path Length (ft)	275.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	1.0334
Undeveloped Runoff Coefficient (Cu)	0.5914
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	9.0
Clear Peak Flow Rate (cfs)	0.7162
Burned Peak Flow Rate (cfs)	0.7162
24-Hr Clear Runoff Volume (ac-ft)	0.1308
24-Hr Clear Runoff Volume (cu-ft)	5696.3826



Peak Flow Hydrologic Analysis

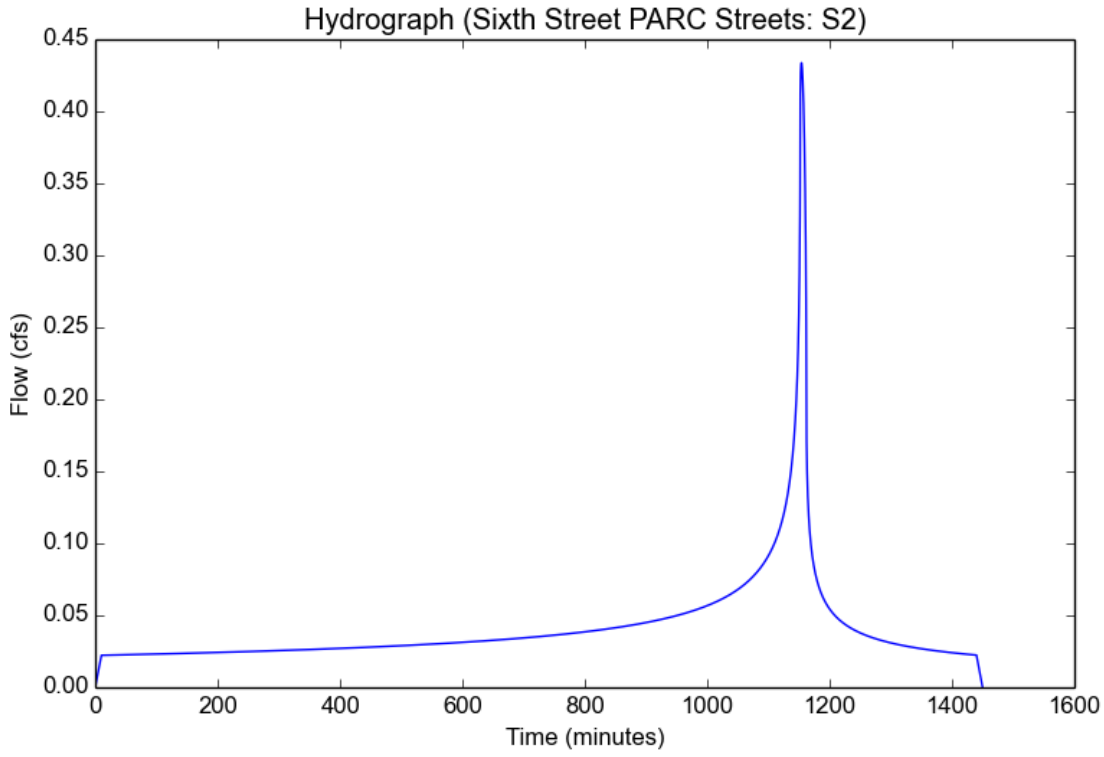
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/2-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC Streets
Subarea ID	S2
Area (ac)	0.49
Flow Path Length (ft)	235.0
Flow Path Slope (vft/hft)	0.004
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	0.9835
Undeveloped Runoff Coefficient (Cu)	0.5796
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	10.0
Clear Peak Flow Rate (cfs)	0.4337
Burned Peak Flow Rate (cfs)	0.4337
24-Hr Clear Runoff Volume (ac-ft)	0.0832
24-Hr Clear Runoff Volume (cu-ft)	3624.9716



Peak Flow Hydrologic Analysis

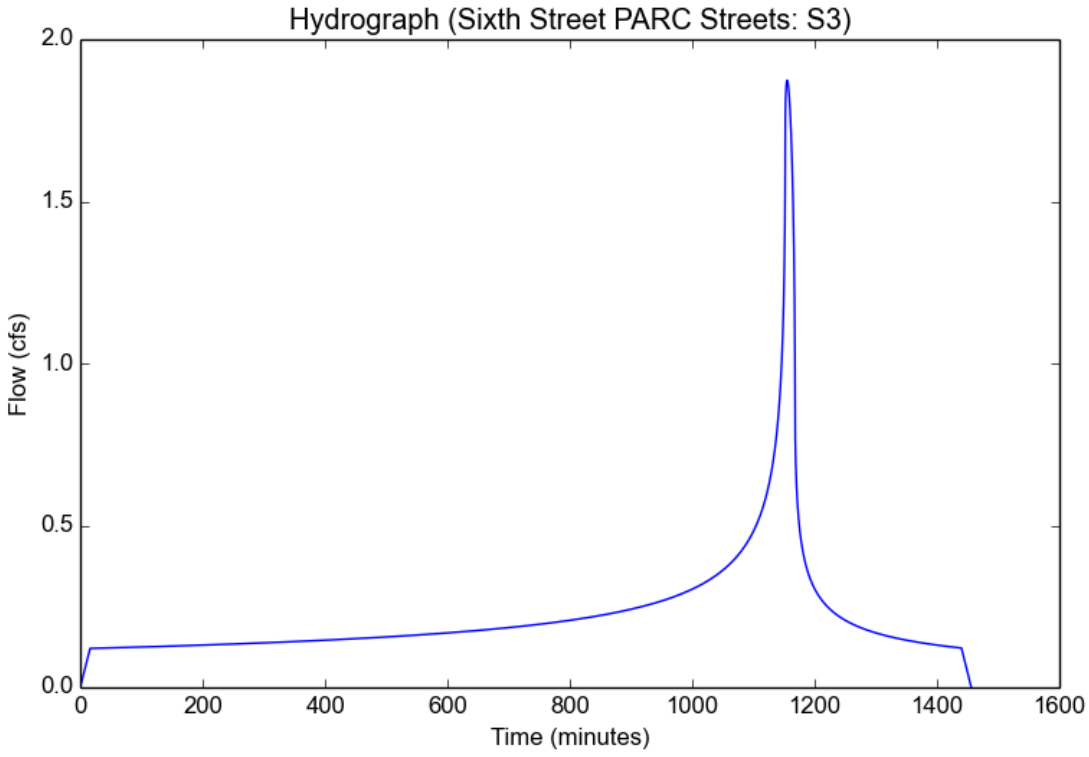
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/2-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC Streets
Subarea ID	S3
Area (ac)	2.64
Flow Path Length (ft)	485.0
Flow Path Slope (vft/hft)	0.0035
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	0.7886
Undeveloped Runoff Coefficient (Cu)	0.5131
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	16.0
Clear Peak Flow Rate (cfs)	1.8737
Burned Peak Flow Rate (cfs)	1.8737
24-Hr Clear Runoff Volume (ac-ft)	0.4484
24-Hr Clear Runoff Volume (cu-ft)	19530.4981



Peak Flow Hydrologic Analysis

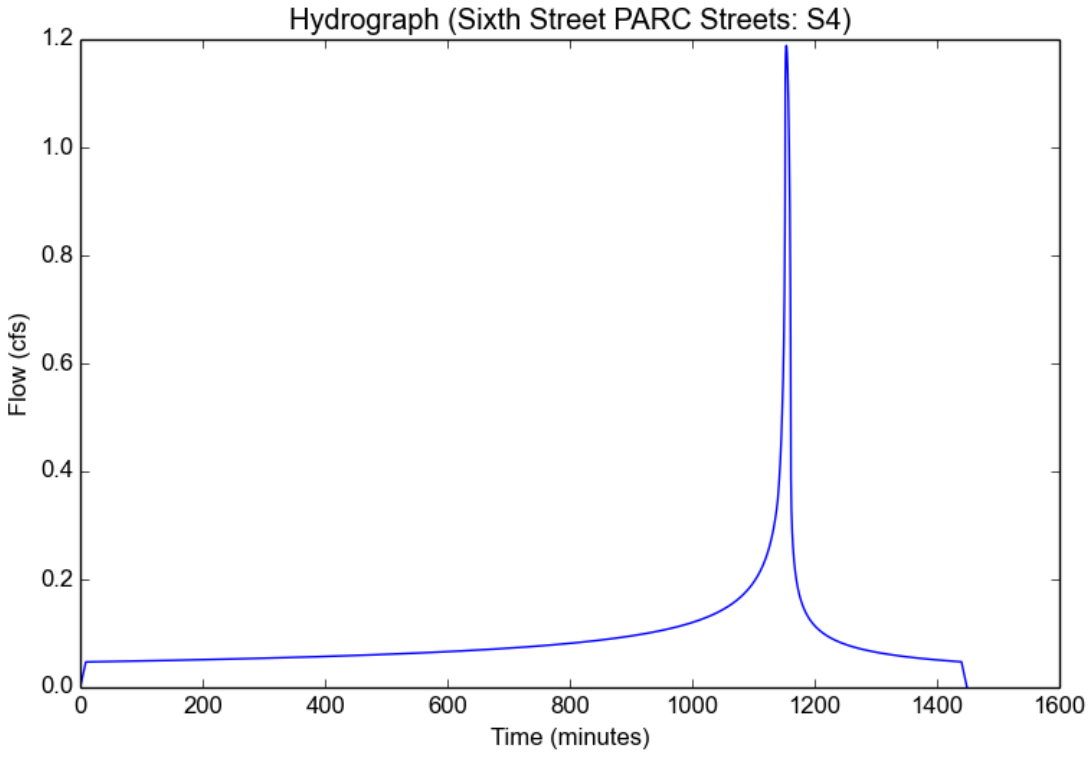
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/2-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC Streets
Subarea ID	S4
Area (ac)	1.43
Flow Path Length (ft)	245.0
Flow Path Slope (vft/hft)	0.008
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.69
Soil Type	6
Design Storm Frequency	2-yr
Fire Factor	0
LID	False

Output Results

Modeled (2-yr) Rainfall Depth (in)	2.2833
Peak Intensity (in/hr)	1.0334
Undeveloped Runoff Coefficient (Cu)	0.5914
Developed Runoff Coefficient (Cd)	0.8043
Time of Concentration (min)	9.0
Clear Peak Flow Rate (cfs)	1.1887
Burned Peak Flow Rate (cfs)	1.1887
24-Hr Clear Runoff Volume (ac-ft)	0.1791
24-Hr Clear Runoff Volume (cu-ft)	7799.7778



Peak Flow Hydrologic Analysis

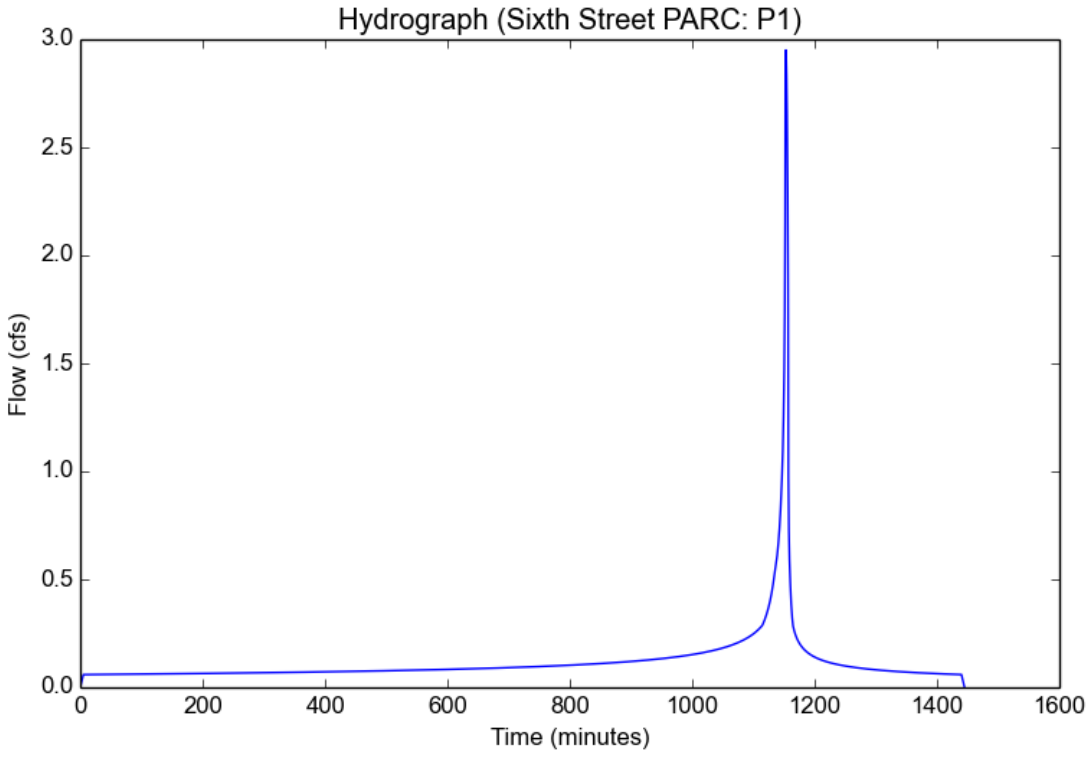
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/5-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P1
Area (ac)	1.78
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.42
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	2.0557
Undeveloped Runoff Coefficient (Cu)	0.7384
Developed Runoff Coefficient (Cd)	0.8063
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.9503
Burned Peak Flow Rate (cfs)	2.9503
24-Hr Clear Runoff Volume (ac-ft)	0.2389
24-Hr Clear Runoff Volume (cu-ft)	10407.229



Peak Flow Hydrologic Analysis

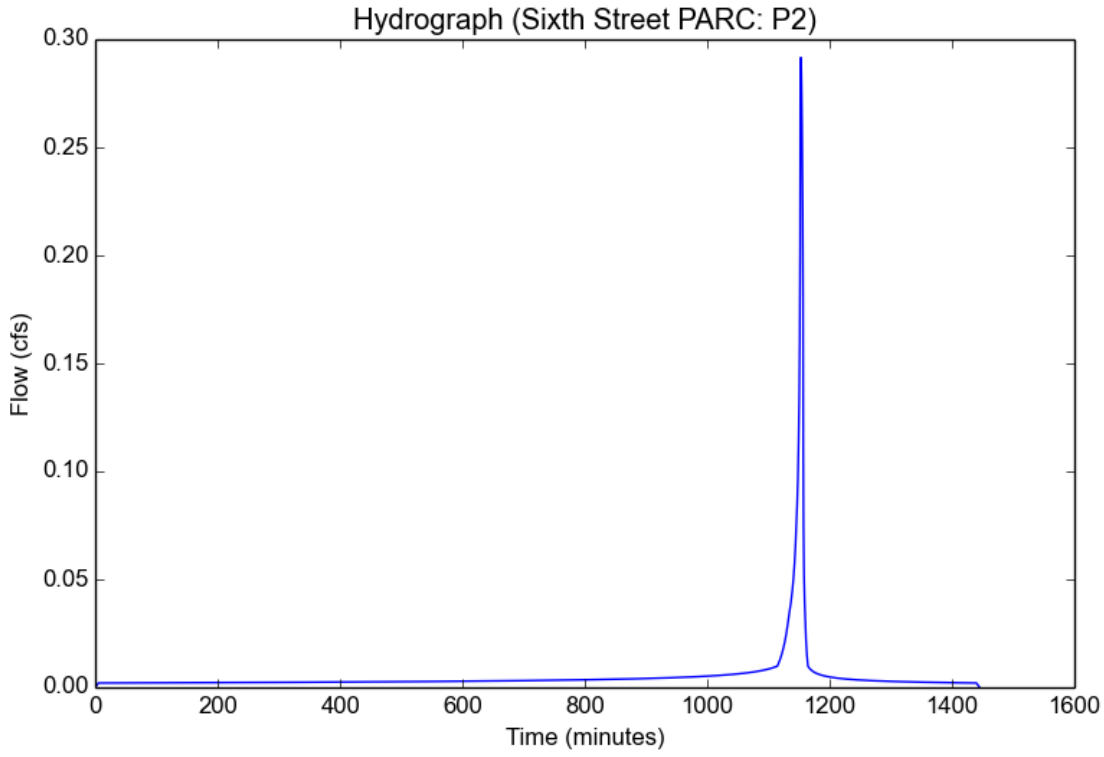
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/5-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P2
Area (ac)	0.19
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.05
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	2.0557
Undeveloped Runoff Coefficient (Cu)	0.7384
Developed Runoff Coefficient (Cd)	0.7465
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.2916
Burned Peak Flow Rate (cfs)	0.2916
24-Hr Clear Runoff Volume (ac-ft)	0.0107
24-Hr Clear Runoff Volume (cu-ft)	466.4282



Peak Flow Hydrologic Analysis

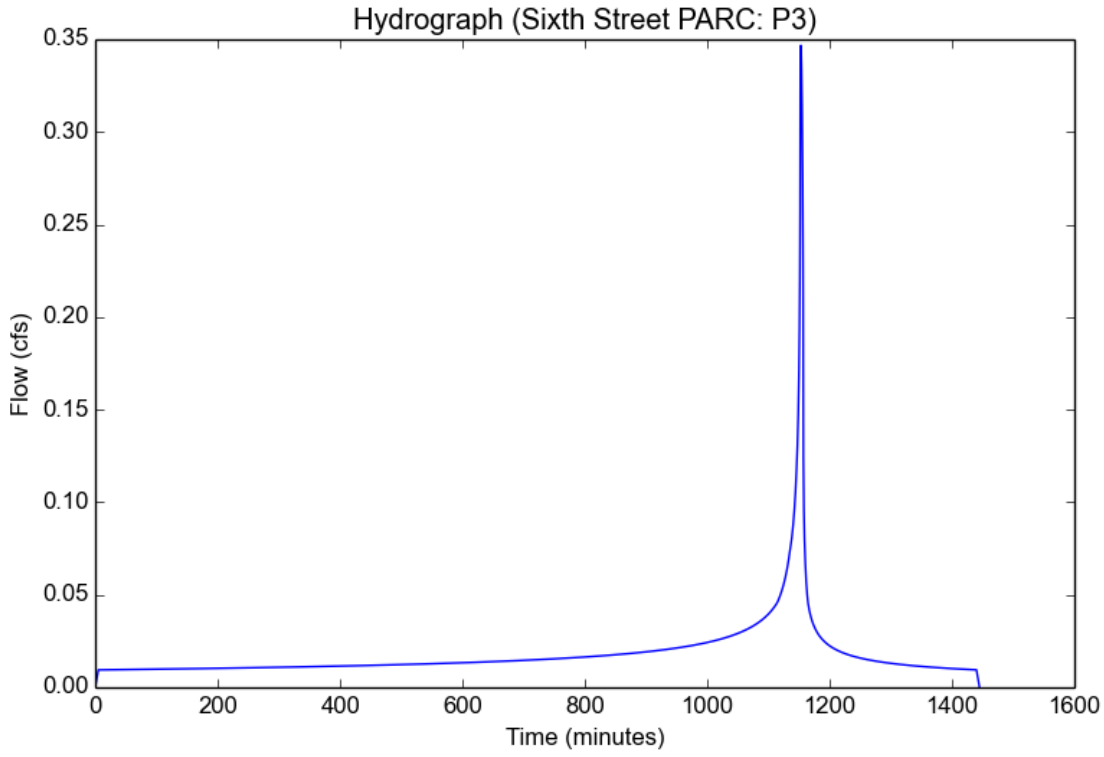
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/5-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P3
Area (ac)	0.2
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.65
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	2.0557
Undeveloped Runoff Coefficient (Cu)	0.7384
Developed Runoff Coefficient (Cd)	0.8434
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.3468
Burned Peak Flow Rate (cfs)	0.3468
24-Hr Clear Runoff Volume (ac-ft)	0.0365
24-Hr Clear Runoff Volume (cu-ft)	1591.0439



Peak Flow Hydrologic Analysis

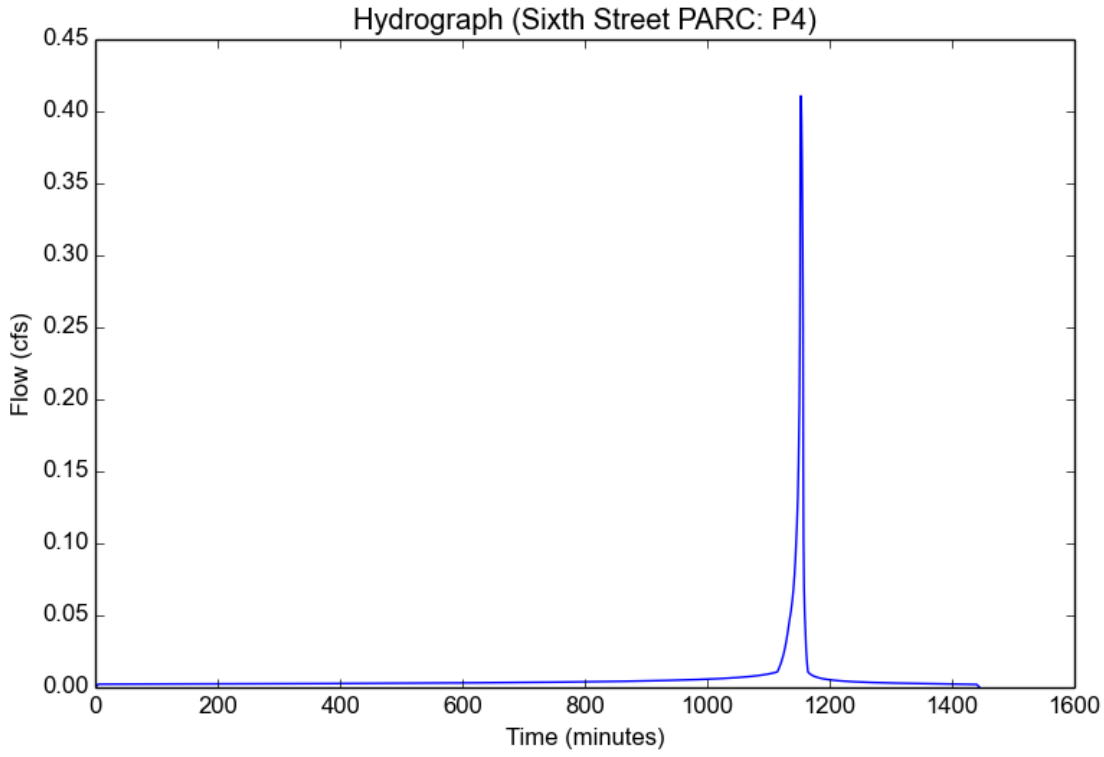
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/5-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P4
Area (ac)	0.27
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.01
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	2.0557
Undeveloped Runoff Coefficient (Cu)	0.7384
Developed Runoff Coefficient (Cd)	0.74
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.4108
Burned Peak Flow Rate (cfs)	0.4108
24-Hr Clear Runoff Volume (ac-ft)	0.0129
24-Hr Clear Runoff Volume (cu-ft)	563.813



Peak Flow Hydrologic Analysis

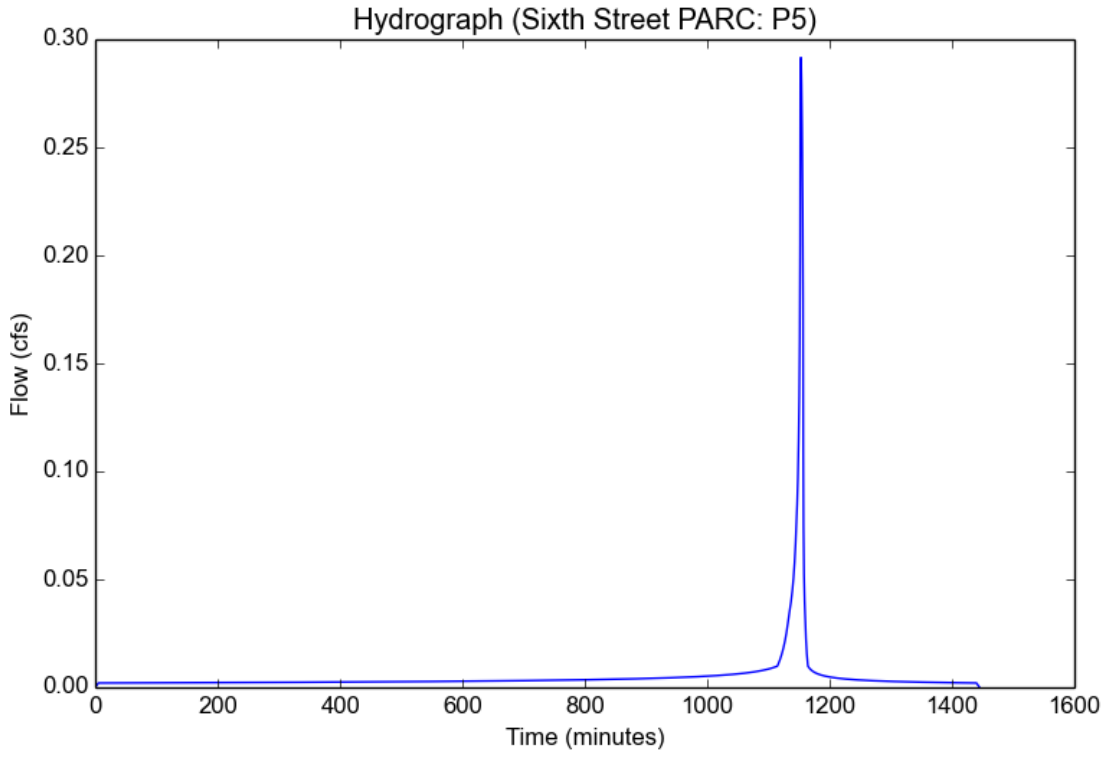
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/5-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P5
Area (ac)	0.19
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.05
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	2.0557
Undeveloped Runoff Coefficient (Cu)	0.7384
Developed Runoff Coefficient (Cd)	0.7465
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.2916
Burned Peak Flow Rate (cfs)	0.2916
24-Hr Clear Runoff Volume (ac-ft)	0.0107
24-Hr Clear Runoff Volume (cu-ft)	466.4282



Peak Flow Hydrologic Analysis

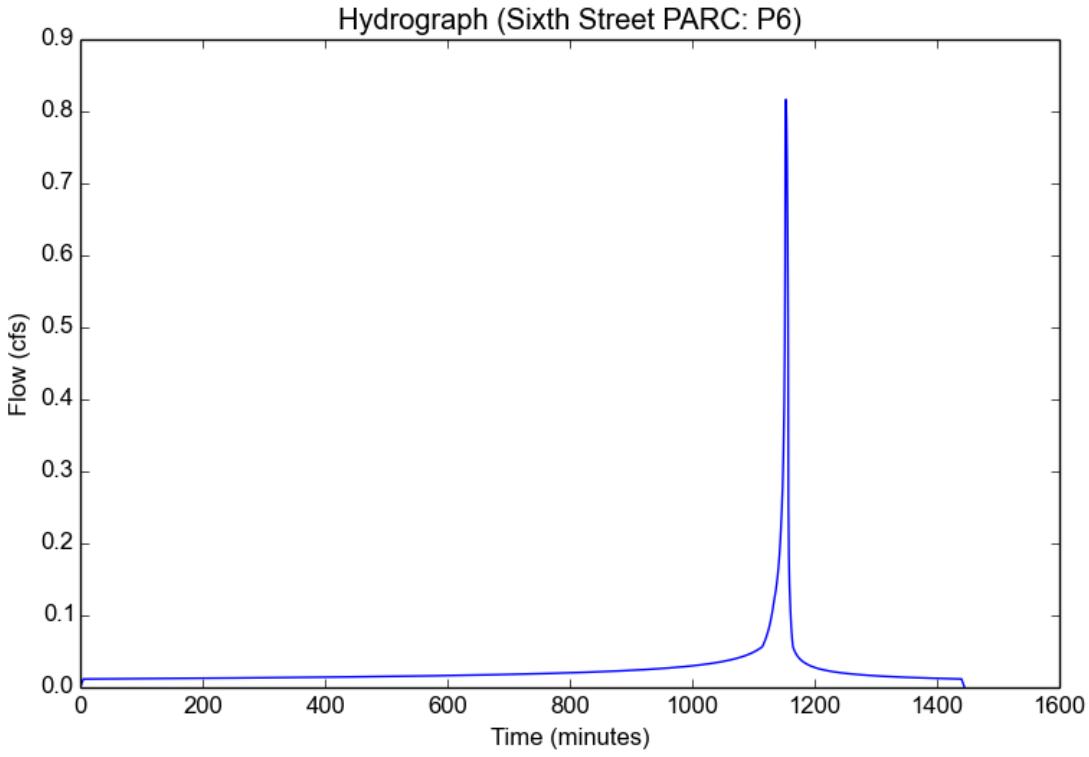
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/5-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P6
Area (ac)	0.51
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.25
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	2.0557
Undeveloped Runoff Coefficient (Cu)	0.7384
Developed Runoff Coefficient (Cd)	0.7788
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.8165
Burned Peak Flow Rate (cfs)	0.8165
24-Hr Clear Runoff Volume (ac-ft)	0.0502
24-Hr Clear Runoff Volume (cu-ft)	2187.0482



Peak Flow Hydrologic Analysis

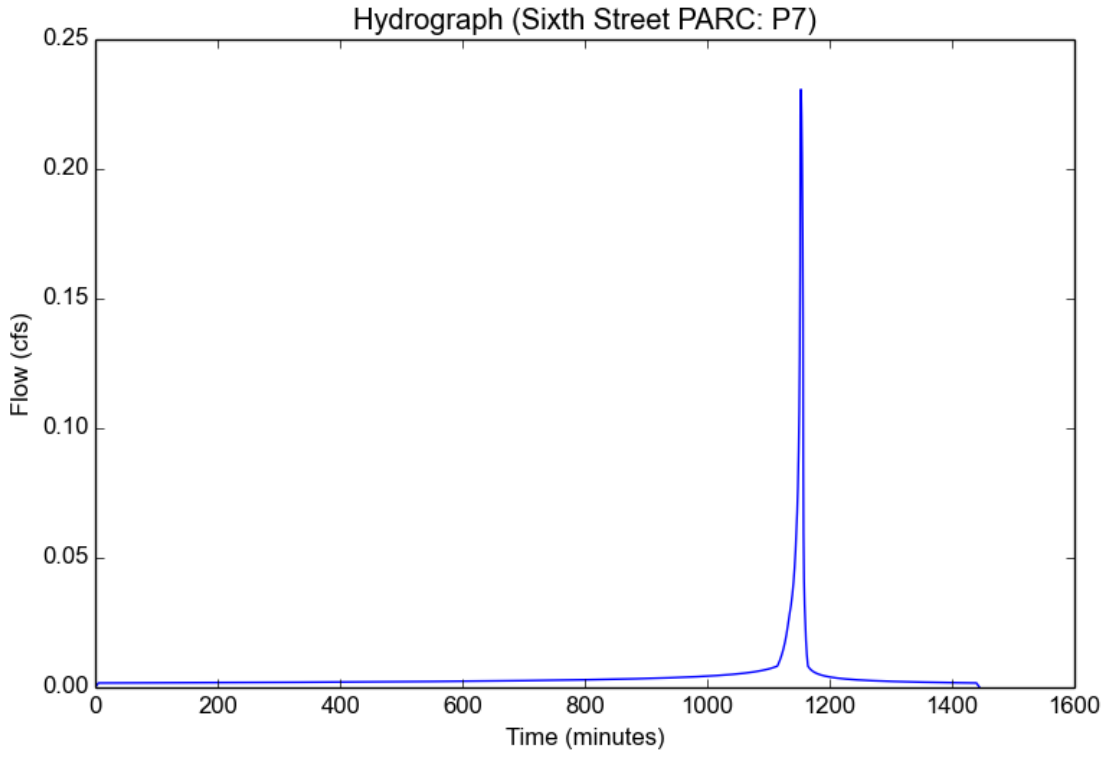
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/5-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P7
Area (ac)	0.15
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.06
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	2.0557
Undeveloped Runoff Coefficient (Cu)	0.7384
Developed Runoff Coefficient (Cd)	0.7481
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.2307
Burned Peak Flow Rate (cfs)	0.2307
24-Hr Clear Runoff Volume (ac-ft)	0.0088
24-Hr Clear Runoff Volume (cu-ft)	381.9836



Peak Flow Hydrologic Analysis

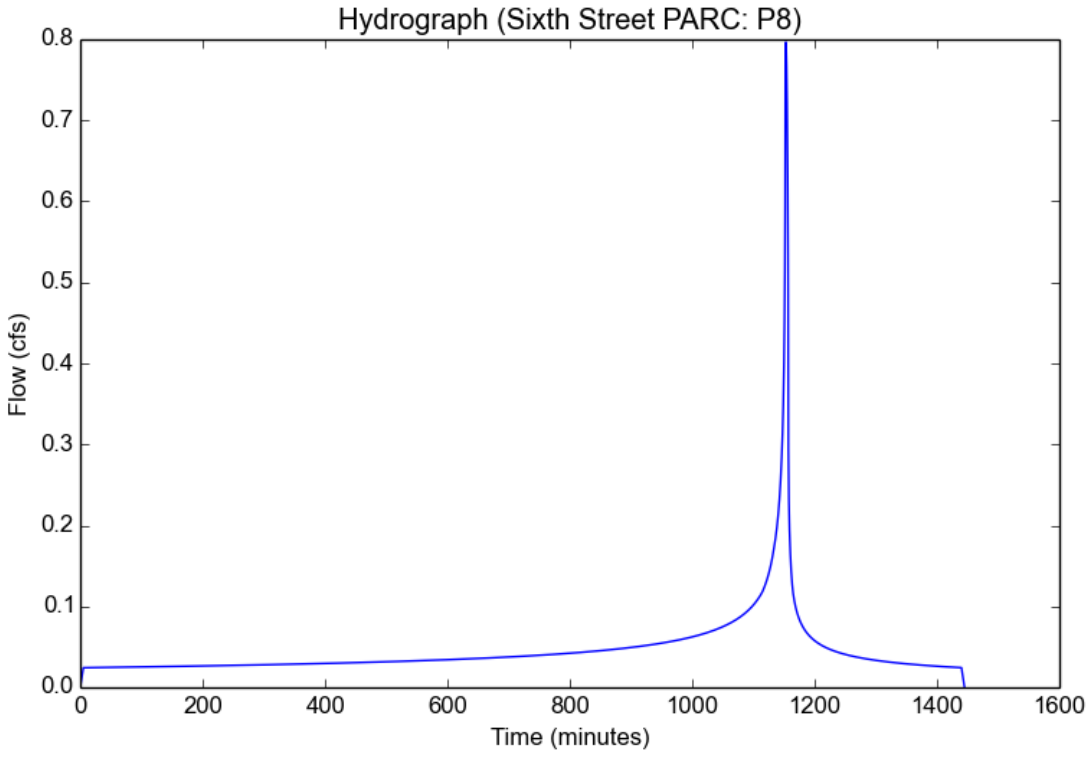
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/5-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P8
Area (ac)	0.45
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.76
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	2.0557
Undeveloped Runoff Coefficient (Cu)	0.7384
Developed Runoff Coefficient (Cd)	0.8612
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.7967
Burned Peak Flow Rate (cfs)	0.7967
24-Hr Clear Runoff Volume (ac-ft)	0.0926
24-Hr Clear Runoff Volume (cu-ft)	4033.6262



Peak Flow Hydrologic Analysis

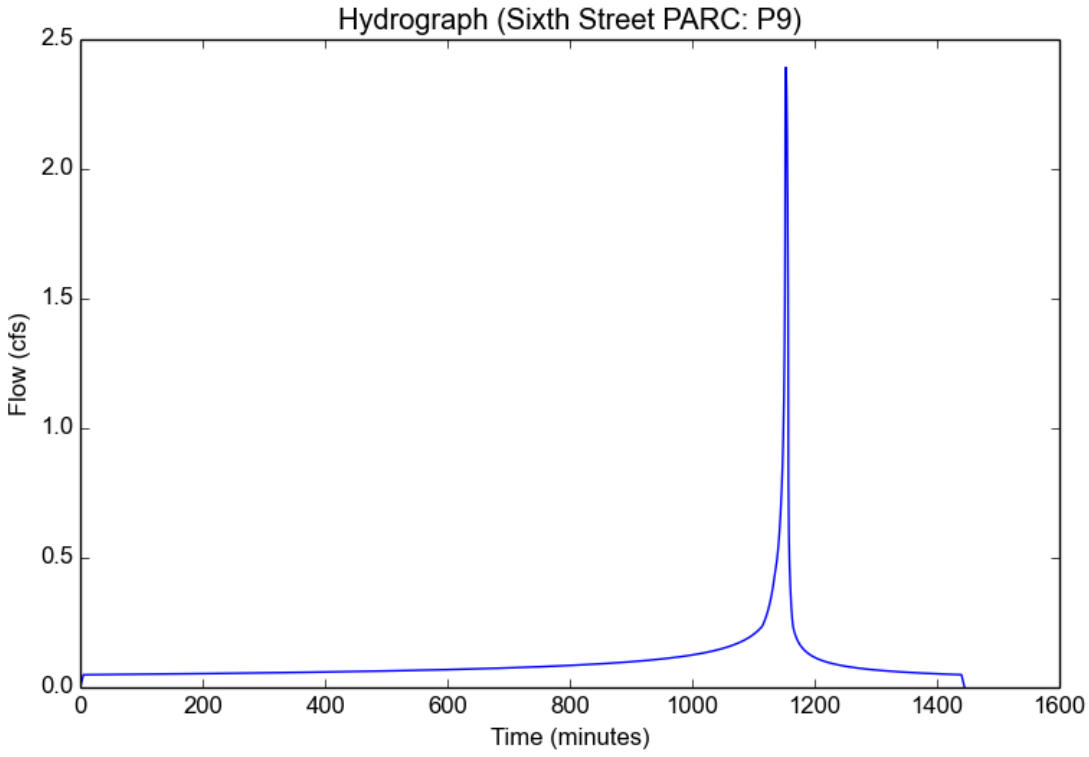
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/5-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P9
Area (ac)	1.44
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.43
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	2.0557
Undeveloped Runoff Coefficient (Cu)	0.7384
Developed Runoff Coefficient (Cd)	0.8079
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.3916
Burned Peak Flow Rate (cfs)	2.3916
24-Hr Clear Runoff Volume (ac-ft)	0.1963
24-Hr Clear Runoff Volume (cu-ft)	8551.3394



Peak Flow Hydrologic Analysis

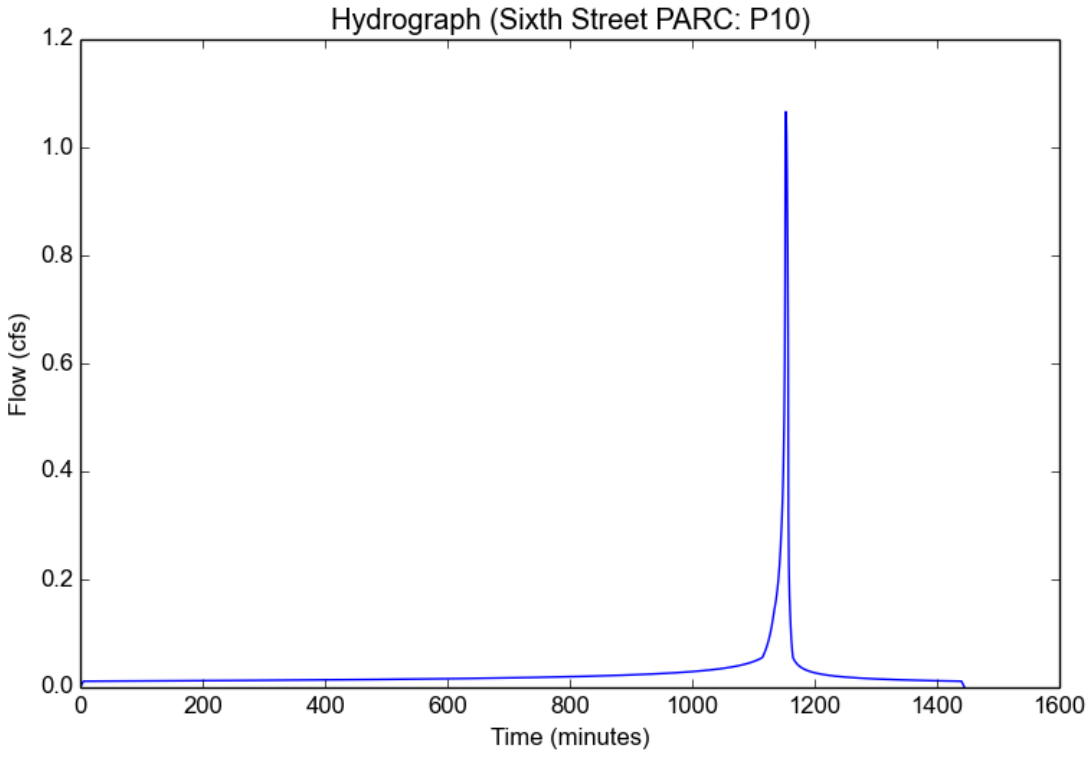
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/5-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P10
Area (ac)	0.68
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.15
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	2.0557
Undeveloped Runoff Coefficient (Cu)	0.7384
Developed Runoff Coefficient (Cd)	0.7626
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.0661
Burned Peak Flow Rate (cfs)	1.0661
24-Hr Clear Runoff Volume (ac-ft)	0.0526
24-Hr Clear Runoff Volume (cu-ft)	2292.6931



Peak Flow Hydrologic Analysis

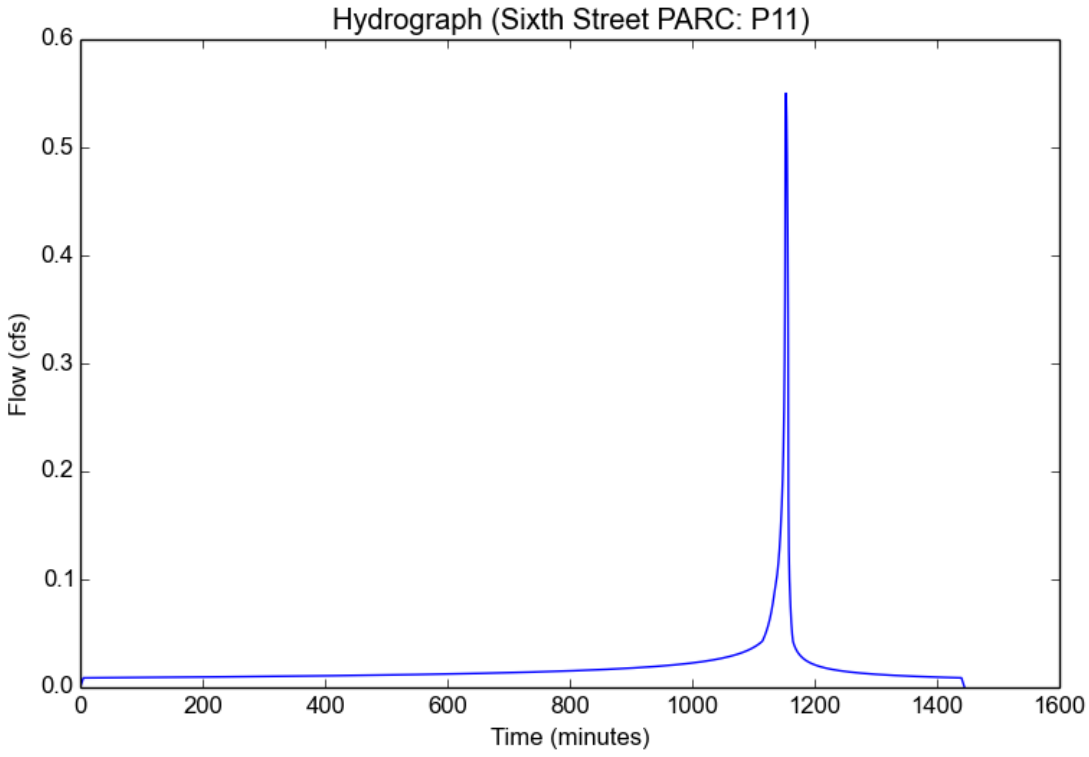
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/5-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P11
Area (ac)	0.34
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.3
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	2.0557
Undeveloped Runoff Coefficient (Cu)	0.7384
Developed Runoff Coefficient (Cd)	0.7869
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.55
Burned Peak Flow Rate (cfs)	0.55
24-Hr Clear Runoff Volume (ac-ft)	0.037
24-Hr Clear Runoff Volume (cu-ft)	1613.875



