STORMWATER MANAGEMENT REPORT

FOR

420 Bloomfield Avenue
Lot 3, Block 701
Township of Verona
Essex County, New Jersey

Applicant
GOMES CONSULTING LLC
91 KOSSUTH STREET
NEWARK, NJ 07105
pedro@bygomes.com

Prepared by
Jarmel Kizel Architects & Engineers, Inc.

Jarmel Kizel Project No. GOMESGR24-190
Dated: May 22, 2026
Revised September 2, 2026

Anthony Facchino, PE, PLS
Professional Engineer and Land Surveyor
N.J. License No. GE042585

Signature

Jarmel Kizel
ARCHITECTS AND ENGINEERS INC.

ARCHITECTURE
ENGINEERING
SPACE PLANNING
INTERIOR DESIGN
IMPLEMENTATION SERVICES

PRINCIPALS
MARVIN JARMEL, IIDA
MATTHEW B. JARMEL, AIA, MBA
IRWIN H. KIZEL, AIA, PP
RICHARD A. JARMEL, PE

NJ STATE BOARD OF ARCHITECTS
CERTIFICATE OF AUTHORIZATION NUMBER 161

NJ STATE BOARD OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS
CERTIFICATE OF AUTHORIZATION NUMBER GA278177

42 Okner Parkway
Livingston, NJ 07039

TEL: (973) 994-9669
FAX: (973) 994-4069

www.jarmelkizel.com

Table of Contents

Introduction **3**
Existing Site Conditions **3**
Proposed Site Conditions 3
Groundwater Recharge 4
Water Quality Design 5
Water Quantity Design 5
Soil Erosion and Sediment Control Compliance 8
Collection and Conveyance System Design 8
Conclusion 8

APPENDICES

A. Existing Runoff Calculations
B. Proposed Runoff Calculations
C. Storm Sewer Capacity Calculations
D. NRCS Soil Mapping Data
E. Soil Report
F. Water Quality Calculations
G. Mounding Calculations
H. Drainage area maps

Introduction

The purpose of this report is to present the stormwater runoff calculations performed for this development and to demonstrate compliance with the Townships Code 150-25 on Stormwater Control and NJDEP Best Management Practices (BMP) specifically regarding the four (4) components of a major development: stormwater quantity, stormwater quality, groundwater recharge, and erosion control.

The project site is located at 420 Bloomfield Avenue, and is the site of the Richfield Regency Catering Hall. The property has been designated as Tax Lot 3, Block 701 on the current Township Tax Maps. The site has a total land area of 43,484sf or 0.99acres. The site is located along Bloomfield Avenue in the Redevelopment Plan for the 420 Bloomfield Avenue Redevelopment Area, and it backs up to Claremont Avenue. Across the street along Bloomfield Avenue and Claremont are multiple apartment unit buildings. To the east is a single family Dwelling and to our west is a professional office building.

Existing Site Conditions

The property is developed with one principal structure, a one-story flat roofed, commercial building with an asphalt parking lot to the rear of the property, along Claremont Avenue. The southwesterly side of the building, fronting Bloomfield Avenue along the westbound side, maintains a zero foot setback. Immediately to the east/southeast of the building is a landscaped patio leading to a brick paver drive aisle. The drive-aisle provides ingress and egress to the site from Bloomfield Avenue. The main entrance to the building is also along the southeasterly side of the building, facing the brick-paver drive aisle. The main entrance is sheltered by an attached, one-story canopy with a gable roof. Traversing in the northerly direction, just past the canopy, the brick-paver drive aisle transitions into an asphalt parking lot that spans the entire Claremont Avenue frontage. This parking lot is divided into two sections by the main building, which juts into the parking lot. Both sections of the parking lot are connected by an approximately 12- to 15-foot drive aisle.

The drainage study considers a total area of 1.003 acres. The site slopes considerably from the northeast corner toward the intersection of Bloomfield Avenue and Cumberland Avenue. The parking lot currently has an average slope of 8.5%. The site is currently composed of 97.2% of the impervious area and 2.8% of pervious areas. The pervious areas are, for the most part, located in the main entrance drive from Bloomfield Avenue. The vegetation in this area is mostly landscaping and fountains. Access to the site is available from Bloomfield Avenue and Claremont Avenue.

Proposed Site Conditions

The proposed development requires removing all existing building area, pavement, and site infrastructure for submission for preliminary and final site plans seeking approval to construct a multi-family 65-unit apartment building with two levels of underground parking garage. The 38,583 square foot building will have (52) one-bedroom units, (10) two-bedroom units and (3) three-bedroom units. The building will also have 1,400sf of retail space, with a total of (118) parking spaces.

The existing property has a total land area of 43,484 square feet. The proposed conditions will have a reduction in impervious coverage by 3,159sf. In proposed conditions we are maintaining drainage patterns as close to existing conditions as possible. Do to the fact that the proposal will disturbance more than 0.5 acres of land, causes the project to meet the definition of a "Major Development" under the State and local regulations Code 150-25.

Soils

From the Natural Resources Conservation Service, one soil type was found at the project site: BouB—Boonton substratum, 0 to 8 percent slopes. The soil is ranked with a hydraulic soil group C. For design purposes Hydrologic Soil Group C will be used for design comparison.

Nonstructural Best Management Practices (Bmps)

Stormwater management is an important aspect of the project, not only for the safety and convenience of potential residents, but for the environment as well. Thus, it has been endeavored to include various stormwater management techniques that include both natural and structural means to accomplish that task.

The following low impact, nonstructural, development approaches to site design have been incorporated into this project as per Township Code 150-25.4 and the NJDEP storm water management regulations 7:8-5.3; notably:

150-25.4 (b) A Maintenance plan has been prepared to address ongoing maintenance of the project.

NJDEP 7:8-5.3 (b) 7. Extensive, supplemental landscaping would be added throughout the project site in the form of trees, shrubs, and ground cover.

NJDEP 7:8-5.3 (b) 6. Much of the proposed building area has been previously disturbed and/or filled. It is these areas where most of the contemplated soil compaction would take place in order to construct the new buildings, parking areas, and drives. In other locations that have not seen extensive disturbance, rubber tired vehicles would be used to minimize compaction.

Groundwater Recharge

This section of the report describes the groundwater recharge provisions of the stormwater management system's design. The site falls within the State's Planning Area 1 (Metropolitan) and therefore the site can be considered as part of the urban redevelopment area. Per Township ordinance groundwater recharge requirements do not apply to areas of the project site that have been previously developed as defined in § 150-25.2 or to groundwater subject to § 150-25.4Q(4). However, groundwater that is not subject to § 150-25.4Q(4) shall be used to achieve the standards of this section to the maximum extent practicable in locations where it will meet requirements of this article and will not cause damage to infrastructure or structures.

Please note that we are exempt from recharge, but the site has been designed to provide recharge. The reduction in impervious coverage by 3,159sf would likely allow groundwater infiltration within planted areas as shown on our site plans. Additionally, the site has been designed with an infiltration basin that will allow recharge to the maximum extent practical for this site with the site constraints.

Water Quality Management

As stated previously, the project does not increase impervious cover by more than 5,000sf (impervious cover is reduced in the proposed condition) and the site does not drain to a water that has a total maximum daily load (TMDL) for TSS reduction, the regulatory requirements of the Code 150-25.4(R) and NJAC 7:8-5.5 are still applicable because we meet the definition of a major development. The impervious coverage proposed for this project is the roof area of the building. The NJDEP considers roof runoff "clean," not requiring TSS removal pursuant to State regulation, but the Township ordinance includes roof water as impervious coverage which requires TSS removal. The project proposes two (2) NJDEP green infrastructure approved water quality devices (BipPod HF Biofilter System) providing 80% TSS removal of the anticipated load, from the net increase of any type of regulated roof impervious surface. The two (2) devices will collect the runoff from the roof and filter the runoff through NJDEP approved media that will filter the roof runoff and discharge it to the underground infiltration system. The devices are designed to treat the water quality storm event (First Flush) and allow the higher intensity storms to bypass the filter compartment.

Hydrology And Stormwater Management

Quantity Control (Peak Flow Attenuation)

Estimating runoff rates and volumes for quantity control purposes is done by utilizing what is referred to as the "NRCS Method", which is also known as the "TR-55" methodology. This is described at length in Chapter 5 of the BMP Manual

According to the National Engineering Handbook, as published by the NRCS, the combination of a hydrologic soil group and a land use and treatment class is a hydrologic soil-cover

complex, to which a runoff curve number (CN) can be assigned. The CN is an indication of the complex's runoff potential. The Hydrologic Soil Group(s) for the project site were determined by referencing the NRCS's Web Soil Survey for the appropriate county.

The Time of Concentration, "Tc", for the existing and the proposed conditions have been calculated through modeling software and the paths are shown on the coverage maps. For the various ground covers, runoff coefficients, "CN", used in the analysis were 98 for impervious areas such as buildings, parking lot, and walkways, and 70-74 for wooded/landscape areas. The Township Stormwater ordinance requires all major developments to assume wooded area for ground cover, therefore a CN of 70 was used for calculating the entire site in existing conditions.

The rainfall depths utilized for the project's design were derived from NOAA Atlas 14, Volume 2, Version 3 point precipitation frequency estimates. An adjustment factor increasing the runoff factor by 1%-6% was applied in per 54 NJR 2187(a) for current storms and another 23% to 46% was added to arrive at a "future" storm intensity. Below is a summary of the storm rainfall depths used for both the existing and proposed conditions.

Storm	**2-year**	**10-year**	**100-year**
Current-Year-2020	3.47 in	5.38 in	9.18 in
Future-Year-2050	**4.09 in**	**6.37 in**	**11.52 in**.

The project's approach for compliance with the regulatory requirements for "quantity control" are set forth at Township Code 150-25.4(S)3c and Subpart 5.6(b)(2) of the Stormwater Management Regulations (NJAC 7:8), specifically "Design stormwater management measures so that the post-construction peak runoff rates for the current and projected two-, ten-, and 100-year storm events, as defined and determined pursuant to § 150-25.5C and D respectively, are 50%, 75% and 80%, respectively, of the pre-construction peak runoff rates. The percentages apply only to the post-construction stormwater runoff that is attributable to the portion of the site on which the proposed development or project is to be constructed". The project is divided into two primary drainage areas with two design points, quantity control considerations are evaluated for each design point.

The TR-55 calculations provided in Appendix No. A and Appendix No. B indicate the total peak runoff from the subject drainage areas under pre-project and post-project conditions respectively. Tables below provide a summary of the peak runoff rates for the regulated storms under existing and proposed conditions for both design points and the overall site, respectively. The following data verifies the project's compliance with the standards pertaining to "quantity control" as the peak runoff rates for post-project conditions are reduced as compared to pre-project conditions assuming wooded area as existing. By implementing an underground infiltration system the project will maintain drainage patterns therefore, we will not increase flood damage at or downstream of the site. Our site will connect to an existing storm sewer

system on Bloomfield Avenue and Claremont Avenue which will safely convey the runoff and minimize erosion.

Table No. 1			
Design Point #1			
Storm Freq.		Runoff Rates (cfs)	
	PRE	ALLOWABLE	POST
2-Year(2020)	0.97	0.48	0.47
10-Year(2020)	2.36	1.77	1.17
100-Year(2020)	5.50	4.40	2.76
2-Year(2050)	1.40	0.70	0.61
10-Year(2050)	3.16	2.37	1.58
100-Year(2050)	7.52	6.02	3.97

Table No. 2			
Design Point #2			
Storm Freq.		Runoff Rates (cfs)	
	PRE	ALLOWABLE	POST
2-Year(2020)	0.19	0.10	0.07
10-Year(2020)	0.46	0.35	0.16
100-Year(2020)	1.10	0.88	0.34
2-Year(2050)	0.28	0.14	0.10
10-Year(2050)	0.64	0.48	0.20
100-Year(2050)	1.57	1.26	0.45

Table No. 3			
Overall Site (Total)			
Storm Freq.		Runoff Rates (cfs)	
	PRE	ALLOWABLE	POST
2-Year(2020)	1.06	0.54	0.54
10-Year(2020)	2.61	1.96	1.31
100-Year(2020)	6.13	4.90	3.08
2-Year(2050)	1.54	0.77	0.68
10-Year(2050)	3.52	2.64	1.77

100-Year(2050)	8.44	6.75	4.40

5. Soil Erosion and Sediment Control Compliance

The project has also been designed to minimize erosion and sedimentation in accordance with The Standards for Soil Erosion and Sediment Control in New Jersey". "Soil Erosion and Sediment Control Plan" is included in the set of project plans, specifying numerous practices to achieve this goal. The project's "Soil Erosion and Sediment Control Plan" is subject to review and approval by the Hudson Essex Passaic Soil Conservation District (HEPSCD). The District's certification of the plan is required before any construction may commence, which provides further assurance that the project's implementation will minimize erosion and sedimentation.

6. Collection and Conveyance System Design

The project's storm water management system also includes a network of storm sewer pipes to convey the stormwater runoff to and from the various management facilities. Similarly, stormwater inlets are strategically located to collect runoff from the surface of the ground. The collection and conveyance systems (storm sewers) were designed for the peak rate of runoff during a 100-year storm calculated per the Rational Method. Appendix No. C of this report contains the storm sewer design calculations.

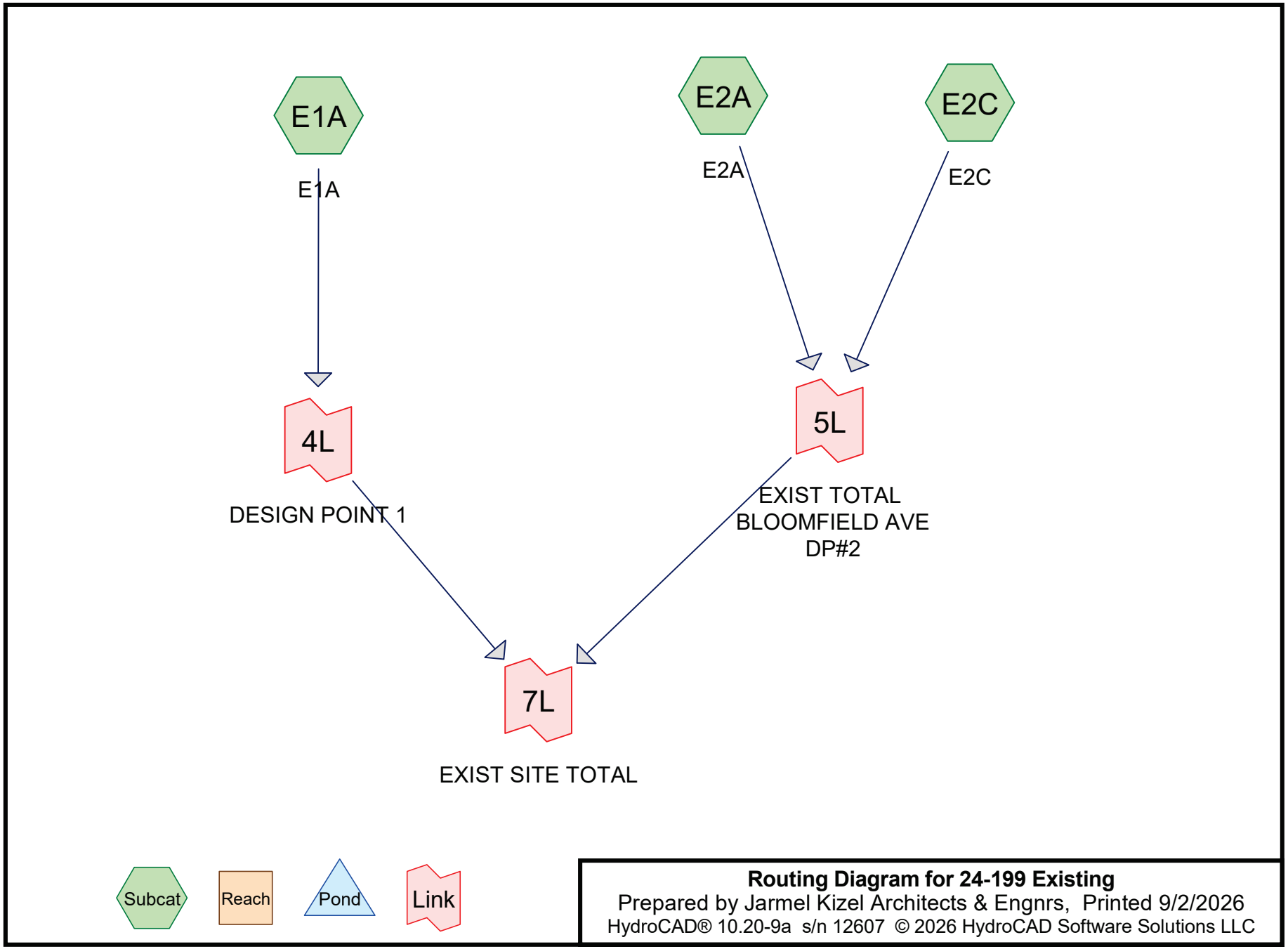
The Proposed Inlet Area Map presents the inlet drainage areas for each proposed inlet collecting roof runoff via downspout leaders. There are multiple storm sewers systems proposed: system B-F encompasses Proposed Drainage Area to mimic existing condition drainage patterns.

Conclusion

The proposed improvements are designed in accordance with local, county and state standards as specified herein. The measures and design provided herein are intended to prevent or limit the impact of the proposed development on the site and the surrounding areas with respect to stormwater quantity, quality, groundwater recharge, and erosion from stormwater runoff. The proposed project will not increase impervious surfaces within the property in question and will provide peak flow attenuation by reducing the peak flow and volume as compared to existing conditions.
As per the requirements for a major site development, there is a reduction in the existing peak runoff rates and volumes for stormwater leaving the site for the 2, 10, and 100-year storm events at each design point respectively. It is our opinion that the calculations provided and summarized above demonstrate compliance with the Township ordinance 150-25 Stormwater Management Controls.

APPENDIX A

EXISTING DRAINAGE CALCULATIONS



Routing Diagram for 24-199 Existing

Prepared by Jarmel Kizel Architects & Engnrs, Printed 9/2/2026

HydroCAD® 10.20-9a s/n 12607 © 2026 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
9,786	70	PARKING LOT TO WOODS PER CODE (E2A)
33,151	70	PAVED & ROOF TO WOODS PER CODE (E1A)
546	70	SIDEWALK TO WOODS PER CODE (E2C)

Summary for Subcatchment E1A: E1A

Runoff = 0.97 cfs @ 12.09 hrs, Volume= 2,430 cf, Depth> 0.88"
Routed to Link 4L : DESIGN POINT 1

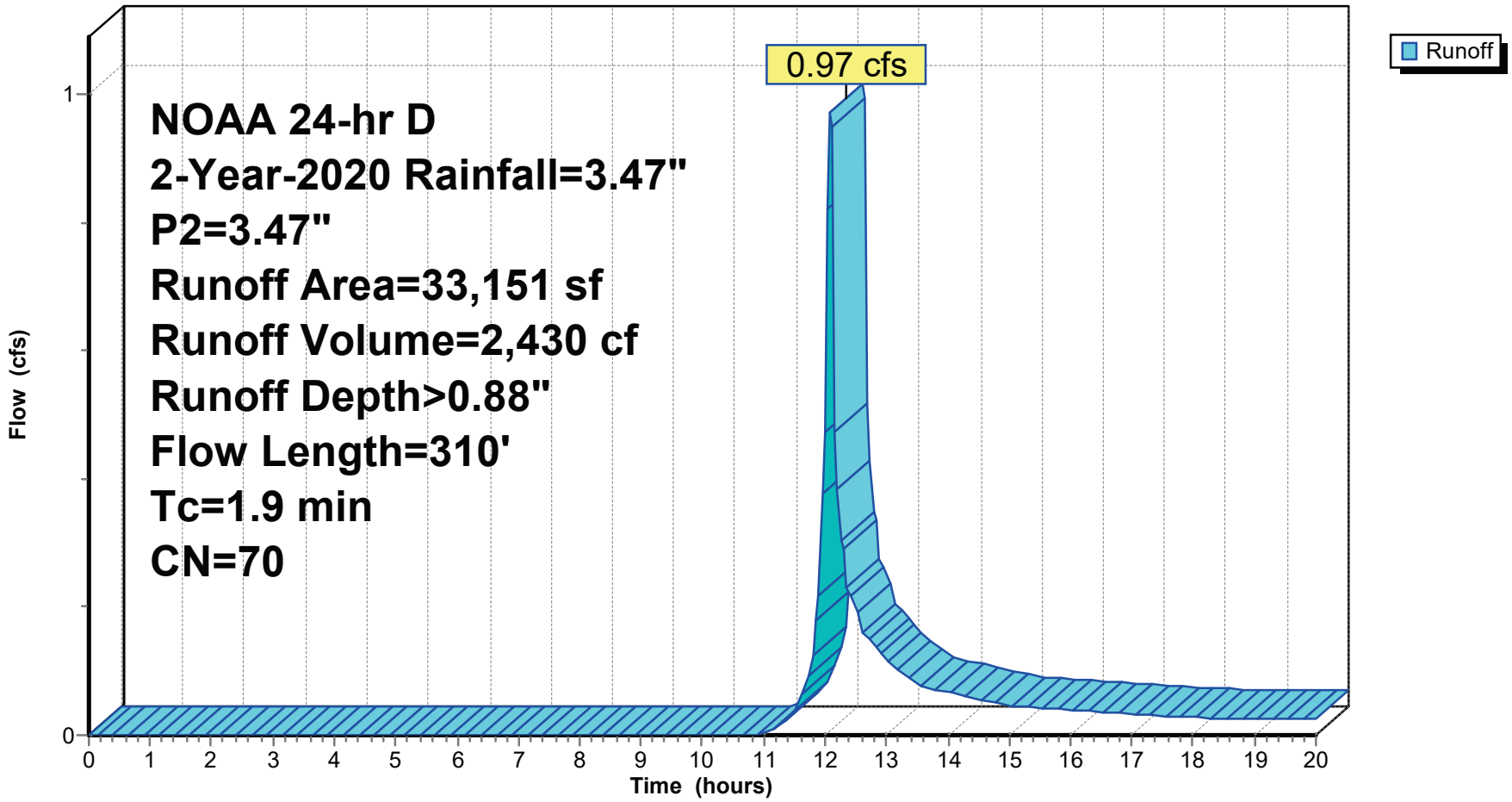
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-Year-2020 Rainfall=3.47", P2=3.47"

	Area (sf)	CN	Description
*	33,151	70	PAVED & ROOF TO WOODS PER CODE
	33,151		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0200	1.43		**Sheet Flow, ROOF** Smooth surfaces n= 0.011 P2= 3.47"
0.2	33	0.0200	2.87		**Shallow Concentrated Flow, ROOF** Paved Kv= 20.3 fps
0.5	177	0.0850	5.92		**Shallow Concentrated Flow, PARKING LOT** Paved Kv= 20.3 fps
1.9	310	Total			

Subcatchment E1A: E1A

Hydrograph



Summary for Subcatchment E2A: E2A

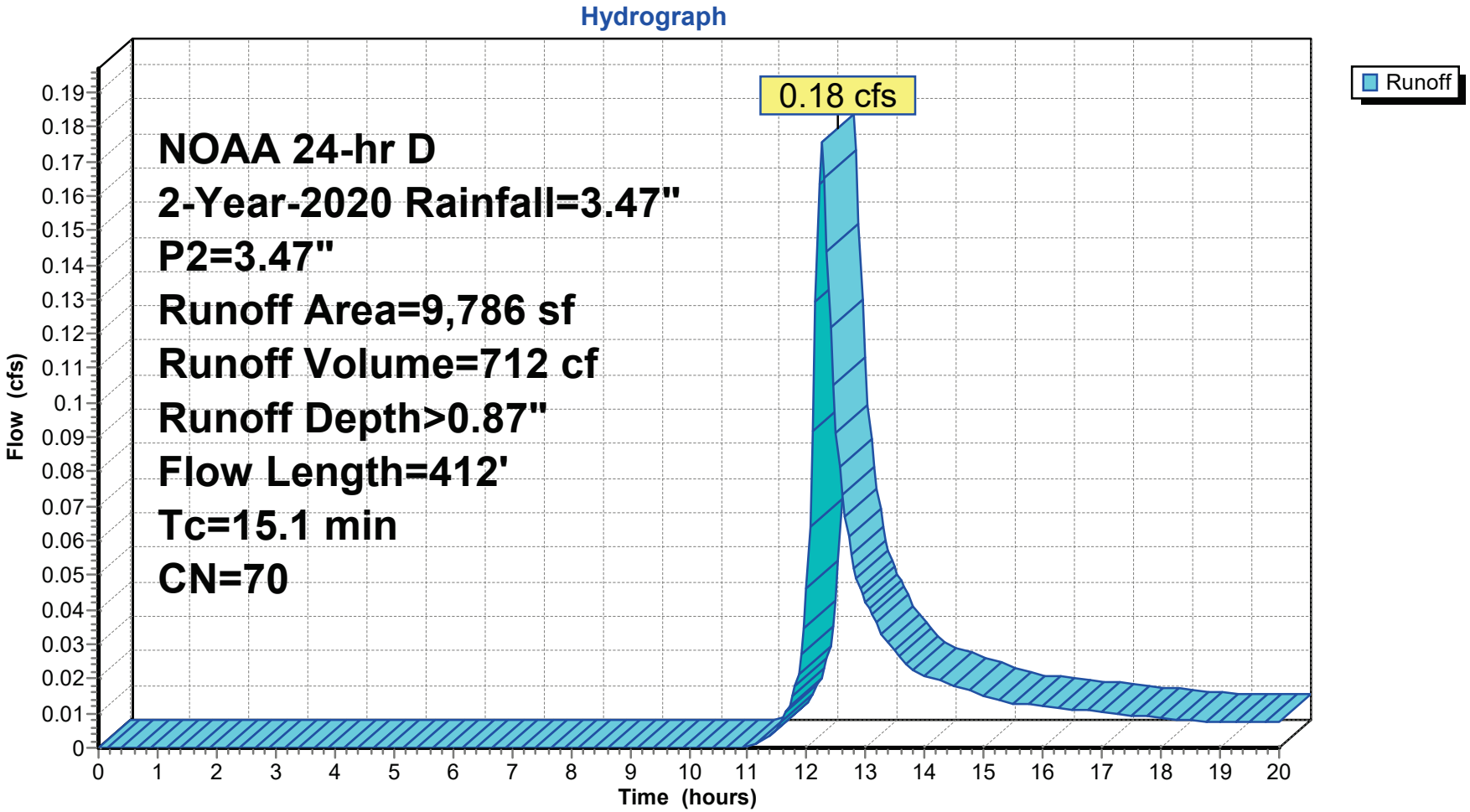
Runoff = 0.18 cfs @ 12.25 hrs, Volume= 712 cf, Depth> 0.87"
Routed to Link 5L : EXIST TOTAL BLOOMFIELD AVE DP#2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-Year-2020 Rainfall=3.47", P2=3.47"

	Area (sf)	CN	Description
*	9,786	70	PARKING LOT TO WOODS PER CODE
	9,786		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.5	100	0.0700	0.13		**Sheet Flow, WOODS** Woods: Light underbrush n= 0.400 P2= 3.47"
1.8	94	0.0319	0.89		**Shallow Concentrated Flow, WOODLAND** Woodland Kv= 5.0 fps
0.8	218	0.0550	4.76		**Shallow Concentrated Flow, BLOOMFIELD** Paved Kv= 20.3 fps
15.1	412	Total			

Subcatchment E2A: E2A



Summary for Subcatchment E2C: E2C

Runoff = 0.01 cfs @ 12.26 hrs, Volume= 40 cf, Depth> 0.87"
Routed to Link 5L : EXIST TOTAL BLOOMFIELD AVE DP#2

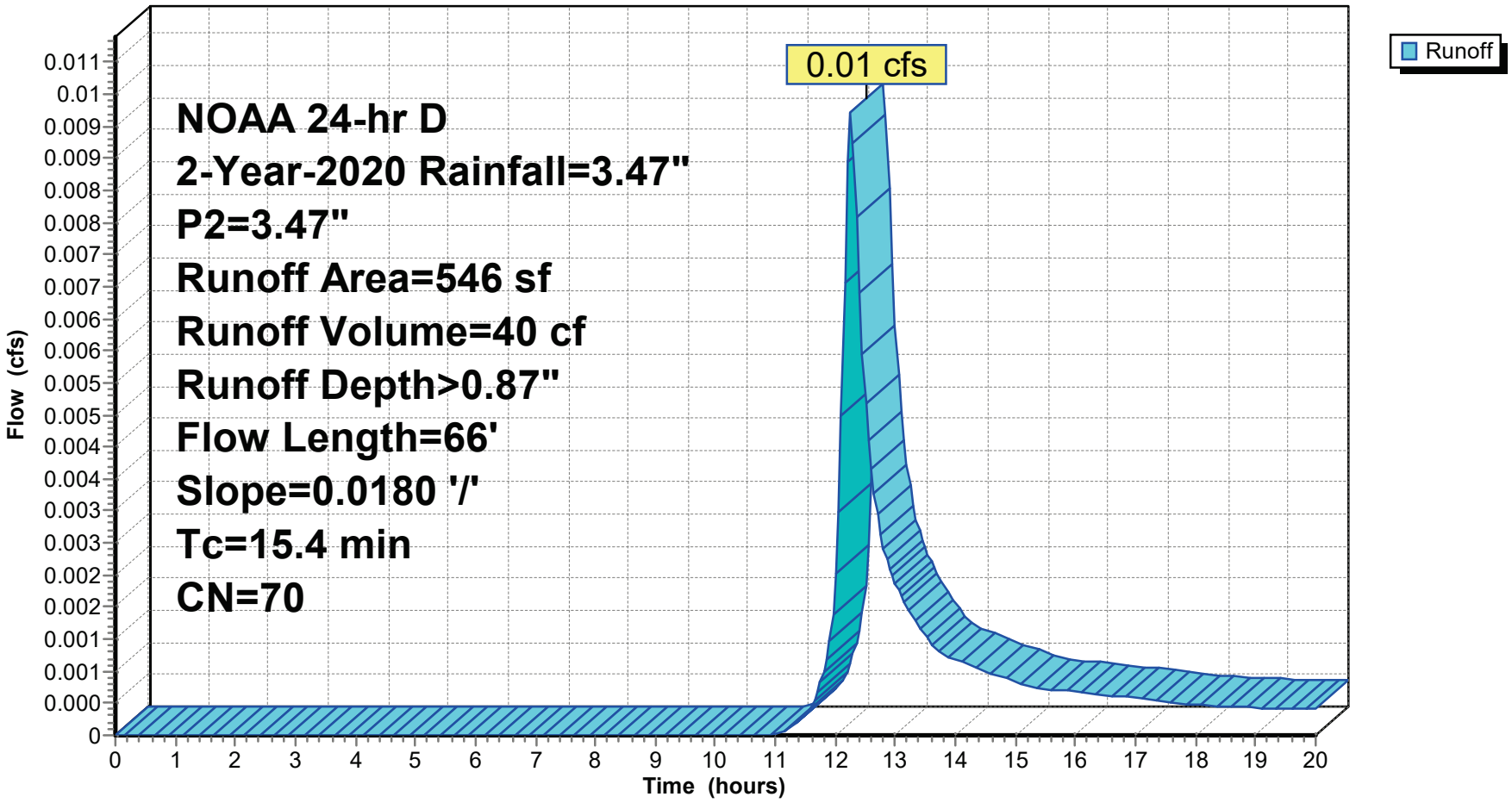
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-Year-2020 Rainfall=3.47", P2=3.47"

	Area (sf)	CN	Description
*	546	70	SIDEWALK TO WOODS PER CODE
	546		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.4	66	0.0180	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.47"

Subcatchment E2C: E2C

Hydrograph

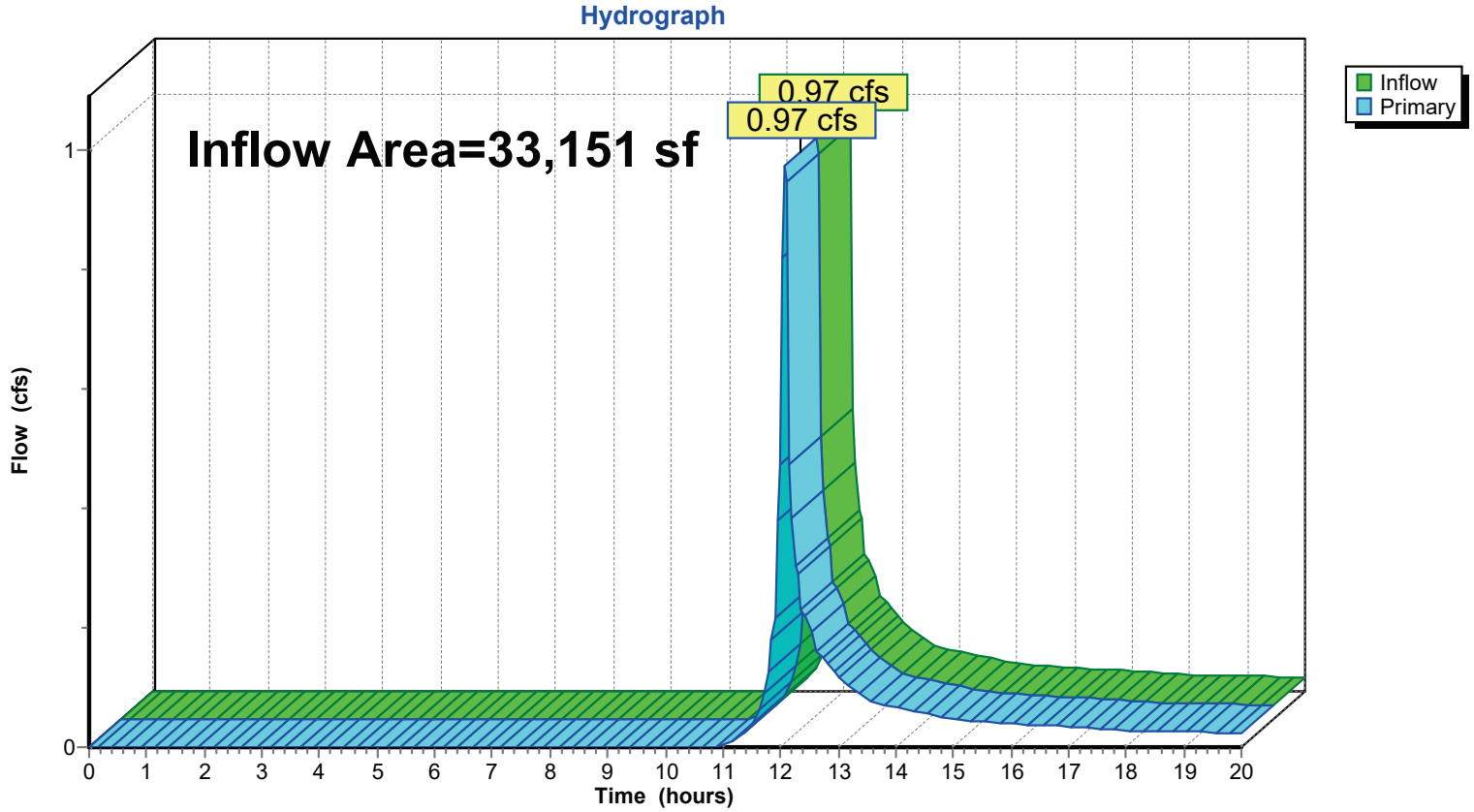


Summary for Link 4L: DESIGN POINT 1

Inflow Area = 33,151 sf, 0.00% Impervious, Inflow Depth > 0.88" for 2-Year-2020 event
Inflow = 0.97 cfs @ 12.09 hrs, Volume= 2,430 cf
Primary = 0.97 cfs @ 12.09 hrs, Volume= 2,430 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 7L : EXIST SITE TOTAL

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

Link 4L: DESIGN POINT 1

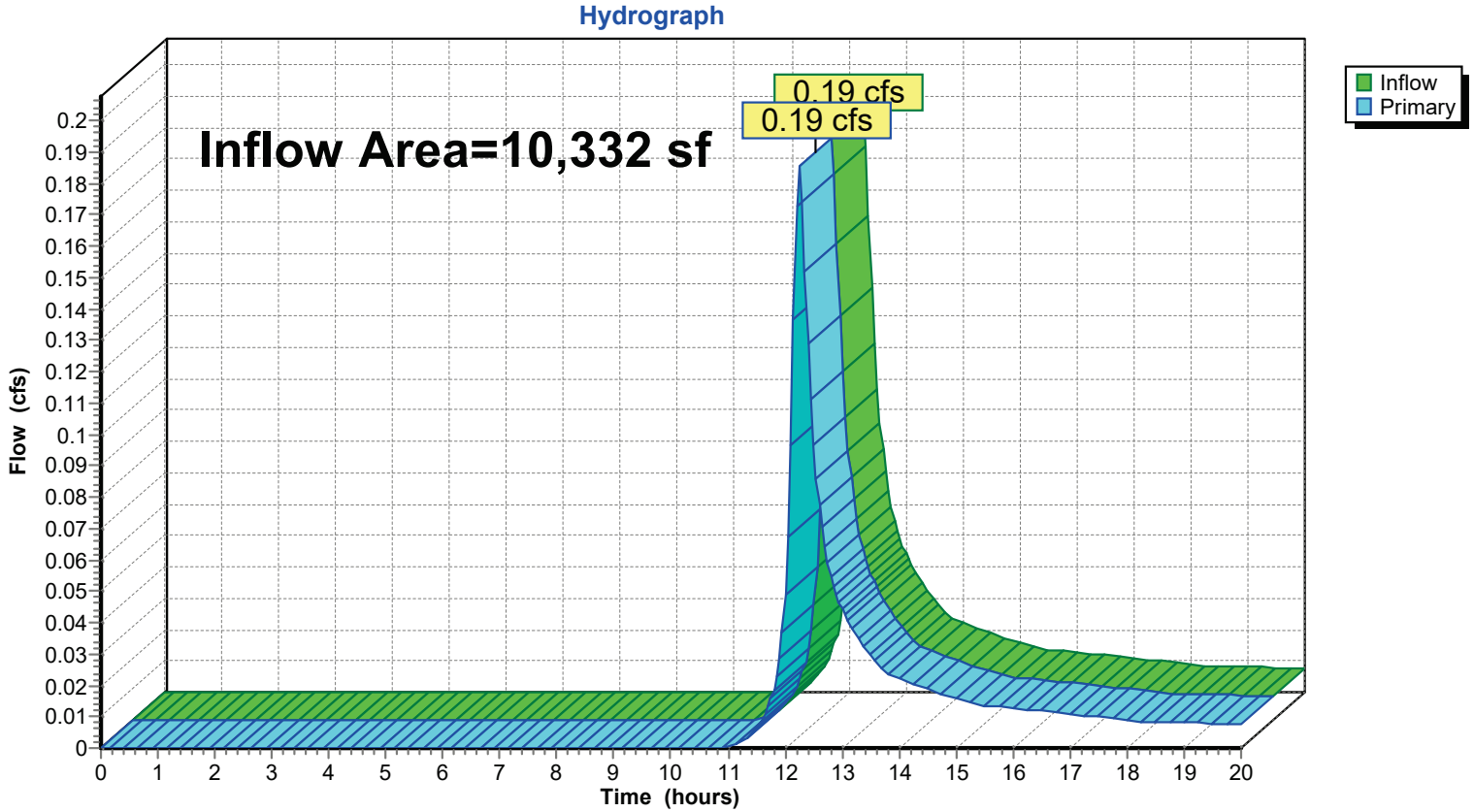


Summary for Link 5L: EXIST TOTAL BLOOMFIELD AVE DP#2

Inflow Area = 10,332 sf, 0.00% Impervious, Inflow Depth > 0.87" for 2-Year-2020 event
Inflow = 0.19 cfs @ 12.25 hrs, Volume= 752 cf
Primary = 0.19 cfs @ 12.25 hrs, Volume= 752 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 7L : EXIST SITE TOTAL

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

Link 5L: EXIST TOTAL BLOOMFIELD AVE DP#2

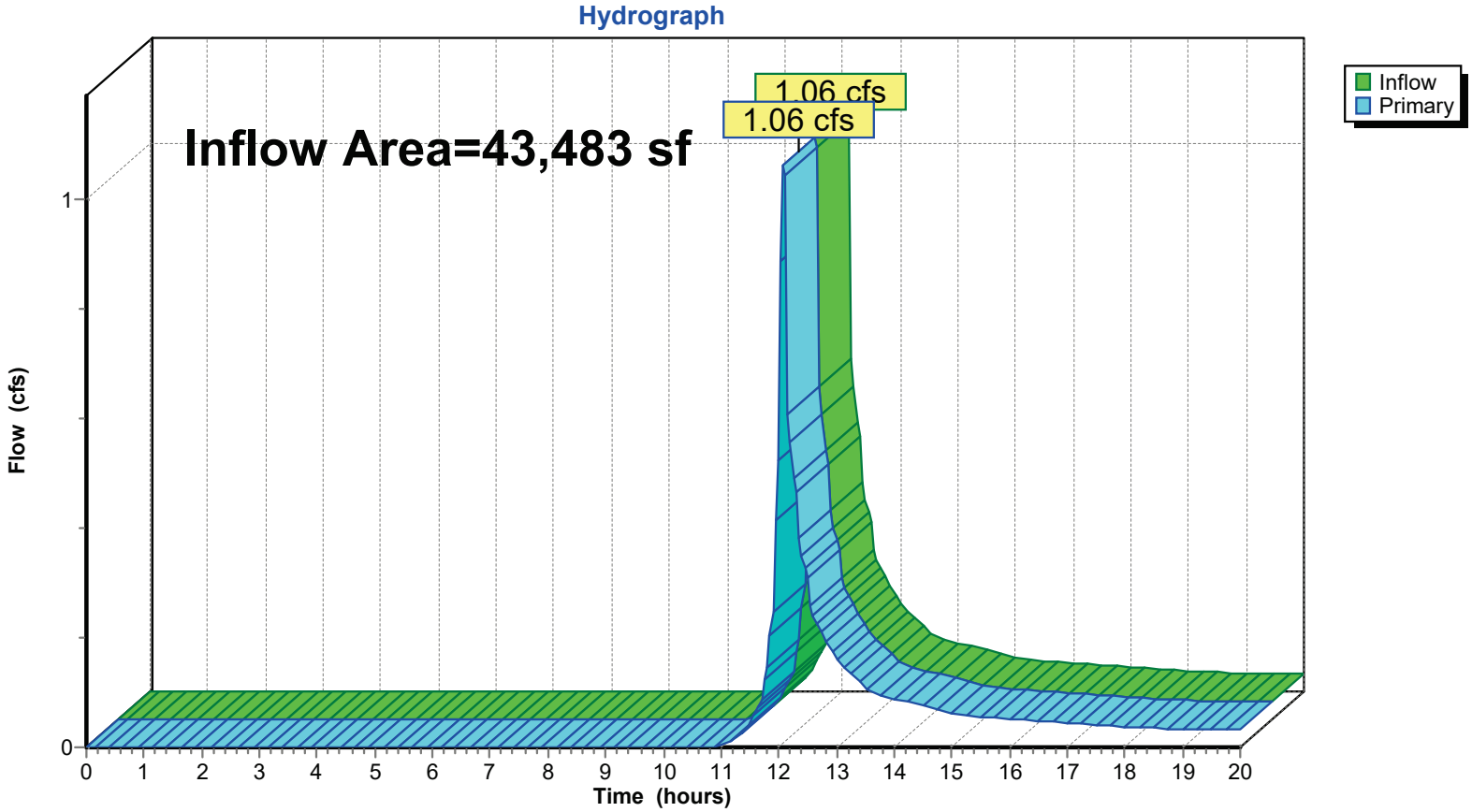


Summary for Link 7L: EXIST SITE TOTAL

Inflow Area = 43,483 sf, 0.00% Impervious, Inflow Depth > 0.88" for 2-Year-2020 event
Inflow = 1.06 cfs @ 12.09 hrs, Volume= 3,182 cf
Primary = 1.06 cfs @ 12.09 hrs, Volume= 3,182 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

Link 7L: EXIST SITE TOTAL



Summary for Subcatchment E1A: E1A

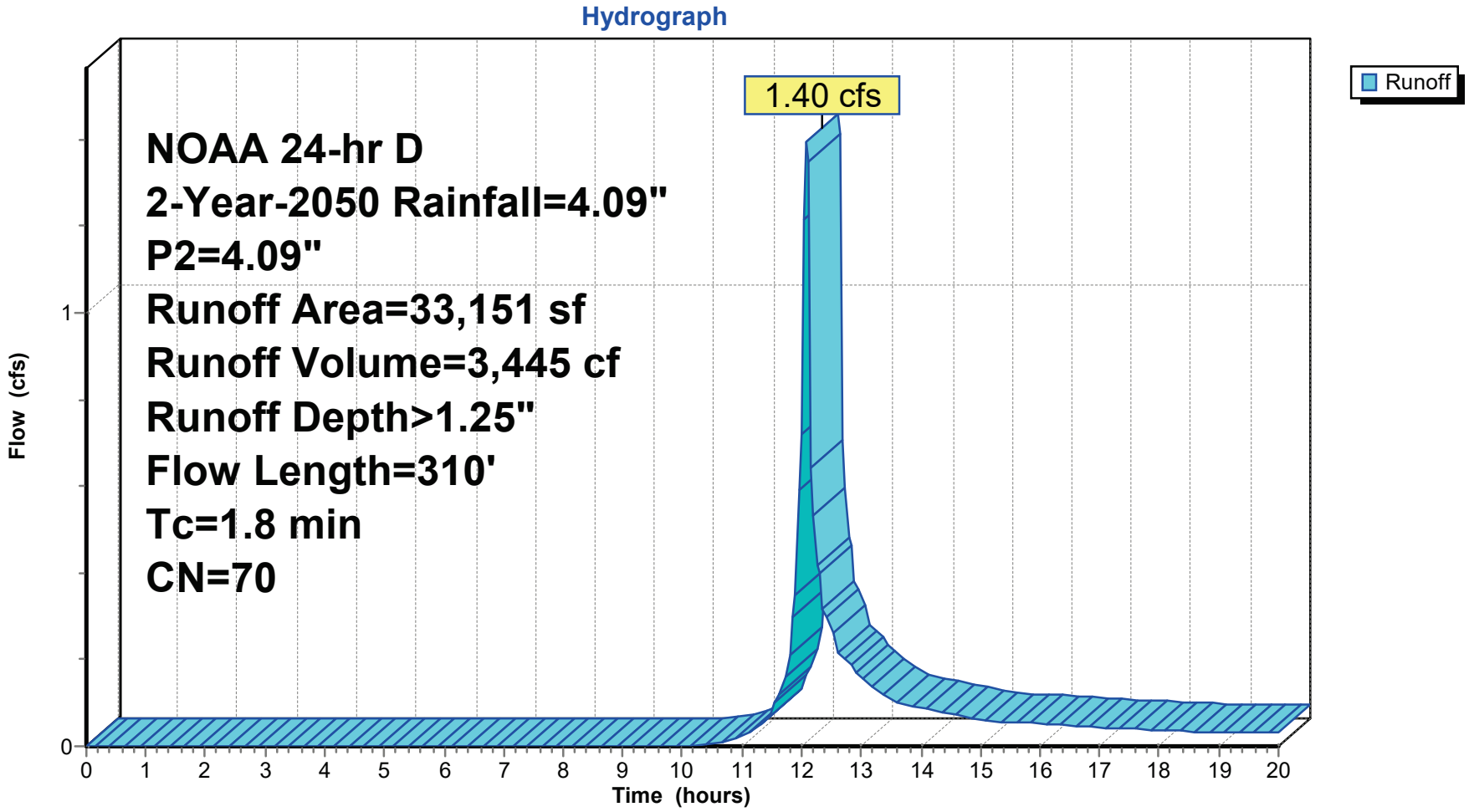
Runoff = 1.40 cfs @ 12.08 hrs, Volume= 3,445 cf, Depth> 1.25"
Routed to Link 4L : DESIGN POINT 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-Year-2050 Rainfall=4.09", P2=4.09"

	Area (sf)	CN	Description
*	33,151	70	PAVED & ROOF TO WOODS PER CODE
	33,151		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	100	0.0200	1.56		**Sheet Flow, ROOF** Smooth surfaces n= 0.011 P2= 4.09"
0.2	33	0.0200	2.87		**Shallow Concentrated Flow, ROOF** Paved Kv= 20.3 fps
0.5	177	0.0850	5.92		**Shallow Concentrated Flow, PARKING LOT** Paved Kv= 20.3 fps
1.8	310	Total			

Subcatchment E1A: E1A



Summary for Subcatchment E2A: E2A

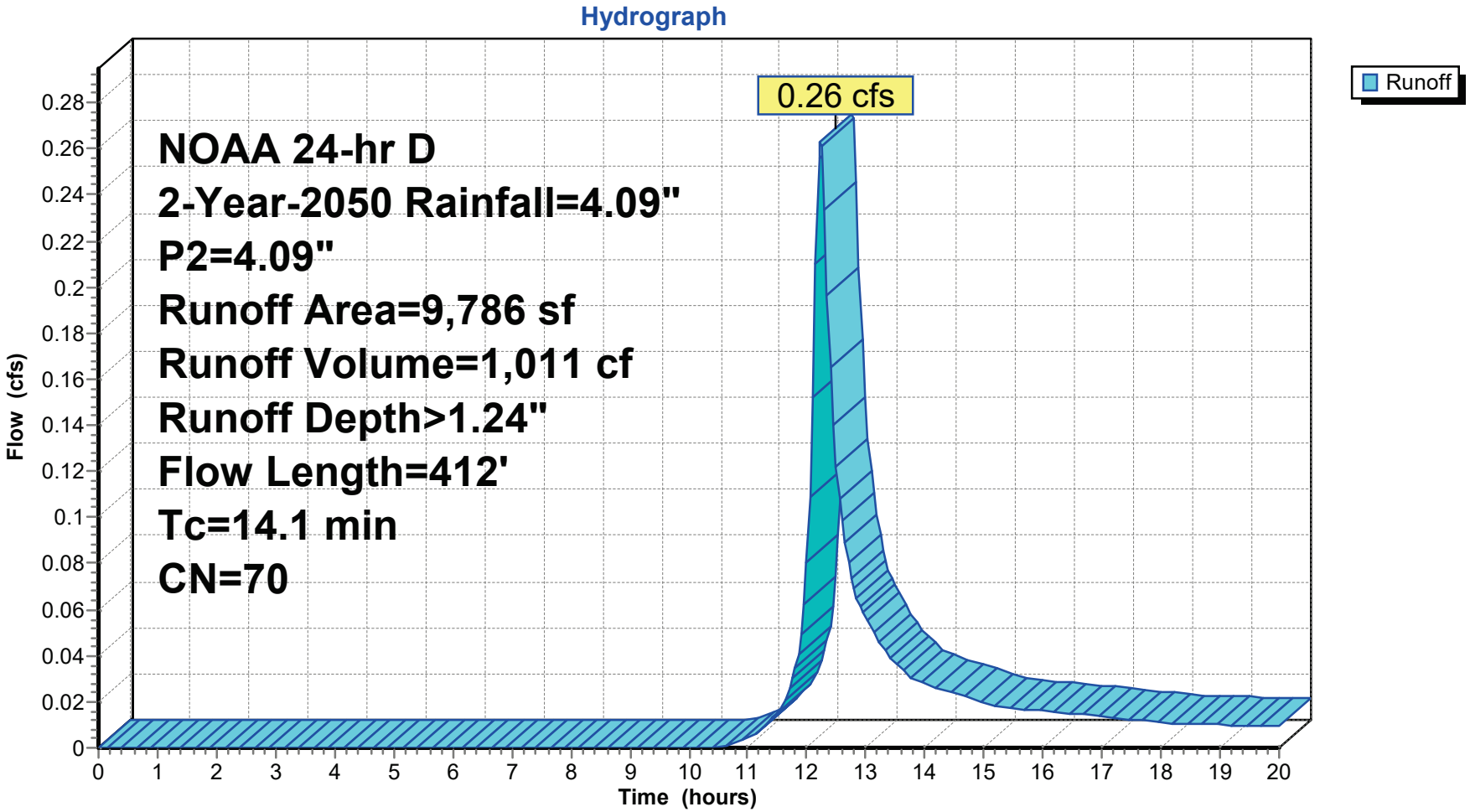
Runoff = 0.26 cfs @ 12.23 hrs, Volume= 1,011 cf, Depth> 1.24"
Routed to Link 5L : EXIST TOTAL BLOOMFIELD AVE DP#2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-Year-2050 Rainfall=4.09", P2=4.09"

	Area (sf)	CN	Description
*	9,786	70	PARKING LOT TO WOODS PER CODE
	9,786		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	100	0.0700	0.14		**Sheet Flow, WOODS** Woods: Light underbrush n= 0.400 P2= 4.09"
1.8	94	0.0319	0.89		**Shallow Concentrated Flow, WOODLAND** Woodland Kv= 5.0 fps
0.8	218	0.0550	4.76		**Shallow Concentrated Flow, BLOOMFIELD** Paved Kv= 20.3 fps
14.1	412	Total			

Subcatchment E2A: E2A



Summary for Subcatchment E2C: E2C

Runoff = 0.01 cfs @ 12.24 hrs, Volume= 56 cf, Depth> 1.24"
Routed to Link 5L : EXIST TOTAL BLOOMFIELD AVE DP#2

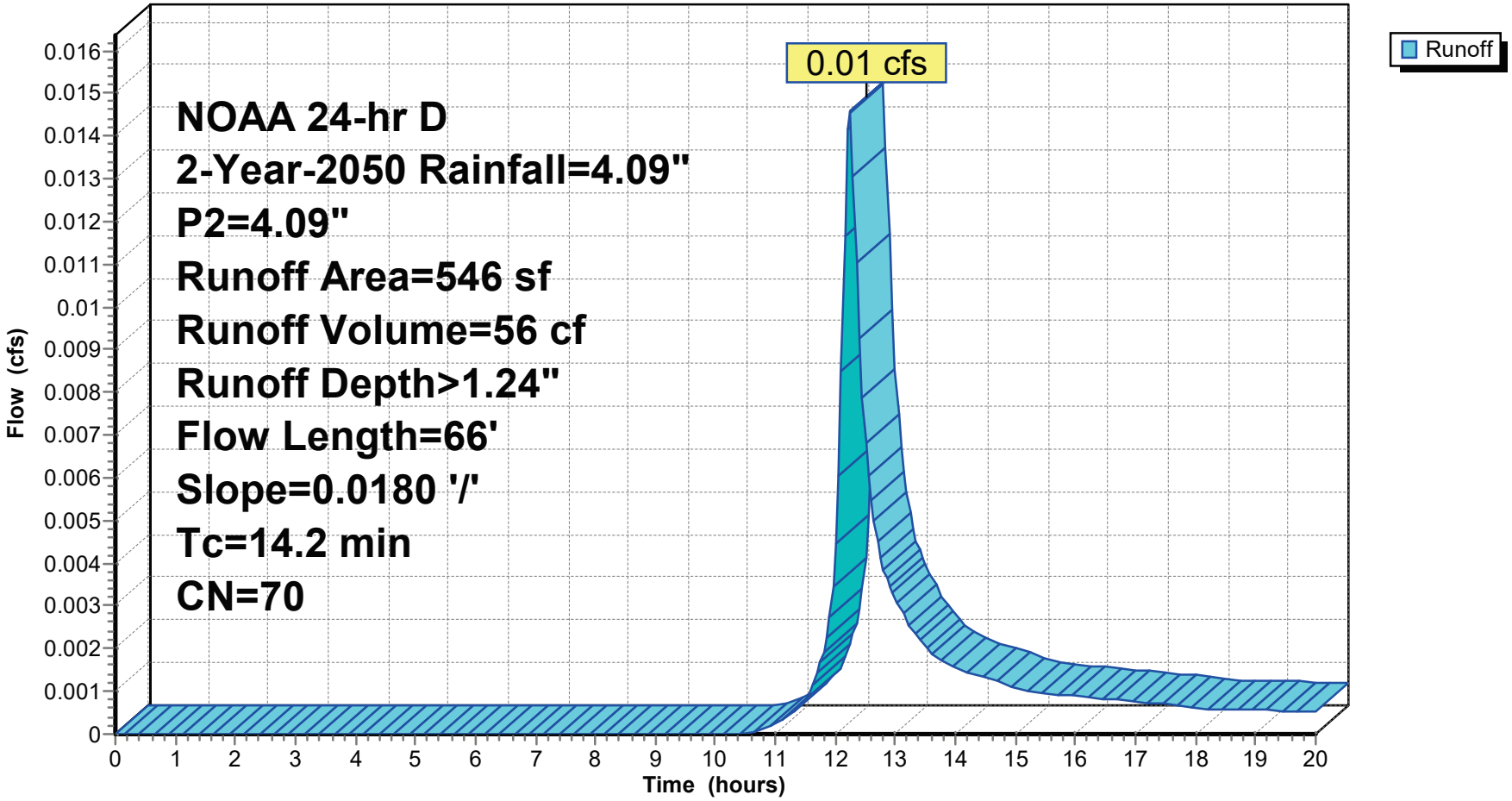
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2-Year-2050 Rainfall=4.09", P2=4.09"

	Area (sf)	CN	Description
*	546	70	SIDEWALK TO WOODS PER CODE
	546		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	66	0.0180	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 4.09"

