EDWIN A. REIMON, P.E., C.M.E.
Engineering Services

STORM WATER MANAGEMENT REPORT

PROPOSED MULTI-FAMILY RESIDENTIAL
WITH 2ND FLOOR OFFICE SPACE AND
GROUND FLOOR COMMERCIAL
681-685 NEWARK AVENUE
BLOCK 7902, LOTS 33 & 34

LOCATED IN
CITY OF JERSEY CITY
HUDSON COUNTY, NEW JERSEY

June 2023

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I. INTRODUCTION

The subject of this report is to demonstrate compliance with the City of Jersey City requirements for Water Quality and Water Quantity, as well as any State requirements regarding stormwater runoff Quality and Quantity as described in the New Jersey Department of Environmental Protection Stormwater Best Management Practices Manual (N.J.A.C 7:8 - Stormwater Management Rules).

The development is known as Block 7902, Lots 33 & 34 located at 681-685 Newark Avenue, in the City of Jersey City, Hudson County, New Jersey. The project site fronts along Newark Avenue.

II. PRE-DEVELOPED CONDITIONS

The total property on which the proposed development will be constructed is approximately 7,511 SF or 0.173 acres. The site is currently improved with mixed use residential and commercial.

The site soils per the National Resource Conservation Services is: URTILB

- URTILB – Urban Land, Till Substratum, 0 to 8 percent slopes

Since the Hydrologic Soil Group (HSG) is not determined for this type of soil an estimated soil type "D" will be used which is consistent with Urban Land Complex.

Pre-Developed Average CN calculation:

Cover Type	Area	CN
Area A – Impervious to Green Roof	0.033	98
Area B – Impervious	0.140	98

Pre-Developed site discharge:

Storm Event	Pre-Dev. Condition (CFS)
2 Year	0.370
10 Year	0.576
100 Year	0.993

III. POST-DEVELOPED CONDITIONS

The post developed site will cover the entire property for the multi-family residential with commercial building. The post-developed area will be the same as the existing 7,511 SF or 0.173 acres with a green roof and blue roof component for reducing the discharge from the site.

Additionally, there are two green roof areas on the building and therefore the CN value will be reduced based on NJDEP SWBMP shown below in the 4 Steps.

Step 1: Calculate the runoff retention of the Green Roof A1 and B1:

Roof Area (SA) = 1,418 SF
2-year storm rainfall, P_2 = 3.41
10-year storm rainfall, P_{10}= 5.27
100-year storm rainfall, P_{100}= 9.06
Drainage layer depth (DL) = 6 in
Drainage layer field capacity (n_2) = 0.02% by volume
Slope = 2.5%
Vegetation = Dense Native Grass

The growing medium has a composition of 20% 1-7 mm pumice by volume, 60% 4-10 mm pumice by volume, and 20% composted pine bark fines by volume. The characteristics of the growing medium are as the follows:

Growing medium depth (d) = 6 inches
Field capacity = 0.349% by volume
Wilting point = 0118% by volume
Available Water Capacity for Runoff Retention (n_1)= 0.231% by volume

$$S_v = \frac{SA \times [(d \times \eta_1)+(DL \times \eta_2)]}{12}$$, where:

S_v = storage volume (cf)
SA = green roof area (sf)
d = media depth (in)
η_1 = available water capacity for runoff retention
DL = drainage layer depth (in)
η_2 = drainage layer field capacity

S_v = 177.959 cf

Step 2: Calculate the discharge runoff volume:

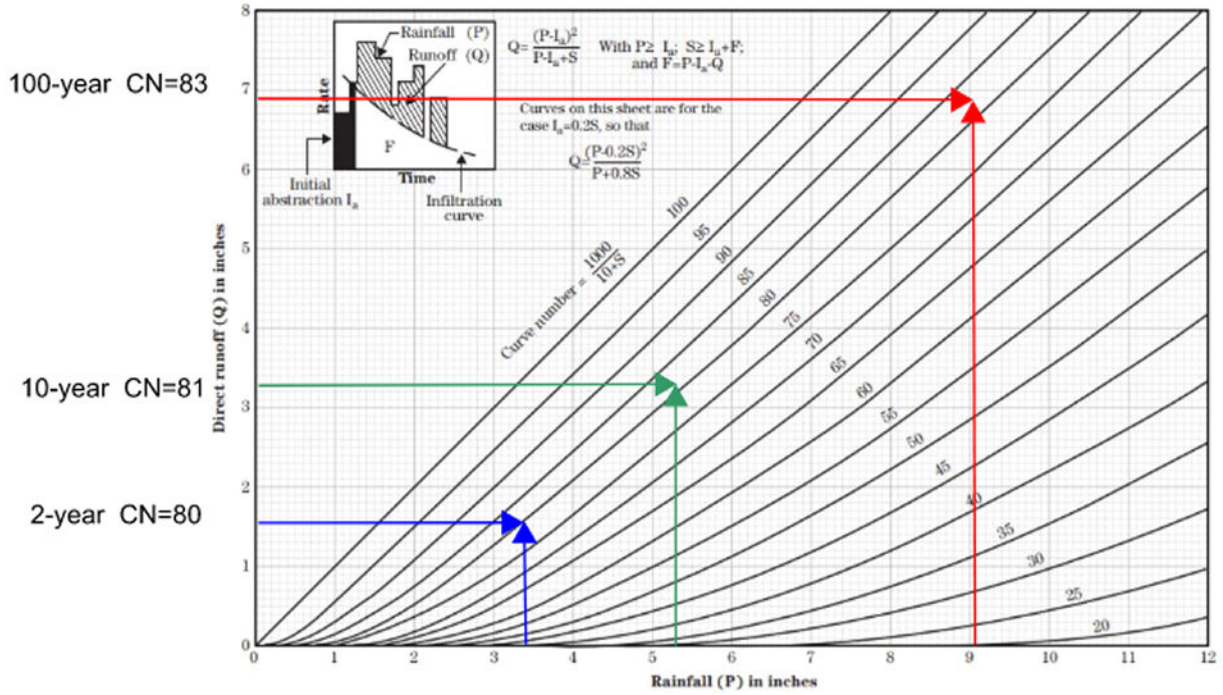
Storm Event	(A) Runoff Volume (cf) (Impervious Surface)	(B) Storage Volume (cf)	(A)– (B) Discharged Runoff Volume (cf) (Green Roof)
2-year	357	178	179
10-year	565	178	387
100-year	990	178	812

Step 3: Calculate the direct runoff depth (Q):

Storm Event	Discharge Runoff Volume (CF) (Green Roof)	Green Roof Area (sf)	Direct Runoff Depth (Q) (in)
2-year	179	1,418	1.52
10-year	387	1,418	3.28
100-year	812	1,418	6.87

$$Q = \frac{reduced\ runoff\ volume\ (cf)\ x\ 12\ in/ft}{green\ roof\ area\ (ft)}$$

Step 4: Determine the Adjusted Curve Number (CN):



- Assume CN=83 all storms

IV. HYDROLOGIC ANALYSIS

Hydraflow Hydrographs Extension for AutoCAD Civil 3D 2021 computer software was used to develop the runoff hydrographs of the pre and post-developed conditions for the 2, 10 & 100 year storm events. The USDA Natural Resources Conservation Service (NRCS) methodology was used to compute stormwater runoff rates, volumes and hydrographs.

In accordance with N.J.A.C. 7:8-1.2 the project is considered a "Minor Development" since less than one (1) acre of land will be disturbed and less than 0.25 acres of impervious increase. Per N.J.A.C. when considered a Minor Development the post developed drainage shall therefore match the pre-developed drainage.

Post-Developed Average CN calculation:

Cover Type	Area	CN
Area A – IMP Blue Roof	0.022	98
Area A1 – Green Roof	0.006	83
Area B – IMP Blue Roof	0.053	98
Area C – IMP Blue Roof	0.015	98
Area C1 – Green Roof	0.026	83
Area D – IMP Blue Roof	0.030	98
Area E – Uncontrolled IMP	0.021	98

	Pre-Dev. Condition				**Post Developed**	
Storm Event	Pre-Dev. Condition (CFS)	Reduction Rate	Post-Dev. Max. Total Allowable cfs		Post-Dev. Unrouted cfs	**Post- Dev. Routed cfs**
2yr	0.370	MATCH	**0.370**		0.388	**0.307**
10yr	0.576	MATCH	**0.576**		0.620	**0.409**
100yr	0.993	MATCH	**0.993**		1.093	**0.586**

V. CONCLUSION

The proposed multi-family residential with commercial building with green roof and blue roof will not present any adverse drainage impacts to the surrounding areas.

In summary, all applicable design criteria set forth by the NJDEP Stormwater Management Best Management Practices and N.J.A.C Stormwater Management requirements and Jersey City have been met.