Peak Flow Hydrologic Analysis

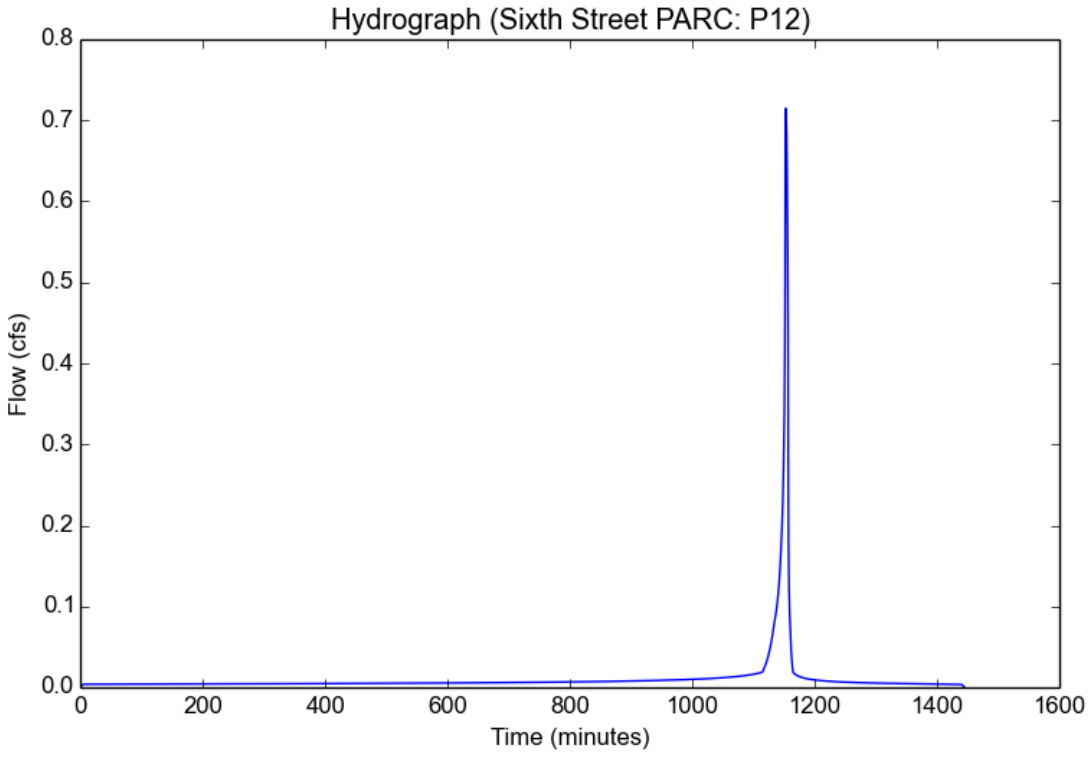
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/5-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P12
Area (ac)	0.47
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.01
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	2.0557
Undeveloped Runoff Coefficient (Cu)	0.7384
Developed Runoff Coefficient (Cd)	0.74
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.715
Burned Peak Flow Rate (cfs)	0.715
24-Hr Clear Runoff Volume (ac-ft)	0.0225
24-Hr Clear Runoff Volume (cu-ft)	981.4522



Peak Flow Hydrologic Analysis

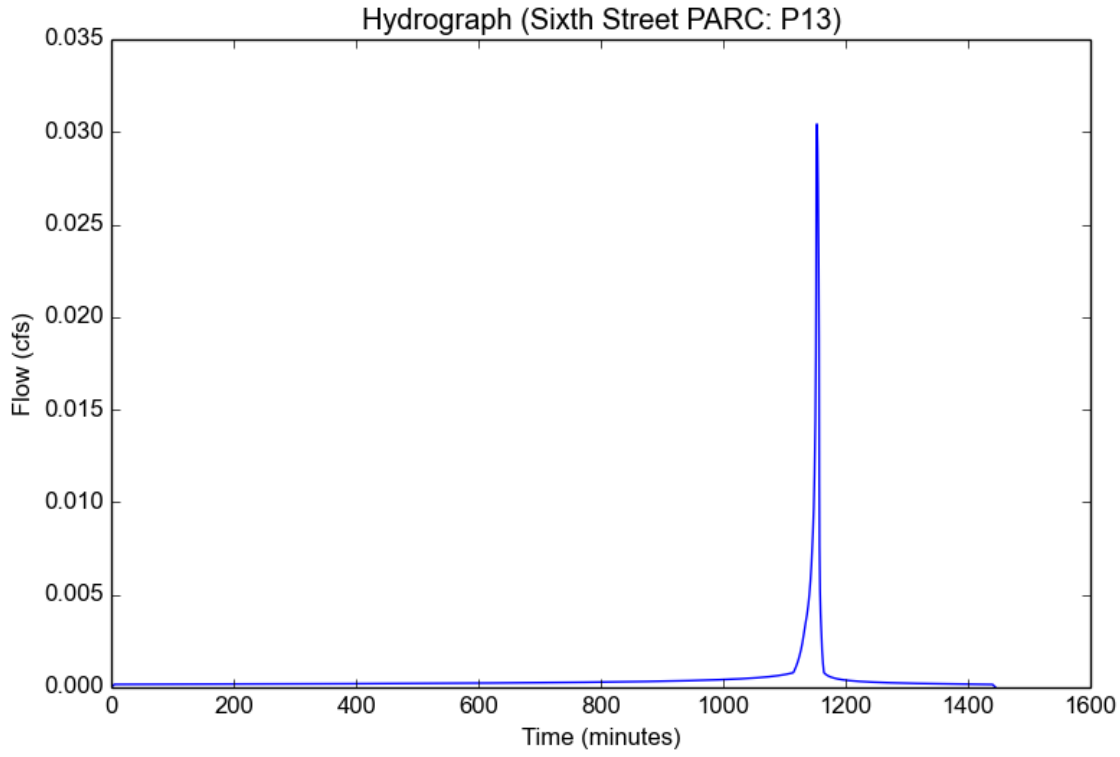
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/5-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P13
Area (ac)	0.02
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.01
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	2.0557
Undeveloped Runoff Coefficient (Cu)	0.7384
Developed Runoff Coefficient (Cd)	0.74
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.0304
Burned Peak Flow Rate (cfs)	0.0304
24-Hr Clear Runoff Volume (ac-ft)	0.001
24-Hr Clear Runoff Volume (cu-ft)	41.7639



Peak Flow Hydrologic Analysis

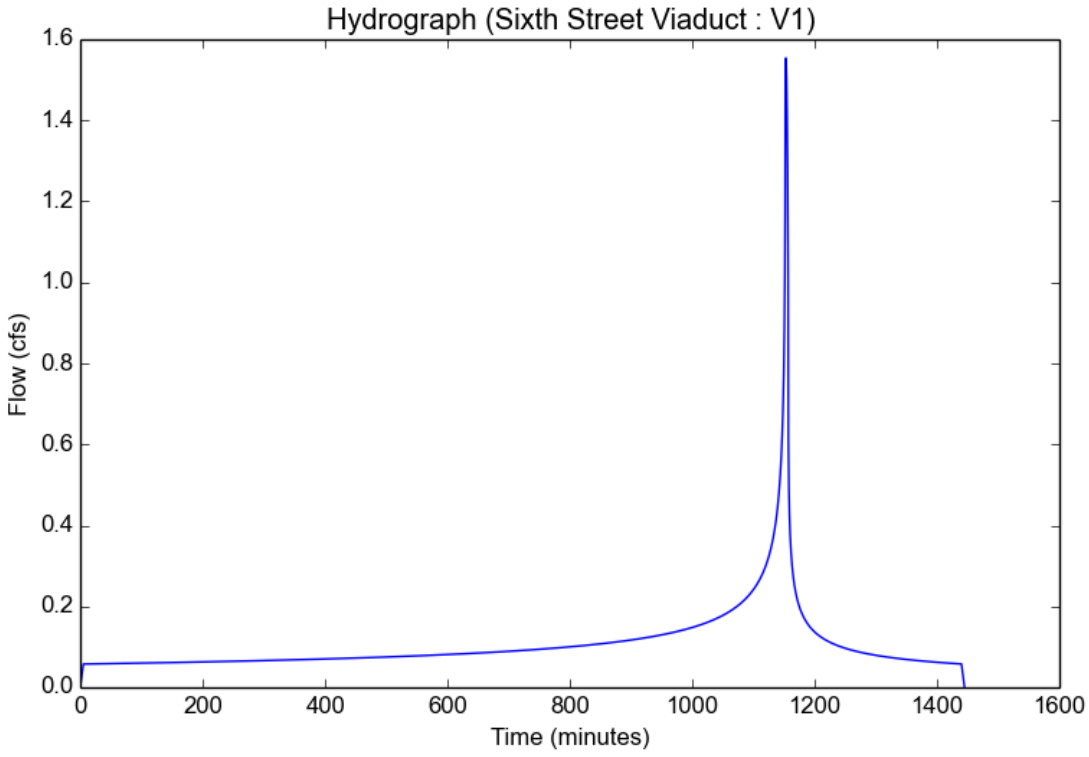
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/5-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V1
Area (ac)	0.84
Flow Path Length (ft)	225.0
Flow Path Slope (vft/hft)	0.05
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	2.0557
Undeveloped Runoff Coefficient (Cu)	0.7384
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.5541
Burned Peak Flow Rate (cfs)	1.5541
24-Hr Clear Runoff Volume (ac-ft)	0.2153
24-Hr Clear Runoff Volume (cu-ft)	9377.5479



Peak Flow Hydrologic Analysis

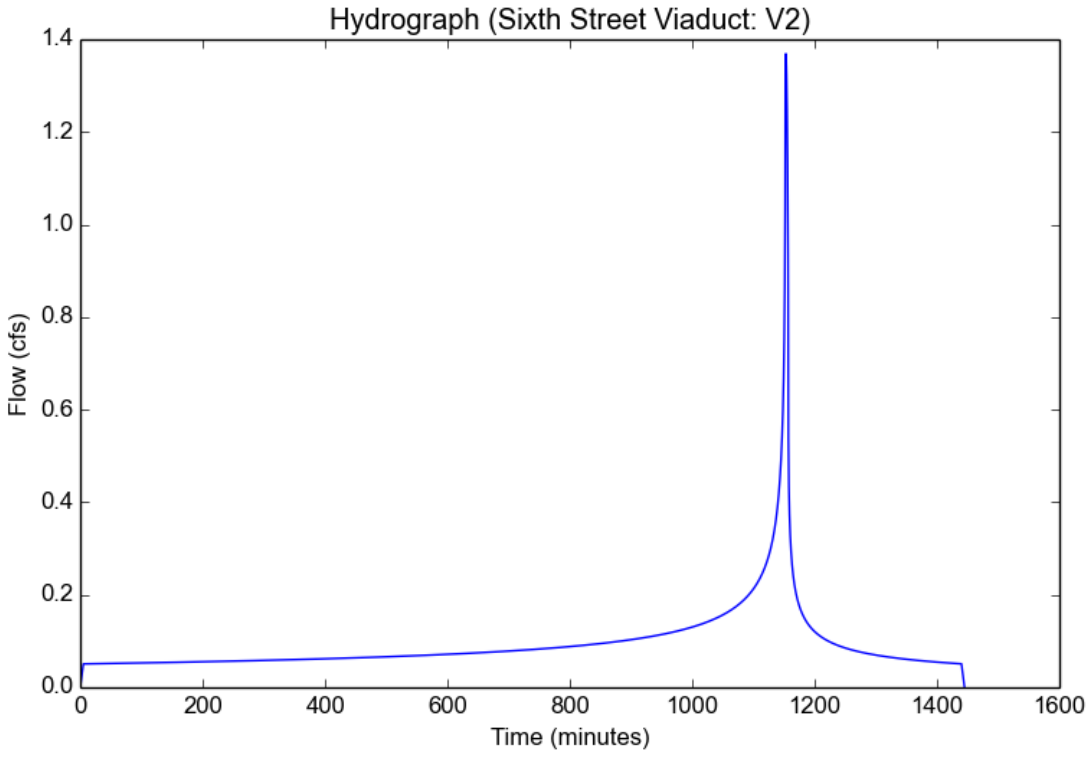
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/5-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V2
Area (ac)	0.74
Flow Path Length (ft)	250.0
Flow Path Slope (vft/hft)	0.03
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	2.0557
Undeveloped Runoff Coefficient (Cu)	0.7384
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.3691
Burned Peak Flow Rate (cfs)	1.3691
24-Hr Clear Runoff Volume (ac-ft)	0.1897
24-Hr Clear Runoff Volume (cu-ft)	8261.1731



Peak Flow Hydrologic Analysis

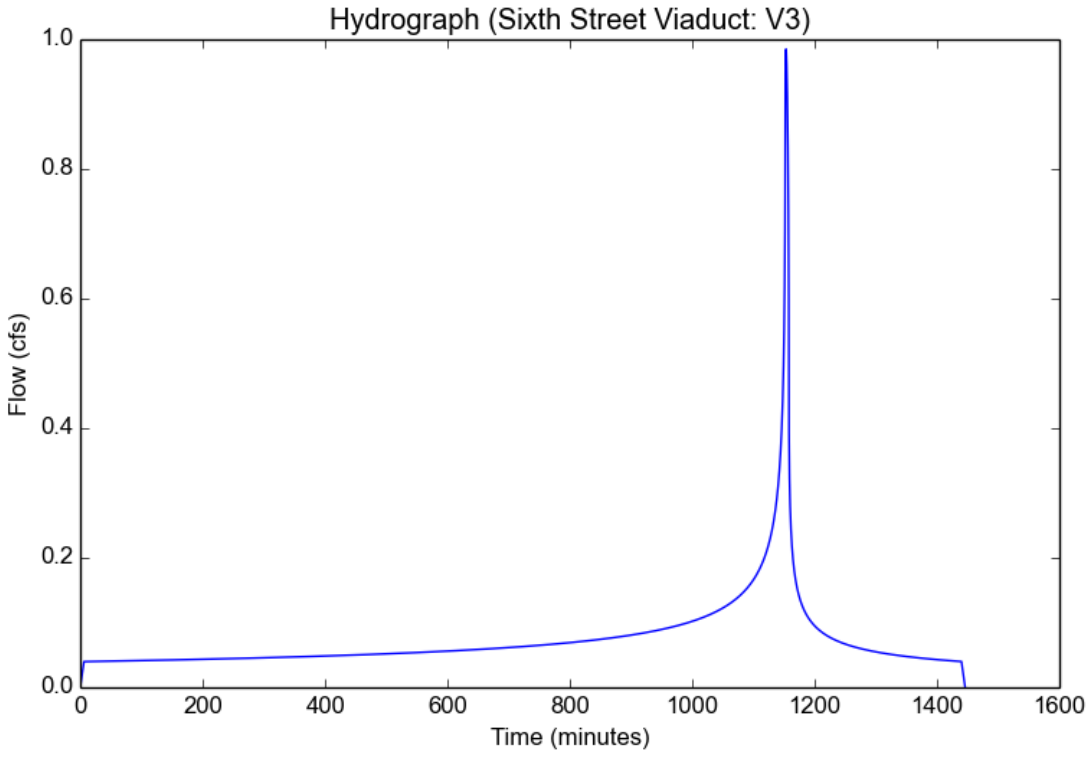
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/5-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V3
Area (ac)	0.58
Flow Path Length (ft)	200.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	1.8869
Undeveloped Runoff Coefficient (Cu)	0.7199
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	0.985
Burned Peak Flow Rate (cfs)	0.985
24-Hr Clear Runoff Volume (ac-ft)	0.1486
24-Hr Clear Runoff Volume (cu-ft)	6474.9744



Peak Flow Hydrologic Analysis

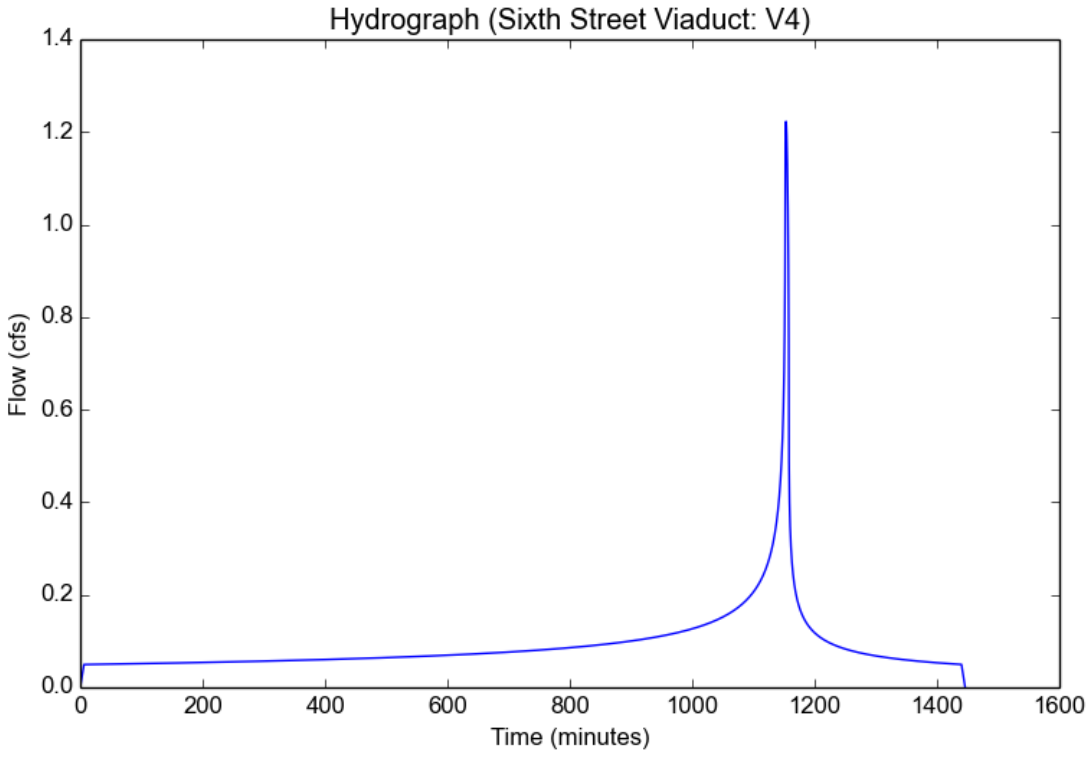
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/5-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V4
Area (ac)	0.72
Flow Path Length (ft)	250.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	1.8869
Undeveloped Runoff Coefficient (Cu)	0.7199
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	1.2227
Burned Peak Flow Rate (cfs)	1.2227
24-Hr Clear Runoff Volume (ac-ft)	0.1845
24-Hr Clear Runoff Volume (cu-ft)	8037.8993



Peak Flow Hydrologic Analysis

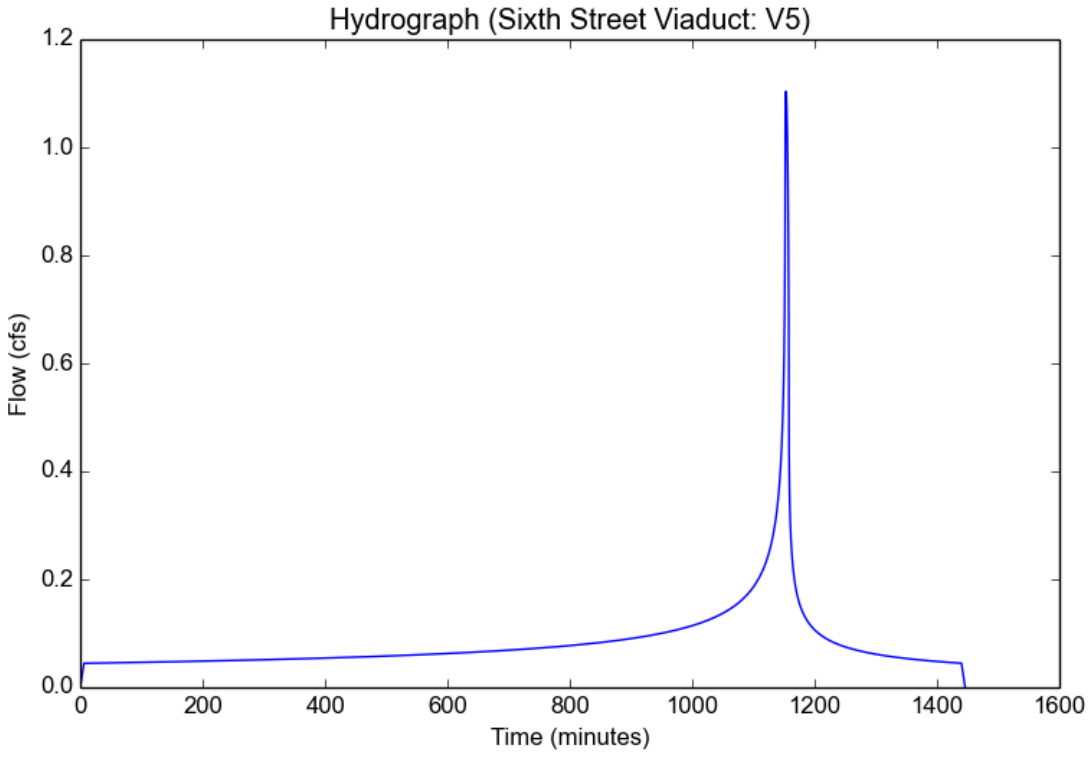
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/5-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V5
Area (ac)	0.65
Flow Path Length (ft)	210.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	1.8869
Undeveloped Runoff Coefficient (Cu)	0.7199
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	1.1038
Burned Peak Flow Rate (cfs)	1.1038
24-Hr Clear Runoff Volume (ac-ft)	0.1666
24-Hr Clear Runoff Volume (cu-ft)	7256.4369



Peak Flow Hydrologic Analysis

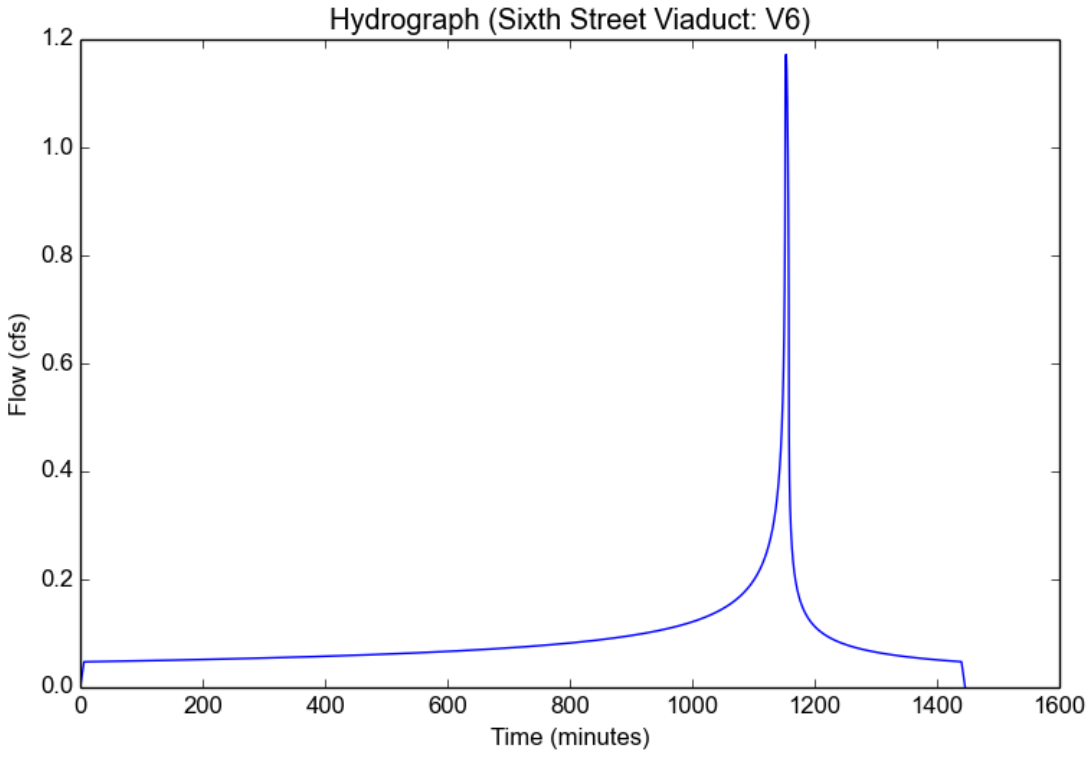
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/5-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V6
Area (ac)	0.69
Flow Path Length (ft)	210.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	1.8869
Undeveloped Runoff Coefficient (Cu)	0.7199
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	1.1718
Burned Peak Flow Rate (cfs)	1.1718
24-Hr Clear Runoff Volume (ac-ft)	0.1768
24-Hr Clear Runoff Volume (cu-ft)	7702.9868



Peak Flow Hydrologic Analysis

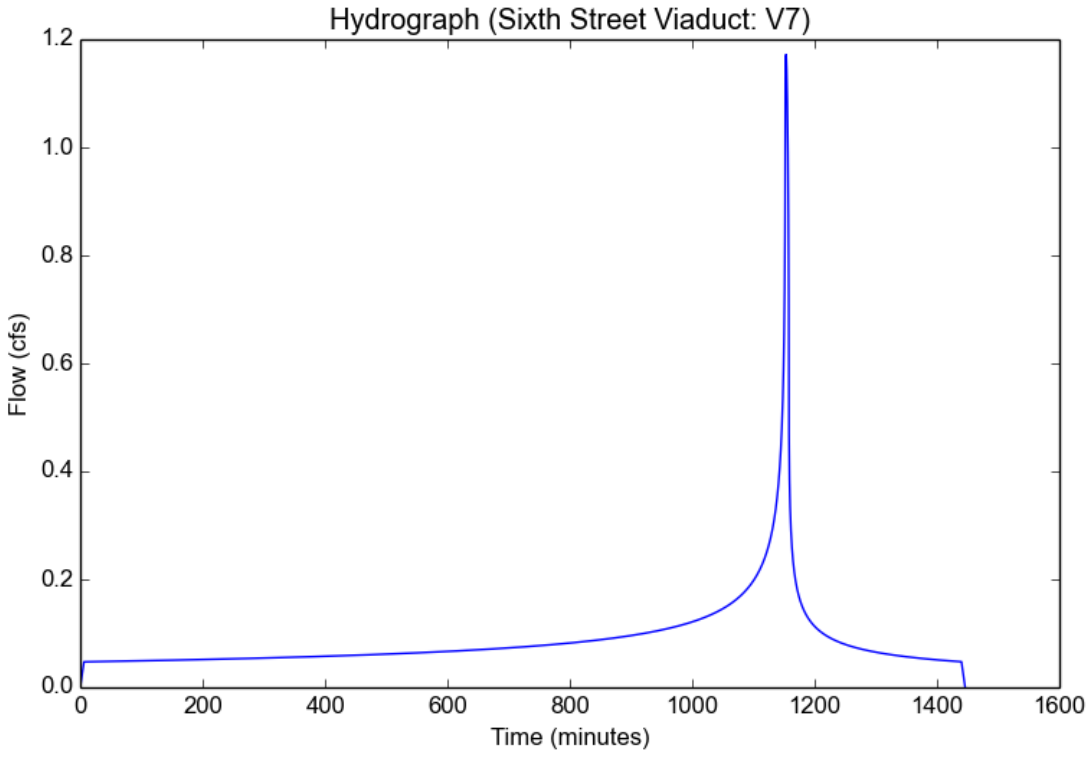
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/5-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V7
Area (ac)	0.69
Flow Path Length (ft)	210.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	1.8869
Undeveloped Runoff Coefficient (Cu)	0.7199
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	1.1718
Burned Peak Flow Rate (cfs)	1.1718
24-Hr Clear Runoff Volume (ac-ft)	0.1768
24-Hr Clear Runoff Volume (cu-ft)	7702.9868



Peak Flow Hydrologic Analysis

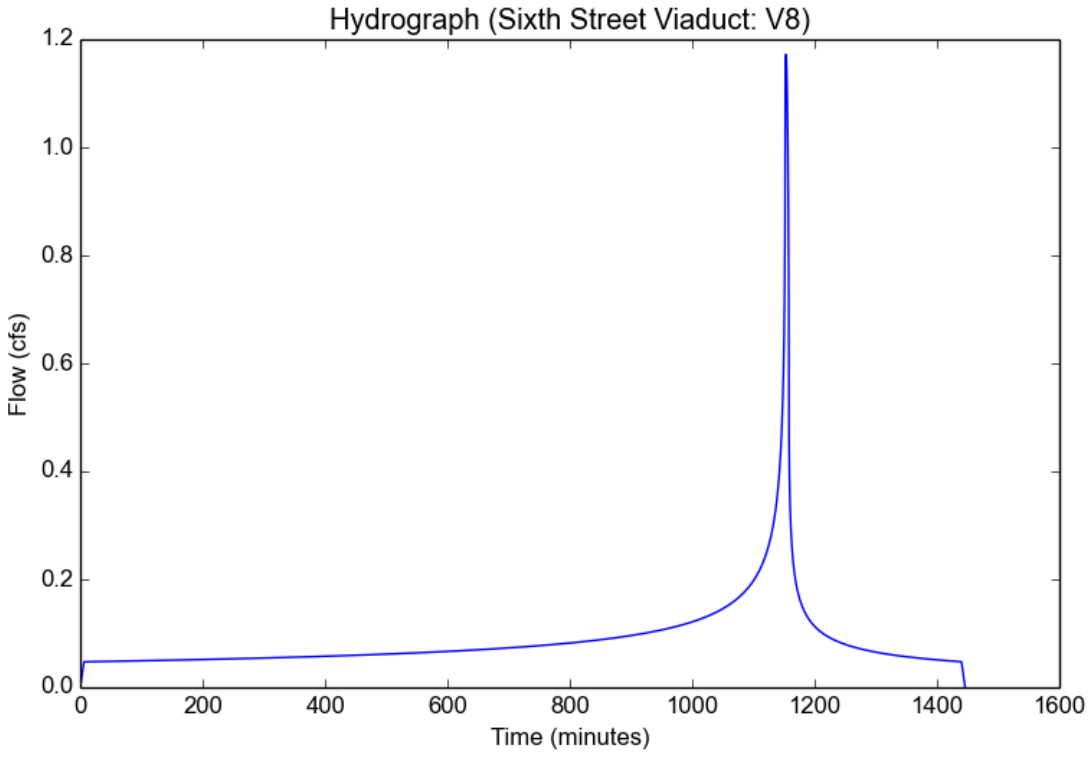
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/5-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V8
Area (ac)	0.69
Flow Path Length (ft)	210.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	1.8869
Undeveloped Runoff Coefficient (Cu)	0.7199
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	1.1718
Burned Peak Flow Rate (cfs)	1.1718
24-Hr Clear Runoff Volume (ac-ft)	0.1768
24-Hr Clear Runoff Volume (cu-ft)	7702.9868



Peak Flow Hydrologic Analysis

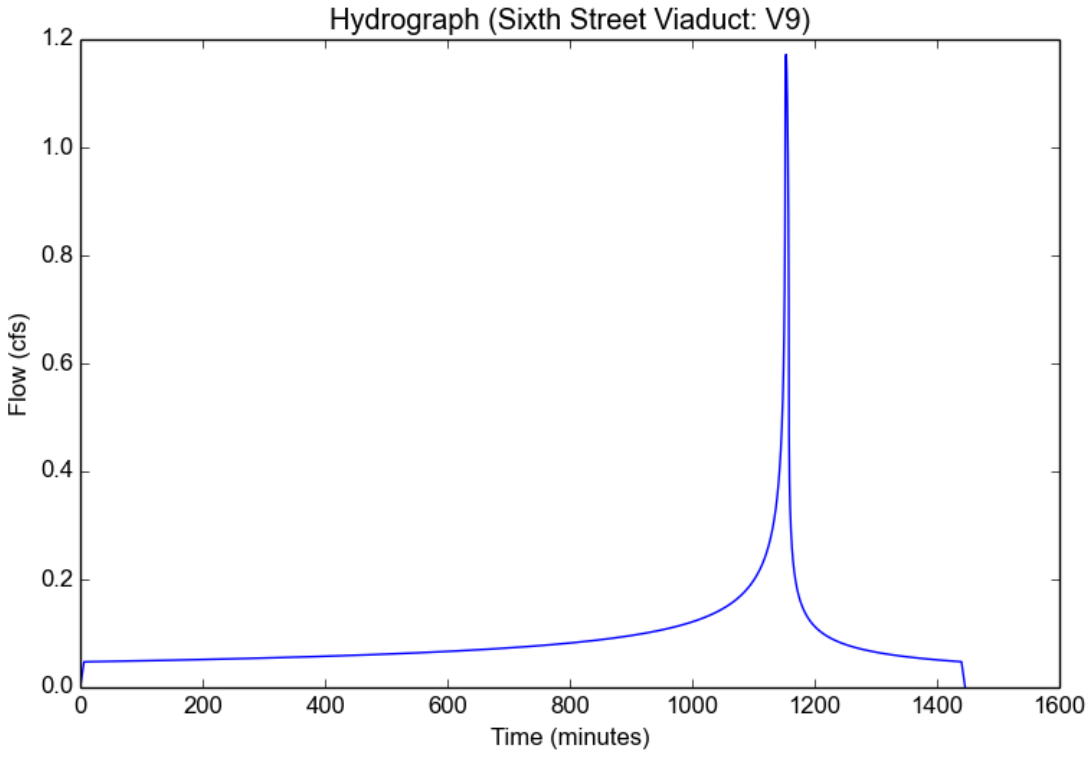
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/5-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V9
Area (ac)	0.69
Flow Path Length (ft)	210.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	1.8869
Undeveloped Runoff Coefficient (Cu)	0.7199
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	1.1718
Burned Peak Flow Rate (cfs)	1.1718
24-Hr Clear Runoff Volume (ac-ft)	0.1768
24-Hr Clear Runoff Volume (cu-ft)	7702.9868



Peak Flow Hydrologic Analysis

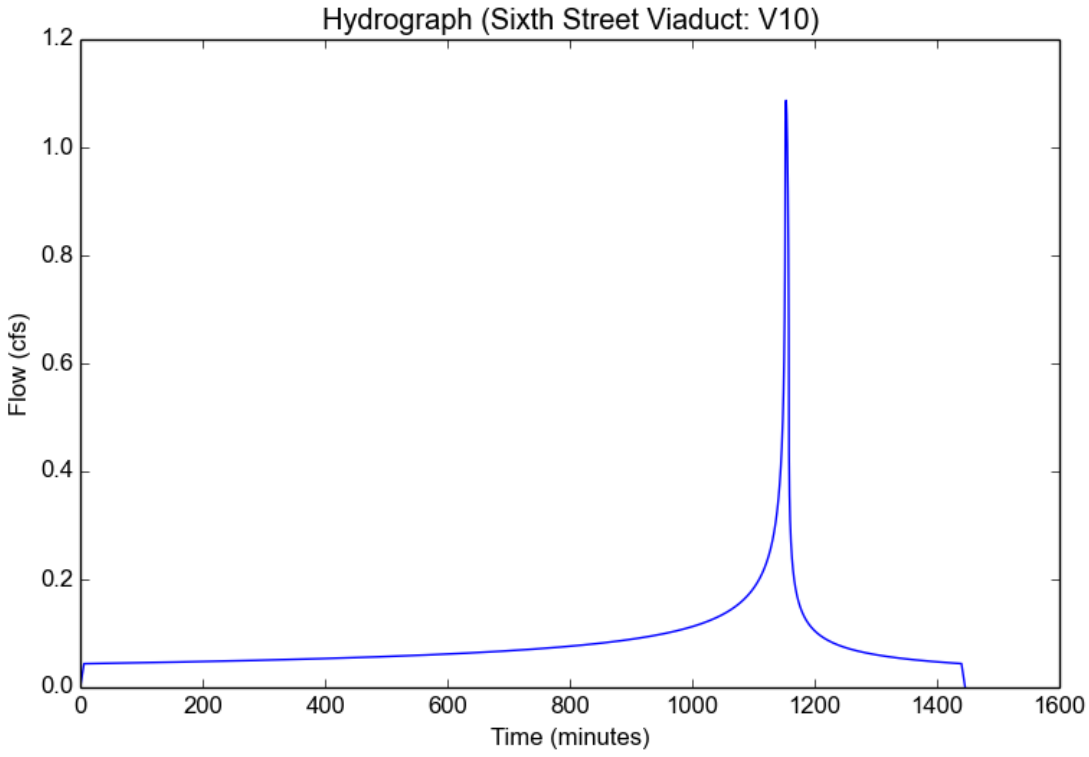
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/5-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V10
Area (ac)	0.64
Flow Path Length (ft)	200.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	1.8869
Undeveloped Runoff Coefficient (Cu)	0.7199
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	1.0869
Burned Peak Flow Rate (cfs)	1.0869
24-Hr Clear Runoff Volume (ac-ft)	0.164
24-Hr Clear Runoff Volume (cu-ft)	7144.7994



Peak Flow Hydrologic Analysis

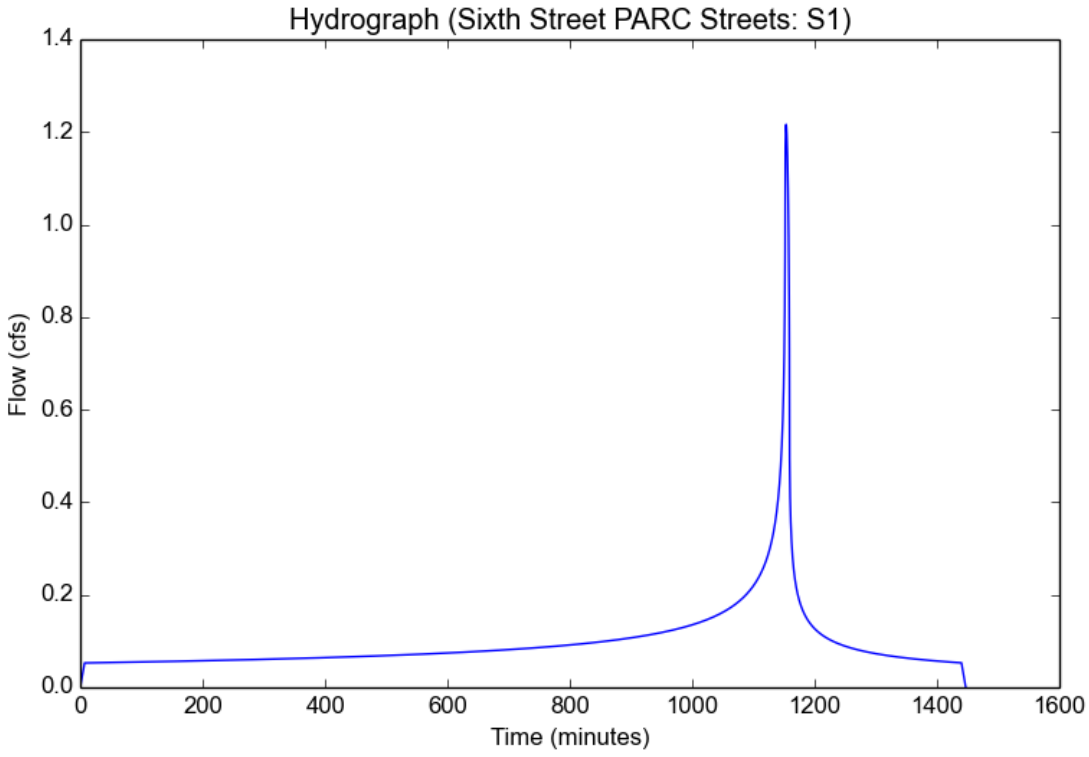
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/5-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC Streets
Subarea ID	S1
Area (ac)	0.77
Flow Path Length (ft)	275.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	1.755
Undeveloped Runoff Coefficient (Cu)	0.7054
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	1.2162
Burned Peak Flow Rate (cfs)	1.2162
24-Hr Clear Runoff Volume (ac-ft)	0.1973
24-Hr Clear Runoff Volume (cu-ft)	8596.0882



Peak Flow Hydrologic Analysis

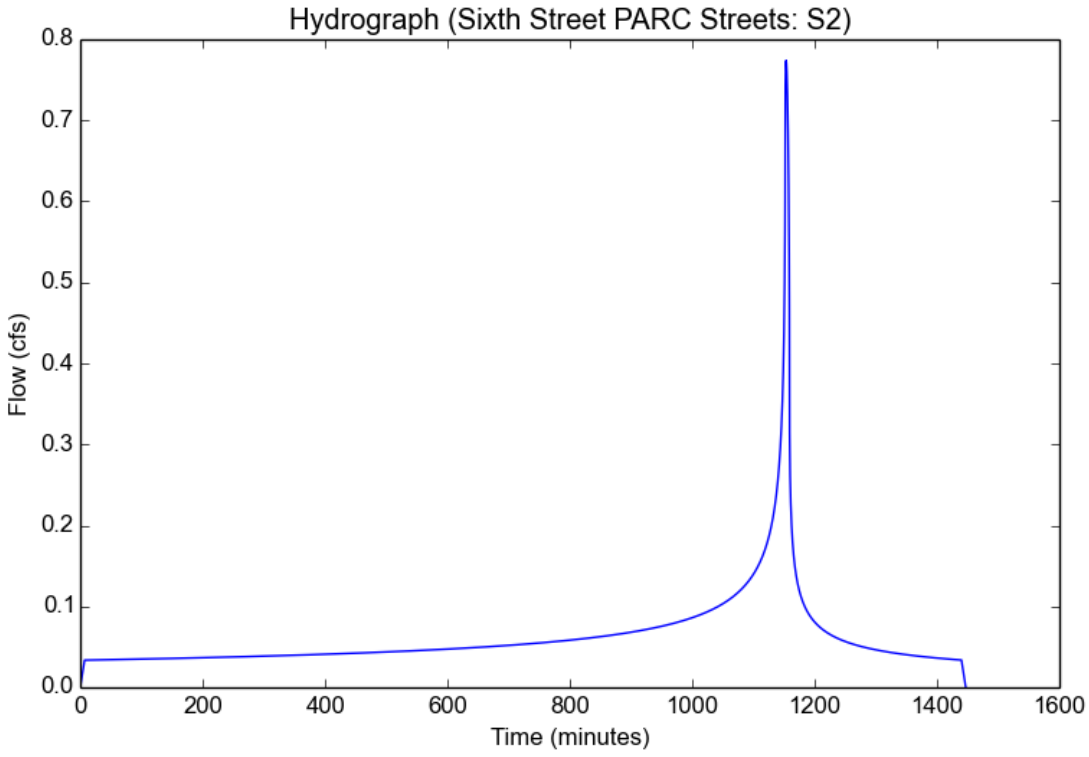
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/5-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC Streets
Subarea ID	S2
Area (ac)	0.49
Flow Path Length (ft)	235.0
Flow Path Slope (vft/hft)	0.004
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	1.755
Undeveloped Runoff Coefficient (Cu)	0.7054
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	0.774
Burned Peak Flow Rate (cfs)	0.774
24-Hr Clear Runoff Volume (ac-ft)	0.1256
24-Hr Clear Runoff Volume (cu-ft)	5470.2379