Subcatchment E2C: E2C

Hydrograph

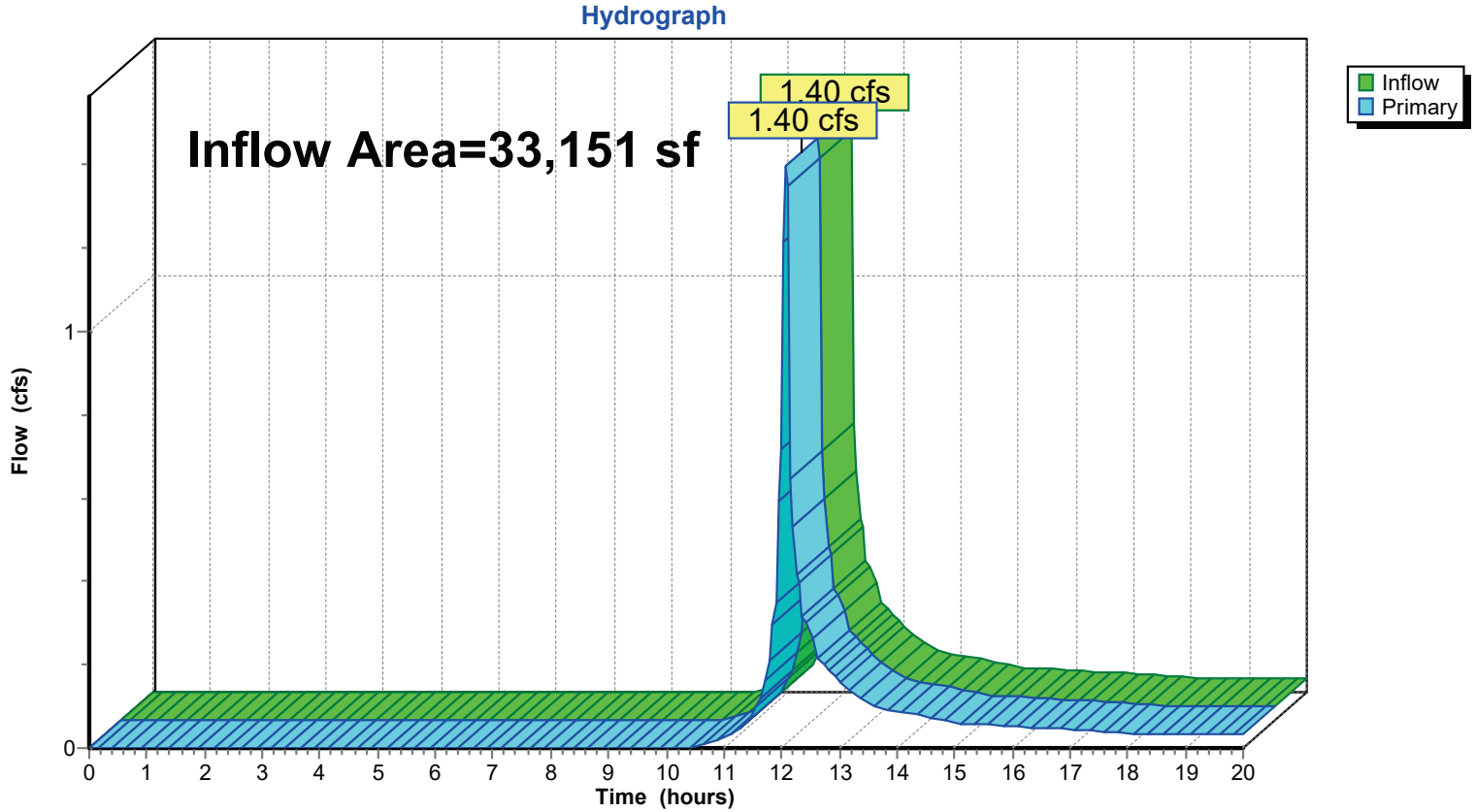


Summary for Link 4L: DESIGN POINT 1

Inflow Area = 33,151 sf, 0.00% Impervious, Inflow Depth > 1.25" for 2-Year-2050 event
Inflow = 1.40 cfs @ 12.08 hrs, Volume= 3,445 cf
Primary = 1.40 cfs @ 12.08 hrs, Volume= 3,445 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 7L : EXIST SITE TOTAL

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

Link 4L: DESIGN POINT 1

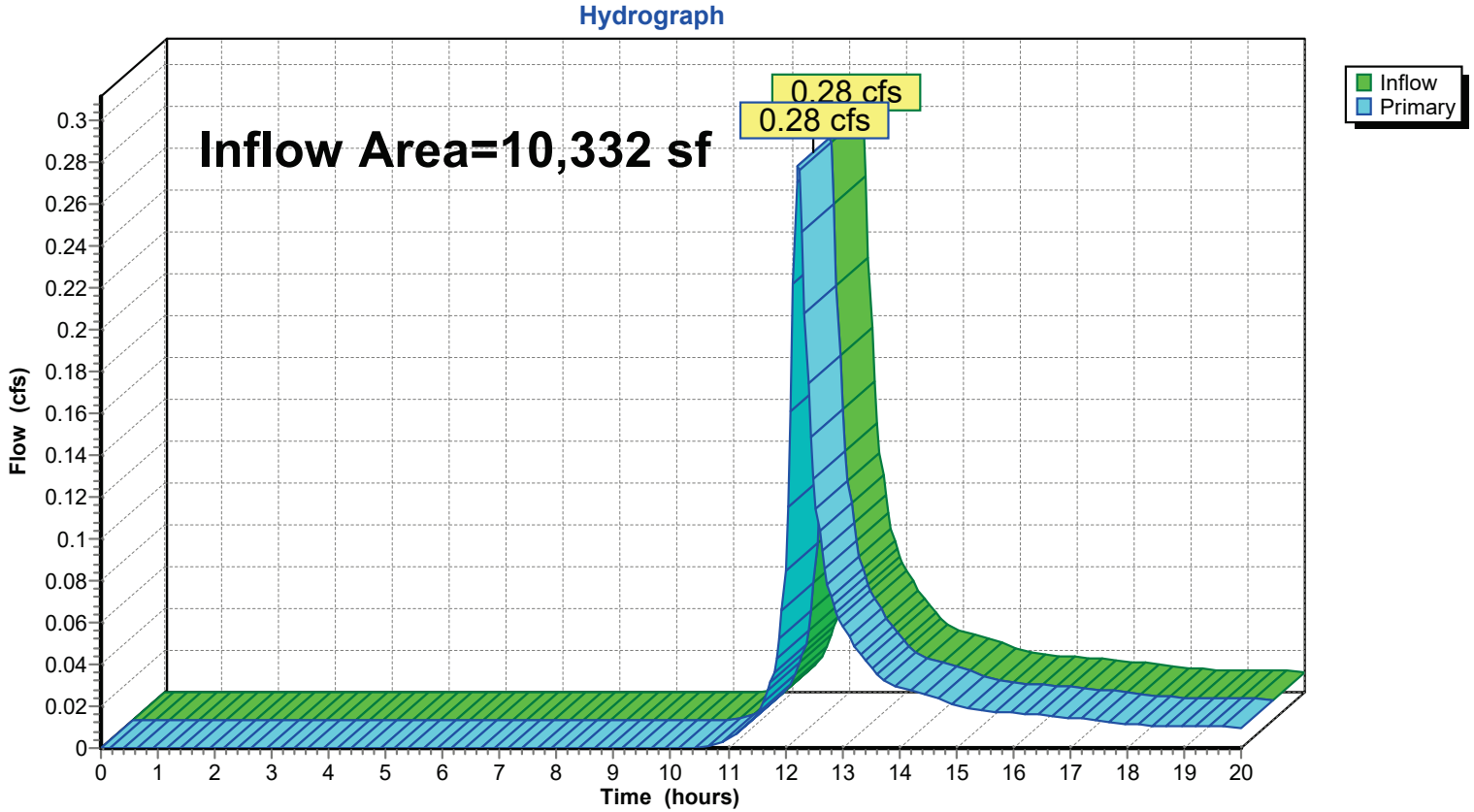


Summary for Link 5L: EXIST TOTAL BLOOMFIELD AVE DP#2

Inflow Area = 10,332 sf, 0.00% Impervious, Inflow Depth > 1.24" for 2-Year-2050 event
Inflow = 0.28 cfs @ 12.23 hrs, Volume= 1,067 cf
Primary = 0.28 cfs @ 12.23 hrs, Volume= 1,067 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 7L : EXIST SITE TOTAL

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

Link 5L: EXIST TOTAL BLOOMFIELD AVE DP#2

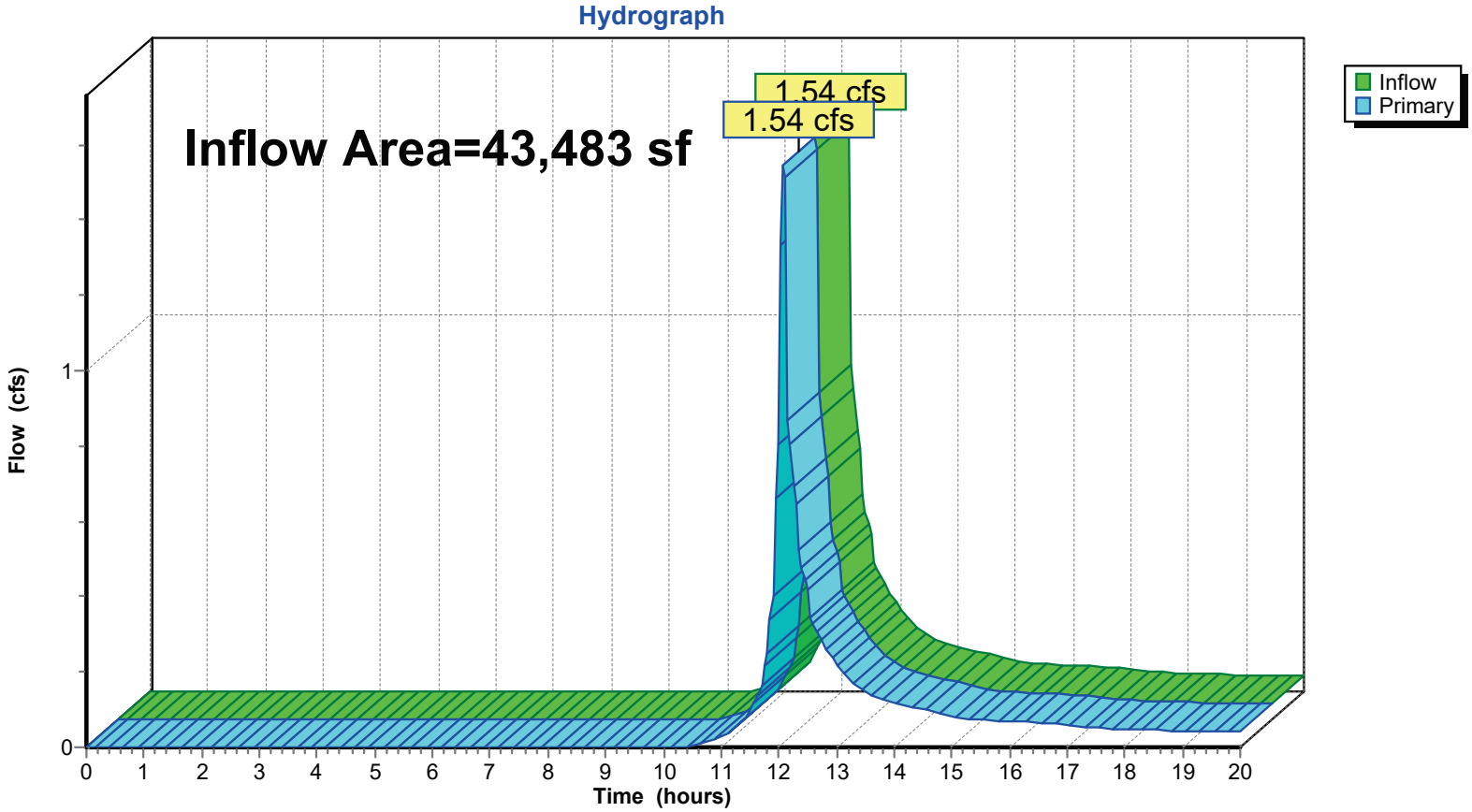


Summary for Link 7L: EXIST SITE TOTAL

Inflow Area = 43,483 sf, 0.00% Impervious, Inflow Depth > 1.25" for 2-Year-2050 event
Inflow = 1.54 cfs @ 12.09 hrs, Volume= 4,512 cf
Primary = 1.54 cfs @ 12.09 hrs, Volume= 4,512 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

Link 7L: EXIST SITE TOTAL



Summary for Subcatchment E1A: E1A

Runoff = 2.36 cfs @ 12.08 hrs, Volume= 5,826 cf, Depth> 2.11"
Routed to Link 4L : DESIGN POINT 1

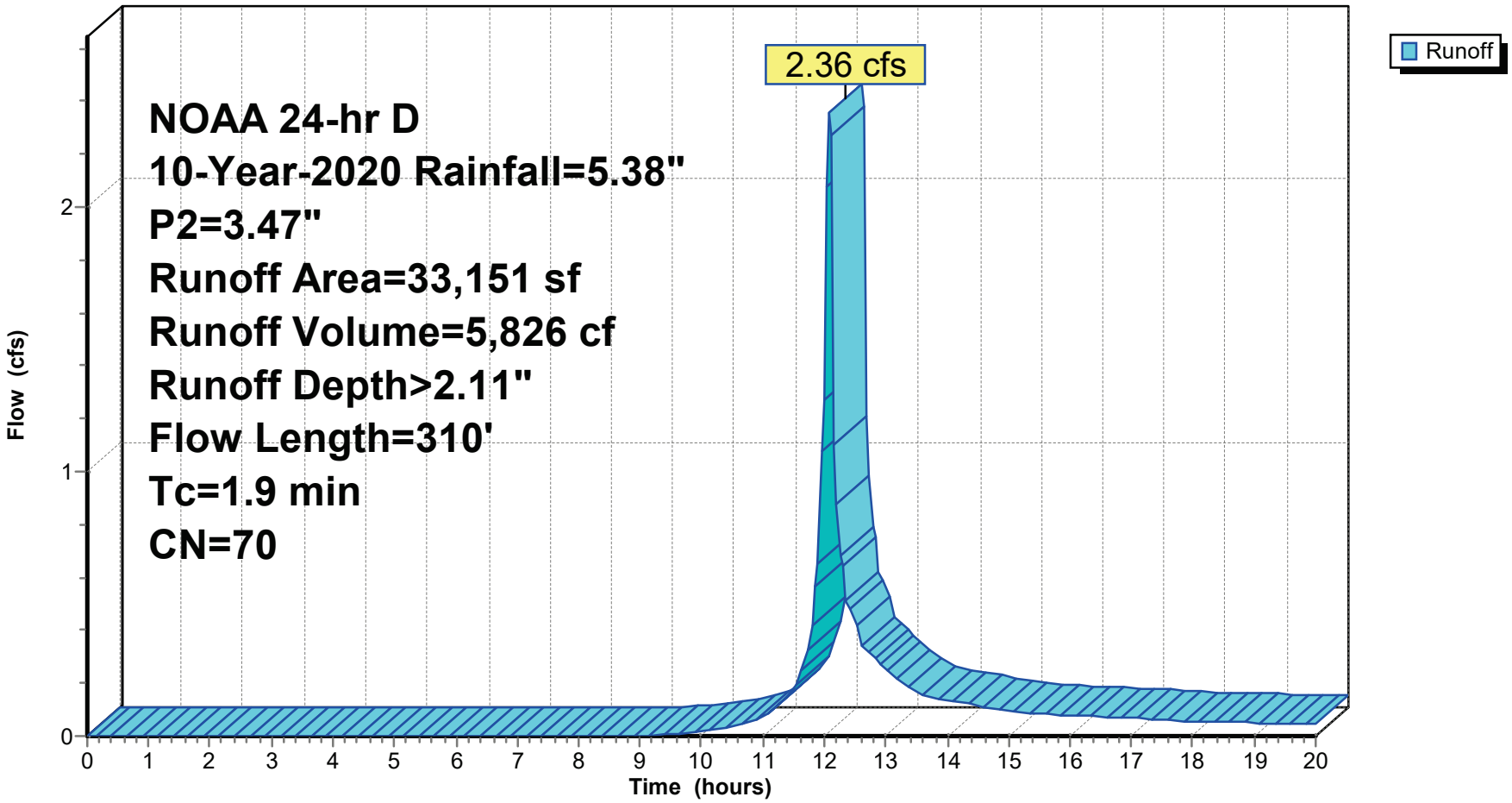
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-Year-2020 Rainfall=5.38", P2=3.47"

	Area (sf)	CN	Description
*	33,151	70	PAVED & ROOF TO WOODS PER CODE
	33,151		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0200	1.43		**Sheet Flow, ROOF** Smooth surfaces n= 0.011 P2= 3.47"
0.2	33	0.0200	2.87		**Shallow Concentrated Flow, ROOF** Paved Kv= 20.3 fps
0.5	177	0.0850	5.92		**Shallow Concentrated Flow, PARKING LOT** Paved Kv= 20.3 fps
1.9	310	Total			

Subcatchment E1A: E1A

Hydrograph



Summary for Subcatchment E2A: E2A

Runoff = 0.44 cfs @ 12.24 hrs, Volume= 1,709 cf, Depth> 2.10"
Routed to Link 5L : EXIST TOTAL BLOOMFIELD AVE DP#2

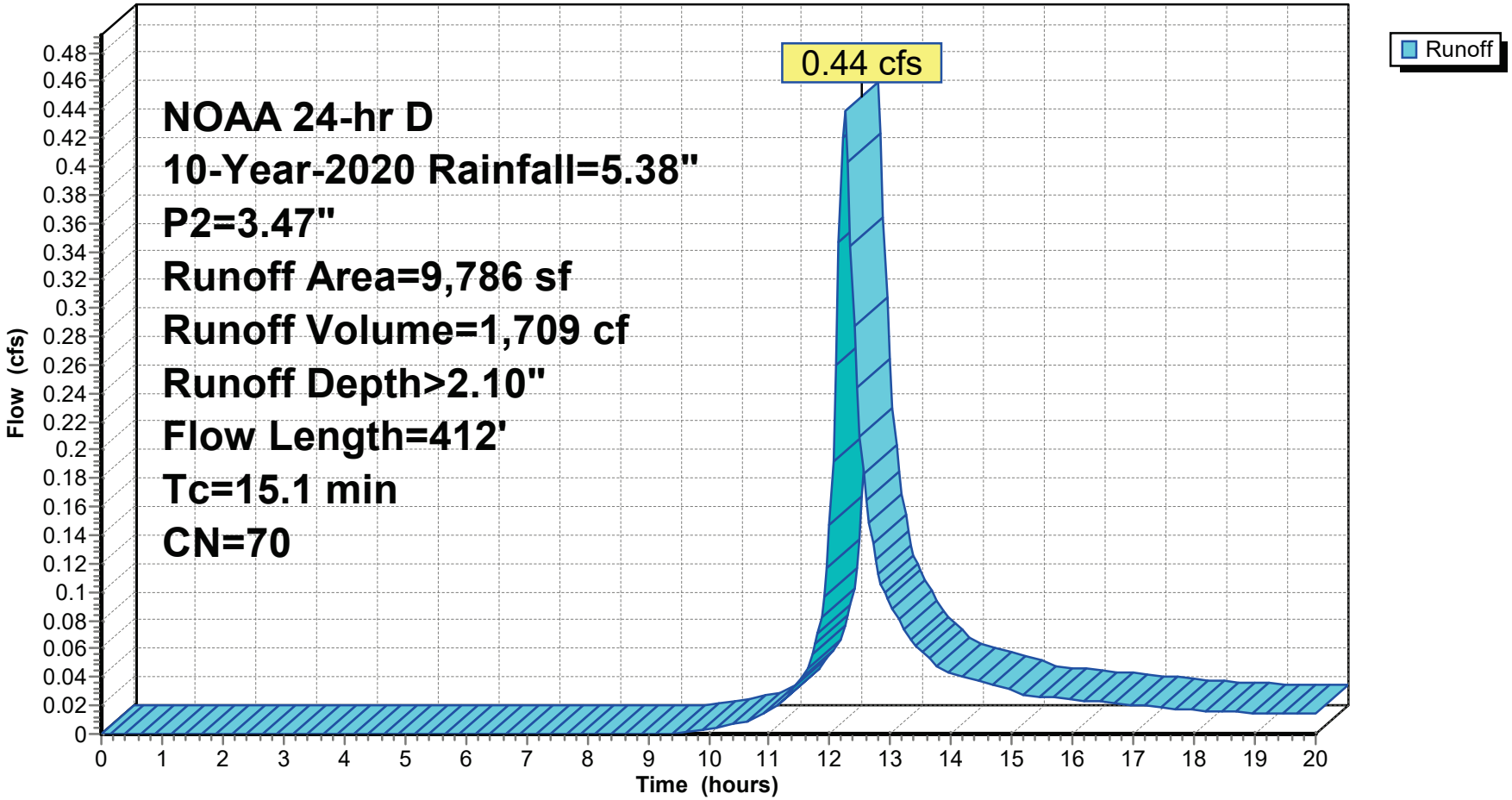
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-Year-2020 Rainfall=5.38", P2=3.47"

	Area (sf)	CN	Description
*	9,786	70	PARKING LOT TO WOODS PER CODE
	9,786		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.5	100	0.0700	0.13		**Sheet Flow, WOODS** Woods: Light underbrush n= 0.400 P2= 3.47"
1.8	94	0.0319	0.89		**Shallow Concentrated Flow, WOODLAND** Woodland Kv= 5.0 fps
0.8	218	0.0550	4.76		**Shallow Concentrated Flow, BLOOMFIELD** Paved Kv= 20.3 fps
15.1	412	Total			

Subcatchment E2A: E2A

Hydrograph



Summary for Subcatchment E2C: E2C

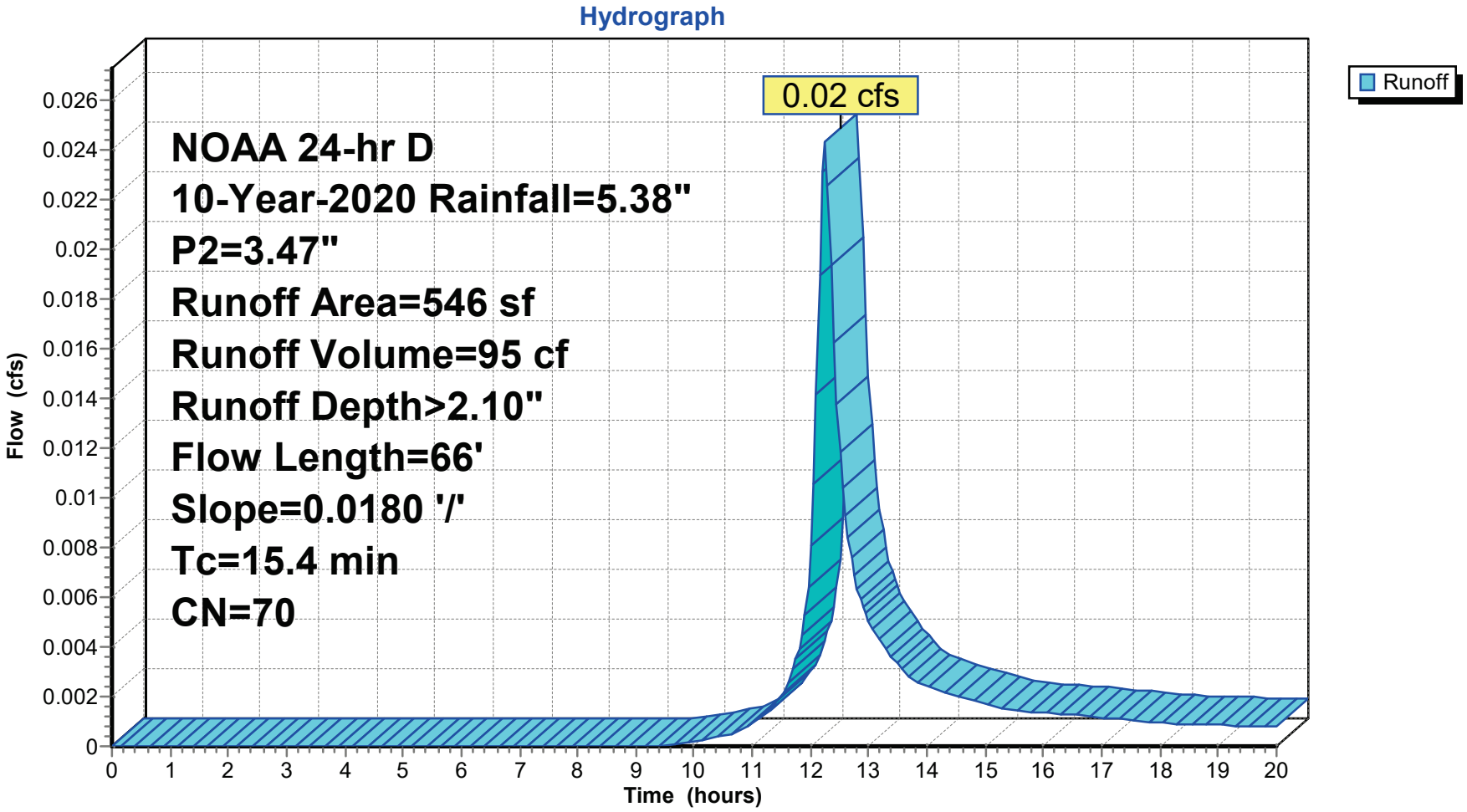
Runoff = 0.02 cfs @ 12.25 hrs, Volume= 95 cf, Depth> 2.10"
Routed to Link 5L : EXIST TOTAL BLOOMFIELD AVE DP#2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-Year-2020 Rainfall=5.38", P2=3.47"

	Area (sf)	CN	Description
*	546	70	SIDEWALK TO WOODS PER CODE
	546		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.4	66	0.0180	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.47"

Subcatchment E2C: E2C

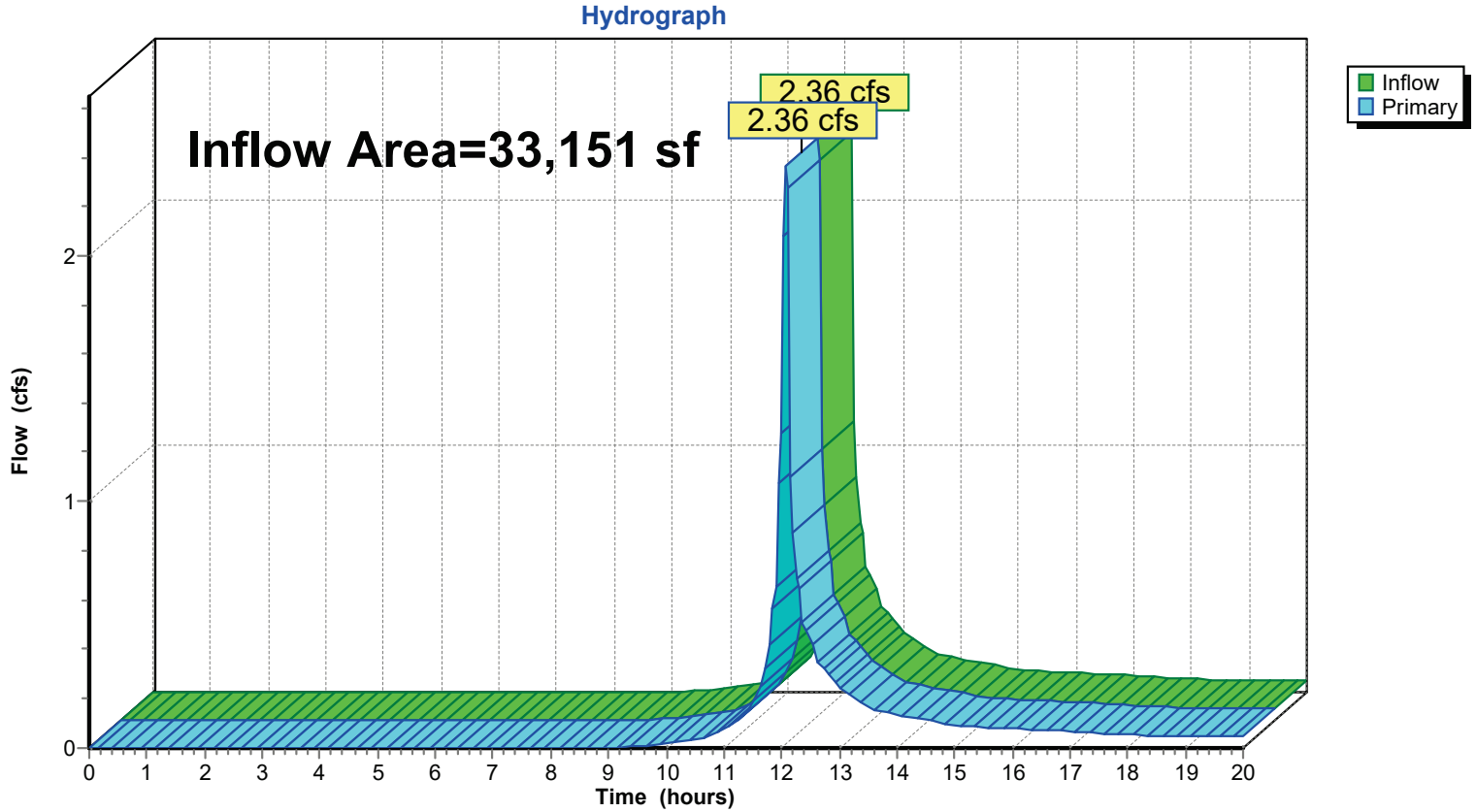


Summary for Link 4L: DESIGN POINT 1

Inflow Area = 33,151 sf, 0.00% Impervious, Inflow Depth > 2.11" for 10-Year-2020 event
Inflow = 2.36 cfs @ 12.08 hrs, Volume= 5,826 cf
Primary = 2.36 cfs @ 12.08 hrs, Volume= 5,826 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 7L : EXIST SITE TOTAL

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

Link 4L: DESIGN POINT 1

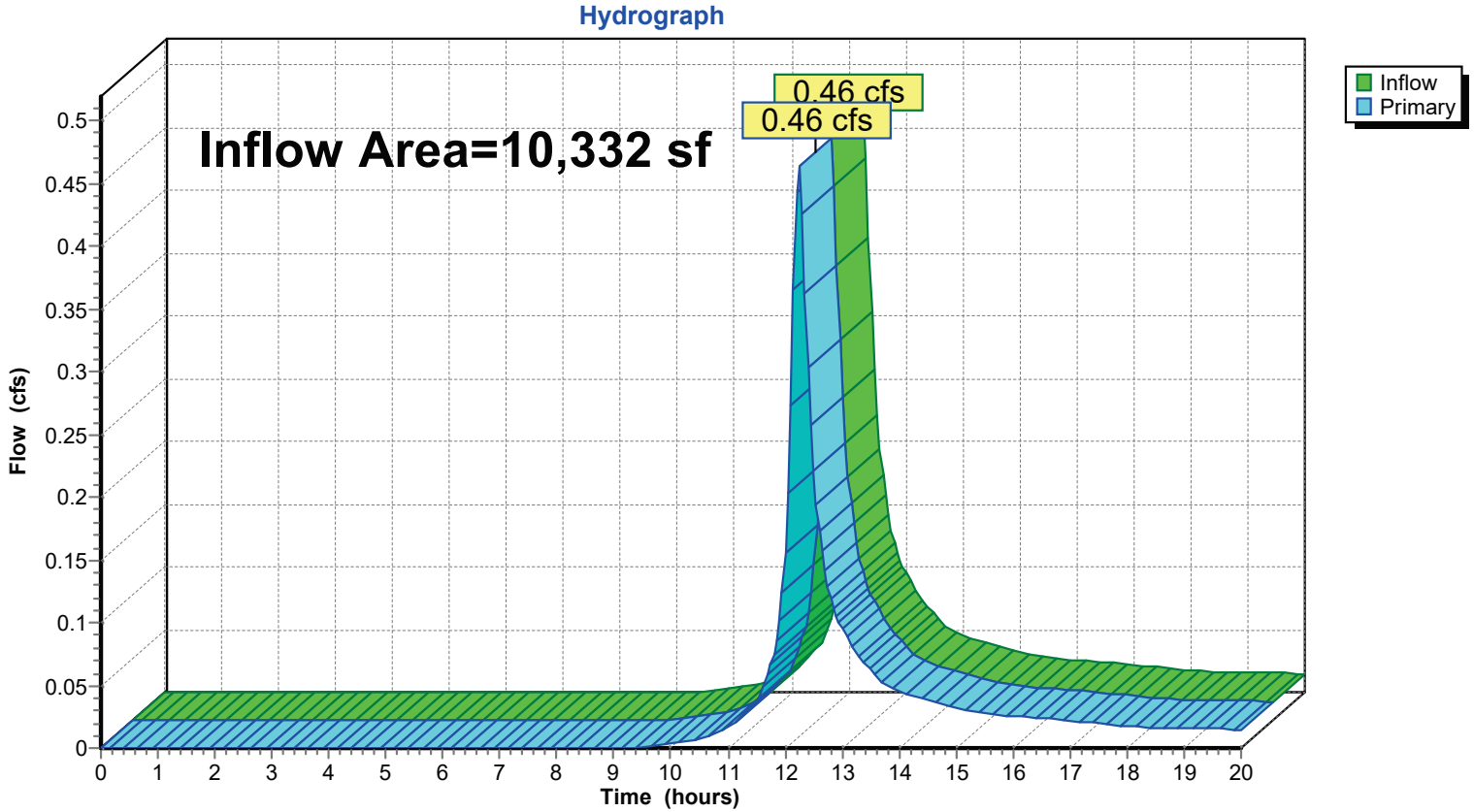


Summary for Link 5L: EXIST TOTAL BLOOMFIELD AVE DP#2

Inflow Area = 10,332 sf, 0.00% Impervious, Inflow Depth > 2.10" for 10-Year-2020 event
Inflow = 0.46 cfs @ 12.24 hrs, Volume= 1,805 cf
Primary = 0.46 cfs @ 12.24 hrs, Volume= 1,805 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 7L : EXIST SITE TOTAL

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

Link 5L: EXIST TOTAL BLOOMFIELD AVE DP#2

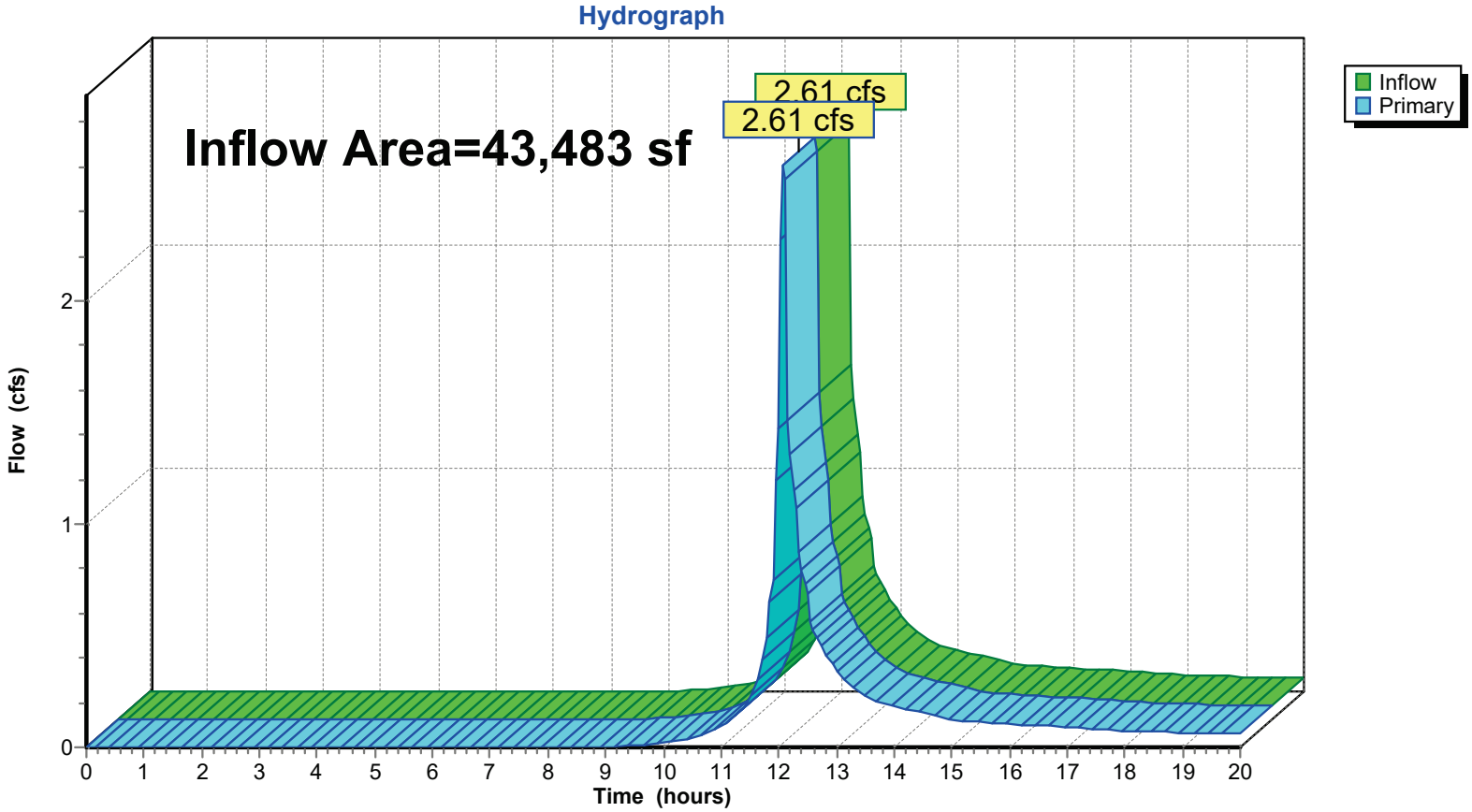


Summary for Link 7L: EXIST SITE TOTAL

Inflow Area = 43,483 sf, 0.00% Impervious, Inflow Depth > 2.11" for 10-Year-2020 event
Inflow = 2.61 cfs @ 12.08 hrs, Volume= 7,631 cf
Primary = 2.61 cfs @ 12.08 hrs, Volume= 7,631 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

Link 7L: EXIST SITE TOTAL



Summary for Subcatchment E1A: E1A

Runoff = 3.16 cfs @ 12.08 hrs, Volume= 7,828 cf, Depth> 2.83"
Routed to Link 4L : DESIGN POINT 1

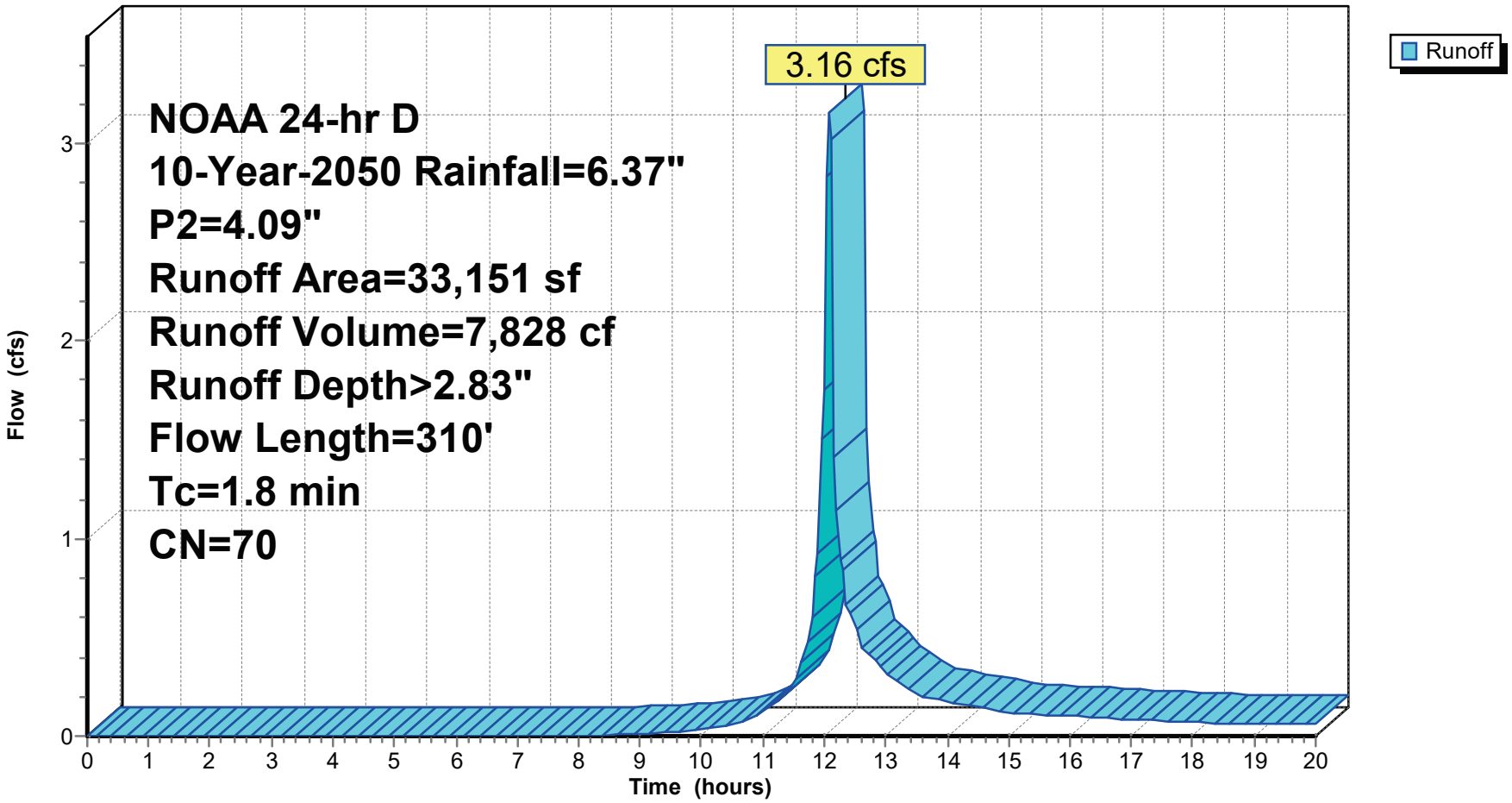
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-Year-2050 Rainfall=6.37", P2=4.09"

	Area (sf)	CN	Description
*	33,151	70	PAVED & ROOF TO WOODS PER CODE
	33,151		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	100	0.0200	1.56		**Sheet Flow, ROOF** Smooth surfaces n= 0.011 P2= 4.09"
0.2	33	0.0200	2.87		**Shallow Concentrated Flow, ROOF** Paved Kv= 20.3 fps
0.5	177	0.0850	5.92		**Shallow Concentrated Flow, PARKING LOT** Paved Kv= 20.3 fps
1.8	310	Total			

Subcatchment E1A: E1A

Hydrograph



Summary for Subcatchment E2A: E2A

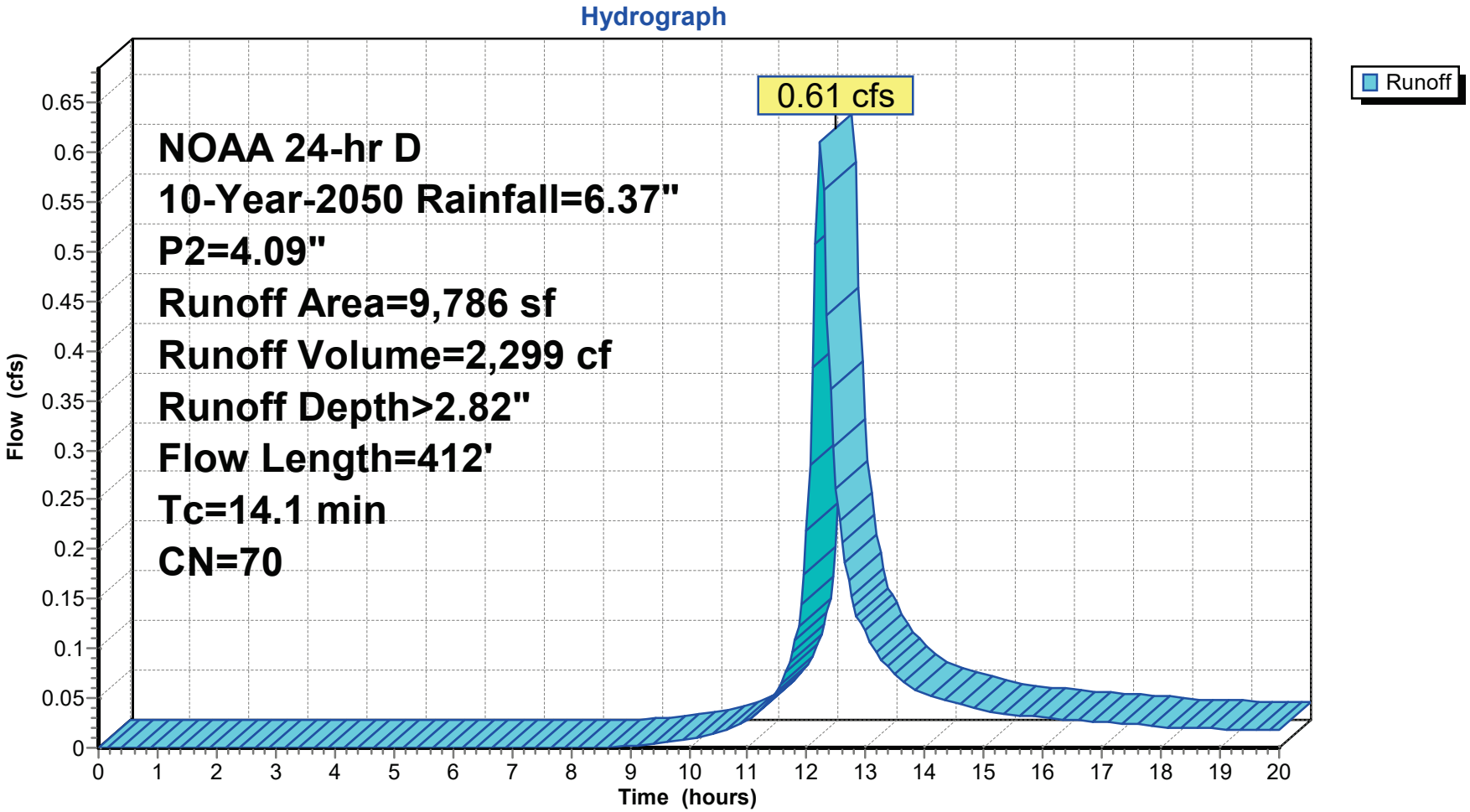
Runoff = 0.61 cfs @ 12.22 hrs, Volume= 2,299 cf, Depth> 2.82"
Routed to Link 5L : EXIST TOTAL BLOOMFIELD AVE DP#2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-Year-2050 Rainfall=6.37", P2=4.09"

	Area (sf)	CN	Description
*	9,786	70	PARKING LOT TO WOODS PER CODE
	9,786		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	100	0.0700	0.14		**Sheet Flow, WOODS** Woods: Light underbrush n= 0.400 P2= 4.09"
1.8	94	0.0319	0.89		**Shallow Concentrated Flow, WOODLAND** Woodland Kv= 5.0 fps
0.8	218	0.0550	4.76		**Shallow Concentrated Flow, BLOOMFIELD** Paved Kv= 20.3 fps
14.1	412	Total			

Subcatchment E2A: E2A



Summary for Subcatchment E2C: E2C

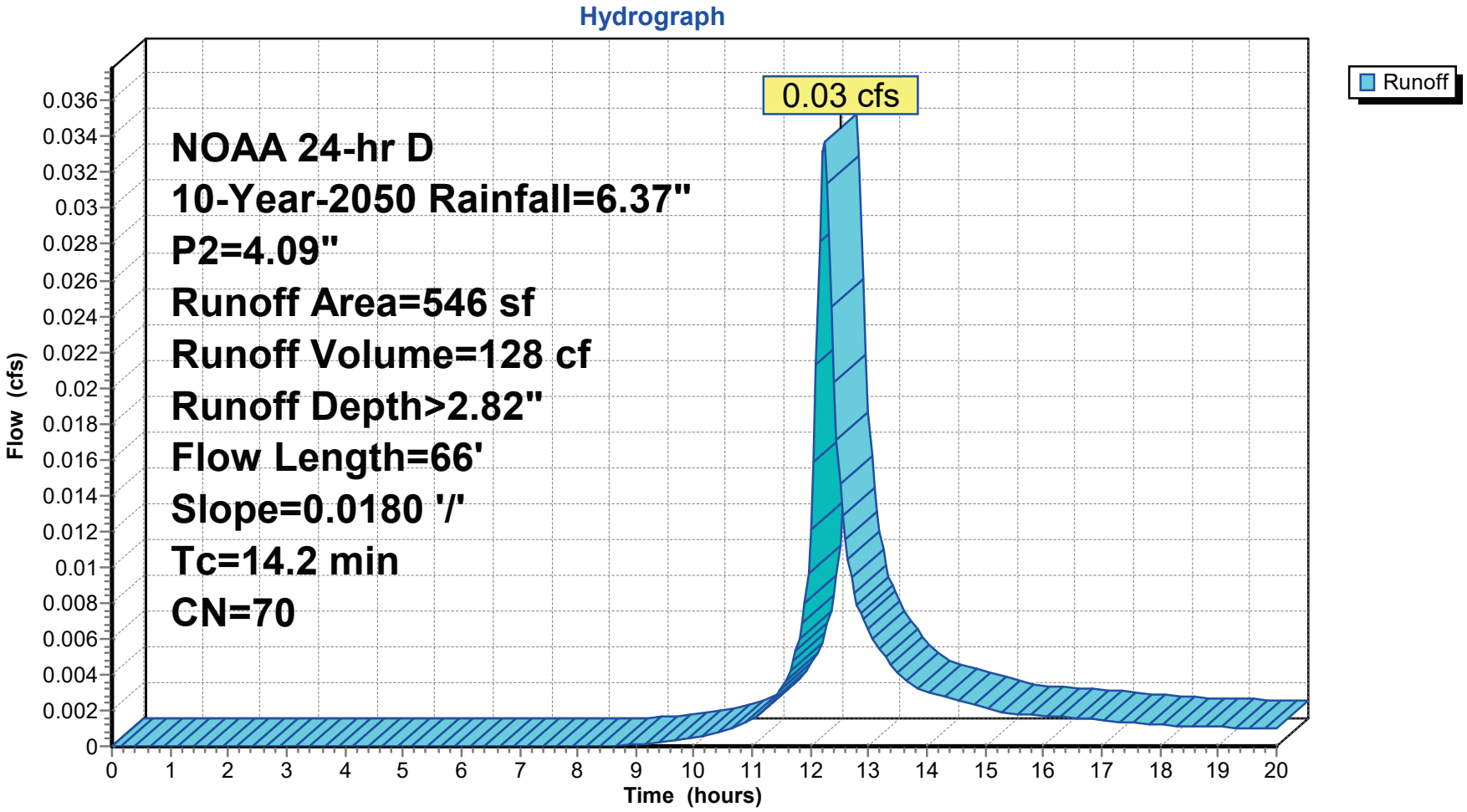
Runoff = 0.03 cfs @ 12.23 hrs, Volume= 128 cf, Depth> 2.82"
Routed to Link 5L : EXIST TOTAL BLOOMFIELD AVE DP#2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10-Year-2050 Rainfall=6.37", P2=4.09"

	Area (sf)	CN	Description
*	546	70	SIDEWALK TO WOODS PER CODE
	546		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	66	0.0180	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 4.09"

Subcatchment E2C: E2C

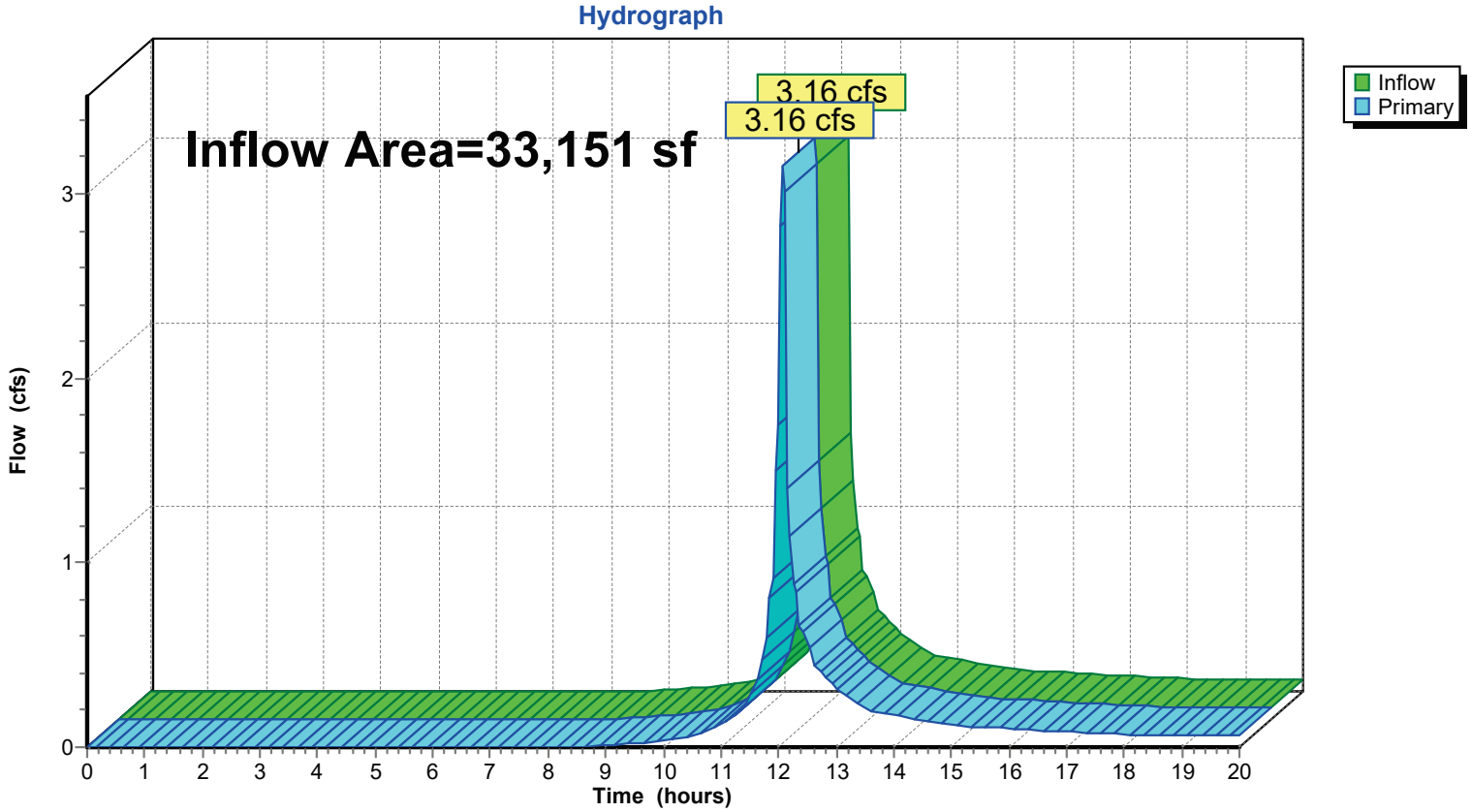


Summary for Link 4L: DESIGN POINT 1

Inflow Area = 33,151 sf, 0.00% Impervious, Inflow Depth > 2.83" for 10-Year-2050 event
Inflow = 3.16 cfs @ 12.08 hrs, Volume= 7,828 cf
Primary = 3.16 cfs @ 12.08 hrs, Volume= 7,828 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 7L : EXIST SITE TOTAL

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

Link 4L: DESIGN POINT 1

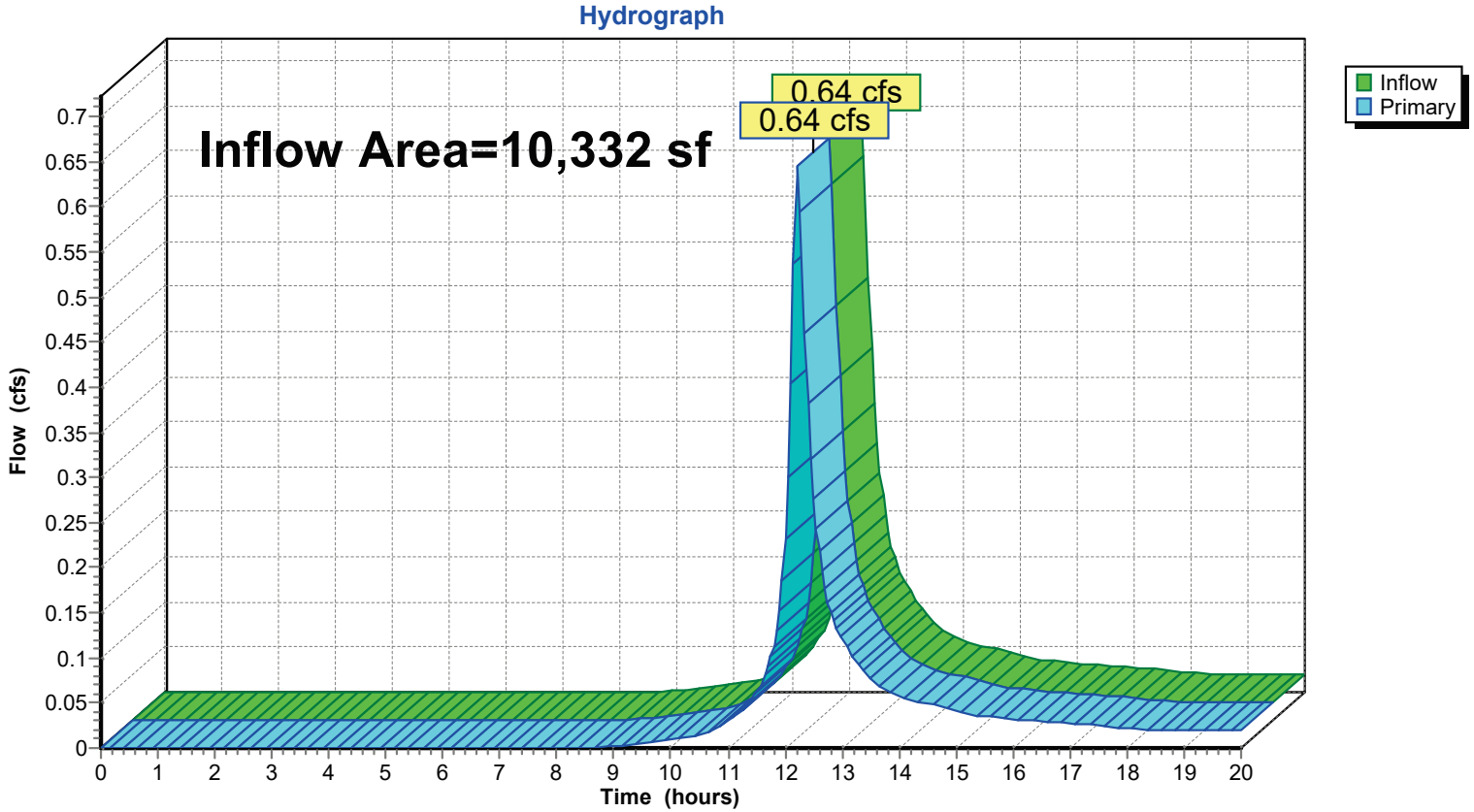


Summary for Link 5L: EXIST TOTAL BLOOMFIELD AVE DP#2

Inflow Area = 10,332 sf, 0.00% Impervious, Inflow Depth > 2.82" for 10-Year-2050 event
Inflow = 0.64 cfs @ 12.22 hrs, Volume= 2,427 cf
Primary = 0.64 cfs @ 12.22 hrs, Volume= 2,427 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 7L : EXIST SITE TOTAL