APPENDIX A

HYDROLOGIC ANALYSIS REFERENCES

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
WATERSHED AND LAND MANAGEMENT
DIVISION OF RESILIENCE ENGINEERING AND CONSTRUCTION
OFFICE OF DAM SAFETY & FLOOD ENGINEERING
44 S. Clinton Avenue, 3rd Fl.
P.O. Box 420, Mail Code 44-03A
Trenton, New Jersey 08625-0420
Tel. (609) 984-0859 • Fax (609) 984-1908
http://www.nj.gov/dep/damsafety

PHILIP D. MURPHY
Governor

SHEILA Y. OLIVER
Lt. Governor

SHAWN M. LATOURETTE
Commissioner

July 1, 2022

Updated New Jersey 24-hour Rainfall Frequency Data

The Bureau of Dam Safety is disseminating updated New Jersey 24-hour rainfall frequency data based on the results of an independent study contracted by the NJDEP. The existing Atlas 14 volume available for New Jersey was last updated in 2006 and included data through 1999. This new independent study incorporates the past two decades of rainfall events and allows the State to plan and design projects based on current data through 2019. Effective immediately, the updated rainfall amounts must be utilized for applicable hydrologic and hydraulic studies as well as dam breach analyses for regulated dams in New Jersey. A summary report is available at: www.nj.gov/dep/dsr/publications/nj-atlas-14.pdf. For this transition, any study/analysis currently under review utilizing existing rainfall data is not required to be revised and resubmitted at this time. However, the updated rainfall amounts may need to be incorporated into any studies otherwise requiring revisions and/or your final rehabilitation design. Please contact the Bureau to discuss your specific case. Please refer to the spreadsheet for the rainfall adjustment factors which were developed from the independent study. These factors shall be applied to the NOAA Atlas 14-point precipitation frequency estimates available at https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=nj. The previous and updated average county-specific 24-hour frequency rainfall amounts are also provided on the spreadsheet for reference. Please note that these updates do not apply to any dam with a spillway design storm based on a Probable Maximum Precipitation (PMP) event and the above adjustment factors should not be utilized in those cases. The NJDEP is also updating PMP data for NJ and additional information concerning implementation of that data will be disseminated upon completion of the study.

Should you have any questions regarding this information or wish to discuss a specific project, please contact the Bureau.

NJDEP Bureau of Dam Safety
E-mail: DamSafety@dep.nj.gov
Phone: 609-984-0859

New Jersey
ATLAS 14 Updated 24-Hour Rainfall Through 2019**
(Inches)

	2-Year	10-Year	100-Year
Atlantic	3.34	5.26	9.17
Bergen	3.37	5.22	8.98
Burlington	3.33	5.23	9.16
Camden	3.41	5.26	8.95
Cape May	3.35	5.22	9.08
Cumberland	3.37	5.24	8.85
Essex	3.47	5.38	9.18
Gloucester	3.45	5.35	9.06
Hudson	3.41	5.27	9.06
Hunterdon	3.45	5.25	9.07
Mercer	3.34	5.11	8.66
Middlesex	3.35	5.17	8.89
Monmouth	3.38	5.28	9.12
Morris	3.58	5.40	8.85
Ocean	3.42	5.38	9.48
Passaic	3.47	5.33	9.05
Salem	3.33	5.15	8.70
Somerset	3.34	5.16	8.95
Sussex	3.32	4.89	8.11
Union	3.42	5.33	9.21
Warren	3.41	5.23	8.99

***Changes in Hourly and Daily Extreme Rainfall Amounts in NJ since the Publication of NOAA Atlas 14 Volume* www.nj.gov/dep/dsr/publications/nj-atlas-14.pdf

Date: June 2022

	NRCS 24-Hour Rainfall Frequency Data (Through 1999)*				ATLAS 14 Update Adjustment Factors				ATLAS 14 Updated 24-Hour Rainfall Data (Through 2019)**				Difference (Inches)		
	2-Year	10-Year	100-Year		2-Year	10-Year	100-Year		2-Year	10-Year	100-Year		2-Year	10-Year	100-Year
Atlantic	3.31	5.16	8.90		1.01	1.02	1.03		3.34	5.26	9.17		**0.03**	**0.10**	**0.27**
Bergen	3.34	5.07	8.47		1.01	1.03	1.06		3.37	5.22	8.98		**0.03**	**0.15**	**0.51**
Burlington	3.36	5.18	8.81		0.99	1.01	1.04		3.33	5.23	9.16		**-0.03**	**0.05**	**0.35**
Camden	3.31	5.06	8.52		1.03	1.04	1.05		3.41	5.26	8.95		**0.10**	**0.20**	**0.43**
Cape May	3.25	5.07	8.73		1.03	1.03	1.04		3.35	5.22	9.08		**0.10**	**0.15**	**0.35**
Cumberland	3.27	5.09	8.76		1.03	1.03	1.01		3.37	5.24	8.85		**0.10**	**0.15**	**0.09**
Essex	3.44	5.22	8.66		1.01	1.03	1.06		3.47	5.38	9.18		**0.03**	**0.16**	**0.52**
Gloucester	3.29	5.05	8.55		1.05	1.06	1.06		3.45	5.35	9.06		**0.16**	**0.30**	**0.51**
Hudson	3.31	5.02	8.31		1.03	1.05	1.09		3.41	5.27	9.06		**0.10**	**0.25**	**0.75**
Hunterdon	3.38	5.00	8.03		1.02	1.05	1.13		3.45	5.25	9.07		**0.07**	**0.25**	**1.04**
Mercer	3.31	5.01	8.33		1.01	1.02	1.04		3.34	5.11	8.66		**0.03**	**0.10**	**0.33**
Middlesex	3.35	5.12	8.63		1.00	1.01	1.03		3.35	5.17	8.89		**0.00**	**0.05**	**0.26**
Monmouth	3.38	5.23	8.94		1.00	1.01	1.02		3.38	5.28	9.12		**0.00**	**0.05**	**0.18**
Morris	3.54	5.24	8.35		1.01	1.03	1.06		3.58	5.40	8.85		**0.04**	**0.16**	**0.50**
Ocean	3.42	5.33	9.20		1.00	1.01	1.03		3.42	5.38	9.48		**0.00**	**0.05**	**0.28**
Passaic	3.47	5.23	8.62		1.00	1.02	1.05		3.47	5.33	9.05		**0.00**	**0.10**	**0.43**
Salem	3.26	5.00	8.45		1.02	1.03	1.03		3.33	5.15	8.70		**0.07**	**0.15**	**0.25**
Somerset	3.34	5.01	8.21		1.00	1.03	1.09		3.34	5.16	8.95		**0.00**	**0.15**	**0.74**
Sussex	3.22	4.70	7.58		1.03	1.04	1.07		3.32	4.89	8.11		**0.10**	**0.19**	**0.53**
Union	3.39	5.17	8.69		1.01	1.03	1.06		3.42	5.33	9.21		**0.03**	**0.16**	**0.52**
Warren	3.34	4.89	7.82		1.02	1.07	1.15		3.41	5.23	8.99		**0.07**	**0.34**	**1.17**

* NRCS New Jersey Supplement Engineering Field Handbook Chapter 2, Part 650 dated August 2012

** *Changes in Hourly and Daily Extreme Rainfall Amounts in NJ since the Publication of NOAA Atlas 14 Volume* prepared by Cornell University, Ithaca NY dated October 2021

www.nj.gov/dep/dsr/publications/nj-atlas-14.pdf

Date: June 2022

Table 2-2a Runoff curve numbers for urban areas [1/]

Cover description		Curve numbers for hydrologic soil group			
Cover type and hydrologic condition	Average percent impervious area [2/]	A	B	C	D
Fully developed urban areas (vegetation established)					
Open space (lawns, parks, golf courses, cemeteries, etc.) [3/]:					
Poor condition (grass cover < 50%)		68	79	86	89
Fair condition (grass cover 50% to 75%)		49	69	79	84
Good condition (grass cover > 75%)		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved; open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only) [4/]		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1- to 2-inch sand or gravel mulch and basin borders)		96	96	96	96
Urban districts:					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses)	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82
Developing urban areas					
Newly graded areas (pervious areas only, no vegetation) [5/]		77	86	91	94
Idle lands (CN's are determined using cover types similar to those in table 2-2c).					