Peak Flow Hydrologic Analysis

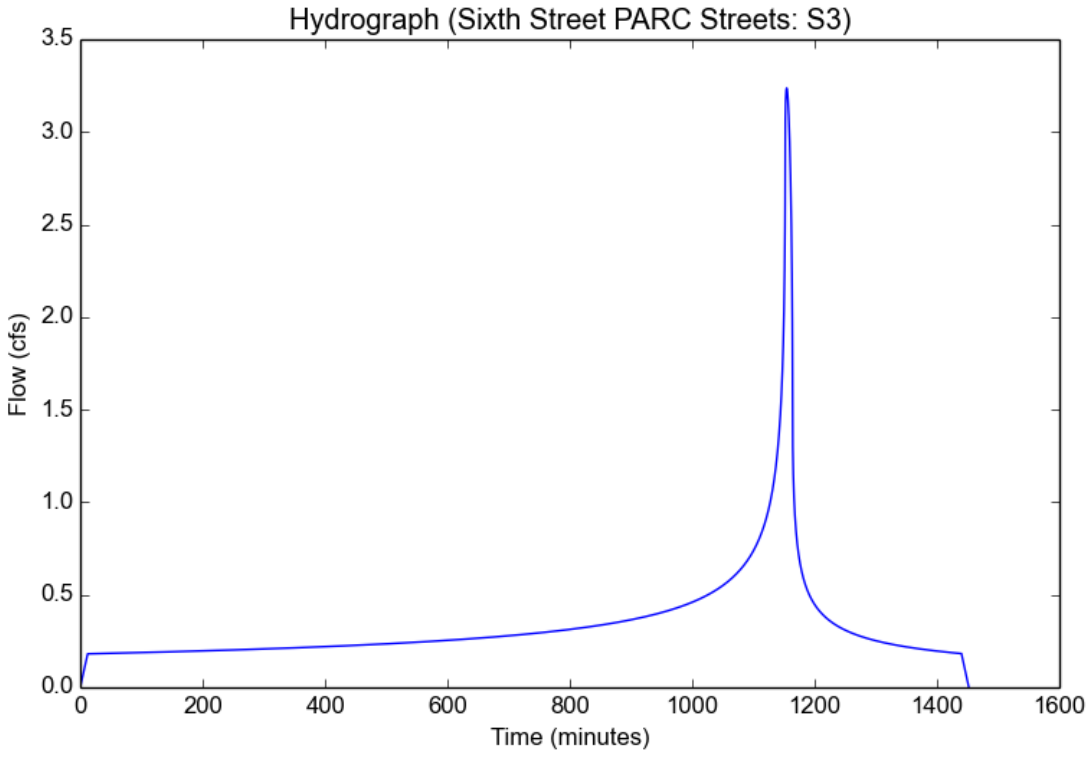
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/5-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC Streets
Subarea ID	S3
Area (ac)	2.64
Flow Path Length (ft)	485.0
Flow Path Slope (vft/hft)	0.0035
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	1.3623
Undeveloped Runoff Coefficient (Cu)	0.652
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	12.0
Clear Peak Flow Rate (cfs)	3.2368
Burned Peak Flow Rate (cfs)	3.2368
24-Hr Clear Runoff Volume (ac-ft)	0.6766
24-Hr Clear Runoff Volume (cu-ft)	29472.3377



Peak Flow Hydrologic Analysis

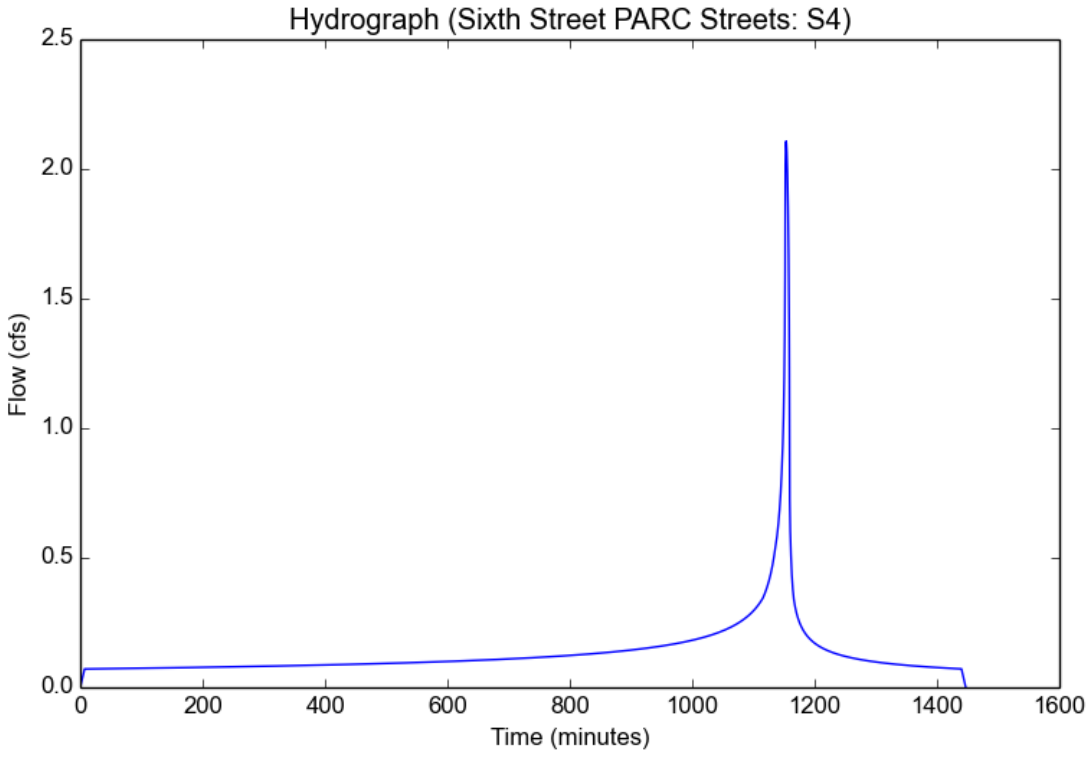
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/5-Year/Sixth Street PARC Report
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC Streets
Subarea ID	S4
Area (ac)	1.43
Flow Path Length (ft)	245.0
Flow Path Slope (vft/hft)	0.008
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.69
Soil Type	6
Design Storm Frequency	5-yr
Fire Factor	0
LID	False

Output Results

Modeled (5-yr) Rainfall Depth (in)	3.4456
Peak Intensity (in/hr)	1.755
Undeveloped Runoff Coefficient (Cu)	0.7054
Developed Runoff Coefficient (Cd)	0.8397
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	2.1073
Burned Peak Flow Rate (cfs)	2.1073
24-Hr Clear Runoff Volume (ac-ft)	0.2731
24-Hr Clear Runoff Volume (cu-ft)	11898.3164



Peak Flow Hydrologic Analysis

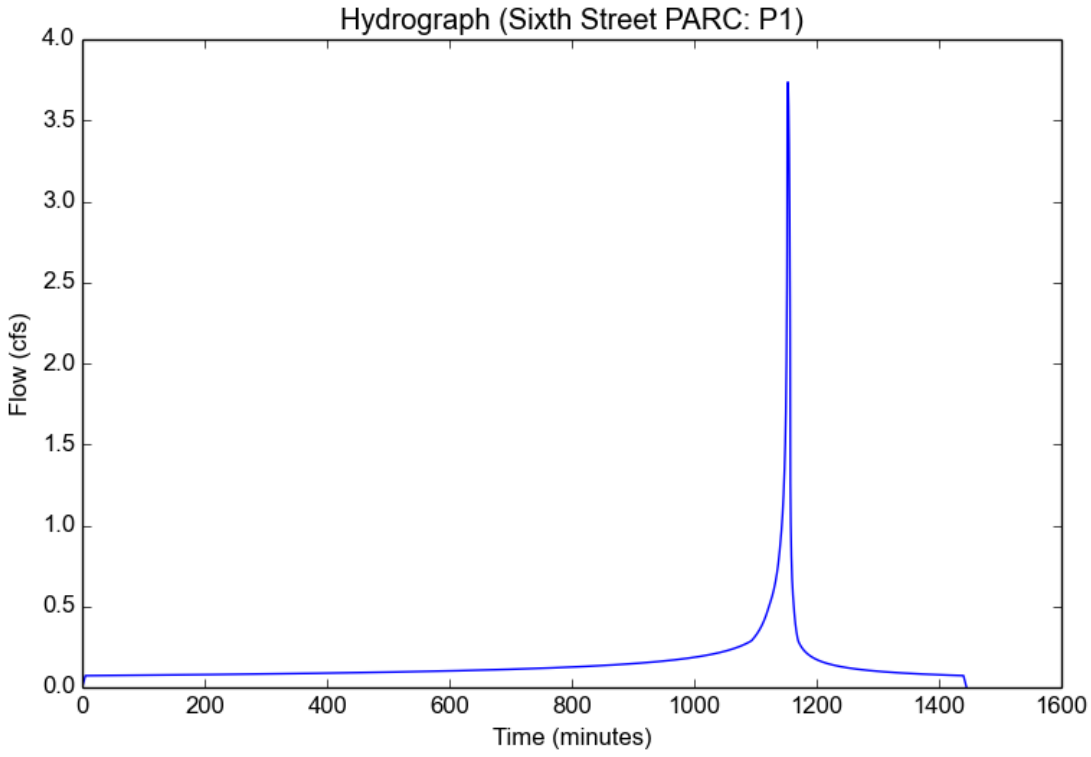
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/10-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P1
Area (ac)	1.78
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.42
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	2.5134
Undeveloped Runoff Coefficient (Cu)	0.7881
Developed Runoff Coefficient (Cd)	0.8351
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	3.7361
Burned Peak Flow Rate (cfs)	3.7361
24-Hr Clear Runoff Volume (ac-ft)	0.298
24-Hr Clear Runoff Volume (cu-ft)	12979.8446



Peak Flow Hydrologic Analysis

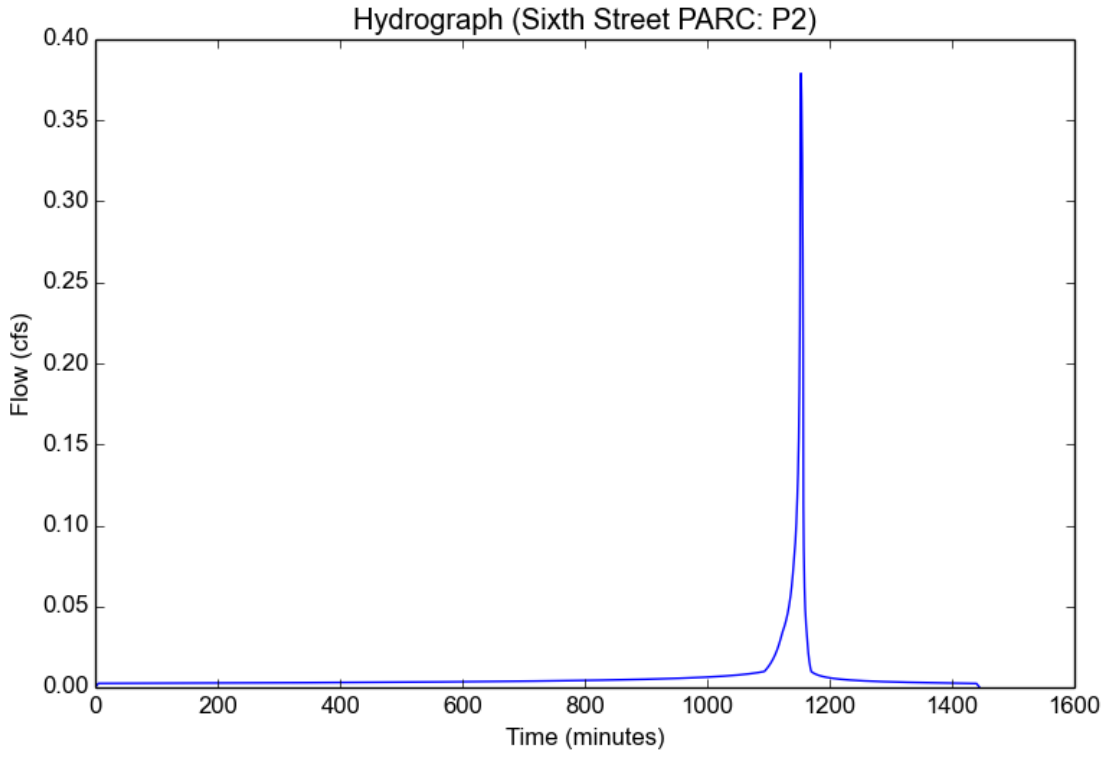
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/10-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P2
Area (ac)	0.19
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.05
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	2.5134
Undeveloped Runoff Coefficient (Cu)	0.7881
Developed Runoff Coefficient (Cd)	0.7937
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.379
Burned Peak Flow Rate (cfs)	0.379
24-Hr Clear Runoff Volume (ac-ft)	0.0141
24-Hr Clear Runoff Volume (cu-ft)	615.0034



Peak Flow Hydrologic Analysis

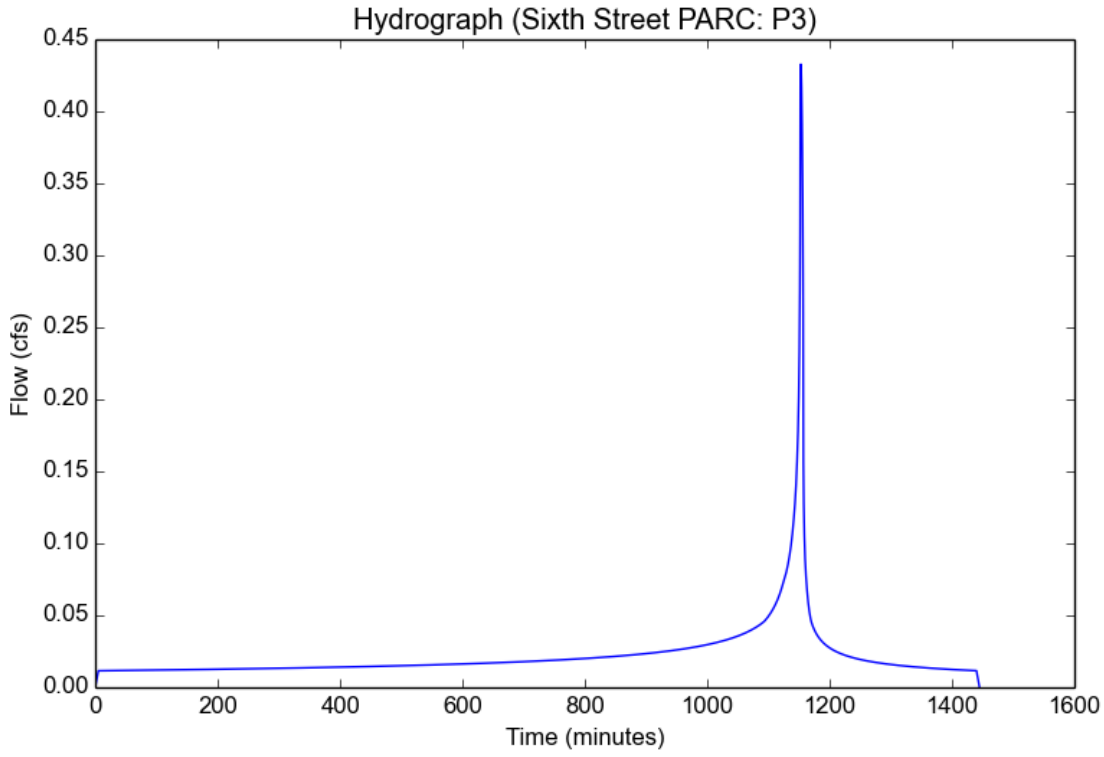
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/10-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P3
Area (ac)	0.2
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.65
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	2.5134
Undeveloped Runoff Coefficient (Cu)	0.7881
Developed Runoff Coefficient (Cd)	0.8608
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.4327
Burned Peak Flow Rate (cfs)	0.4327
24-Hr Clear Runoff Volume (ac-ft)	0.0451
24-Hr Clear Runoff Volume (cu-ft)	1962.568



Peak Flow Hydrologic Analysis

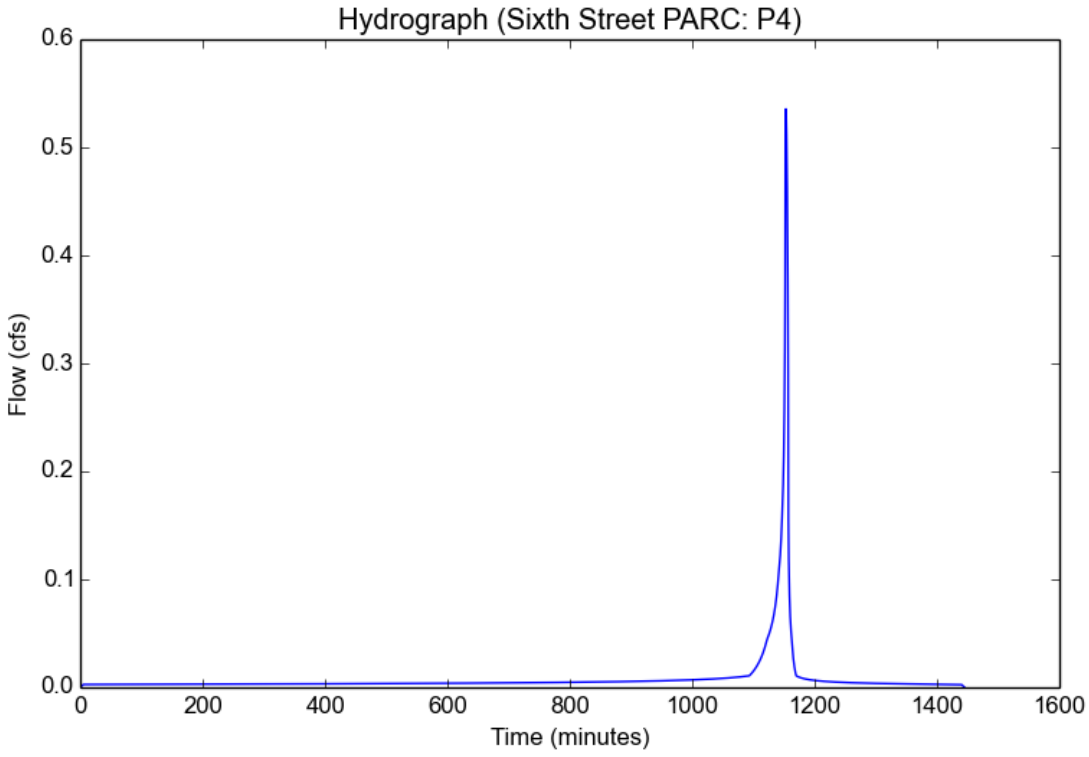
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/10-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P4
Area (ac)	0.27
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.01
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	2.5134
Undeveloped Runoff Coefficient (Cu)	0.7881
Developed Runoff Coefficient (Cd)	0.7892
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.5356
Burned Peak Flow Rate (cfs)	0.5356
24-Hr Clear Runoff Volume (ac-ft)	0.0173
24-Hr Clear Runoff Volume (cu-ft)	755.5845



Peak Flow Hydrologic Analysis

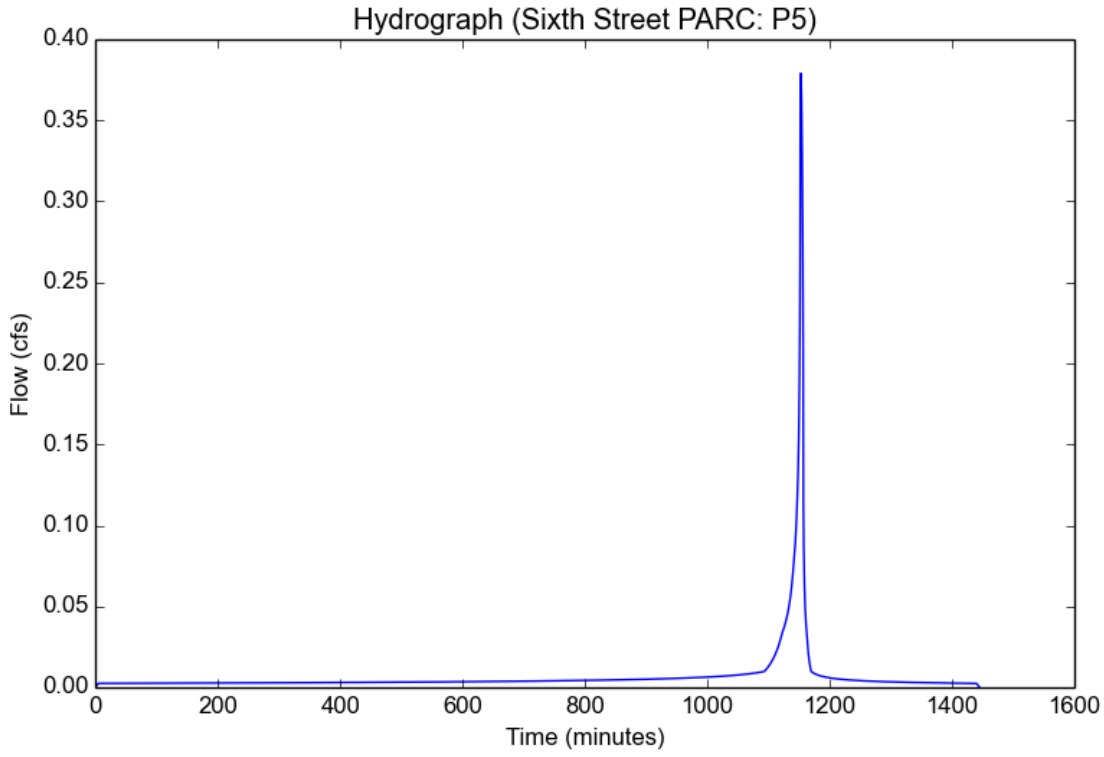
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/10-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P5
Area (ac)	0.19
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.05
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	2.5134
Undeveloped Runoff Coefficient (Cu)	0.7881
Developed Runoff Coefficient (Cd)	0.7937
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.379
Burned Peak Flow Rate (cfs)	0.379
24-Hr Clear Runoff Volume (ac-ft)	0.0141
24-Hr Clear Runoff Volume (cu-ft)	615.0034



Peak Flow Hydrologic Analysis

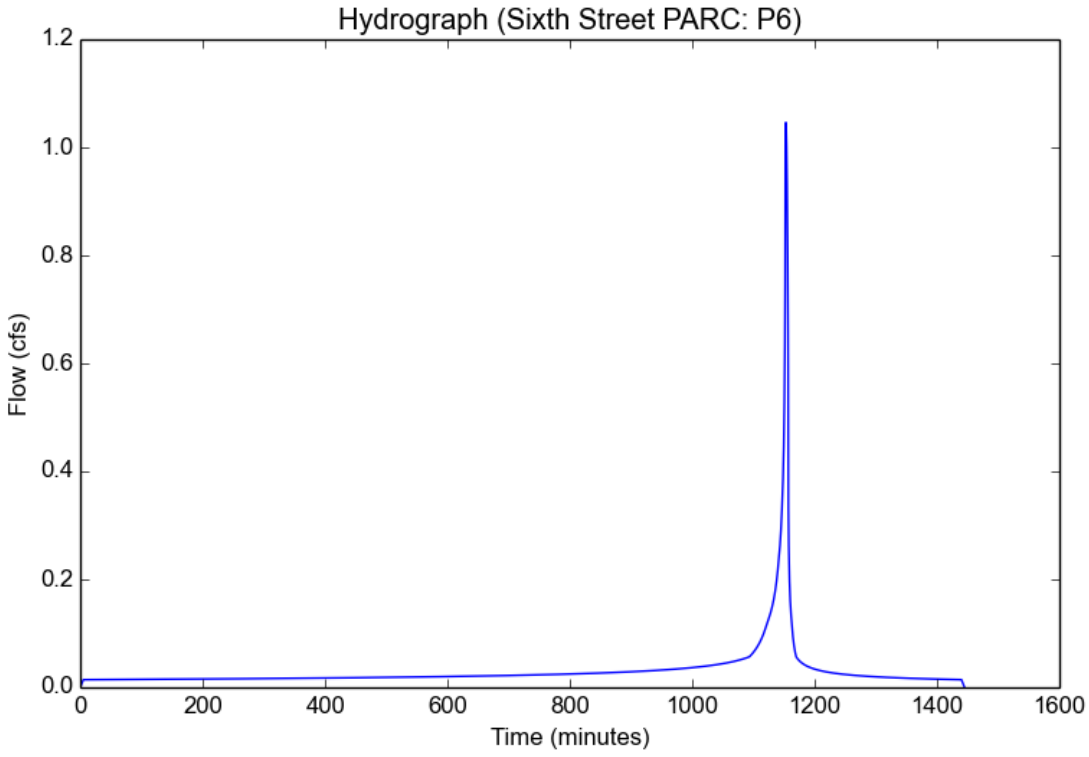
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/10-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P6
Area (ac)	0.51
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.25
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	2.5134
Undeveloped Runoff Coefficient (Cu)	0.7881
Developed Runoff Coefficient (Cd)	0.8161
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.0461
Burned Peak Flow Rate (cfs)	1.0461
24-Hr Clear Runoff Volume (ac-ft)	0.0636
24-Hr Clear Runoff Volume (cu-ft)	2768.7151



Peak Flow Hydrologic Analysis

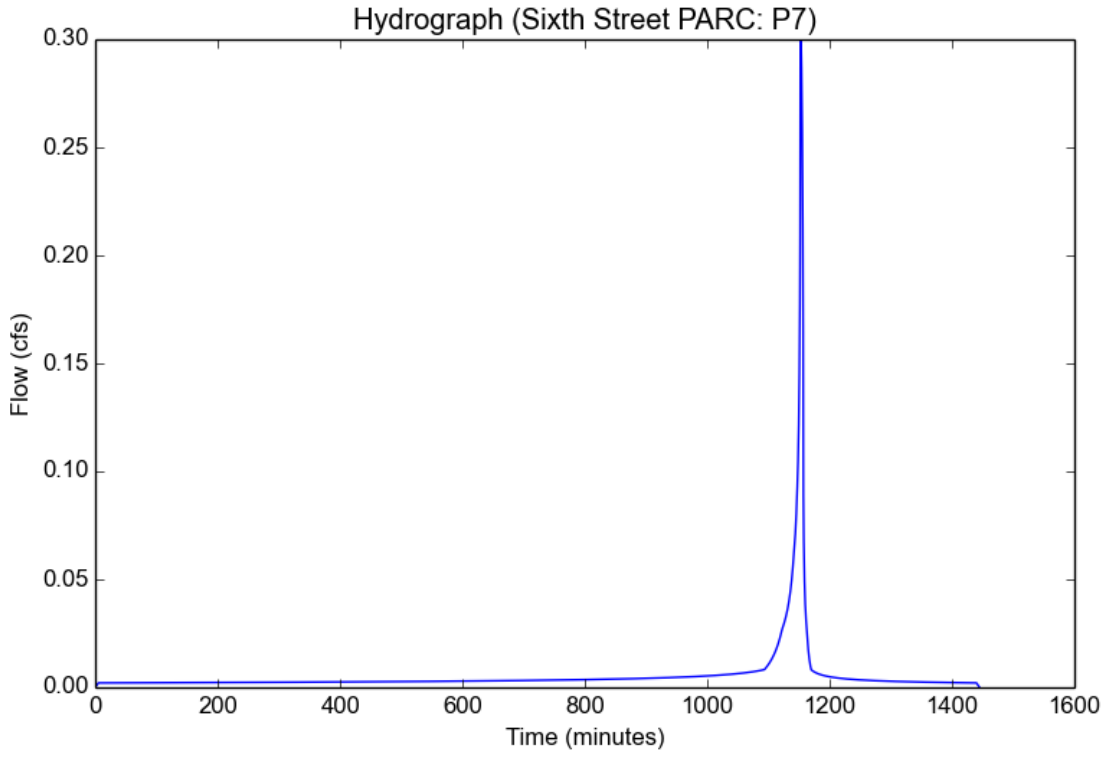
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/10-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P7
Area (ac)	0.15
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.06
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	2.5134
Undeveloped Runoff Coefficient (Cu)	0.7881
Developed Runoff Coefficient (Cd)	0.7948
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.2997
Burned Peak Flow Rate (cfs)	0.2997
24-Hr Clear Runoff Volume (ac-ft)	0.0115
24-Hr Clear Runoff Volume (cu-ft)	501.9689



Peak Flow Hydrologic Analysis

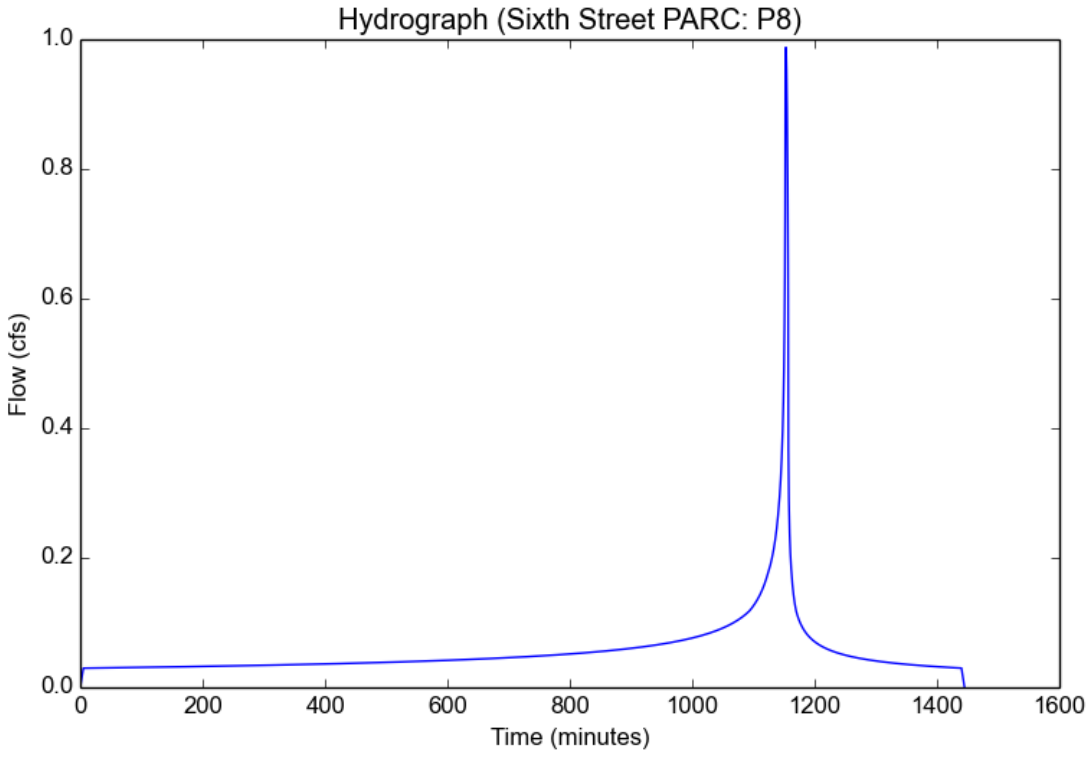
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/10-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P8
Area (ac)	0.45
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.76
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	2.5134
Undeveloped Runoff Coefficient (Cu)	0.7881
Developed Runoff Coefficient (Cd)	0.8731
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.9875
Burned Peak Flow Rate (cfs)	0.9875
24-Hr Clear Runoff Volume (ac-ft)	0.1138
24-Hr Clear Runoff Volume (cu-ft)	4958.2963



Peak Flow Hydrologic Analysis

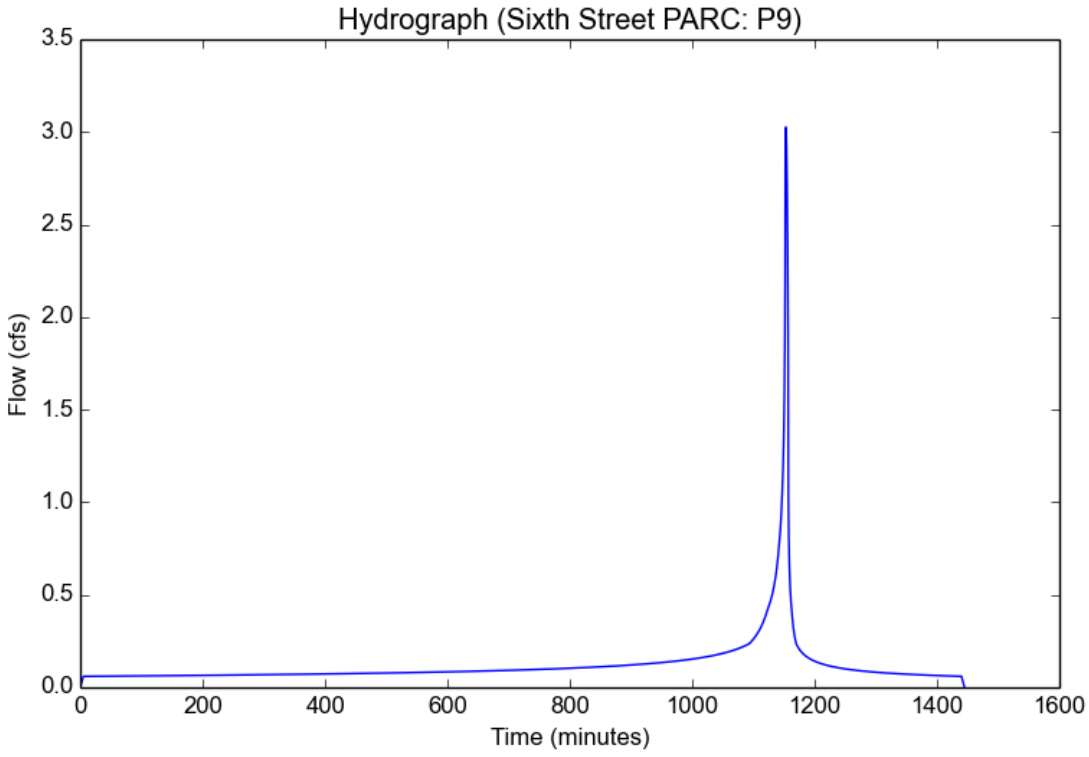
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/10-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P9
Area (ac)	1.44
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.43
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	2.5134
Undeveloped Runoff Coefficient (Cu)	0.7881
Developed Runoff Coefficient (Cd)	0.8362
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	3.0265
Burned Peak Flow Rate (cfs)	3.0265
24-Hr Clear Runoff Volume (ac-ft)	0.2447
24-Hr Clear Runoff Volume (cu-ft)	10658.3719



Peak Flow Hydrologic Analysis

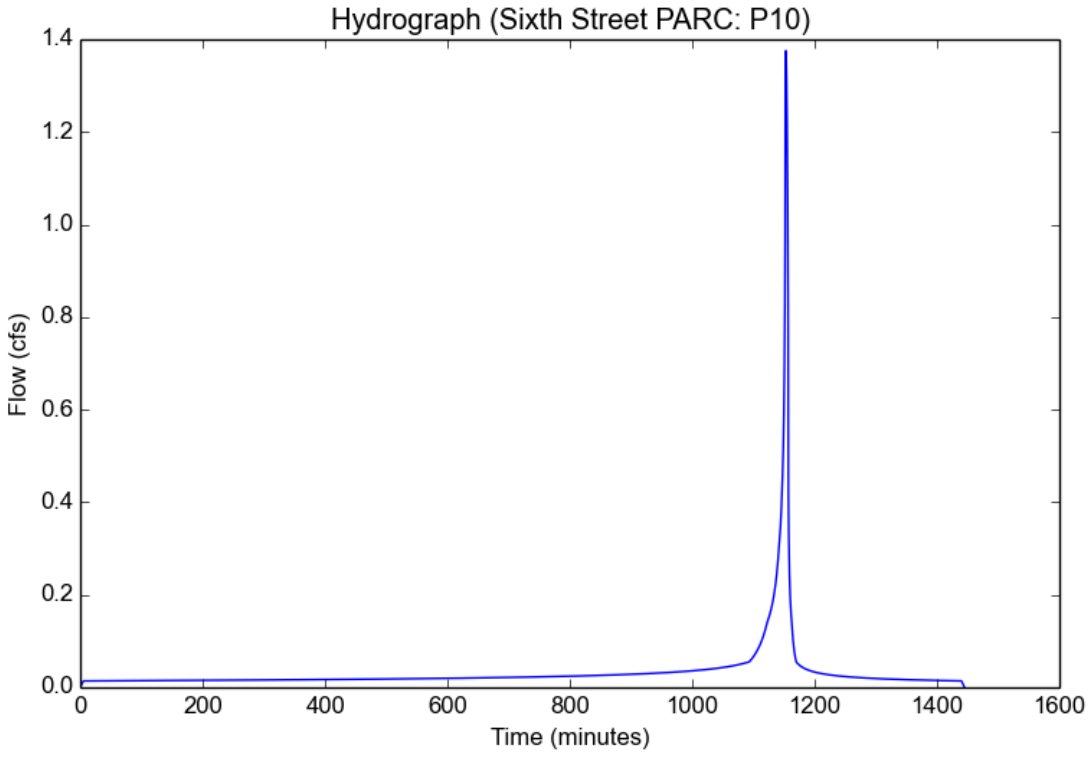
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/10-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P10
Area (ac)	0.68
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.15
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	2.5134
Undeveloped Runoff Coefficient (Cu)	0.7881
Developed Runoff Coefficient (Cd)	0.8049
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.3756
Burned Peak Flow Rate (cfs)	1.3756
24-Hr Clear Runoff Volume (ac-ft)	0.0676
24-Hr Clear Runoff Volume (cu-ft)	2946.3424



Peak Flow Hydrologic Analysis

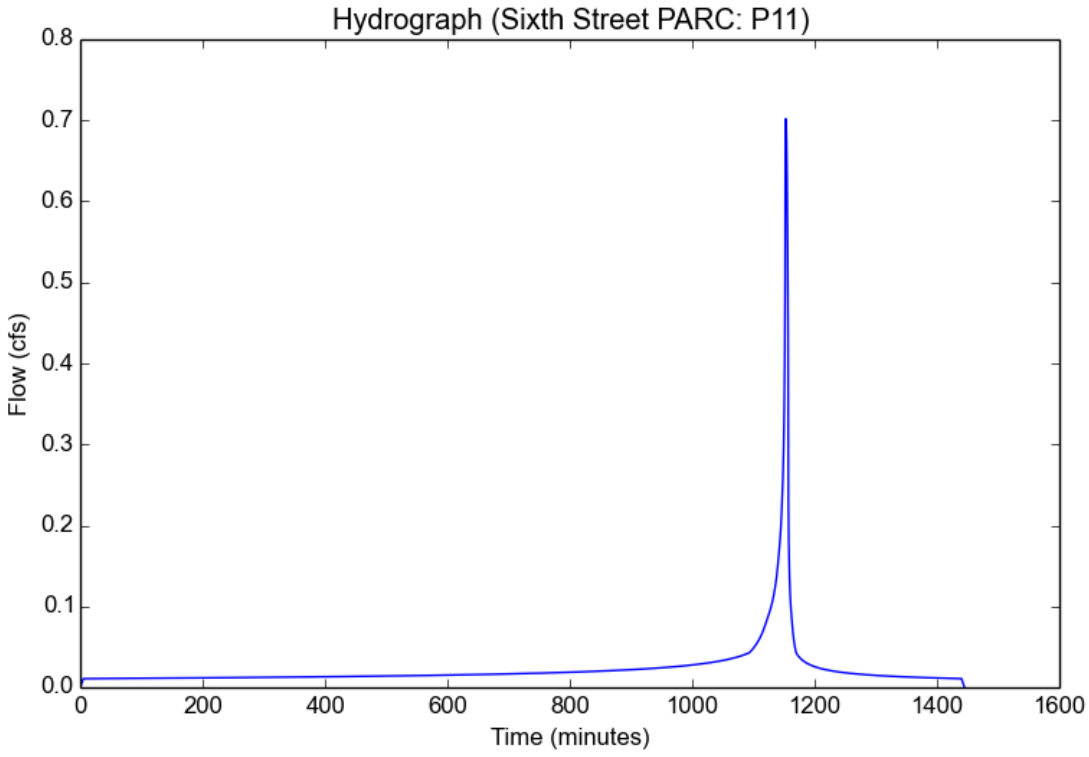
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/10-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P11
Area (ac)	0.34
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.3
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	2.5134
Undeveloped Runoff Coefficient (Cu)	0.7881
Developed Runoff Coefficient (Cd)	0.8217
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.7022
Burned Peak Flow Rate (cfs)	0.7022
24-Hr Clear Runoff Volume (ac-ft)	0.0467
24-Hr Clear Runoff Volume (cu-ft)	2032.1295



Peak Flow Hydrologic Analysis

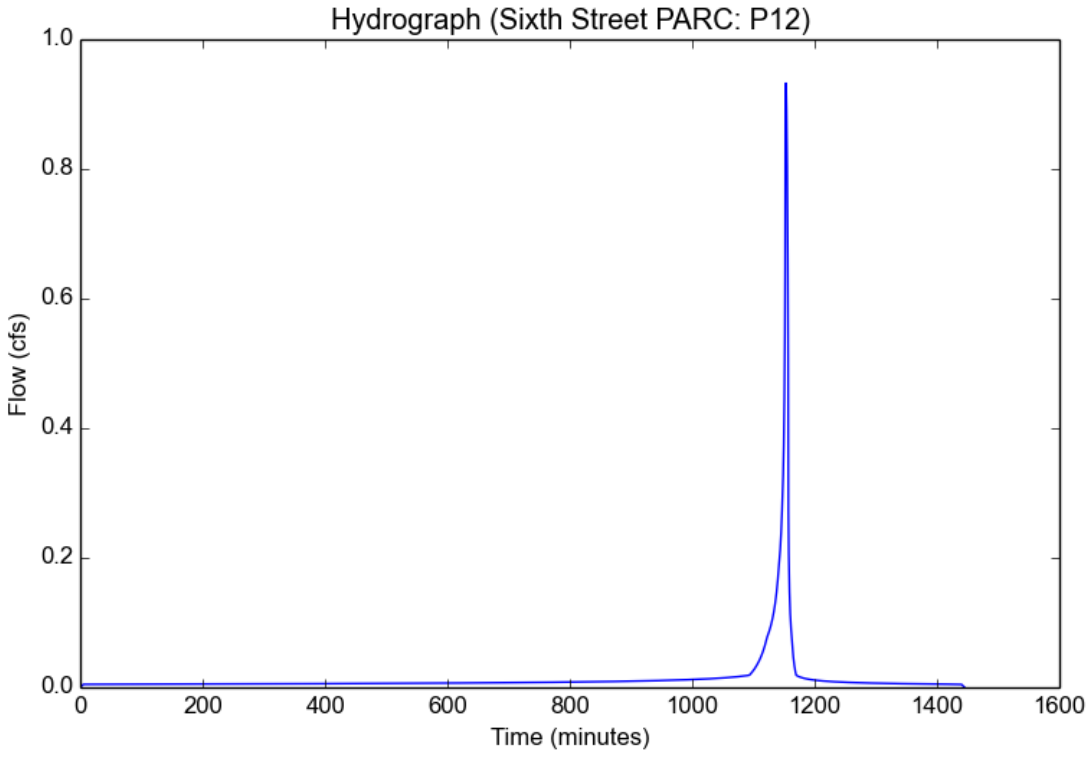
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/10-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P12
Area (ac)	0.47
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.01
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	2.5134
Undeveloped Runoff Coefficient (Cu)	0.7881
Developed Runoff Coefficient (Cd)	0.7892
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.9323
Burned Peak Flow Rate (cfs)	0.9323
24-Hr Clear Runoff Volume (ac-ft)	0.0302
24-Hr Clear Runoff Volume (cu-ft)	1315.2767