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

Link 5L: EXIST TOTAL BLOOMFIELD AVE DP#2

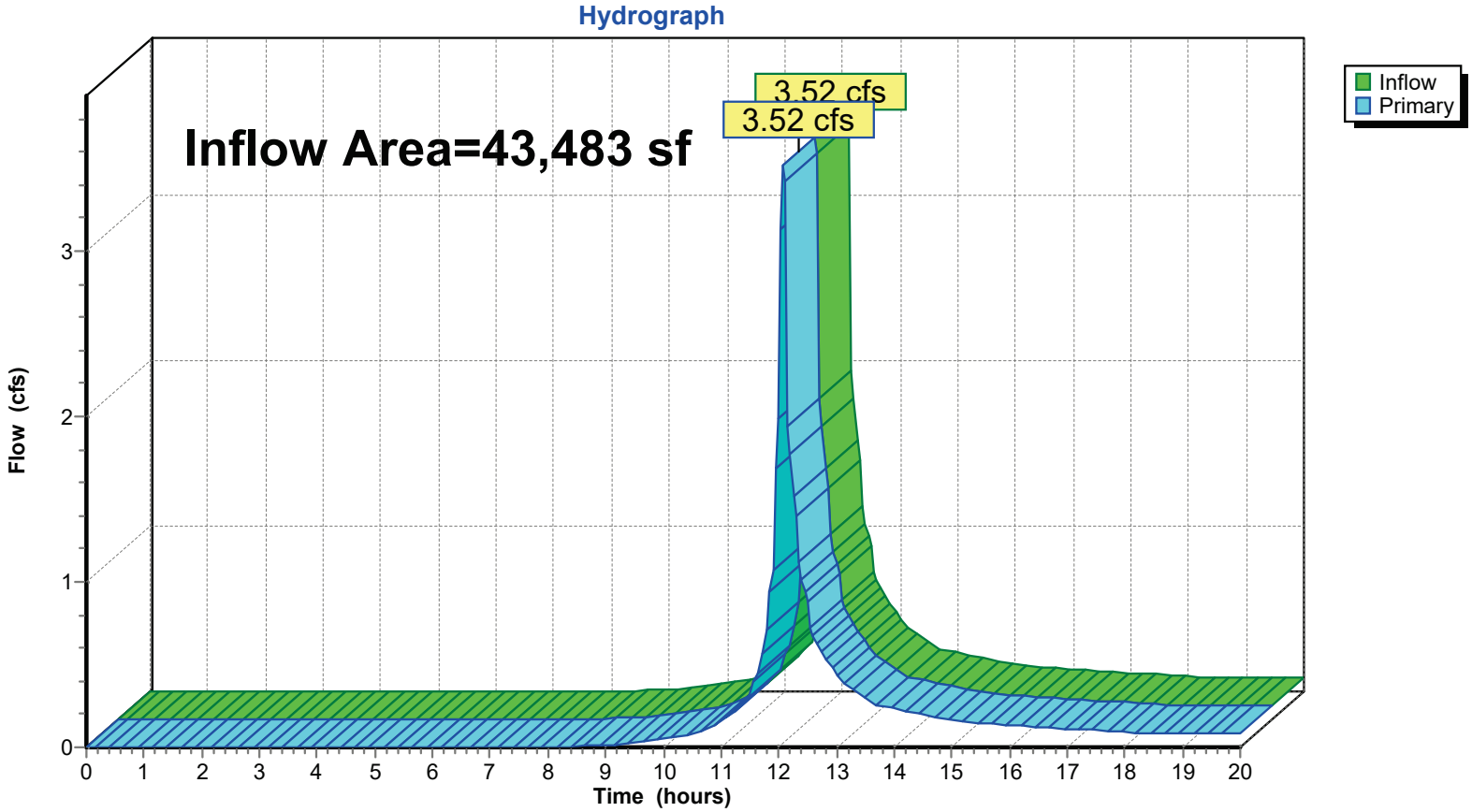


Summary for Link 7L: EXIST SITE TOTAL

Inflow Area = 43,483 sf, 0.00% Impervious, Inflow Depth > 2.83" for 10-Year-2050 event
Inflow = 3.52 cfs @ 12.08 hrs, Volume= 10,254 cf
Primary = 3.52 cfs @ 12.08 hrs, Volume= 10,254 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

Link 7L: EXIST SITE TOTAL



Summary for Subcatchment E1A: E1A

Runoff = 5.50 cfs @ 12.08 hrs, Volume= 14,005 cf, Depth> 5.07"
Routed to Link 4L : DESIGN POINT 1

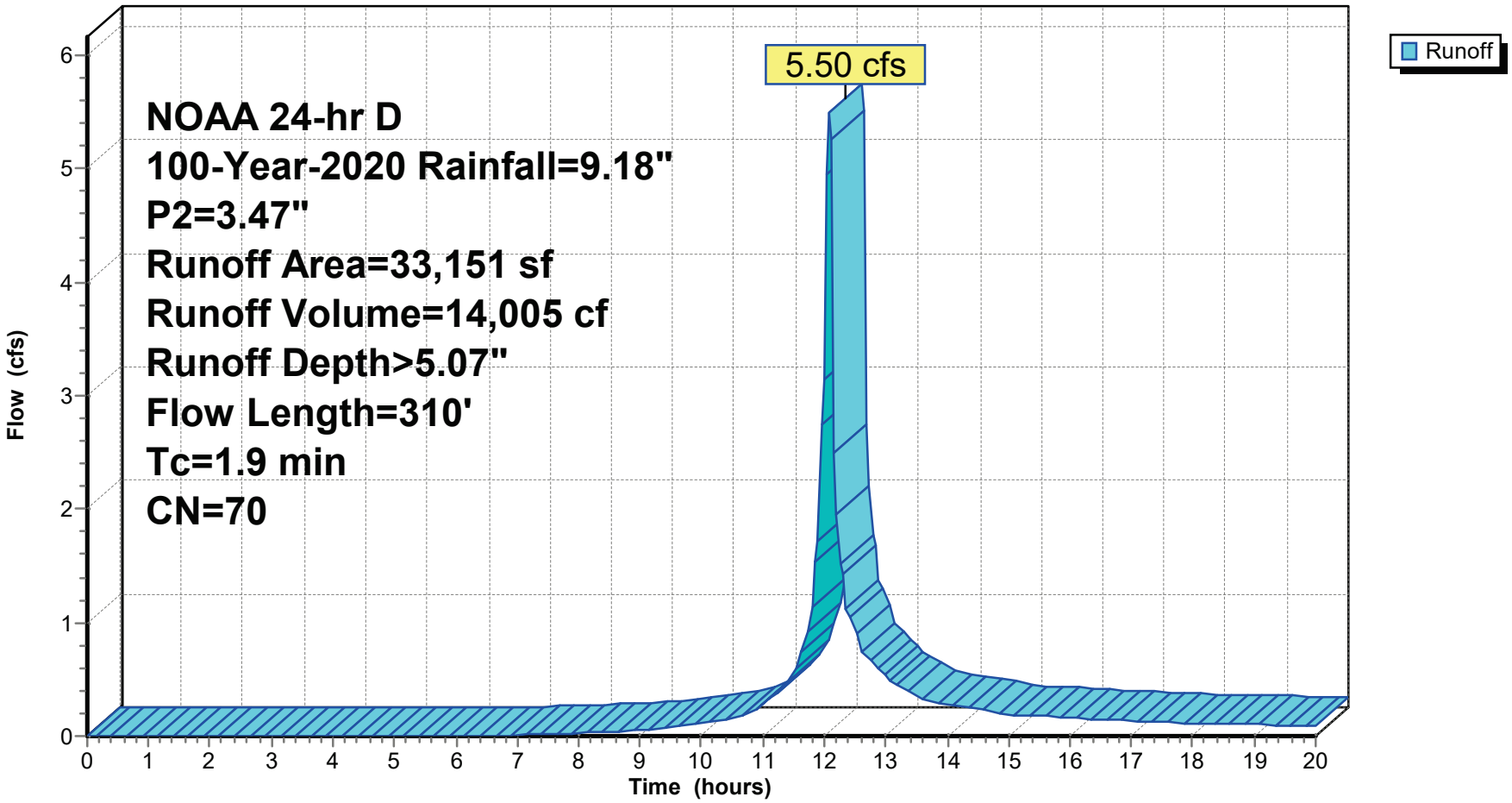
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-Year-2020 Rainfall=9.18", P2=3.47"

	Area (sf)	CN	Description
*	33,151	70	PAVED & ROOF TO WOODS PER CODE
	33,151		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0200	1.43		**Sheet Flow, ROOF** Smooth surfaces n= 0.011 P2= 3.47"
0.2	33	0.0200	2.87		**Shallow Concentrated Flow, ROOF** Paved Kv= 20.3 fps
0.5	177	0.0850	5.92		**Shallow Concentrated Flow, PARKING LOT** Paved Kv= 20.3 fps
1.9	310	Total			

Subcatchment E1A: E1A

Hydrograph



Summary for Subcatchment E2A: E2A

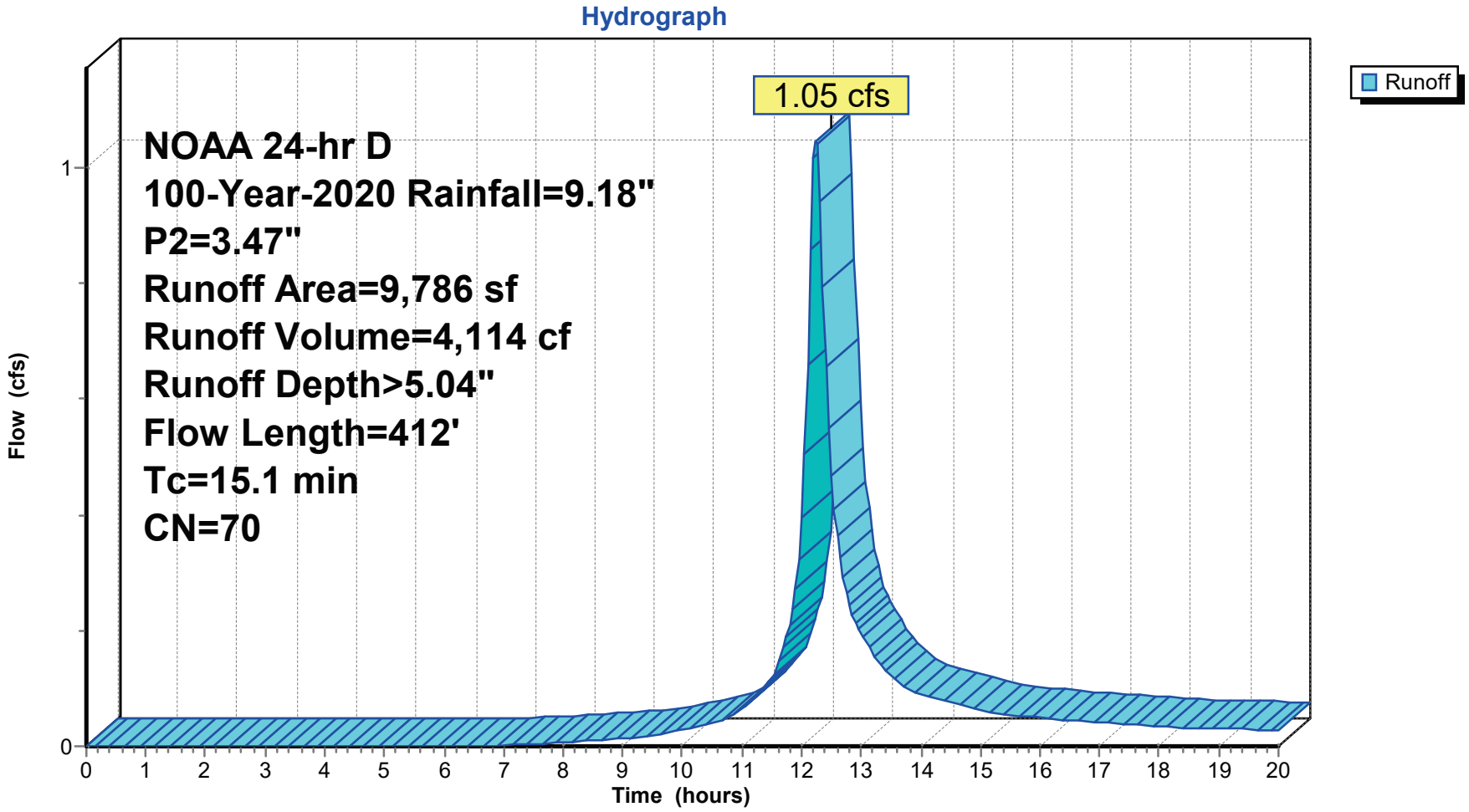
Runoff = 1.05 cfs @ 12.24 hrs, Volume= 4,114 cf, Depth> 5.04"
Routed to Link 5L : EXIST TOTAL BLOOMFIELD AVE DP#2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-Year-2020 Rainfall=9.18", P2=3.47"

	Area (sf)	CN	Description
*	9,786	70	PARKING LOT TO WOODS PER CODE
	9,786		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.5	100	0.0700	0.13		**Sheet Flow, WOODS** Woods: Light underbrush n= 0.400 P2= 3.47"
1.8	94	0.0319	0.89		**Shallow Concentrated Flow, WOODLAND** Woodland Kv= 5.0 fps
0.8	218	0.0550	4.76		**Shallow Concentrated Flow, BLOOMFIELD** Paved Kv= 20.3 fps
15.1	412	Total			

Subcatchment E2A: E2A



Summary for Subcatchment E2C: E2C

Runoff = 0.06 cfs @ 12.24 hrs, Volume= 229 cf, Depth> 5.04"
Routed to Link 5L : EXIST TOTAL BLOOMFIELD AVE DP#2

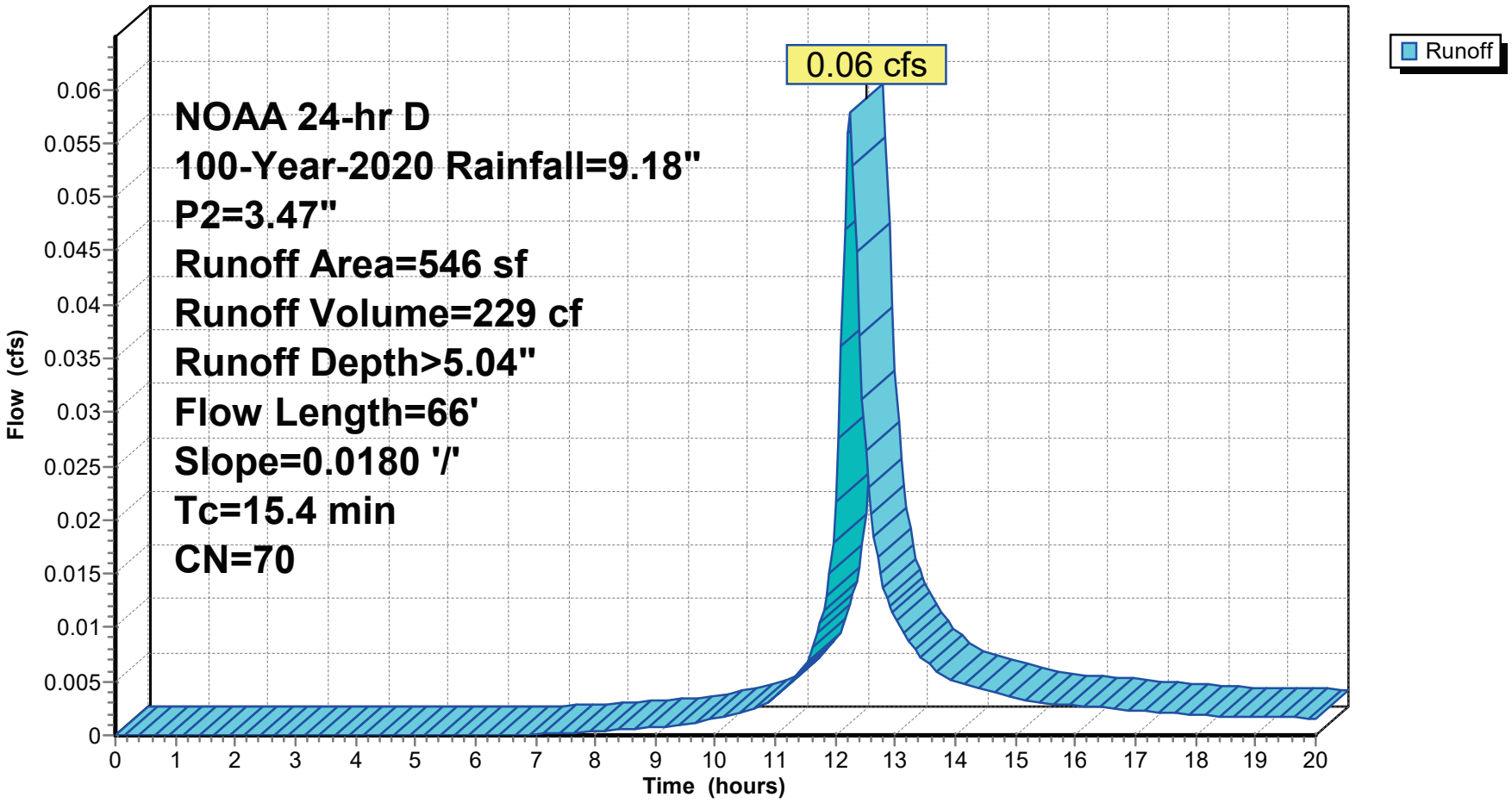
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-Year-2020 Rainfall=9.18", P2=3.47"

	Area (sf)	CN	Description
*	546	70	SIDEWALK TO WOODS PER CODE
	546		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.4	66	0.0180	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.47"

Subcatchment E2C: E2C

Hydrograph

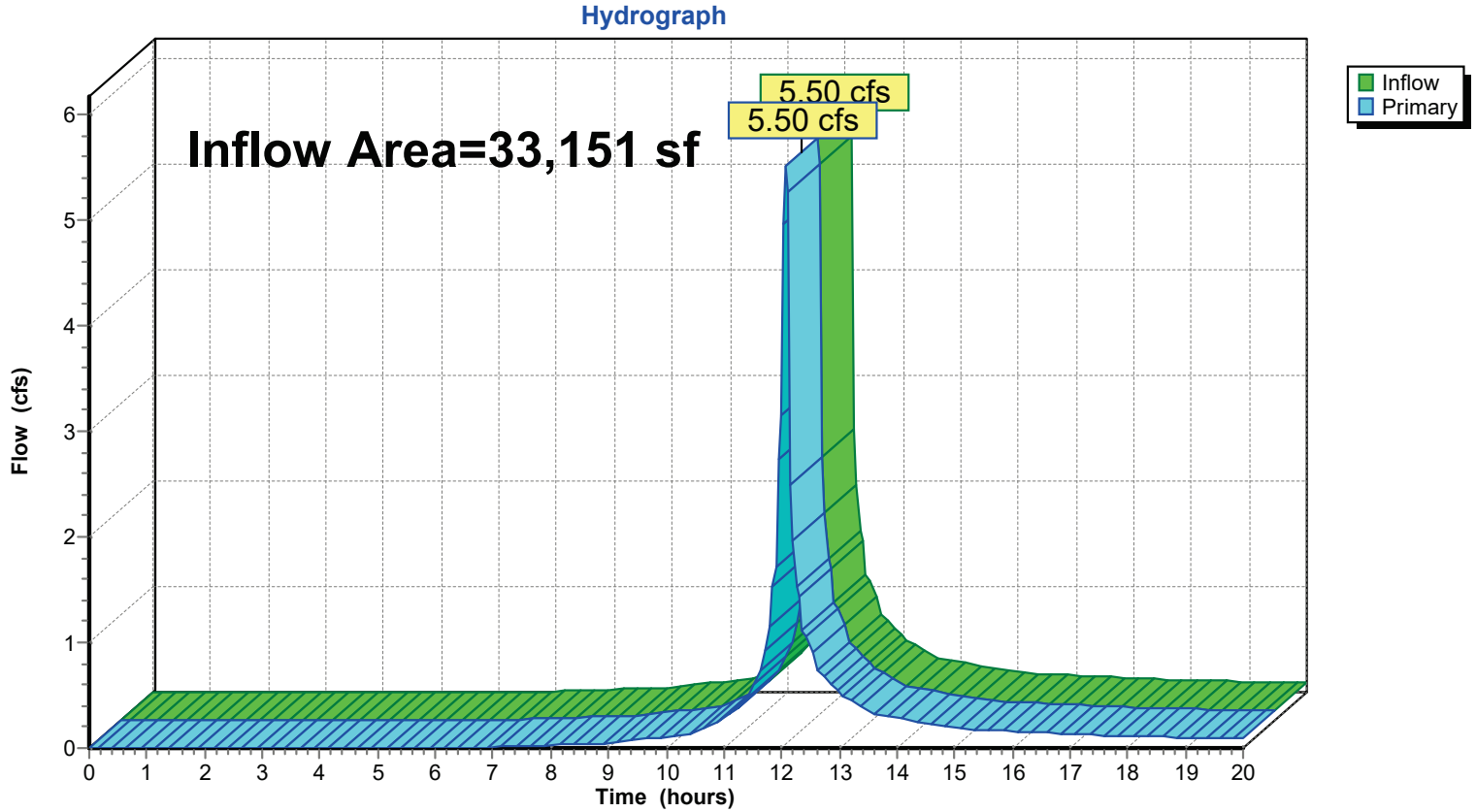


Summary for Link 4L: DESIGN POINT 1

Inflow Area = 33,151 sf, 0.00% Impervious, Inflow Depth > 5.07" for 100-Year-2020 event
Inflow = 5.50 cfs @ 12.08 hrs, Volume= 14,005 cf
Primary = 5.50 cfs @ 12.08 hrs, Volume= 14,005 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 7L : EXIST SITE TOTAL

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

Link 4L: DESIGN POINT 1

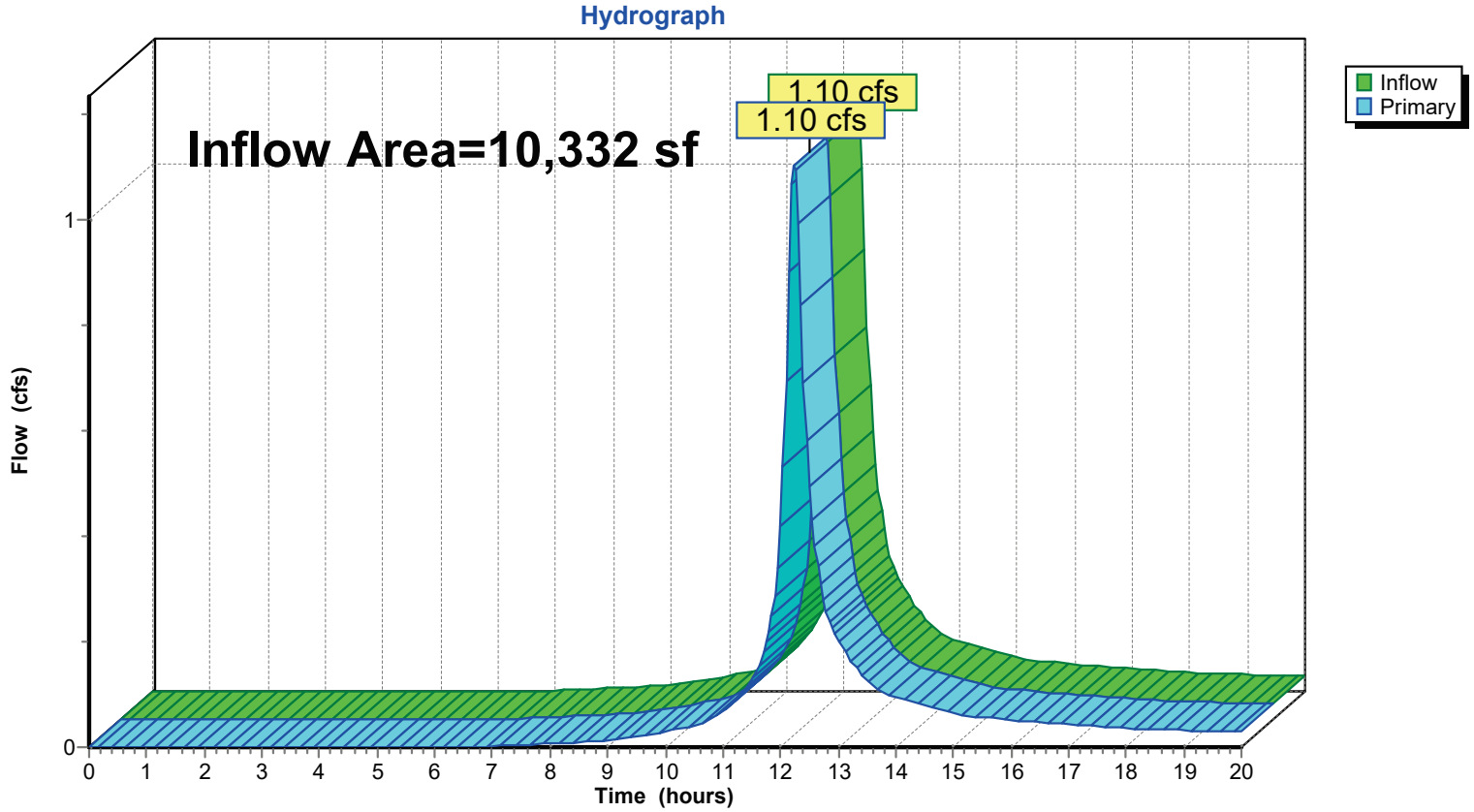


Summary for Link 5L: EXIST TOTAL BLOOMFIELD AVE DP#2

Inflow Area = 10,332 sf, 0.00% Impervious, Inflow Depth > 5.04" for 100-Year-2020 event
Inflow = 1.10 cfs @ 12.24 hrs, Volume= 4,343 cf
Primary = 1.10 cfs @ 12.24 hrs, Volume= 4,343 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 7L : EXIST SITE TOTAL

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

Link 5L: EXIST TOTAL BLOOMFIELD AVE DP#2

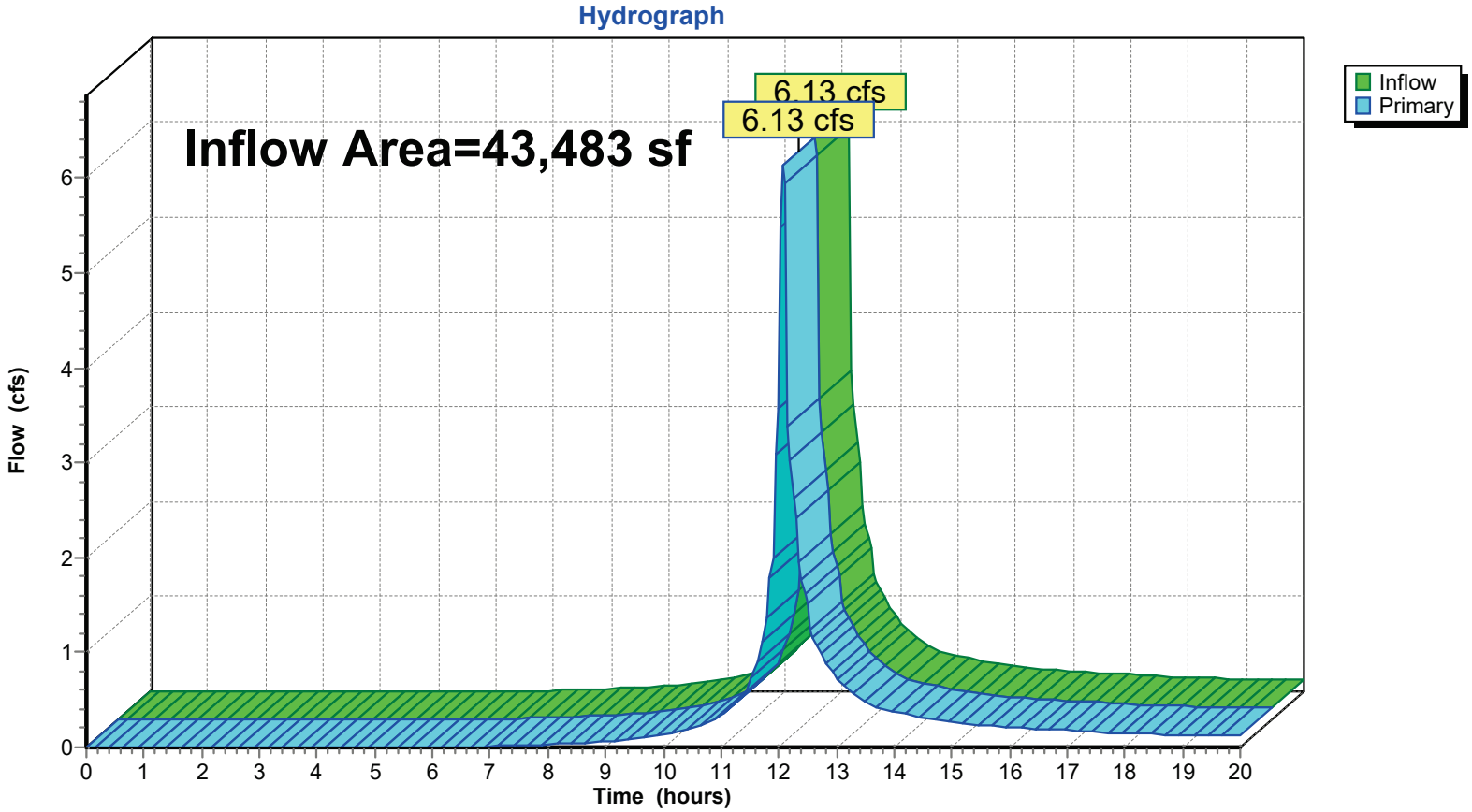


Summary for Link 7L: EXIST SITE TOTAL

Inflow Area = 43,483 sf, 0.00% Impervious, Inflow Depth > 5.06" for 100-Year-2020 event
Inflow = 6.13 cfs @ 12.08 hrs, Volume= 18,348 cf
Primary = 6.13 cfs @ 12.08 hrs, Volume= 18,348 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

Link 7L: EXIST SITE TOTAL



Summary for Subcatchment E1A: E1A

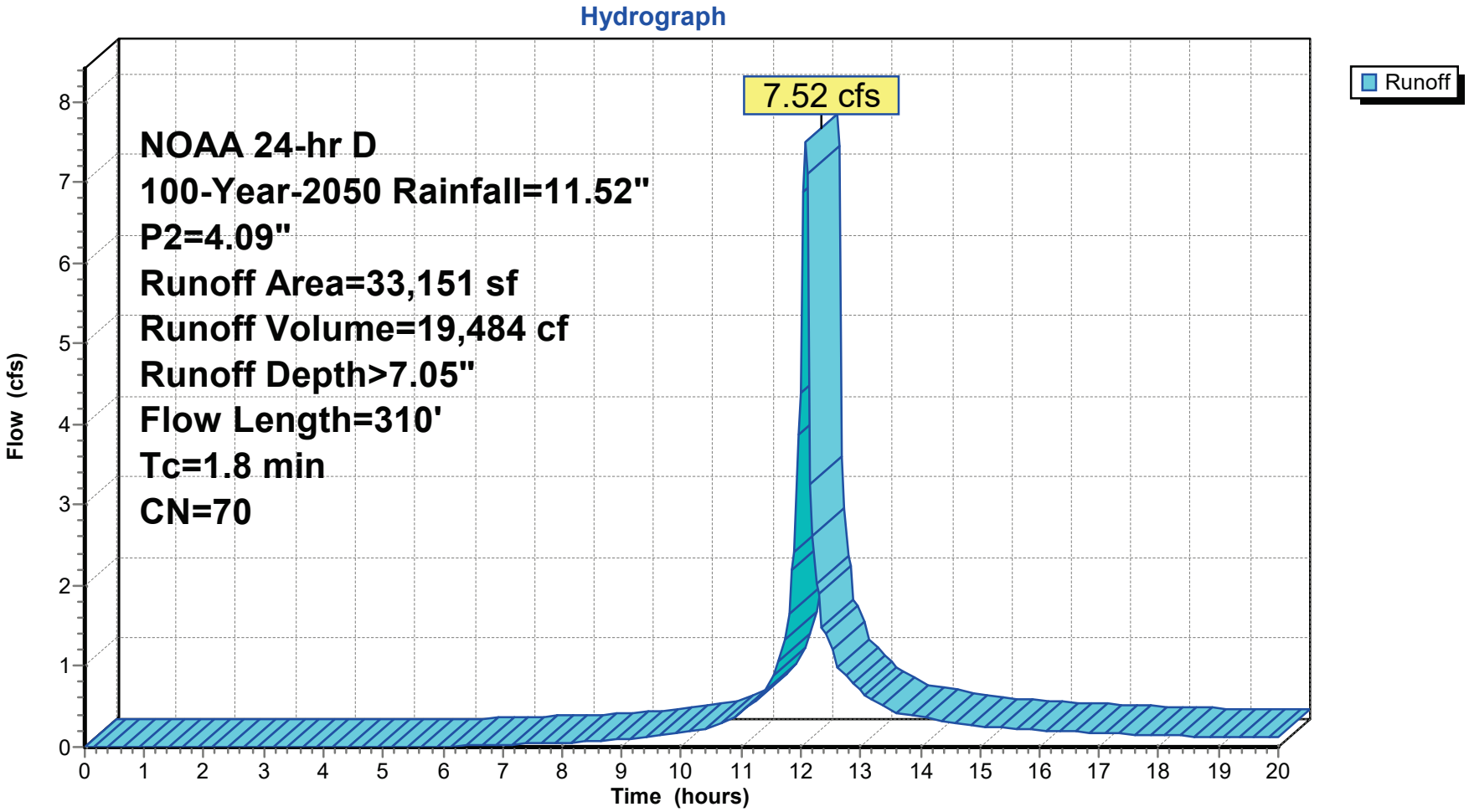
Runoff = 7.52 cfs @ 12.08 hrs, Volume= 19,484 cf, Depth> 7.05"
Routed to Link 4L : DESIGN POINT 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-Year-2050 Rainfall=11.52", P2=4.09"

	Area (sf)	CN	Description
*	33,151	70	PAVED & ROOF TO WOODS PER CODE
	33,151		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	100	0.0200	1.56		**Sheet Flow, ROOF** Smooth surfaces n= 0.011 P2= 4.09"
0.2	33	0.0200	2.87		**Shallow Concentrated Flow, ROOF** Paved Kv= 20.3 fps
0.5	177	0.0850	5.92		**Shallow Concentrated Flow, PARKING LOT** Paved Kv= 20.3 fps
1.8	310	Total			

Subcatchment E1A: E1A



Summary for Subcatchment E2A: E2A

Runoff = 1.48 cfs @ 12.22 hrs, Volume= 5,726 cf, Depth> 7.02"
Routed to Link 5L : EXIST TOTAL BLOOMFIELD AVE DP#2

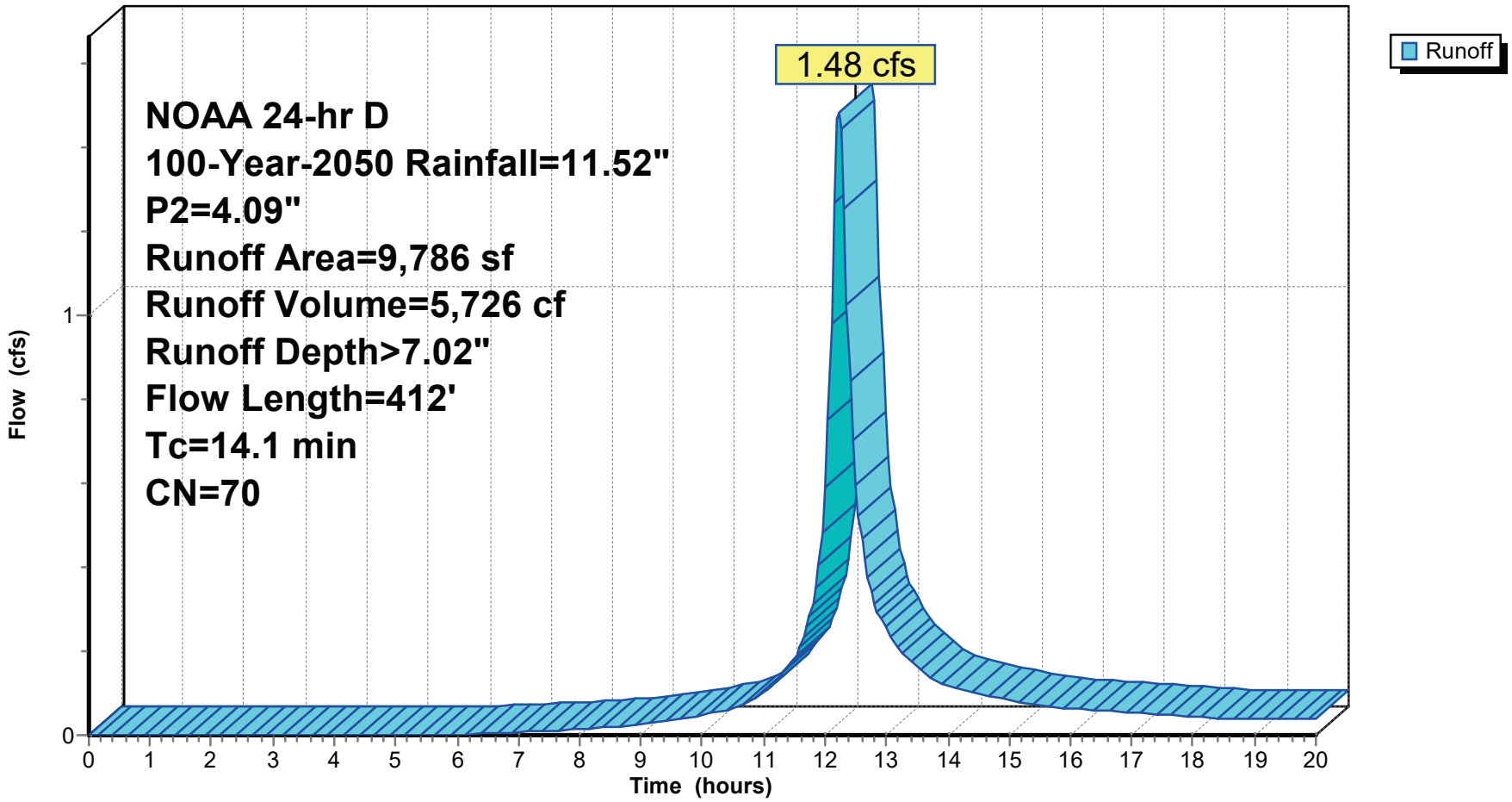
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-Year-2050 Rainfall=11.52", P2=4.09"

	Area (sf)	CN	Description
*	9,786	70	PARKING LOT TO WOODS PER CODE
	9,786		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	100	0.0700	0.14		**Sheet Flow, WOODS** Woods: Light underbrush n= 0.400 P2= 4.09"
1.8	94	0.0319	0.89		**Shallow Concentrated Flow, WOODLAND** Woodland Kv= 5.0 fps
0.8	218	0.0550	4.76		**Shallow Concentrated Flow, BLOOMFIELD** Paved Kv= 20.3 fps
14.1	412	Total			

Subcatchment E2A: E2A

Hydrograph



Summary for Subcatchment E2C: E2C

Runoff = 0.08 cfs @ 12.22 hrs, Volume= 319 cf, Depth> 7.02"
Routed to Link 5L : EXIST TOTAL BLOOMFIELD AVE DP#2

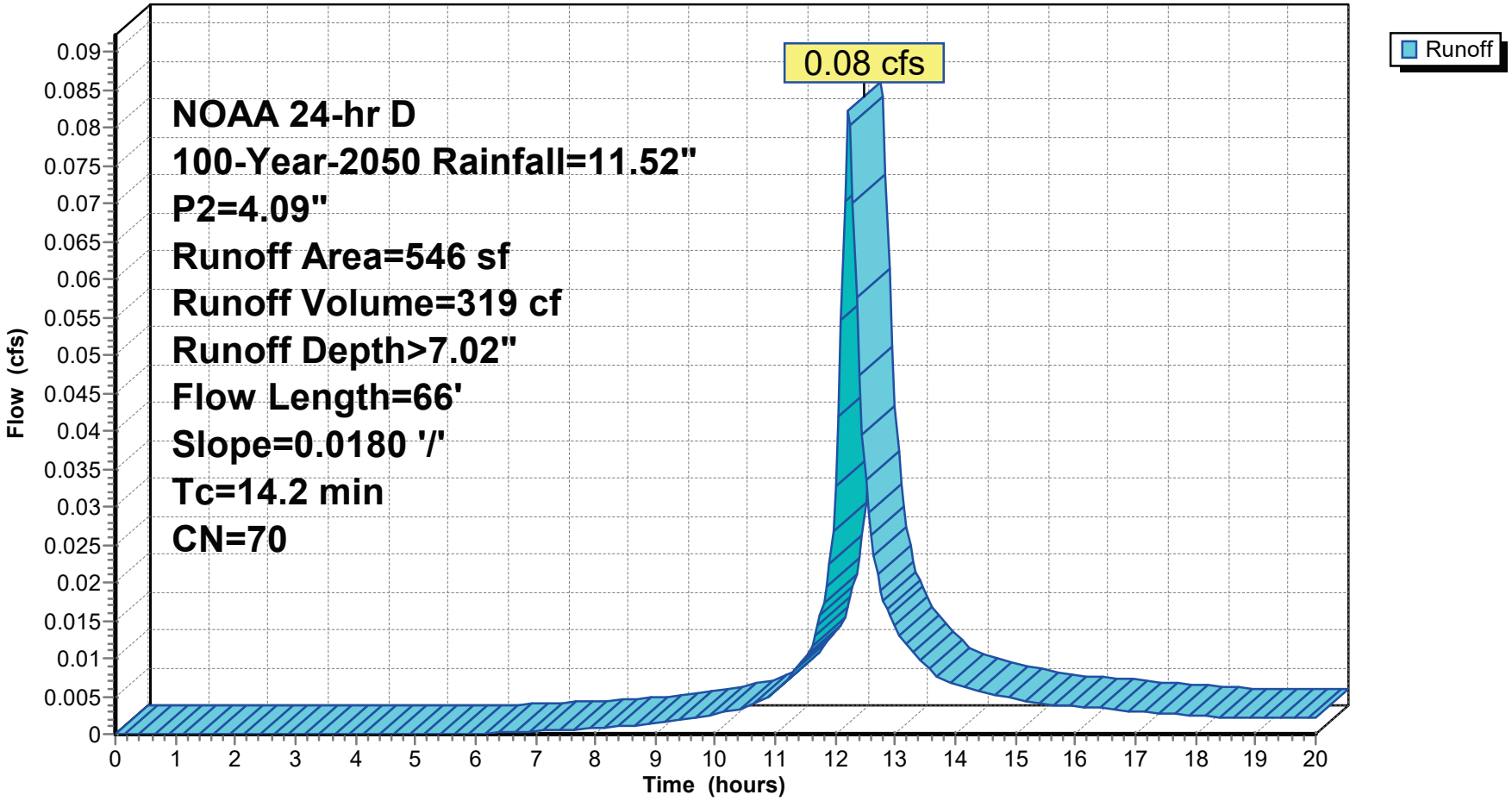
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100-Year-2050 Rainfall=11.52", P2=4.09"

	Area (sf)	CN	Description
*	546	70	SIDEWALK TO WOODS PER CODE
	546		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	66	0.0180	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 4.09"

Subcatchment E2C: E2C

Hydrograph

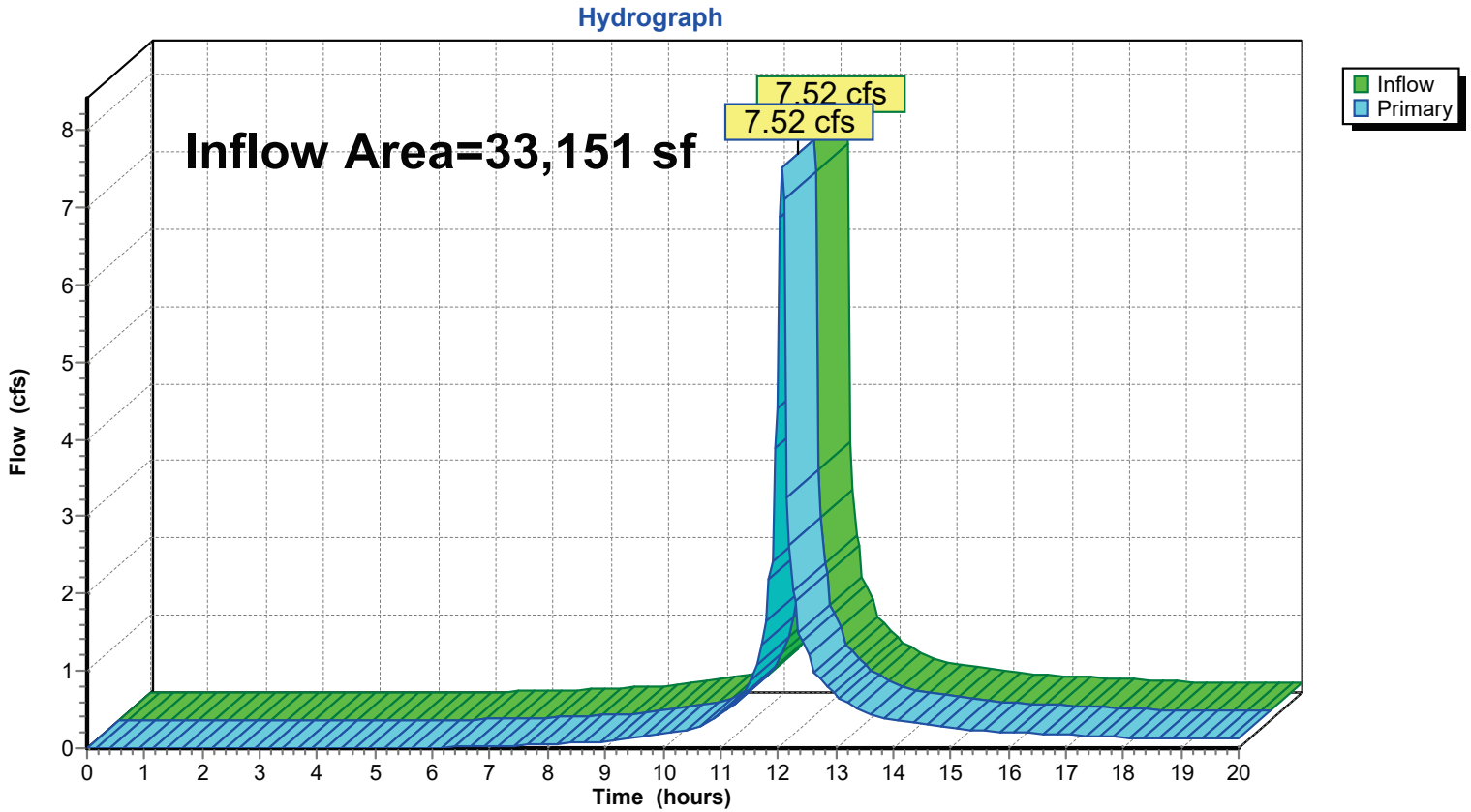


Summary for Link 4L: DESIGN POINT 1

Inflow Area = 33,151 sf, 0.00% Impervious, Inflow Depth > 7.05" for 100-Year-2050 event
Inflow = 7.52 cfs @ 12.08 hrs, Volume= 19,484 cf
Primary = 7.52 cfs @ 12.08 hrs, Volume= 19,484 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 7L : EXIST SITE TOTAL

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

Link 4L: DESIGN POINT 1

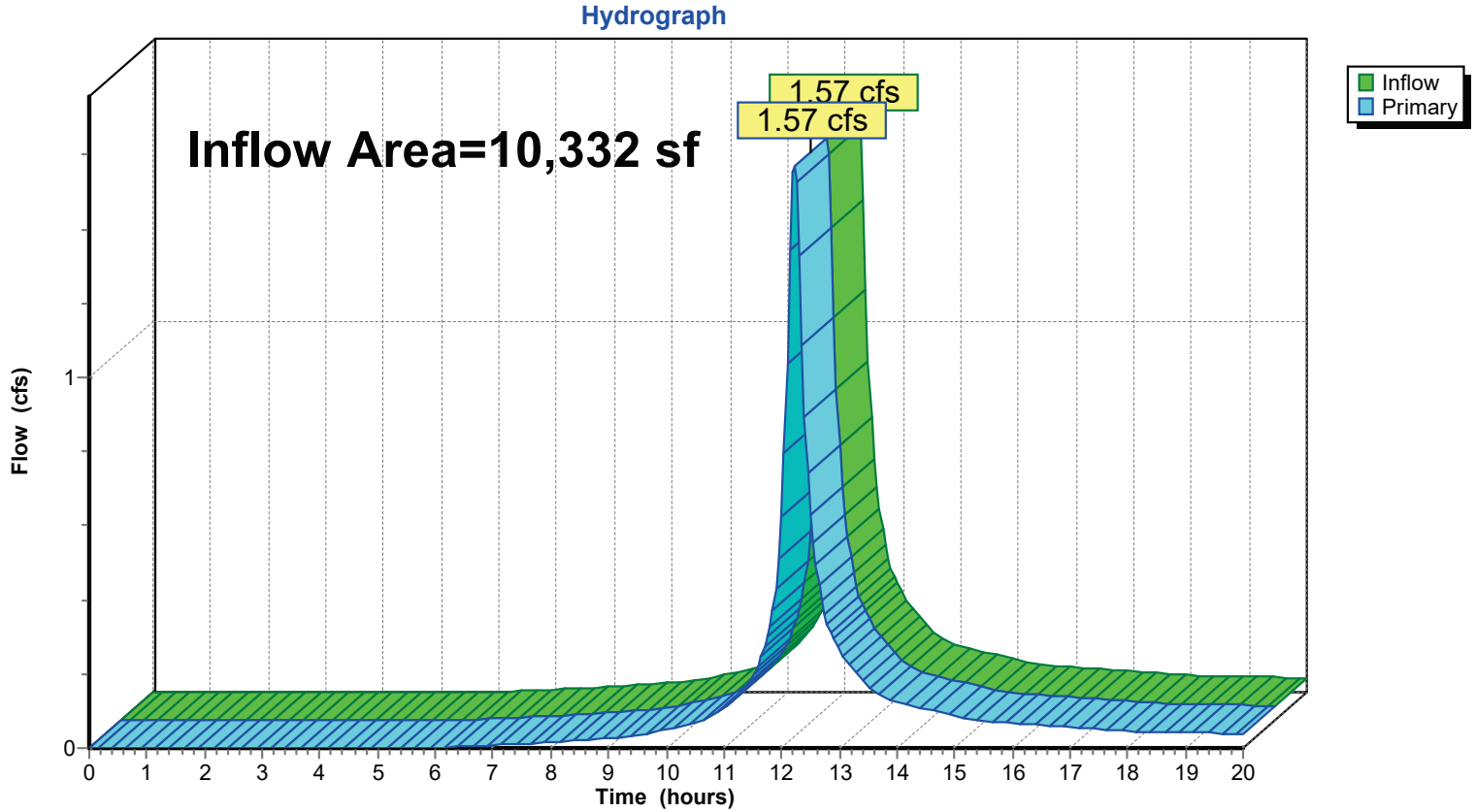


Summary for Link 5L: EXIST TOTAL BLOOMFIELD AVE DP#2

Inflow Area = 10,332 sf, 0.00% Impervious, Inflow Depth > 7.02" for 100-Year-2050 event
Inflow = 1.57 cfs @ 12.22 hrs, Volume= 6,046 cf
Primary = 1.57 cfs @ 12.22 hrs, Volume= 6,046 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 7L : EXIST SITE TOTAL

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

Link 5L: EXIST TOTAL BLOOMFIELD AVE DP#2

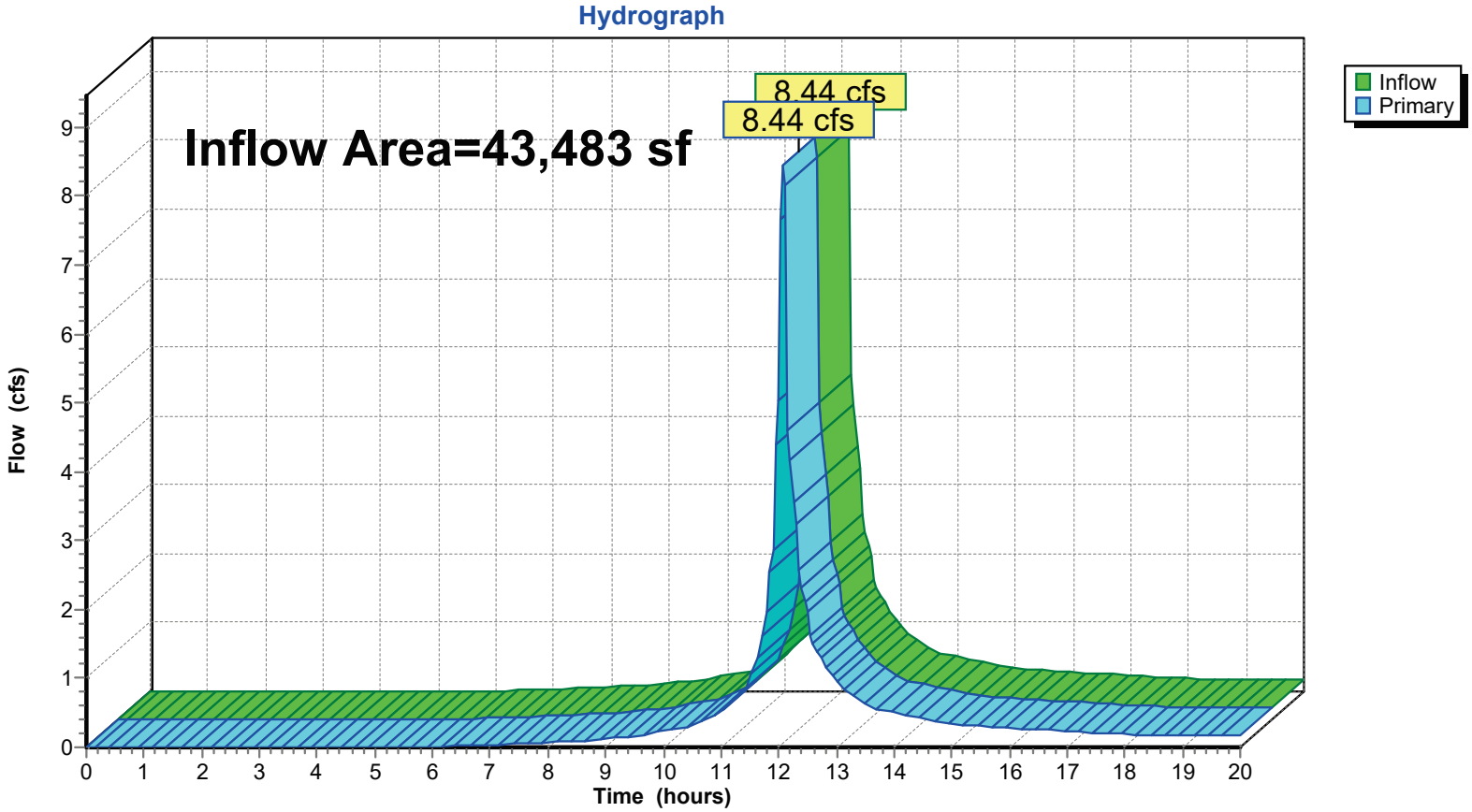


Summary for Link 7L: EXIST SITE TOTAL

Inflow Area = 43,483 sf, 0.00% Impervious, Inflow Depth > 7.05" for 100-Year-2050 event
Inflow = 8.44 cfs @ 12.08 hrs, Volume= 25,530 cf
Primary = 8.44 cfs @ 12.08 hrs, Volume= 25,530 cf, Atten= 0%, Lag= 0.0 min

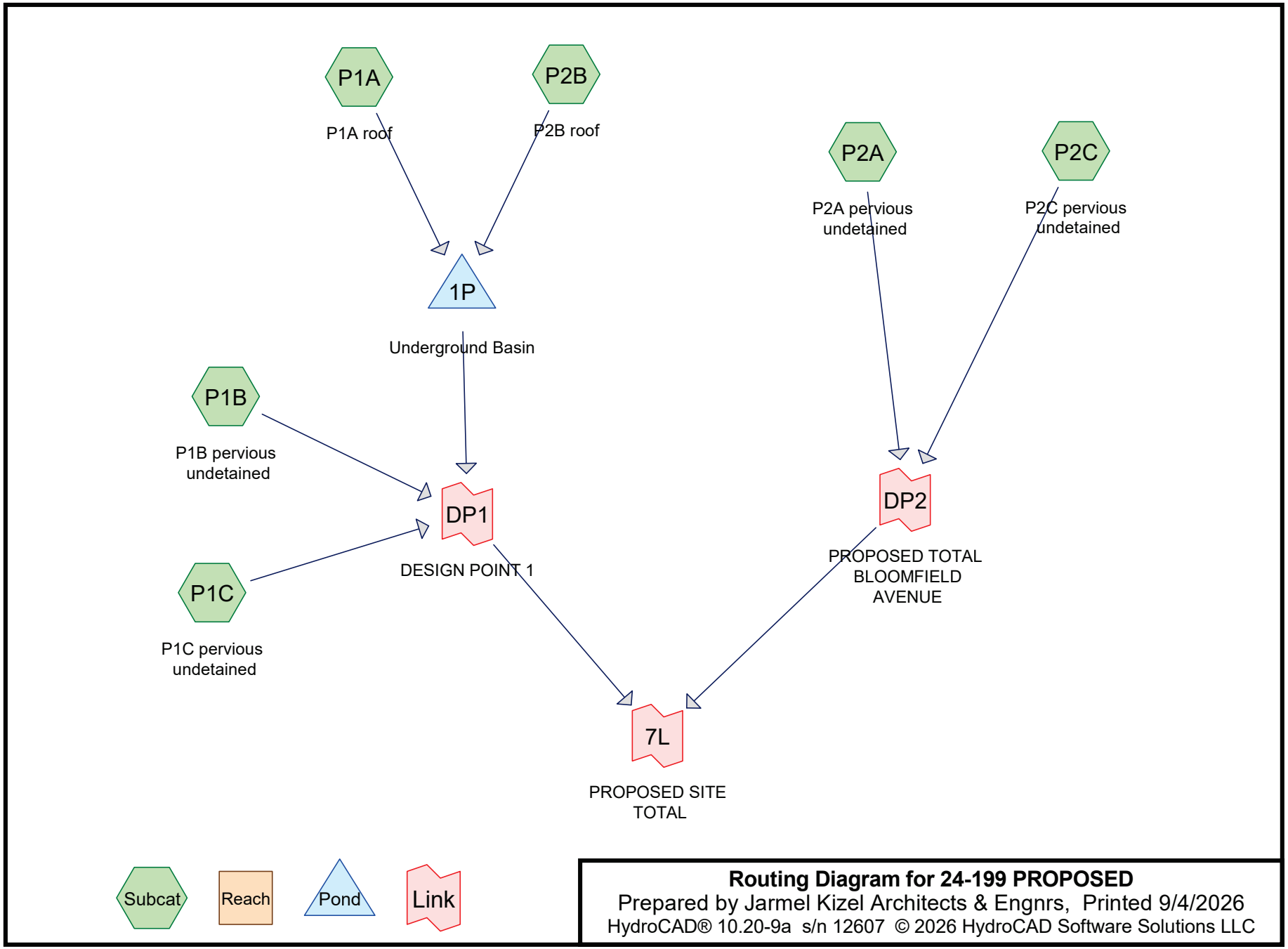
Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