1 Average runoff condition, and $I_a = 0.2S$.

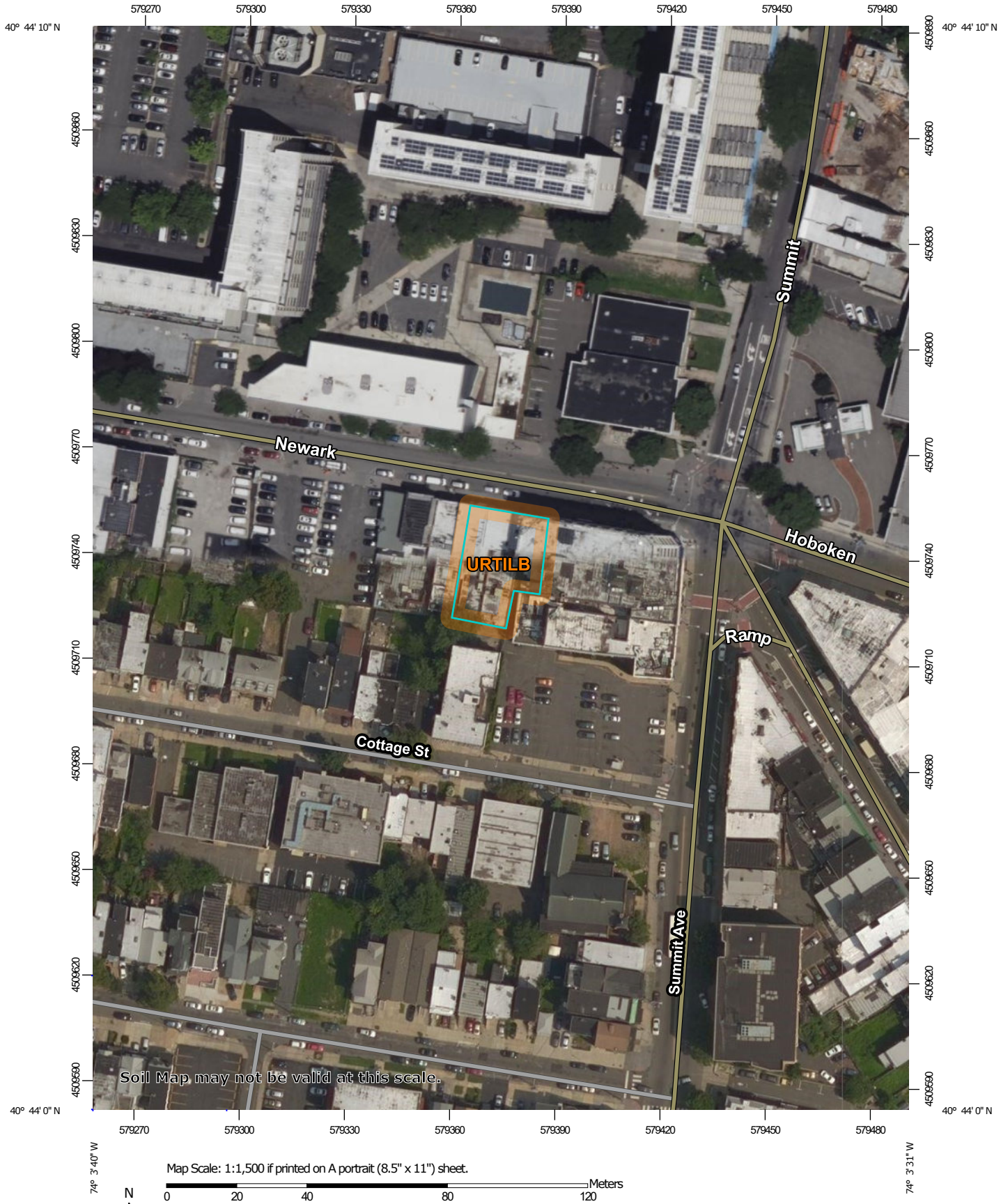
2 The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CN's for other combinations of conditions may be computed using figure 2-3 or 2-4.

3 CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.

4 Composite CN's for natural desert landscaping should be computed using figures 2-3 or 2-4 based on the impervious area percentage (CN = 98) and the pervious area CN. The pervious area CN's are assumed equivalent to desert shrub in poor hydrologic condition.

5 Composite CN's to use for the design of temporary measures during grading and construction should be computed using figure 2-3 or 2-4 based on the degree of development (impervious area percentage) and the CN's for the newly graded pervious areas.

Soil Map—Hudson County, New Jersey
(681-685 Newark Avenue)



Map Scale: 1:1,500 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

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: Hudson County, New Jersey
Survey Area Data: Version 12, Aug 29, 2022

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

Date(s) aerial images were photographed: Jul 23, 2014—Jul 22, 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

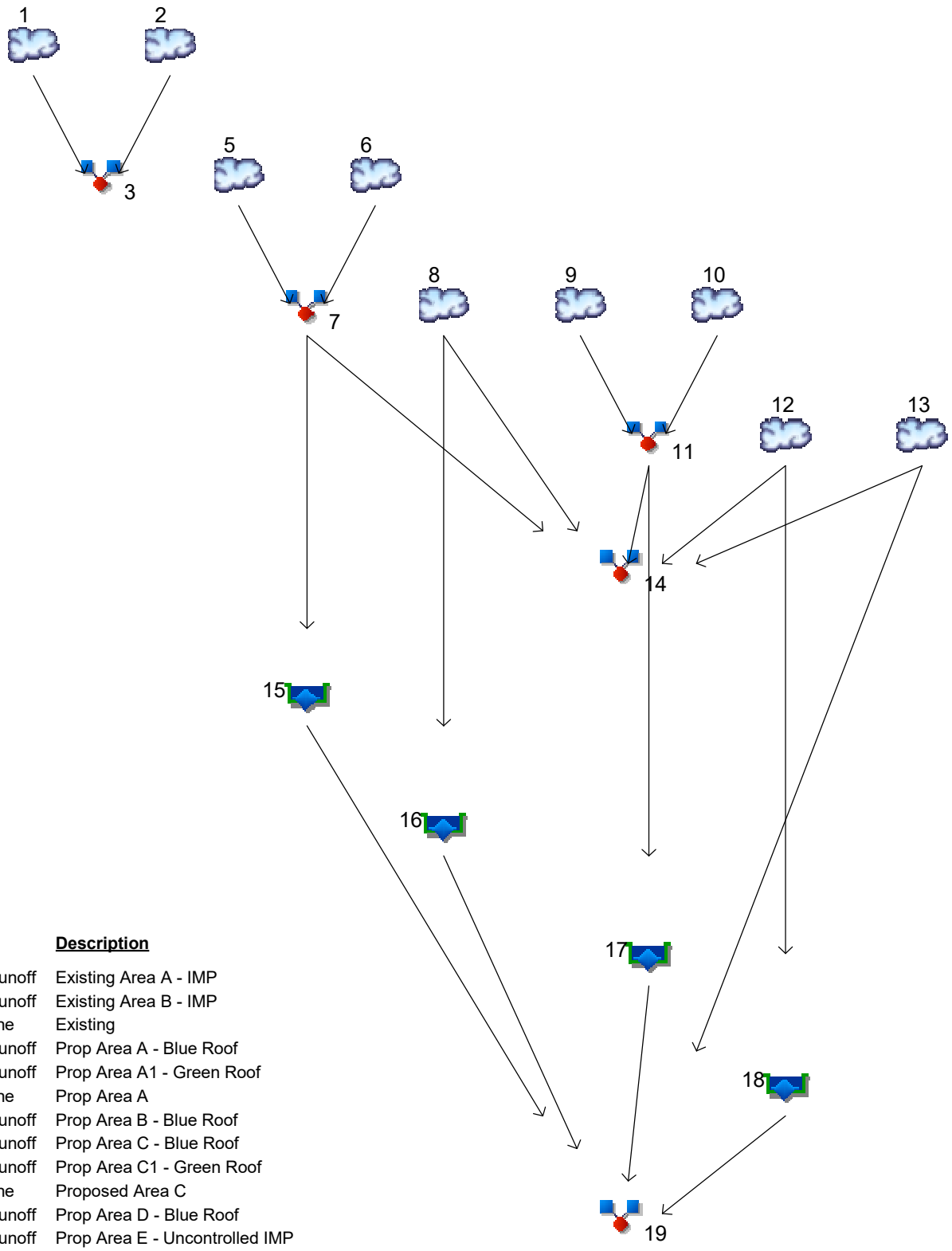
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
URTILB	Urban land, till substratum, 0 to 8 percent slopes	0.2	100.0%
Totals for Area of Interest		**0.2**	**100.0%**

APPENDIX B

PRE-DEVELOPED HYDROGRAPHS/ POST-DEVELOPED HYDROGRAPHS

Watershed Model Schematic

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021



Legend

Hyd.	Origin	Description
1	SCS Runoff	Existing Area A - IMP
2	SCS Runoff	Existing Area B - IMP
3	Combine	Existing
5	SCS Runoff	Prop Area A - Blue Roof
6	SCS Runoff	Prop Area A1 - Green Roof
7	Combine	Prop Area A
8	SCS Runoff	Prop Area B - Blue Roof
9	SCS Runoff	Prop Area C - Blue Roof
10	SCS Runoff	Prop Area C1 - Green Roof
11	Combine	Proposed Area C
12	SCS Runoff	Prop Area D - Blue Roof
13	SCS Runoff	Prop Area E - Uncontrolled IMP
14	Combine	Post Developed Unrouted
15	Reservoir	Blue Roof A Routed
16	Reservoir	Blue Roof B Routed
17	Reservoir	Blue Roof C Routed
18	Reservoir	Blue Roof D Routed
19	Combine	Post Developed Routed

Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)							Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	-------	0.079	-------	-------	0.123	-------	-------	0.213	Existing Area A - IMP
2	SCS Runoff	------	-------	0.336	-------	-------	0.523	-------	-------	0.903	Existing Area B - IMP
3	Combine	1, 2	-------	0.416	-------	-------	0.647	-------	-------	1.115	Existing
5	SCS Runoff	------	-------	0.053	-------	-------	0.082	-------	-------	0.142	Prop Area A - Blue Roof
6	SCS Runoff	------	-------	0.009	-------	-------	0.017	-------	-------	0.035	Prop Area A1 - Green Roof
7	Combine	5, 6	-------	0.062	-------	-------	0.100	-------	-------	0.176	Prop Area A
8	SCS Runoff	------	-------	0.127	-------	-------	0.198	-------	-------	0.342	Prop Area B - Blue Roof
9	SCS Runoff	------	-------	0.036	-------	-------	0.056	-------	-------	0.097	Prop Area C - Blue Roof
10	SCS Runoff	------	-------	0.040	-------	-------	0.075	-------	-------	0.150	Prop Area C1 - Green Roof
11	Combine	9, 10	-------	0.076	-------	-------	0.132	-------	-------	0.246	Proposed Area C
12	SCS Runoff	------	-------	0.072	-------	-------	0.112	-------	-------	0.193	Prop Area D - Blue Roof
13	SCS Runoff	------	-------	0.050	-------	-------	0.078	-------	-------	0.135	Prop Area E - Uncontrolled IMP
14	Combine	7, 8, 11, 12, 13	-------	0.388	-------	-------	0.620	-------	-------	1.093	Post Developed Unrouted
15	Reservoir	7	-------	0.050	-------	-------	0.062	-------	-------	0.081	Blue Roof A Routed
16	Reservoir	8	-------	0.093	-------	-------	0.116	-------	-------	0.159	Blue Roof B Routed
17	Reservoir	11	-------	0.070	-------	-------	0.110	-------	-------	0.173	Blue Roof C Routed
18	Reservoir	12	-------	0.053	-------	-------	0.062	-------	-------	0.078	Blue Roof D Routed
19	Combine	13, 15, 16, 17, 18	-------	0.307	-------	-------	0.409	-------	-------	0.586	Post Developed Routed