Peak Flow Hydrologic Analysis

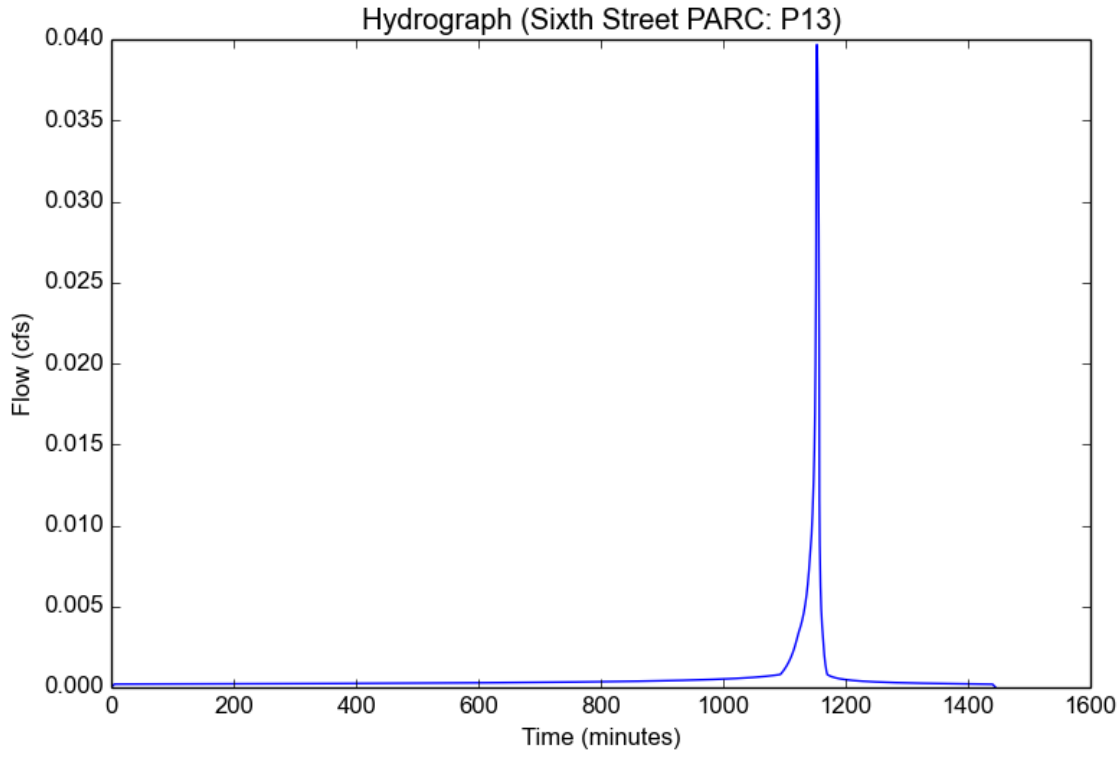
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/10-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P13
Area (ac)	0.02
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.01
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	2.5134
Undeveloped Runoff Coefficient (Cu)	0.7881
Developed Runoff Coefficient (Cd)	0.7892
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.0397
Burned Peak Flow Rate (cfs)	0.0397
24-Hr Clear Runoff Volume (ac-ft)	0.0013
24-Hr Clear Runoff Volume (cu-ft)	55.9692



Peak Flow Hydrologic Analysis

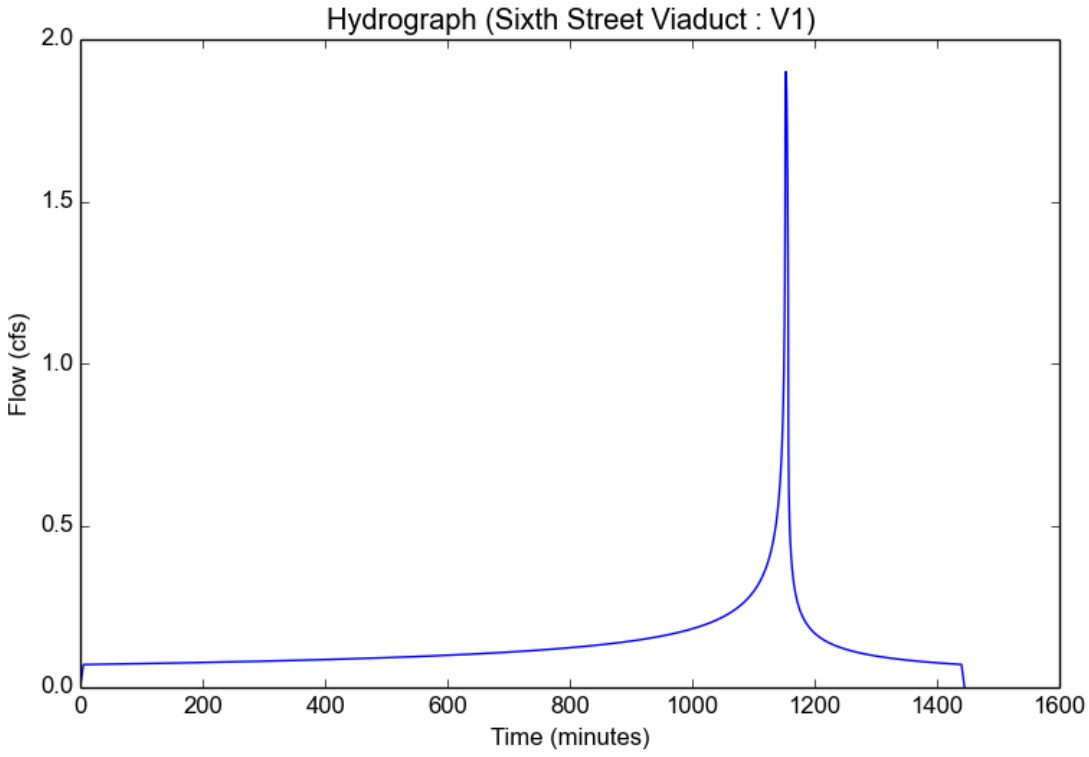
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/10-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V1
Area (ac)	0.84
Flow Path Length (ft)	225.0
Flow Path Slope (vft/hft)	0.05
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	2.5134
Undeveloped Runoff Coefficient (Cu)	0.7881
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.9001
Burned Peak Flow Rate (cfs)	1.9001
24-Hr Clear Runoff Volume (ac-ft)	0.2632
24-Hr Clear Runoff Volume (cu-ft)	11465.0158



Peak Flow Hydrologic Analysis

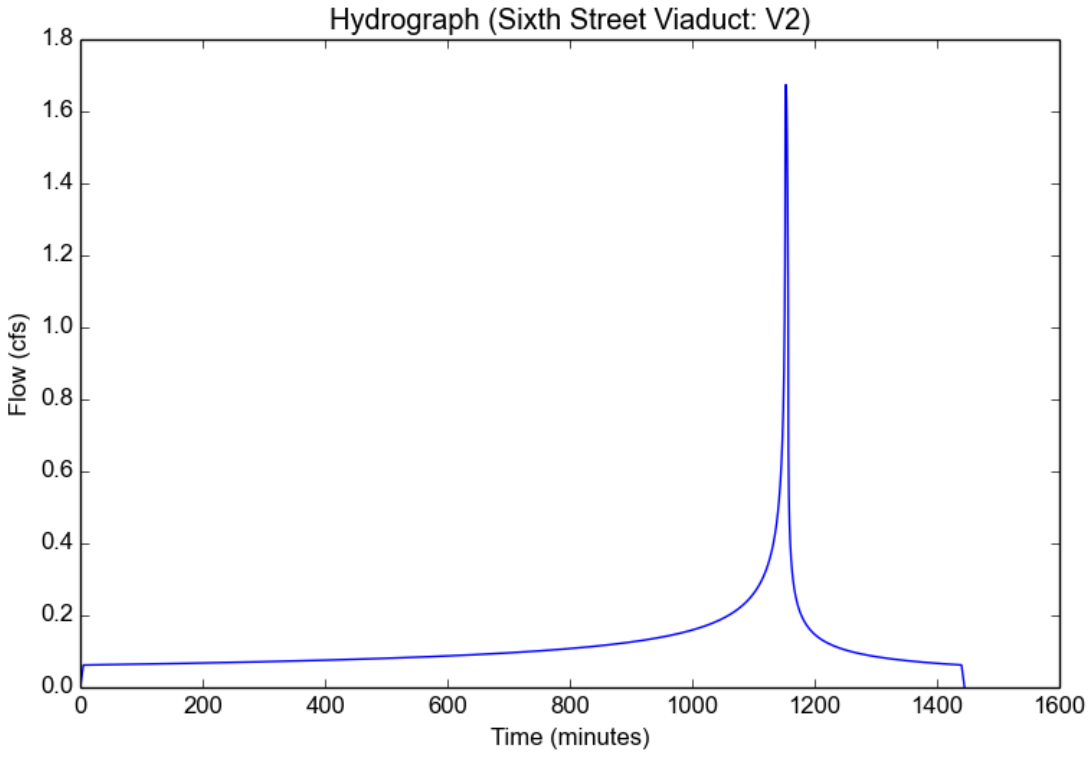
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/10-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V2
Area (ac)	0.74
Flow Path Length (ft)	250.0
Flow Path Slope (vft/hft)	0.03
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	2.5134
Undeveloped Runoff Coefficient (Cu)	0.7881
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.6739
Burned Peak Flow Rate (cfs)	1.6739
24-Hr Clear Runoff Volume (ac-ft)	0.2319
24-Hr Clear Runoff Volume (cu-ft)	10100.1329



Peak Flow Hydrologic Analysis

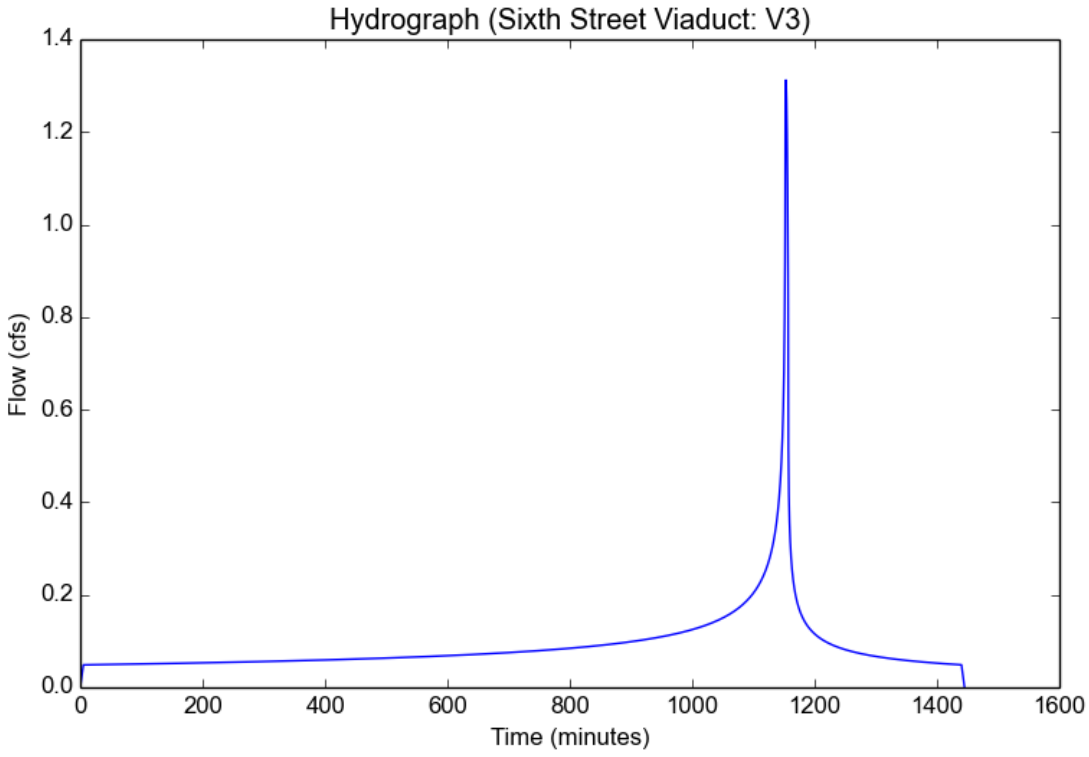
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/10-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V3
Area (ac)	0.58
Flow Path Length (ft)	200.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	2.5134
Undeveloped Runoff Coefficient (Cu)	0.7881
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.312
Burned Peak Flow Rate (cfs)	1.312
24-Hr Clear Runoff Volume (ac-ft)	0.1817
24-Hr Clear Runoff Volume (cu-ft)	7916.3204



Peak Flow Hydrologic Analysis

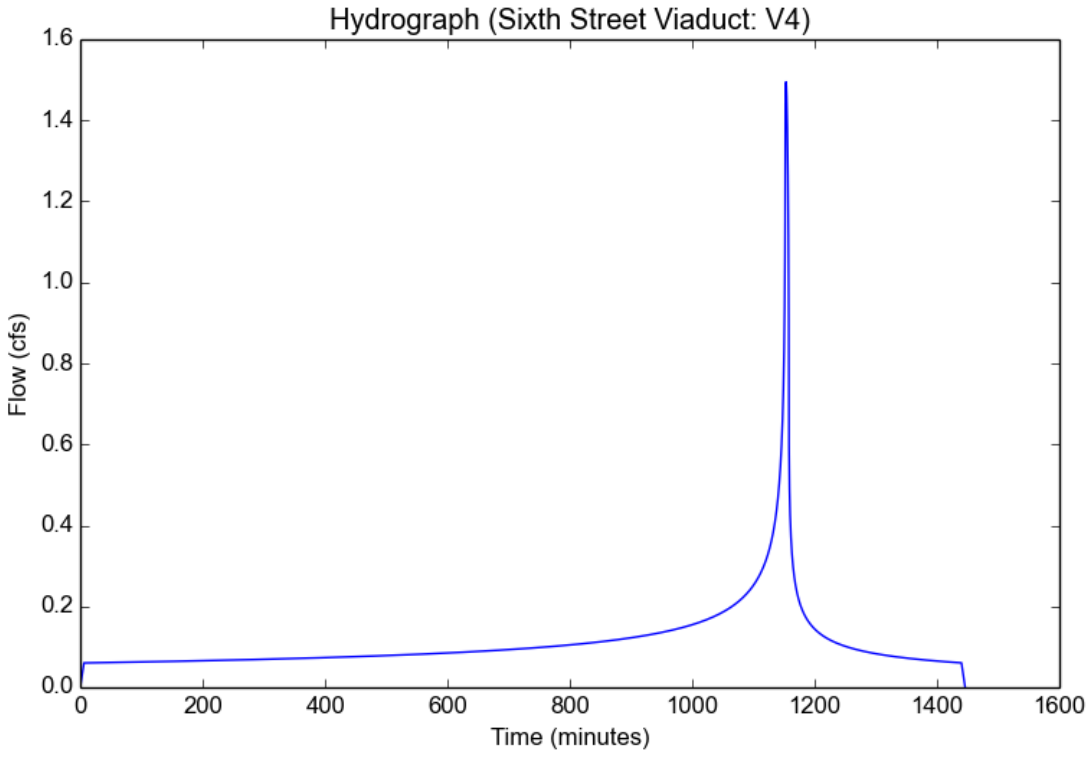
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/10-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V4
Area (ac)	0.72
Flow Path Length (ft)	250.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	2.307
Undeveloped Runoff Coefficient (Cu)	0.766
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	1.4949
Burned Peak Flow Rate (cfs)	1.4949
24-Hr Clear Runoff Volume (ac-ft)	0.2256
24-Hr Clear Runoff Volume (cu-ft)	9827.1577



Peak Flow Hydrologic Analysis

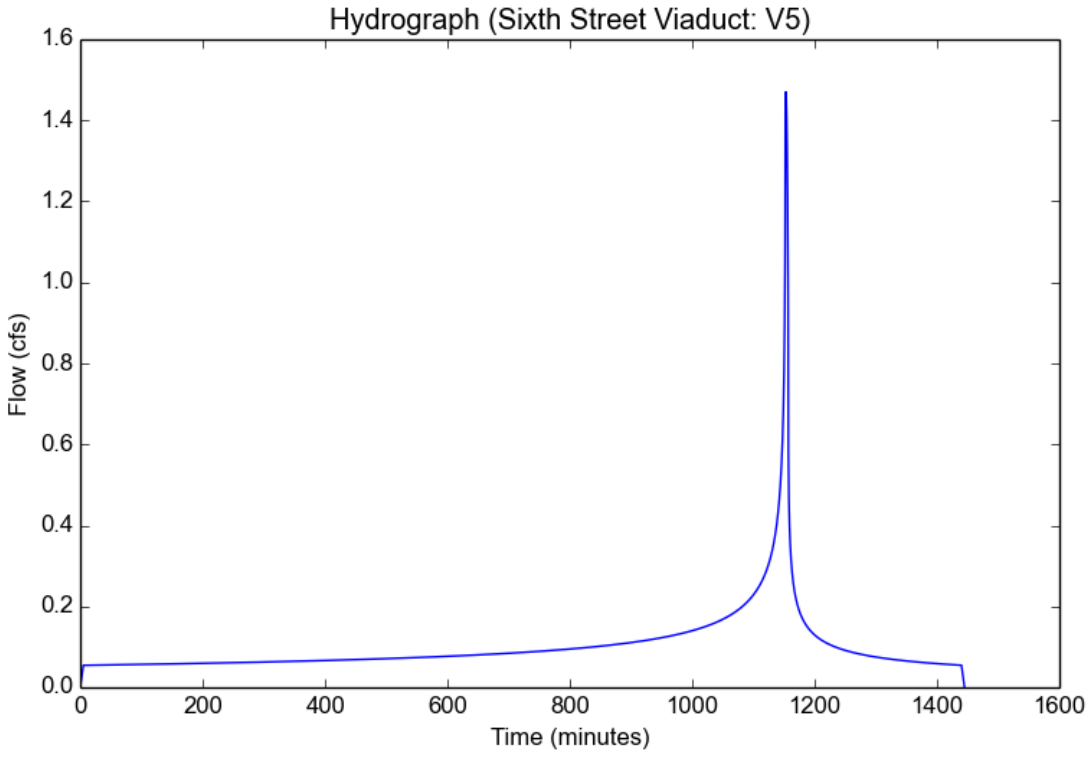
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/10-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V5
Area (ac)	0.65
Flow Path Length (ft)	210.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	2.5134
Undeveloped Runoff Coefficient (Cu)	0.7881
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.4703
Burned Peak Flow Rate (cfs)	1.4703
24-Hr Clear Runoff Volume (ac-ft)	0.2037
24-Hr Clear Runoff Volume (cu-ft)	8871.7384



Peak Flow Hydrologic Analysis

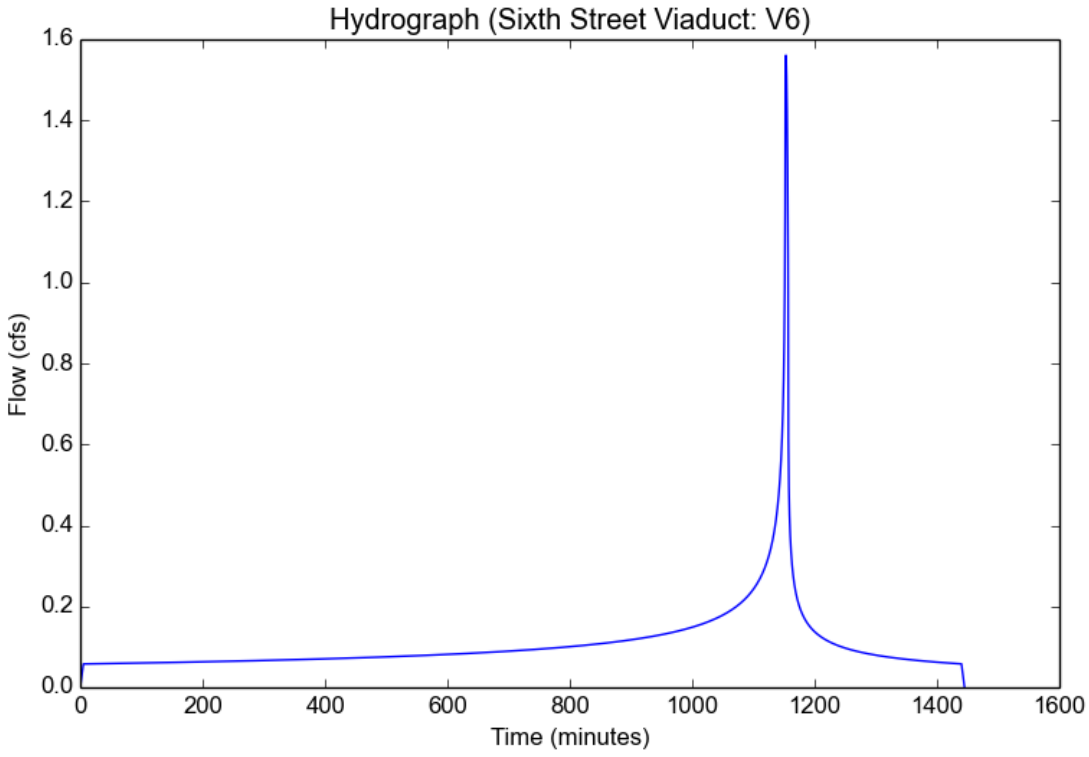
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/10-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V6
Area (ac)	0.69
Flow Path Length (ft)	210.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	2.5134
Undeveloped Runoff Coefficient (Cu)	0.7881
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.5608
Burned Peak Flow Rate (cfs)	1.5608
24-Hr Clear Runoff Volume (ac-ft)	0.2162
24-Hr Clear Runoff Volume (cu-ft)	9417.6915



Peak Flow Hydrologic Analysis

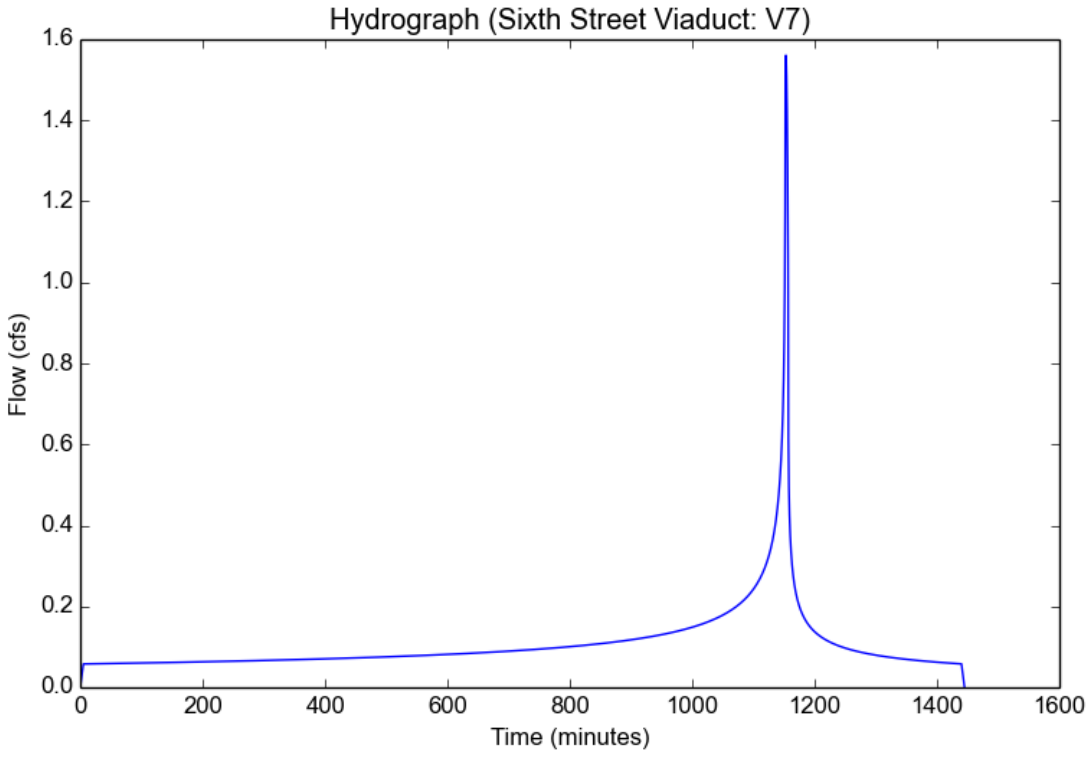
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/10-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V7
Area (ac)	0.69
Flow Path Length (ft)	210.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	2.5134
Undeveloped Runoff Coefficient (Cu)	0.7881
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.5608
Burned Peak Flow Rate (cfs)	1.5608
24-Hr Clear Runoff Volume (ac-ft)	0.2162
24-Hr Clear Runoff Volume (cu-ft)	9417.6915



Peak Flow Hydrologic Analysis

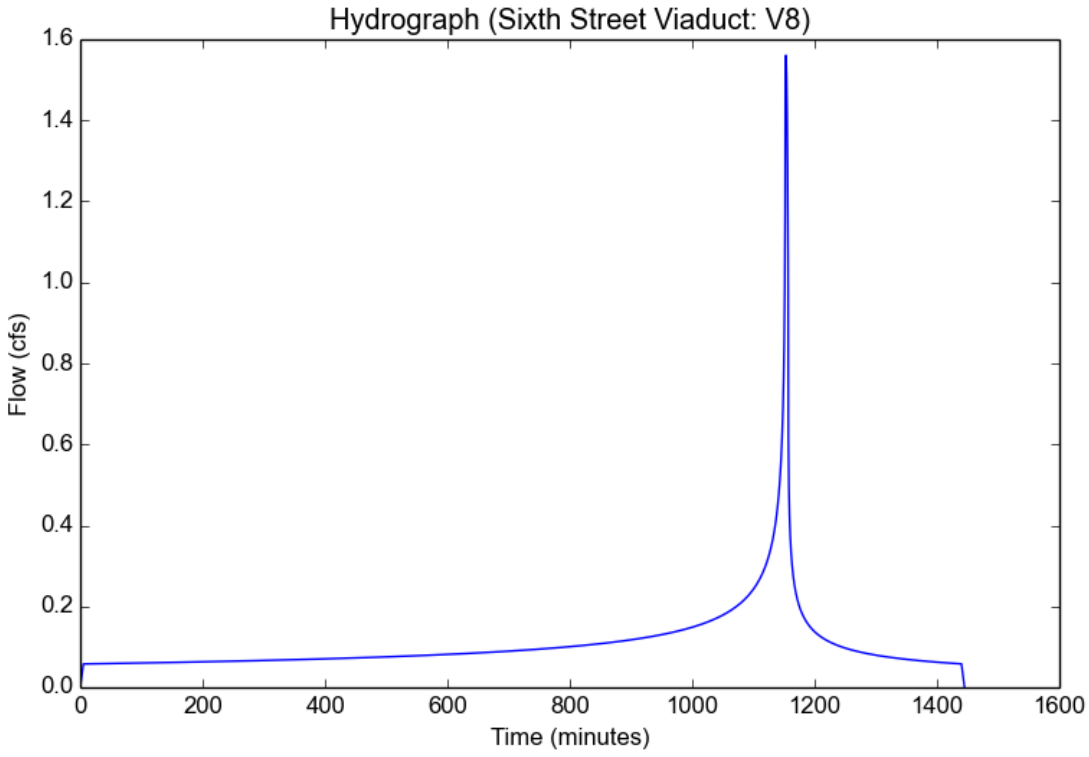
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/10-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V8
Area (ac)	0.69
Flow Path Length (ft)	210.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	2.5134
Undeveloped Runoff Coefficient (Cu)	0.7881
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.5608
Burned Peak Flow Rate (cfs)	1.5608
24-Hr Clear Runoff Volume (ac-ft)	0.2162
24-Hr Clear Runoff Volume (cu-ft)	9417.6915



Peak Flow Hydrologic Analysis

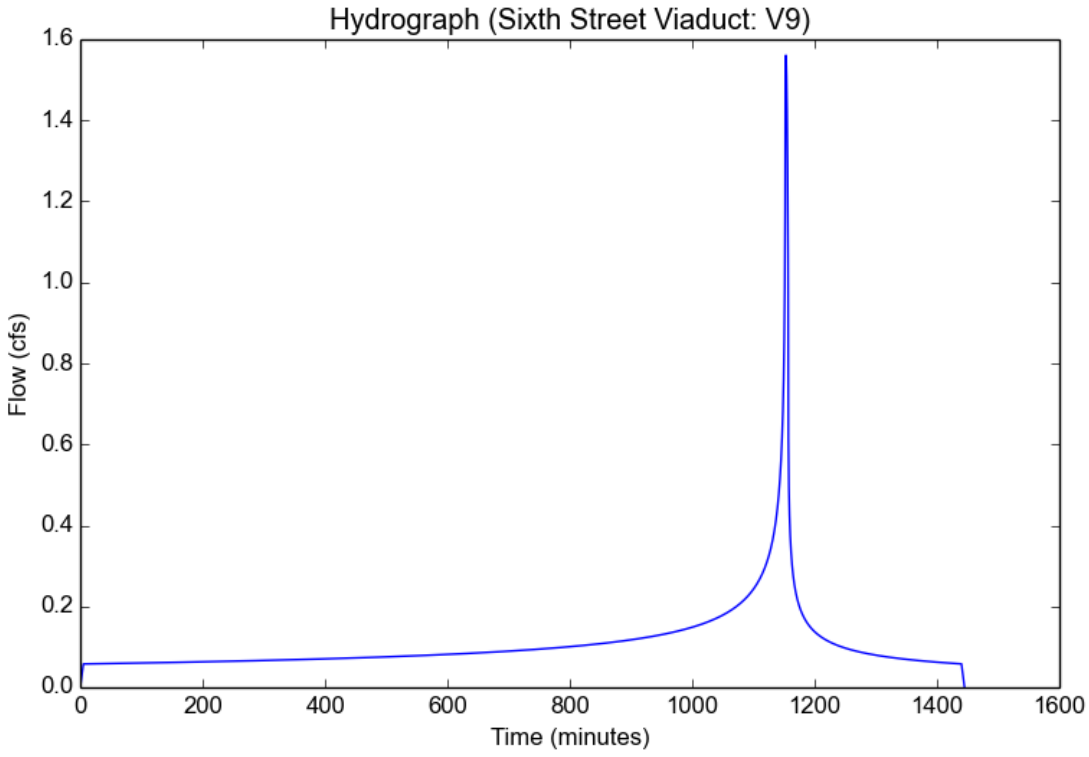
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/10-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V9
Area (ac)	0.69
Flow Path Length (ft)	210.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	2.5134
Undeveloped Runoff Coefficient (Cu)	0.7881
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.5608
Burned Peak Flow Rate (cfs)	1.5608
24-Hr Clear Runoff Volume (ac-ft)	0.2162
24-Hr Clear Runoff Volume (cu-ft)	9417.6915



Peak Flow Hydrologic Analysis

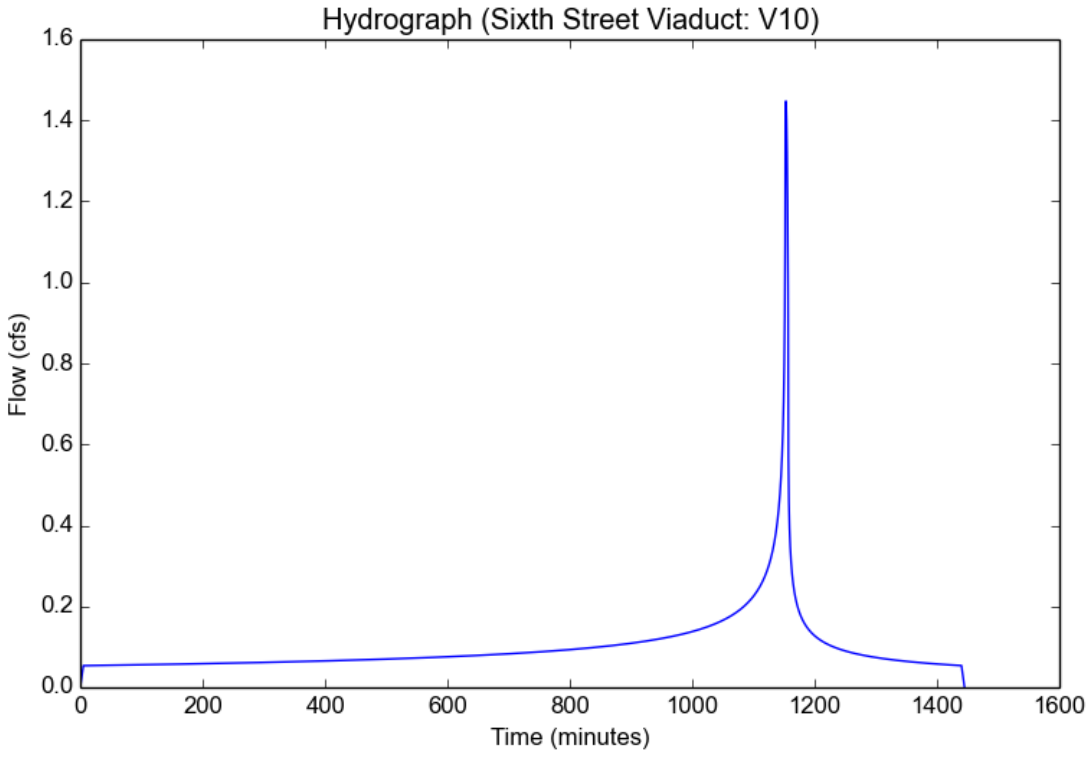
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/10-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V10
Area (ac)	0.64
Flow Path Length (ft)	200.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	2.5134
Undeveloped Runoff Coefficient (Cu)	0.7881
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.4477
Burned Peak Flow Rate (cfs)	1.4477
24-Hr Clear Runoff Volume (ac-ft)	0.2005
24-Hr Clear Runoff Volume (cu-ft)	8735.2501



Peak Flow Hydrologic Analysis

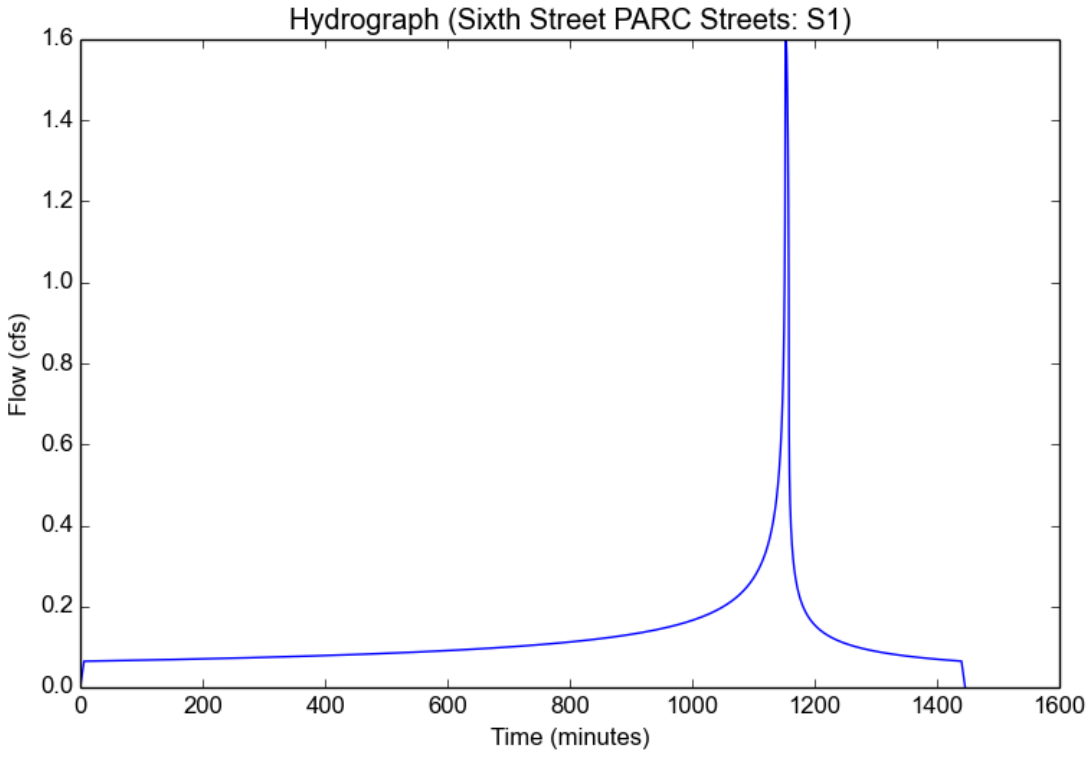
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/10-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC Streets
Subarea ID	S1
Area (ac)	0.77
Flow Path Length (ft)	275.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	2.307
Undeveloped Runoff Coefficient (Cu)	0.766
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	1.5987
Burned Peak Flow Rate (cfs)	1.5987
24-Hr Clear Runoff Volume (ac-ft)	0.2413
24-Hr Clear Runoff Volume (cu-ft)	10509.5992



Peak Flow Hydrologic Analysis

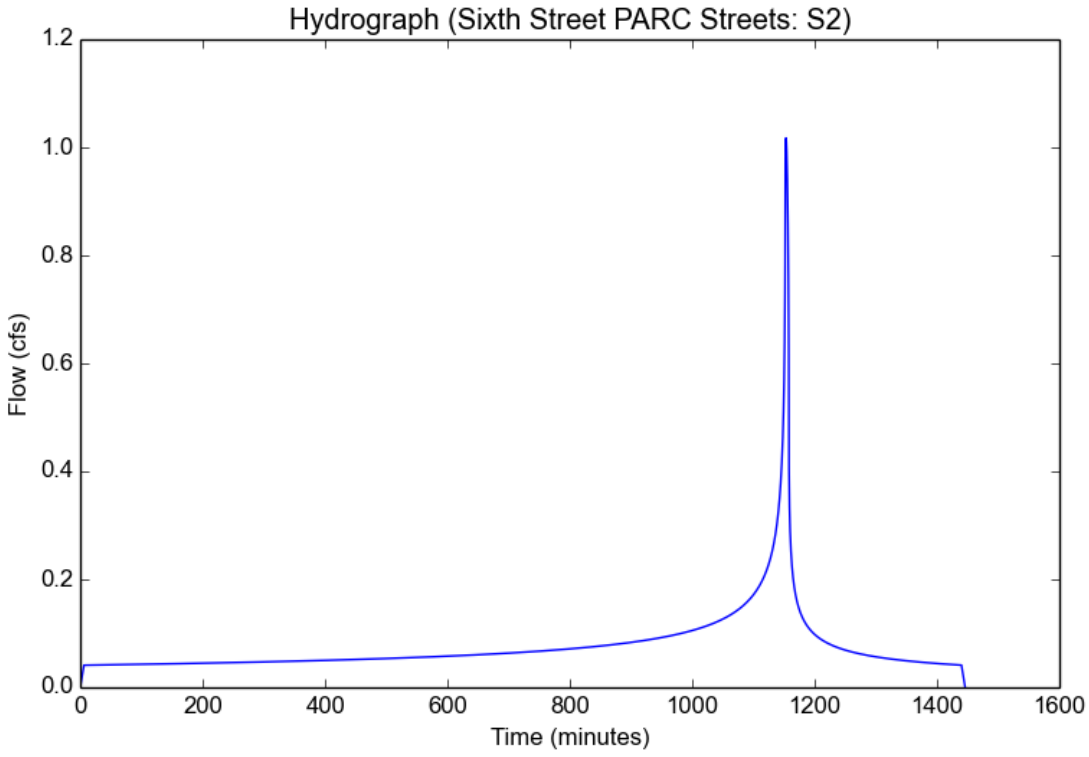
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/10-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC Streets
Subarea ID	S2
Area (ac)	0.49
Flow Path Length (ft)	235.0
Flow Path Slope (vft/hft)	0.004
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	2.307
Undeveloped Runoff Coefficient (Cu)	0.766
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	1.0174
Burned Peak Flow Rate (cfs)	1.0174
24-Hr Clear Runoff Volume (ac-ft)	0.1535
24-Hr Clear Runoff Volume (cu-ft)	6687.9268



Peak Flow Hydrologic Analysis

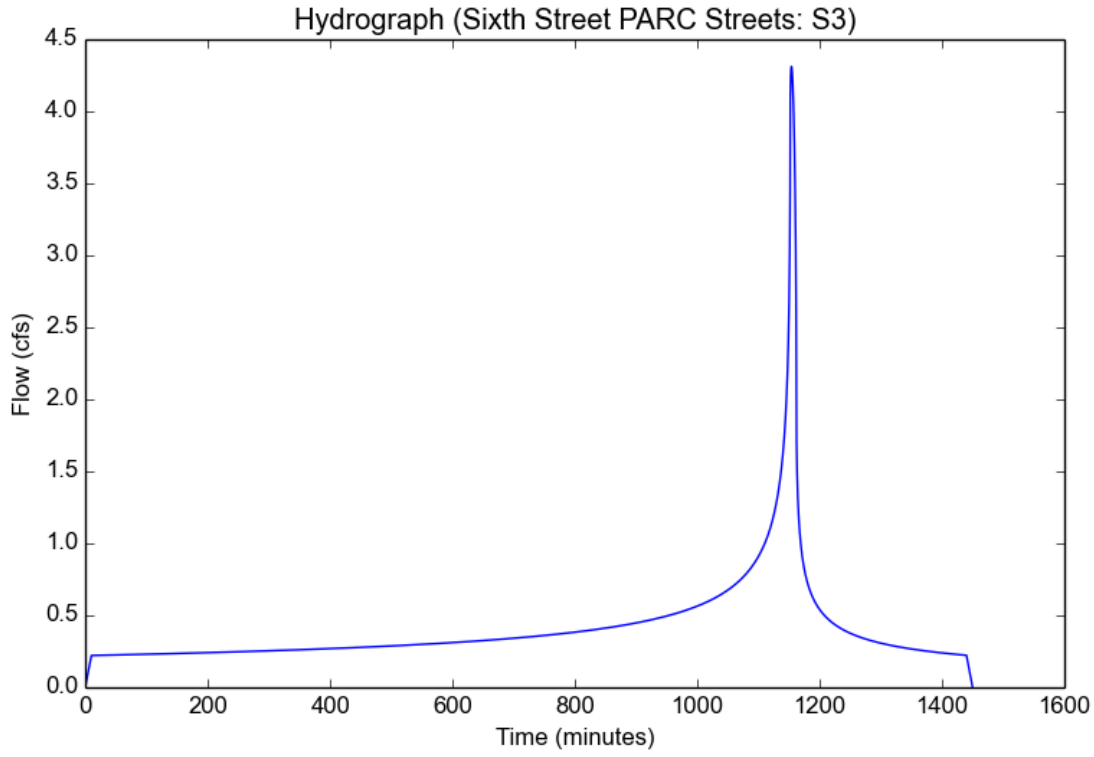
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/10-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC Streets
Subarea ID	S3
Area (ac)	2.64
Flow Path Length (ft)	485.0
Flow Path Slope (vft/hft)	0.0035
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	1.8146
Undeveloped Runoff Coefficient (Cu)	0.7119
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	10.0
Clear Peak Flow Rate (cfs)	4.3114
Burned Peak Flow Rate (cfs)	4.3114
24-Hr Clear Runoff Volume (ac-ft)	0.8272
24-Hr Clear Runoff Volume (cu-ft)	36032.9407