Link 7L: EXIST SITE TOTAL



APPENDIX B

PROPOSED DRAINAGE CALCULATIONS



Routing Diagram for 24-199 PROPOSED

Prepared by Jarmel Kizel Architects & Engnrs, Printed 9/4/2026

HydroCAD® 10.20-9a s/n 12607 © 2026 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
3,730	74	>75% Grass cover, Good, HSG C (P1B, P2A)
848	86	LANDSCAPE (P1C, P2C)
23,900	98	ROOF (P1A)
140	98	SIDEWALK (P2C)
14,865	98	roof (P2B)

Summary for Subcatchment P1A: P1A roof

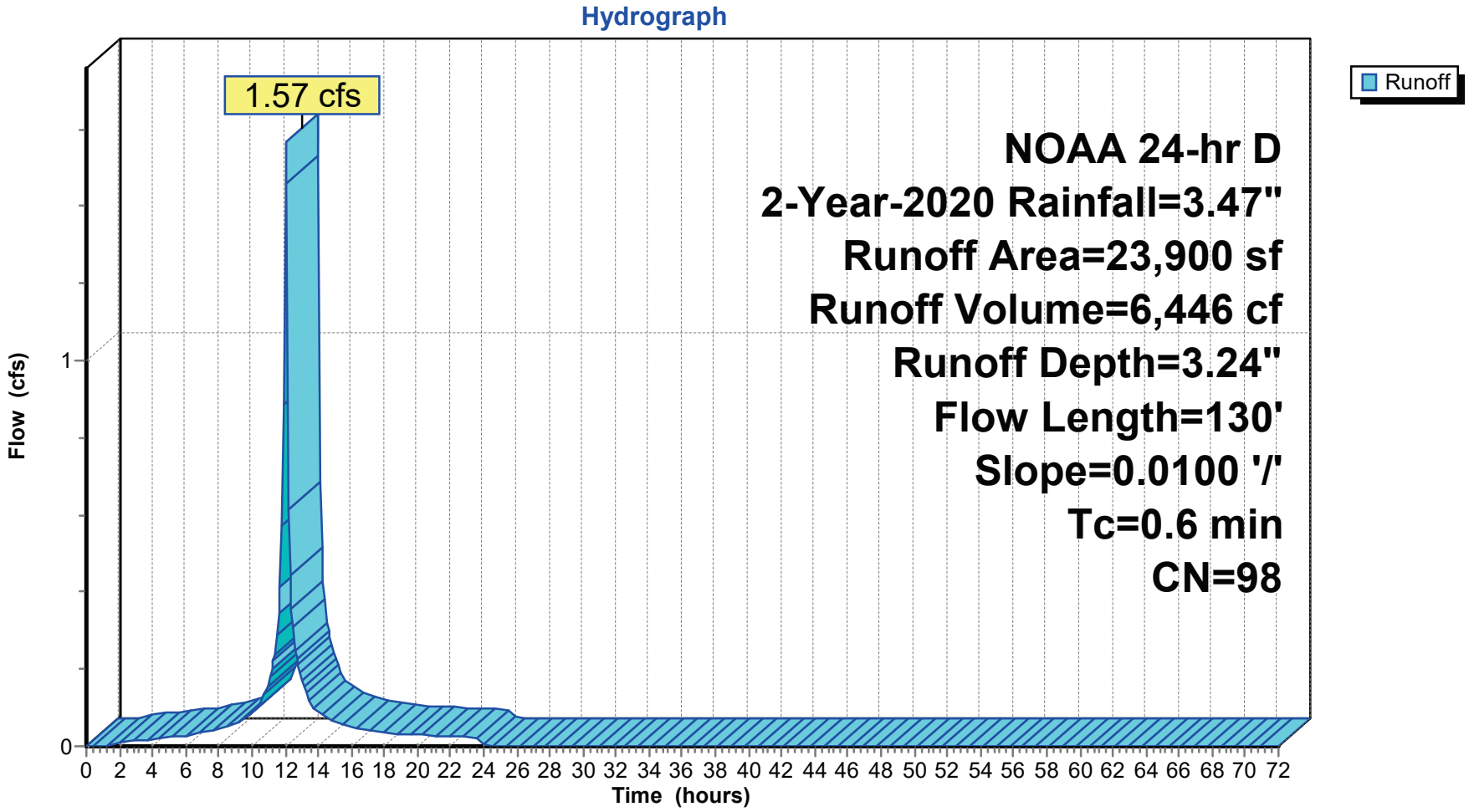
Runoff = 1.57 cfs @ 12.04 hrs, Volume= 6,446 cf, Depth= 3.24"
Routed to Pond 1P : Underground Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 2-Year-2020 Rainfall=3.47"

	Area (sf)	CN	Description
*	23,900	98	ROOF
	23,900		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	130	0.0100	3.75	1.31	**Pipe Channel, ROOF DRAIN** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.012

Subcatchment P1A: P1A roof



Summary for Subcatchment P1B: P1B pervious undetained

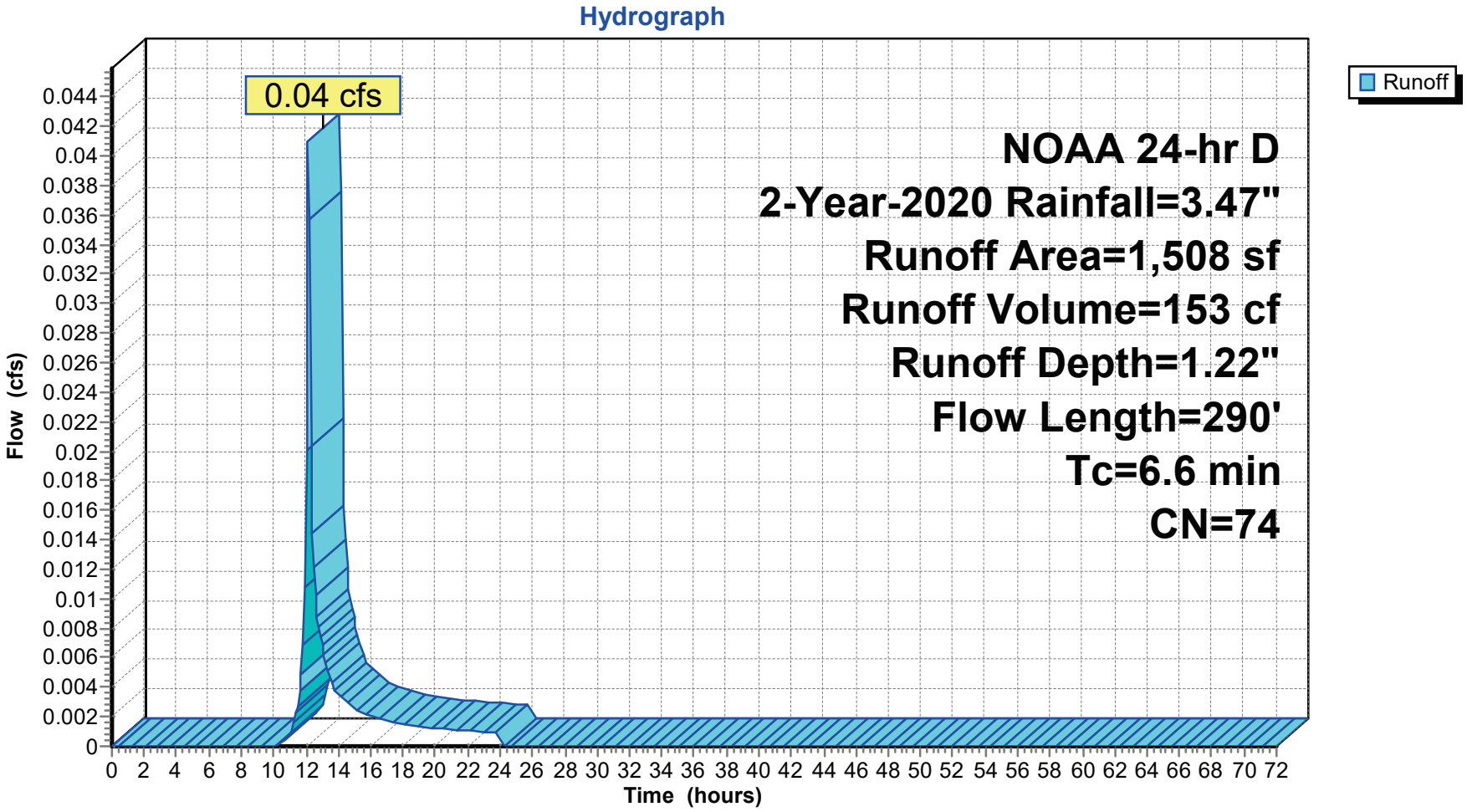
Runoff = 0.04 cfs @ 12.13 hrs, Volume= 153 cf, Depth= 1.22"
Routed to Link DP1 : DESIGN POINT 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 2-Year-2020 Rainfall=3.47"

Area (sf)	CN	Description
1,508	74	>75% Grass cover, Good, HSG C
1,508		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	61	0.0650	0.18		**Sheet Flow, LANDSCAPE BUFFER** Grass: Dense n= 0.240 P2= 3.44"
0.3	39	0.0950	2.20		**Sheet Flow, CLAREMONT ROAD** Smooth surfaces n= 0.011 P2= 3.44"
0.5	190	0.0950	6.26		**Shallow Concentrated Flow, CLAREMONT** Paved Kv= 20.3 fps
6.6	290	Total			

Subcatchment P1B: P1B pervious undetained



Summary for Subcatchment P1C: P1C pervious undetained

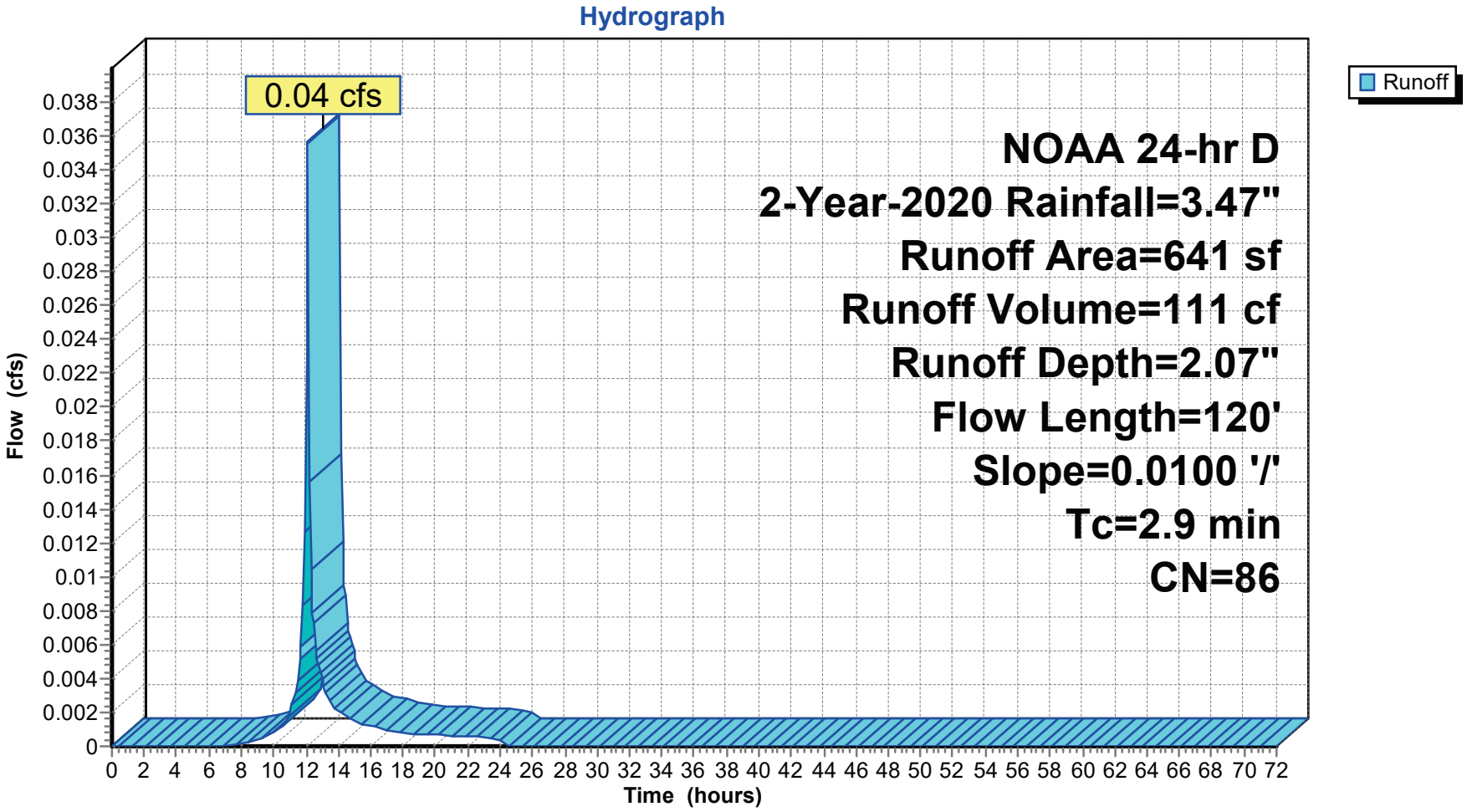
Runoff = 0.04 cfs @ 12.09 hrs, Volume= 111 cf, Depth= 2.07"
Routed to Link DP1 : DESIGN POINT 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 2-Year-2020 Rainfall=3.47"

	Area (sf)	CN	Description
*	641	86	LANDSCAPE
	641		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	10	0.0100	0.08		**Sheet Flow, Landscaping** Grass: Short n= 0.150 P2= 3.44"
0.9	110	0.0100	2.03		**Shallow Concentrated Flow, Parking lot** Paved Kv= 20.3 fps
2.9	120	Total			

Subcatchment P1C: P1C pervious undetained



Summary for Subcatchment P2A: P2A pervious undetained

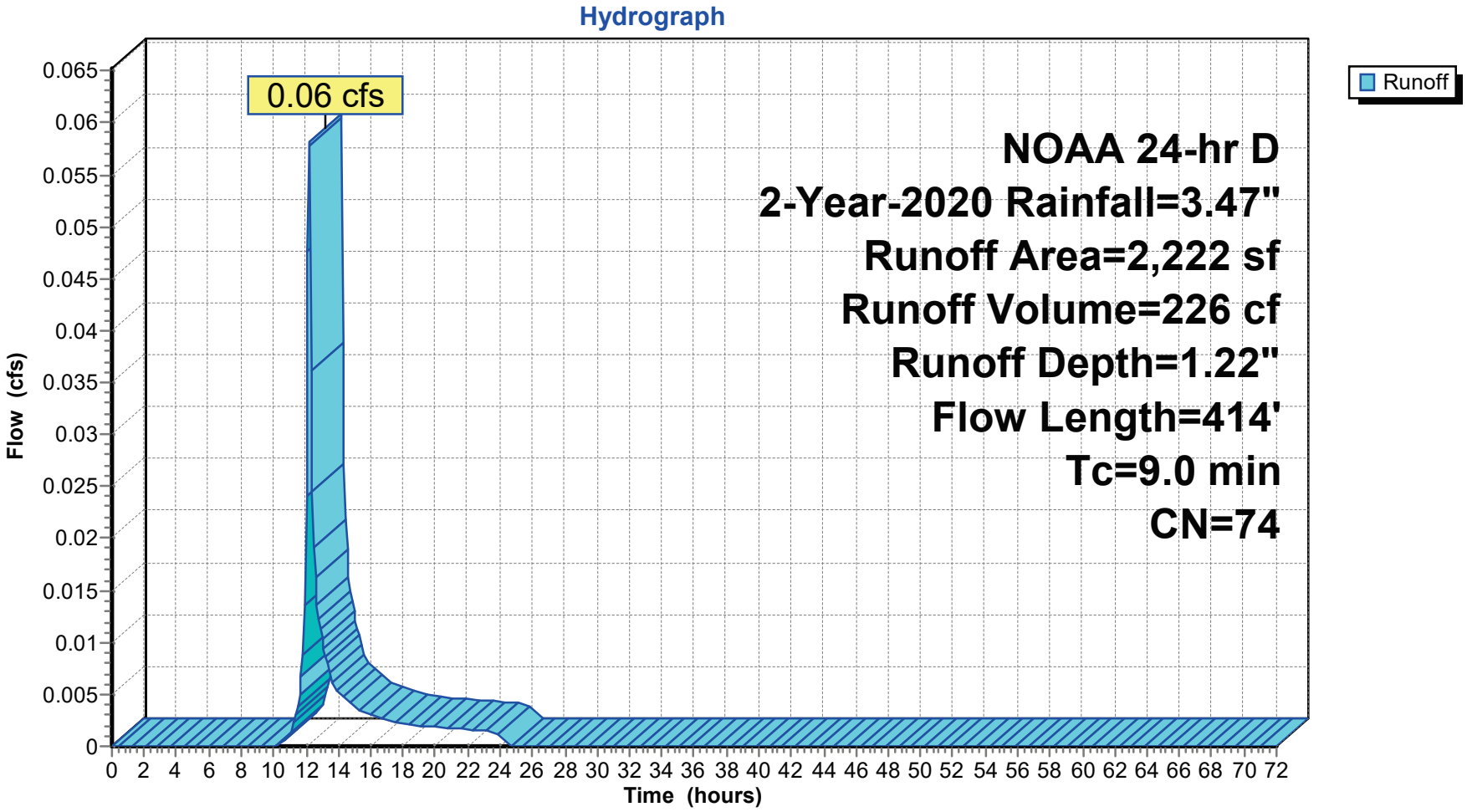
Runoff = 0.06 cfs @ 12.18 hrs, Volume= 226 cf, Depth= 1.22"
Routed to Link DP2 : PROPOSED TOTAL BLOOMFIELD AVENUE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 2-Year-2020 Rainfall=3.47"

Area (sf)	CN	Description
2,222	74	>75% Grass cover, Good, HSG C
2,222		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	100	0.0800	0.21		**Sheet Flow, BUFFER** Grass: Dense n= 0.240 P2= 3.44"
0.2	48	0.1000	5.09		**Shallow Concentrated Flow, LAWN** Unpaved Kv= 16.1 fps
0.9	266	0.0600	4.97		**Shallow Concentrated Flow, BLOOMFIELD** Paved Kv= 20.3 fps
9.0	414	Total			

Subcatchment P2A: P2A pervious undetained



Summary for Subcatchment P2B: P2B roof

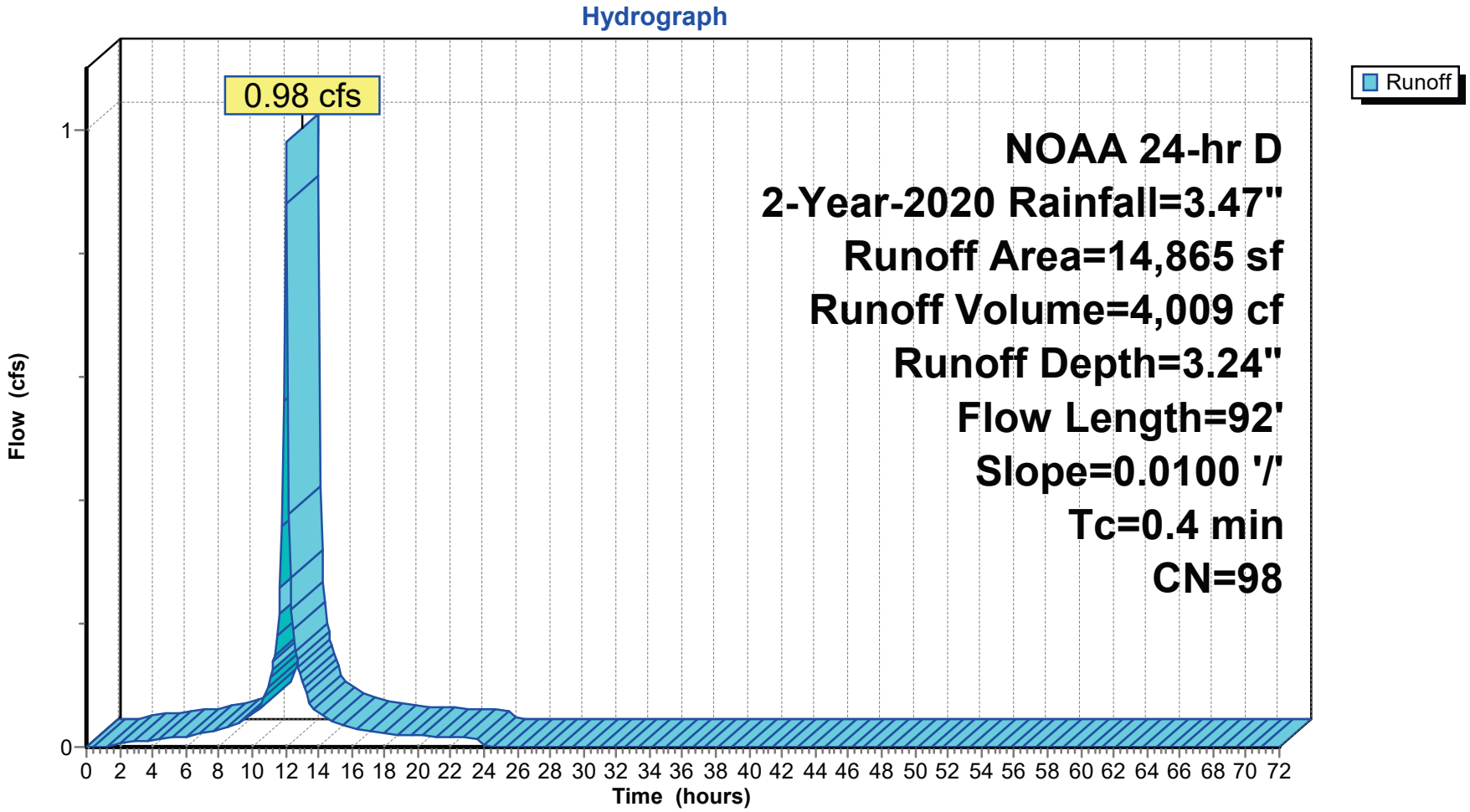
Runoff = 0.98 cfs @ 12.03 hrs, Volume= 4,009 cf, Depth= 3.24"
Routed to Pond 1P : Underground Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 2-Year-2020 Rainfall=3.47"

	Area (sf)	CN	Description
*	14,865	98	roof
	14,865		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	92	0.0100	3.75	1.31	**Pipe Channel, ROOF DRAIN** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.012

Subcatchment P2B: P2B roof



Summary for Subcatchment P2C: P2C pervious undetained

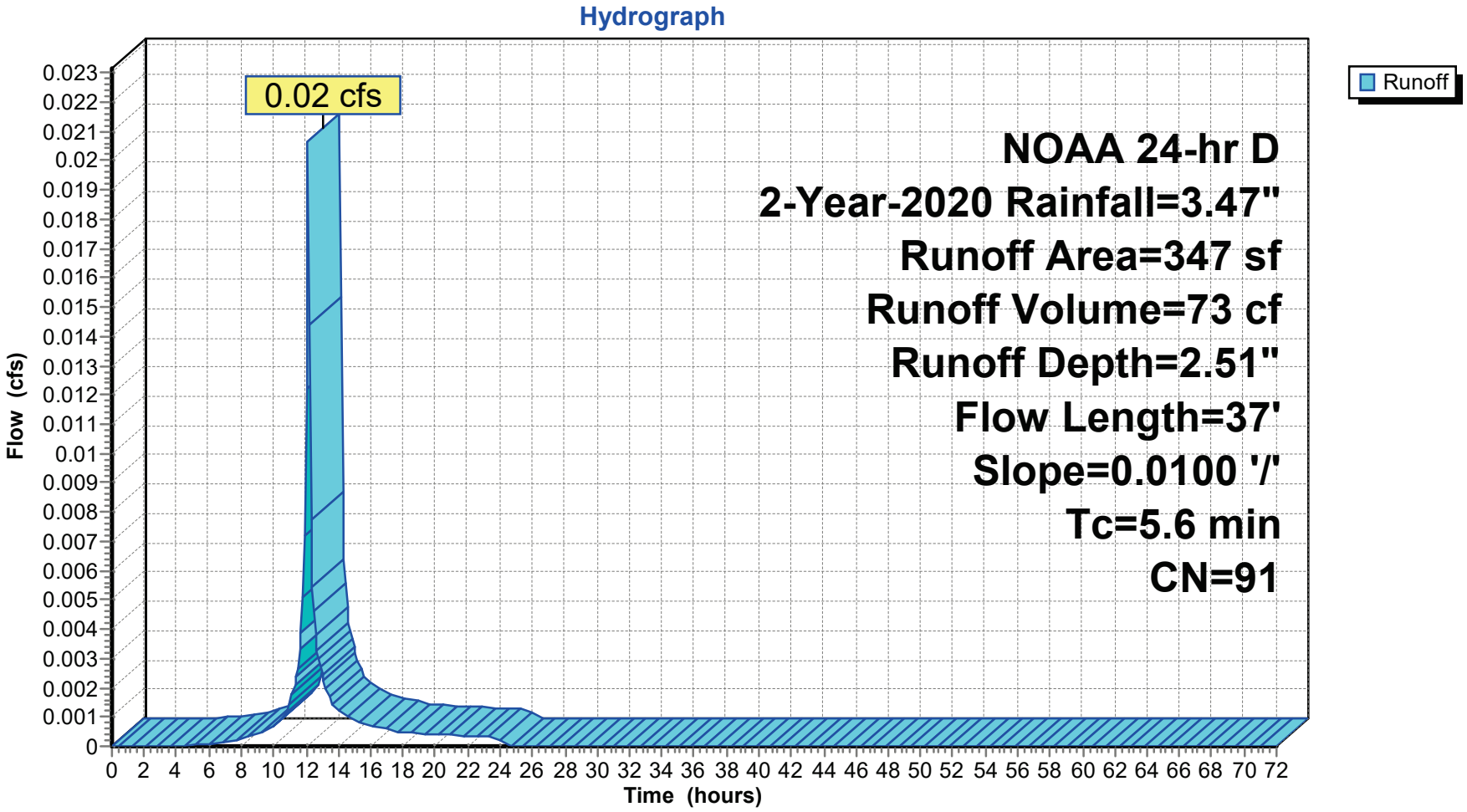
Runoff = 0.02 cfs @ 12.11 hrs, Volume= 73 cf, Depth= 2.51"
Routed to Link DP2 : PROPOSED TOTAL BLOOMFIELD AVENUE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 2-Year-2020 Rainfall=3.47"

	Area (sf)	CN	Description
*	207	86	LANDSCAPE
*	140	98	SIDEWALK
	347	91	Weighted Average
	207		59.65% Pervious Area
	140		40.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	37	0.0100	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.44"

Subcatchment P2C: P2C pervious undetained



Summary for Pond 1P: Underground Basin

Inflow Area = 38,765 sf,100.00% Impervious, Inflow Depth = 3.24" for 2-Year-2020 event
Inflow = 2.55 cfs @ 12.04 hrs, Volume= 10,455 cf
Outflow = 0.48 cfs @ 12.52 hrs, Volume= 10,455 cf, Atten= 81%, Lag= 28.8 min
Discarded = 0.04 cfs @ 12.52 hrs, Volume= 2,880 cf
Primary = 0.43 cfs @ 12.52 hrs, Volume= 7,575 cf
Routed to Link DP1 : DESIGN POINT 1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Peak Elev= 377.74' @ 12.52 hrs Surf.Area= 3,136 sf Storage= 3,737 cf

Plug-Flow detention time= 96.2 min calculated for 10,441 cf (100% of inflow)
Center-of-Mass det. time= 96.3 min (847.8 - 751.5)

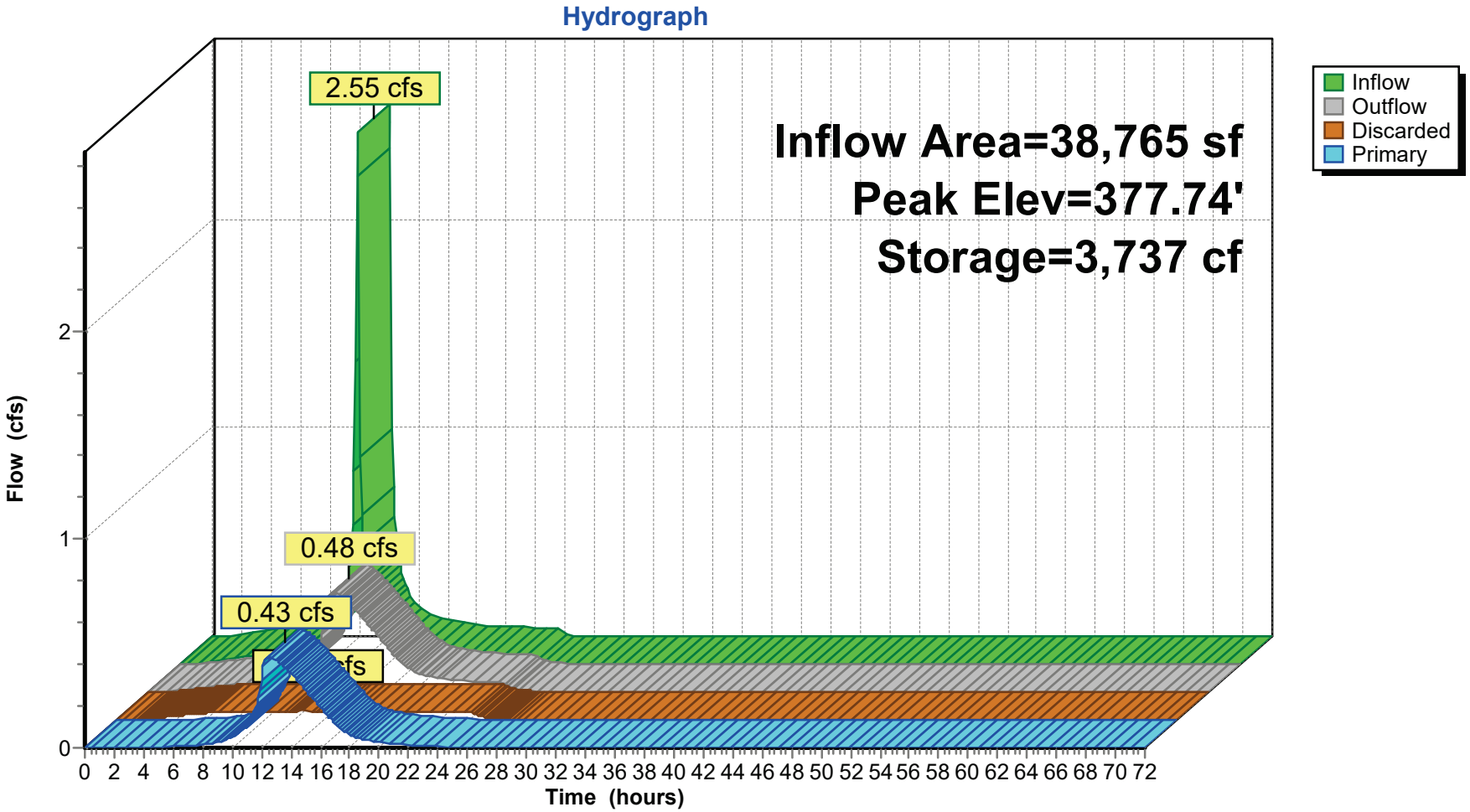
Volume	Invert	Avail.Storage	Storage Description
#1	376.50'	12,072 cf	**retain_it upright 4.0'** x 56 Inside= 84.0"W x 48.0"H => 28.87 sf x 8.00'L = 230.9 cf Outside= 96.0"W x 56.0"H => 37.33 sf x 8.00'L = 298.7 cf 1 Rows adjusted for 860.6 cf perimeter wall

Device	Routing	Invert	Outlet Devices
#1	Primary	376.50'	**12.0" Round Culvert** L= 21.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 376.50' / 376.25' S= 0.0119 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Device 1	376.50'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	377.80'	**0.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Discarded	376.50'	**0.500 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 370.00'

Discarded OutFlow Max=0.04 cfs @ 12.52 hrs HW=377.74' (Free Discharge)
└**4=Exfiltration** (Controls 0.04 cfs)

Primary OutFlow Max=0.43 cfs @ 12.52 hrs HW=377.74' (Free Discharge)
└**1=Culvert** (Passes 0.43 cfs of 3.25 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.43 cfs @ 4.98 fps)
  └**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Underground Basin

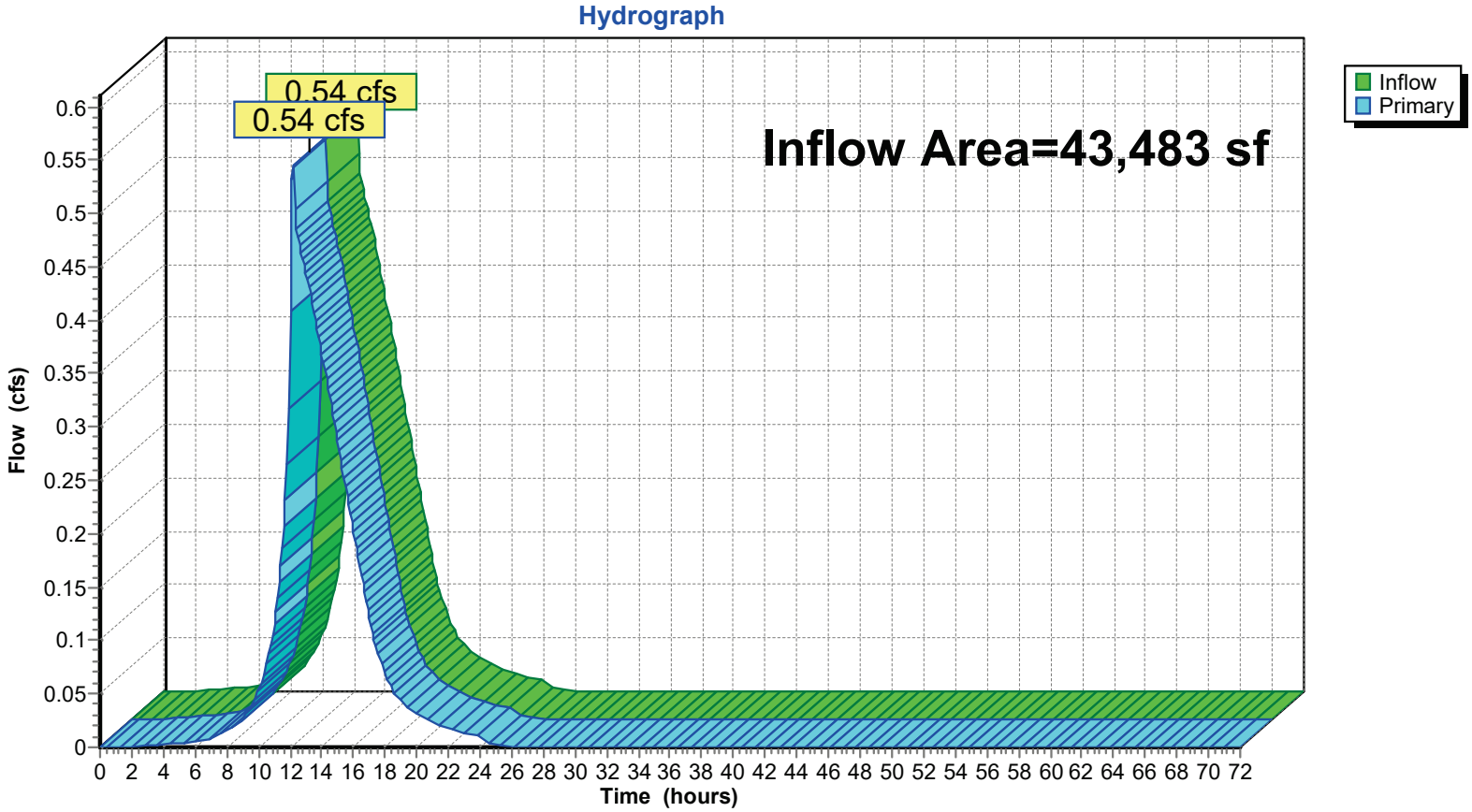


Summary for Link 7L: PROPOSED SITE TOTAL

Inflow Area = 43,483 sf, 89.47% Impervious, Inflow Depth = 2.25" for 2-Year-2020 event
Inflow = 0.54 cfs @ 12.17 hrs, Volume= 8,138 cf
Primary = 0.54 cfs @ 12.17 hrs, Volume= 8,138 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Link 7L: PROPOSED SITE TOTAL

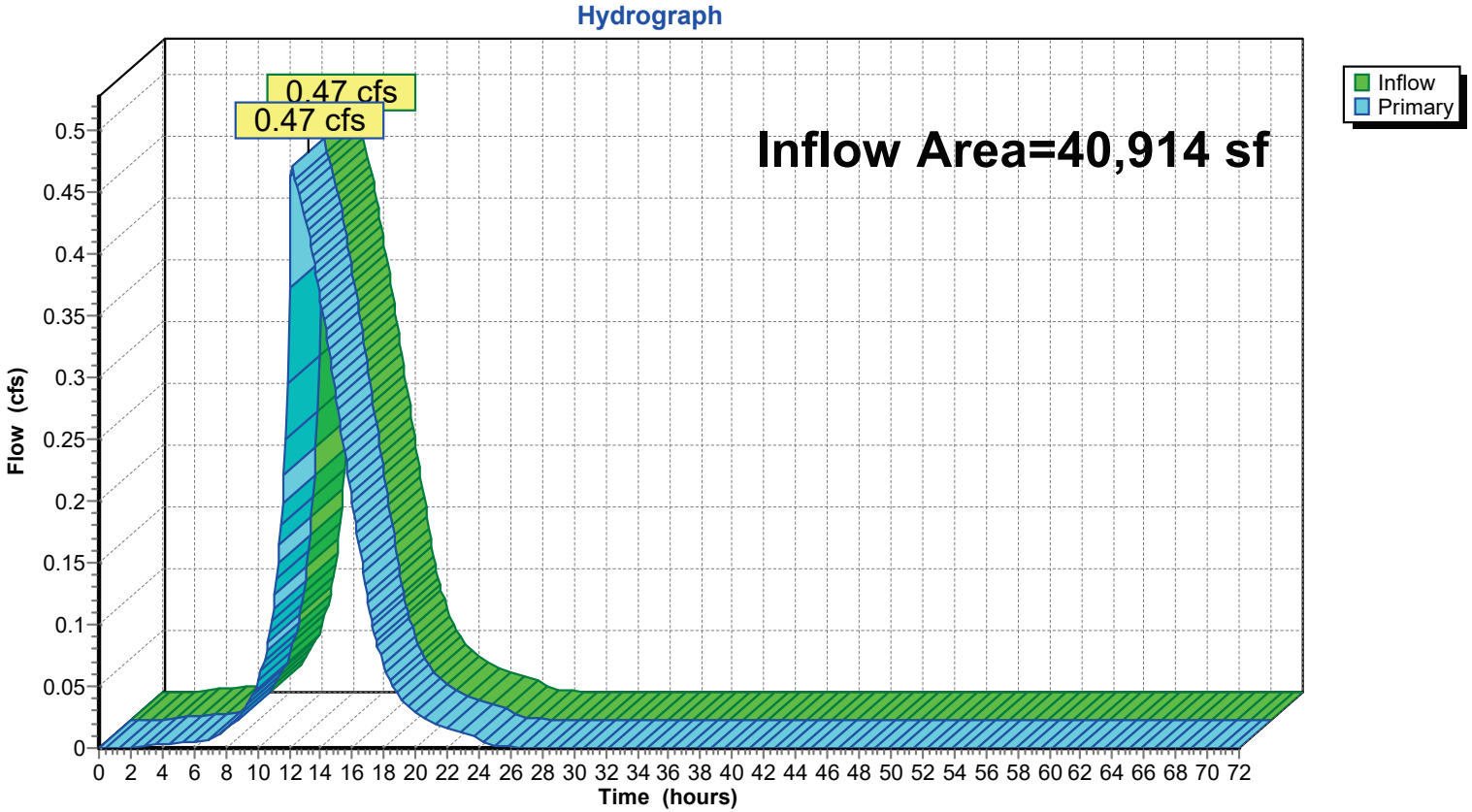


Summary for Link DP1: DESIGN POINT 1

Inflow Area = 40,914 sf, 94.75% Impervious, Inflow Depth = 2.30" for 2-Year-2020 event
Inflow = 0.47 cfs @ 12.19 hrs, Volume= 7,839 cf
Primary = 0.47 cfs @ 12.19 hrs, Volume= 7,839 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 7L : PROPOSED SITE TOTAL

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Link DP1: DESIGN POINT 1

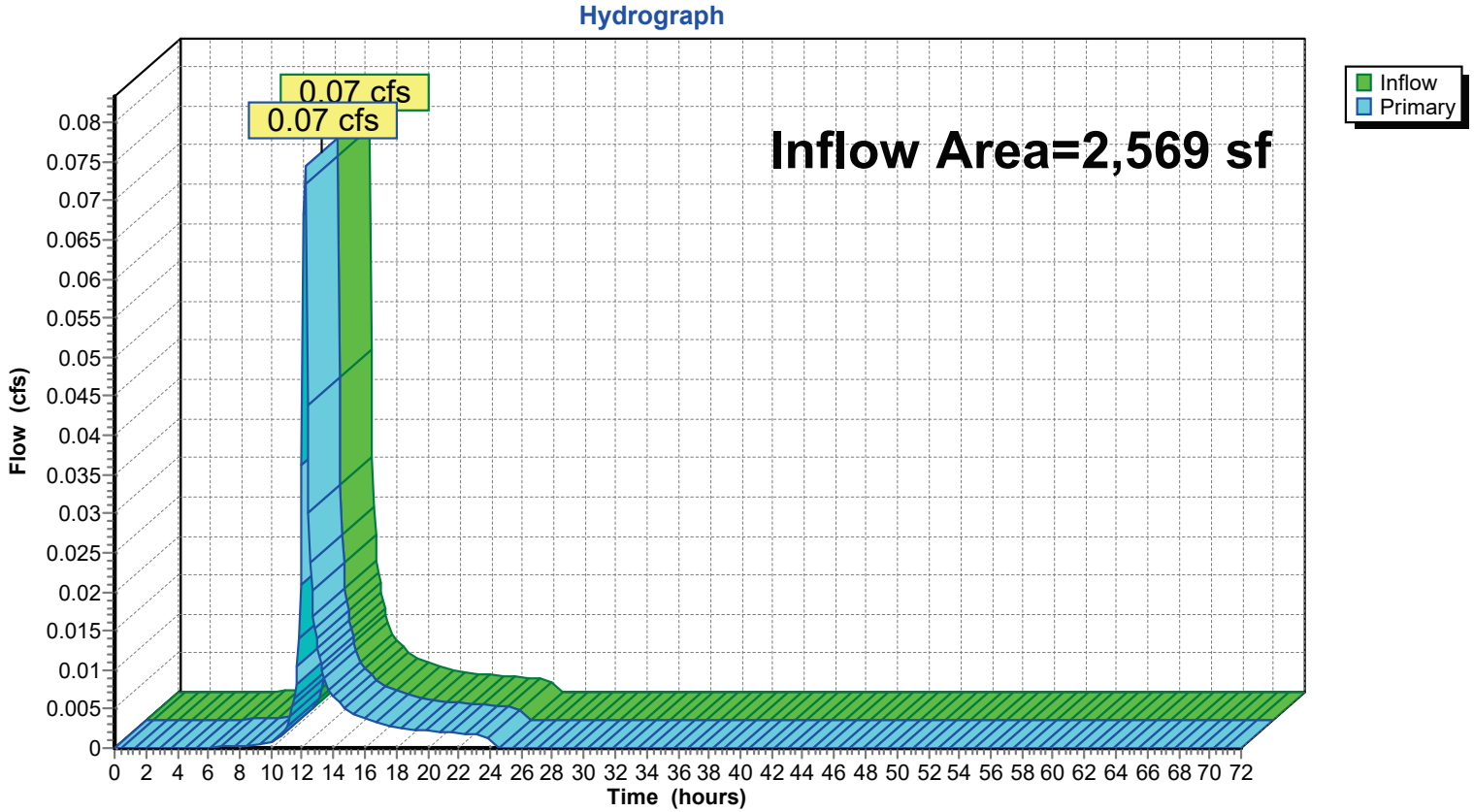


Summary for Link DP2: PROPOSED TOTAL BLOOMFIELD AVENUE

Inflow Area = 2,569 sf, 5.45% Impervious, Inflow Depth = 1.39" for 2-Year-2020 event
Inflow = 0.07 cfs @ 12.16 hrs, Volume= 298 cf
Primary = 0.07 cfs @ 12.16 hrs, Volume= 298 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 7L : PROPOSED SITE TOTAL

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Link DP2: PROPOSED TOTAL BLOOMFIELD AVENUE



Summary for Subcatchment P1A: P1A roof

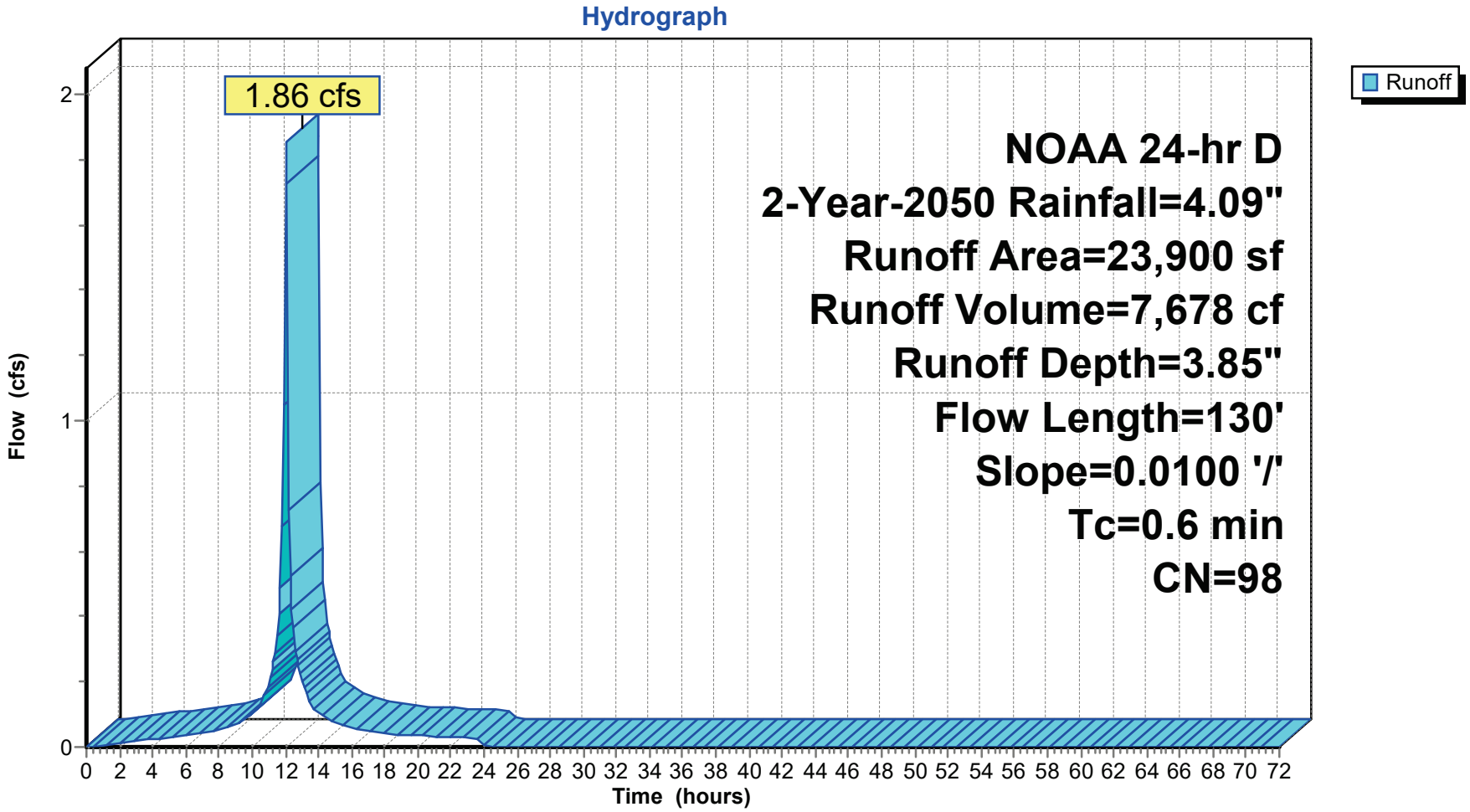
Runoff = 1.86 cfs @ 12.04 hrs, Volume= 7,678 cf, Depth= 3.85"
Routed to Pond 1P : Underground Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 2-Year-2050 Rainfall=4.09"

	Area (sf)	CN	Description
*	23,900	98	ROOF
	23,900		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	130	0.0100	3.75	1.31	**Pipe Channel, ROOF DRAIN** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.012

Subcatchment P1A: P1A roof



Summary for Subcatchment P1B: P1B pervious undetained

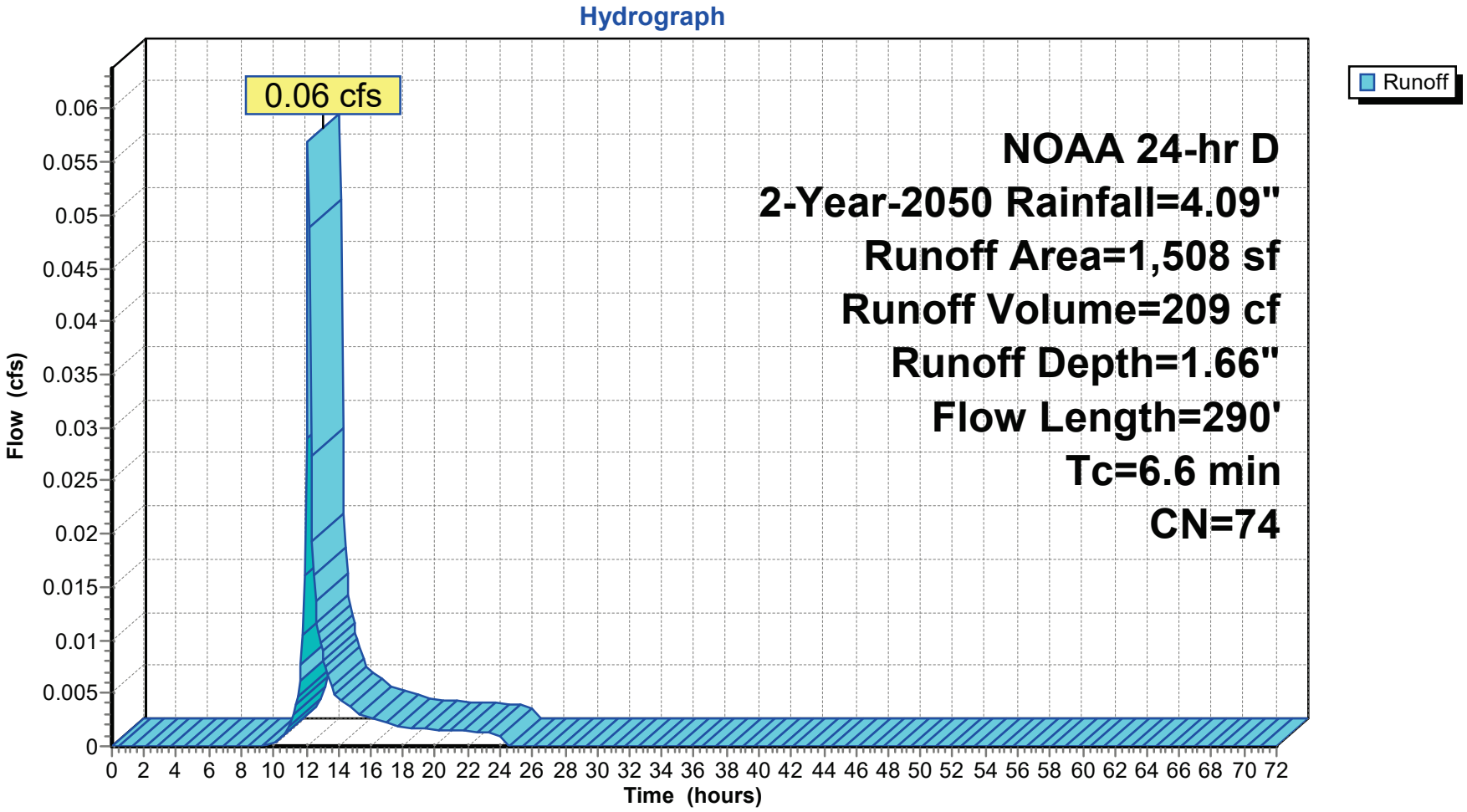
Runoff = 0.06 cfs @ 12.13 hrs, Volume= 209 cf, Depth= 1.66"
Routed to Link DP1 : DESIGN POINT 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 2-Year-2050 Rainfall=4.09"

Area (sf)	CN	Description
1,508	74	>75% Grass cover, Good, HSG C
1,508		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	61	0.0650	0.18		**Sheet Flow, LANDSCAPE BUFFER** Grass: Dense n= 0.240 P2= 3.44"
0.3	39	0.0950	2.20		**Sheet Flow, CLAREMONT ROAD** Smooth surfaces n= 0.011 P2= 3.44"
0.5	190	0.0950	6.26		**Shallow Concentrated Flow, CLAREMONT** Paved Kv= 20.3 fps
6.6	290	Total			

Subcatchment P1B: P1B pervious undetained



Summary for Subcatchment P1C: P1C pervious undetained

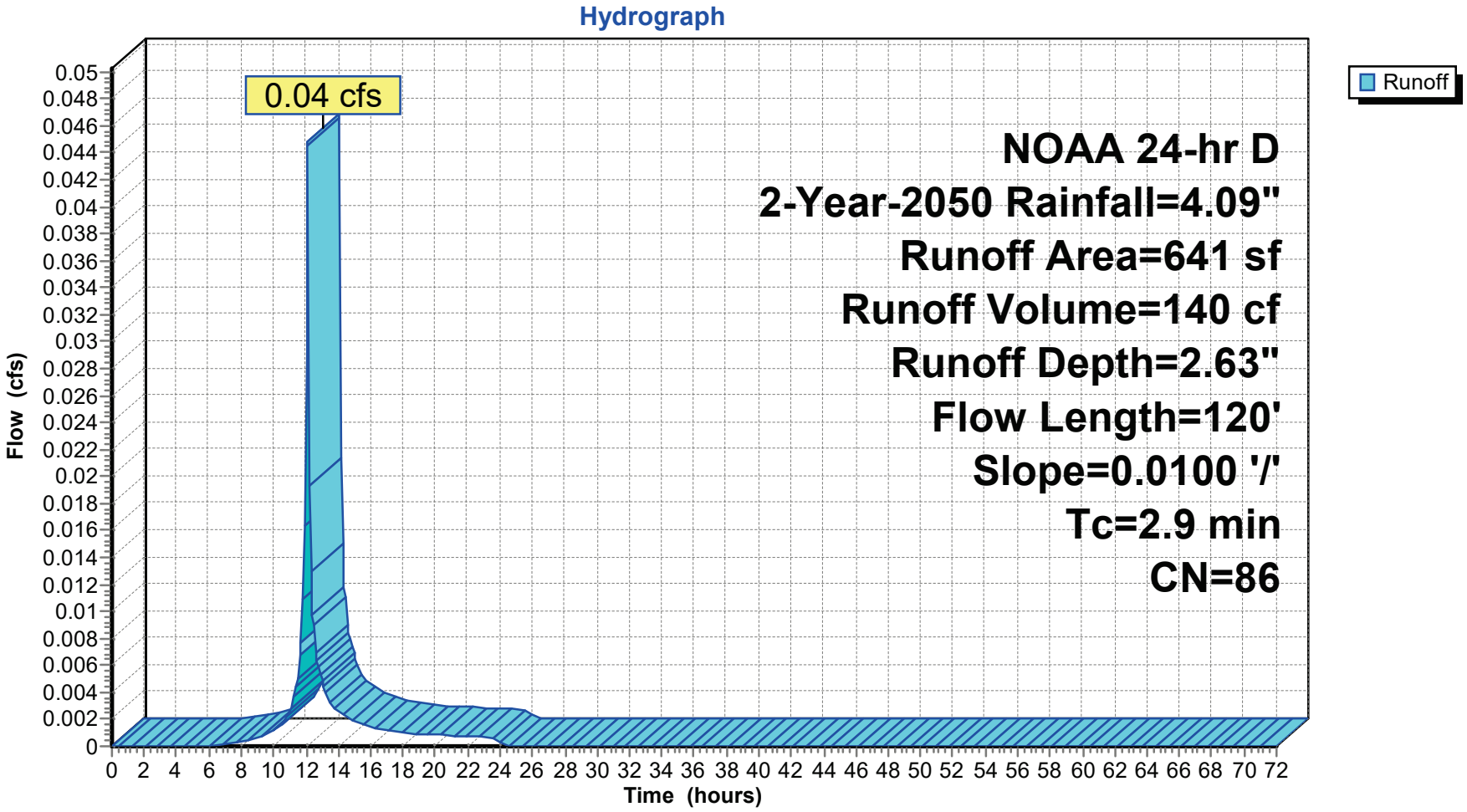
Runoff = 0.04 cfs @ 12.09 hrs, Volume= 140 cf, Depth= 2.63"
Routed to Link DP1 : DESIGN POINT 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 2-Year-2050 Rainfall=4.09"