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	0.079	5	730	357	------	------	------	Existing Area A - IMP
2	SCS Runoff	0.336	5	730	1,514	------	------	------	Existing Area B - IMP
3	Combine	0.416	5	730	1,870	1, 2	------	------	Existing
5	SCS Runoff	0.053	5	730	238	------	------	------	Prop Area A - Blue Roof
6	SCS Runoff	0.009	5	730	36	------	------	------	Prop Area A1 - Green Roof
7	Combine	0.062	5	730	274	5, 6	------	------	Prop Area A
8	SCS Runoff	0.127	5	730	573	------	------	------	Prop Area B - Blue Roof
9	SCS Runoff	0.036	5	730	162	------	------	------	Prop Area C - Blue Roof
10	SCS Runoff	0.040	5	730	158	------	------	------	Prop Area C1 - Green Roof
11	Combine	0.076	5	730	320	9, 10	------	------	Proposed Area C
12	SCS Runoff	0.072	5	730	324	------	------	------	Prop Area D - Blue Roof
13	SCS Runoff	0.050	5	730	227	------	------	------	Prop Area E - Uncontrolled IMP
14	Combine	0.388	5	730	1,719	7, 8, 11, 12, 13	------	------	Post Developed Unrouted
15	Reservoir	0.050	5	735	270	7	100.22	35.3	Blue Roof A Routed
16	Reservoir	0.093	5	735	565	8	100.25	101	Blue Roof B Routed
17	Reservoir	0.070	5	730	318	11	100.21	23.0	Blue Roof C Routed
18	Reservoir	0.053	5	735	319	12	100.24	51.0	Blue Roof D Routed
19	Combine	0.307	5	735	1,699	13, 15, 16, 17, 18	------	------	Post Developed Routed

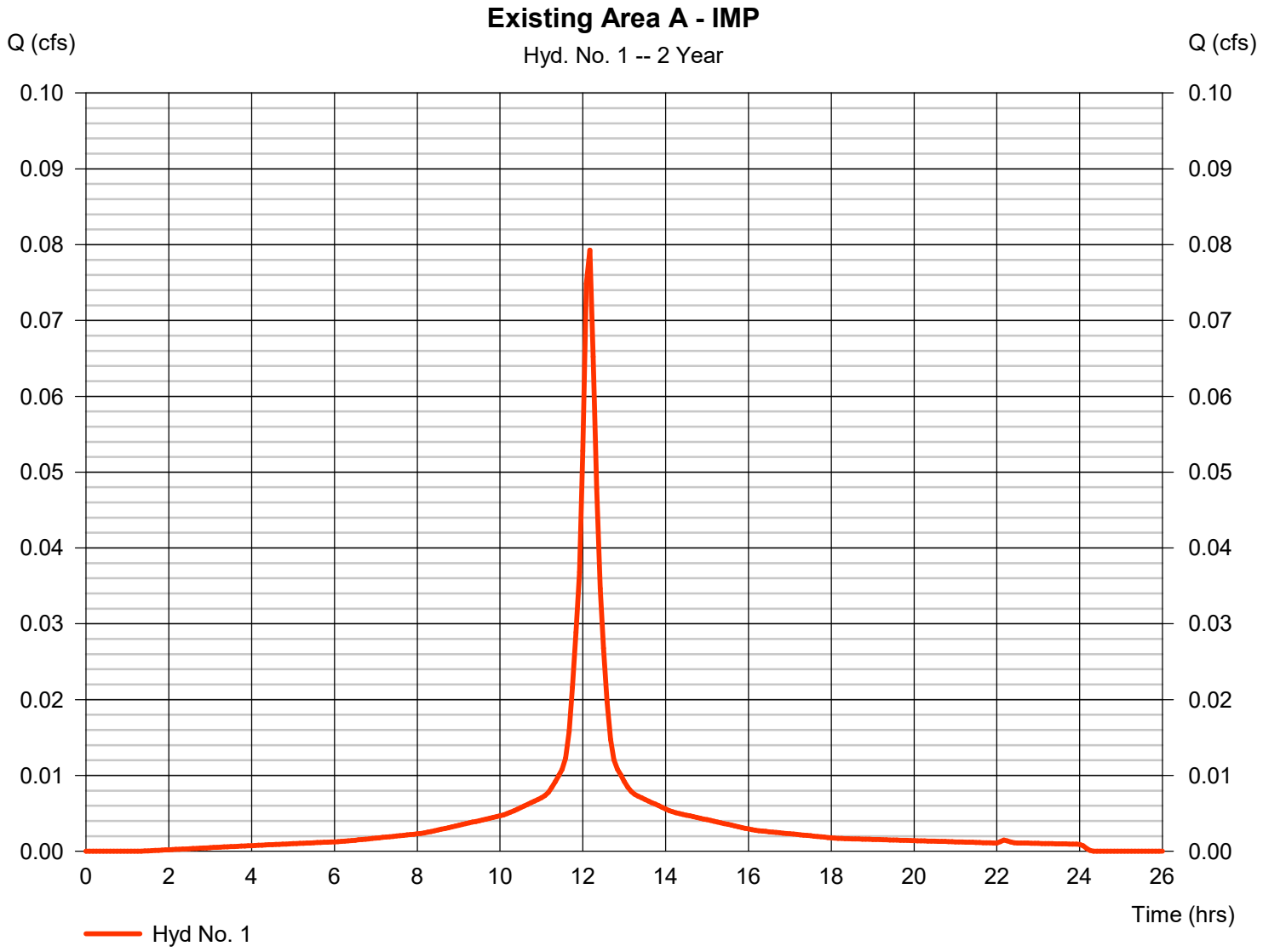
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 1

Existing Area A - IMP

Hydrograph type	= SCS Runoff	Peak discharge	= 0.079 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.17 hrs
Time interval	= 5 min	Hyd. volume	= 357 cuft
Drainage area	= 0.033 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 3.41 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



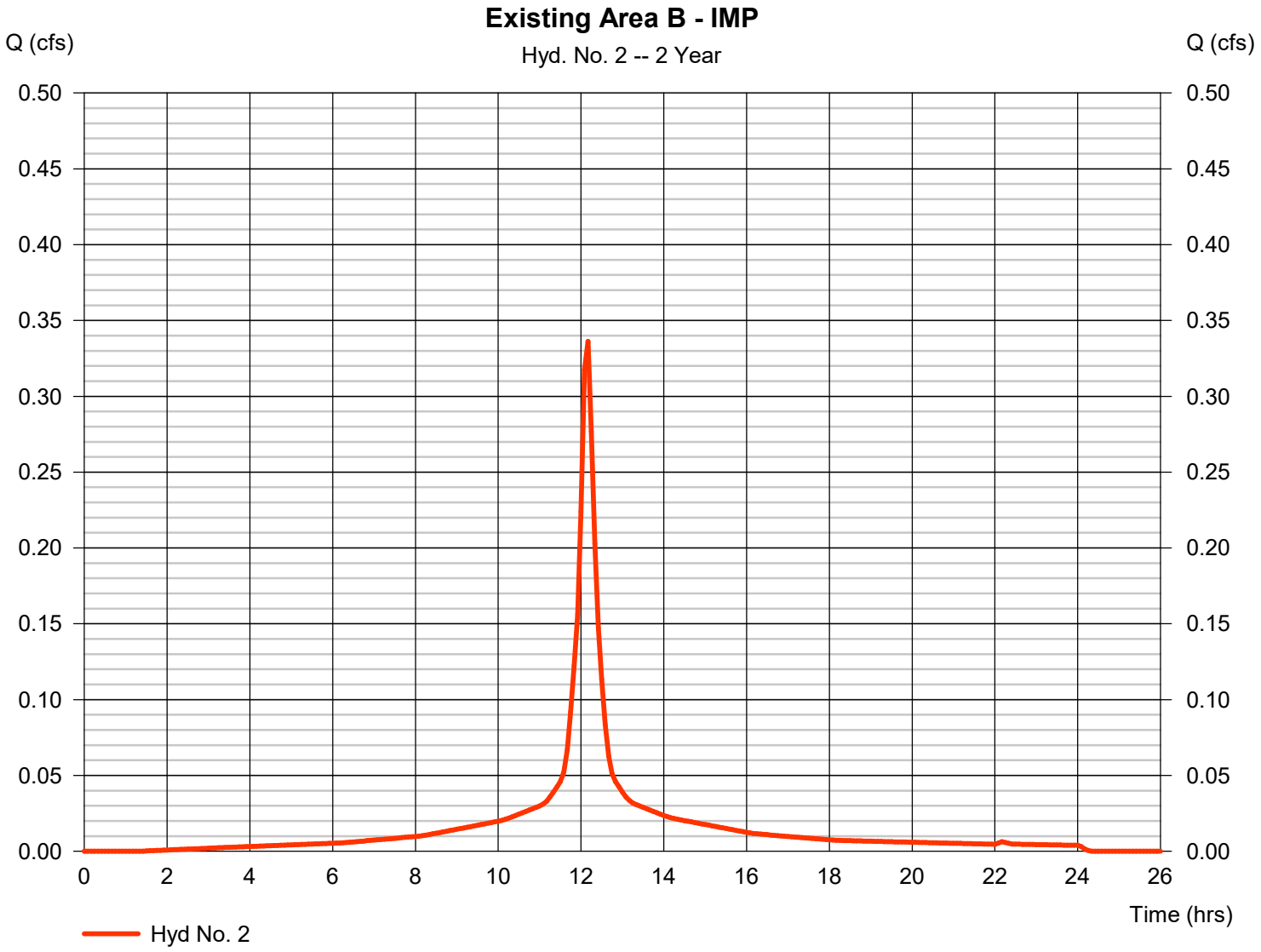
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 2