Peak Flow Hydrologic Analysis

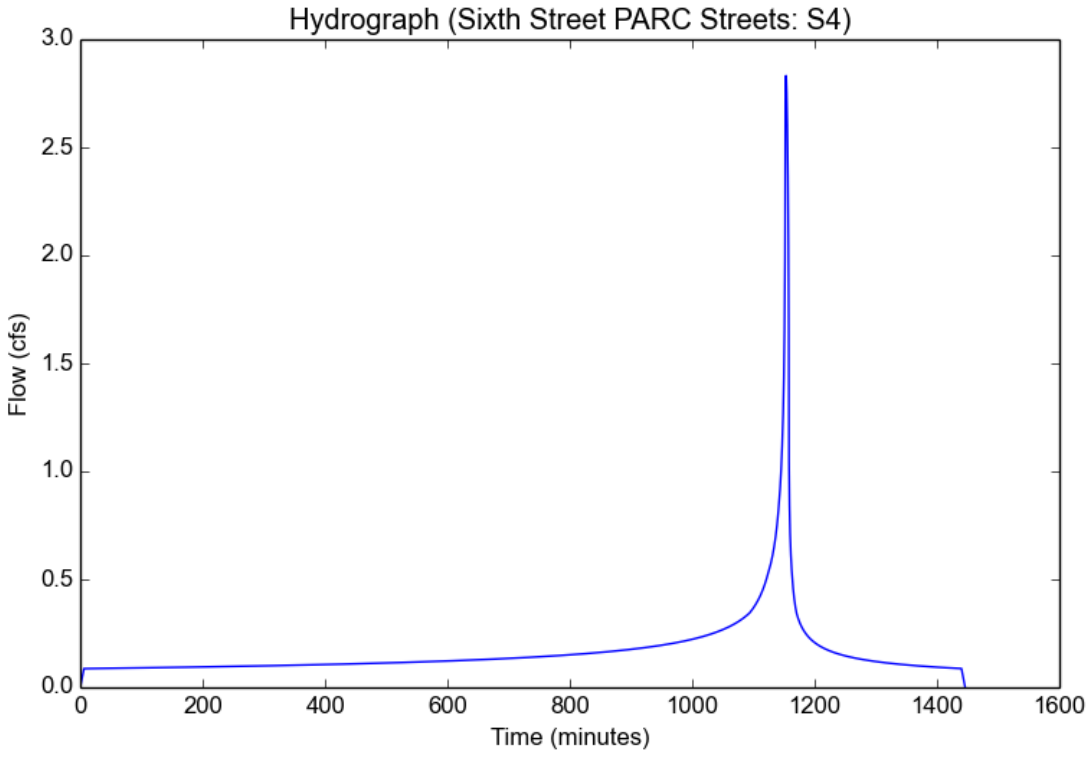
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/10-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC Streets
Subarea ID	S4
Area (ac)	1.43
Flow Path Length (ft)	245.0
Flow Path Slope (vft/hft)	0.008
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.69
Soil Type	6
Design Storm Frequency	10-yr
Fire Factor	0
LID	False

Output Results

Modeled (10-yr) Rainfall Depth (in)	4.2126
Peak Intensity (in/hr)	2.307
Undeveloped Runoff Coefficient (Cu)	0.766
Developed Runoff Coefficient (Cd)	0.8585
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	2.832
Burned Peak Flow Rate (cfs)	2.832
24-Hr Clear Runoff Volume (ac-ft)	0.3365
24-Hr Clear Runoff Volume (cu-ft)	14656.6454



Peak Flow Hydrologic Analysis

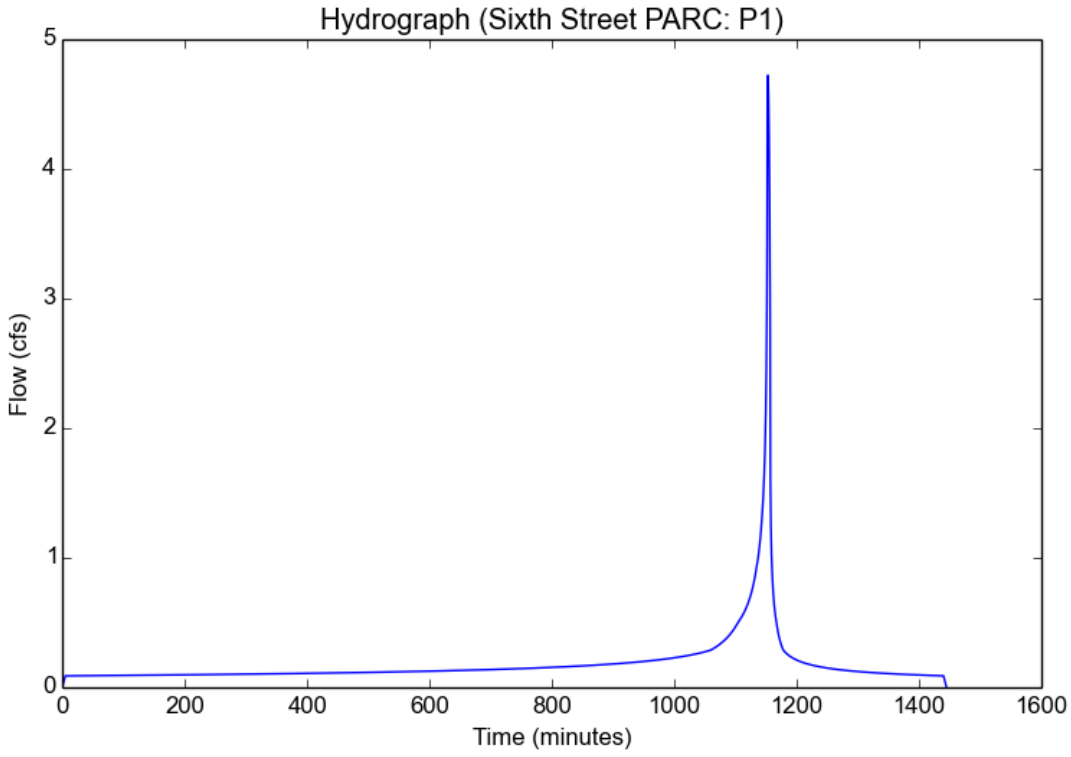
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/25-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P1
Area (ac)	1.78
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.42
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	3.0906
Undeveloped Runoff Coefficient (Cu)	0.8286
Developed Runoff Coefficient (Cd)	0.8586
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	4.7235
Burned Peak Flow Rate (cfs)	4.7235
24-Hr Clear Runoff Volume (ac-ft)	0.3757
24-Hr Clear Runoff Volume (cu-ft)	16366.0229



Peak Flow Hydrologic Analysis

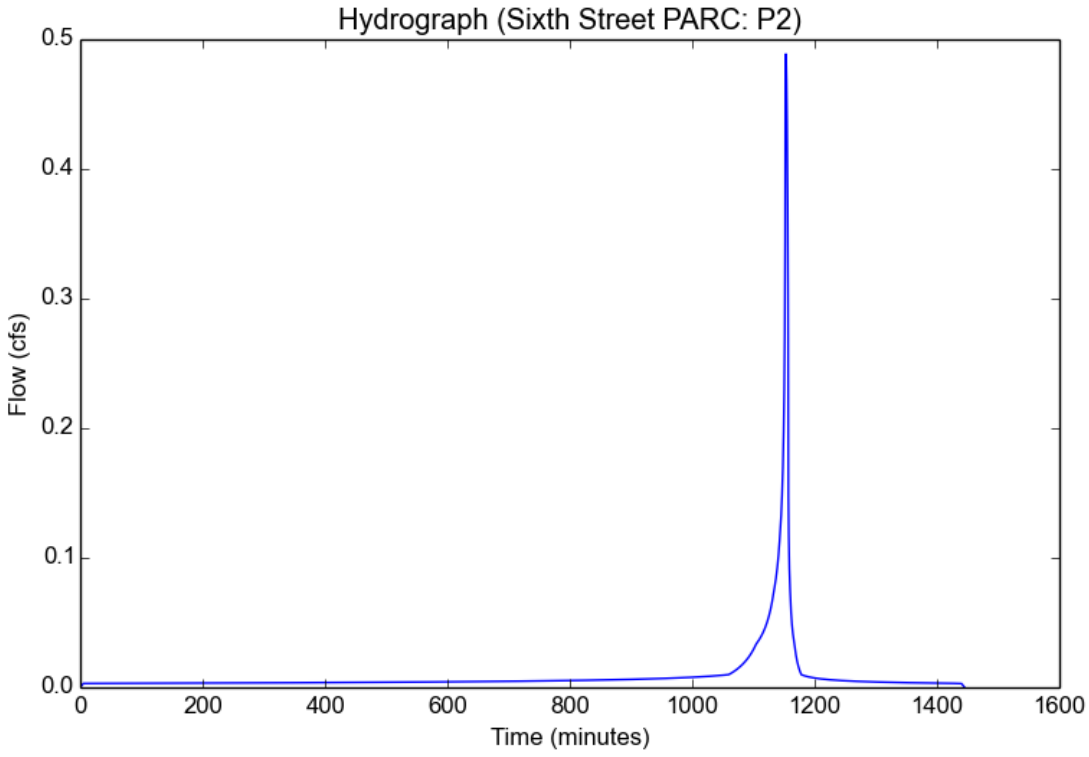
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/25-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P2
Area (ac)	0.19
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.05
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	3.0906
Undeveloped Runoff Coefficient (Cu)	0.8286
Developed Runoff Coefficient (Cd)	0.8322
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.4887
Burned Peak Flow Rate (cfs)	0.4887
24-Hr Clear Runoff Volume (ac-ft)	0.019
24-Hr Clear Runoff Volume (cu-ft)	827.0403



Peak Flow Hydrologic Analysis

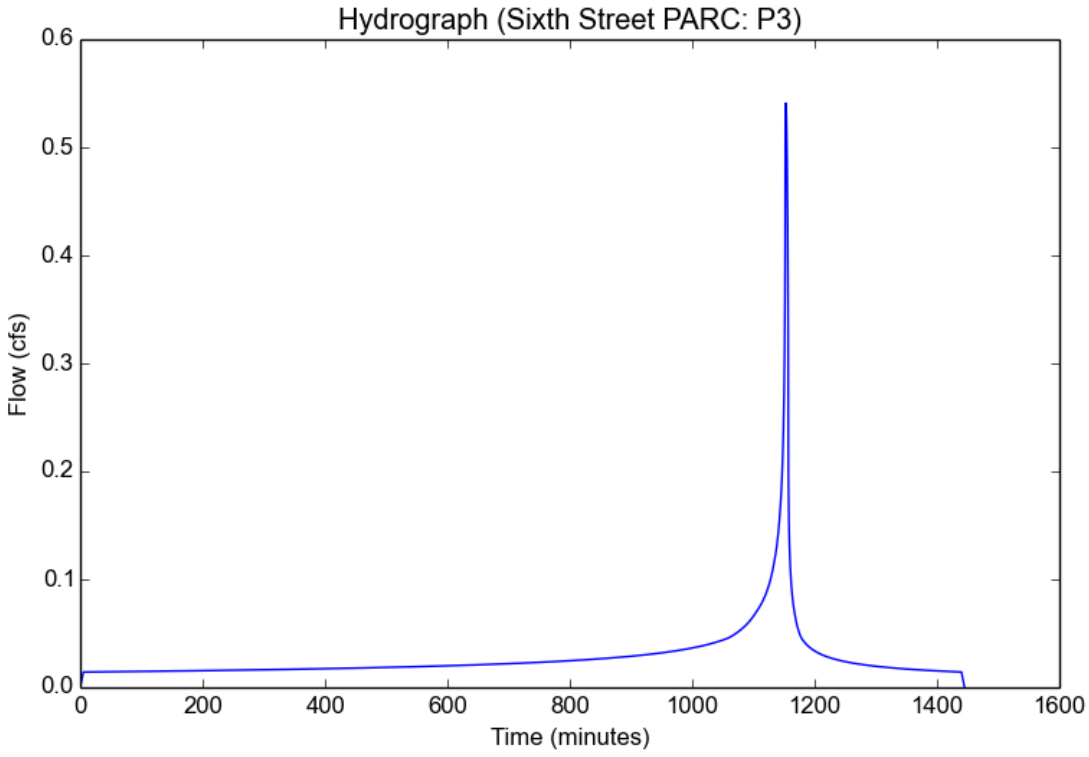
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/25-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P3
Area (ac)	0.2
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.65
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	3.0906
Undeveloped Runoff Coefficient (Cu)	0.8286
Developed Runoff Coefficient (Cd)	0.875
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.5409
Burned Peak Flow Rate (cfs)	0.5409
24-Hr Clear Runoff Volume (ac-ft)	0.056
24-Hr Clear Runoff Volume (cu-ft)	2440.8015



Peak Flow Hydrologic Analysis

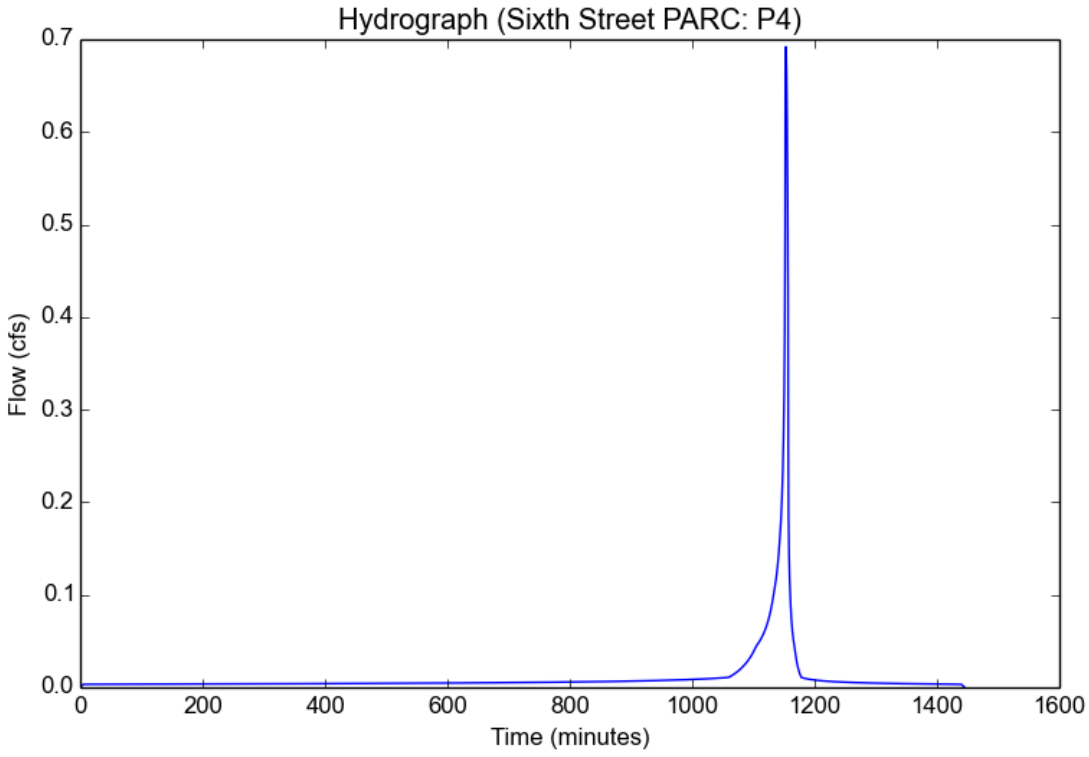
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/25-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P4
Area (ac)	0.27
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.01
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	3.0906
Undeveloped Runoff Coefficient (Cu)	0.8286
Developed Runoff Coefficient (Cd)	0.8294
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.6921
Burned Peak Flow Rate (cfs)	0.6921
24-Hr Clear Runoff Volume (ac-ft)	0.0237
24-Hr Clear Runoff Volume (cu-ft)	1033.9469



Peak Flow Hydrologic Analysis

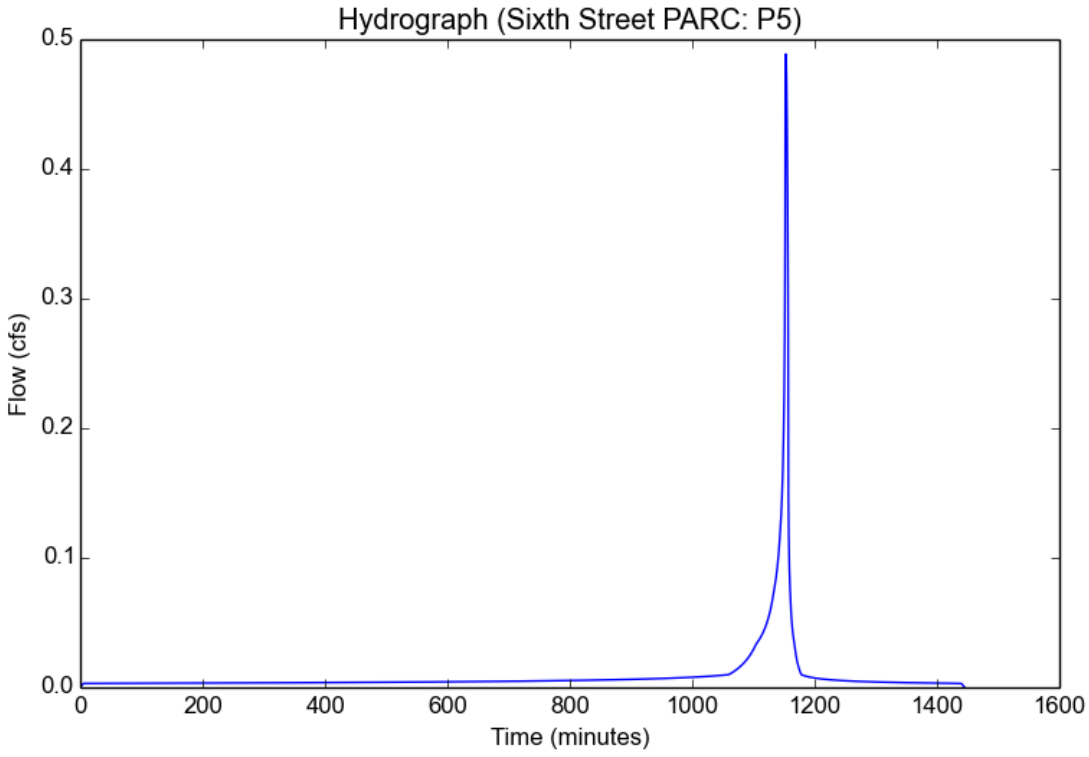
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/25-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P5
Area (ac)	0.19
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.05
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	3.0906
Undeveloped Runoff Coefficient (Cu)	0.8286
Developed Runoff Coefficient (Cd)	0.8322
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.4887
Burned Peak Flow Rate (cfs)	0.4887
24-Hr Clear Runoff Volume (ac-ft)	0.019
24-Hr Clear Runoff Volume (cu-ft)	827.0403



Peak Flow Hydrologic Analysis

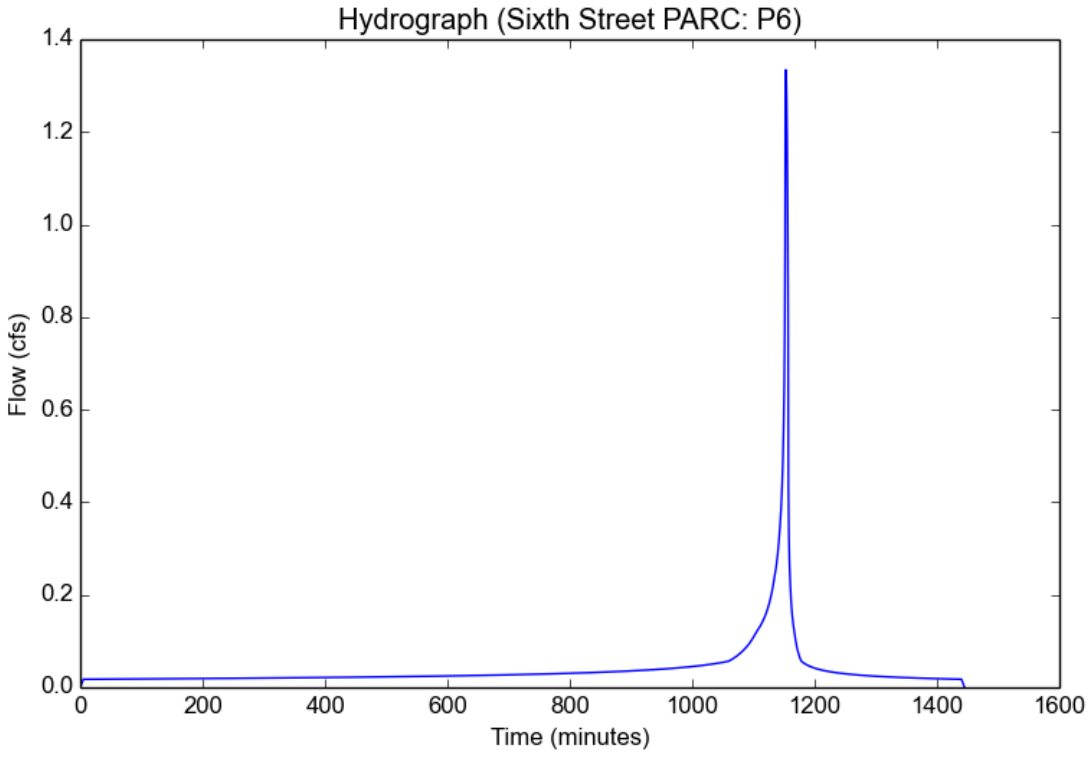
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/25-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P6
Area (ac)	0.51
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.25
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	3.0906
Undeveloped Runoff Coefficient (Cu)	0.8286
Developed Runoff Coefficient (Cd)	0.8465
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.3343
Burned Peak Flow Rate (cfs)	1.3343
24-Hr Clear Runoff Volume (ac-ft)	0.0816
24-Hr Clear Runoff Volume (cu-ft)	3554.6482



Peak Flow Hydrologic Analysis

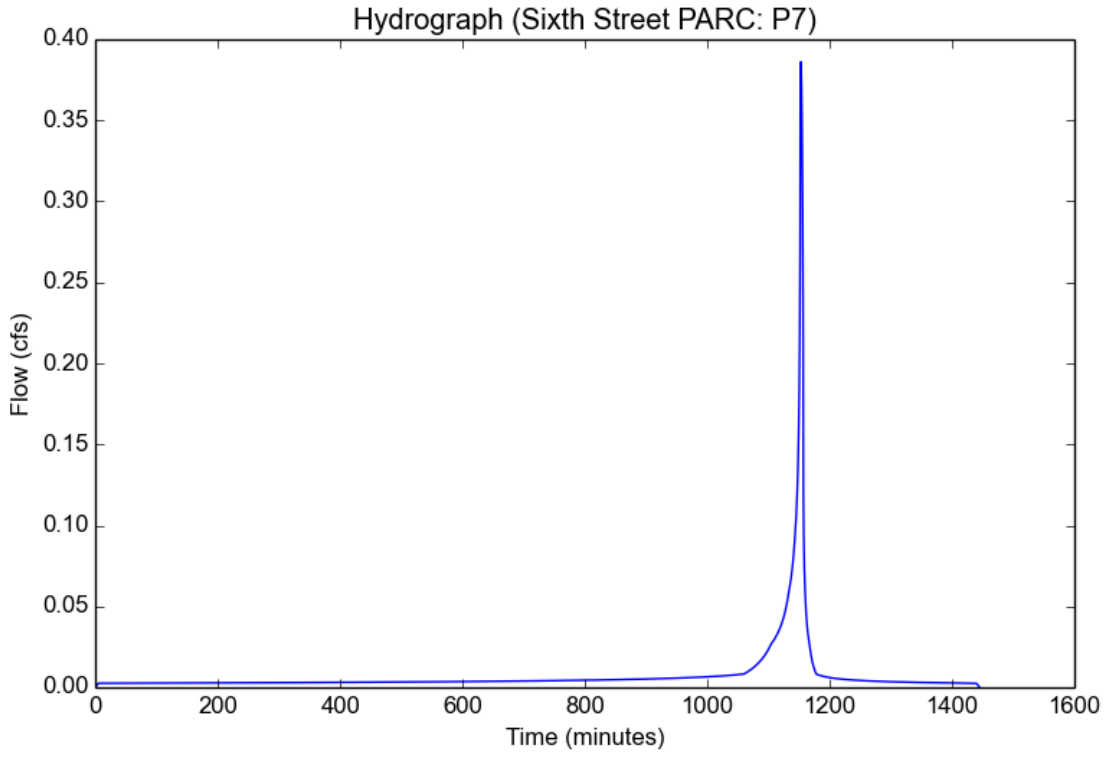
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/25-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P7
Area (ac)	0.15
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.06
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	3.0906
Undeveloped Runoff Coefficient (Cu)	0.8286
Developed Runoff Coefficient (Cd)	0.8329
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.3861
Burned Peak Flow Rate (cfs)	0.3861
24-Hr Clear Runoff Volume (ac-ft)	0.0154
24-Hr Clear Runoff Volume (cu-ft)	672.5545



Peak Flow Hydrologic Analysis

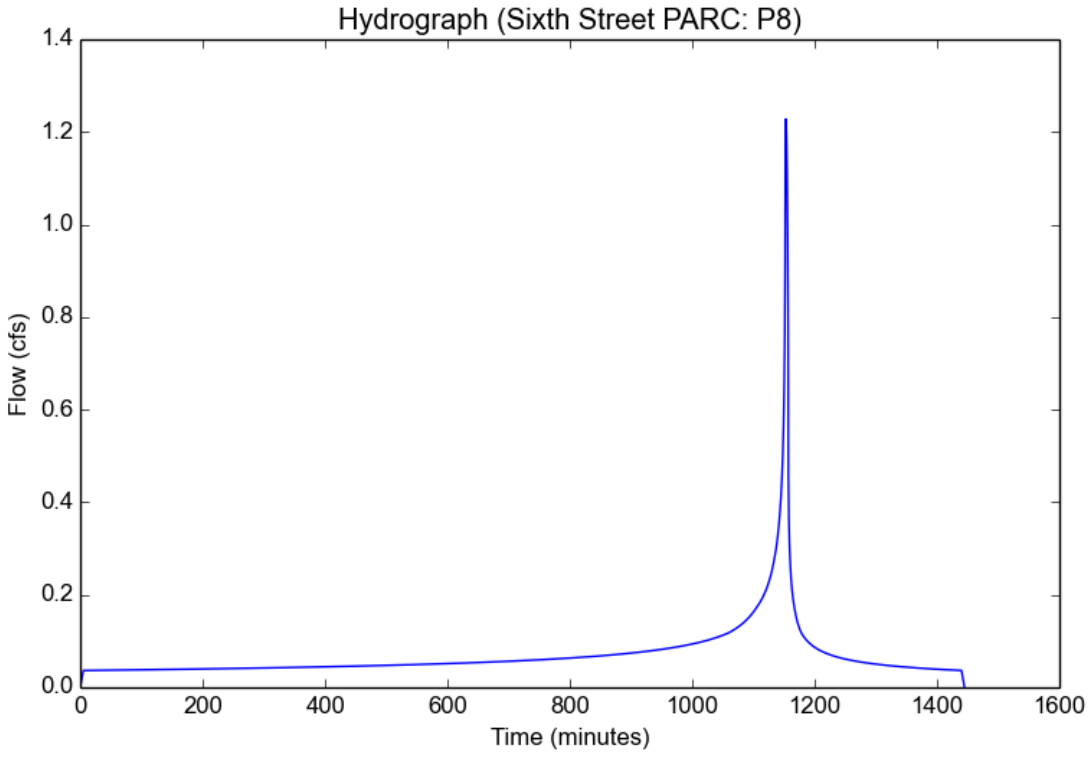
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/25-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P8
Area (ac)	0.45
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.76
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	3.0906
Undeveloped Runoff Coefficient (Cu)	0.8286
Developed Runoff Coefficient (Cd)	0.8829
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.2279
Burned Peak Flow Rate (cfs)	1.2279
24-Hr Clear Runoff Volume (ac-ft)	0.1409
24-Hr Clear Runoff Volume (cu-ft)	6139.5245



Peak Flow Hydrologic Analysis

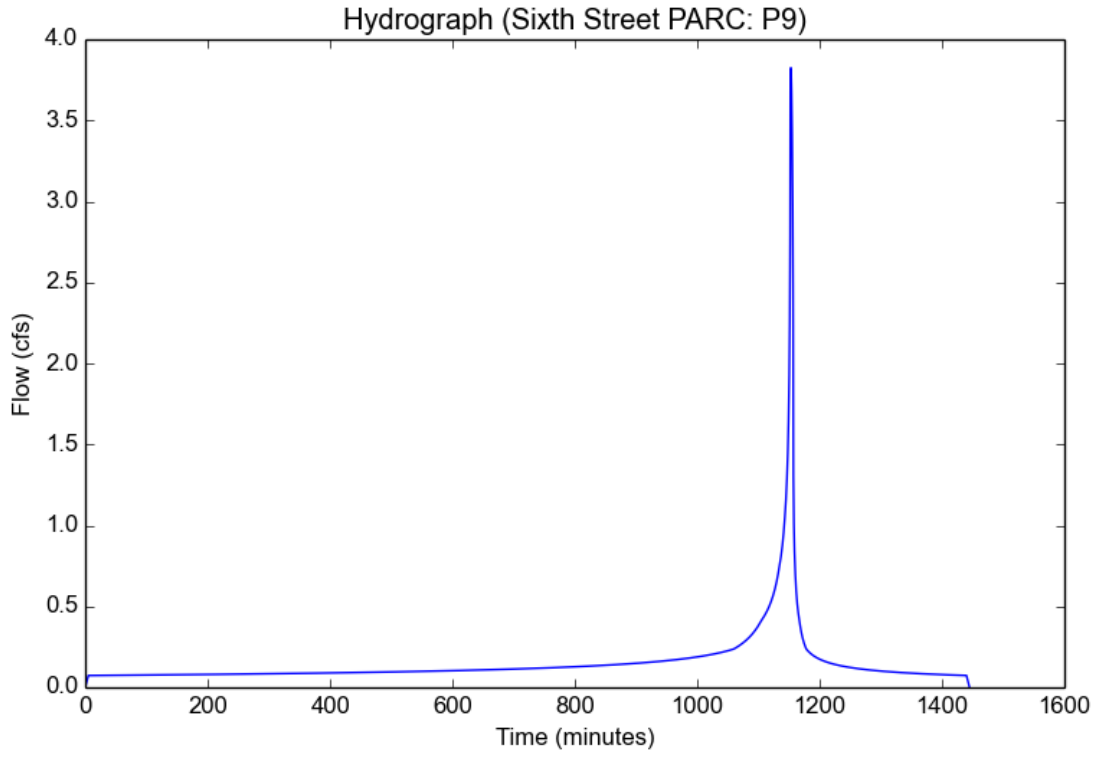
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/25-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P9
Area (ac)	1.44
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.43
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	3.0906
Undeveloped Runoff Coefficient (Cu)	0.8286
Developed Runoff Coefficient (Cd)	0.8593
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	3.8245
Burned Peak Flow Rate (cfs)	3.8245
24-Hr Clear Runoff Volume (ac-ft)	0.3083
24-Hr Clear Runoff Volume (cu-ft)	13428.3566



Peak Flow Hydrologic Analysis

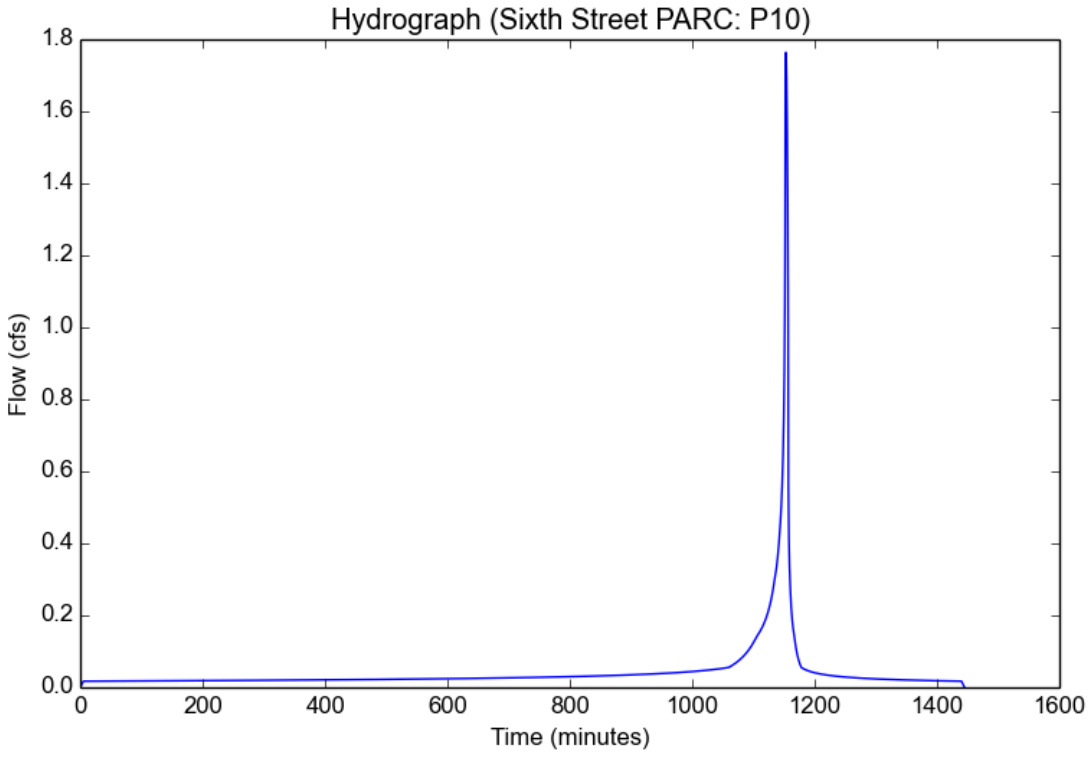
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/25-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P10
Area (ac)	0.68
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.15
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	3.0906
Undeveloped Runoff Coefficient (Cu)	0.8286
Developed Runoff Coefficient (Cd)	0.8393
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.764
Burned Peak Flow Rate (cfs)	1.764
24-Hr Clear Runoff Volume (ac-ft)	0.0884
24-Hr Clear Runoff Volume (cu-ft)	3849.7324



Peak Flow Hydrologic Analysis

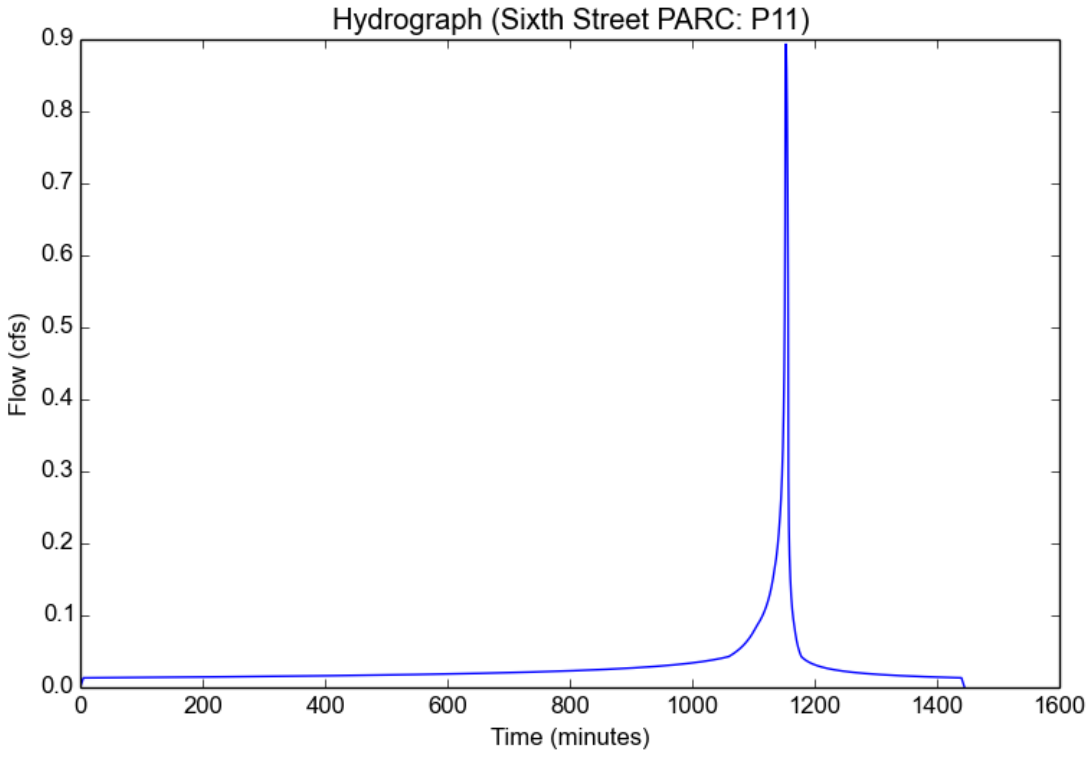
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/25-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P11
Area (ac)	0.34
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.3
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	3.0906
Undeveloped Runoff Coefficient (Cu)	0.8286
Developed Runoff Coefficient (Cd)	0.8501
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.8933
Burned Peak Flow Rate (cfs)	0.8933
24-Hr Clear Runoff Volume (ac-ft)	0.0595
24-Hr Clear Runoff Volume (cu-ft)	2592.2151



Peak Flow Hydrologic Analysis

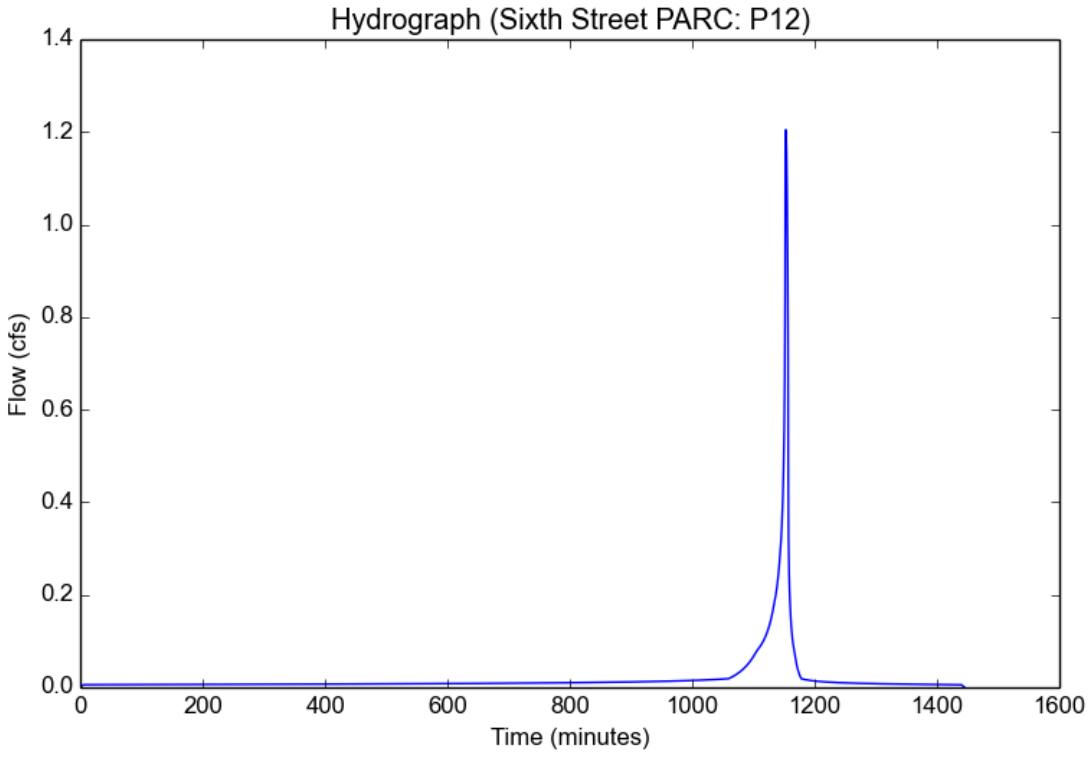
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/25-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P12
Area (ac)	0.47
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.01
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	3.0906
Undeveloped Runoff Coefficient (Cu)	0.8286
Developed Runoff Coefficient (Cd)	0.8294
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.2047
Burned Peak Flow Rate (cfs)	1.2047
24-Hr Clear Runoff Volume (ac-ft)	0.0413
24-Hr Clear Runoff Volume (cu-ft)	1799.8335



Peak Flow Hydrologic Analysis

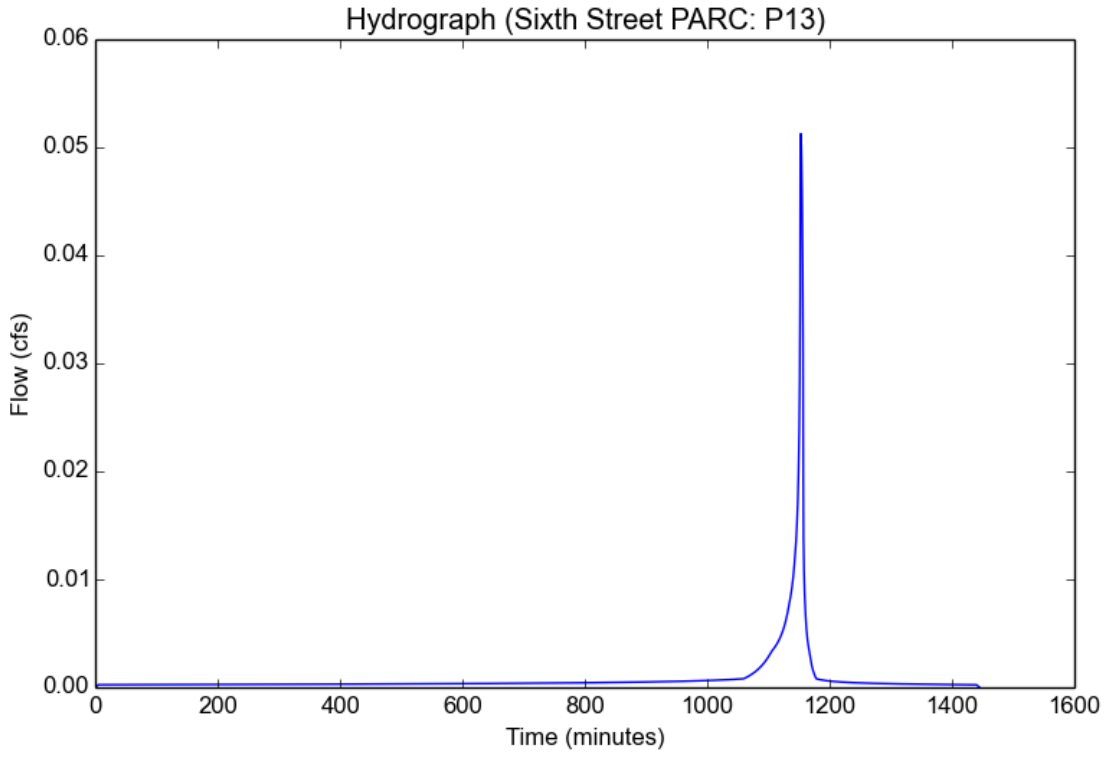
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/25-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P13
Area (ac)	0.02
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.01
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	3.0906
Undeveloped Runoff Coefficient (Cu)	0.8286
Developed Runoff Coefficient (Cd)	0.8294
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.0513
Burned Peak Flow Rate (cfs)	0.0513
24-Hr Clear Runoff Volume (ac-ft)	0.0018
24-Hr Clear Runoff Volume (cu-ft)	76.5887