	Area (sf)	CN	Description
*	641	86	LANDSCAPE
	641		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	10	0.0100	0.08		**Sheet Flow, Landscaping** Grass: Short n= 0.150 P2= 3.44"
0.9	110	0.0100	2.03		**Shallow Concentrated Flow, Parking lot** Paved Kv= 20.3 fps
2.9	120	Total			

Subcatchment P1C: P1C pervious undetained



Summary for Subcatchment P2A: P2A pervious undetained

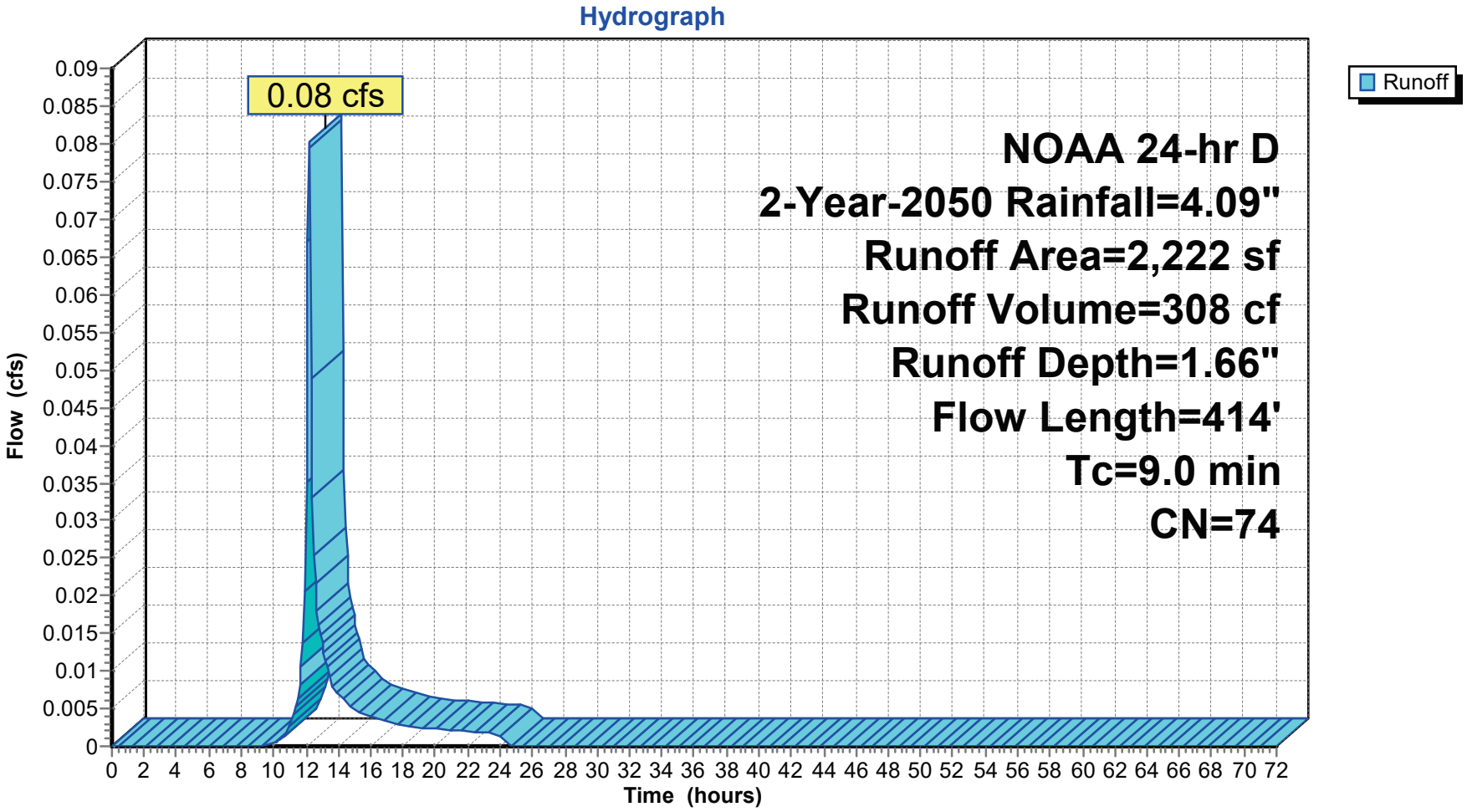
Runoff = 0.08 cfs @ 12.18 hrs, Volume= 308 cf, Depth= 1.66"
Routed to Link DP2 : PROPOSED TOTAL BLOOMFIELD AVENUE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 2-Year-2050 Rainfall=4.09"

Area (sf)	CN	Description
2,222	74	>75% Grass cover, Good, HSG C
2,222		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	100	0.0800	0.21		**Sheet Flow, BUFFER** Grass: Dense n= 0.240 P2= 3.44"
0.2	48	0.1000	5.09		**Shallow Concentrated Flow, LAWN** Unpaved Kv= 16.1 fps
0.9	266	0.0600	4.97		**Shallow Concentrated Flow, BLOOMFIELD** Paved Kv= 20.3 fps
9.0	414	Total			

Subcatchment P2A: P2A pervious undetained



Summary for Subcatchment P2B: P2B roof

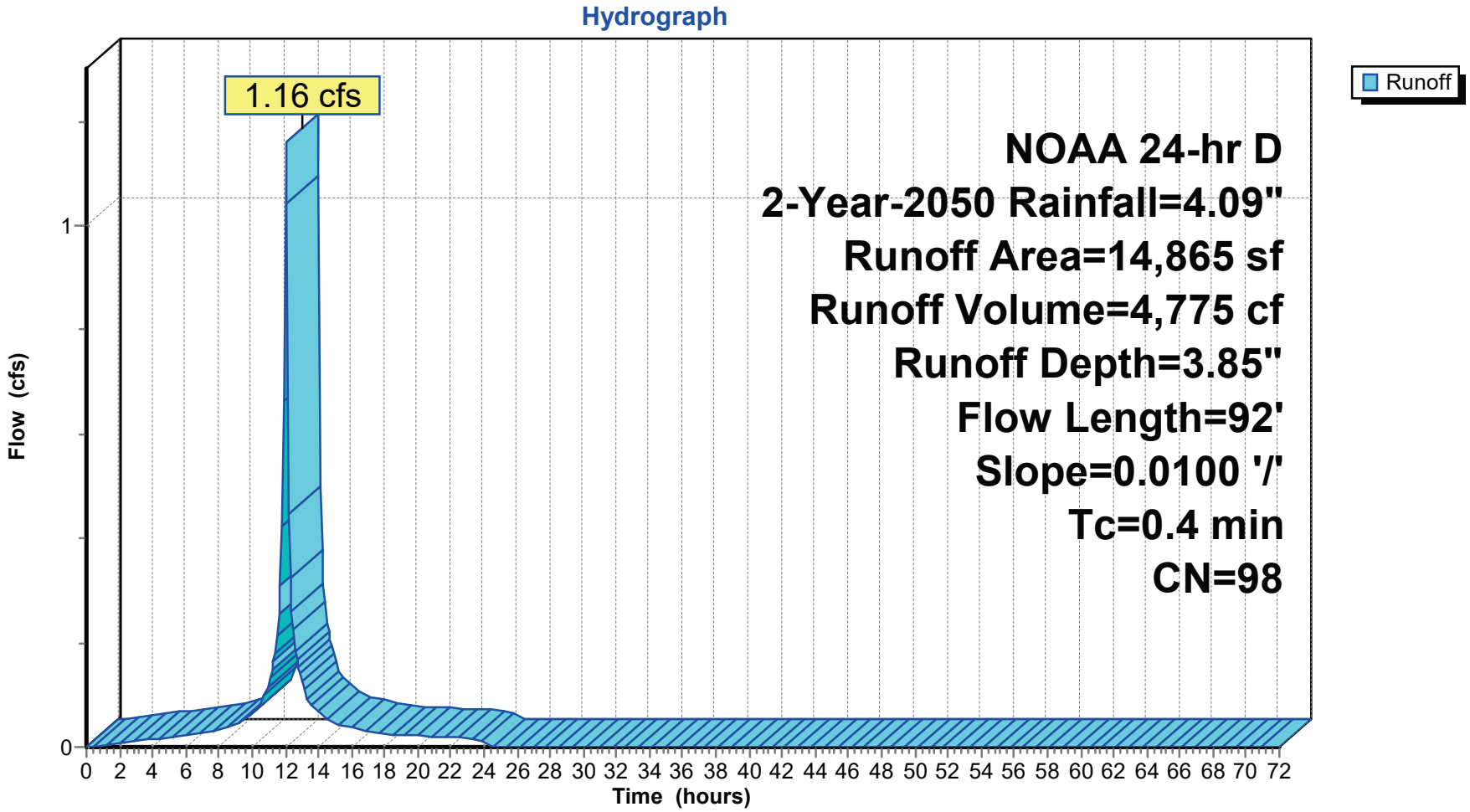
Runoff = 1.16 cfs @ 12.03 hrs, Volume= 4,775 cf, Depth= 3.85"
Routed to Pond 1P : Underground Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 2-Year-2050 Rainfall=4.09"

	Area (sf)	CN	Description
*	14,865	98	roof
	14,865		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	92	0.0100	3.75	1.31	**Pipe Channel, ROOF DRAIN** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.012

Subcatchment P2B: P2B roof



Summary for Subcatchment P2C: P2C pervious undetained

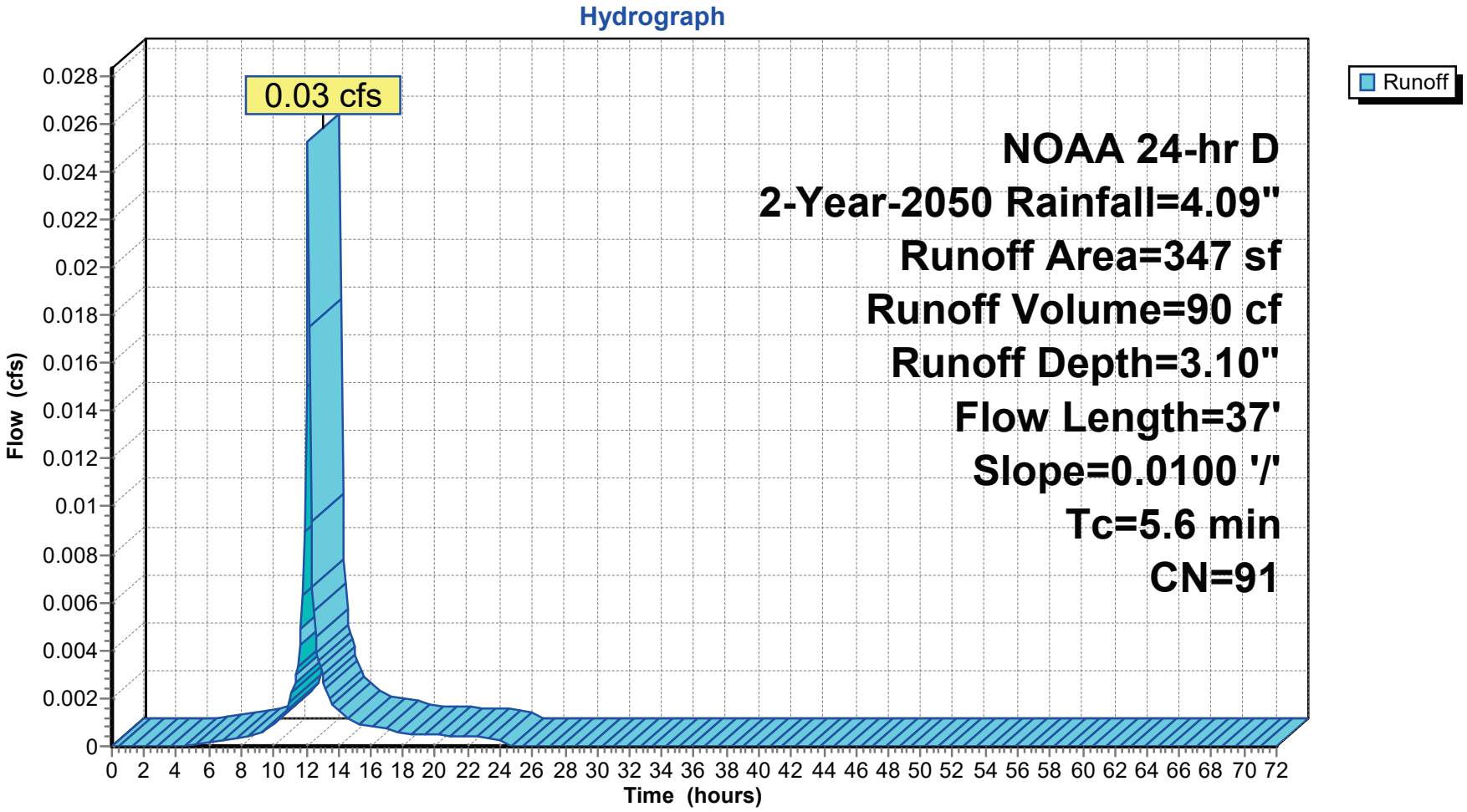
Runoff = 0.03 cfs @ 12.11 hrs, Volume= 90 cf, Depth= 3.10"
Routed to Link DP2 : PROPOSED TOTAL BLOOMFIELD AVENUE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 2-Year-2050 Rainfall=4.09"

	Area (sf)	CN	Description
*	207	86	LANDSCAPE
*	140	98	SIDEWALK
	347	91	Weighted Average
	207		59.65% Pervious Area
	140		40.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	37	0.0100	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.44"

Subcatchment P2C: P2C pervious undetained



Summary for Pond 1P: Underground Basin

Inflow Area = 38,765 sf,100.00% Impervious, Inflow Depth = 3.85" for 2-Year-2050 event
Inflow = 3.01 cfs @ 12.04 hrs, Volume= 12,453 cf
Outflow = 0.63 cfs @ 12.46 hrs, Volume= 12,453 cf, Atten= 79%, Lag= 25.3 min
Discarded = 0.04 cfs @ 12.46 hrs, Volume= 3,042 cf
Primary = 0.58 cfs @ 12.46 hrs, Volume= 9,411 cf
Routed to Link DP1 : DESIGN POINT 1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Peak Elev= 377.97' @ 12.46 hrs Surf.Area= 3,136 sf Storage= 4,424 cf

Plug-Flow detention time= 99.3 min calculated for 12,436 cf (100% of inflow)
Center-of-Mass det. time= 99.5 min (847.5 - 748.0)

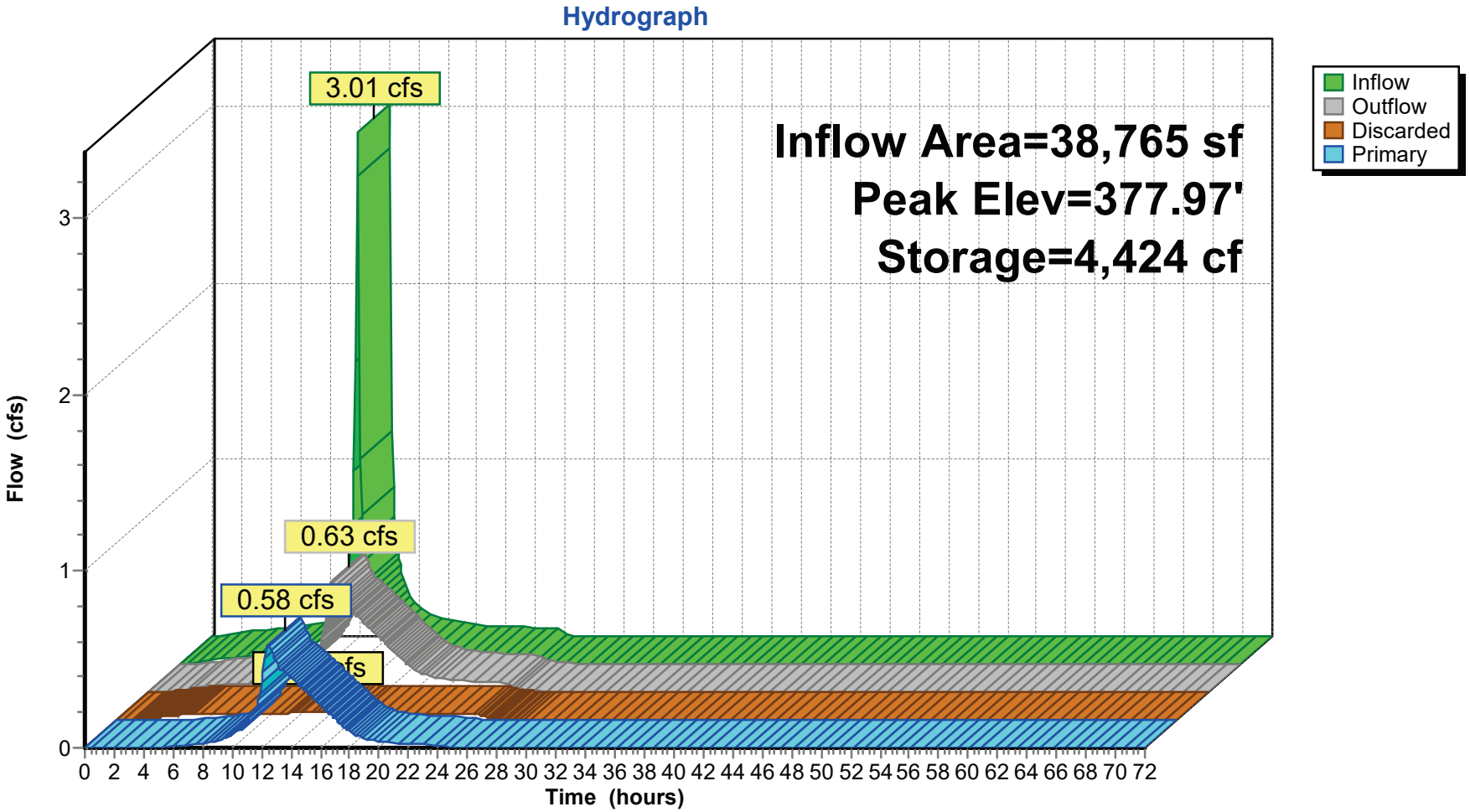
Volume	Invert	Avail.Storage	Storage Description
#1	376.50'	12,072 cf	**retain_it upright 4.0'** x 56 Inside= 84.0"W x 48.0"H => 28.87 sf x 8.00'L = 230.9 cf Outside= 96.0"W x 56.0"H => 37.33 sf x 8.00'L = 298.7 cf 1 Rows adjusted for 860.6 cf perimeter wall

Device	Routing	Invert	Outlet Devices
#1	Primary	376.50'	**12.0" Round Culvert** L= 21.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 376.50' / 376.25' S= 0.0119 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Device 1	376.50'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	377.80'	**0.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Discarded	376.50'	**0.500 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 370.00'

Discarded OutFlow Max=0.04 cfs @ 12.46 hrs HW=377.96' (Free Discharge)
└**4=Exfiltration** (Controls 0.04 cfs)

Primary OutFlow Max=0.58 cfs @ 12.46 hrs HW=377.96' (Free Discharge)
└**1=Culvert** (Passes 0.58 cfs of 3.71 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.48 cfs @ 5.49 fps)
  └**3=Sharp-Crested Rectangular Weir** (Weir Controls 0.10 cfs @ 1.33 fps)

Pond 1P: Underground Basin

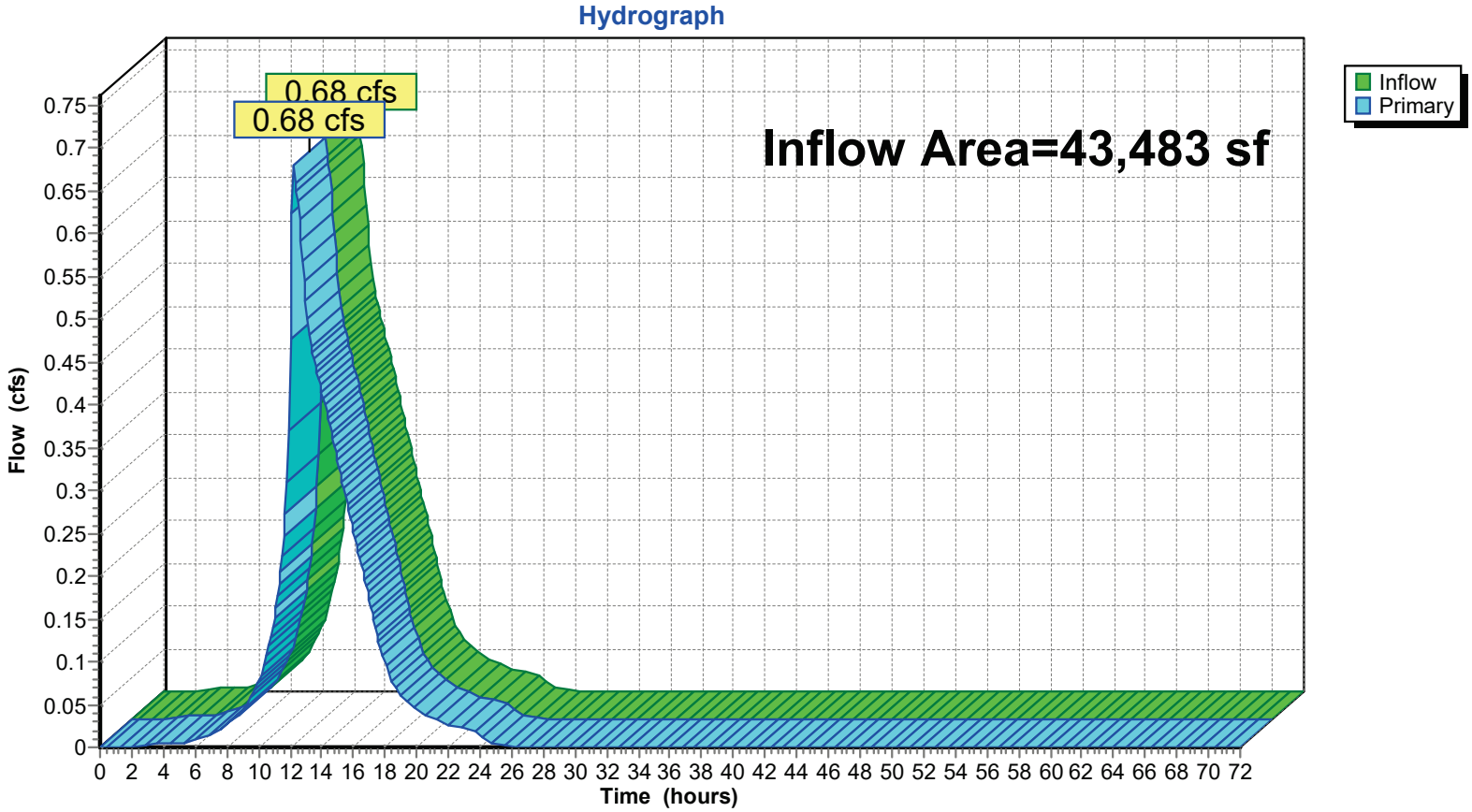


Summary for Link 7L: PROPOSED SITE TOTAL

Inflow Area = 43,483 sf, 89.47% Impervious, Inflow Depth = 2.80" for 2-Year-2050 event
Inflow = 0.68 cfs @ 12.23 hrs, Volume= 10,158 cf
Primary = 0.68 cfs @ 12.23 hrs, Volume= 10,158 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Link 7L: PROPOSED SITE TOTAL

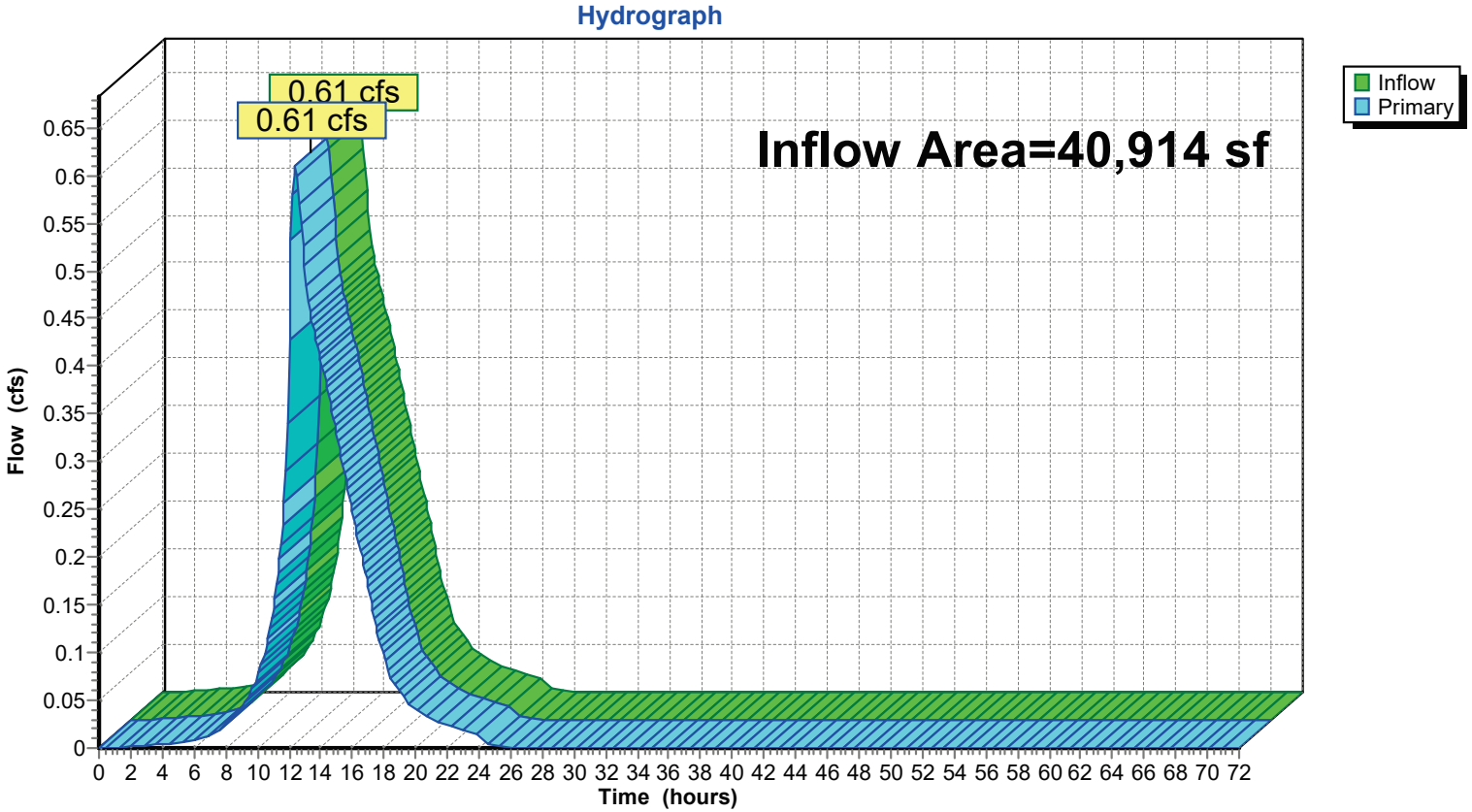


Summary for Link DP1: DESIGN POINT 1

Inflow Area = 40,914 sf, 94.75% Impervious, Inflow Depth = 2.86" for 2-Year-2050 event
Inflow = 0.61 cfs @ 12.42 hrs, Volume= 9,760 cf
Primary = 0.61 cfs @ 12.42 hrs, Volume= 9,760 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 7L : PROPOSED SITE TOTAL

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Link DP1: DESIGN POINT 1

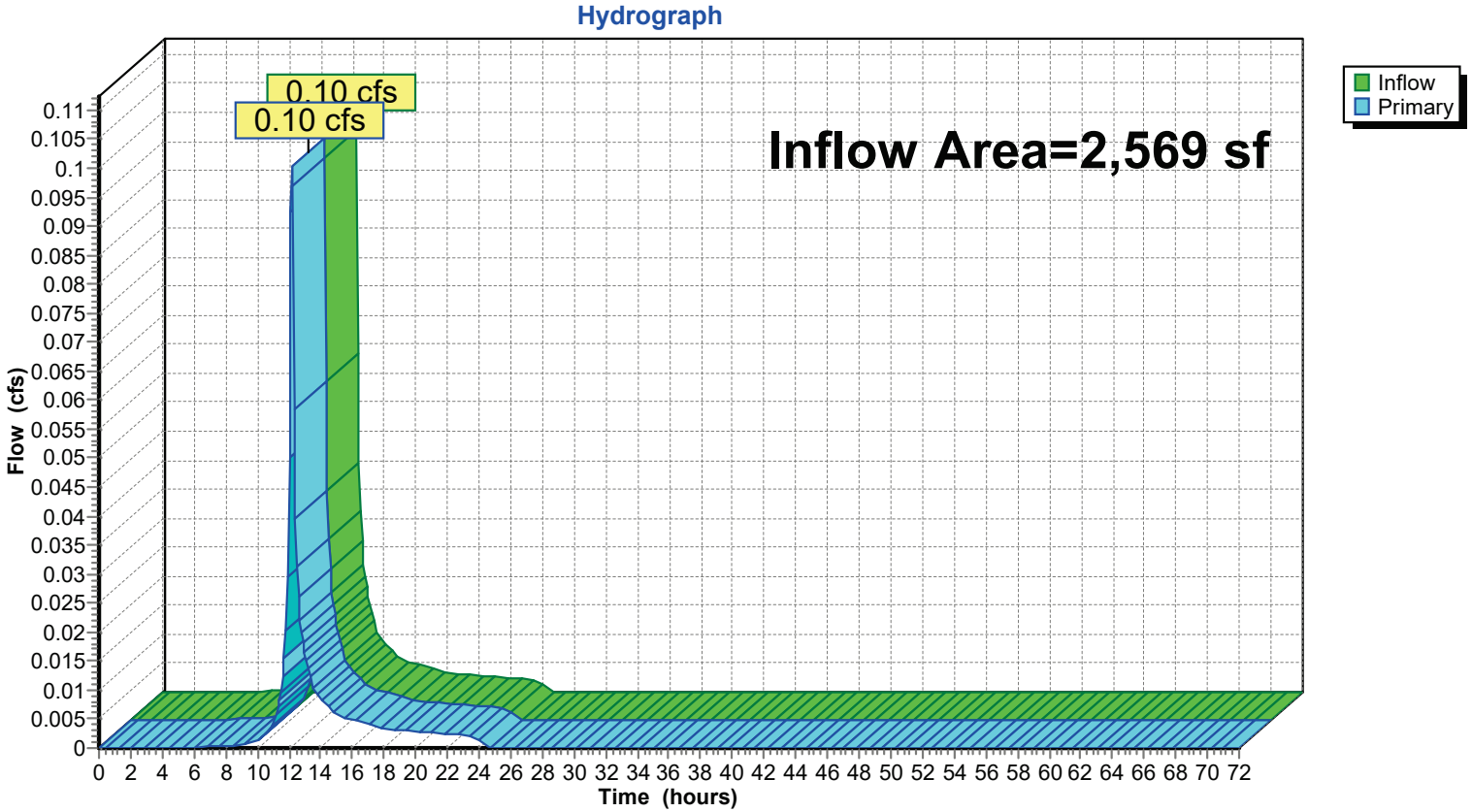


Summary for Link DP2: PROPOSED TOTAL BLOOMFIELD AVENUE

Inflow Area = 2,569 sf, 5.45% Impervious, Inflow Depth = 1.86" for 2-Year-2050 event
Inflow = 0.10 cfs @ 12.16 hrs, Volume= 398 cf
Primary = 0.10 cfs @ 12.16 hrs, Volume= 398 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 7L : PROPOSED SITE TOTAL

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Link DP2: PROPOSED TOTAL BLOOMFIELD AVENUE



Summary for Subcatchment P1A: P1A roof

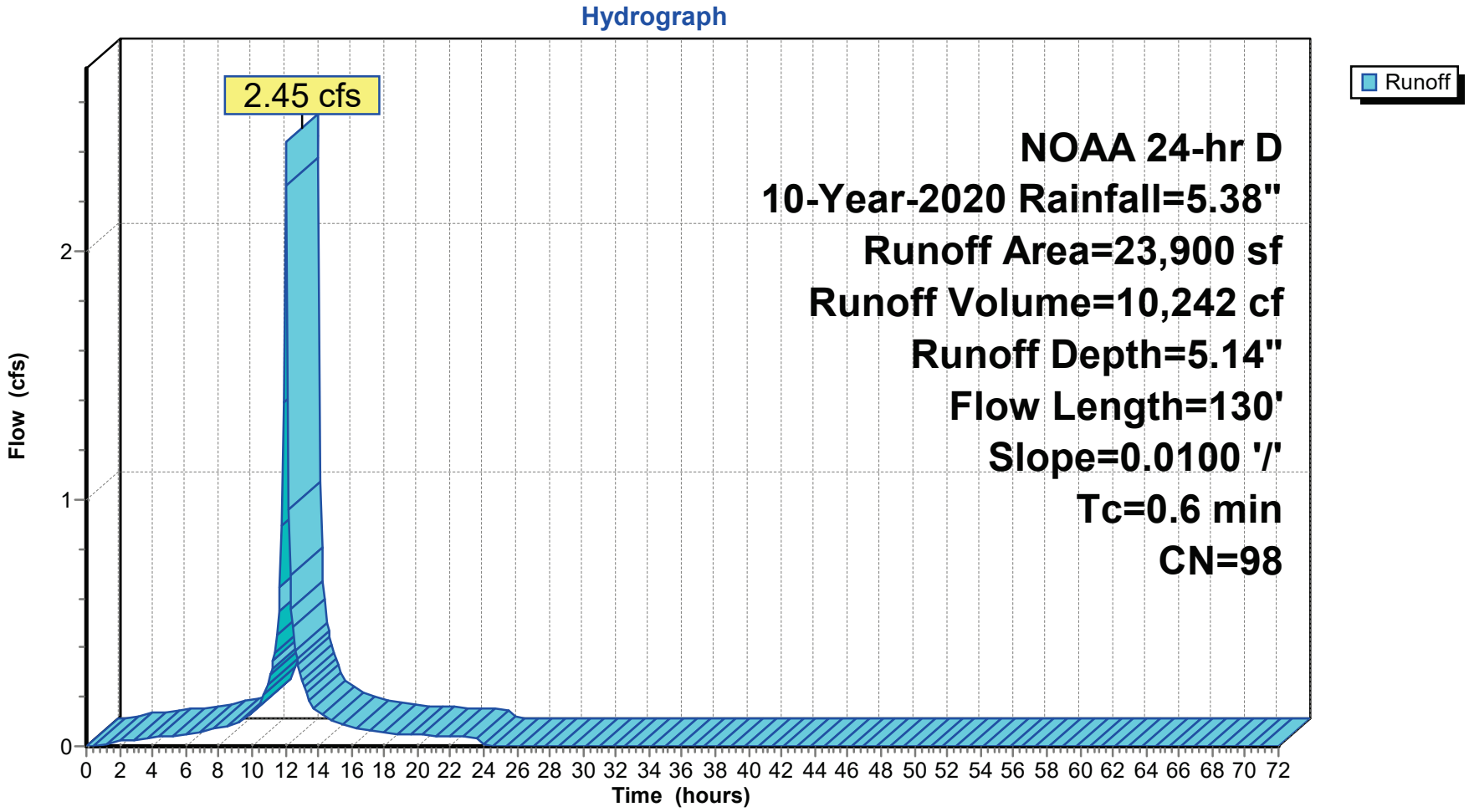
Runoff = 2.45 cfs @ 12.04 hrs, Volume= 10,242 cf, Depth= 5.14"
Routed to Pond 1P : Underground Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 10-Year-2020 Rainfall=5.38"

	Area (sf)	CN	Description
*	23,900	98	ROOF
	23,900		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	130	0.0100	3.75	1.31	**Pipe Channel, ROOF DRAIN** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.012

Subcatchment P1A: P1A roof



Summary for Subcatchment P1B: P1B pervious undetained

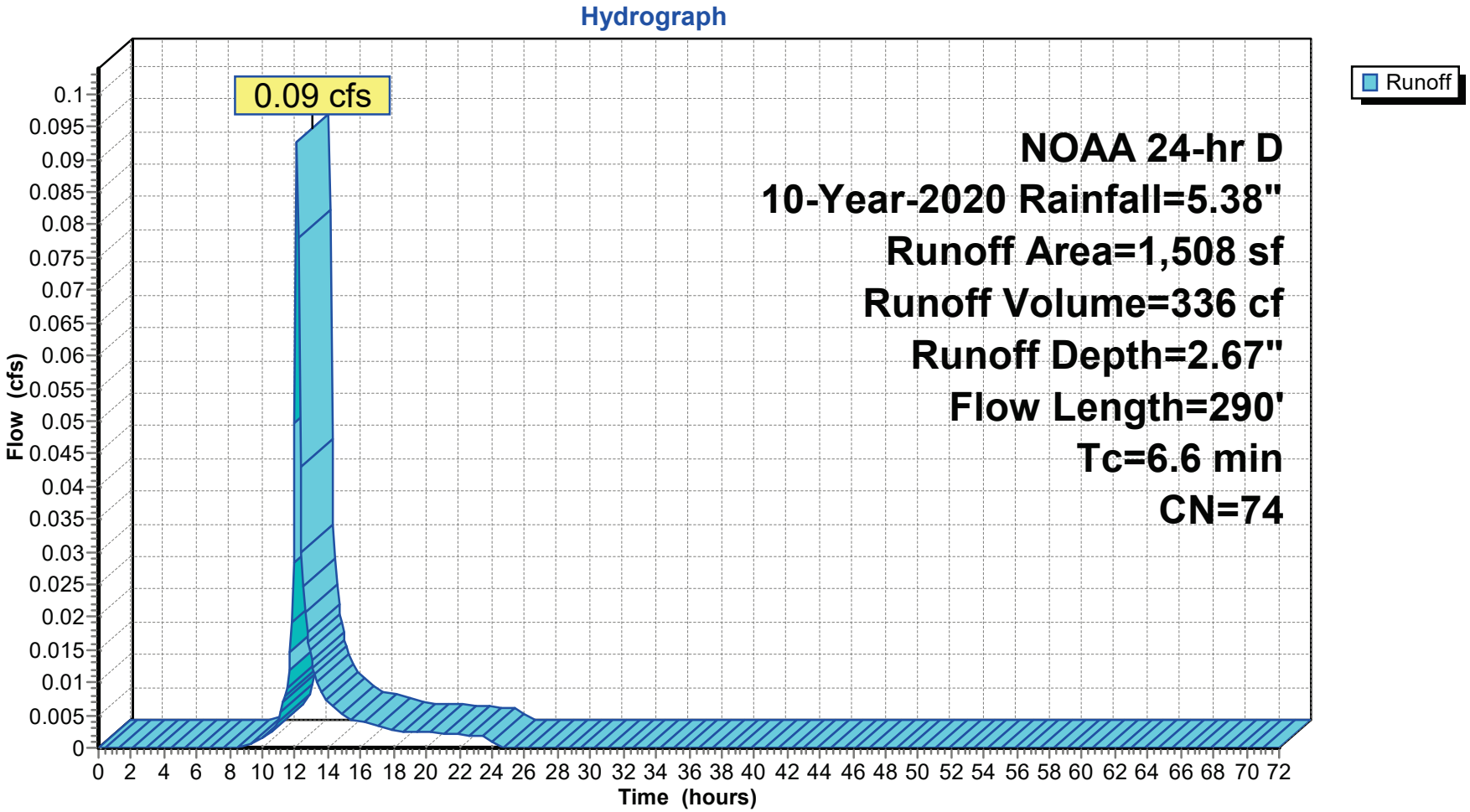
Runoff = 0.09 cfs @ 12.13 hrs, Volume= 336 cf, Depth= 2.67"
Routed to Link DP1 : DESIGN POINT 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 10-Year-2020 Rainfall=5.38"

Area (sf)	CN	Description
1,508	74	>75% Grass cover, Good, HSG C
1,508		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	61	0.0650	0.18		**Sheet Flow, LANDSCAPE BUFFER** Grass: Dense n= 0.240 P2= 3.44"
0.3	39	0.0950	2.20		**Sheet Flow, CLAREMONT ROAD** Smooth surfaces n= 0.011 P2= 3.44"
0.5	190	0.0950	6.26		**Shallow Concentrated Flow, CLAREMONT** Paved Kv= 20.3 fps
6.6	290	Total			

Subcatchment P1B: P1B pervious undetained



Summary for Subcatchment P1C: P1C pervious undetained

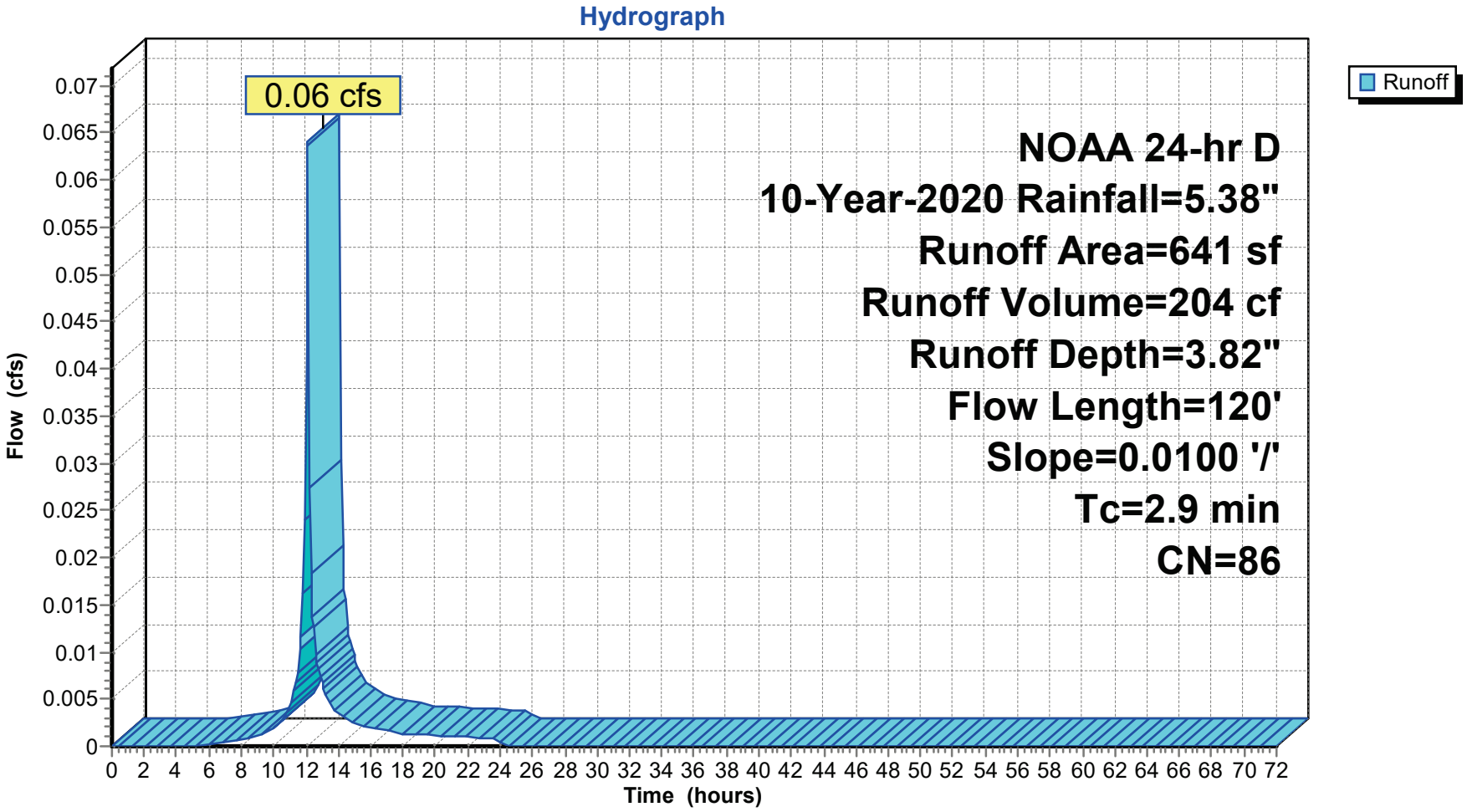
Runoff = 0.06 cfs @ 12.09 hrs, Volume= 204 cf, Depth= 3.82"
Routed to Link DP1 : DESIGN POINT 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 10-Year-2020 Rainfall=5.38"

	Area (sf)	CN	Description
*	641	86	LANDSCAPE
	641		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	10	0.0100	0.08		**Sheet Flow, Landscaping** Grass: Short n= 0.150 P2= 3.44"
0.9	110	0.0100	2.03		**Shallow Concentrated Flow, Parking lot** Paved Kv= 20.3 fps
2.9	120	Total			

Subcatchment P1C: P1C pervious undetained



Summary for Subcatchment P2A: P2A pervious undetained

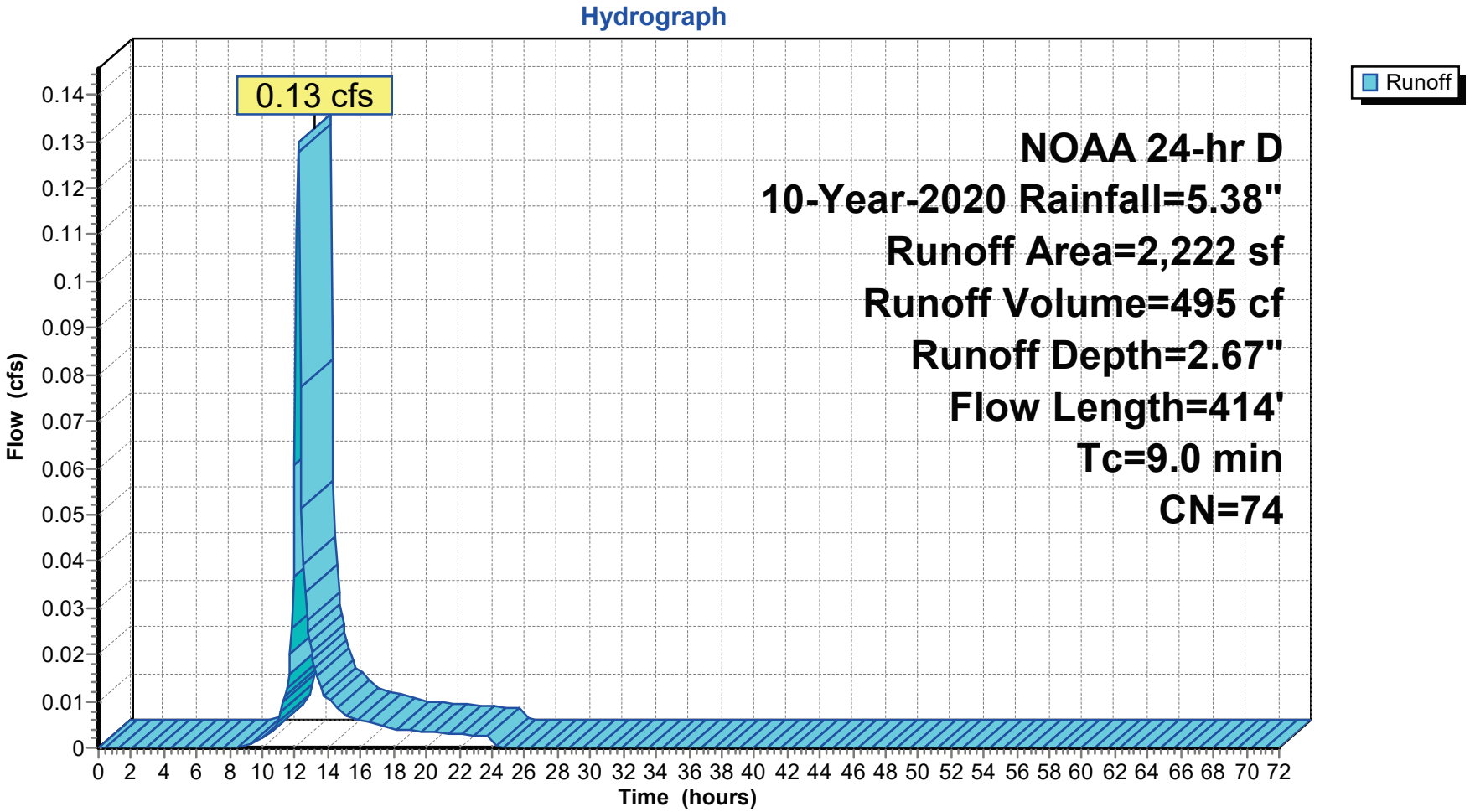
Runoff = 0.13 cfs @ 12.17 hrs, Volume= 495 cf, Depth= 2.67"
Routed to Link DP2 : PROPOSED TOTAL BLOOMFIELD AVENUE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 10-Year-2020 Rainfall=5.38"

Area (sf)	CN	Description
2,222	74	>75% Grass cover, Good, HSG C
2,222		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	100	0.0800	0.21		**Sheet Flow, BUFFER** Grass: Dense n= 0.240 P2= 3.44"
0.2	48	0.1000	5.09		**Shallow Concentrated Flow, LAWN** Unpaved Kv= 16.1 fps
0.9	266	0.0600	4.97		**Shallow Concentrated Flow, BLOOMFIELD** Paved Kv= 20.3 fps
9.0	414	Total			

Subcatchment P2A: P2A pervious undetained



Summary for Subcatchment P2B: P2B roof

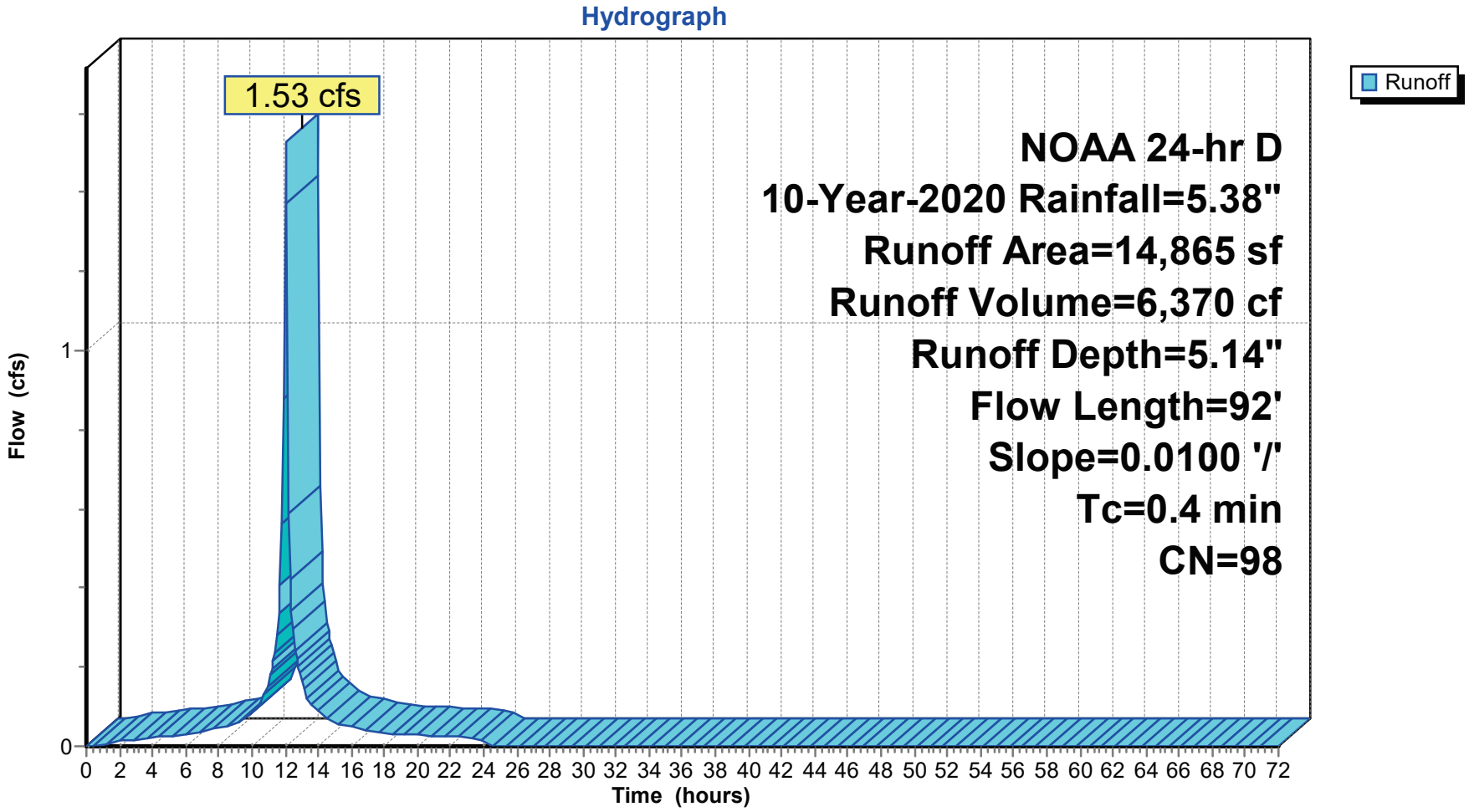
Runoff = 1.53 cfs @ 12.03 hrs, Volume= 6,370 cf, Depth= 5.14"
Routed to Pond 1P : Underground Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 10-Year-2020 Rainfall=5.38"

	Area (sf)	CN	Description
*	14,865	98	roof
	14,865		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	92	0.0100	3.75	1.31	**Pipe Channel, ROOF DRAIN** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.012

Subcatchment P2B: P2B roof



Summary for Subcatchment P2C: P2C pervious undetained

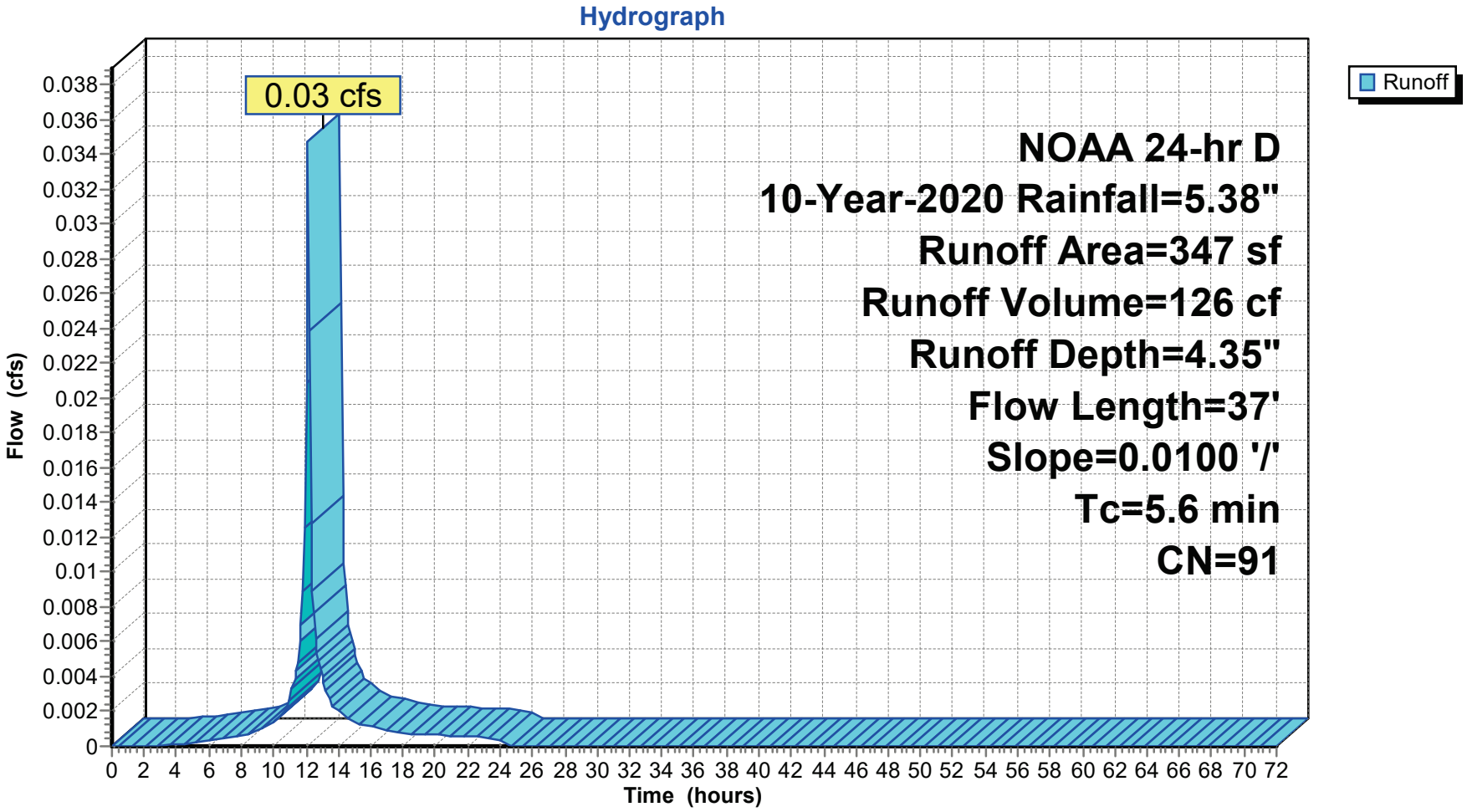
Runoff = 0.03 cfs @ 12.11 hrs, Volume= 126 cf, Depth= 4.35"
Routed to Link DP2 : PROPOSED TOTAL BLOOMFIELD AVENUE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 10-Year-2020 Rainfall=5.38"

	Area (sf)	CN	Description
*	207	86	LANDSCAPE
*	140	98	SIDEWALK
	347	91	Weighted Average
	207		59.65% Pervious Area
	140		40.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	37	0.0100	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.44"

Subcatchment P2C: P2C pervious undetained



Summary for Pond 1P: Underground Basin

Inflow Area = 38,765 sf,100.00% Impervious, Inflow Depth = 5.14" for 10-Year-2020 event
Inflow = 3.98 cfs @ 12.04 hrs, Volume= 16,613 cf
Outflow = 1.13 cfs @ 12.32 hrs, Volume= 16,613 cf, Atten= 72%, Lag= 16.7 min
Discarded = 0.05 cfs @ 12.32 hrs, Volume= 3,259 cf
Primary = 1.08 cfs @ 12.32 hrs, Volume= 13,354 cf
Routed to Link DP1 : DESIGN POINT 1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Peak Elev= 378.36' @ 12.32 hrs Surf.Area= 3,136 sf Storage= 5,615 cf