Existing Area B - IMP

Hydrograph type	= SCS Runoff	Peak discharge	= 0.336 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.17 hrs
Time interval	= 5 min	Hyd. volume	= 1,514 cuft
Drainage area	= 0.140 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 3.41 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



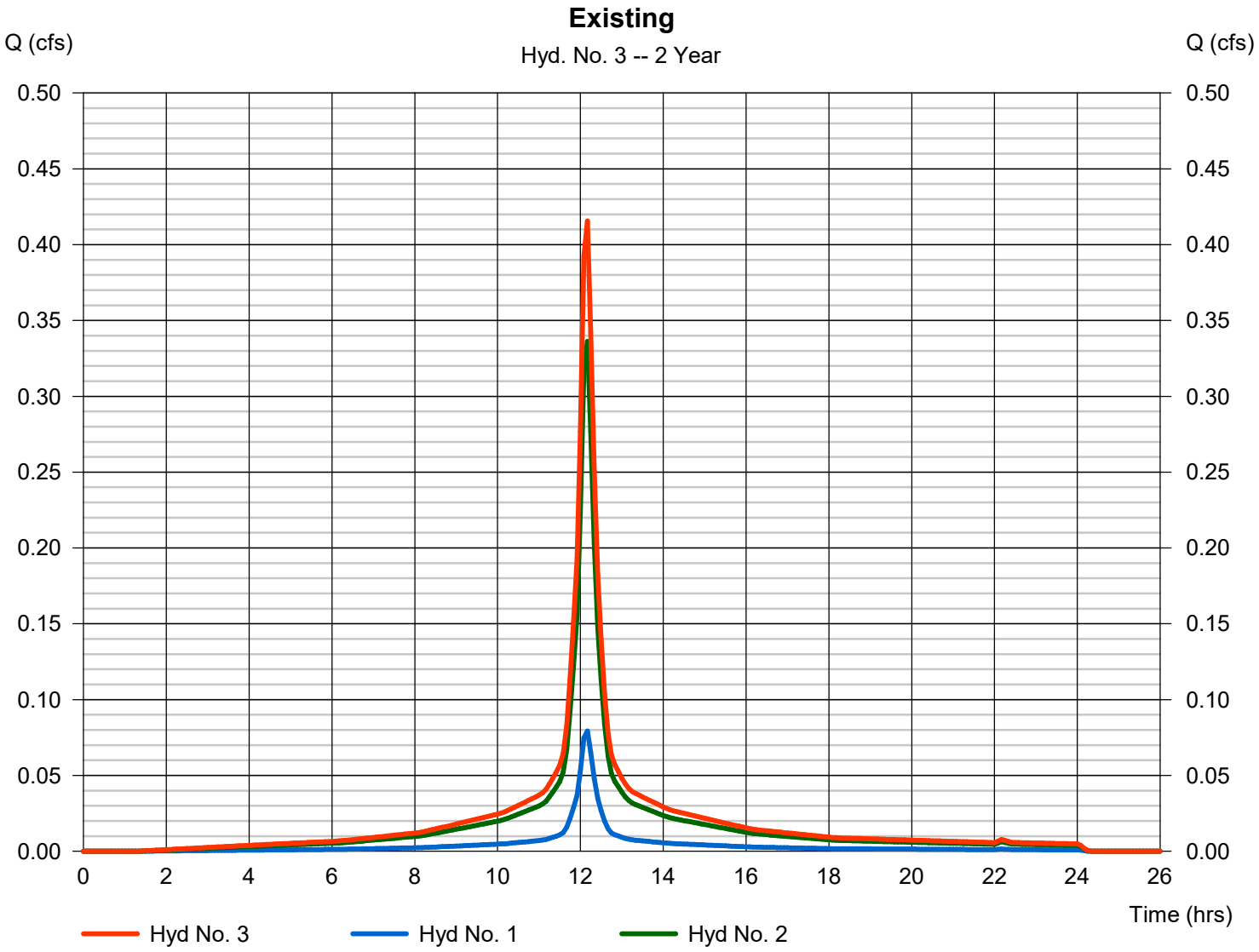
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 3

Existing

Hydrograph type	= Combine	Peak discharge	= 0.416 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.17 hrs
Time interval	= 5 min	Hyd. volume	= 1,870 cuft
Inflow hyds.	= 1, 2	Contrib. drain. area	= 0.173 ac



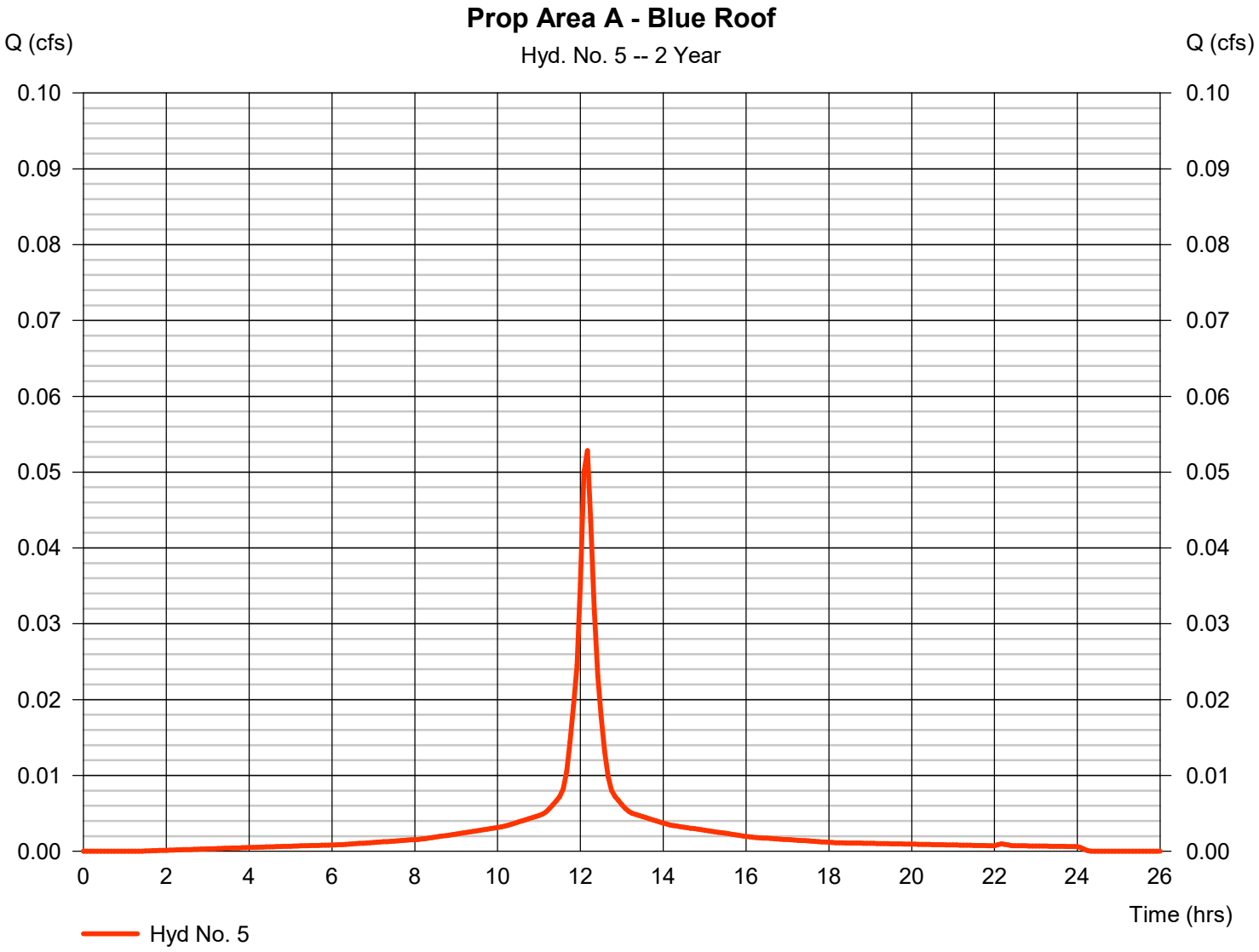
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 5

Prop Area A - Blue Roof

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.053 cfs
Storm frequency	=	2 yrs	Time to peak	=	12.17 hrs
Time interval	=	5 min	Hyd. volume	=	238 cuft
Drainage area	=	0.022 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	3.41 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484