Peak Flow Hydrologic Analysis

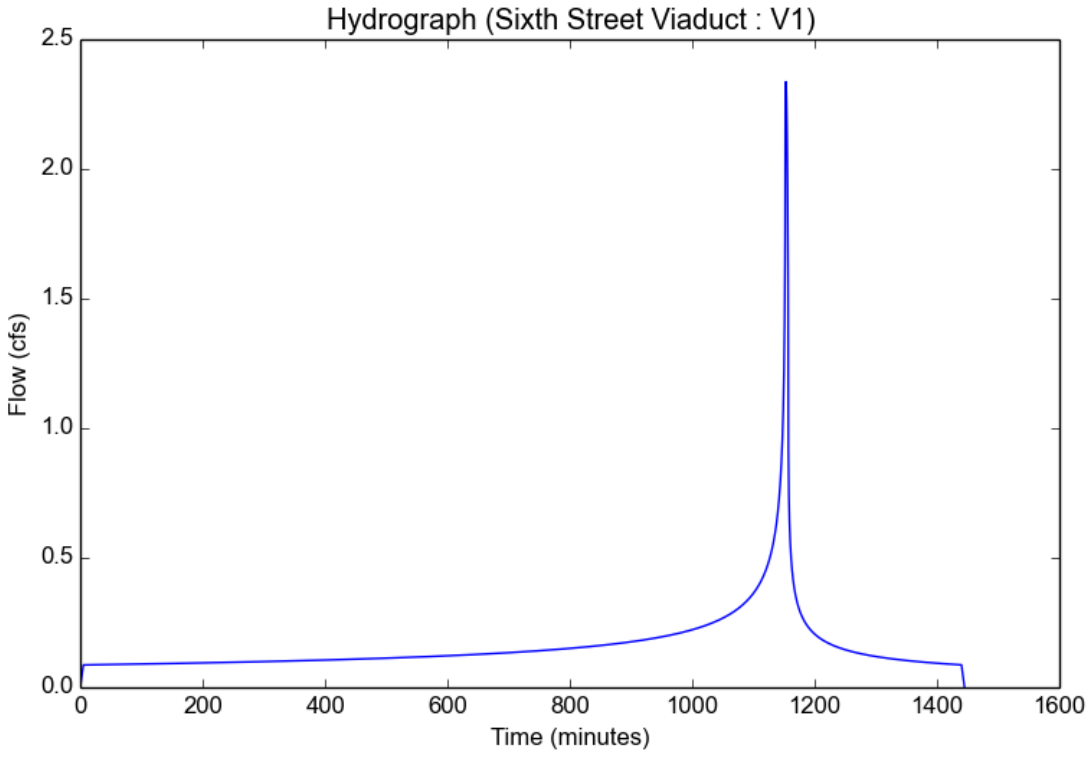
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/25-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V1
Area (ac)	0.84
Flow Path Length (ft)	225.0
Flow Path Slope (vft/hft)	0.05
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	3.0906
Undeveloped Runoff Coefficient (Cu)	0.8286
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.3365
Burned Peak Flow Rate (cfs)	2.3365
24-Hr Clear Runoff Volume (ac-ft)	0.3237
24-Hr Clear Runoff Volume (cu-ft)	14098.4367



Peak Flow Hydrologic Analysis

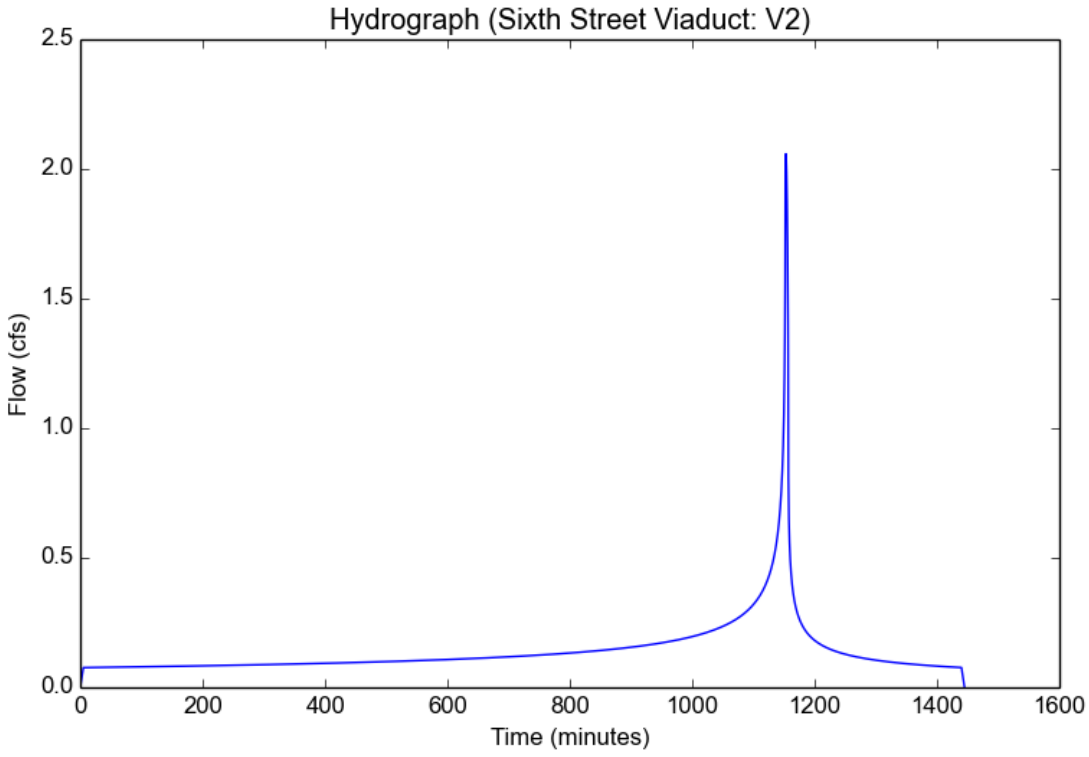
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/25-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V2
Area (ac)	0.74
Flow Path Length (ft)	250.0
Flow Path Slope (vft/hft)	0.03
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	3.0906
Undeveloped Runoff Coefficient (Cu)	0.8286
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.0584
Burned Peak Flow Rate (cfs)	2.0584
24-Hr Clear Runoff Volume (ac-ft)	0.2851
24-Hr Clear Runoff Volume (cu-ft)	12420.0514



Peak Flow Hydrologic Analysis

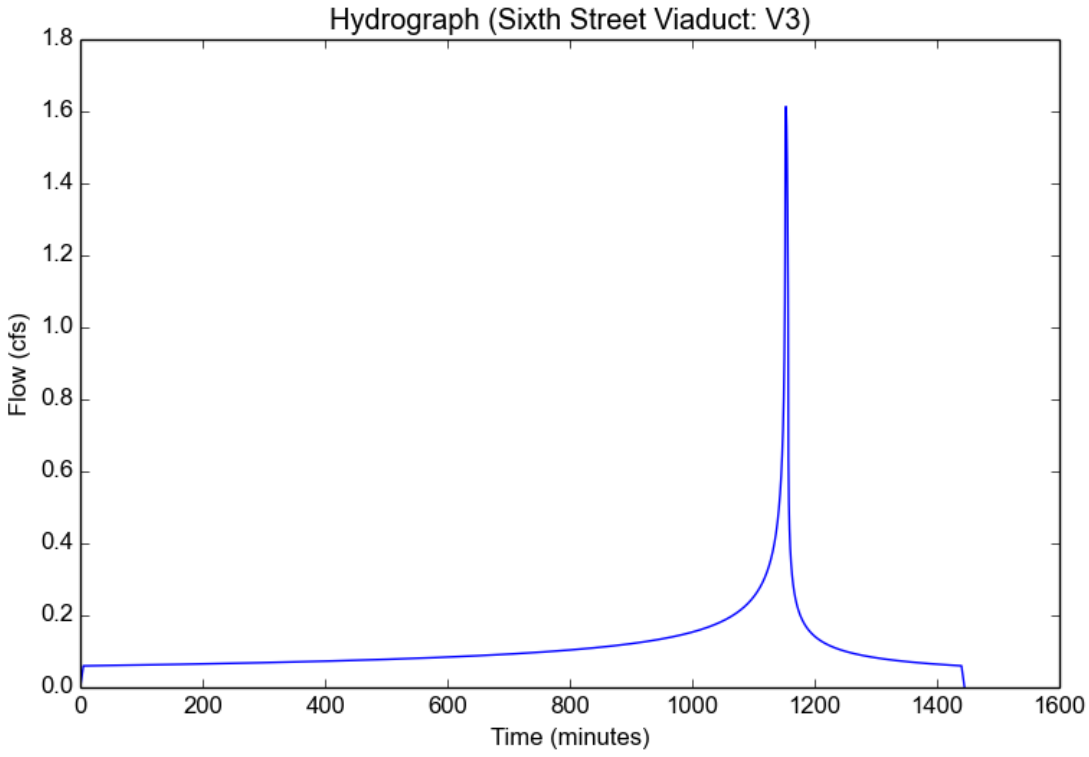
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/25-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V3
Area (ac)	0.58
Flow Path Length (ft)	200.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	3.0906
Undeveloped Runoff Coefficient (Cu)	0.8286
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.6133
Burned Peak Flow Rate (cfs)	1.6133
24-Hr Clear Runoff Volume (ac-ft)	0.2235
24-Hr Clear Runoff Volume (cu-ft)	9734.6349



Peak Flow Hydrologic Analysis

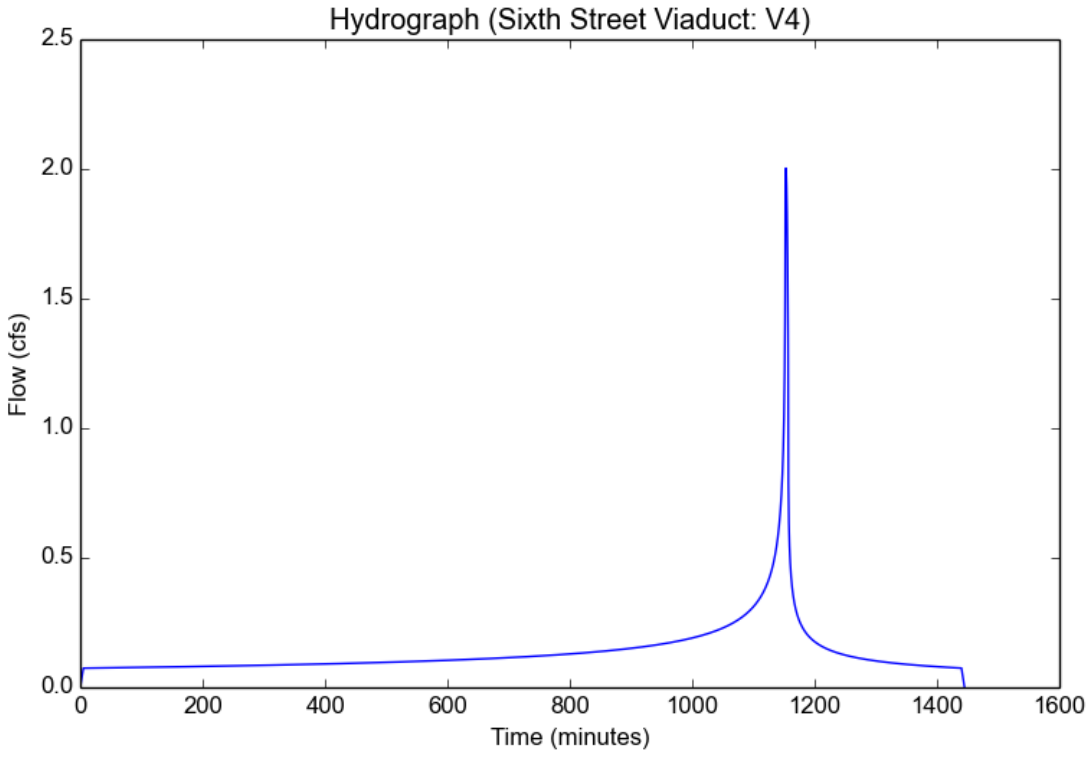
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/25-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V4
Area (ac)	0.72
Flow Path Length (ft)	250.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	3.0906
Undeveloped Runoff Coefficient (Cu)	0.8286
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.0027
Burned Peak Flow Rate (cfs)	2.0027
24-Hr Clear Runoff Volume (ac-ft)	0.2774
24-Hr Clear Runoff Volume (cu-ft)	12084.3743



Peak Flow Hydrologic Analysis

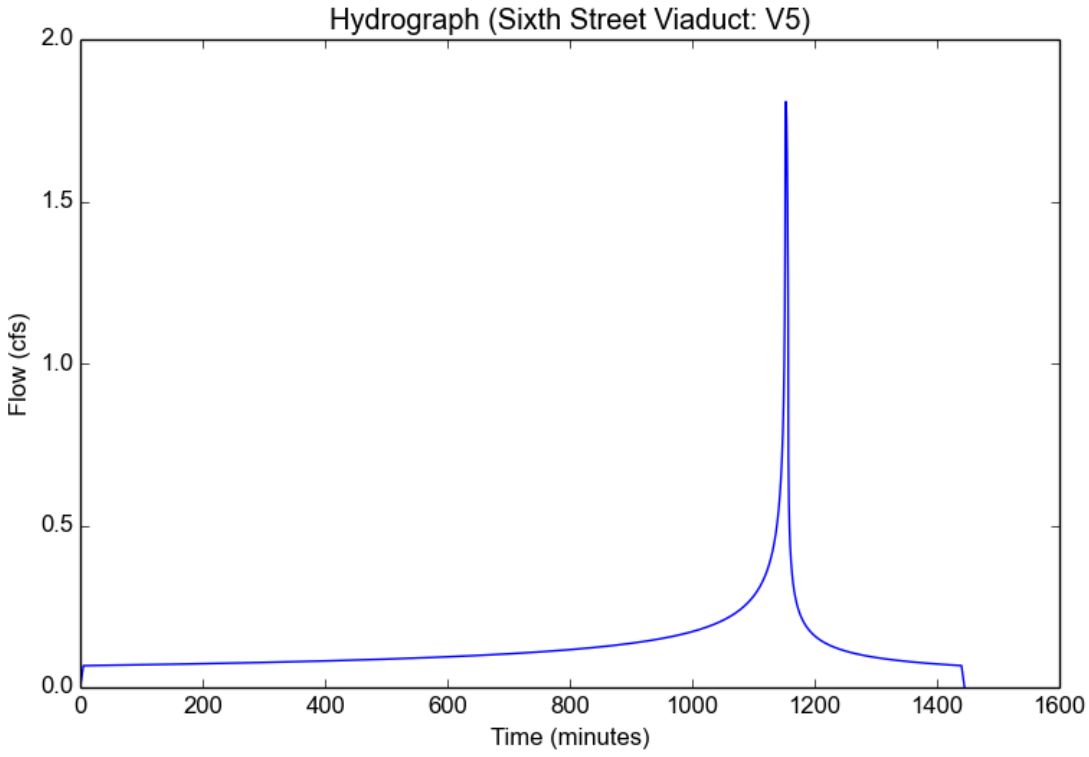
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/25-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V5
Area (ac)	0.65
Flow Path Length (ft)	210.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	3.0906
Undeveloped Runoff Coefficient (Cu)	0.8286
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.808
Burned Peak Flow Rate (cfs)	1.808
24-Hr Clear Runoff Volume (ac-ft)	0.2504
24-Hr Clear Runoff Volume (cu-ft)	10909.5046



Peak Flow Hydrologic Analysis

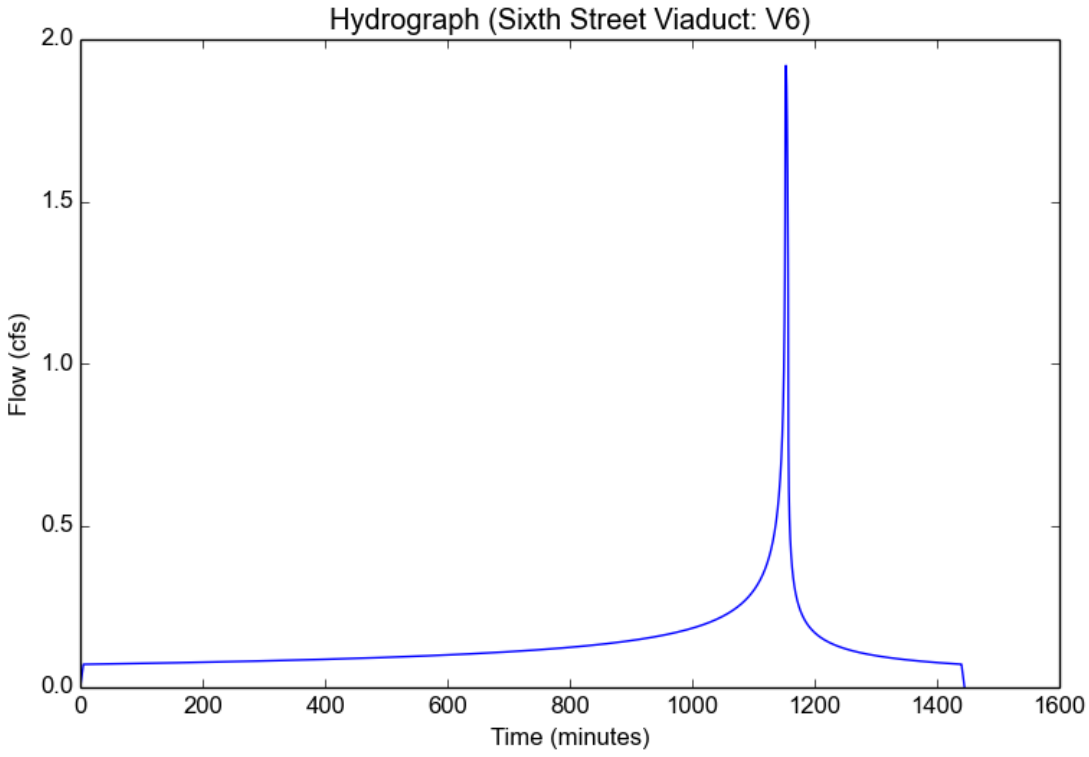
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/25-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V6
Area (ac)	0.69
Flow Path Length (ft)	210.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	3.0906
Undeveloped Runoff Coefficient (Cu)	0.8286
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.9193
Burned Peak Flow Rate (cfs)	1.9193
24-Hr Clear Runoff Volume (ac-ft)	0.2659
24-Hr Clear Runoff Volume (cu-ft)	11580.8587



Peak Flow Hydrologic Analysis

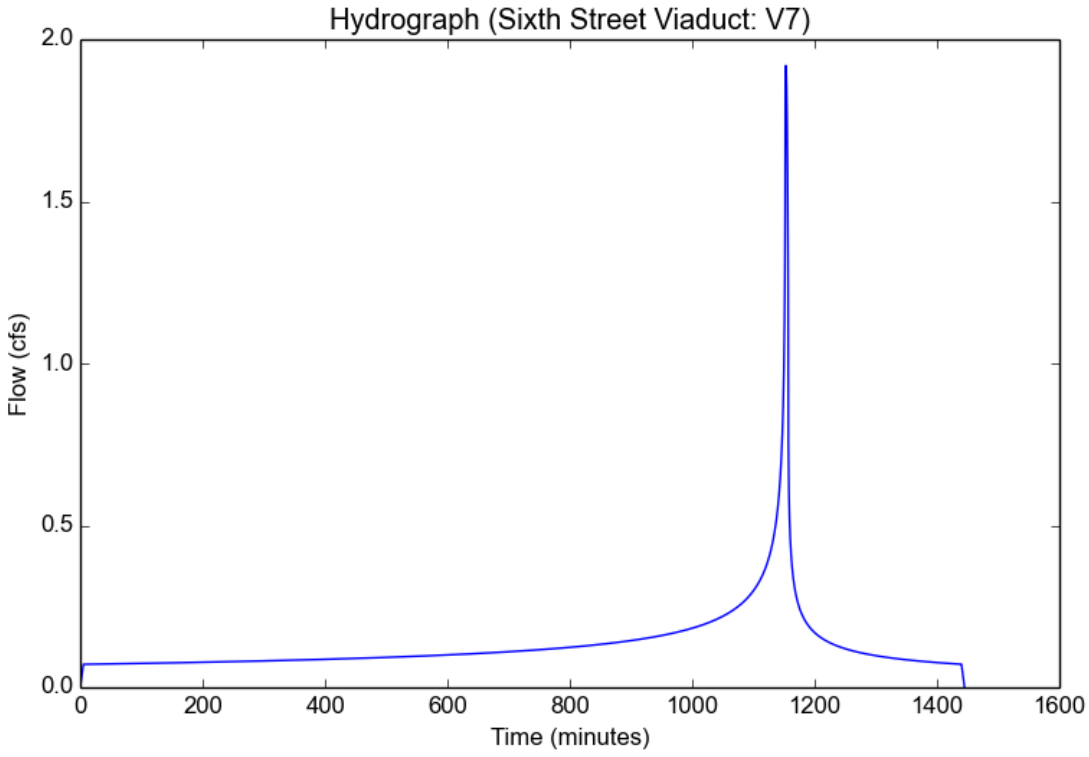
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/25-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V7
Area (ac)	0.69
Flow Path Length (ft)	210.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	3.0906
Undeveloped Runoff Coefficient (Cu)	0.8286
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.9193
Burned Peak Flow Rate (cfs)	1.9193
24-Hr Clear Runoff Volume (ac-ft)	0.2659
24-Hr Clear Runoff Volume (cu-ft)	11580.8587



Peak Flow Hydrologic Analysis

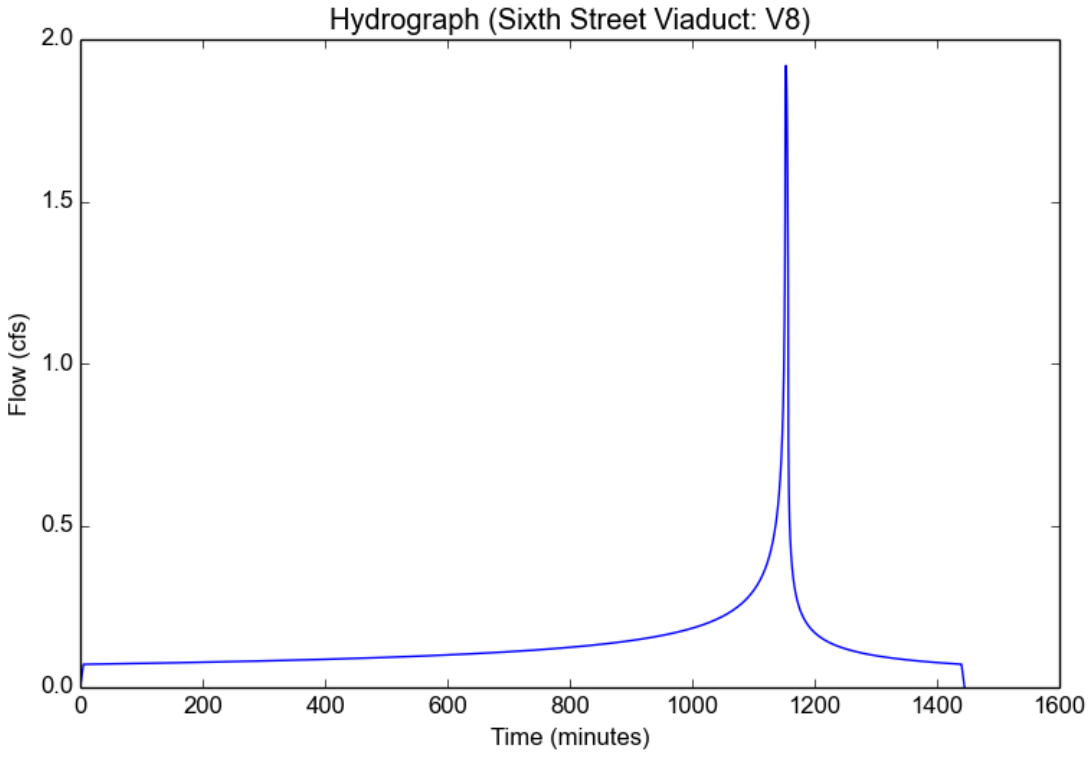
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/25-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V8
Area (ac)	0.69
Flow Path Length (ft)	210.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	3.0906
Undeveloped Runoff Coefficient (Cu)	0.8286
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.9193
Burned Peak Flow Rate (cfs)	1.9193
24-Hr Clear Runoff Volume (ac-ft)	0.2659
24-Hr Clear Runoff Volume (cu-ft)	11580.8587



Peak Flow Hydrologic Analysis

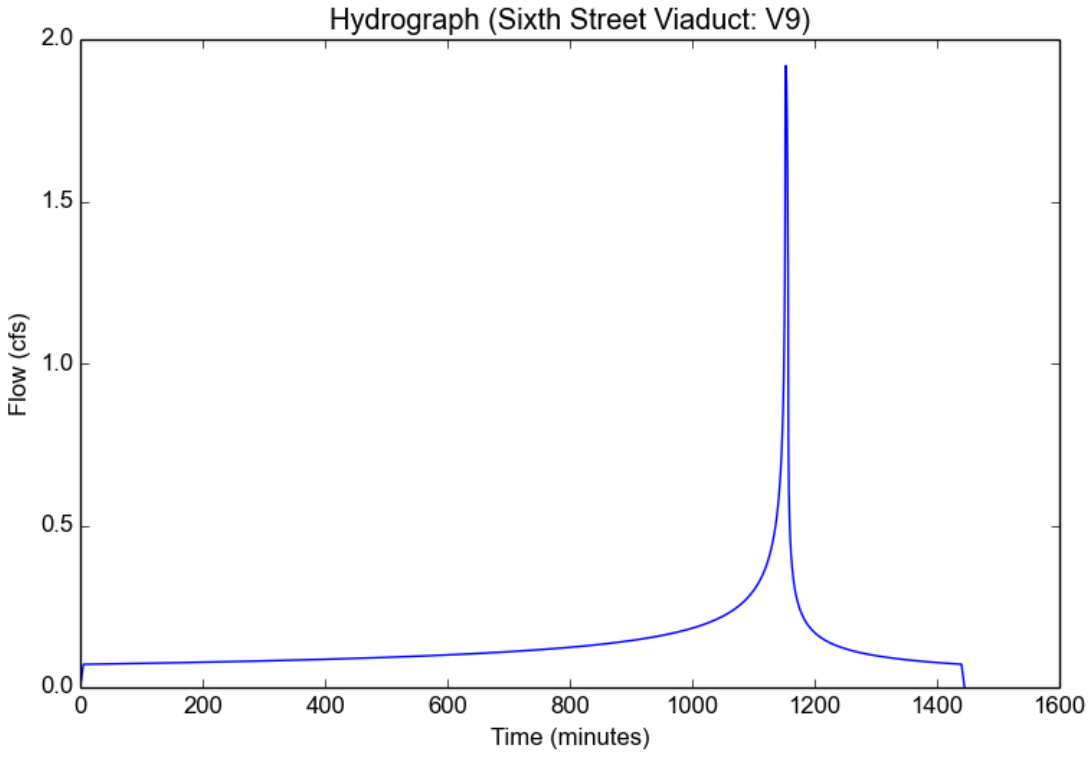
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/25-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V9
Area (ac)	0.69
Flow Path Length (ft)	210.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	3.0906
Undeveloped Runoff Coefficient (Cu)	0.8286
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.9193
Burned Peak Flow Rate (cfs)	1.9193
24-Hr Clear Runoff Volume (ac-ft)	0.2659
24-Hr Clear Runoff Volume (cu-ft)	11580.8587



Peak Flow Hydrologic Analysis

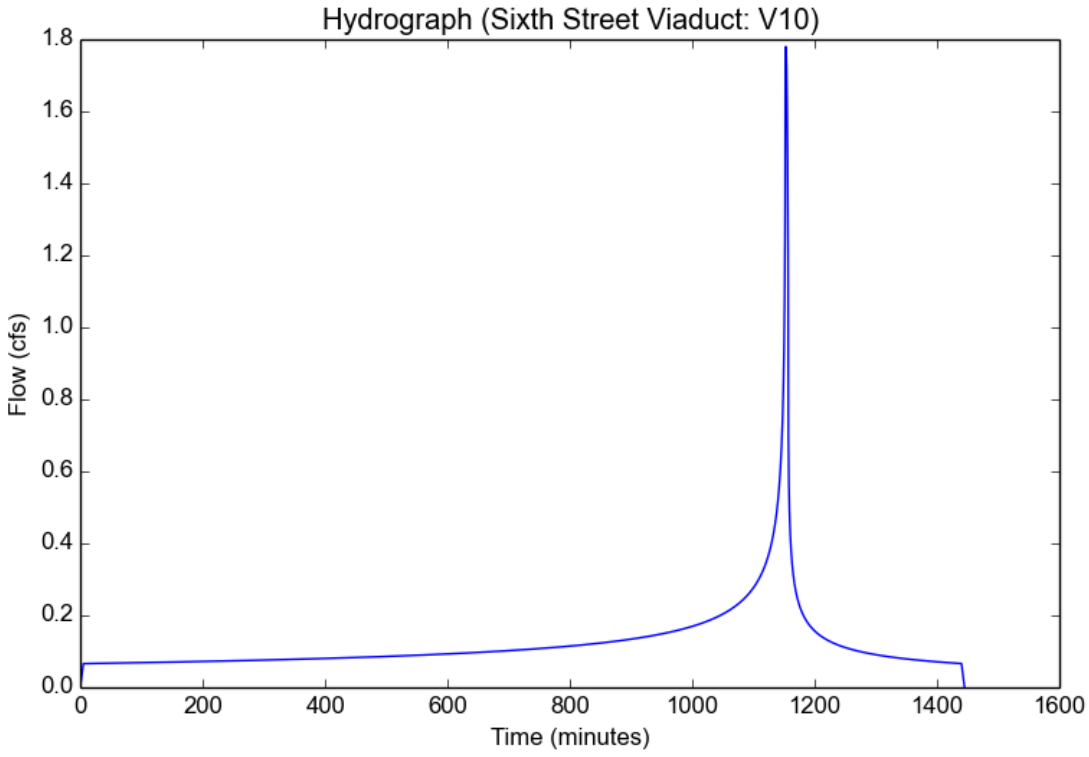
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/25-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V10
Area (ac)	0.64
Flow Path Length (ft)	200.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	3.0906
Undeveloped Runoff Coefficient (Cu)	0.8286
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.7802
Burned Peak Flow Rate (cfs)	1.7802
24-Hr Clear Runoff Volume (ac-ft)	0.2466
24-Hr Clear Runoff Volume (cu-ft)	10741.6661



Peak Flow Hydrologic Analysis

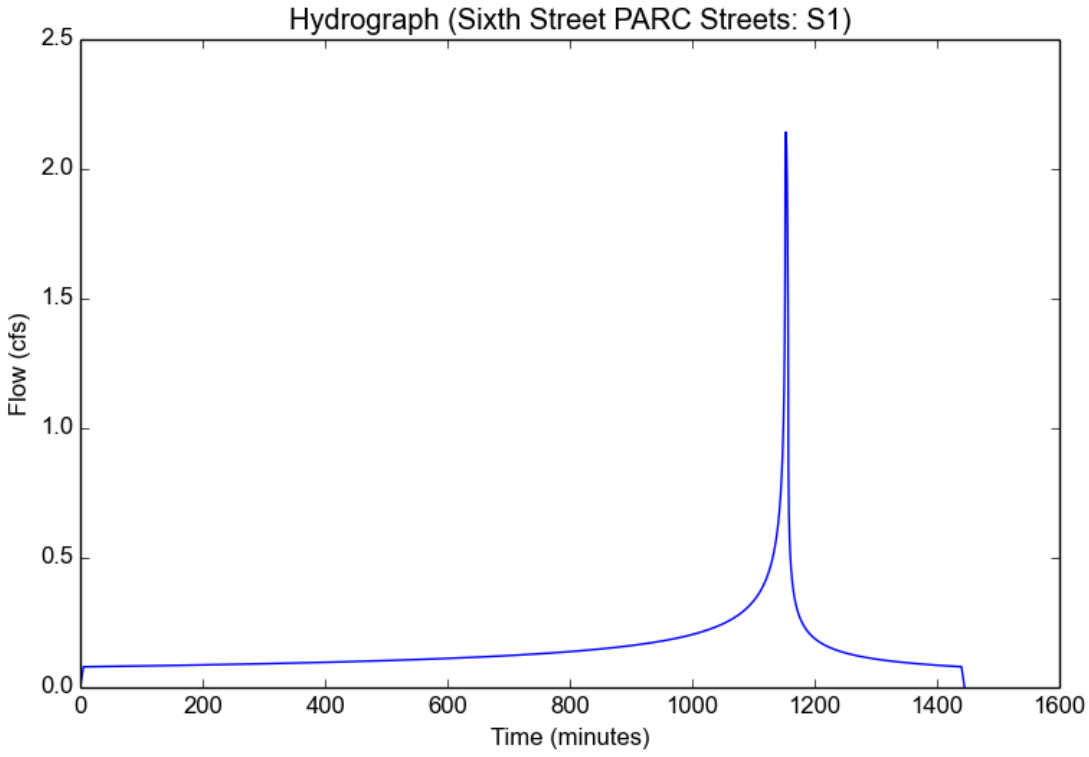
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/25-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC Streets
Subarea ID	S1
Area (ac)	0.77
Flow Path Length (ft)	275.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	3.0906
Undeveloped Runoff Coefficient (Cu)	0.8286
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.1418
Burned Peak Flow Rate (cfs)	2.1418
24-Hr Clear Runoff Volume (ac-ft)	0.2967
24-Hr Clear Runoff Volume (cu-ft)	12923.567



Peak Flow Hydrologic Analysis

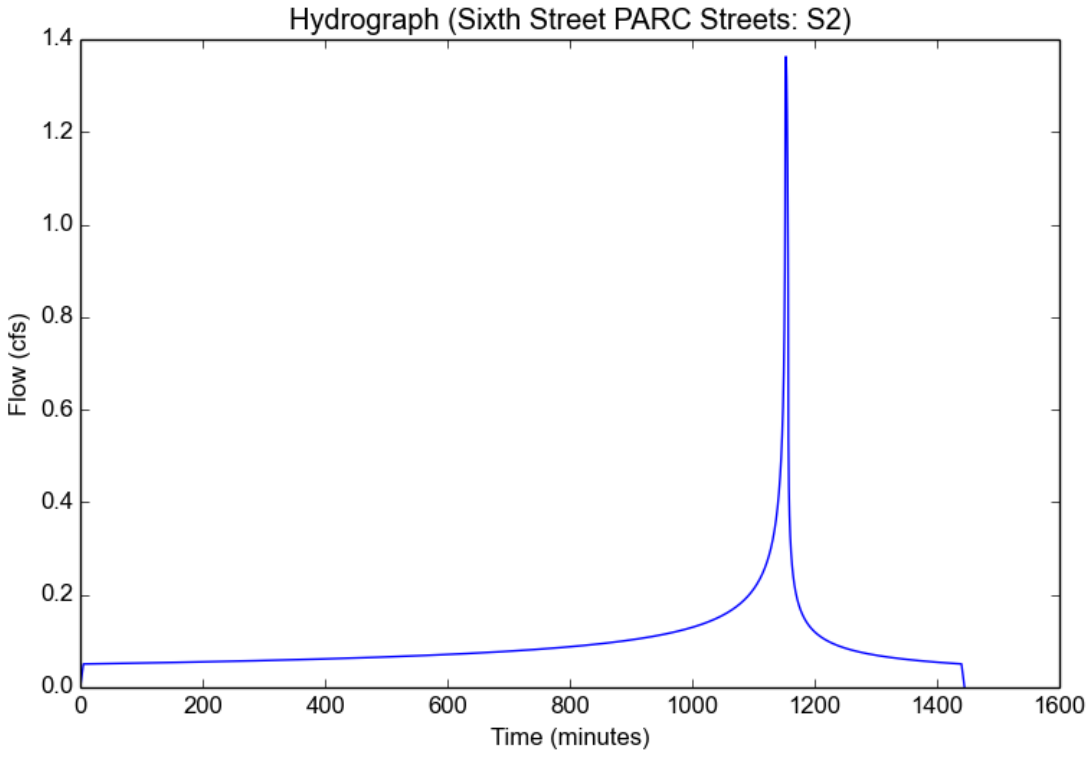
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/25-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC Streets
Subarea ID	S2
Area (ac)	0.49
Flow Path Length (ft)	235.0
Flow Path Slope (vft/hft)	0.004
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	3.0906
Undeveloped Runoff Coefficient (Cu)	0.8286
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.363
Burned Peak Flow Rate (cfs)	1.363
24-Hr Clear Runoff Volume (ac-ft)	0.1888
24-Hr Clear Runoff Volume (cu-ft)	8224.0881



Peak Flow Hydrologic Analysis

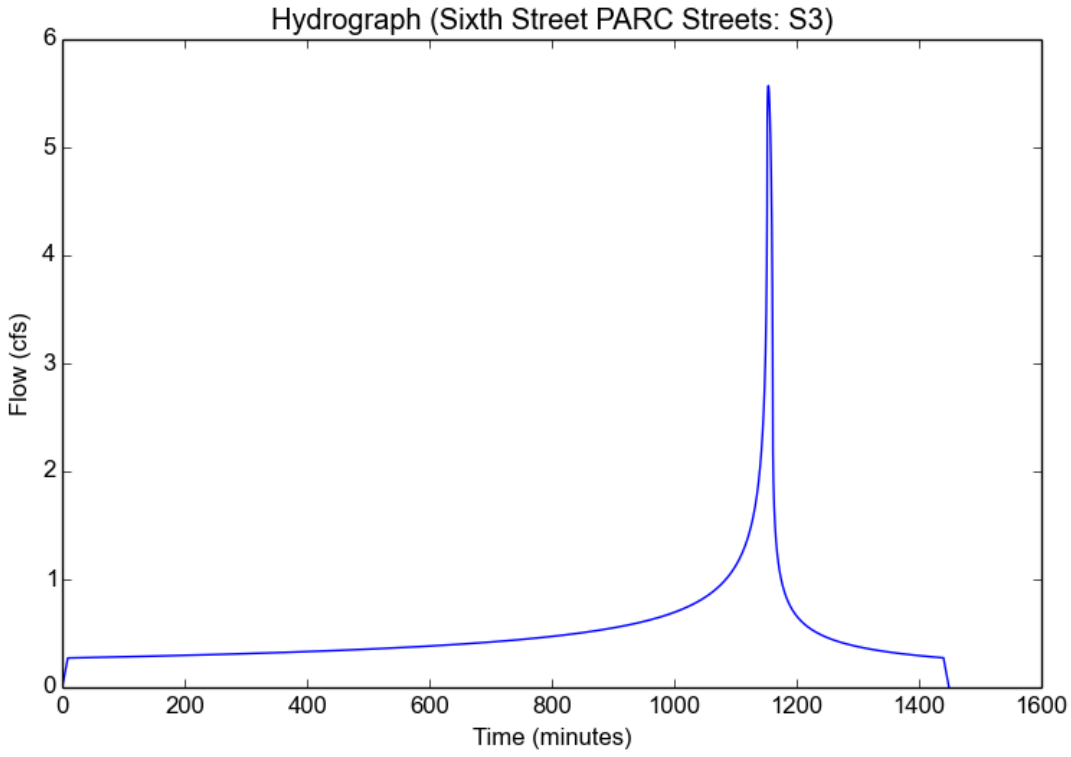
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/25-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC Streets
Subarea ID	S3
Area (ac)	2.64
Flow Path Length (ft)	485.0
Flow Path Slope (vft/hft)	0.0035
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	2.3446
Undeveloped Runoff Coefficient (Cu)	0.7701
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	9.0
Clear Peak Flow Rate (cfs)	5.5708
Burned Peak Flow Rate (cfs)	5.5708
24-Hr Clear Runoff Volume (ac-ft)	1.0172
24-Hr Clear Runoff Volume (cu-ft)	44309.4039



Peak Flow Hydrologic Analysis

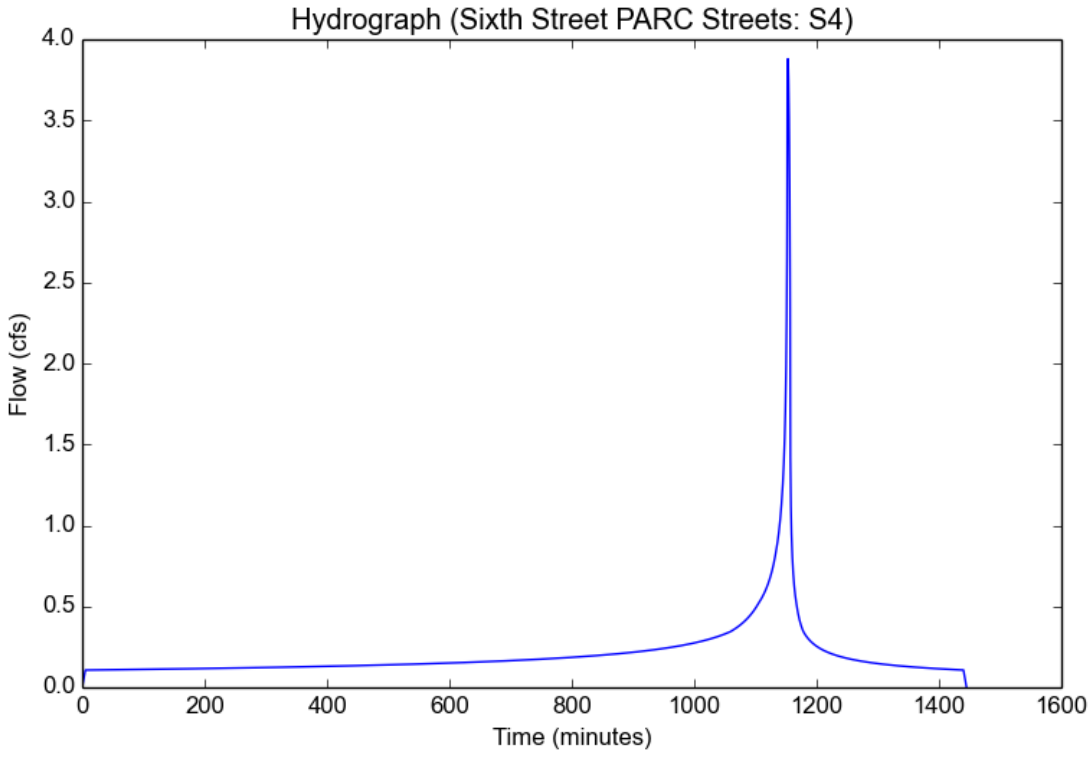
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/25-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC Streets
Subarea ID	S4
Area (ac)	1.43
Flow Path Length (ft)	245.0
Flow Path Slope (vft/hft)	0.008
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.69
Soil Type	6
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.1802
Peak Intensity (in/hr)	3.0906
Undeveloped Runoff Coefficient (Cu)	0.8286
Developed Runoff Coefficient (Cd)	0.8779
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	3.8799
Burned Peak Flow Rate (cfs)	3.8799
24-Hr Clear Runoff Volume (ac-ft)	0.4178
24-Hr Clear Runoff Volume (cu-ft)	18200.2086