Plug-Flow detention time= 95.8 min calculated for 16,590 cf (100% of inflow)
Center-of-Mass det. time= 96.0 min (838.9 - 742.9)

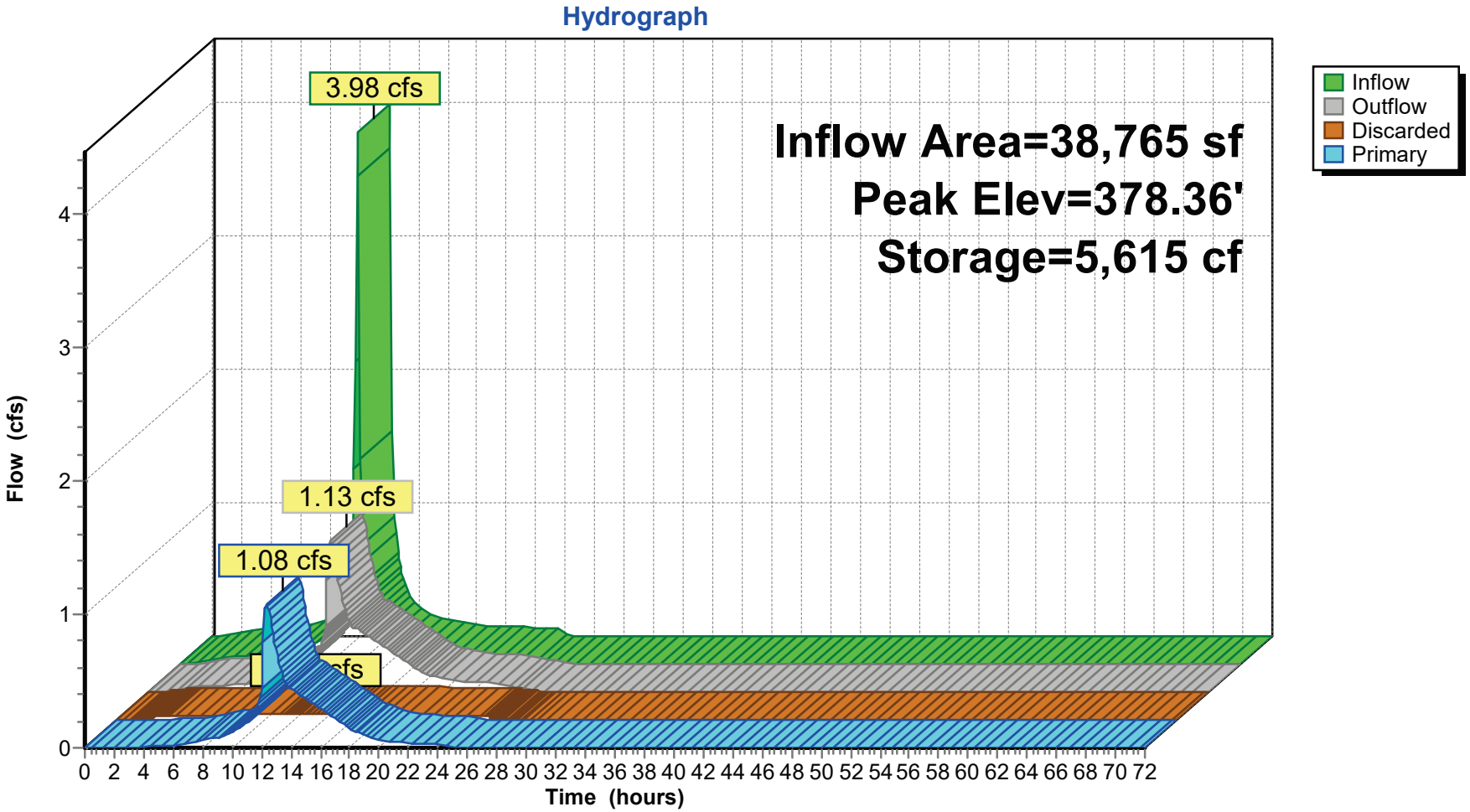
Volume	Invert	Avail.Storage	Storage Description
#1	376.50'	12,072 cf	**retain_it upright 4.0'** x 56 Inside= 84.0"W x 48.0"H => 28.87 sf x 8.00'L = 230.9 cf Outside= 96.0"W x 56.0"H => 37.33 sf x 8.00'L = 298.7 cf 1 Rows adjusted for 860.6 cf perimeter wall

Device	Routing	Invert	Outlet Devices
#1	Primary	376.50'	**12.0" Round Culvert** L= 21.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 376.50' / 376.25' S= 0.0119 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Device 1	376.50'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	377.80'	**0.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Discarded	376.50'	**0.500 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 370.00'

Discarded OutFlow Max=0.05 cfs @ 12.32 hrs HW=378.36' (Free Discharge)
└**4=Exfiltration** (Controls 0.05 cfs)

Primary OutFlow Max=1.08 cfs @ 12.32 hrs HW=378.36' (Free Discharge)
└**1=Culvert** (Passes 1.08 cfs of 4.41 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.55 cfs @ 6.26 fps)
  └**3=Sharp-Crested Rectangular Weir** (Weir Controls 0.53 cfs @ 2.44 fps)

Pond 1P: Underground Basin

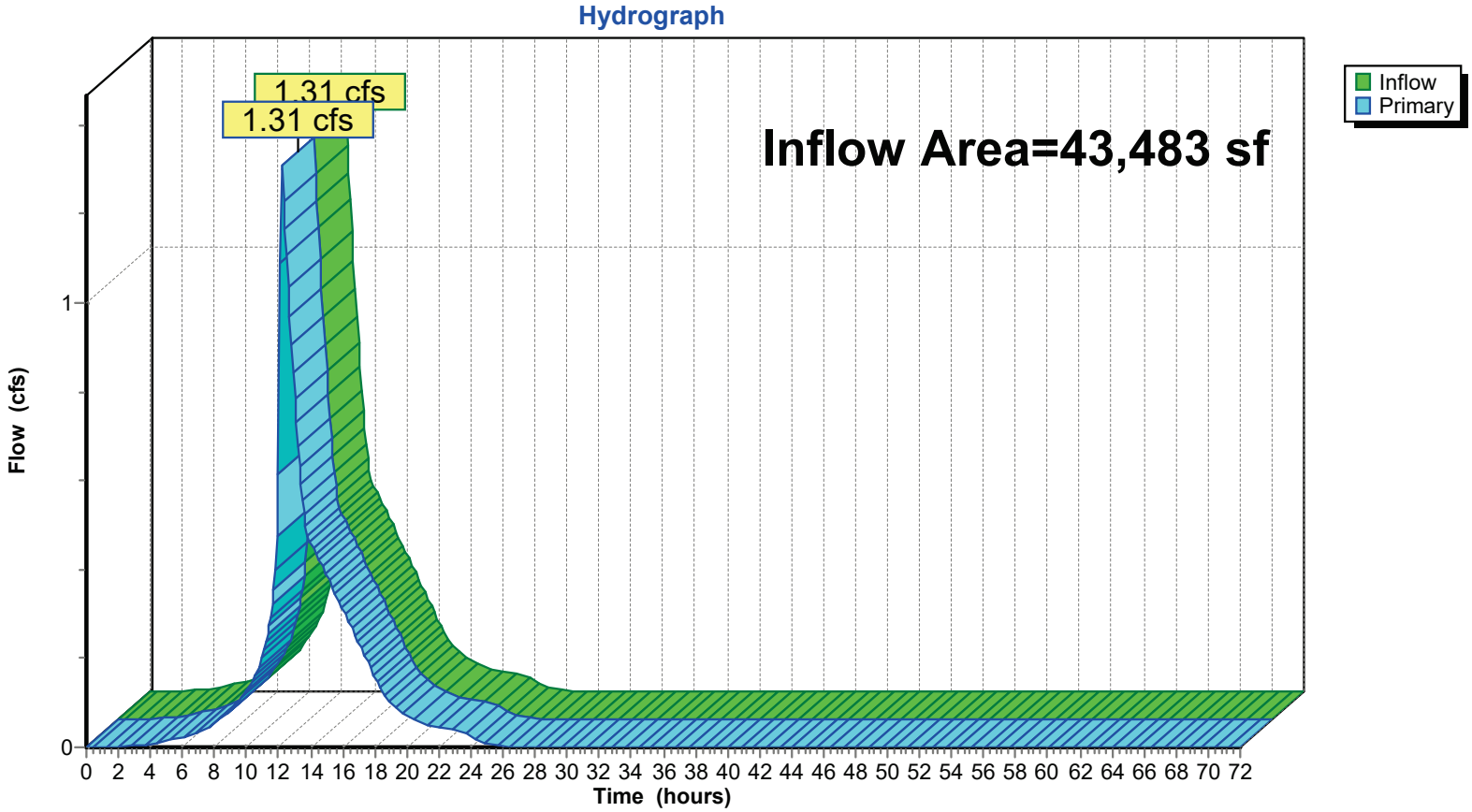


Summary for Link 7L: PROPOSED SITE TOTAL

Inflow Area = 43,483 sf, 89.47% Impervious, Inflow Depth = 4.01" for 10-Year-2020 event
Inflow = 1.31 cfs @ 12.22 hrs, Volume= 14,514 cf
Primary = 1.31 cfs @ 12.22 hrs, Volume= 14,514 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Link 7L: PROPOSED SITE TOTAL

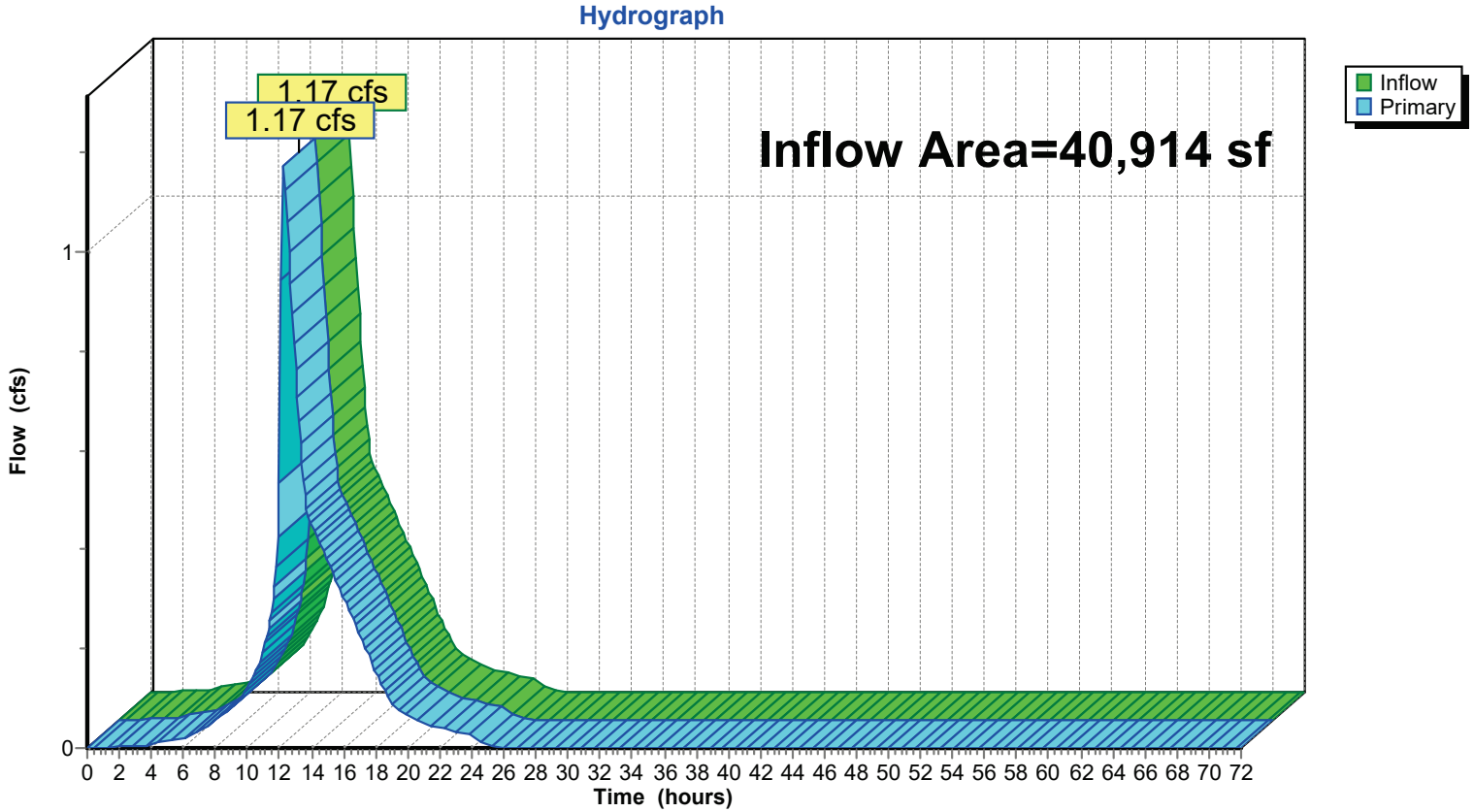


Summary for Link DP1: DESIGN POINT 1

Inflow Area = 40,914 sf, 94.75% Impervious, Inflow Depth = 4.08" for 10-Year-2020 event
Inflow = 1.17 cfs @ 12.25 hrs, Volume= 13,894 cf
Primary = 1.17 cfs @ 12.25 hrs, Volume= 13,894 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 7L : PROPOSED SITE TOTAL

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Link DP1: DESIGN POINT 1

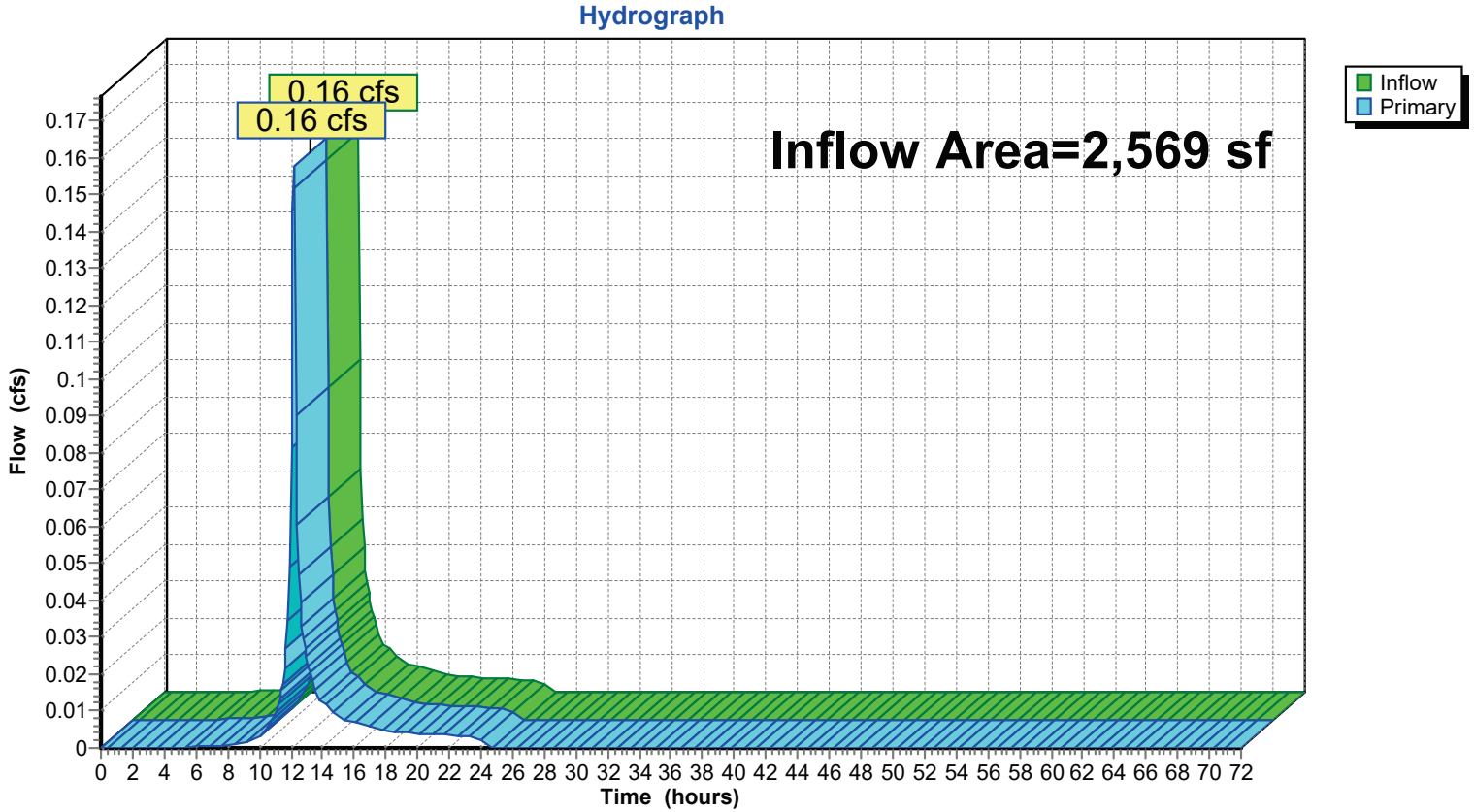


Summary for Link DP2: PROPOSED TOTAL BLOOMFIELD AVENUE

Inflow Area = 2,569 sf, 5.45% Impervious, Inflow Depth = 2.90" for 10-Year-2020 event
Inflow = 0.16 cfs @ 12.16 hrs, Volume= 620 cf
Primary = 0.16 cfs @ 12.16 hrs, Volume= 620 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 7L : PROPOSED SITE TOTAL

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Link DP2: PROPOSED TOTAL BLOOMFIELD AVENUE



Summary for Subcatchment P1A: P1A roof

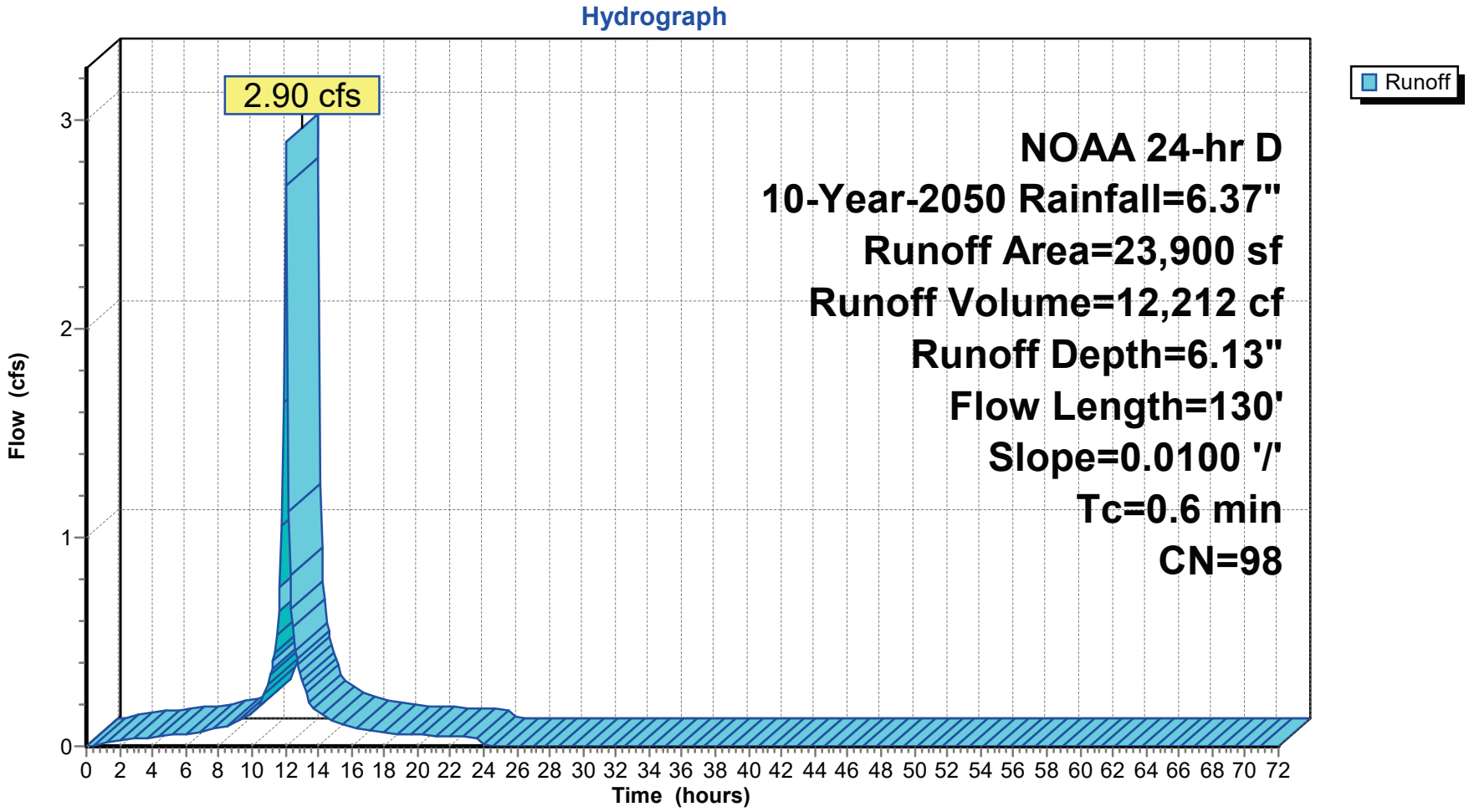
Runoff = 2.90 cfs @ 12.04 hrs, Volume= 12,212 cf, Depth= 6.13"
Routed to Pond 1P : Underground Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 10-Year-2050 Rainfall=6.37"

	Area (sf)	CN	Description
*	23,900	98	ROOF
	23,900		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	130	0.0100	3.75	1.31	**Pipe Channel, ROOF DRAIN** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.012

Subcatchment P1A: P1A roof



Summary for Subcatchment P1B: P1B pervious undetained

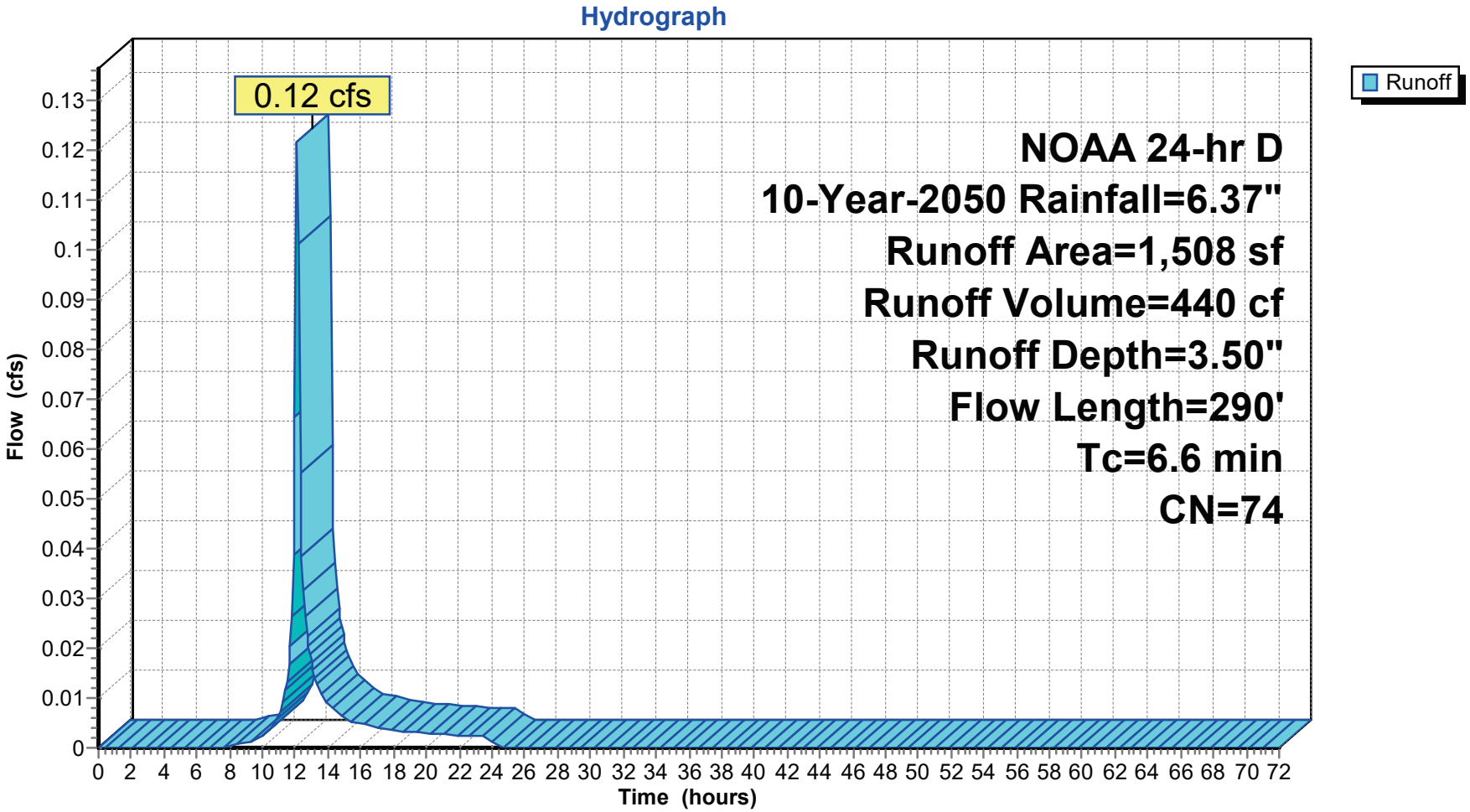
Runoff = 0.12 cfs @ 12.12 hrs, Volume= 440 cf, Depth= 3.50"
Routed to Link DP1 : DESIGN POINT 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 10-Year-2050 Rainfall=6.37"

Area (sf)	CN	Description
1,508	74	>75% Grass cover, Good, HSG C
1,508		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	61	0.0650	0.18		**Sheet Flow, LANDSCAPE BUFFER** Grass: Dense n= 0.240 P2= 3.44"
0.3	39	0.0950	2.20		**Sheet Flow, CLAREMONT ROAD** Smooth surfaces n= 0.011 P2= 3.44"
0.5	190	0.0950	6.26		**Shallow Concentrated Flow, CLAREMONT** Paved Kv= 20.3 fps
6.6	290	Total			

Subcatchment P1B: P1B pervious undetained



Summary for Subcatchment P1C: P1C pervious undetained

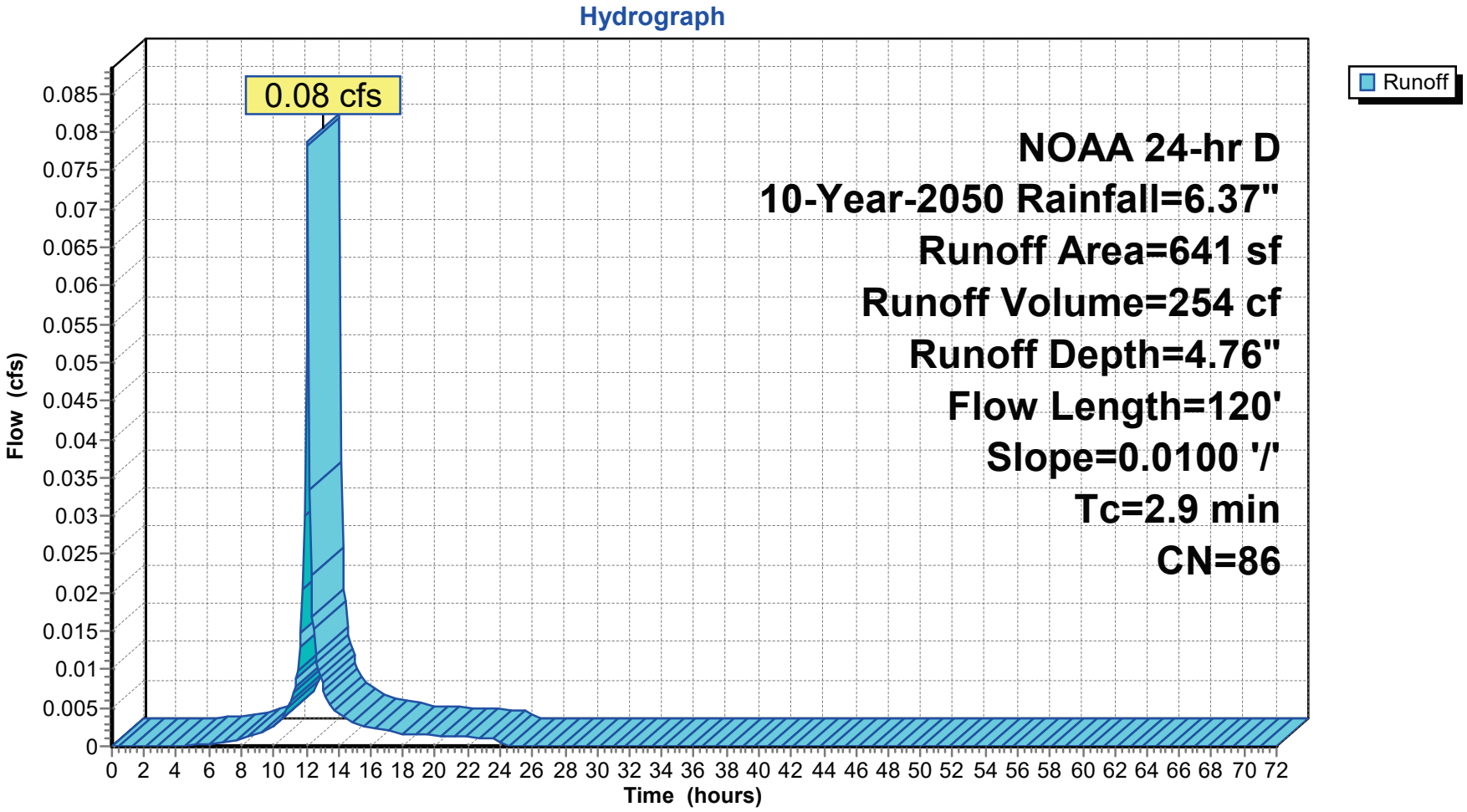
Runoff = 0.08 cfs @ 12.09 hrs, Volume= 254 cf, Depth= 4.76"
Routed to Link DP1 : DESIGN POINT 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 10-Year-2050 Rainfall=6.37"

	Area (sf)	CN	Description
*	641	86	LANDSCAPE
	641		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	10	0.0100	0.08		**Sheet Flow, Landscaping** Grass: Short n= 0.150 P2= 3.44"
0.9	110	0.0100	2.03		**Shallow Concentrated Flow, Parking lot** Paved Kv= 20.3 fps
2.9	120	Total			

Subcatchment P1C: P1C pervious undetained



Summary for Subcatchment P2A: P2A pervious undetained

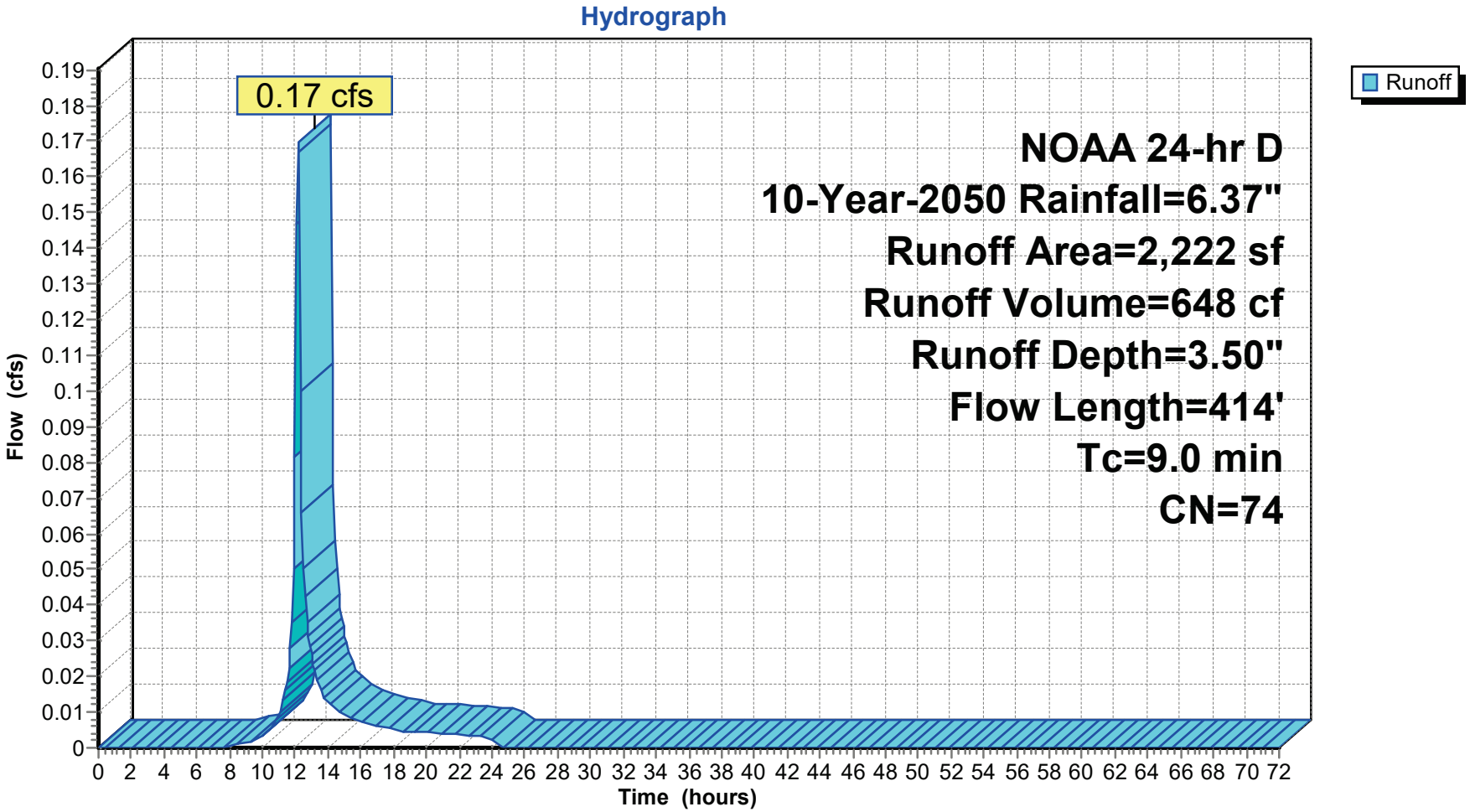
Runoff = 0.17 cfs @ 12.17 hrs, Volume= 648 cf, Depth= 3.50"
Routed to Link DP2 : PROPOSED TOTAL BLOOMFIELD AVENUE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 10-Year-2050 Rainfall=6.37"

Area (sf)	CN	Description
2,222	74	>75% Grass cover, Good, HSG C
2,222		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	100	0.0800	0.21		**Sheet Flow, BUFFER** Grass: Dense n= 0.240 P2= 3.44"
0.2	48	0.1000	5.09		**Shallow Concentrated Flow, LAWN** Unpaved Kv= 16.1 fps
0.9	266	0.0600	4.97		**Shallow Concentrated Flow, BLOOMFIELD** Paved Kv= 20.3 fps
9.0	414	Total			

Subcatchment P2A: P2A pervious undetained



Summary for Subcatchment P2B: P2B roof

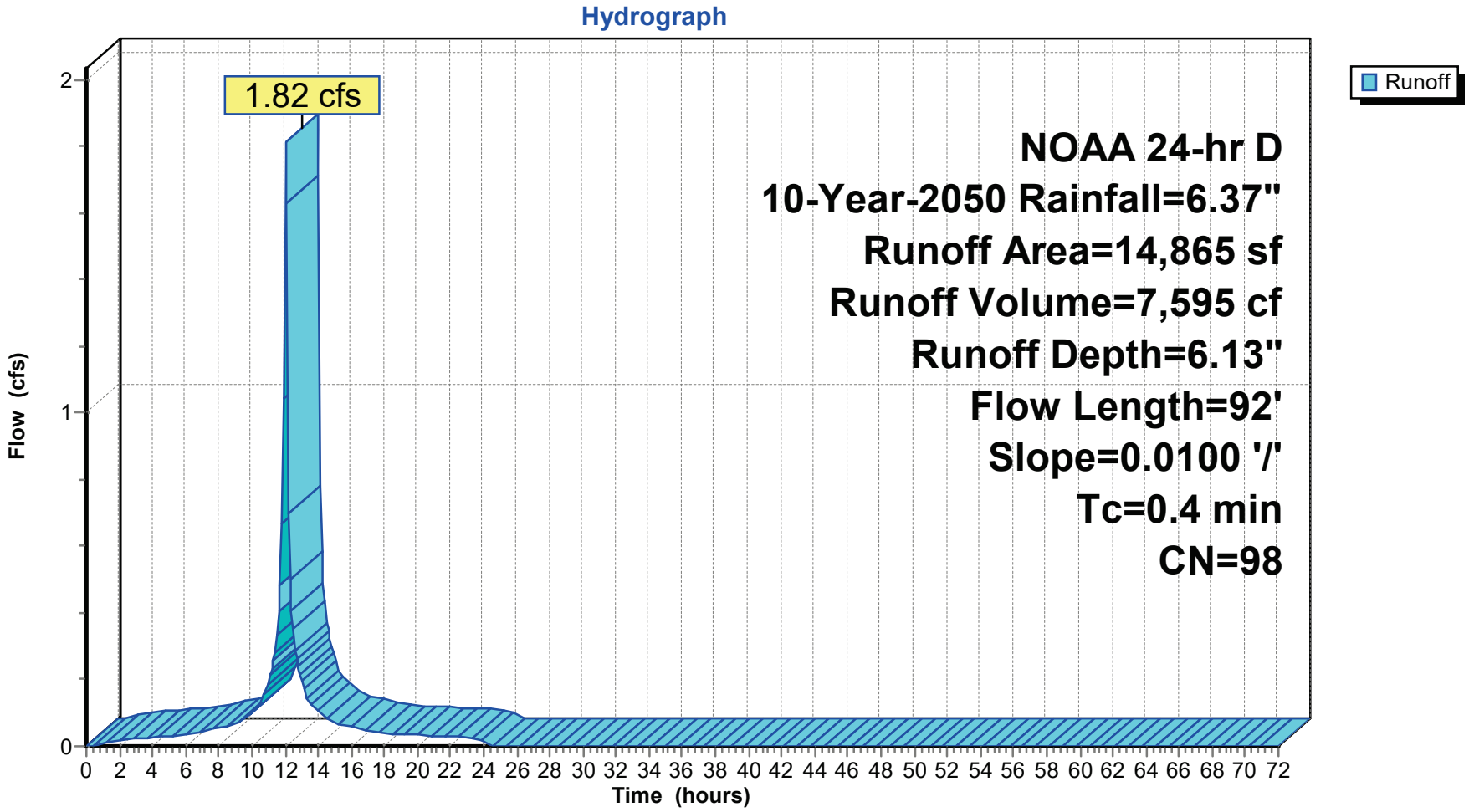
Runoff = 1.82 cfs @ 12.03 hrs, Volume= 7,595 cf, Depth= 6.13"
Routed to Pond 1P : Underground Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 10-Year-2050 Rainfall=6.37"

	Area (sf)	CN	Description
*	14,865	98	roof
	14,865		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	92	0.0100	3.75	1.31	**Pipe Channel, ROOF DRAIN** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.012

Subcatchment P2B: P2B roof



Summary for Subcatchment P2C: P2C pervious undetained

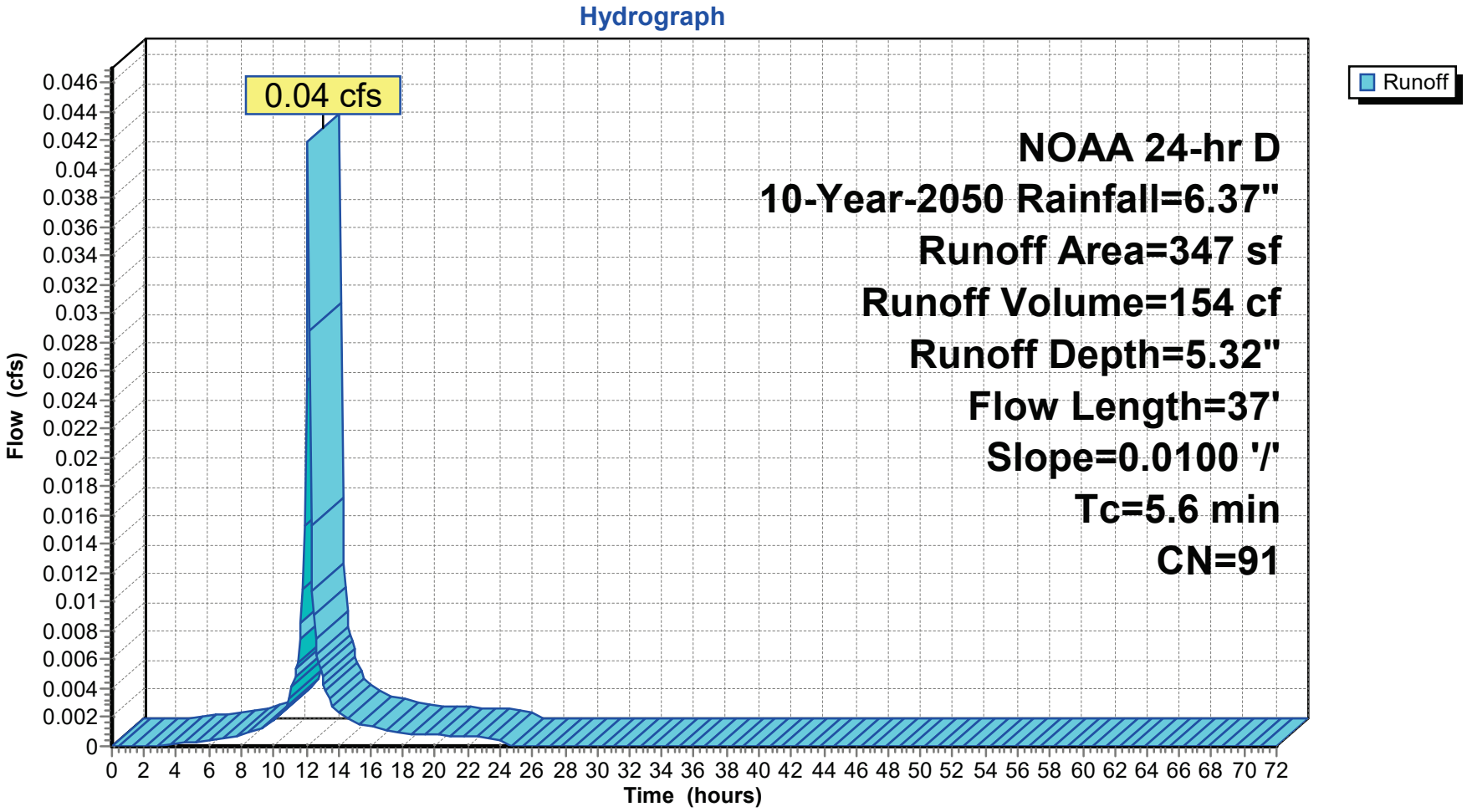
Runoff = 0.04 cfs @ 12.11 hrs, Volume= 154 cf, Depth= 5.32"
Routed to Link DP2 : PROPOSED TOTAL BLOOMFIELD AVENUE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 10-Year-2050 Rainfall=6.37"

	Area (sf)	CN	Description
*	207	86	LANDSCAPE
*	140	98	SIDEWALK
	347	91	Weighted Average
	207		59.65% Pervious Area
	140		40.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	37	0.0100	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.44"

Subcatchment P2C: P2C pervious undetained



Summary for Pond 1P: Underground Basin

Inflow Area = 38,765 sf,100.00% Impervious, Inflow Depth = 6.13" for 10-Year-2050 event
Inflow = 4.72 cfs @ 12.04 hrs, Volume= 19,807 cf
Outflow = 1.50 cfs @ 12.27 hrs, Volume= 19,807 cf, Atten= 68%, Lag= 14.0 min
Discarded = 0.05 cfs @ 12.27 hrs, Volume= 3,372 cf
Primary = 1.45 cfs @ 12.27 hrs, Volume= 16,435 cf
Routed to Link DP1 : DESIGN POINT 1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Peak Elev= 378.66' @ 12.27 hrs Surf.Area= 3,136 sf Storage= 6,517 cf

Plug-Flow detention time= 94.0 min calculated for 19,807 cf (100% of inflow)
Center-of-Mass det. time= 93.0 min (833.2 - 740.2)

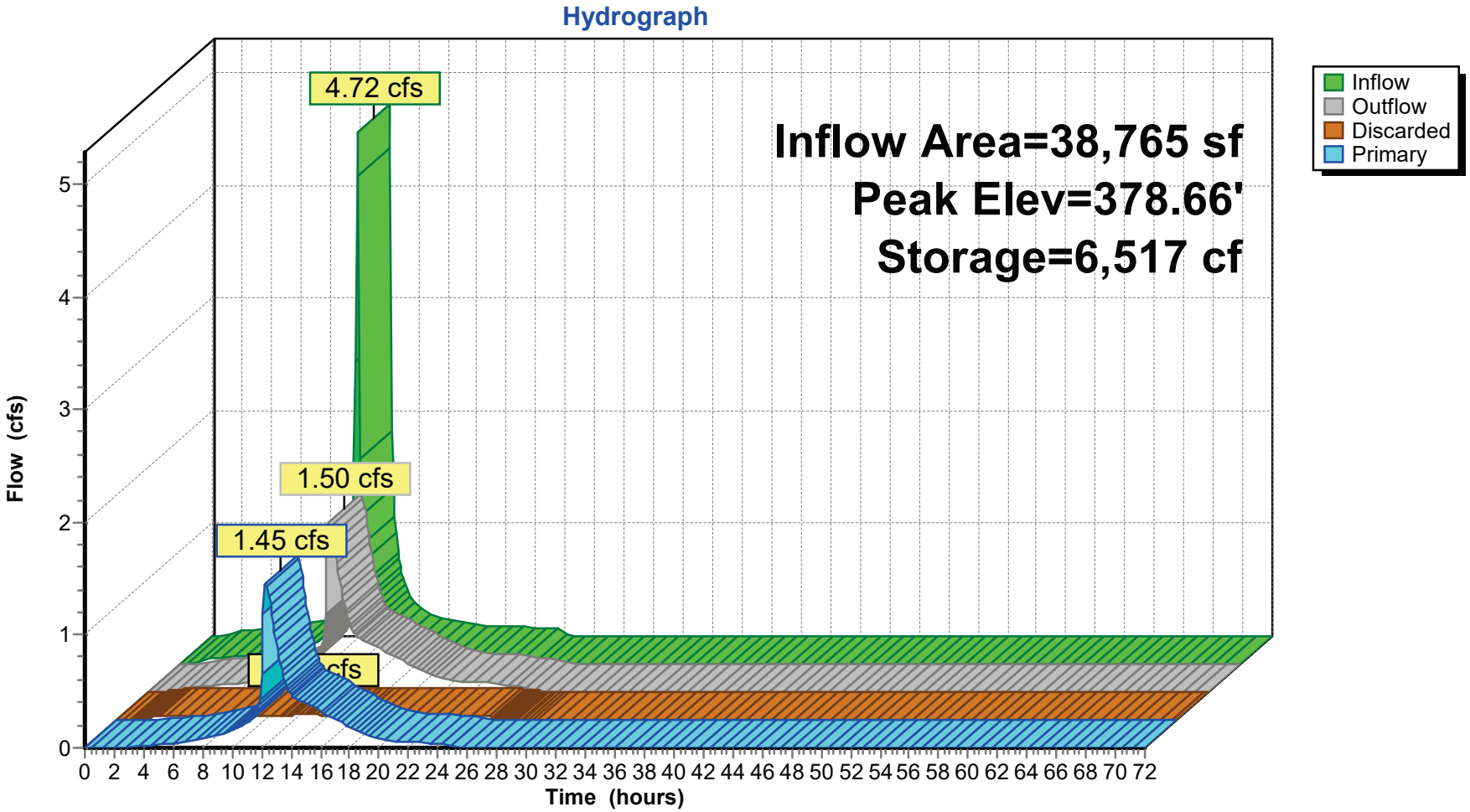
Volume	Invert	Avail.Storage	Storage Description
#1	376.50'	12,072 cf	**retain_it upright 4.0'** x 56 Inside= 84.0"W x 48.0"H => 28.87 sf x 8.00'L = 230.9 cf Outside= 96.0"W x 56.0"H => 37.33 sf x 8.00'L = 298.7 cf 1 Rows adjusted for 860.6 cf perimeter wall

Device	Routing	Invert	Outlet Devices
#1	Primary	376.50'	**12.0" Round Culvert** L= 21.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 376.50' / 376.25' S= 0.0119 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Device 1	376.50'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	377.80'	**0.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Discarded	376.50'	**0.500 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 370.00'

Discarded OutFlow Max=0.05 cfs @ 12.27 hrs HW=378.65' (Free Discharge)
└**4=Exfiltration** (Controls 0.05 cfs)

Primary OutFlow Max=1.44 cfs @ 12.27 hrs HW=378.65' (Free Discharge)
└**1=Culvert** (Passes 1.44 cfs of 4.86 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.59 cfs @ 6.79 fps)
  └**3=Sharp-Crested Rectangular Weir** (Weir Controls 0.85 cfs @ 3.02 fps)

Pond 1P: Underground Basin

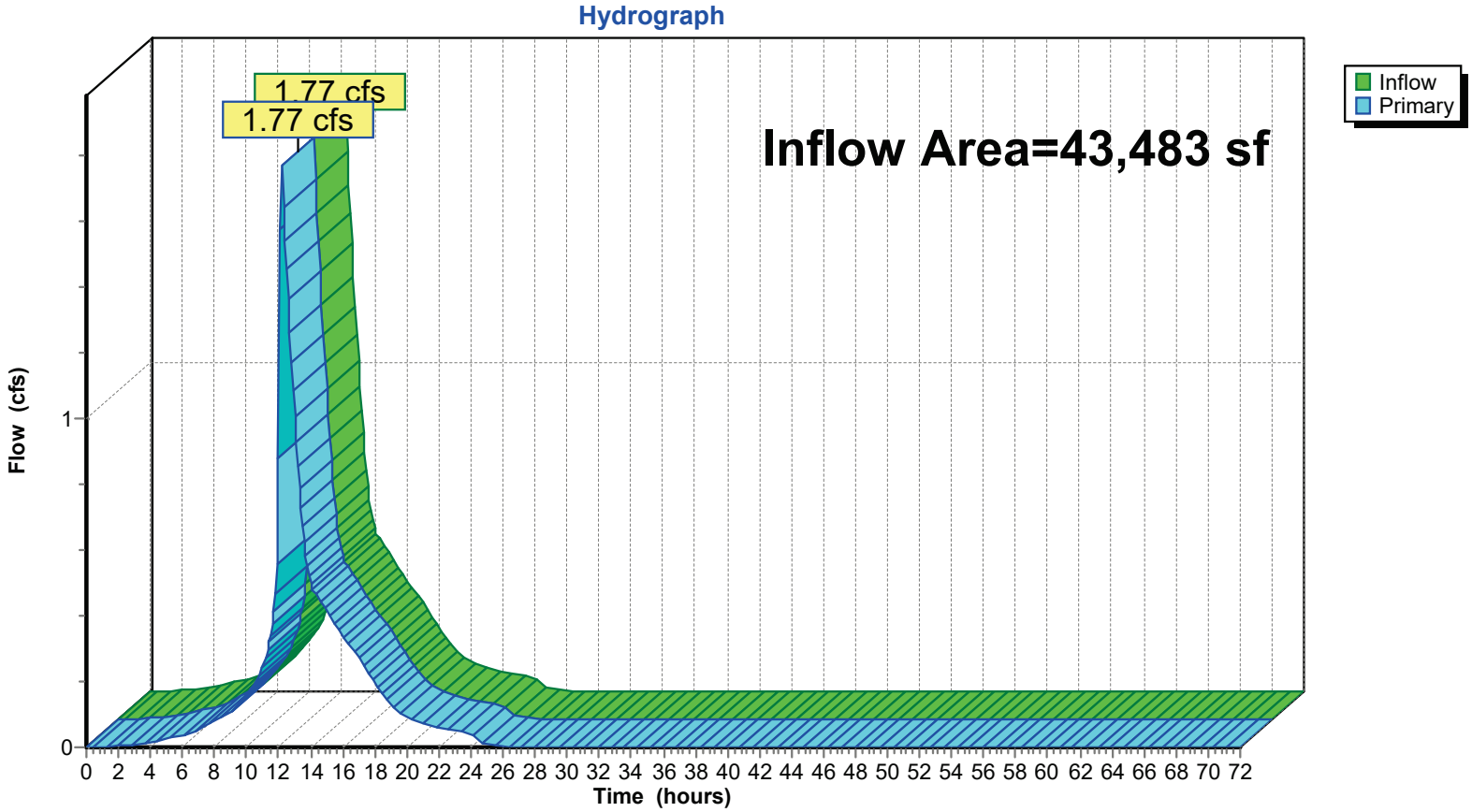


Summary for Link 7L: PROPOSED SITE TOTAL

Inflow Area = 43,483 sf, 89.47% Impervious, Inflow Depth = 4.95" for 10-Year-2050 event
Inflow = 1.77 cfs @ 12.21 hrs, Volume= 17,931 cf
Primary = 1.77 cfs @ 12.21 hrs, Volume= 17,931 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Link 7L: PROPOSED SITE TOTAL

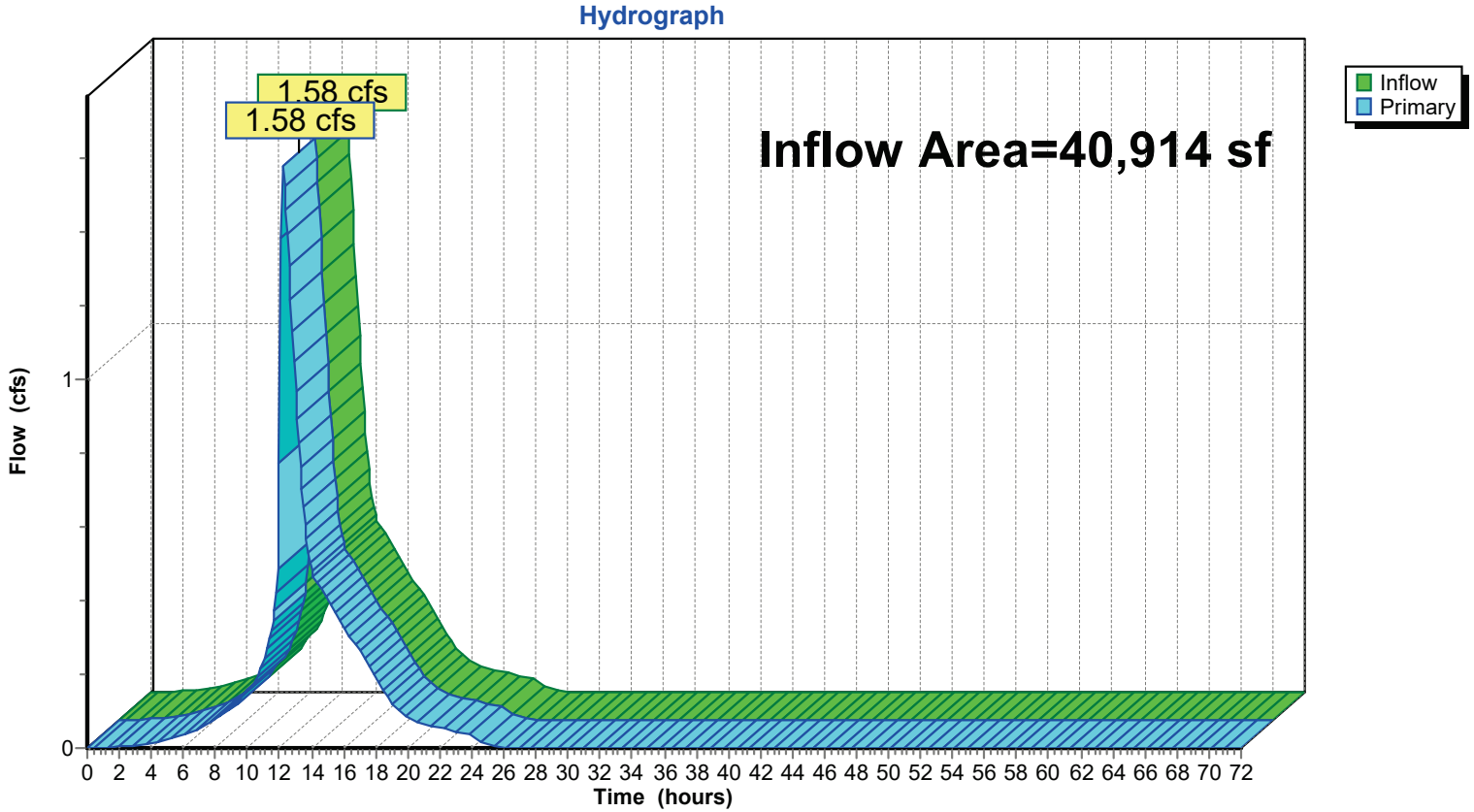


Summary for Link DP1: DESIGN POINT 1

Inflow Area = 40,914 sf, 94.75% Impervious, Inflow Depth = 5.02" for 10-Year-2050 event
Inflow = 1.58 cfs @ 12.23 hrs, Volume= 17,129 cf
Primary = 1.58 cfs @ 12.23 hrs, Volume= 17,129 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 7L : PROPOSED SITE TOTAL