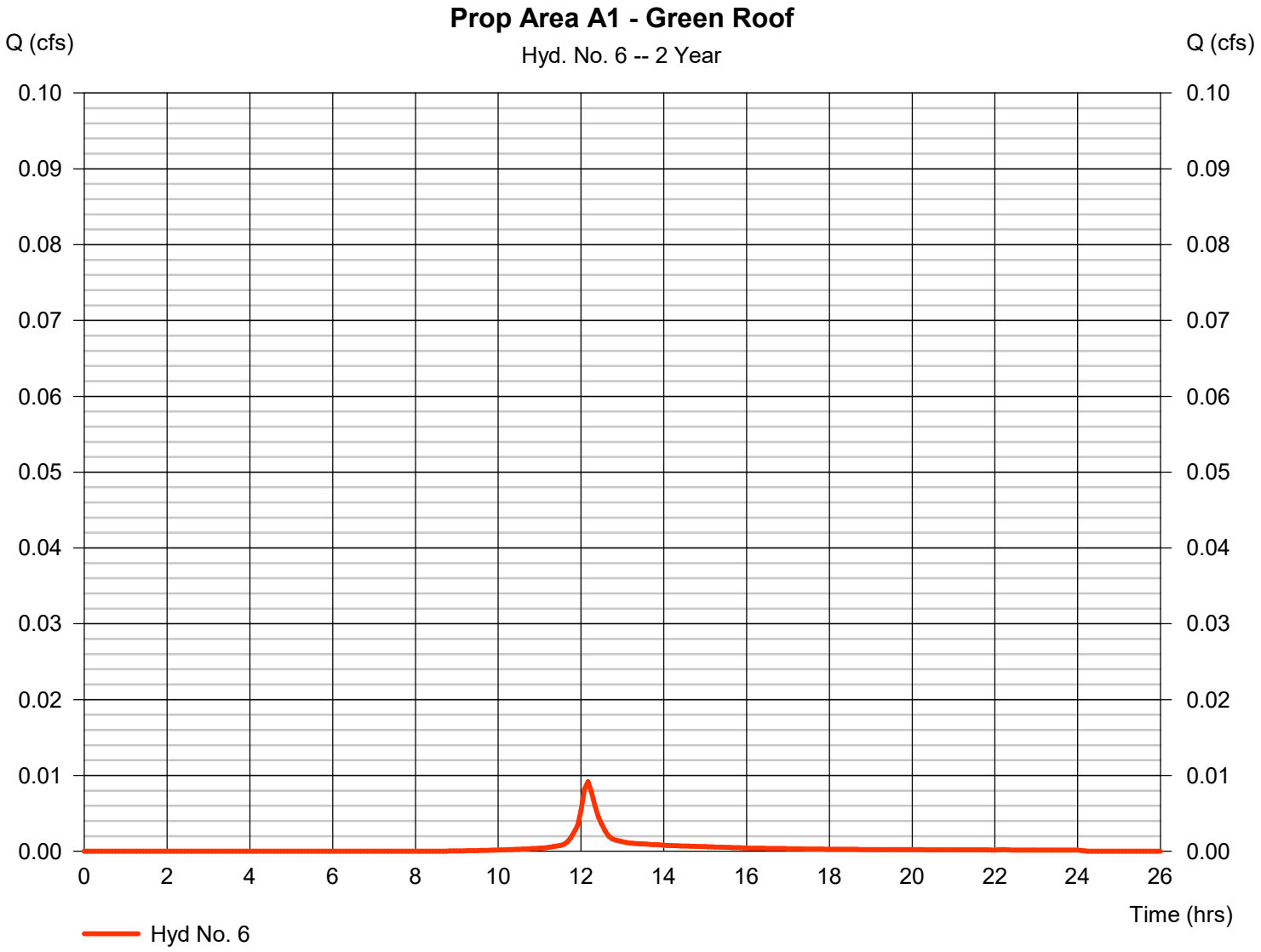
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 6

Prop Area A1 - Green Roof

Hydrograph type	= SCS Runoff	Peak discharge	= 0.009 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.17 hrs
Time interval	= 5 min	Hyd. volume	= 36 cuft
Drainage area	= 0.006 ac	Curve number	= 83
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 3.41 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



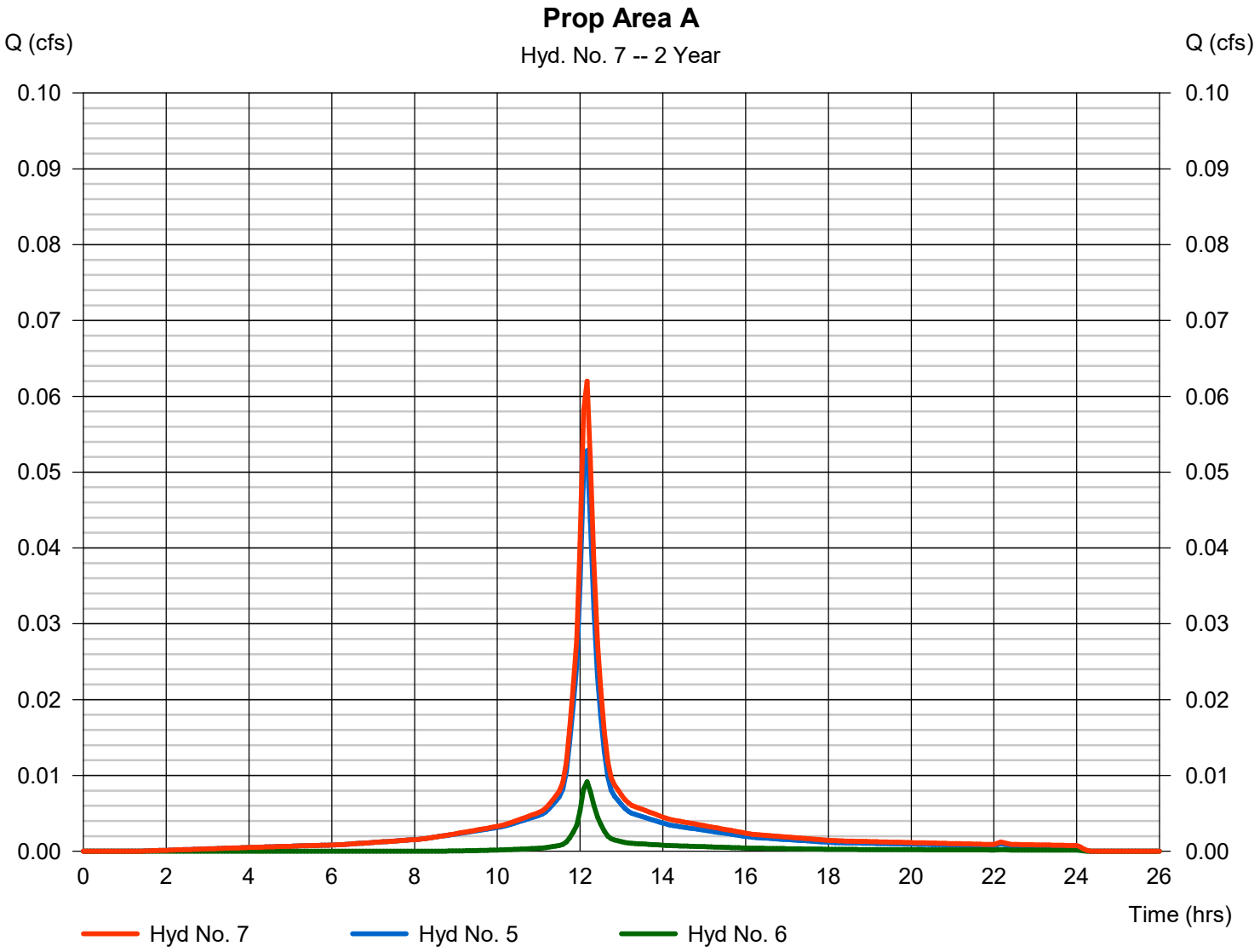
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 7

Prop Area A

Hydrograph type	= Combine	Peak discharge	= 0.062 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.17 hrs
Time interval	= 5 min	Hyd. volume	= 274 cuft
Inflow hyds.	= 5, 6	Contrib. drain. area	= 0.028 ac