Peak Flow Hydrologic Analysis

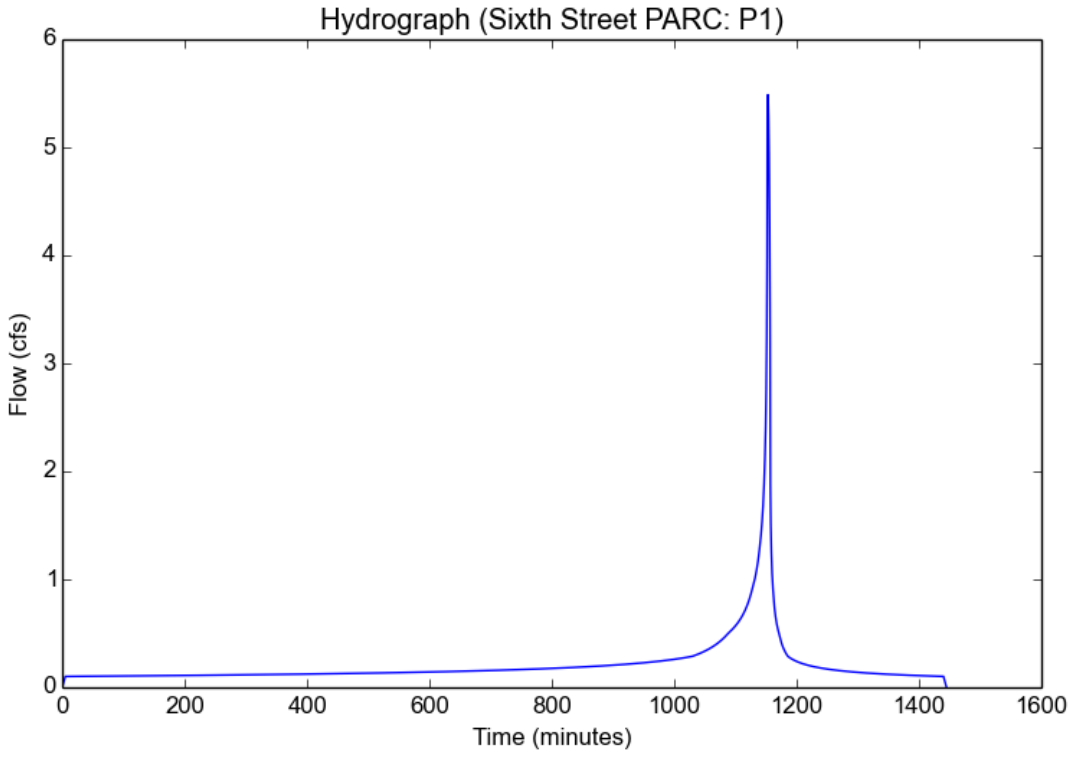
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/50-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P1
Area (ac)	1.78
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.42
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.8757
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	5.4871
Burned Peak Flow Rate (cfs)	5.4871
24-Hr Clear Runoff Volume (ac-ft)	0.436
24-Hr Clear Runoff Volume (cu-ft)	18992.512



Peak Flow Hydrologic Analysis

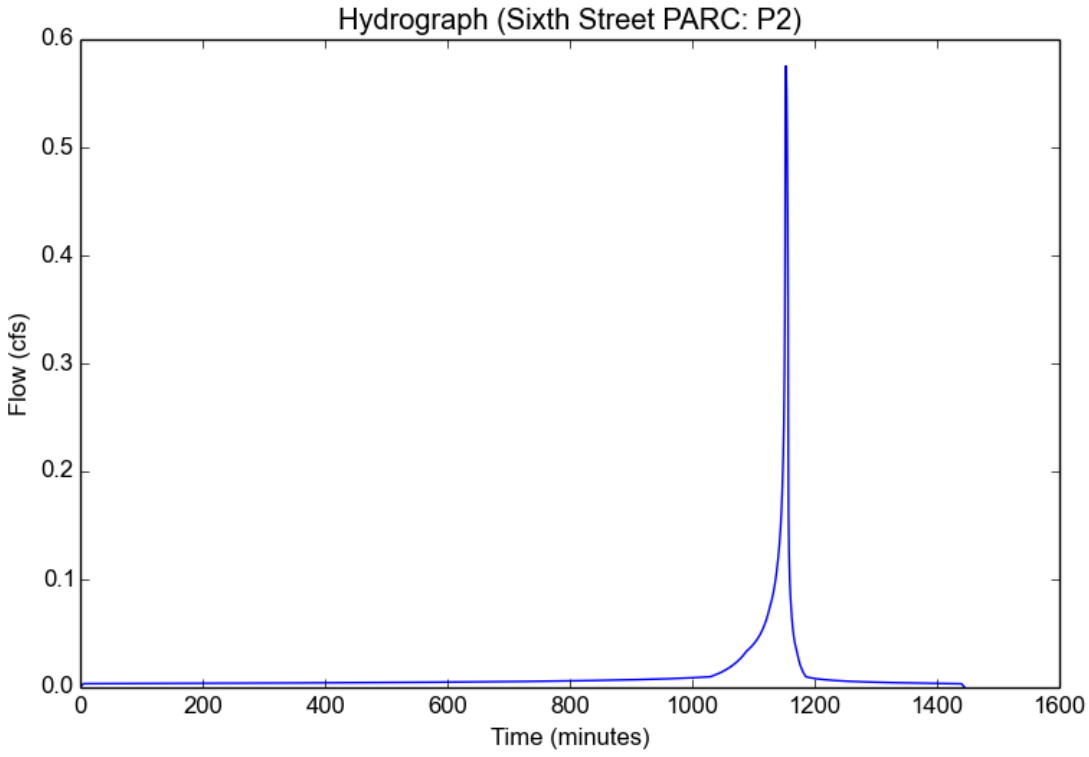
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/50-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P2
Area (ac)	0.19
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.05
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.8602
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.5753
Burned Peak Flow Rate (cfs)	0.5753
24-Hr Clear Runoff Volume (ac-ft)	0.023
24-Hr Clear Runoff Volume (cu-ft)	1003.5704



Peak Flow Hydrologic Analysis

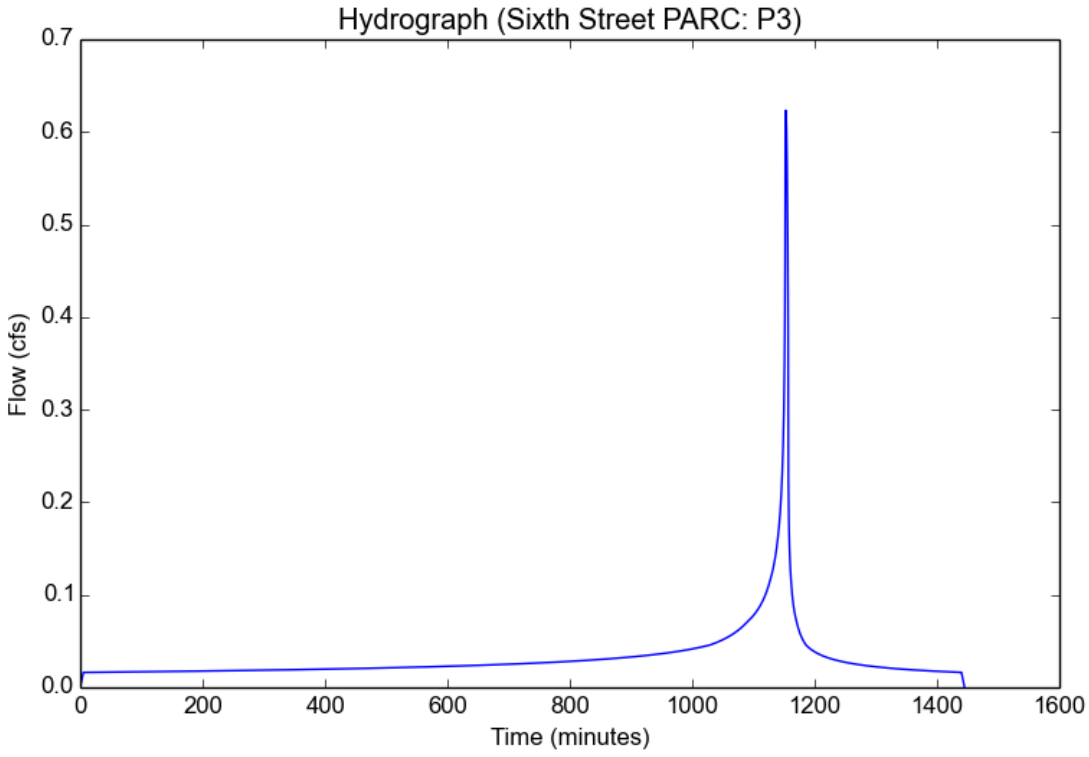
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/50-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P3
Area (ac)	0.2
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.65
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.8854
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.6233
Burned Peak Flow Rate (cfs)	0.6233
24-Hr Clear Runoff Volume (ac-ft)	0.0644
24-Hr Clear Runoff Volume (cu-ft)	2803.8497



Peak Flow Hydrologic Analysis

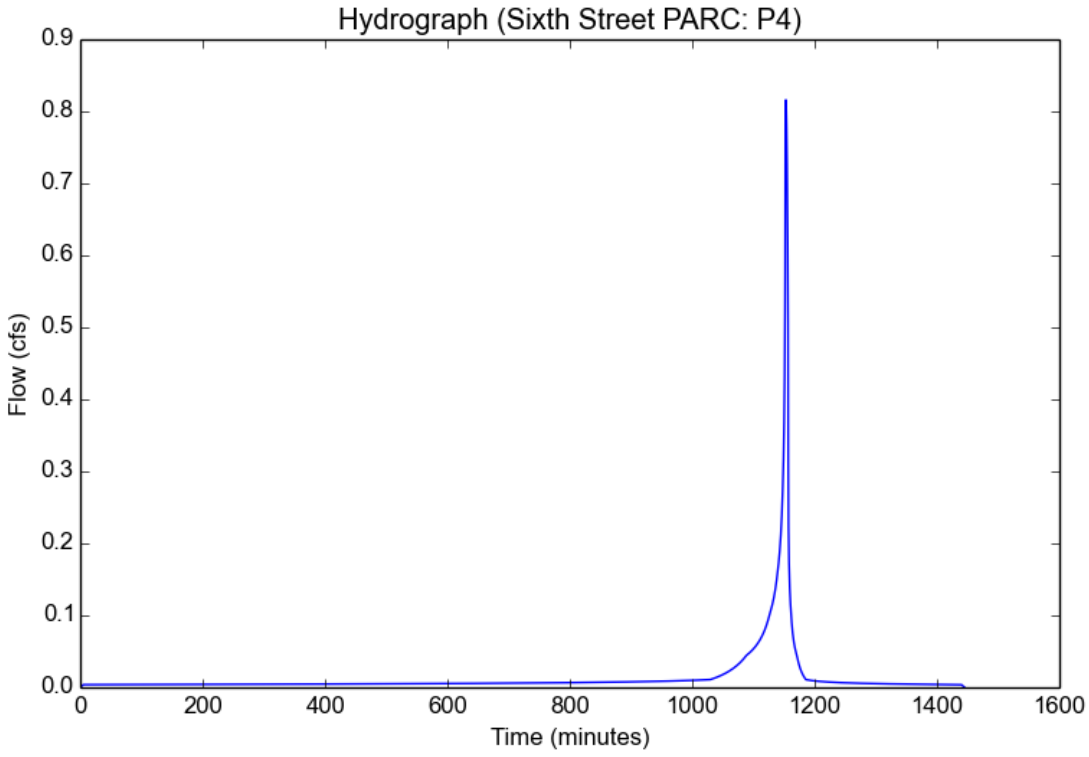
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/50-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P4
Area (ac)	0.27
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.01
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.8586
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.816
Burned Peak Flow Rate (cfs)	0.816
24-Hr Clear Runoff Volume (ac-ft)	0.0291
24-Hr Clear Runoff Volume (cu-ft)	1268.855



Peak Flow Hydrologic Analysis

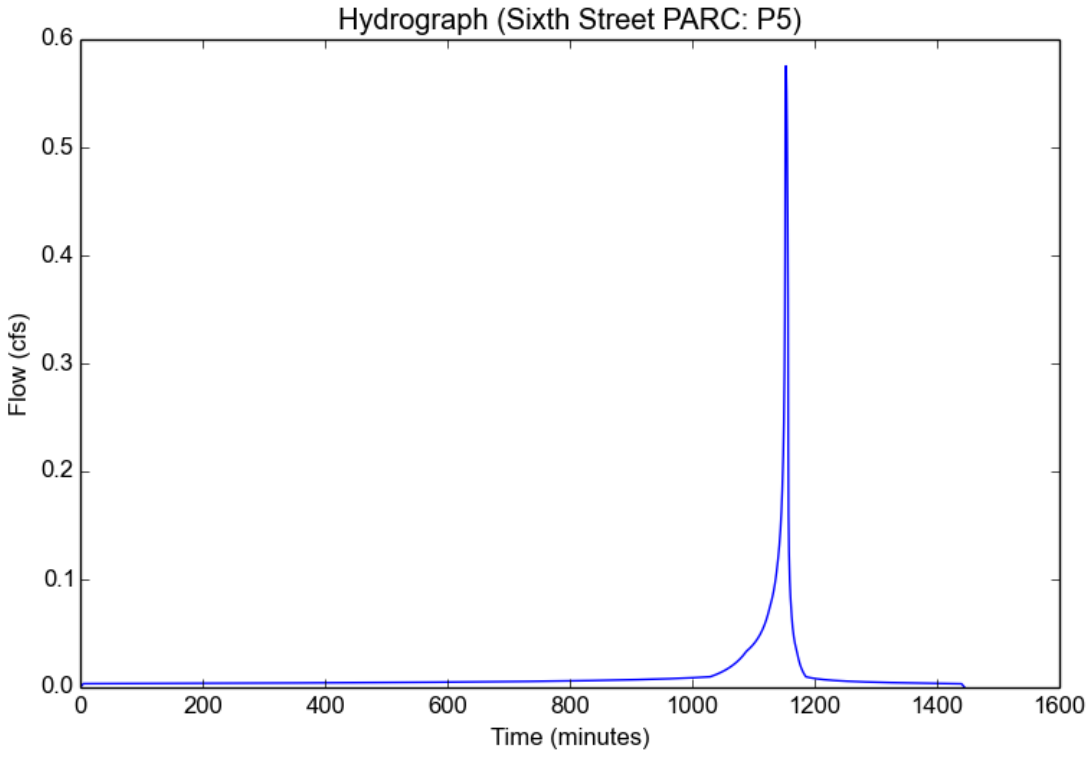
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/50-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P5
Area (ac)	0.19
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.05
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.8602
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.5753
Burned Peak Flow Rate (cfs)	0.5753
24-Hr Clear Runoff Volume (ac-ft)	0.023
24-Hr Clear Runoff Volume (cu-ft)	1003.5704



Peak Flow Hydrologic Analysis

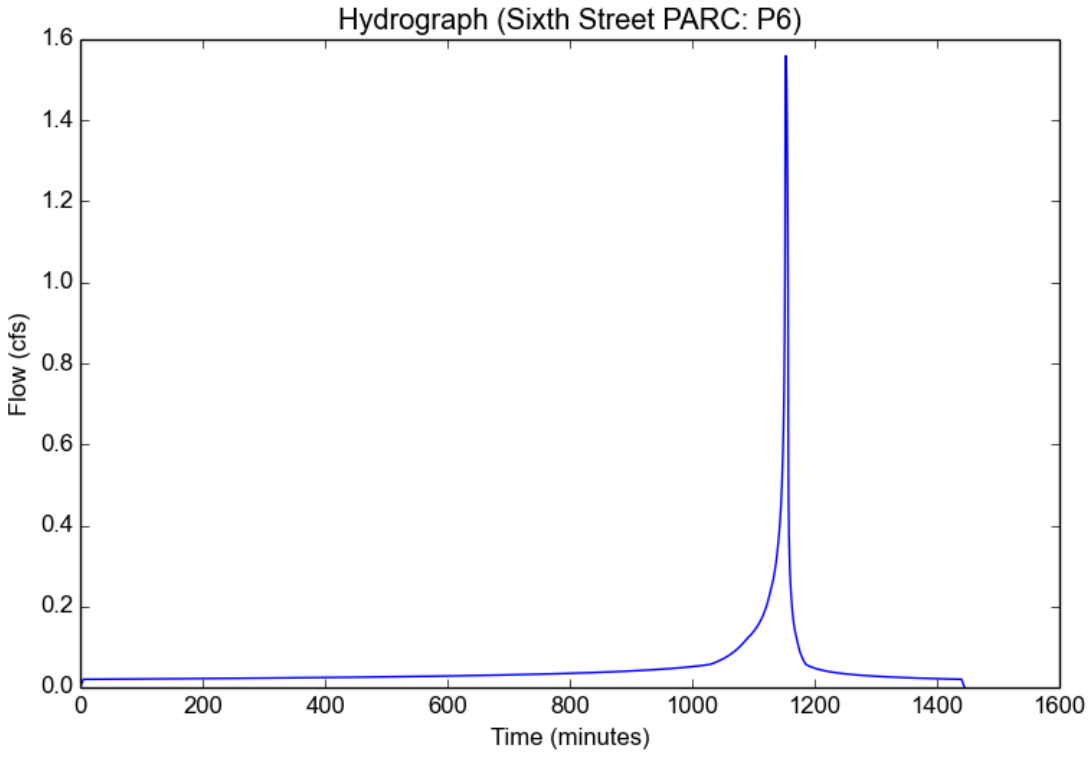
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/50-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P6
Area (ac)	0.51
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.25
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.8686
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.5594
Burned Peak Flow Rate (cfs)	1.5594
24-Hr Clear Runoff Volume (ac-ft)	0.0959
24-Hr Clear Runoff Volume (cu-ft)	4179.1351



Peak Flow Hydrologic Analysis

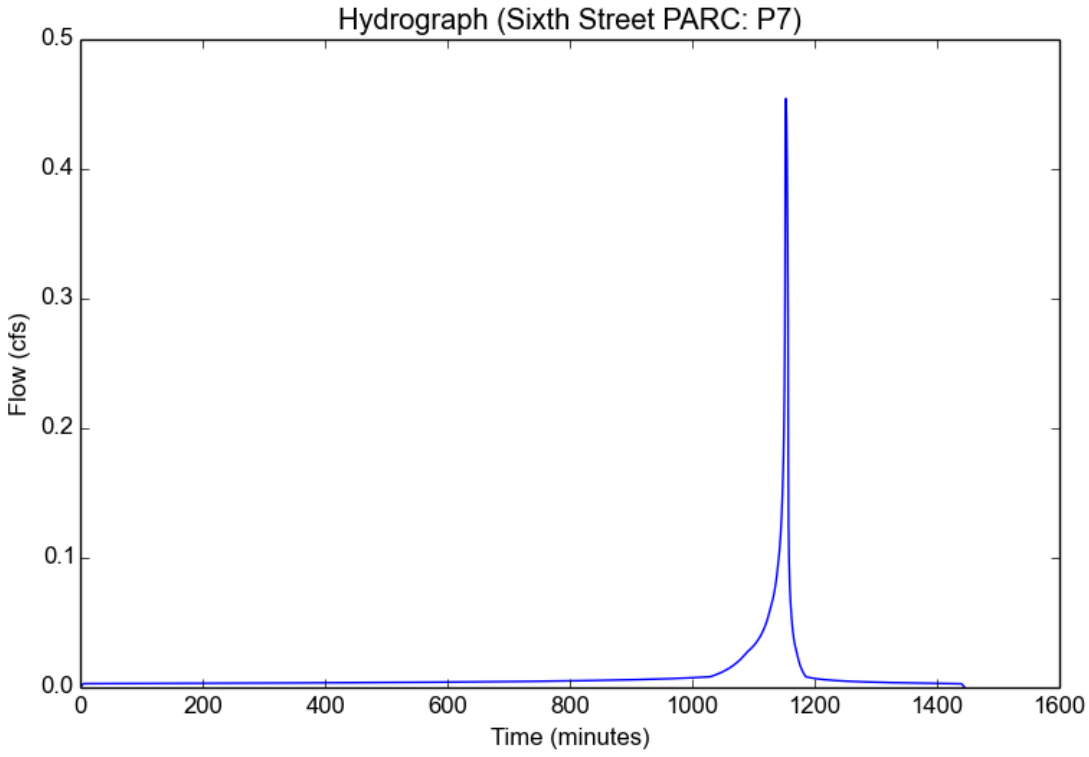
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/50-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P7
Area (ac)	0.15
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.06
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.8607
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.4544
Burned Peak Flow Rate (cfs)	0.4544
24-Hr Clear Runoff Volume (ac-ft)	0.0187
24-Hr Clear Runoff Volume (cu-ft)	814.1357



Peak Flow Hydrologic Analysis

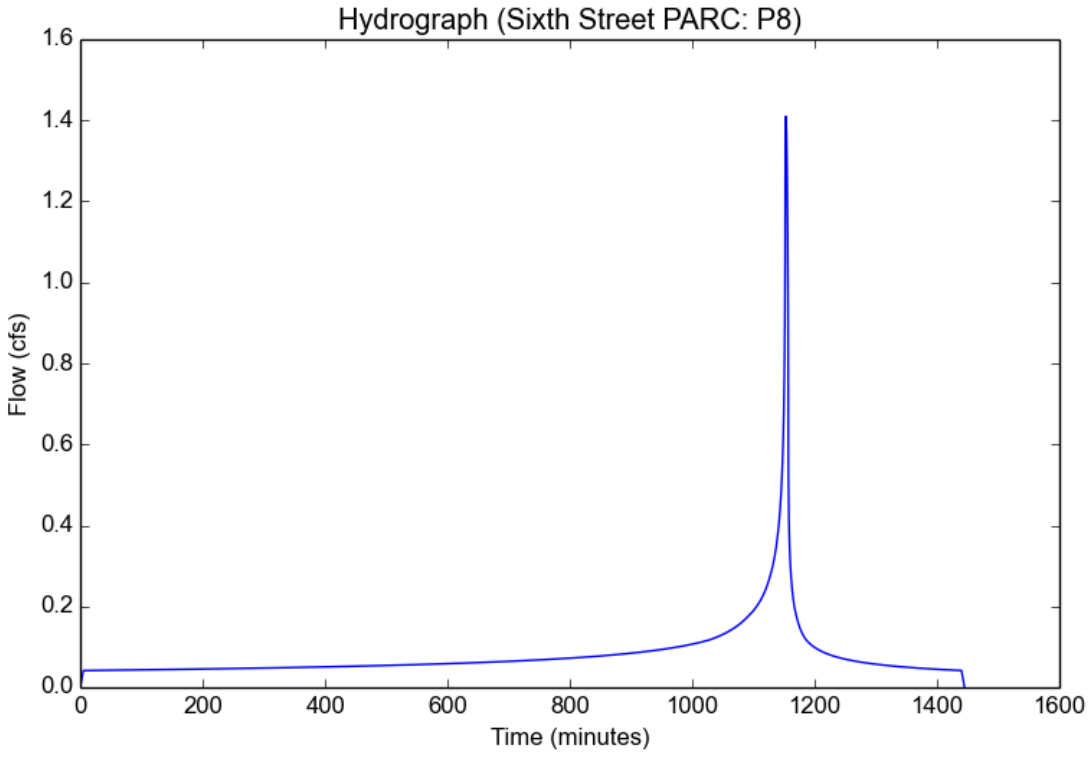
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/50-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P8
Area (ac)	0.45
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.76
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.89
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.4097
Burned Peak Flow Rate (cfs)	1.4097
24-Hr Clear Runoff Volume (ac-ft)	0.1614
24-Hr Clear Runoff Volume (cu-ft)	7029.4889



Peak Flow Hydrologic Analysis

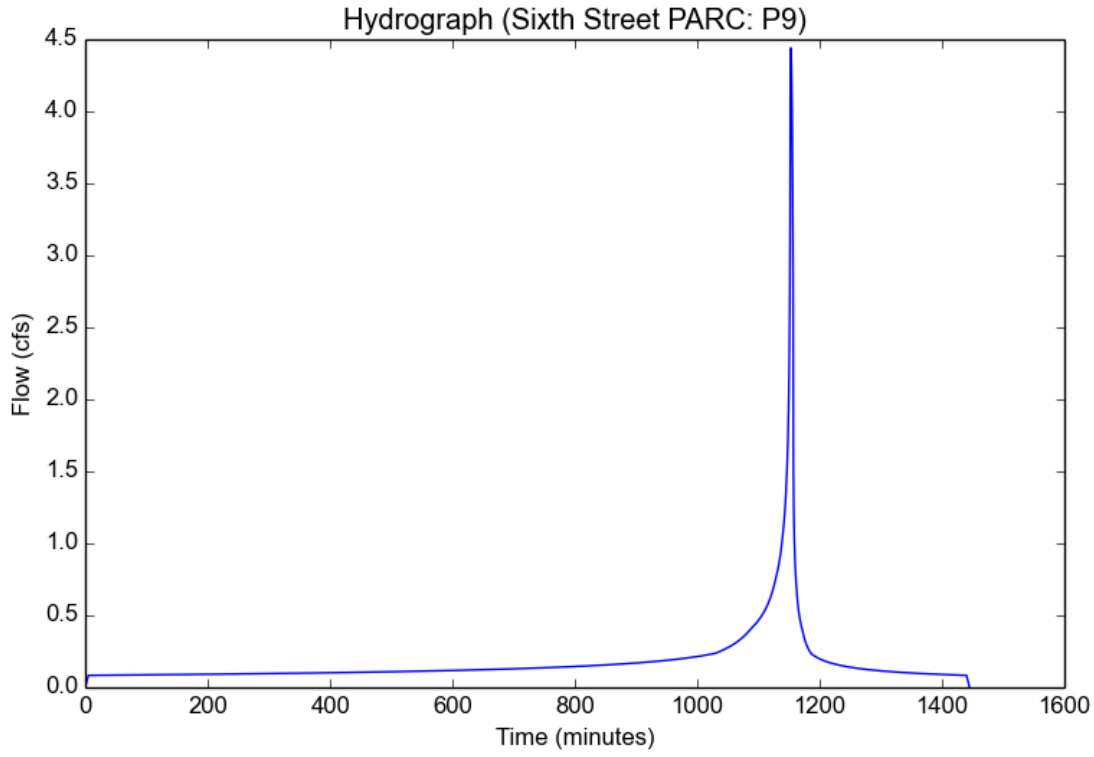
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/50-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P9
Area (ac)	1.44
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.43
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.8761
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	4.4411
Burned Peak Flow Rate (cfs)	4.4411
24-Hr Clear Runoff Volume (ac-ft)	0.3575
24-Hr Clear Runoff Volume (cu-ft)	15574.424



Peak Flow Hydrologic Analysis

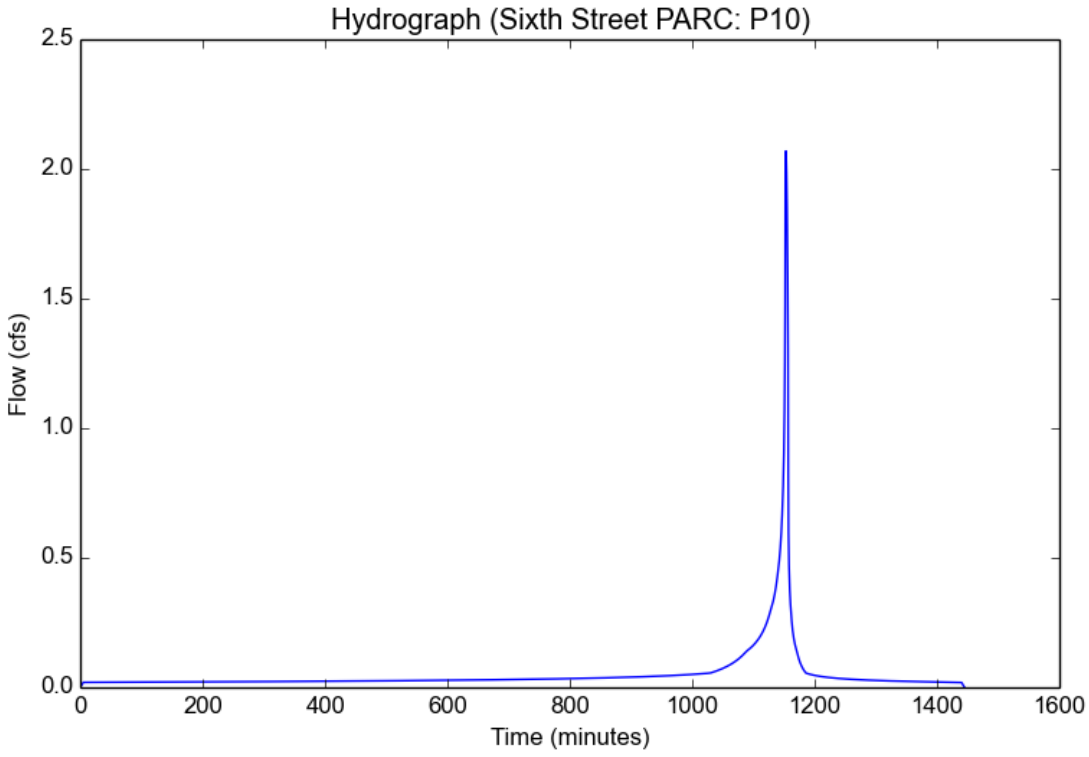
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/50-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P10
Area (ac)	0.68
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.15
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.8644
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.0692
Burned Peak Flow Rate (cfs)	2.0692
24-Hr Clear Runoff Volume (ac-ft)	0.1052
24-Hr Clear Runoff Volume (cu-ft)	4581.953



Peak Flow Hydrologic Analysis

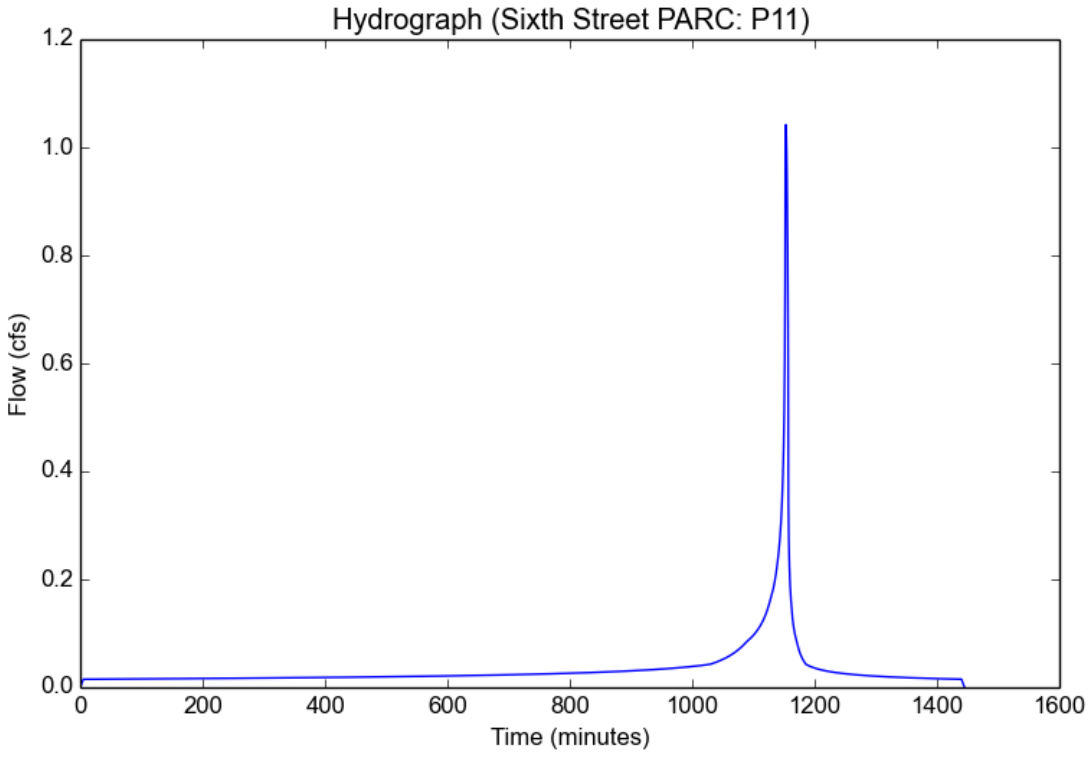
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/50-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P11
Area (ac)	0.34
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.3
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.8707
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.0421
Burned Peak Flow Rate (cfs)	1.0421
24-Hr Clear Runoff Volume (ac-ft)	0.0696
24-Hr Clear Runoff Volume (cu-ft)	3033.6469



Peak Flow Hydrologic Analysis

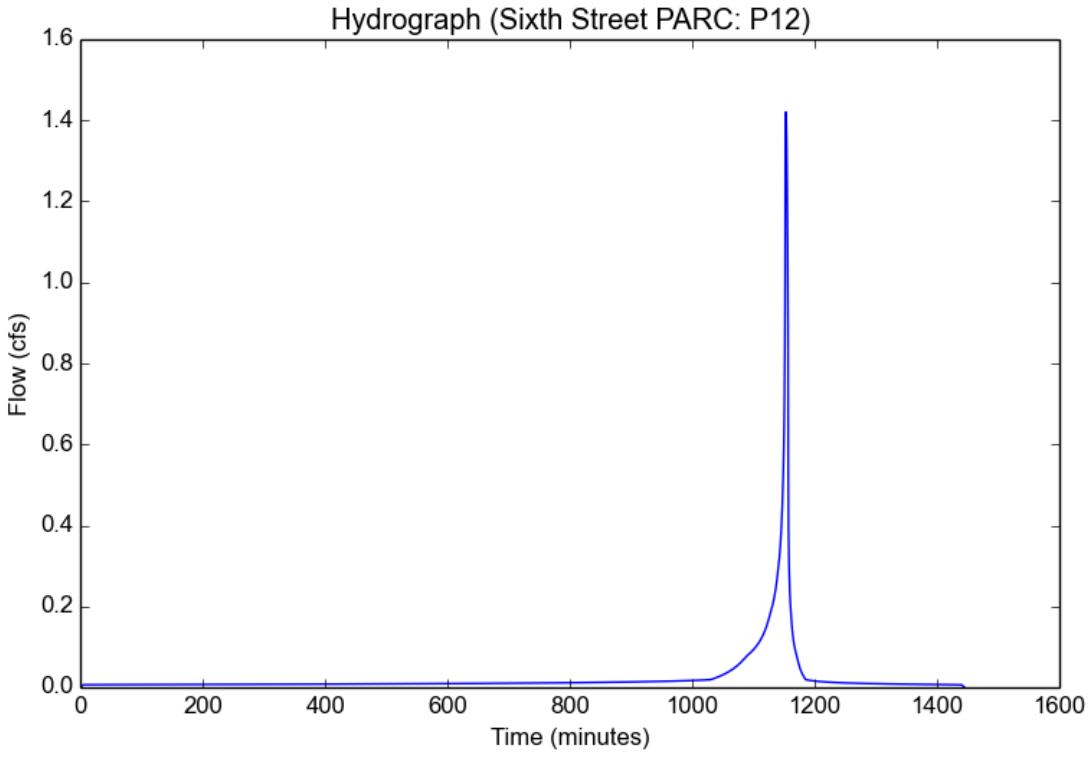
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/50-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P12
Area (ac)	0.47
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.01
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.8586
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.4205
Burned Peak Flow Rate (cfs)	1.4205
24-Hr Clear Runoff Volume (ac-ft)	0.0507
24-Hr Clear Runoff Volume (cu-ft)	2208.7477



Peak Flow Hydrologic Analysis

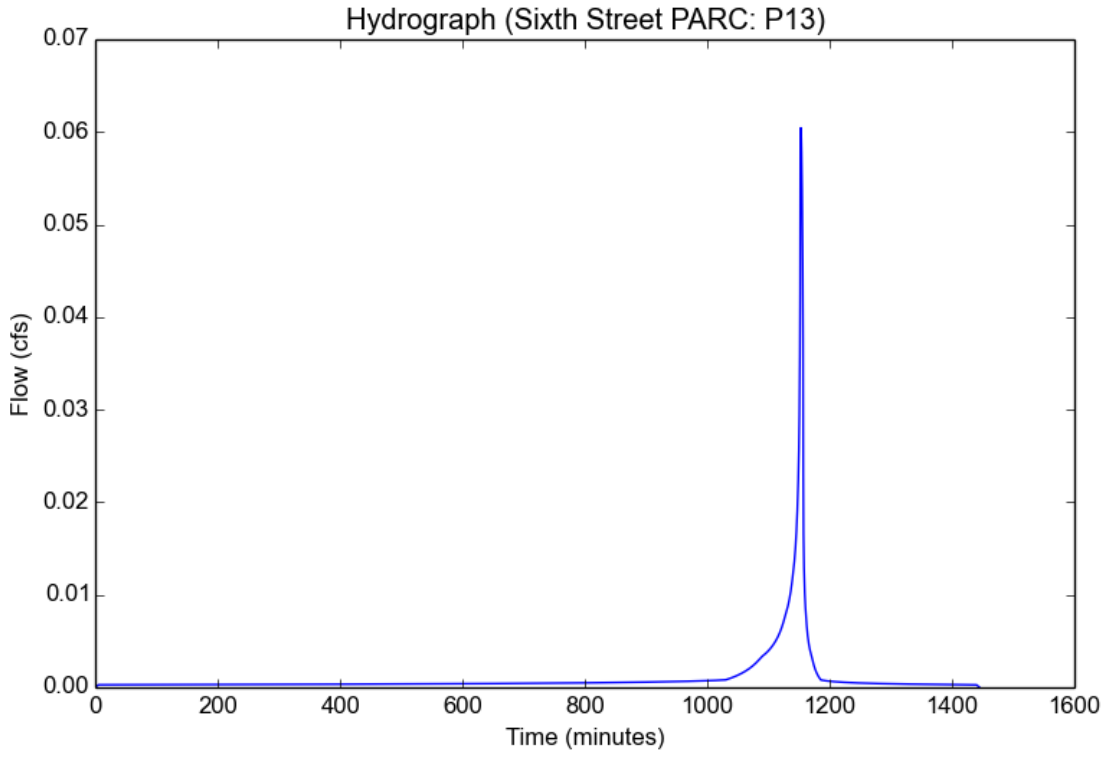
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/50-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC
Subarea ID	P13
Area (ac)	0.02
Flow Path Length (ft)	100.0
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.01
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.8586
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	0.0604
Burned Peak Flow Rate (cfs)	0.0604
24-Hr Clear Runoff Volume (ac-ft)	0.0022
24-Hr Clear Runoff Volume (cu-ft)	93.9893



Peak Flow Hydrologic Analysis

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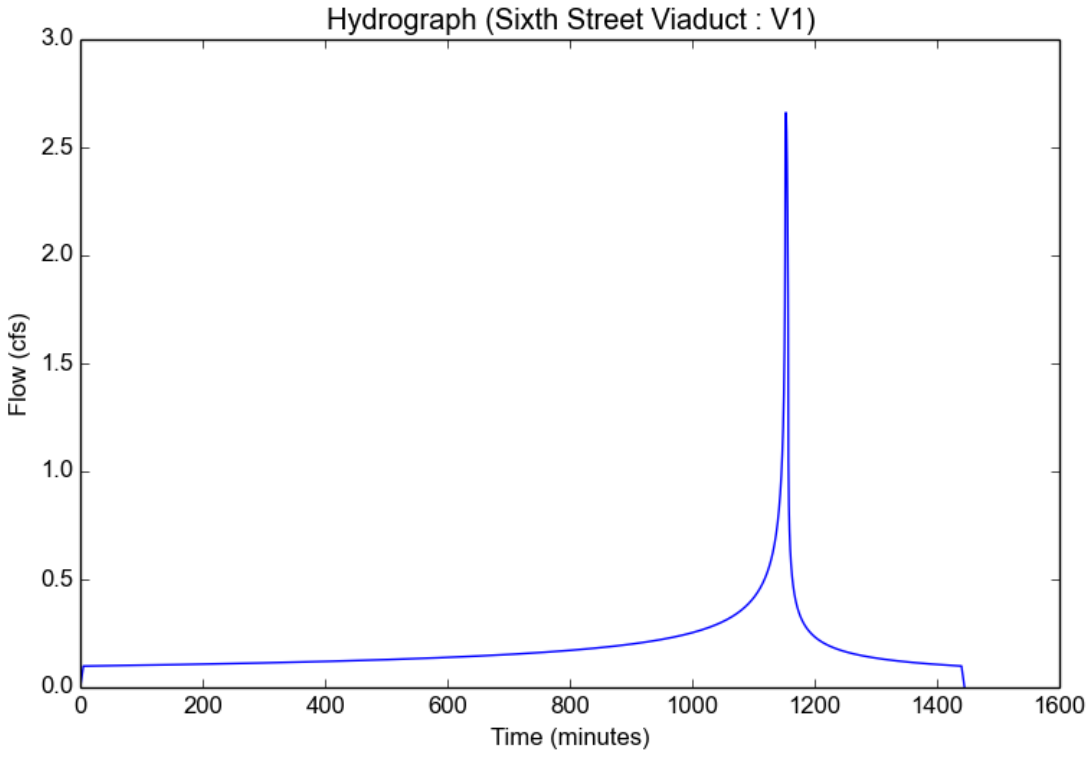
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V1
Area (ac)	0.84
Flow Path Length (ft)	225.0
Flow Path Slope (vft/hft)	0.05
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.6612
Burned Peak Flow Rate (cfs)	2.6612
24-Hr Clear Runoff Volume (ac-ft)	0.3686
24-Hr Clear Runoff Volume (cu-ft)	16057.445



Peak Flow Hydrologic Analysis

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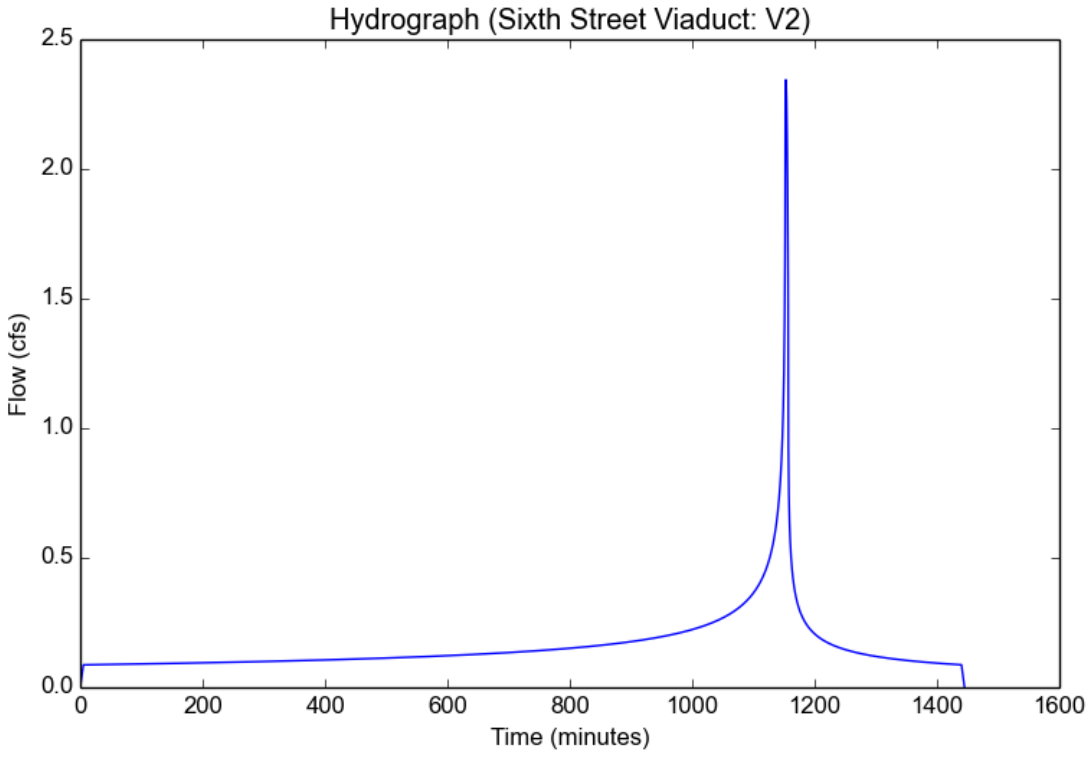
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V2
Area (ac)	0.74
Flow Path Length (ft)	250.0
Flow Path Slope (vft/hft)	0.03
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.3444
Burned Peak Flow Rate (cfs)	2.3444
24-Hr Clear Runoff Volume (ac-ft)	0.3247
24-Hr Clear Runoff Volume (cu-ft)	14145.8444