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Link DP1: DESIGN POINT 1

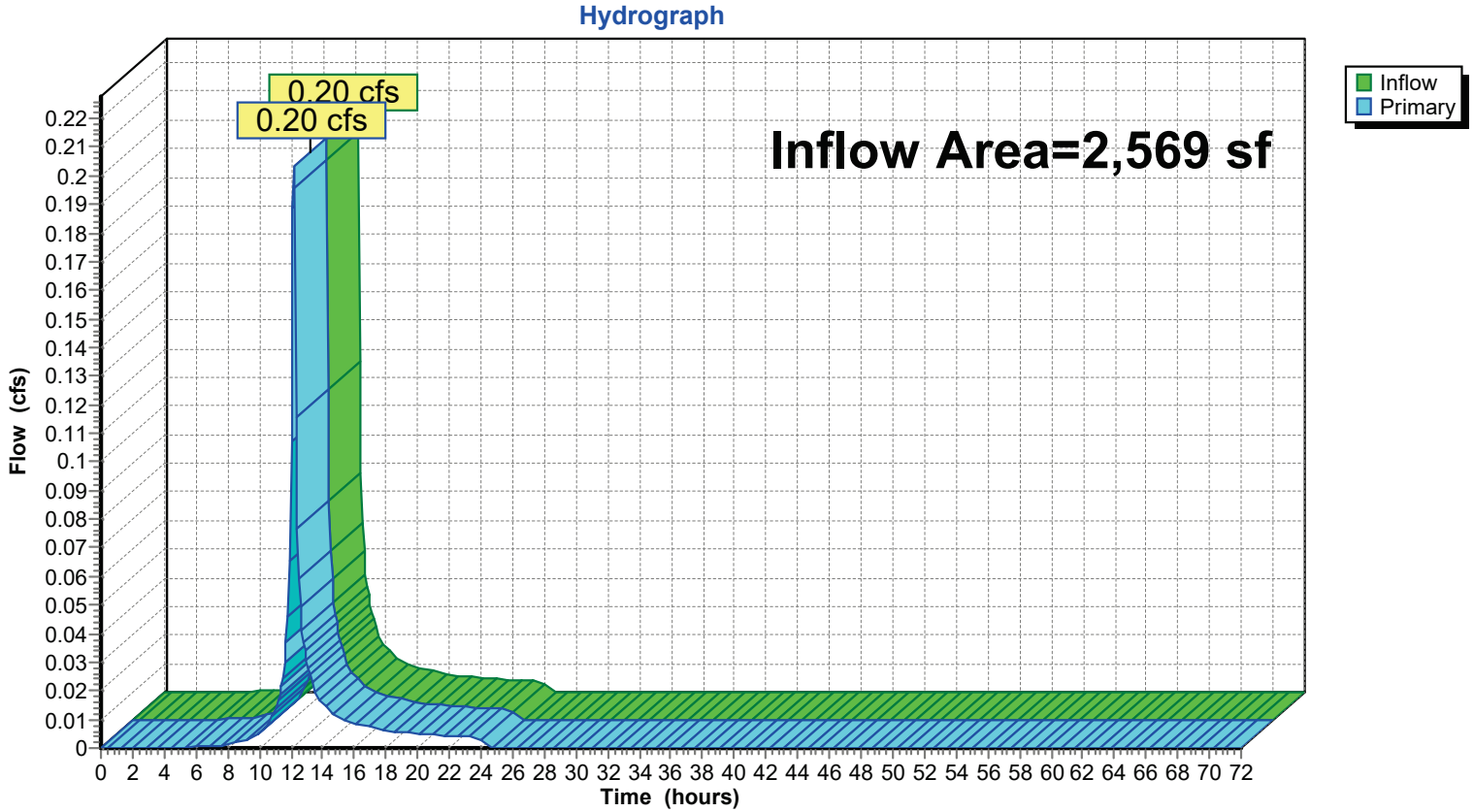


Summary for Link DP2: PROPOSED TOTAL BLOOMFIELD AVENUE

Inflow Area = 2,569 sf, 5.45% Impervious, Inflow Depth = 3.74" for 10-Year-2050 event
Inflow = 0.20 cfs @ 12.16 hrs, Volume= 802 cf
Primary = 0.20 cfs @ 12.16 hrs, Volume= 802 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 7L : PROPOSED SITE TOTAL

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Link DP2: PROPOSED TOTAL BLOOMFIELD AVENUE



Summary for Subcatchment P1A: P1A roof

Runoff = 4.19 cfs @ 12.04 hrs, Volume= 17,805 cf, Depth= 8.94"
Routed to Pond 1P : Underground Basin

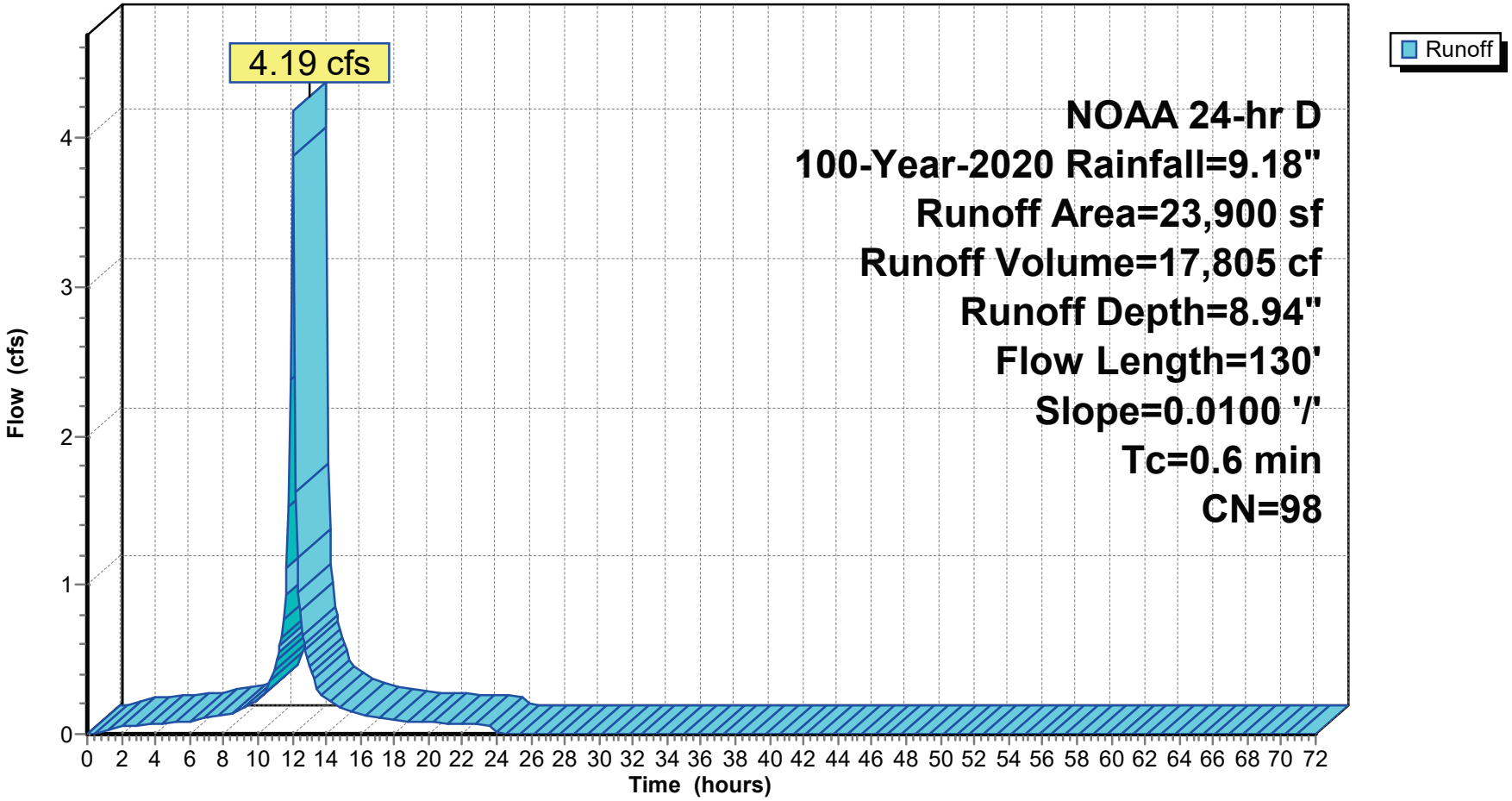
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 100-Year-2020 Rainfall=9.18"

	Area (sf)	CN	Description
*	23,900	98	ROOF
	23,900		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	130	0.0100	3.75	1.31	**Pipe Channel, ROOF DRAIN** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.012

Subcatchment P1A: P1A roof

Hydrograph



Summary for Subcatchment P1B: P1B pervious undetained

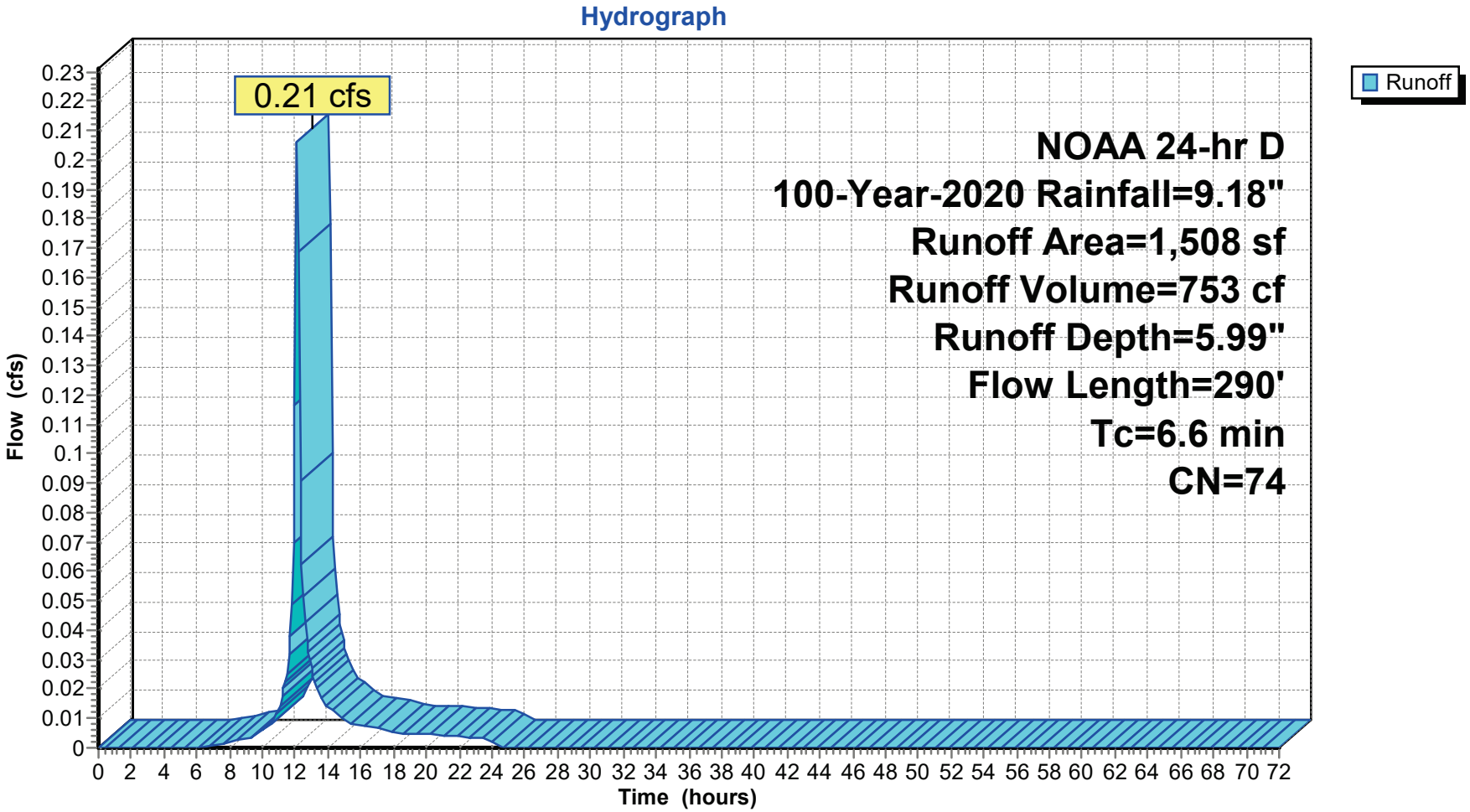
Runoff = 0.21 cfs @ 12.12 hrs, Volume= 753 cf, Depth= 5.99"
Routed to Link DP1 : DESIGN POINT 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 100-Year-2020 Rainfall=9.18"

Area (sf)	CN	Description
1,508	74	>75% Grass cover, Good, HSG C
1,508		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	61	0.0650	0.18		**Sheet Flow, LANDSCAPE BUFFER** Grass: Dense n= 0.240 P2= 3.44"
0.3	39	0.0950	2.20		**Sheet Flow, CLAREMONT ROAD** Smooth surfaces n= 0.011 P2= 3.44"
0.5	190	0.0950	6.26		**Shallow Concentrated Flow, CLAREMONT** Paved Kv= 20.3 fps
6.6	290	Total			

Subcatchment P1B: P1B pervious undetained



Summary for Subcatchment P1C: P1C pervious undetained

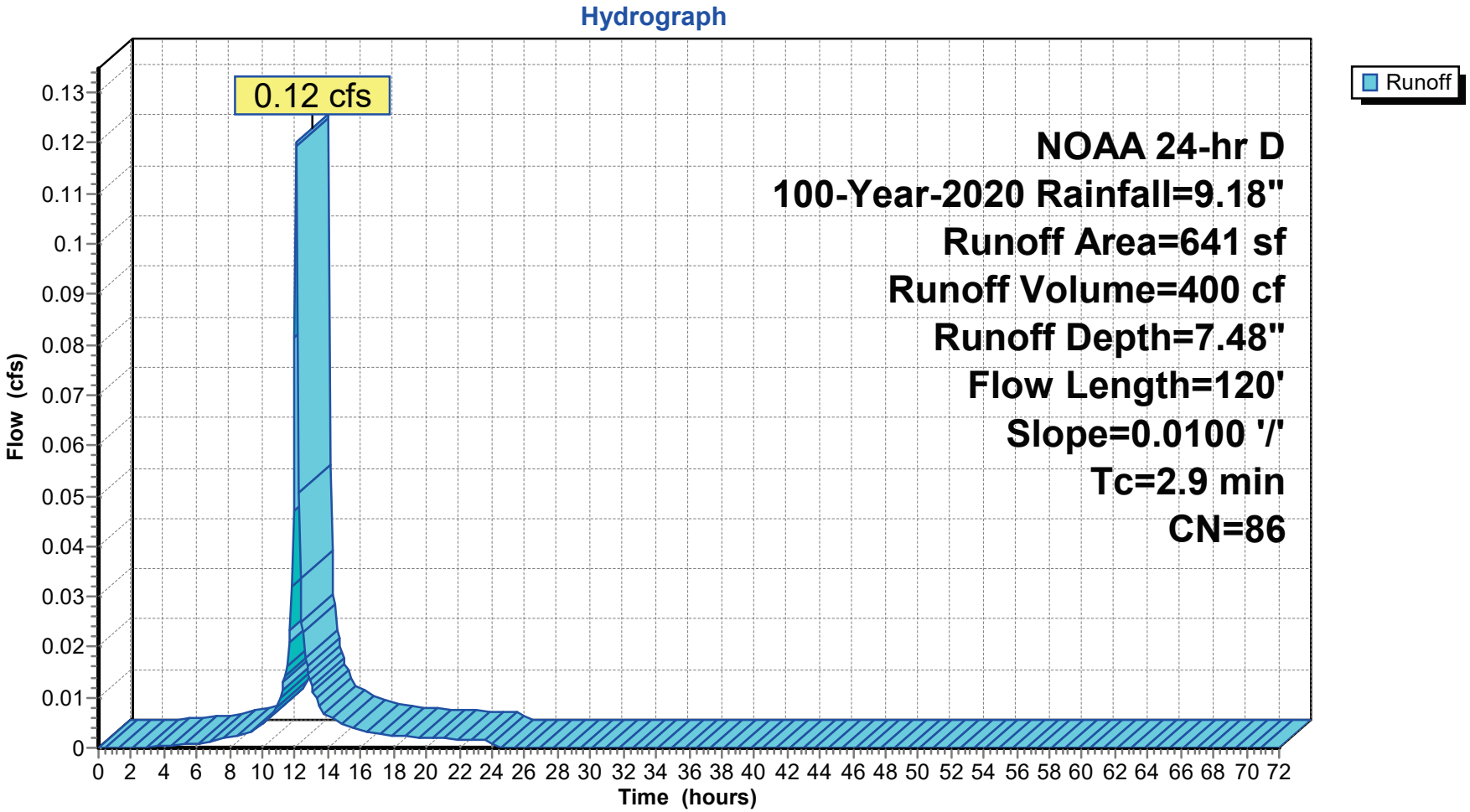
Runoff = 0.12 cfs @ 12.09 hrs, Volume= 400 cf, Depth= 7.48"
Routed to Link DP1 : DESIGN POINT 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 100-Year-2020 Rainfall=9.18"

	Area (sf)	CN	Description
*	641	86	LANDSCAPE
	641		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	10	0.0100	0.08		**Sheet Flow, Landscaping** Grass: Short n= 0.150 P2= 3.44"
0.9	110	0.0100	2.03		**Shallow Concentrated Flow, Parking lot** Paved Kv= 20.3 fps
2.9	120	Total			

Subcatchment P1C: P1C pervious undetained



Summary for Subcatchment P2A: P2A pervious undetained

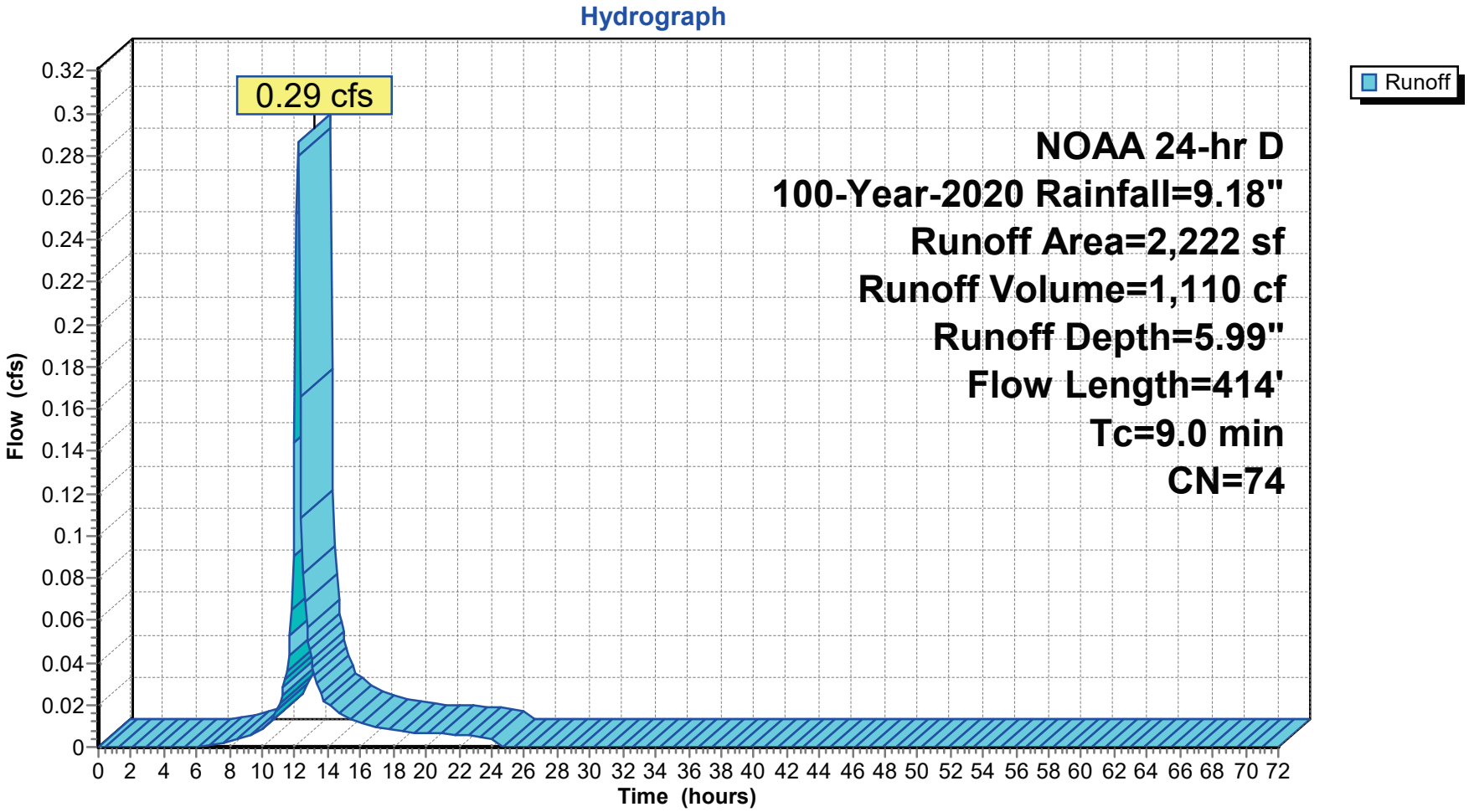
Runoff = 0.29 cfs @ 12.17 hrs, Volume= 1,110 cf, Depth= 5.99"
Routed to Link DP2 : PROPOSED TOTAL BLOOMFIELD AVENUE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 100-Year-2020 Rainfall=9.18"

Area (sf)	CN	Description
2,222	74	>75% Grass cover, Good, HSG C
2,222		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	100	0.0800	0.21		**Sheet Flow, BUFFER** Grass: Dense n= 0.240 P2= 3.44"
0.2	48	0.1000	5.09		**Shallow Concentrated Flow, LAWN** Unpaved Kv= 16.1 fps
0.9	266	0.0600	4.97		**Shallow Concentrated Flow, BLOOMFIELD** Paved Kv= 20.3 fps
9.0	414	Total			

Subcatchment P2A: P2A pervious undetained



Summary for Subcatchment P2B: P2B roof

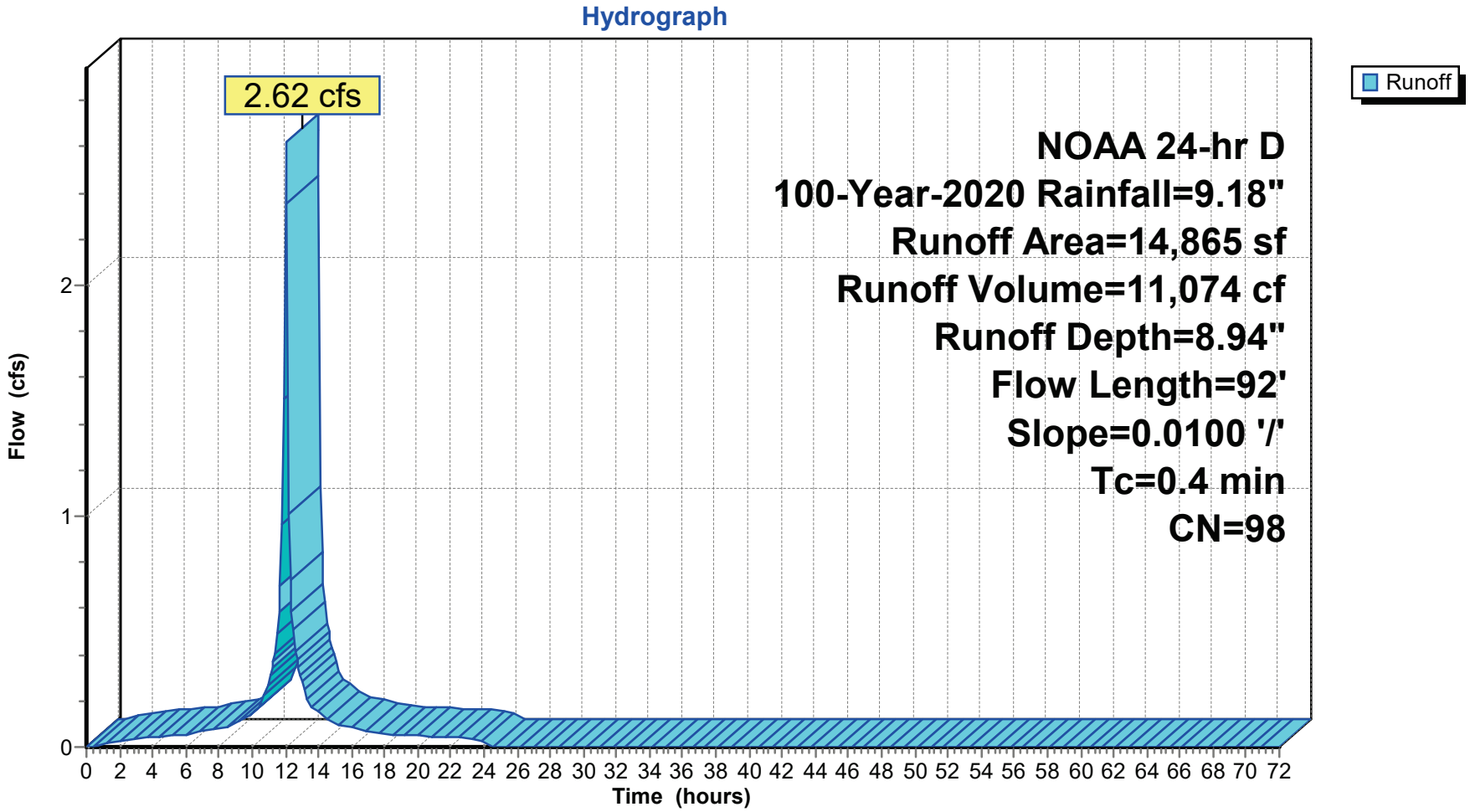
Runoff = 2.62 cfs @ 12.03 hrs, Volume= 11,074 cf, Depth= 8.94"
Routed to Pond 1P : Underground Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 100-Year-2020 Rainfall=9.18"

	Area (sf)	CN	Description
*	14,865	98	roof
	14,865		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	92	0.0100	3.75	1.31	**Pipe Channel, ROOF DRAIN** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.012

Subcatchment P2B: P2B roof



Summary for Subcatchment P2C: P2C pervious undetained

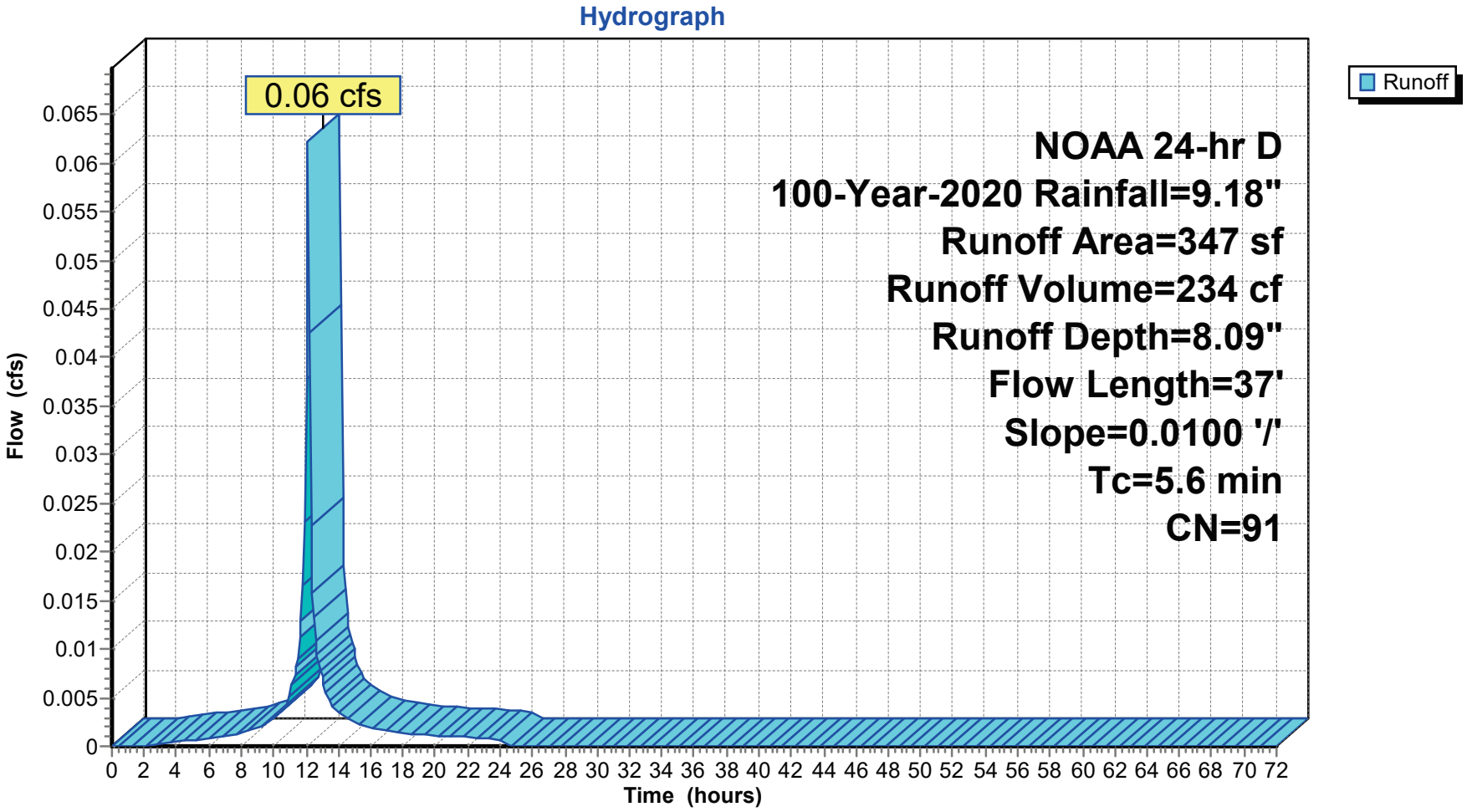
Runoff = 0.06 cfs @ 12.11 hrs, Volume= 234 cf, Depth= 8.09"
Routed to Link DP2 : PROPOSED TOTAL BLOOMFIELD AVENUE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 100-Year-2020 Rainfall=9.18"

	Area (sf)	CN	Description
*	207	86	LANDSCAPE
*	140	98	SIDEWALK
	347	91	Weighted Average
	207		59.65% Pervious Area
	140		40.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	37	0.0100	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.44"

Subcatchment P2C: P2C pervious undetained



Summary for Pond 1P: Underground Basin

Inflow Area = 38,765 sf,100.00% Impervious, Inflow Depth = 8.94" for 100-Year-2020 event
Inflow = 6.81 cfs @ 12.04 hrs, Volume= 28,879 cf
Outflow = 2.62 cfs @ 12.24 hrs, Volume= 28,879 cf, Atten= 62%, Lag= 11.9 min
Discarded = 0.05 cfs @ 12.24 hrs, Volume= 3,592 cf
Primary = 2.57 cfs @ 12.24 hrs, Volume= 25,286 cf
Routed to Link DP1 : DESIGN POINT 1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Peak Elev= 379.53' @ 12.24 hrs Surf.Area= 3,136 sf Storage= 9,138 cf

Plug-Flow detention time= 86.9 min calculated for 28,838 cf (100% of inflow)
Center-of-Mass det. time= 87.1 min (822.4 - 735.2)

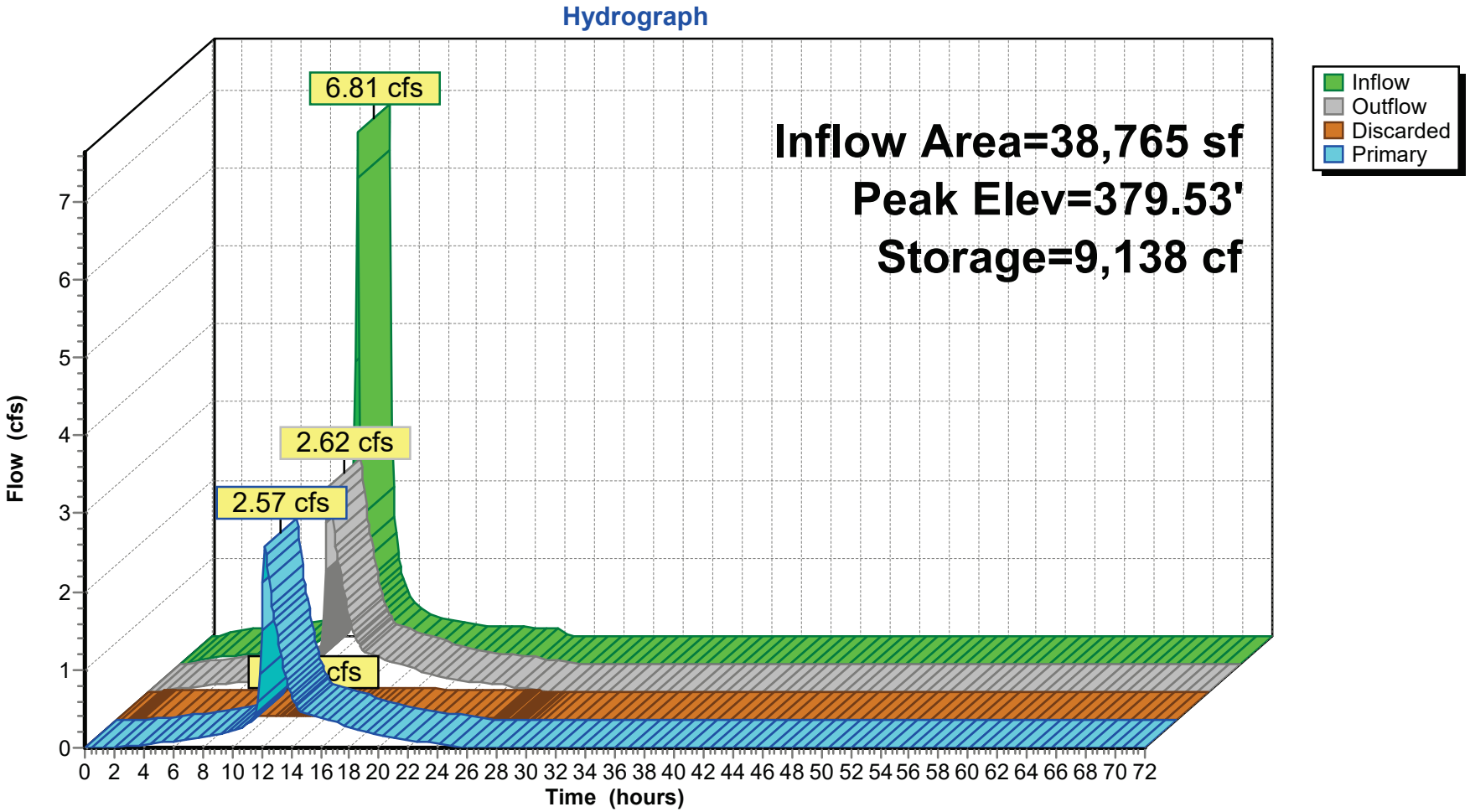
Volume	Invert	Avail.Storage	Storage Description
#1	376.50'	12,072 cf	**retain_it upright 4.0'** x 56 Inside= 84.0"W x 48.0"H => 28.87 sf x 8.00'L = 230.9 cf Outside= 96.0"W x 56.0"H => 37.33 sf x 8.00'L = 298.7 cf 1 Rows adjusted for 860.6 cf perimeter wall

Device	Routing	Invert	Outlet Devices
#1	Primary	376.50'	**12.0" Round Culvert** L= 21.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 376.50' / 376.25' S= 0.0119 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Device 1	376.50'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	377.80'	**0.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Discarded	376.50'	**0.500 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 370.00'

Discarded OutFlow Max=0.05 cfs @ 12.24 hrs HW=379.50' (Free Discharge)
└**4=Exfiltration** (Controls 0.05 cfs)

Primary OutFlow Max=2.51 cfs @ 12.24 hrs HW=379.50' (Free Discharge)
└**1=Culvert** (Passes 2.51 cfs of 5.97 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.71 cfs @ 8.10 fps)
  └**3=Sharp-Crested Rectangular Weir** (Weir Controls 1.80 cfs @ 4.26 fps)

Pond 1P: Underground Basin

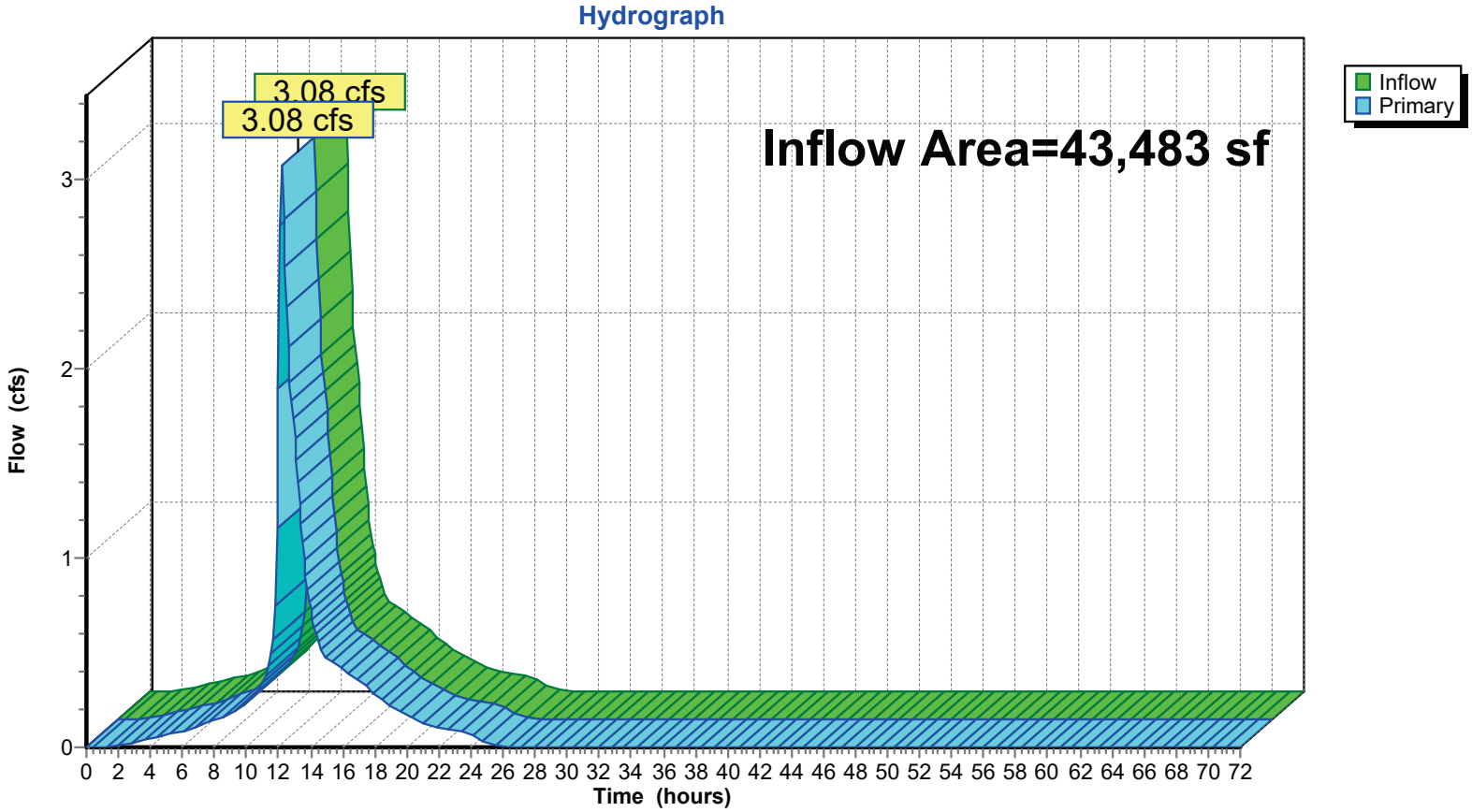


Summary for Link 7L: PROPOSED SITE TOTAL

Inflow Area = 43,483 sf, 89.47% Impervious, Inflow Depth = 7.67" for 100-Year-2020 event
Inflow = 3.08 cfs @ 12.20 hrs, Volume= 27,783 cf
Primary = 3.08 cfs @ 12.20 hrs, Volume= 27,783 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Link 7L: PROPOSED SITE TOTAL

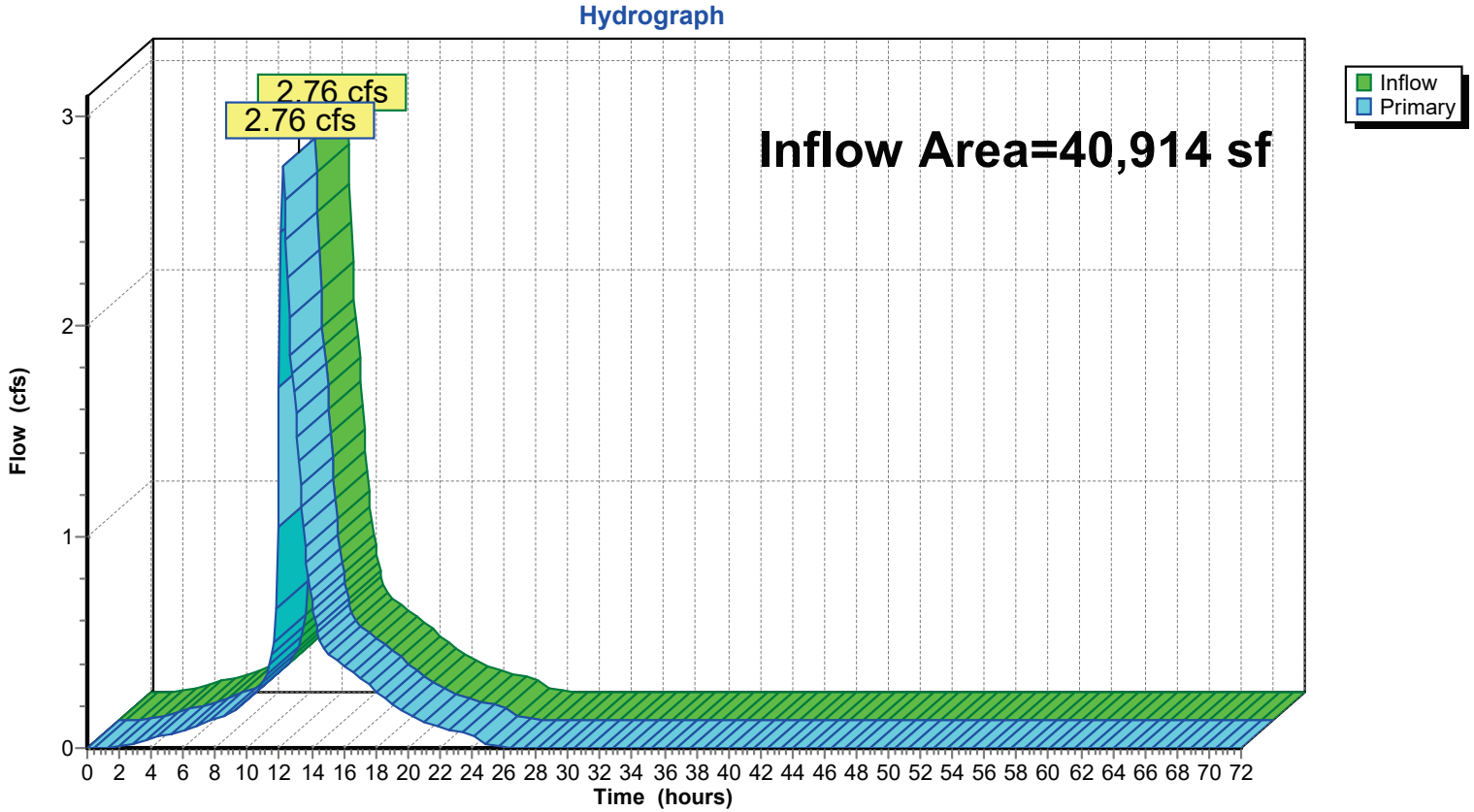


Summary for Link DP1: DESIGN POINT 1

Inflow Area = 40,914 sf, 94.75% Impervious, Inflow Depth = 7.75" for 100-Year-2020 event
Inflow = 2.76 cfs @ 12.22 hrs, Volume= 26,439 cf
Primary = 2.76 cfs @ 12.22 hrs, Volume= 26,439 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 7L : PROPOSED SITE TOTAL

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Link DP1: DESIGN POINT 1

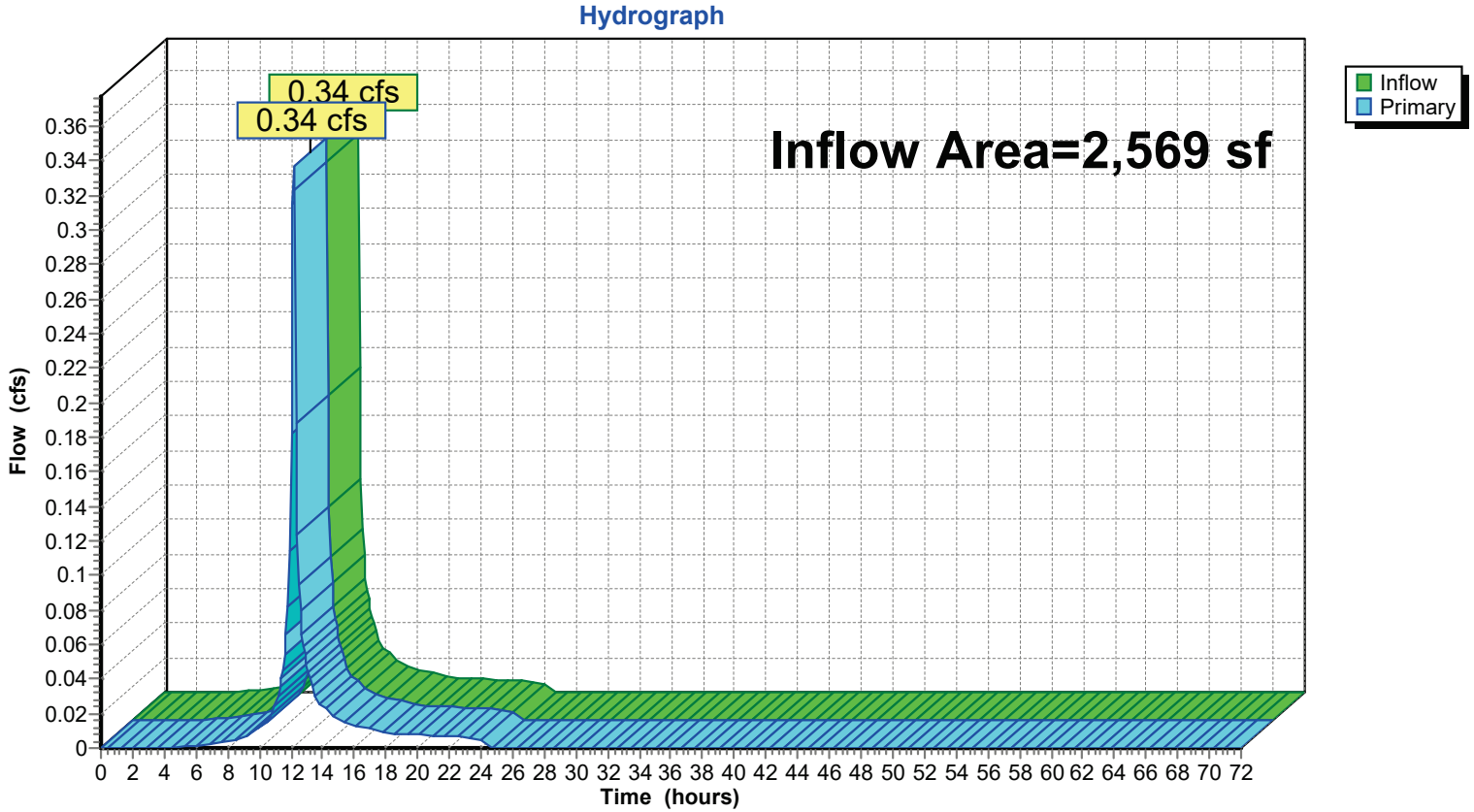


Summary for Link DP2: PROPOSED TOTAL BLOOMFIELD AVENUE

Inflow Area = 2,569 sf, 5.45% Impervious, Inflow Depth = 6.28" for 100-Year-2020 event
Inflow = 0.34 cfs @ 12.16 hrs, Volume= 1,344 cf
Primary = 0.34 cfs @ 12.16 hrs, Volume= 1,344 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 7L : PROPOSED SITE TOTAL

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Link DP2: PROPOSED TOTAL BLOOMFIELD AVENUE



Summary for Subcatchment P1A: P1A roof

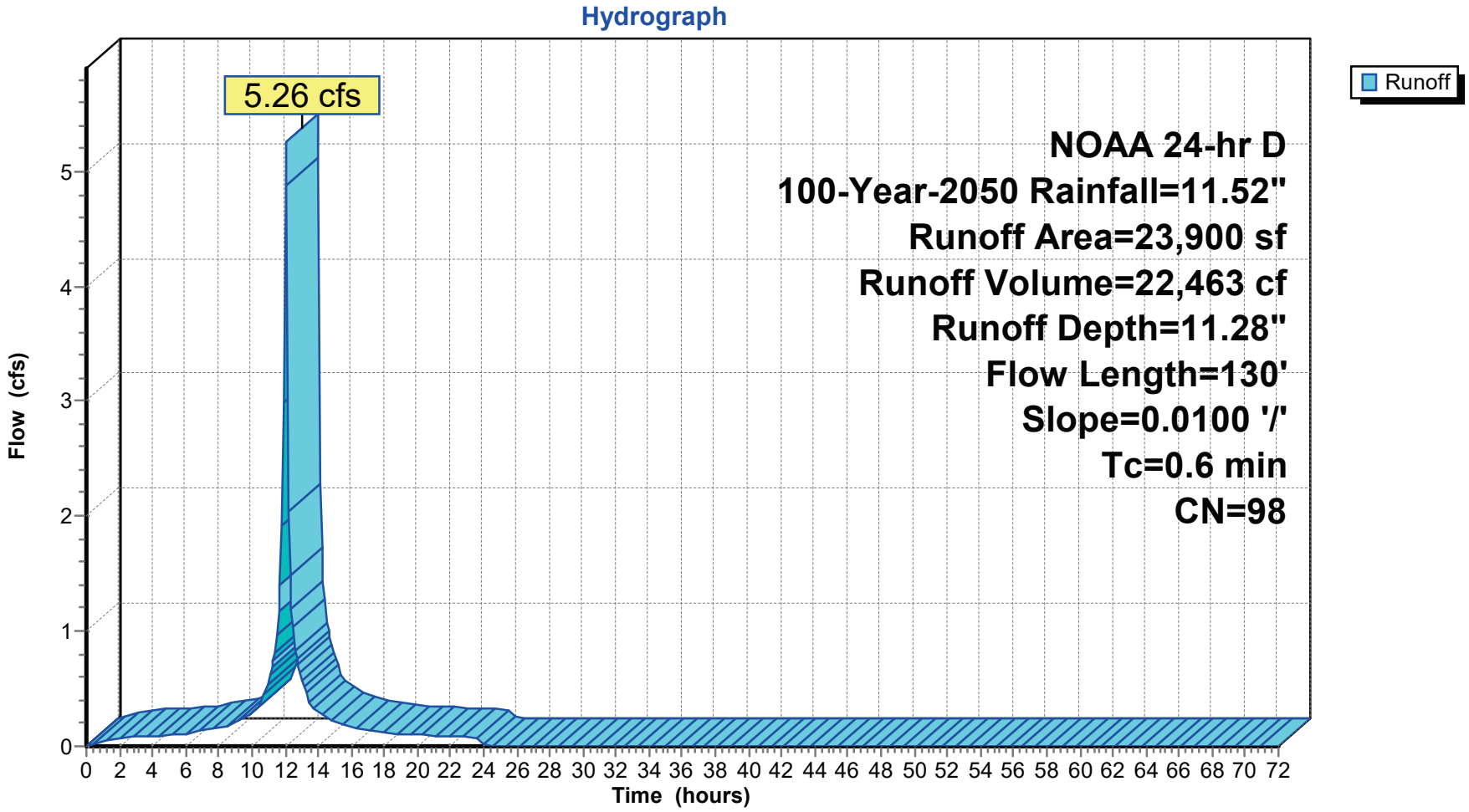
Runoff = 5.26 cfs @ 12.04 hrs, Volume= 22,463 cf, Depth=11.28"
Routed to Pond 1P : Underground Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 100-Year-2050 Rainfall=11.52"

	Area (sf)	CN	Description
*	23,900	98	ROOF
	23,900		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	130	0.0100	3.75	1.31	**Pipe Channel, ROOF DRAIN** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.012

Subcatchment P1A: P1A roof



Summary for Subcatchment P1B: P1B pervious undetained

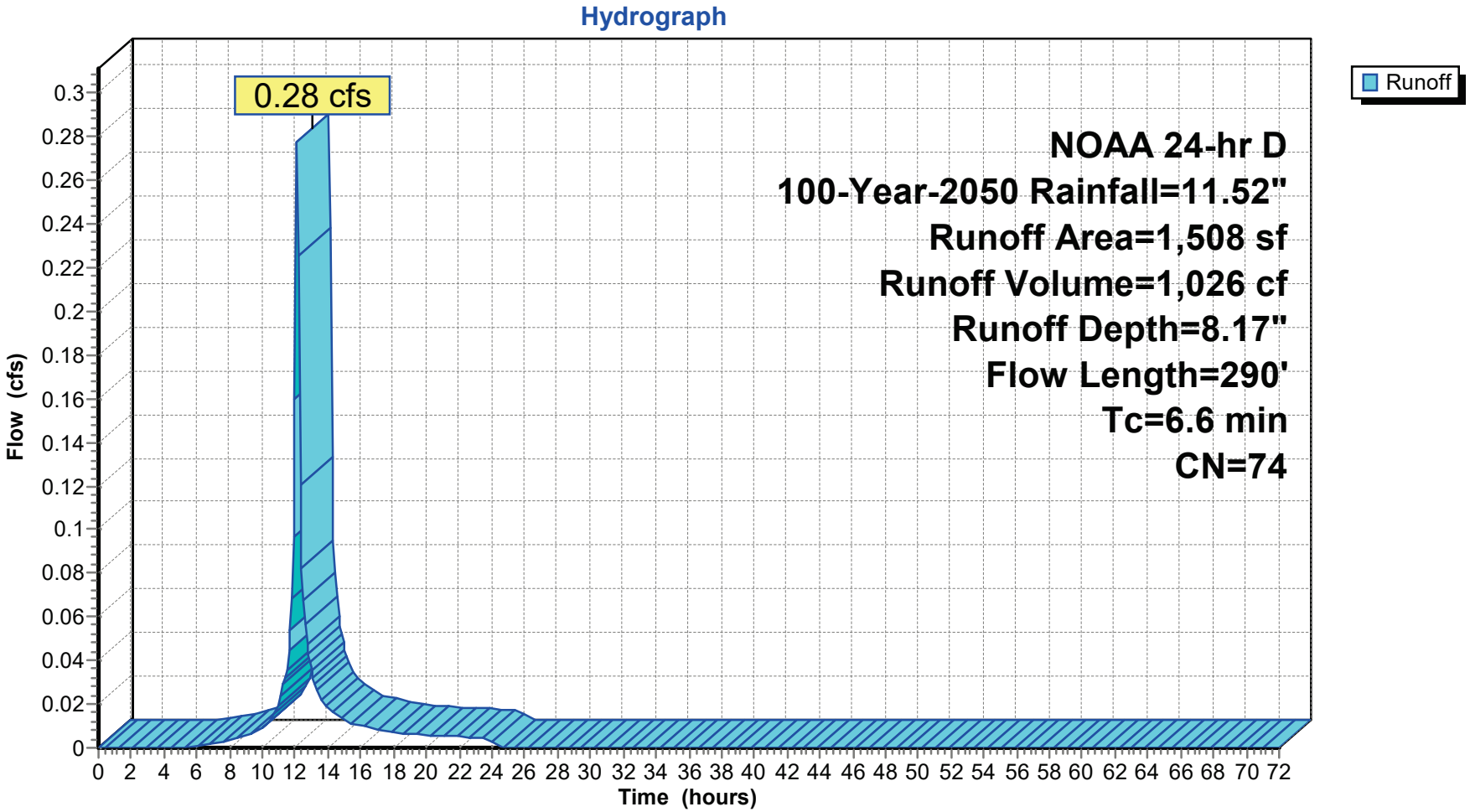
Runoff = 0.28 cfs @ 12.12 hrs, Volume= 1,026 cf, Depth= 8.17"
Routed to Link DP1 : DESIGN POINT 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 100-Year-2050 Rainfall=11.52"

Area (sf)	CN	Description
1,508	74	>75% Grass cover, Good, HSG C
1,508		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	61	0.0650	0.18		**Sheet Flow, LANDSCAPE BUFFER** Grass: Dense n= 0.240 P2= 3.44"
0.3	39	0.0950	2.20		**Sheet Flow, CLAREMONT ROAD** Smooth surfaces n= 0.011 P2= 3.44"
0.5	190	0.0950	6.26		**Shallow Concentrated Flow, CLAREMONT** Paved Kv= 20.3 fps
6.6	290	Total			

Subcatchment P1B: P1B pervious undetained



Summary for Subcatchment P1C: P1C pervious undetained

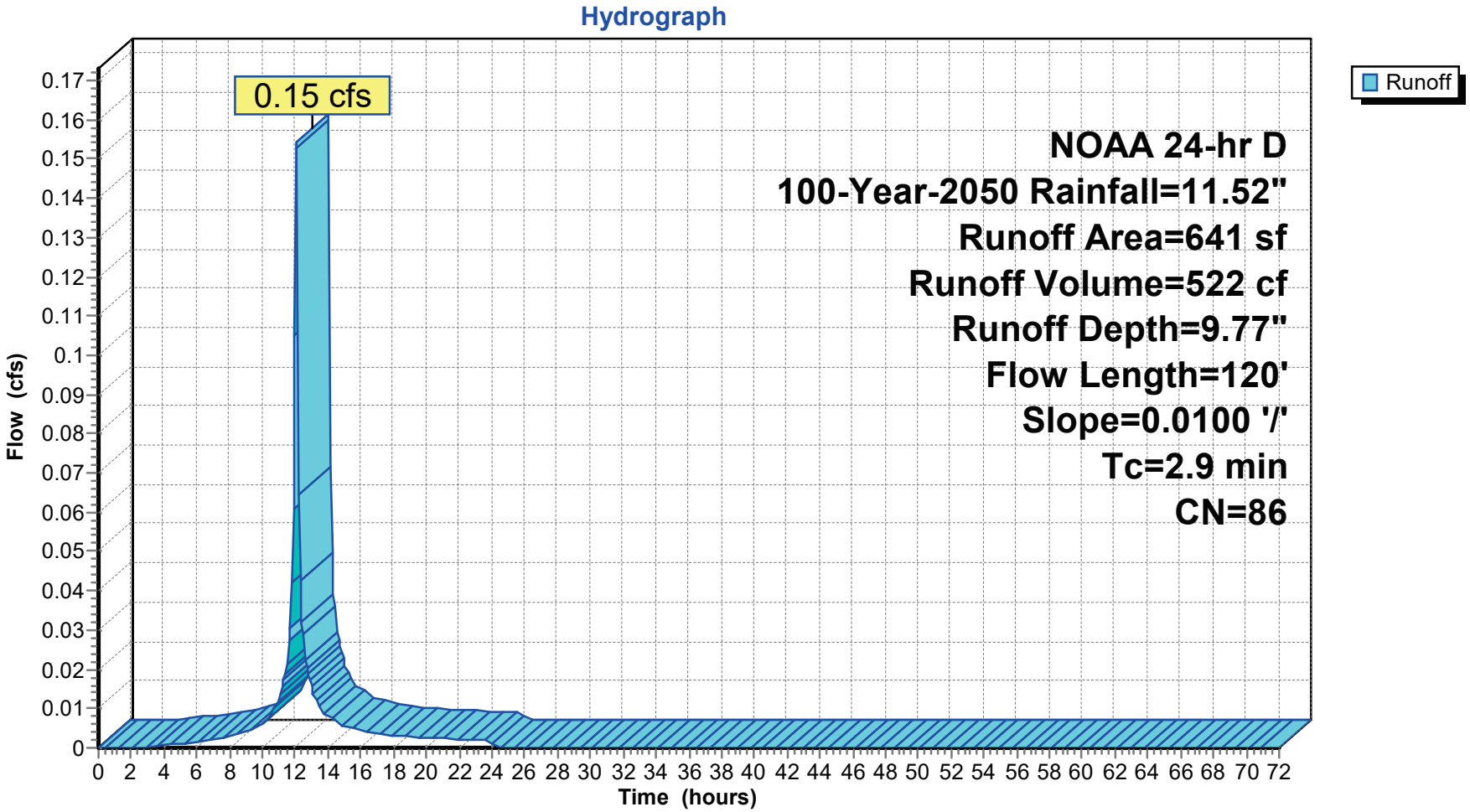
Runoff = 0.15 cfs @ 12.09 hrs, Volume= 522 cf, Depth= 9.77"
Routed to Link DP1 : DESIGN POINT 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 100-Year-2050 Rainfall=11.52"