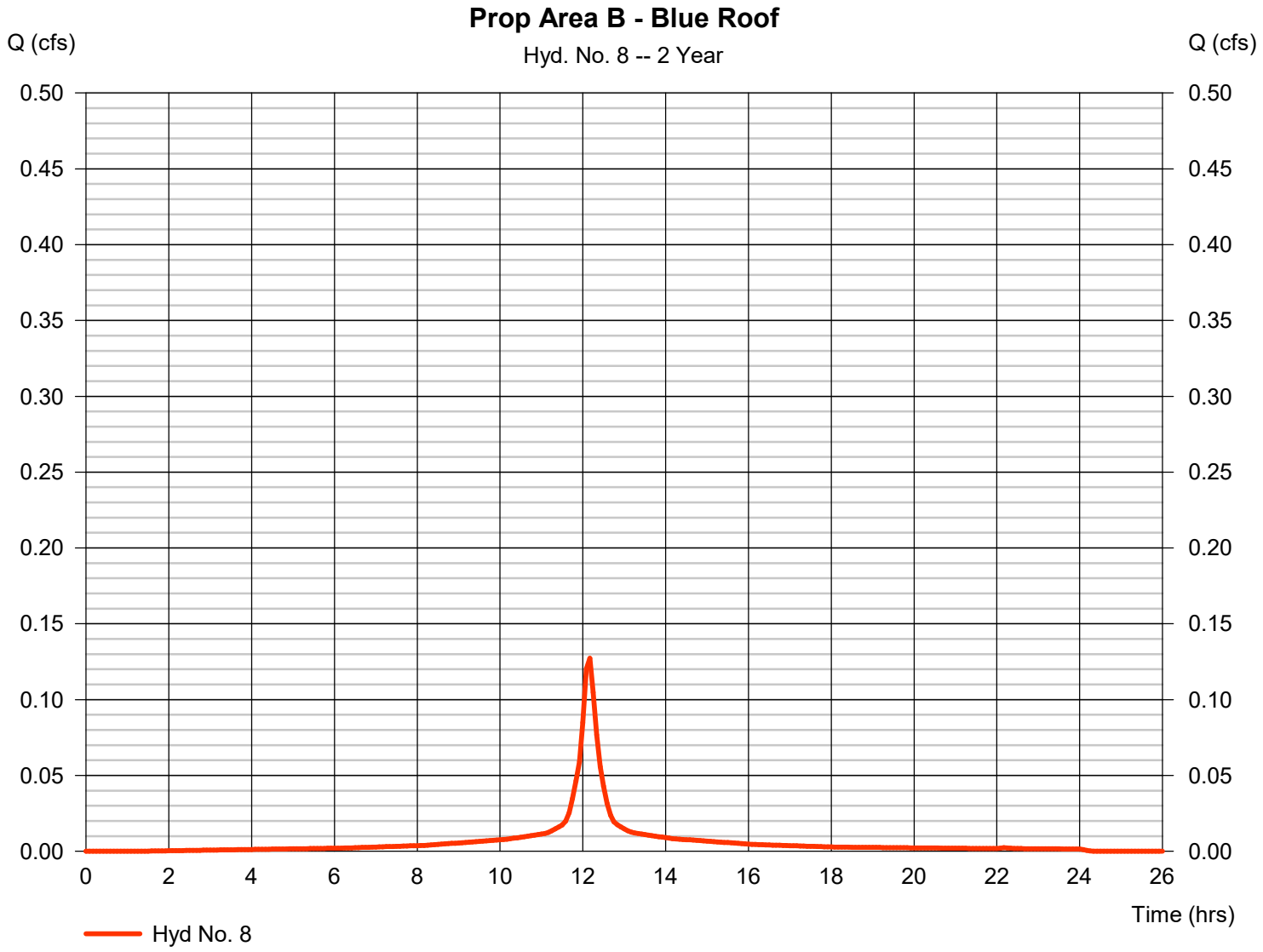
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 8

Prop Area B - Blue Roof

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.127 cfs
Storm frequency	=	2 yrs	Time to peak	=	12.17 hrs
Time interval	=	5 min	Hyd. volume	=	573 cuft
Drainage area	=	0.053 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	3.41 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484



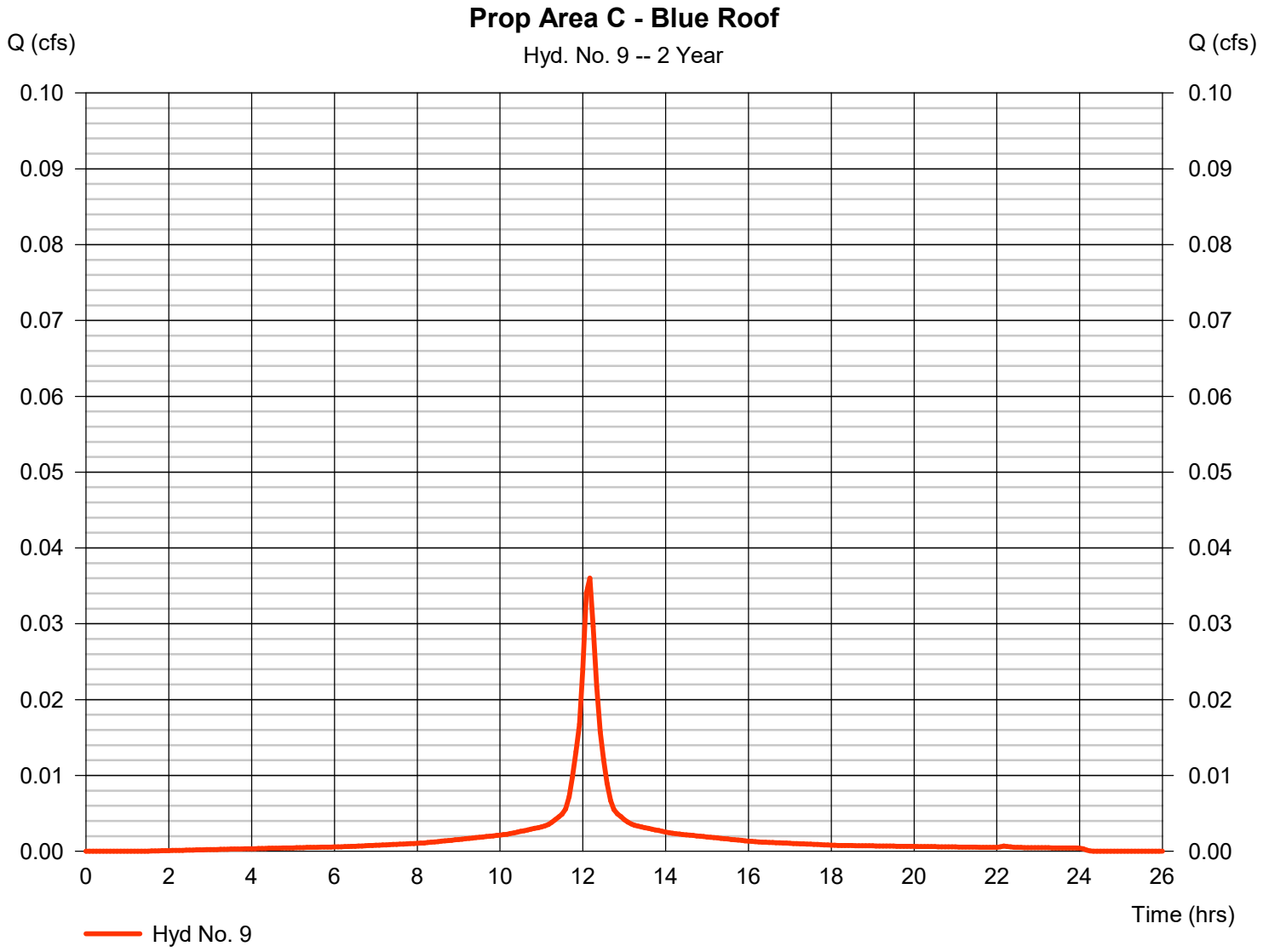
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 9

Prop Area C - Blue Roof

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.036 cfs
Storm frequency	=	2 yrs	Time to peak	=	12.17 hrs
Time interval	=	5 min	Hyd. volume	=	162 cuft
Drainage area	=	0.015 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	3.41 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484



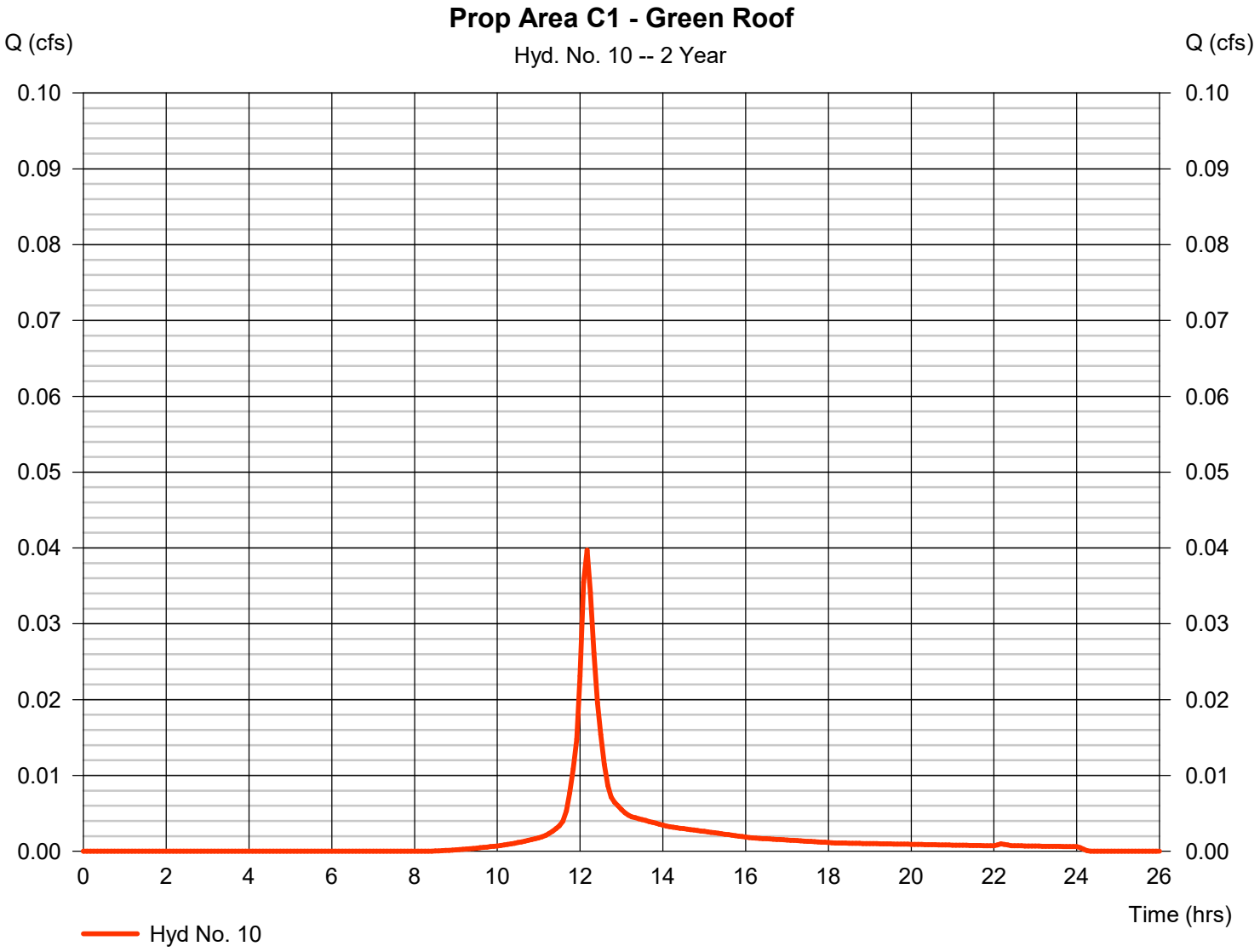
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 10