Peak Flow Hydrologic Analysis

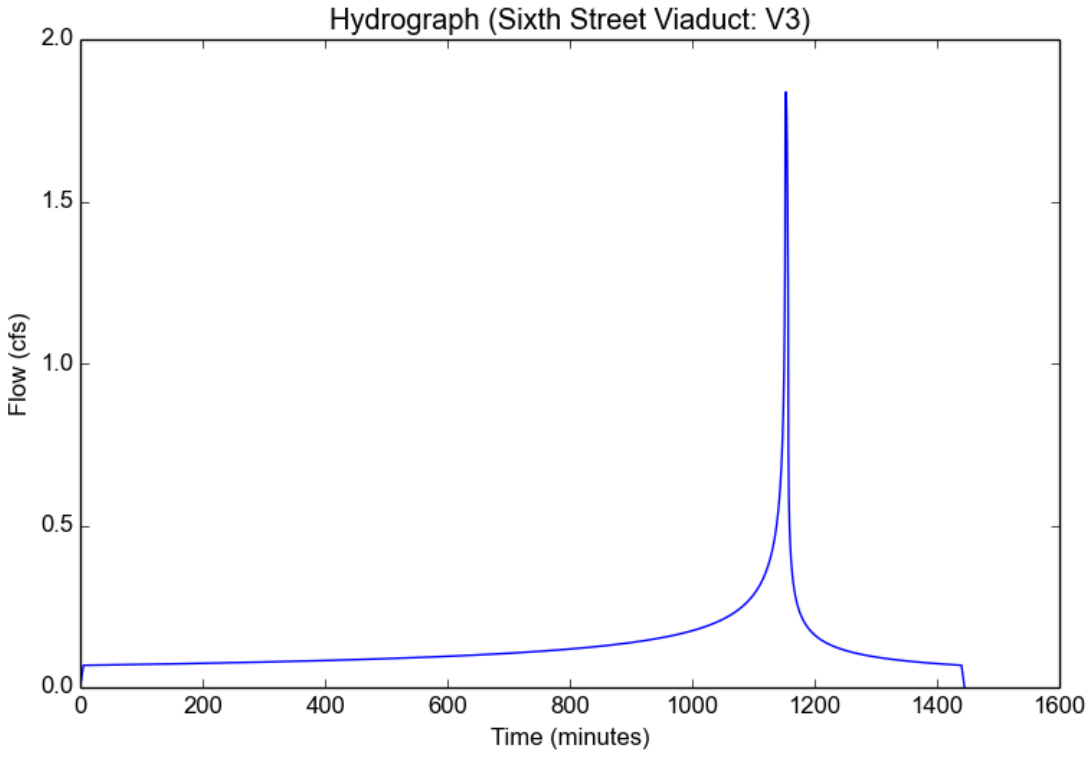
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/50-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V3
Area (ac)	0.58
Flow Path Length (ft)	200.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.8375
Burned Peak Flow Rate (cfs)	1.8375
24-Hr Clear Runoff Volume (ac-ft)	0.2545
24-Hr Clear Runoff Volume (cu-ft)	11087.2835



Peak Flow Hydrologic Analysis

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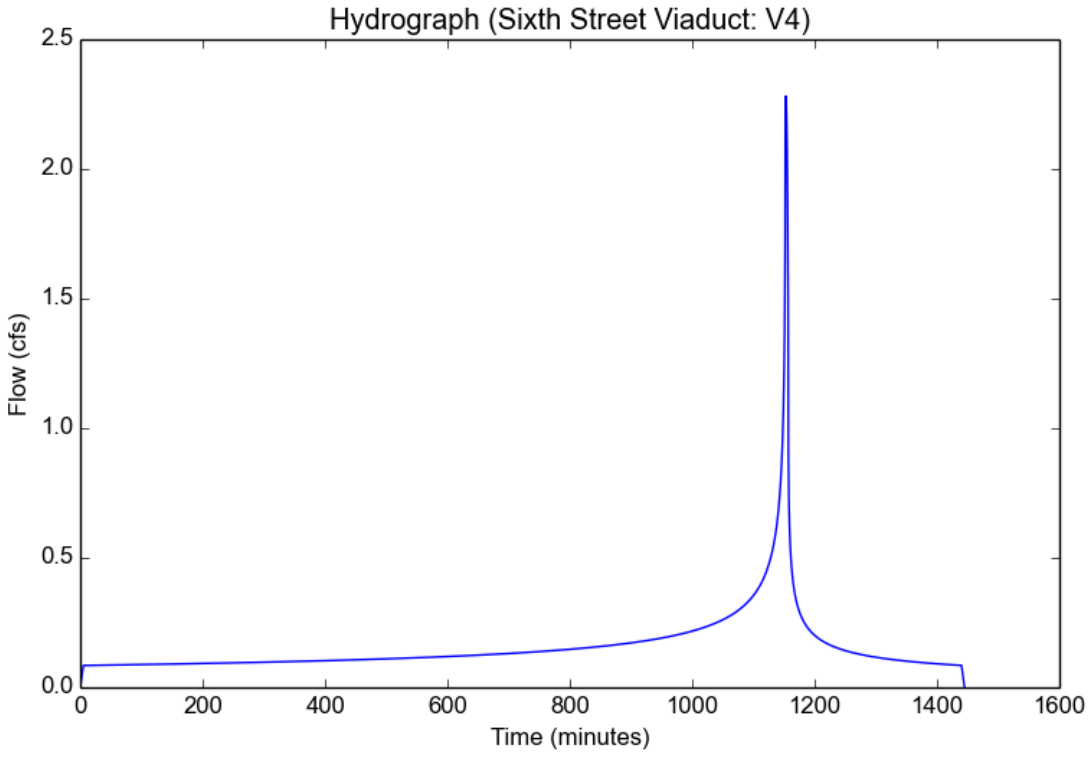
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V4
Area (ac)	0.72
Flow Path Length (ft)	250.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.281
Burned Peak Flow Rate (cfs)	2.281
24-Hr Clear Runoff Volume (ac-ft)	0.316
24-Hr Clear Runoff Volume (cu-ft)	13763.5243



Peak Flow Hydrologic Analysis

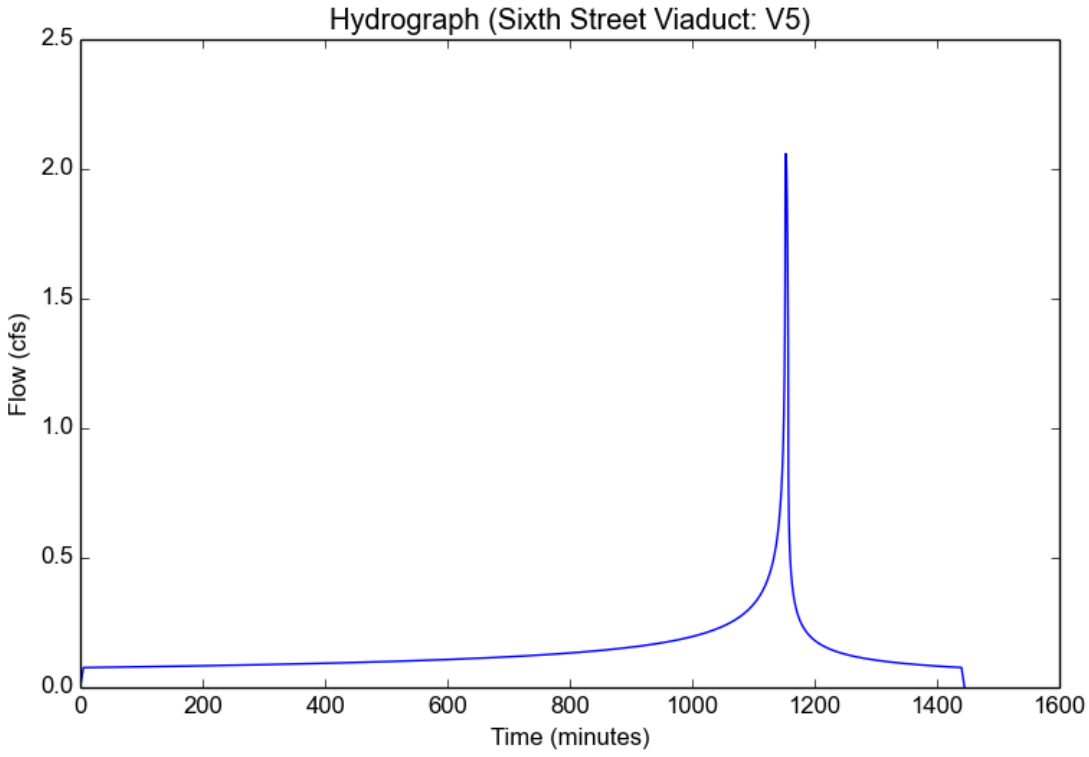
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/50-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V5
Area (ac)	0.65
Flow Path Length (ft)	210.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.0593
Burned Peak Flow Rate (cfs)	2.0593
24-Hr Clear Runoff Volume (ac-ft)	0.2852
24-Hr Clear Runoff Volume (cu-ft)	12425.4039



Peak Flow Hydrologic Analysis

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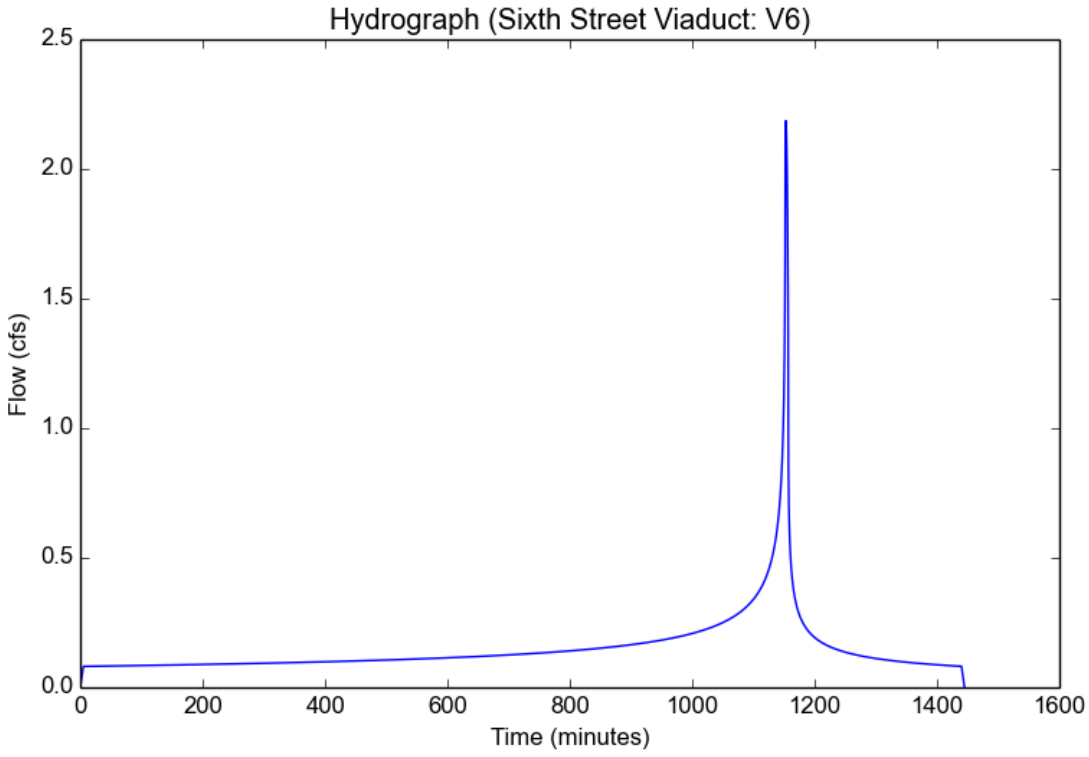
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V6
Area (ac)	0.69
Flow Path Length (ft)	210.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.186
Burned Peak Flow Rate (cfs)	2.186
24-Hr Clear Runoff Volume (ac-ft)	0.3028
24-Hr Clear Runoff Volume (cu-ft)	13190.0441



Peak Flow Hydrologic Analysis

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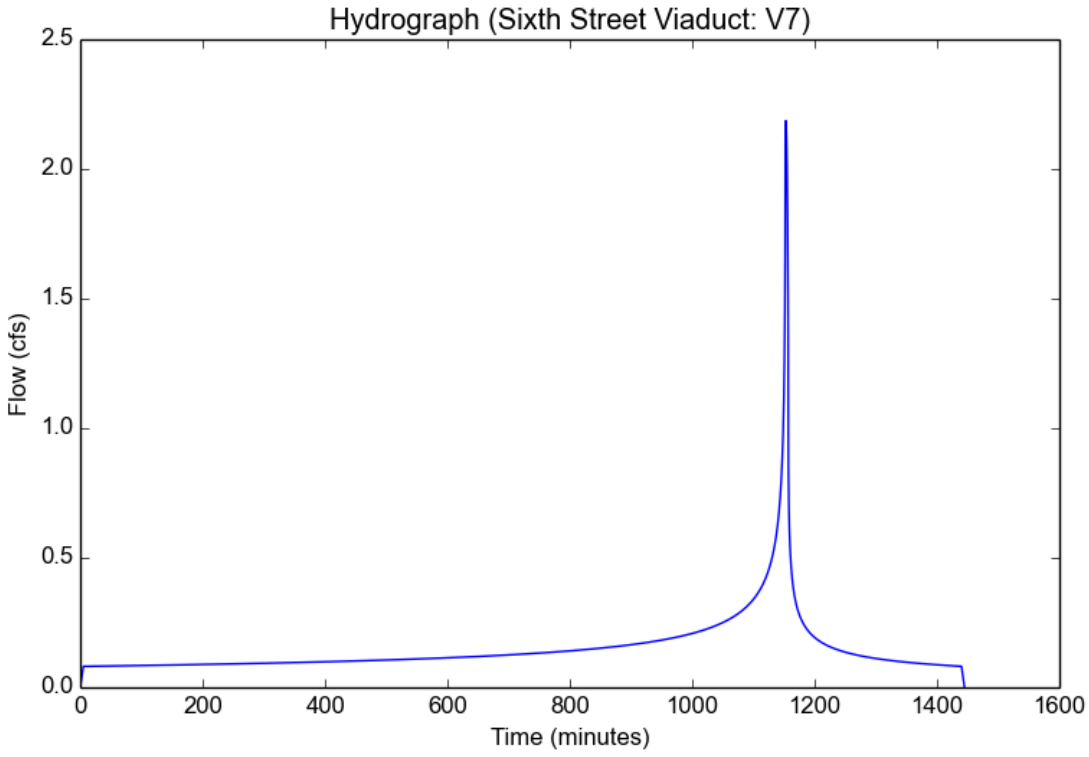
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V7
Area (ac)	0.69
Flow Path Length (ft)	210.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.186
Burned Peak Flow Rate (cfs)	2.186
24-Hr Clear Runoff Volume (ac-ft)	0.3028
24-Hr Clear Runoff Volume (cu-ft)	13190.0441



Peak Flow Hydrologic Analysis

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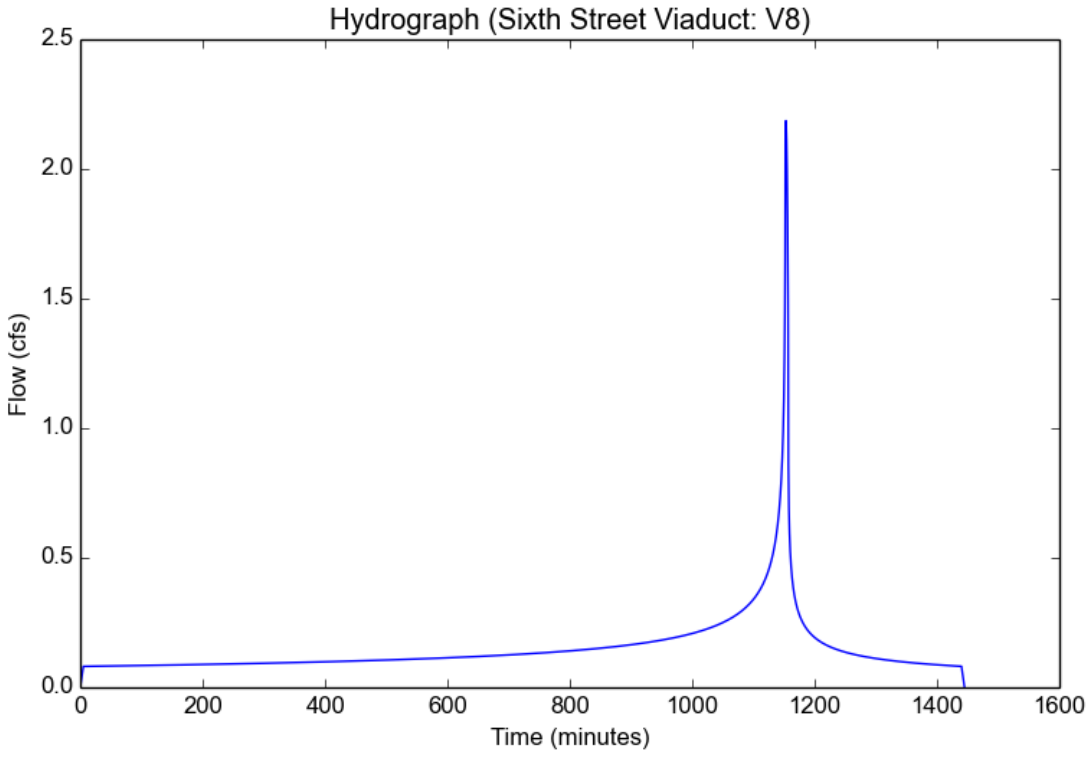
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V8
Area (ac)	0.69
Flow Path Length (ft)	210.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.186
Burned Peak Flow Rate (cfs)	2.186
24-Hr Clear Runoff Volume (ac-ft)	0.3028
24-Hr Clear Runoff Volume (cu-ft)	13190.0441



Peak Flow Hydrologic Analysis

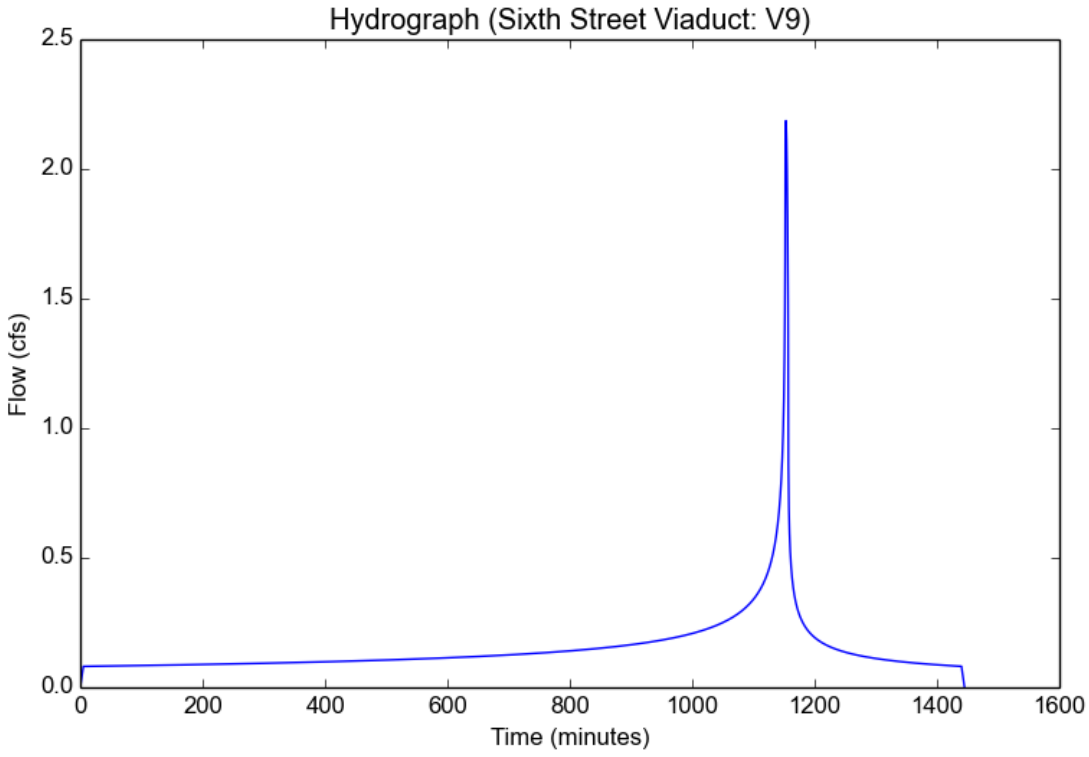
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/50-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V9
Area (ac)	0.69
Flow Path Length (ft)	210.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.186
Burned Peak Flow Rate (cfs)	2.186
24-Hr Clear Runoff Volume (ac-ft)	0.3028
24-Hr Clear Runoff Volume (cu-ft)	13190.0441



Peak Flow Hydrologic Analysis

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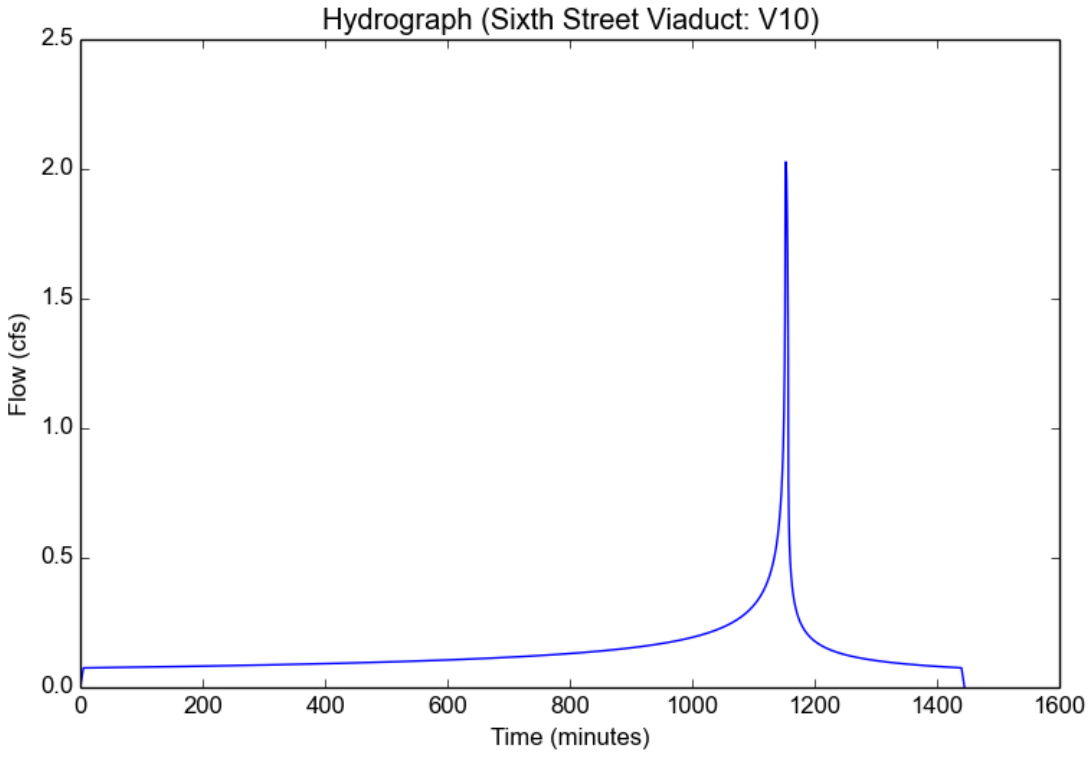
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street Viaduct
Subarea ID	V10
Area (ac)	0.64
Flow Path Length (ft)	200.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.0276
Burned Peak Flow Rate (cfs)	2.0276
24-Hr Clear Runoff Volume (ac-ft)	0.2809
24-Hr Clear Runoff Volume (cu-ft)	12234.2438



Peak Flow Hydrologic Analysis

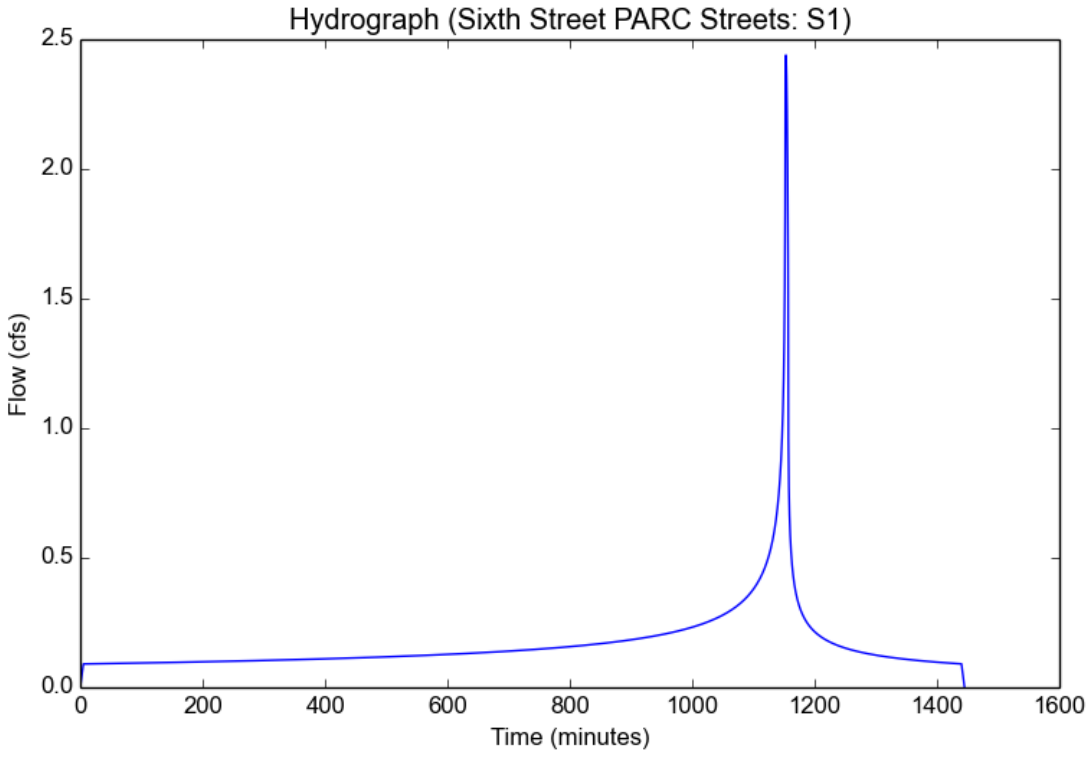
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/50-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC Streets
Subarea ID	S1
Area (ac)	0.77
Flow Path Length (ft)	275.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.4394
Burned Peak Flow Rate (cfs)	2.4394
24-Hr Clear Runoff Volume (ac-ft)	0.3379
24-Hr Clear Runoff Volume (cu-ft)	14719.3246



Peak Flow Hydrologic Analysis

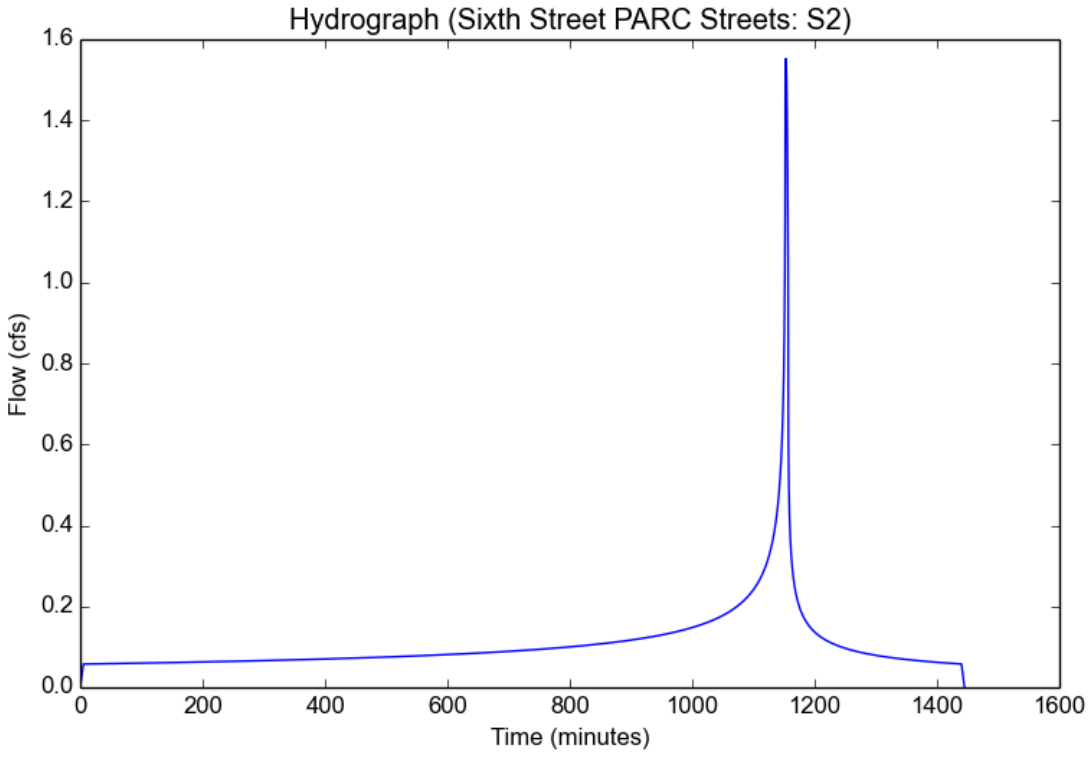
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/50-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC Streets
Subarea ID	S2
Area (ac)	0.49
Flow Path Length (ft)	235.0
Flow Path Slope (vft/hft)	0.004
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.5524
Burned Peak Flow Rate (cfs)	1.5524
24-Hr Clear Runoff Volume (ac-ft)	0.215
24-Hr Clear Runoff Volume (cu-ft)	9366.8429



Peak Flow Hydrologic Analysis

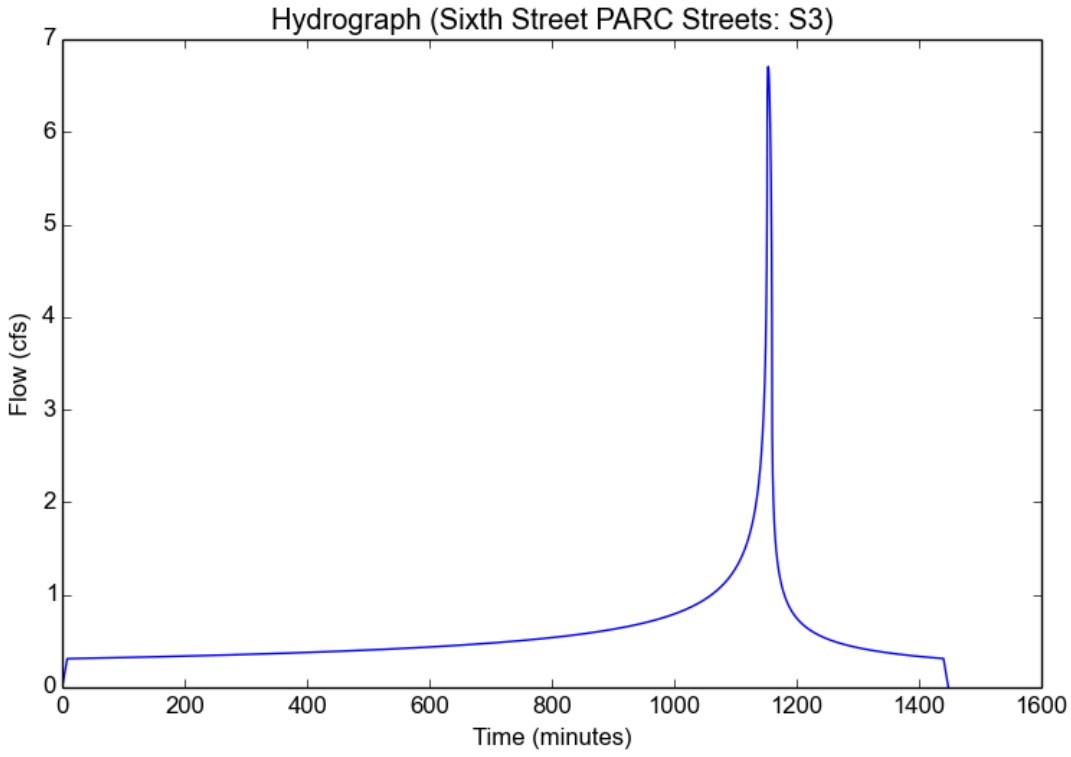
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/50-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC Streets
Subarea ID	S3
Area (ac)	2.64
Flow Path Length (ft)	485.0
Flow Path Slope (vft/hft)	0.0035
50-yr Rainfall Depth (in)	5.9
Percent Impervious	1.0
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	2.8224
Undeveloped Runoff Coefficient (Cu)	0.8098
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	8.0
Clear Peak Flow Rate (cfs)	6.706
Burned Peak Flow Rate (cfs)	6.706
24-Hr Clear Runoff Volume (ac-ft)	1.1585
24-Hr Clear Runoff Volume (cu-ft)	50466.2806



Peak Flow Hydrologic Analysis

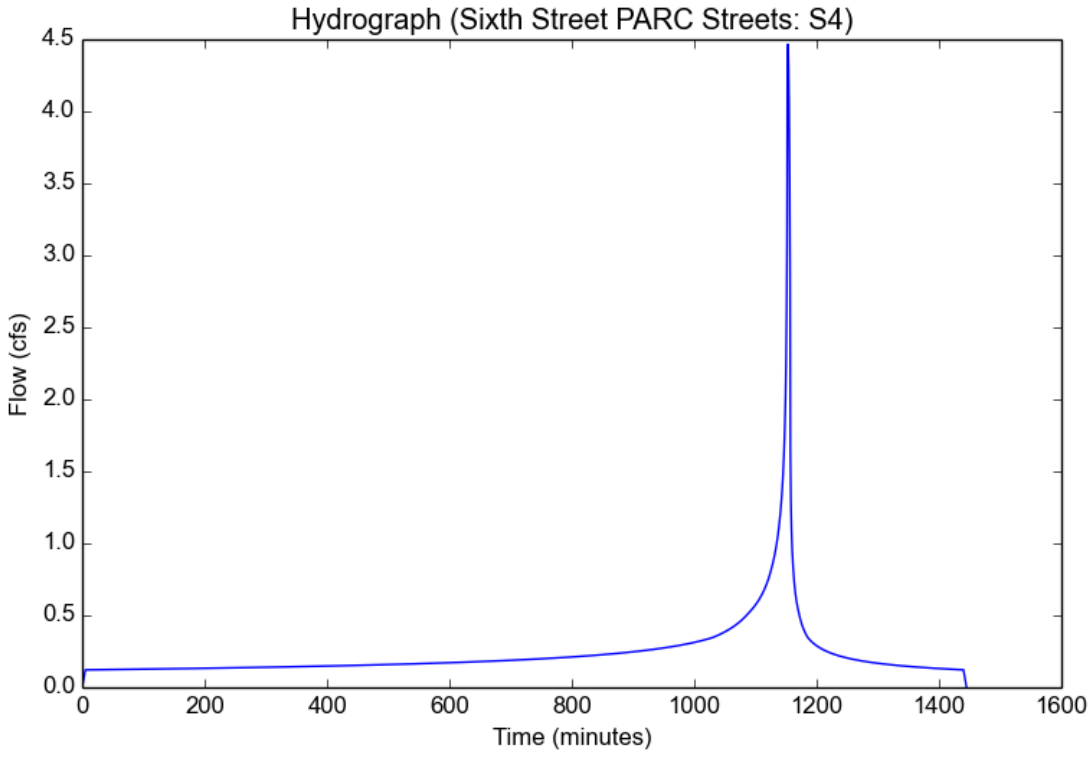
File location: P:/20043/200-20043-17001/Docs/Reports/Hydrology and Hydraulics/Appendix C_HydroCalc Calculations/50-Year/Sixth Street PARC Repo
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Sixth Street PARC Streets
Subarea ID	S4
Area (ac)	1.43
Flow Path Length (ft)	245.0
Flow Path Slope (vft/hft)	0.008
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.69
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.887
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	4.4651
Burned Peak Flow Rate (cfs)	4.4651
24-Hr Clear Runoff Volume (ac-ft)	0.4793
24-Hr Clear Runoff Volume (cu-ft)	20880.481



APPENDIX D – HYDRAULIC CALCULATIONS

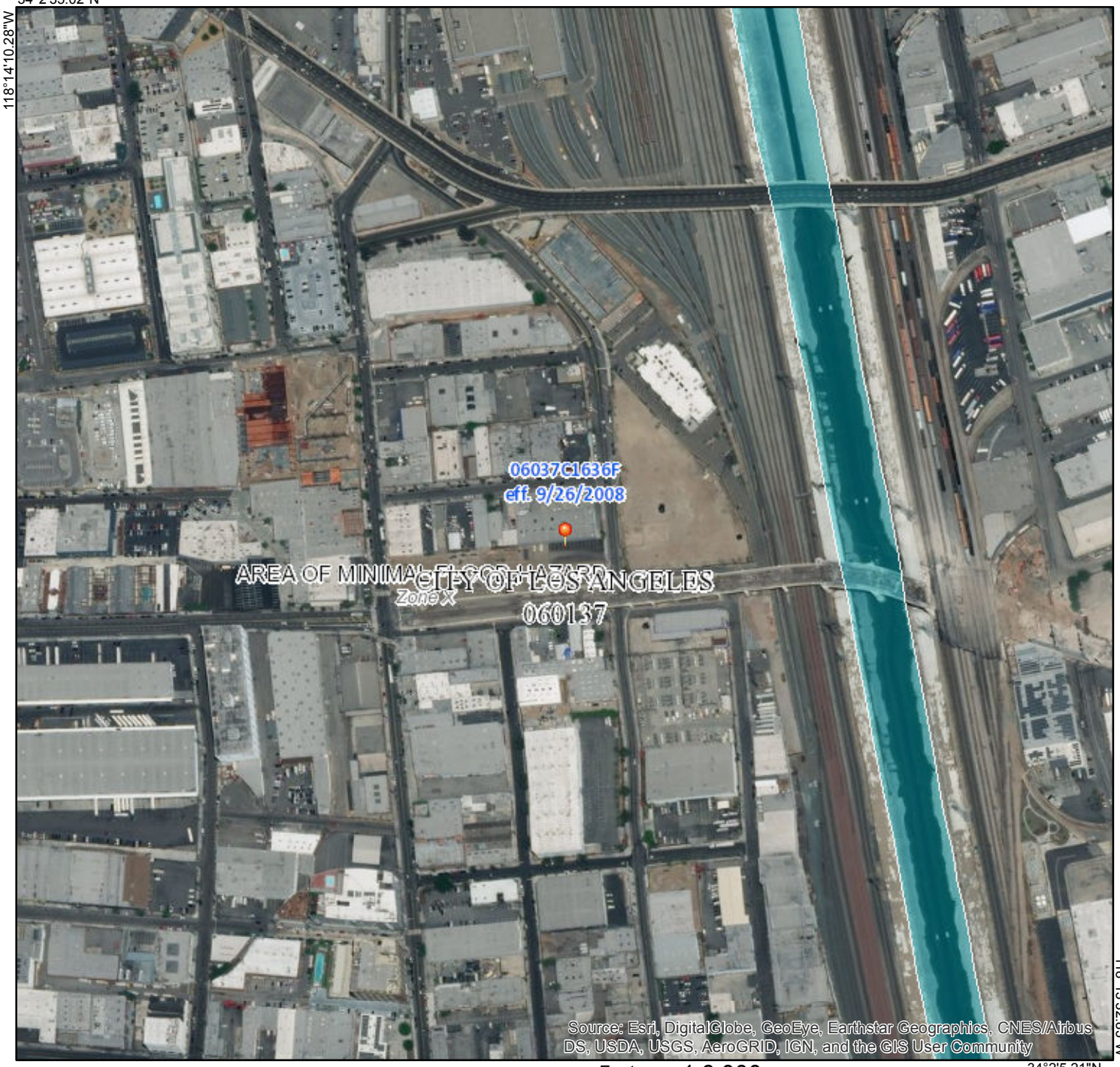
APPENDIX E – LID REPORT

APPENDIX F – CONSTRUCTION PLANS

APPENDIX G – FEMA FLOOD MAPS

National Flood Hazard Layer FIRMette

FEMA



Legend

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

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

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

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

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

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

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

N

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/9/2018 at 7:55:49 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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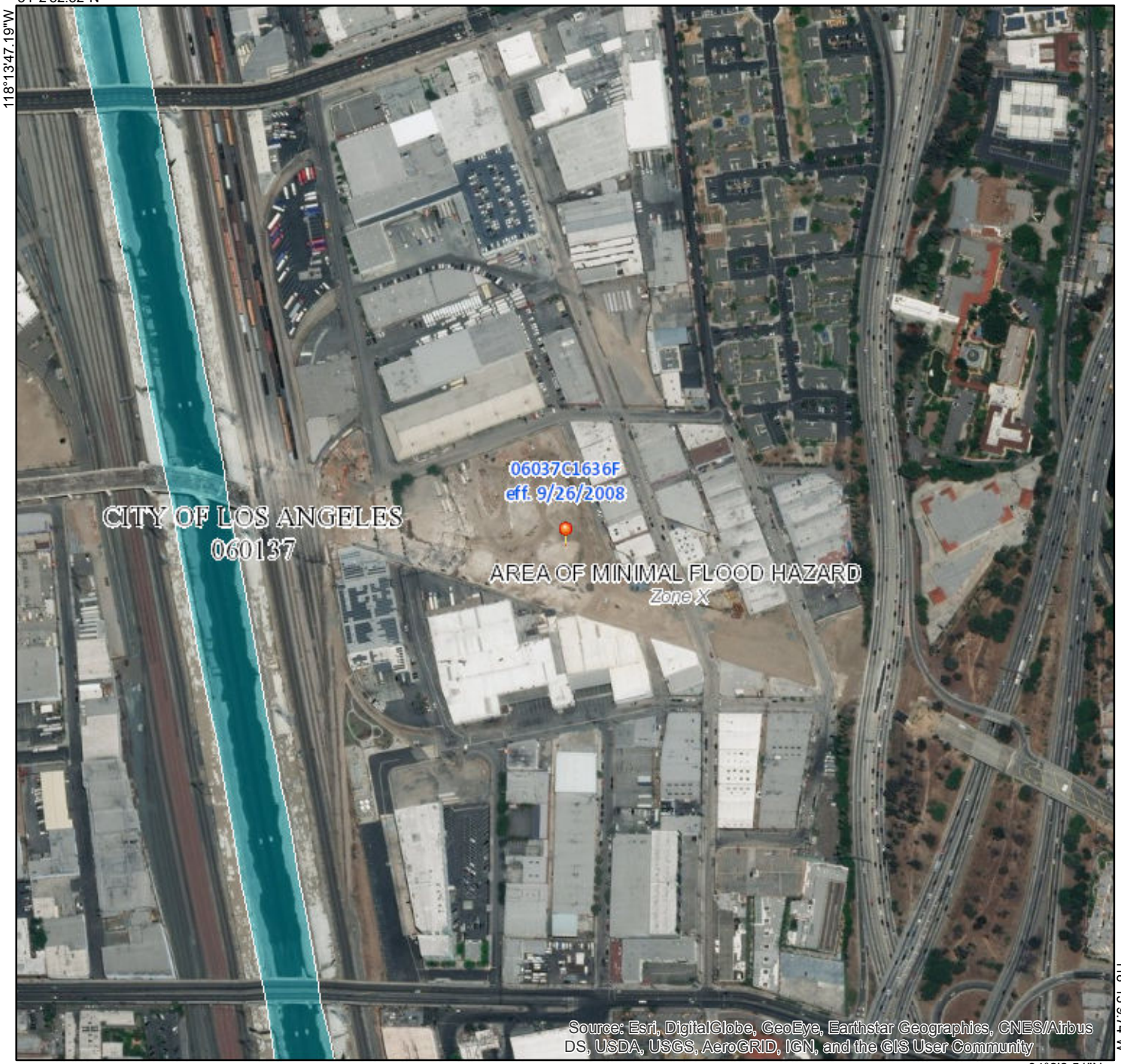
National Flood Hazard Layer FIRMette

FEMA



Legend

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

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

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

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

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