	Area (sf)	CN	Description
*	641	86	LANDSCAPE
	641		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	10	0.0100	0.08		**Sheet Flow, Landscaping** Grass: Short n= 0.150 P2= 3.44"
0.9	110	0.0100	2.03		**Shallow Concentrated Flow, Parking lot** Paved Kv= 20.3 fps
2.9	120	Total			

Subcatchment P1C: P1C pervious undetained



Summary for Subcatchment P2A: P2A pervious undetained

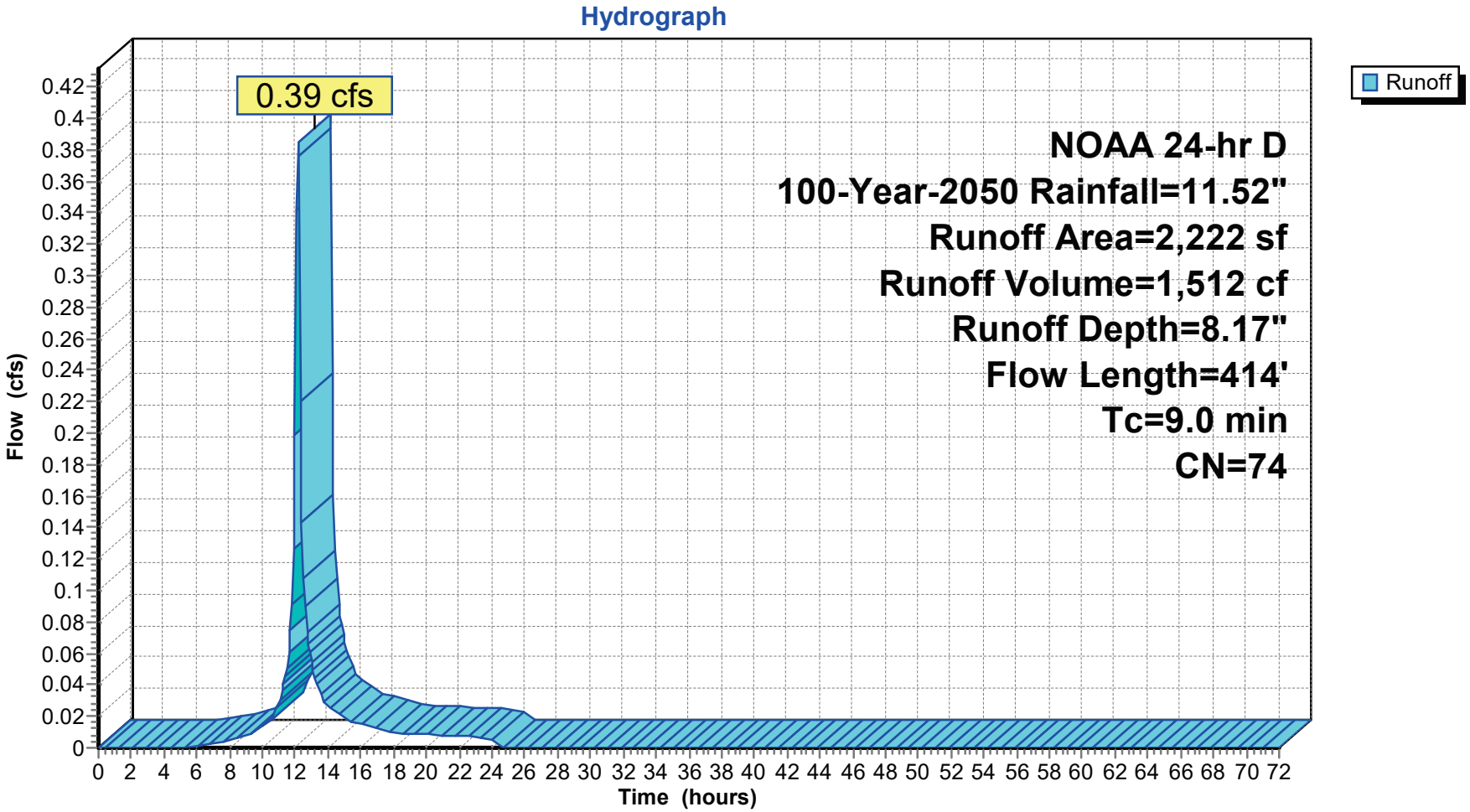
Runoff = 0.39 cfs @ 12.17 hrs, Volume= 1,512 cf, Depth= 8.17"
Routed to Link DP2 : PROPOSED TOTAL BLOOMFIELD AVENUE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 100-Year-2050 Rainfall=11.52"

Area (sf)	CN	Description
2,222	74	>75% Grass cover, Good, HSG C
2,222		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	100	0.0800	0.21		**Sheet Flow, BUFFER** Grass: Dense n= 0.240 P2= 3.44"
0.2	48	0.1000	5.09		**Shallow Concentrated Flow, LAWN** Unpaved Kv= 16.1 fps
0.9	266	0.0600	4.97		**Shallow Concentrated Flow, BLOOMFIELD** Paved Kv= 20.3 fps
9.0	414	Total			

Subcatchment P2A: P2A pervious undetained



Summary for Subcatchment P2B: P2B roof

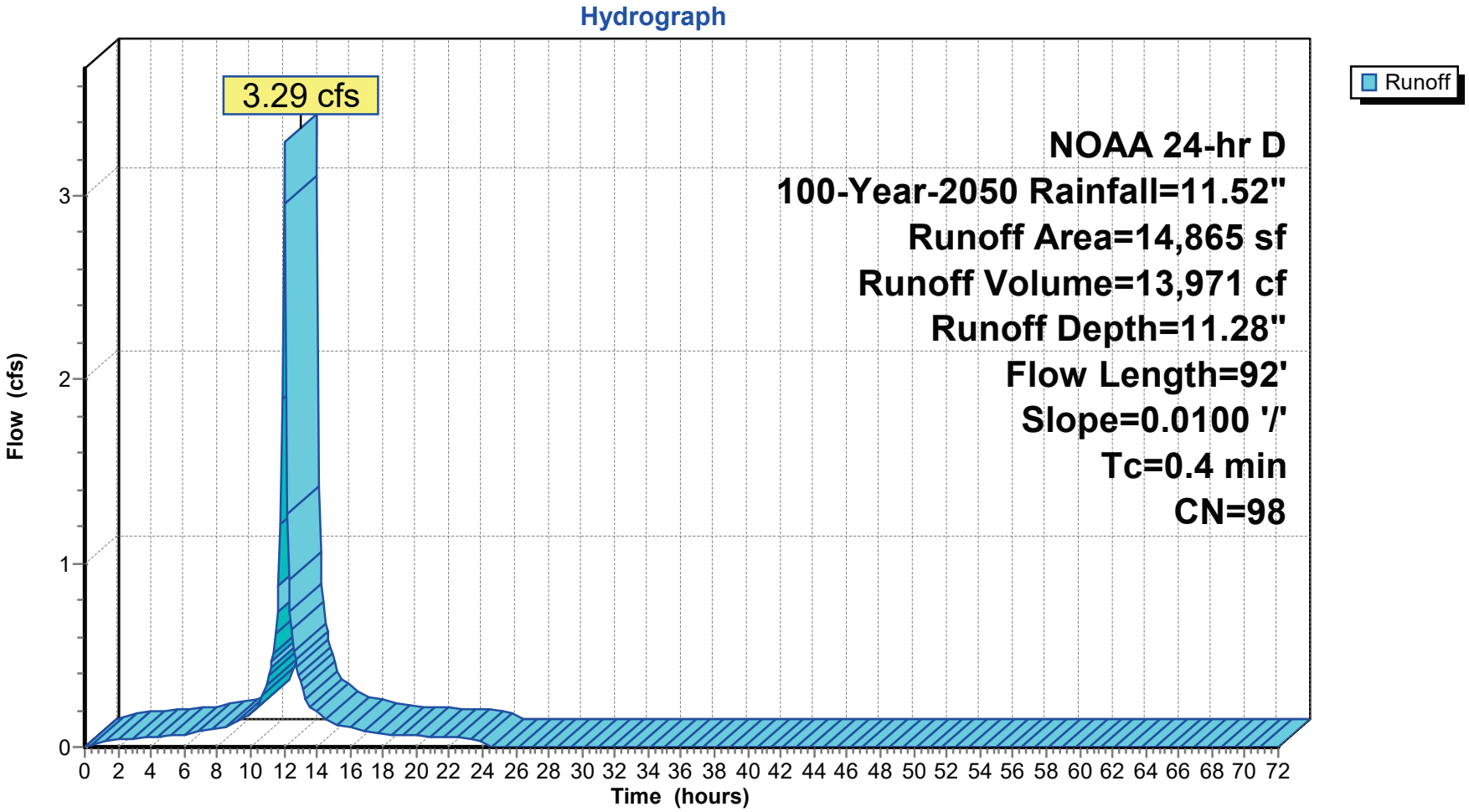
Runoff = 3.29 cfs @ 12.03 hrs, Volume= 13,971 cf, Depth=11.28"
Routed to Pond 1P : Underground Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 100-Year-2050 Rainfall=11.52"

	Area (sf)	CN	Description
*	14,865	98	roof
	14,865		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	92	0.0100	3.75	1.31	**Pipe Channel, ROOF DRAIN** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.012

Subcatchment P2B: P2B roof



Summary for Subcatchment P2C: P2C pervious undetained

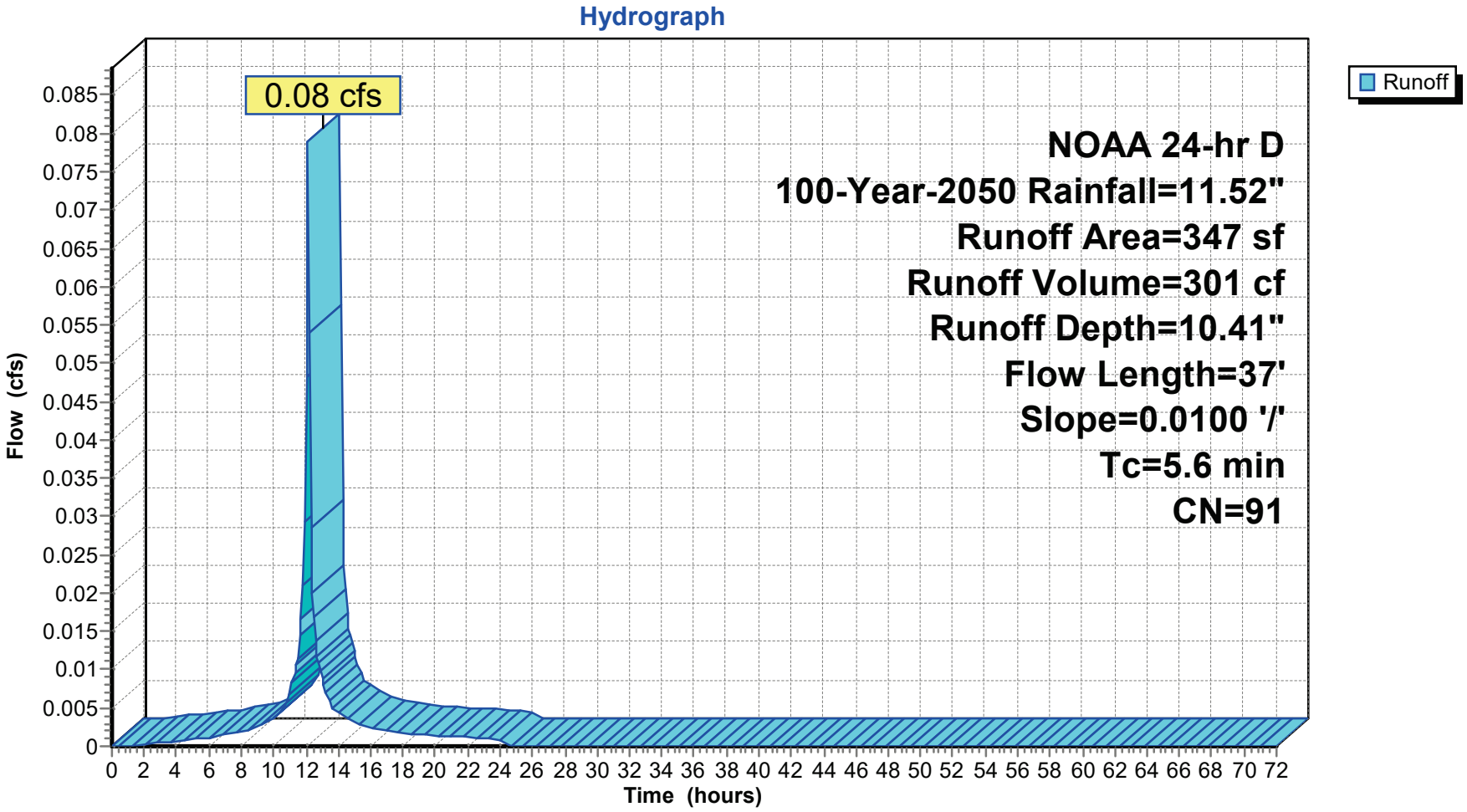
Runoff = 0.08 cfs @ 12.11 hrs, Volume= 301 cf, Depth=10.41"
Routed to Link DP2 : PROPOSED TOTAL BLOOMFIELD AVENUE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
NOAA 24-hr D 100-Year-2050 Rainfall=11.52"

	Area (sf)	CN	Description
*	207	86	LANDSCAPE
*	140	98	SIDEWALK
	347	91	Weighted Average
	207		59.65% Pervious Area
	140		40.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	37	0.0100	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.44"

Subcatchment P2C: P2C pervious undetained



Summary for Pond 1P: Underground Basin

Inflow Area = 38,765 sf,100.00% Impervious, Inflow Depth = 11.28" for 100-Year-2050 event
Inflow = 8.55 cfs @ 12.04 hrs, Volume= 36,435 cf
Outflow = 3.75 cfs @ 12.22 hrs, Volume= 36,435 cf, Atten= 56%, Lag= 11.0 min
Discarded = 0.06 cfs @ 12.22 hrs, Volume= 3,721 cf
Primary = 3.70 cfs @ 12.22 hrs, Volume= 32,713 cf
Routed to Link DP1 : DESIGN POINT 1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Peak Elev= 380.13' @ 12.22 hrs Surf.Area= 3,136 sf Storage= 10,967 cf

Plug-Flow detention time= 83.0 min calculated for 36,384 cf (100% of inflow)
Center-of-Mass det. time= 83.2 min (815.9 - 732.7)

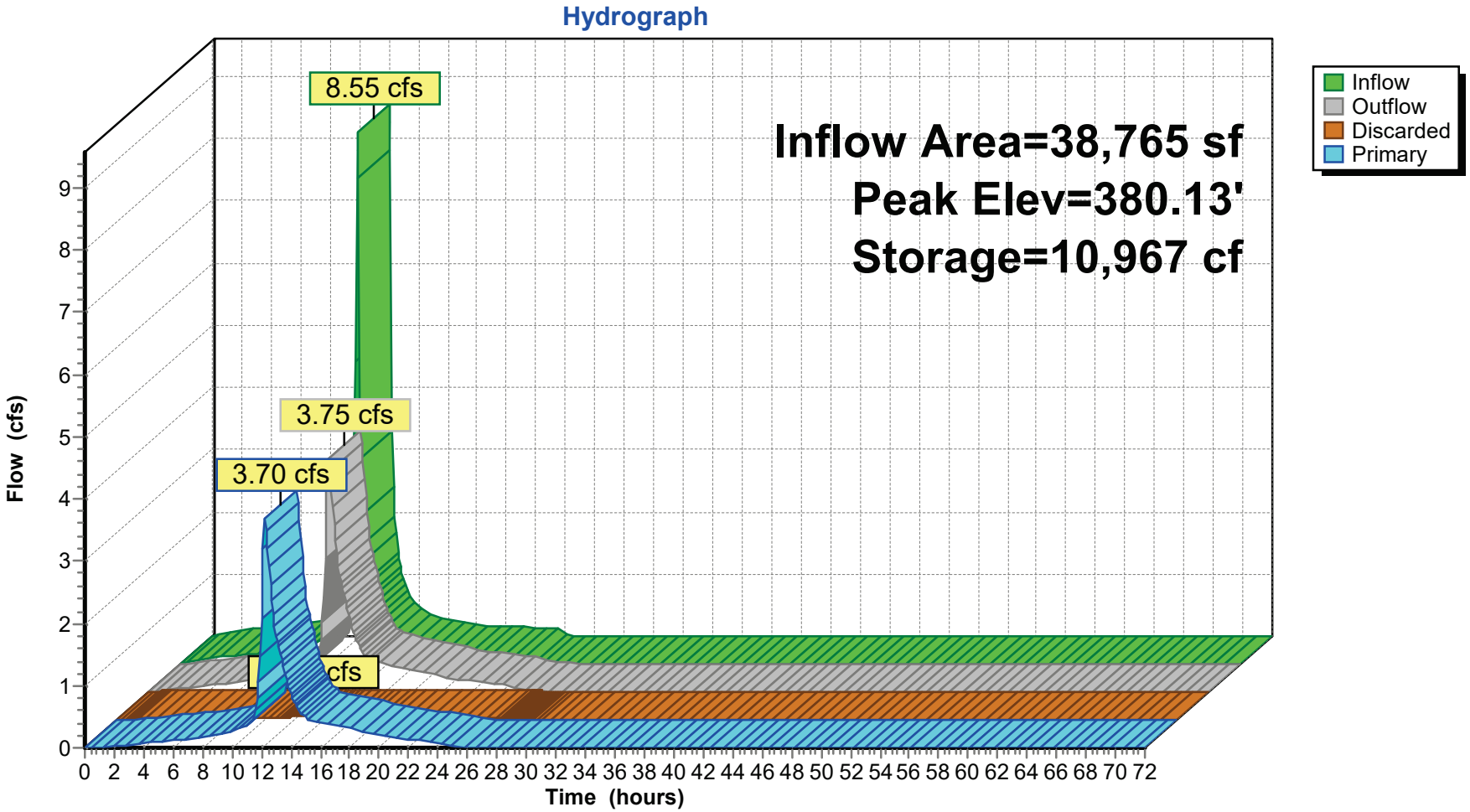
Volume	Invert	Avail.Storage	Storage Description
#1	376.50'	12,072 cf	**retain_it upright 4.0'** x 56 Inside= 84.0"W x 48.0"H => 28.87 sf x 8.00'L = 230.9 cf Outside= 96.0"W x 56.0"H => 37.33 sf x 8.00'L = 298.7 cf 1 Rows adjusted for 860.6 cf perimeter wall

Device	Routing	Invert	Outlet Devices
#1	Primary	376.50'	**12.0" Round Culvert** L= 21.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 376.50' / 376.25' S= 0.0119 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Device 1	376.50'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	377.80'	**0.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Discarded	376.50'	**0.500 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 370.00'

Discarded OutFlow Max=0.06 cfs @ 12.22 hrs HW=380.10' (Free Discharge)
└**4=Exfiltration** (Controls 0.06 cfs)

Primary OutFlow Max=3.64 cfs @ 12.22 hrs HW=380.10' (Free Discharge)
└**1=Culvert** (Passes 3.64 cfs of 6.66 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.78 cfs @ 8.93 fps)
  └**3=Sharp-Crested Rectangular Weir** (Weir Controls 2.86 cfs @ 4.96 fps)

Pond 1P: Underground Basin

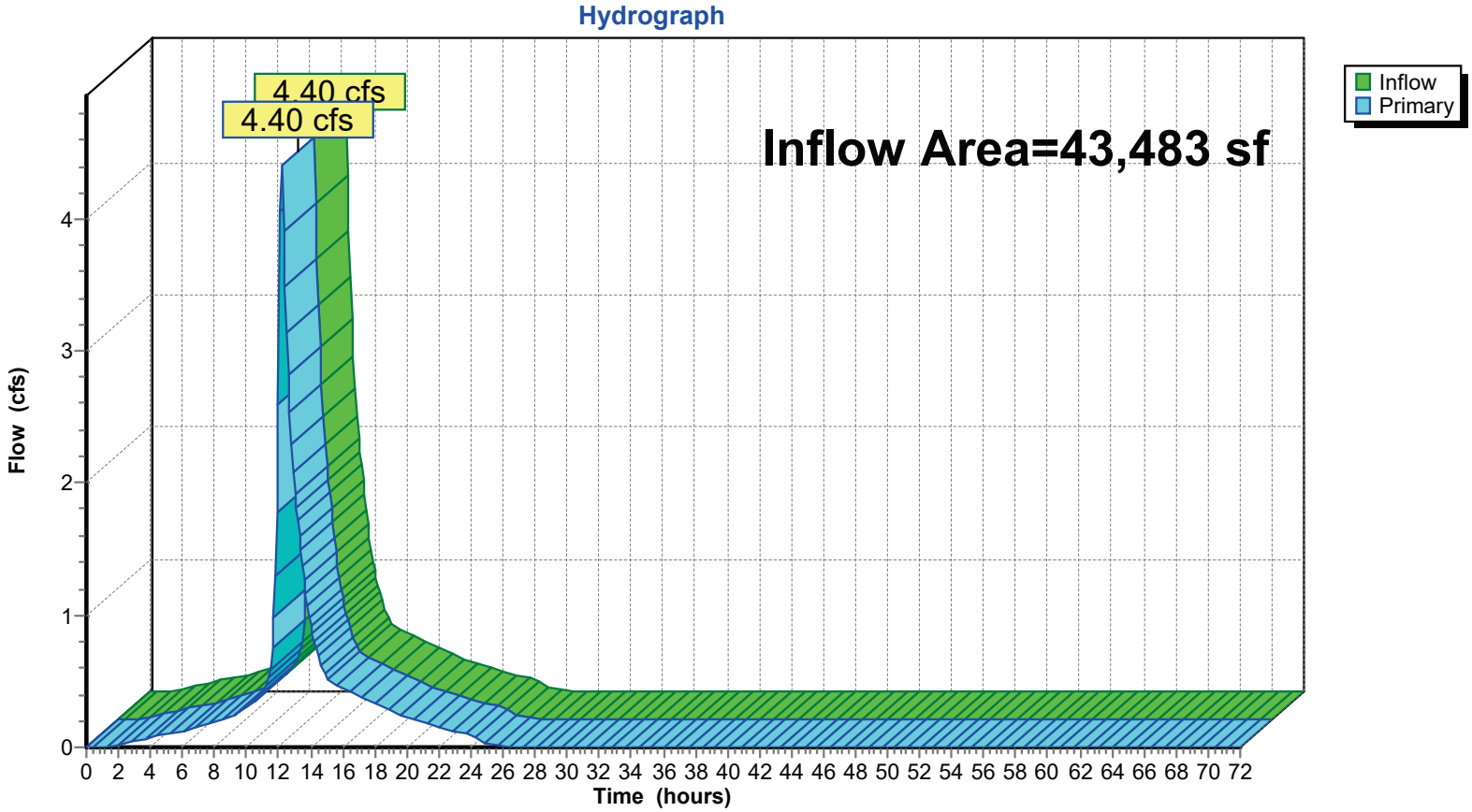


Summary for Link 7L: PROPOSED SITE TOTAL

Inflow Area = 43,483 sf, 89.47% Impervious, Inflow Depth = 9.96" for 100-Year-2050 event
Inflow = 4.40 cfs @ 12.19 hrs, Volume= 36,075 cf
Primary = 4.40 cfs @ 12.19 hrs, Volume= 36,075 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Link 7L: PROPOSED SITE TOTAL

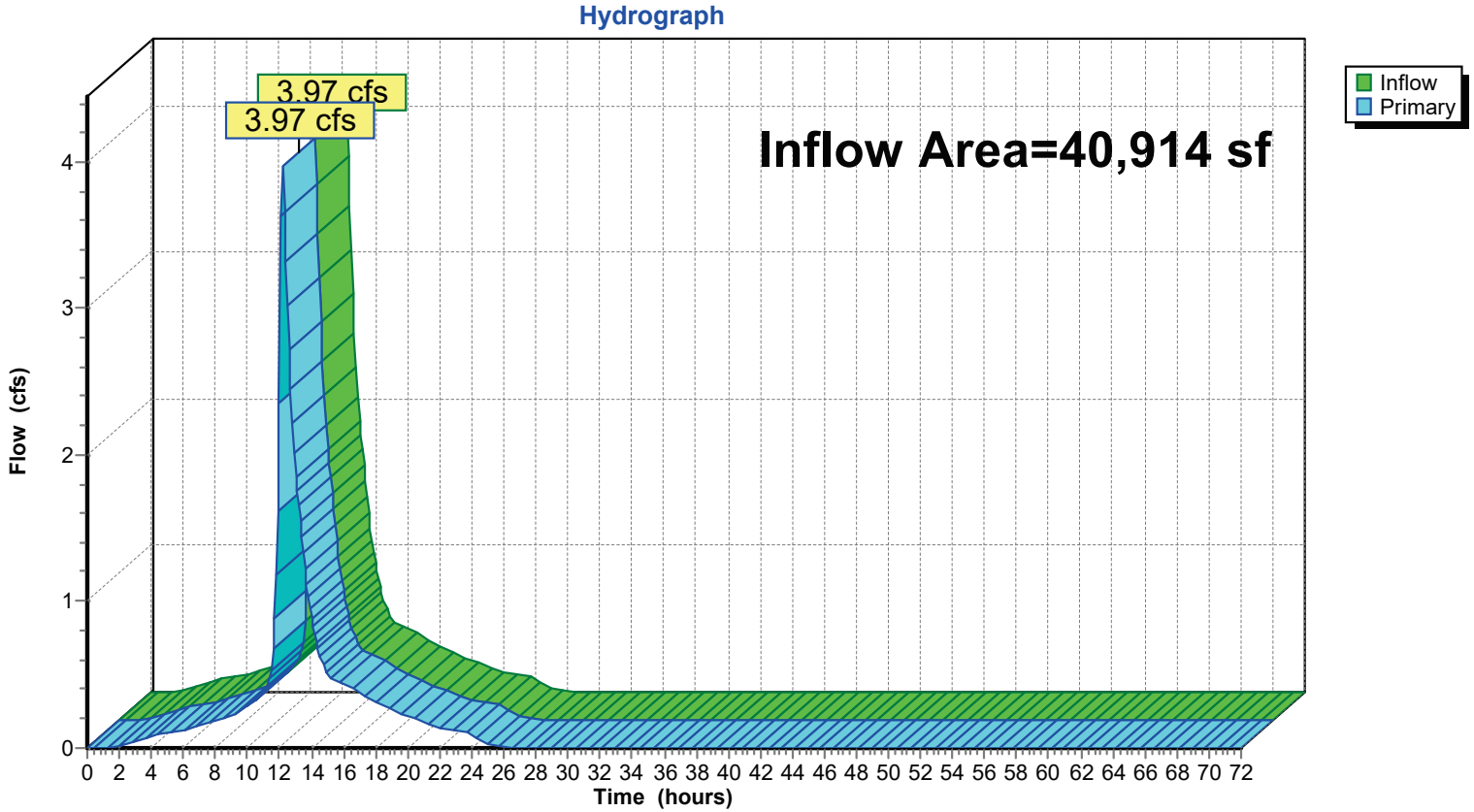


Summary for Link DP1: DESIGN POINT 1

Inflow Area = 40,914 sf, 94.75% Impervious, Inflow Depth = 10.05" for 100-Year-2050 event
Inflow = 3.97 cfs @ 12.20 hrs, Volume= 34,262 cf
Primary = 3.97 cfs @ 12.20 hrs, Volume= 34,262 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 7L : PROPOSED SITE TOTAL

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

Link DP1: DESIGN POINT 1

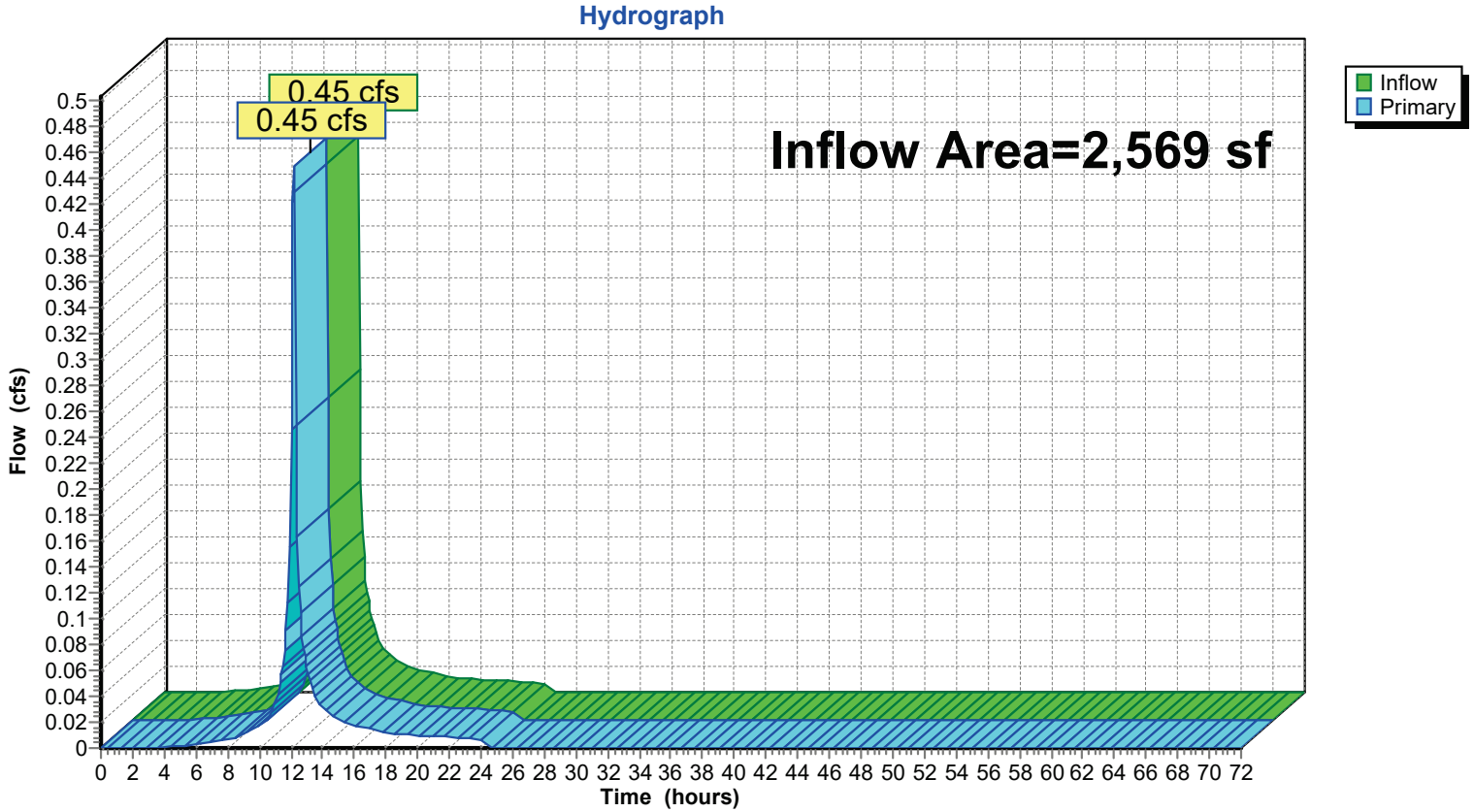


Summary for Link DP2: PROPOSED TOTAL BLOOMFIELD AVENUE

Inflow Area = 2,569 sf, 5.45% Impervious, Inflow Depth = 8.47" for 100-Year-2050 event
Inflow = 0.45 cfs @ 12.15 hrs, Volume= 1,813 cf
Primary = 0.45 cfs @ 12.15 hrs, Volume= 1,813 cf, Atten= 0%, Lag= 0.0 min
Routed to Link 7L : PROPOSED SITE TOTAL

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs

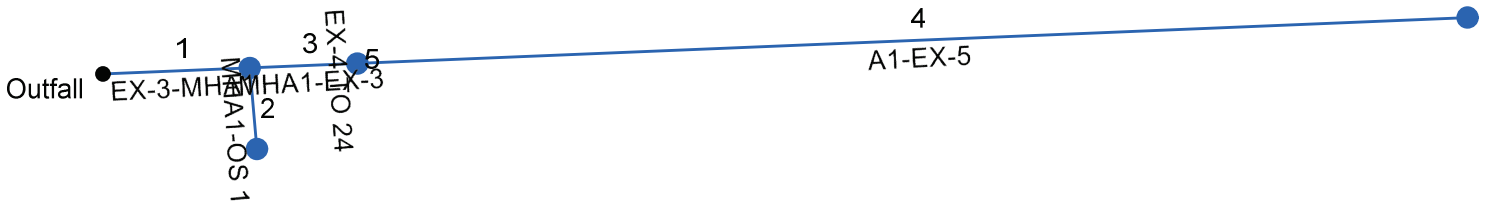
Link DP2: PROPOSED TOTAL BLOOMFIELD AVENUE



APPENDIX C

STORM SEWER CAPACITY CALCULATIONS

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Project File: STORM SEWER-updated.stm	Number of lines: 5	Date: 9/4/2026

Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q Byp (cfs)	Junc Type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp Line No
							Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
1		0.00	3.70	0.00	3.70	MH	4.0	4.00	2.00	2.00	2.00	Sag	2.00	0.050	0.020	0.013	0.00	0.00	0.00	0.00	0.0	Off
2		3.70*	0.00	0.00	3.70	MH	4.0	4.00	2.00	2.00	2.00	Sag	2.00	0.050	0.020	0.013	0.00	0.00	0.00	0.00	0.0	1
3		0.00	1.79	1.79	0.00	Curb	4.0	4.00	2.00	2.00	2.00	Sag	2.00	0.050	0.020	0.013	0.28	10.92	0.28	10.92	0.0	1
4		2.37	0.00	2.37	0.00	Curb	4.0	4.00	2.00	2.00	2.00	Sag	2.00	0.050	0.020	0.013	0.32	13.18	0.32	13.18	0.0	3
5		1.79	0.00	0.00	1.79	None	4.0	4.00	2.00	2.00	2.00	Sag	2.00	0.050	0.020	0.013	0.00	0.00	0.00	0.00	0.0	3

Project File: STORM SEWER-updated.stm | Number of lines: 5 | Run Date: 9/4/2026

NOTES: Inlet N-Values = 0.016; Intensity = 150.20 / (Inlet time + 15.60) ^ 0.91; Return period = 100 Yrs. ; * Indicates Known Q added. All curb inlets are throat.

APPENDIX D

NRCS SOIL MAPPING DATA

Soil Map—Essex County, New Jersey



Map Scale: 1:728 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 10 20 40 60

Feet: 0 35 70 140 210

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

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

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

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

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

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

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

Soil Survey Area: Essex County, New Jersey
Survey Area Data: Version 21, Aug 28, 2025

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

Date(s) aerial images were photographed: Oct 10, 2022—Oct 16, 2022

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BouB	Boonton - Urban land, Boonton substratum complex, 0 to 8 percent slopes	1.1	100.0%
Totals for Area of Interest		**1.1**	**100.0%**

Essex County, New Jersey

BouB—Boonton - Urban land, Boonton substratum complex, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: b12f
Landscape: Till plains
Elevation: 50 to 500 feet
Mean annual precipitation: 30 to 64 inches
Mean annual air temperature: 46 to 79 degrees F
Frost-free period: 131 to 178 days
Farmland classification: Not prime farmland

Map Unit Composition

Boonton and similar soils: 50 percent
Urban land, boonton substratum: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Boonton

Setting

Landscape: Till plains
Landform: Ground moraines
Landform position (three-dimensional): Upper third of mountainflank, center third of mountainflank
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy basal till derived from basalt

Typical profile

A - 0 to 5 inches: loam
BA - 5 to 8 inches: silt loam
BE - 8 to 17 inches: silt loam
Bt - 17 to 30 inches: silt loam
Btx1 - 30 to 40 inches: gravelly fine sandy loam
Btx2 - 40 to 47 inches: fine sandy loam
CBt1 - 47 to 58 inches: loamy sand
CBt2 - 58 to 72 inches: loamy sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: 20 to 36 inches to fragipan
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: F144AY037MA - Moist Dense Till Uplands
Hydric soil rating: No

Description of Urban Land, Boonton Substratum

Setting

Landscape: Till plains
Landform: Ground moraines
Landform position (three-dimensional): Lower third of mountainflank, upper third of mountainflank, center third of mountainflank
Anthropogenic Feature: Urban land
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Surface covered by pavement, concrete, buildings, and other structures underlain by disturbed and natural soil material

Typical profile

H1 - 0 to 12 inches: material
H2 - 12 to 47 inches: silt loam
2CBt1 - 47 to 58 inches: loamy sand
2CBt2 - 58 to 72 inches: loamy sand

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: Unranked

Minor Components

Udorthents, boonton substratum

Percent of map unit: 10 percent
Landscape: Till plains
Landform: Ground moraines
Landform position (three-dimensional): Lower third of mountainflank, upper third of mountainflank, center third of mountainflank
Anthropogenic features: Artificial levees
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Data Source Information

Soil Survey Area: Essex County, New Jersey
Survey Area Data: Version 21, Aug 28, 2025

APPENDIX E

SOIL REPORT

CONSULTANTS, INC.
4405 South Clinton Avenue
South Plainfield, NJ 07080

Tel: (800) 545-ATUL
(908) 754-8383
Fax: (908) 754-8633

NJ EDA Approved Testing Laboratory • MBE/DBE Certified • NJ DEP Certified
www.ANSConsultants.net

Soil, Concrete, Masonry, Rebar, Asphalt, Structural Steel, Precast, Piles, Caissons, Fire-proofing, Roofing, Soil Boring, Concrete/Rock Coring, UST Removal, Environmental Testing & Reports

May 5, 2026

Gomes Management
91 Kossuth Street
Newark, NJ 07105

Attn.: Mr. Sandro Lima

Re: **Field Percolation Test Report**
420 Bloomfield Avenue
312 Claremont Avenue
Verona, NJ 07044

Dear Mr. Lima,

Attached, please find two (2) Field Percolation test reports for two (2) tests performed on April 29th, 2026. Both field percolation tests were performed 6'-0" below grade at two (2) separate locations marked on the attached drawing. Test pits were excavated to prepare soil profile logs and check Seasonal and Static High-Water table. Mottling or Static water was not encounted in both test pits.

Test pit # 1 was excavated down to 11'-0" below grade. Noted Percolation rate of 7.500 min/in., Hydraulic Conductivity rate of 3.200 inch/hr. and soil permeability class rating of K 3.

Test pit # 2 was excavated down to 10'-0" below grade. Noted Percolation rate of 10.00 min./inch., Hydraulic Conductivity rate of 2.4 inch/hr. and soil permeability class rating is K 3.

Should you have any questions or require additional information, please contact the undersigned at (908) 754-8383.

Sincerely,
ANS CONSULTANTS, INC.

Atulkumar N. Shah, PE, PP, F. ASCE
President
NJ PE license #24GE03443900
ANS/ajs

Phone: 908-380-3064
Email: sandro@bygomes.com

File: ans.ajs.05052026.02863. Gomes Management

ANS Consultants, Inc.
Tel:(800) 545-ATUL
(908) 754-8383
Fax: (908) 754-8683

PERMEABILITY TEST REPORT

CLIENT: **Gomes Management**
P.O. Box: 5277
Newark, NJ – 07105

DATE: 04/29/2026

FILE NO: AOF - 6549

Kind Attn: **Mr. Sandro Gomes**

REPORT #: **1**

PROJECT: **Field Percolation Test**
420 Bloomfield Ave,
312 Claremont Ave
Verona, NJ - 07044

ENGINEER: Atul Shah, (P.E.)
Kevin C, Ishan A

TIME: 8:30 AM- 5:00 PM

LOCATION: As Marked on drawing

TESTING DETAILS & SUMMARY

Percolation Test Data: Test Pit – 01 (@ 6' – 0" depth)

Sr No.	Time	Height of Water level (In.)	Time Interval Min: Sec	Water Drop (In.)	Remark
1	10:45AM	7	11:30	3	Test commenced after presoaking
2		7	13:45	3	
3		7	15:00	3	
4		7	16:30	3	
5		7	18:00	3	
6		7	18:00	3	
7		7	18:00	3	Steady State Condition Reached
8		7	45:00	6	
	Percolation rate				**7.500 min/in**
	Permeability Rate / Hydraulic Conductivity rate				**3.200 inch/hour**
	Soil Permeability Class				**K – 3**

Note: 1) Percolation test was performed using an 8" dia. perforated pipe as per NJ BMP Manual guidelines.

ANS Consultants, Inc.
Tel:(800) 545-ATUL
(908) 754-8383
Fax: (908) 754-8683

Percolation Test Location – 01 (@ 6' – 0" depth)

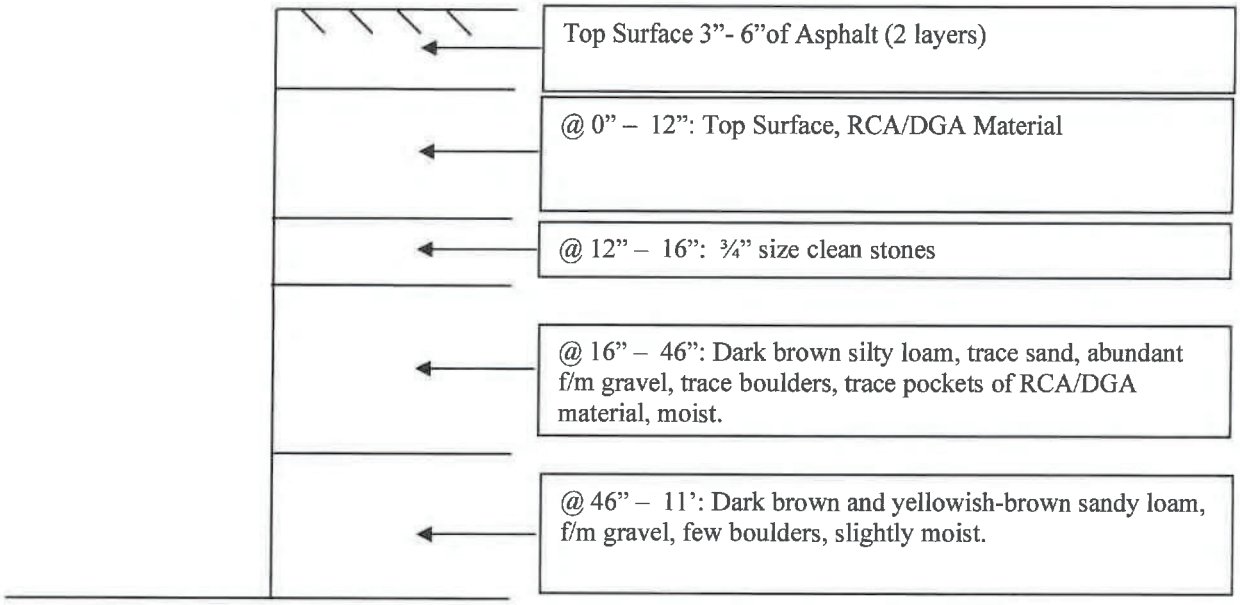


Test Pit Location – 01 (@ 11' – 0" depth)



ANS Consultants, Inc.
Tel:(800) 545-ATUL
(908) 754-8383
Fax: (908) 754-8683

Test Pit – 1 Log



- No SHW/GW was encountered from existing ground elevation.

CLIENT: Gomes Management
PROJECT: Field Percolation Test
420 Bloomfield Ave, 312
Claremont Ave, Verona, NJ

ANS Consultants, Inc.
Tel:(800) 545-ATUL
(908) 754-8383
Fax: (908) 754-8683

Percolation Test Data: Test Pit – 02 (@ 6' -0" depth)

Sr No.	Time	Height of Water level (In.)	Time Interval Min: Sec	Water Drop (In.)	Remark
1	12:30AM	7	15:30	3	Test commenced after presoaking
2		7	16:45	3	
3		7	18:30	3	
4		7	20:30	3	
5		7	25:00	3	
6		7	25:00	3	
7		7	25:00	3	Steady State Condition Reached
8		7	60:00	6	
	Percolation rate				**10.000 min/in**
	Permeability Rate / Hydraulic Conductivity rate				**2.4 inch/hour**
	Soil Permeability Class				**K – 3**

Note: 1) Percolation test was performed using an 8" dia. perforated pipe as per NJ BMP Manual guidelines.

ANS Consultants, Inc.
Tel:(800) 545-ATUL
(908) 754-8383
Fax: (908) 754-8683

Percolation Test Location – 02 (@ 6' –0" depth)

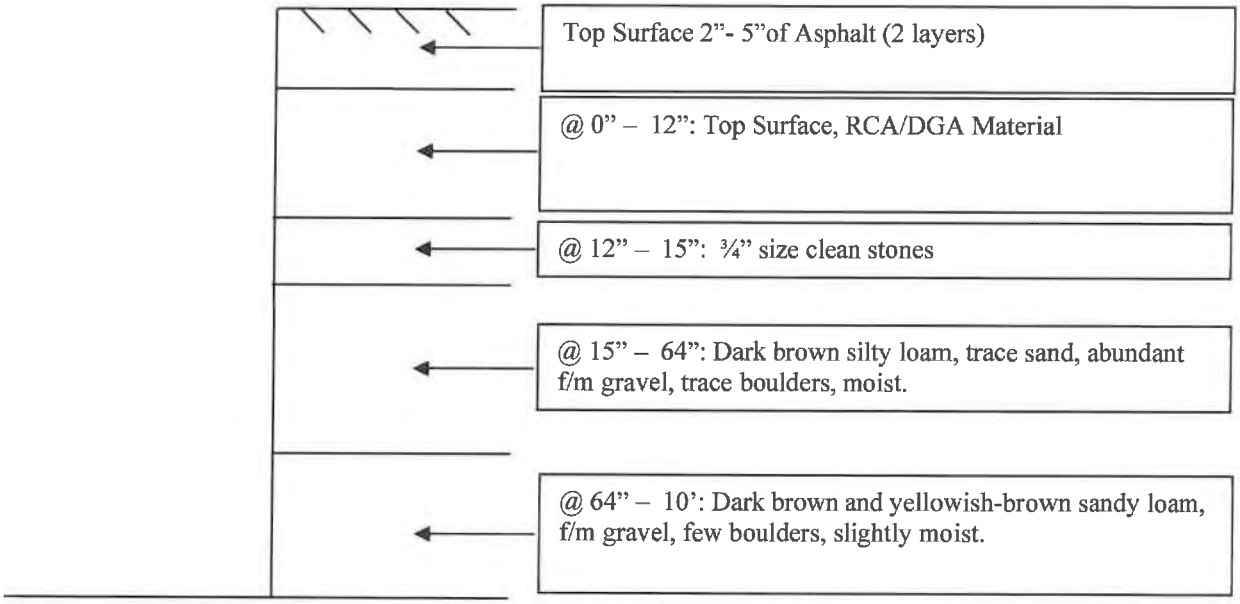


Test Pit Location – 02 (@ 10' – 0" depth)



ANS Consultants, Inc.
Tel:(800) 545-ATUL
(908) 754-8383
Fax: (908) 754-8683

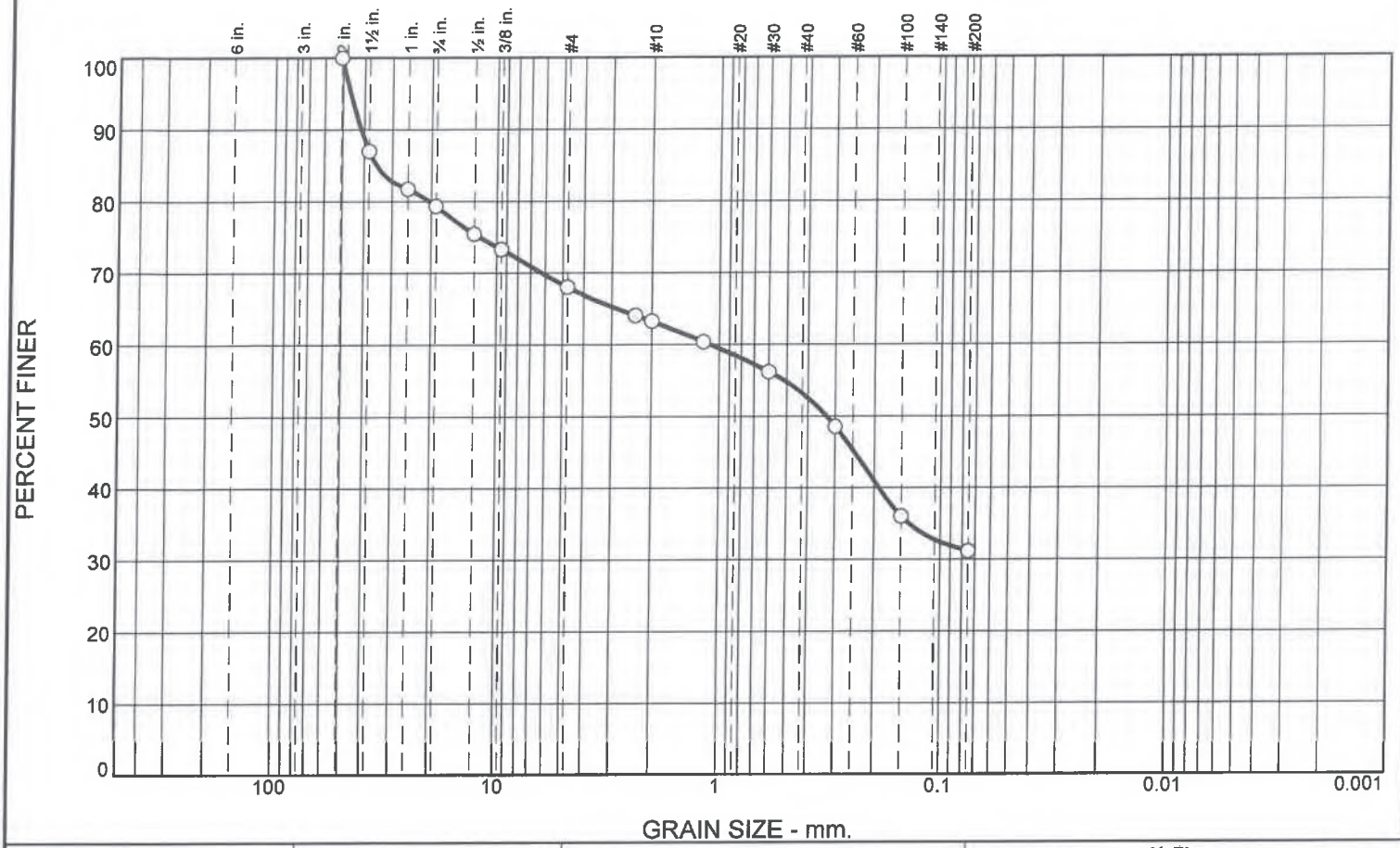
Test Pit – 2 Log



- No SHW/GW was encountered from existing ground elevation.

CLIENT: Gomes Management
PROJECT: Field Percolation Test
420 Bloomfield Ave, 312
Claremont Ave, Verona, NJ

Particle Size Distribution Report As per ASTM D-6913, D-7928



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	20.7	11.3	4.8	10.0	22.0	31.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2	100.0		
1.5	87.0		
1	81.7		
3/4	79.3		
1/2	75.4		
3/8	73.3		
#4	68.0		
#8	64.0		
#10	63.2		
#16	60.4		
#30	56.2		
#50	48.6		
#100	36.1		
#200	31.2		

* (no specification provided)

Material Description

Brown in color. silty sand with gravel

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D_{90}= 41.3416 D_{85}= 35.2537 D_{60}= 1.1042
D_{50}= 0.3284 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO= A-2-4(0)

Remarks

In-Situ %MC=15.0
F.M.=3.27

Source of Sample: On-Site material
Sample Number: S-1

Date: 05/05/2026

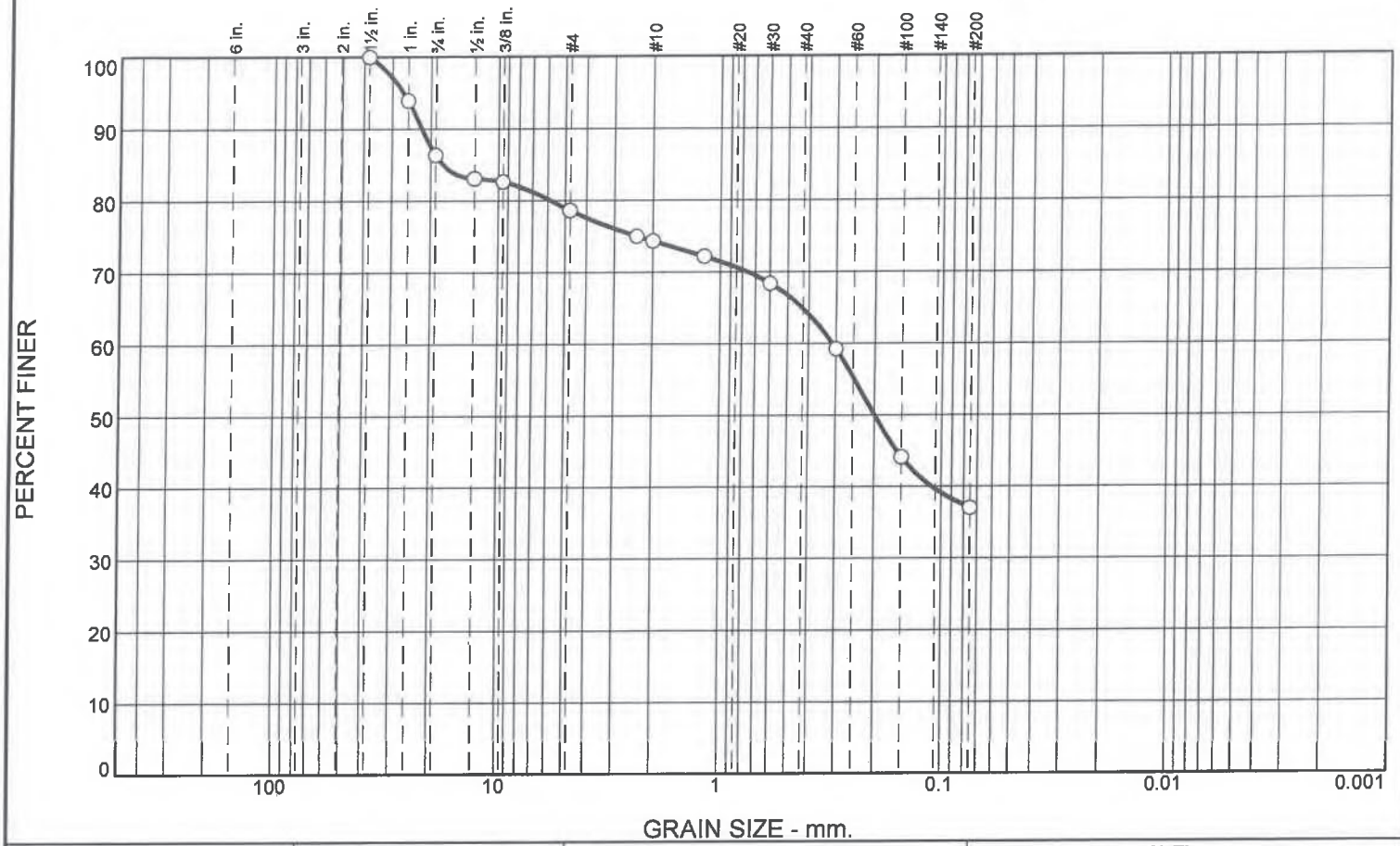
ANS CONSULTANTS, INC.

South Plainfield, New Jersey

Client: Gomes Management
Project: 312 Claremont Avenue, Verona, NJ

Project No: AOF-6549 **Figure 1 F 1**

Particle Size Distribution Report As per ASTM D-6913, D-7928



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	13.6	7.7	4.3	9.5	27.9	37.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.5	100.0		
1	93.9		
3/4	86.4		
1/2	83.1		
3/8	82.7		
#4	78.7		
#8	75.0		
#10	74.4		
#16	72.2		
#30	68.4		
#50	59.2		
#100	44.1		
#200	37.0		

* (no specification provided)

Material Description

Brown in color. silty sand with gravel

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D_{90}= 21.9752 D_{85}= 17.5956 D_{60}= 0.3121
D_{50}= 0.1994 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO= A-4(0)

Remarks

In-Situ %MC=16.3
F.M.=2.33

Source of Sample: On-Site material
Sample Number: S-2

Date: 05/05/2026

ANS CONSULTANTS, INC.

South Plainfield, New Jersey

Client: Gomes Management
Project: 312 Claremont Avenue, Verona, NJ

Project No: AOF-6549 **Figure 2 F 1**

ANS Consultants, Inc.
Tel:(800) 545-ATUL
(908) 754-8383
Fax: (908) 754-8683

Location Plan

N.T.S