Prop Area C1 - Green Roof

Hydrograph type	= SCS Runoff	Peak discharge	= 0.040 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.17 hrs
Time interval	= 5 min	Hyd. volume	= 158 cuft
Drainage area	= 0.026 ac	Curve number	= 83
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 3.41 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



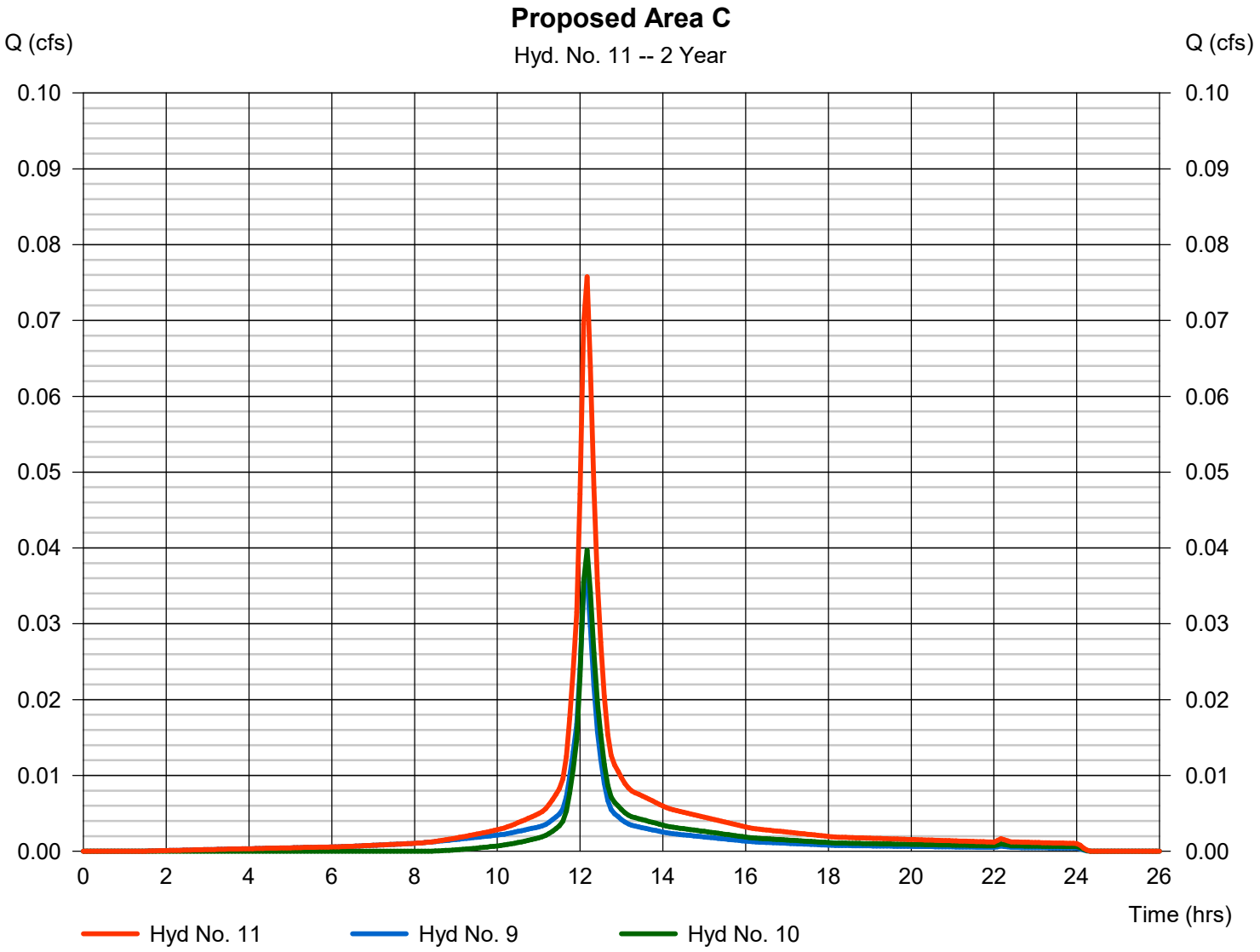
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 11

Proposed Area C

Hydrograph type	= Combine	Peak discharge	= 0.076 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.17 hrs
Time interval	= 5 min	Hyd. volume	= 320 cuft
Inflow hyds.	= 9, 10	Contrib. drain. area	= 0.041 ac



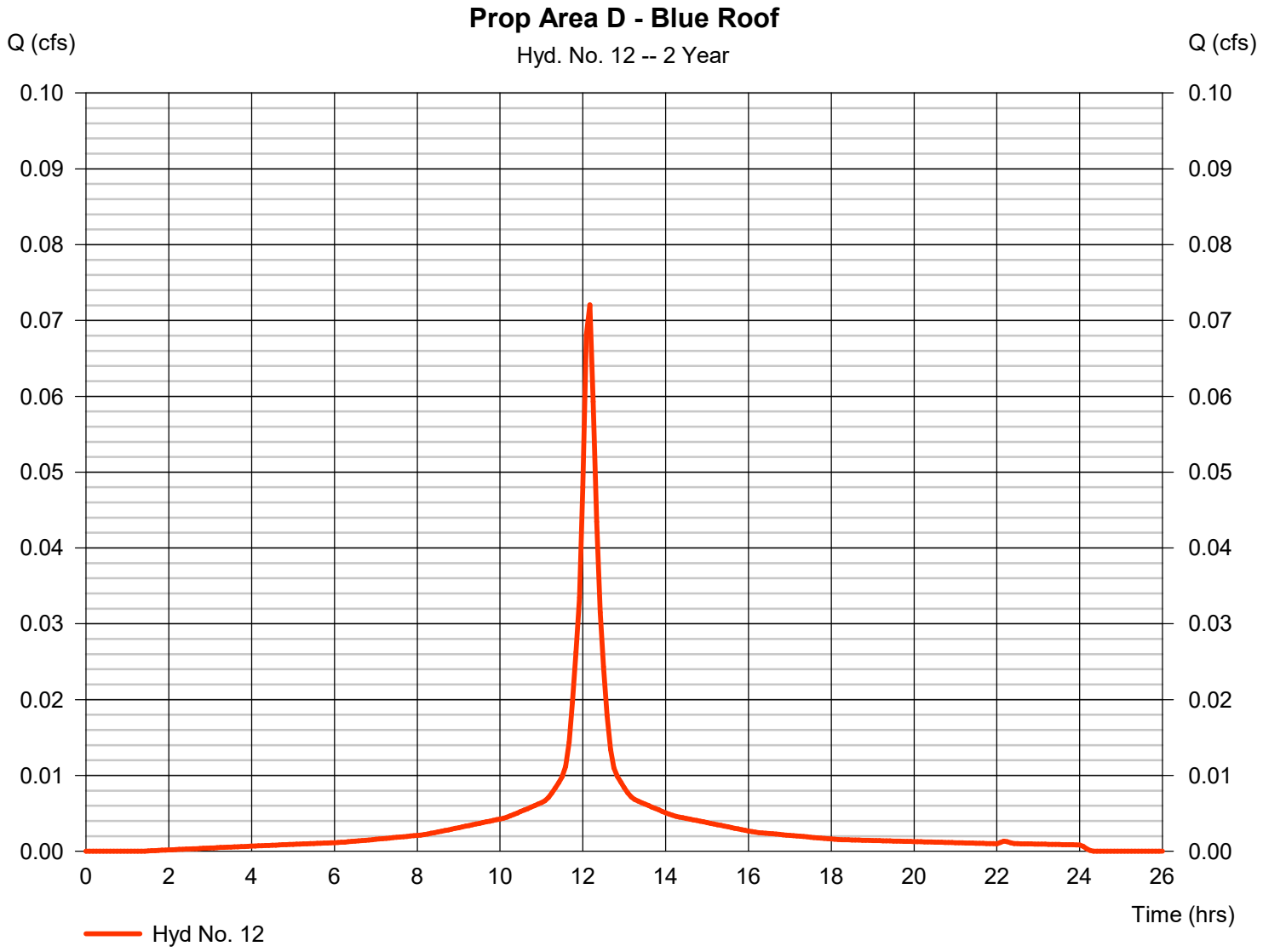
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 12

Prop Area D - Blue Roof

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.072 cfs
Storm frequency	=	2 yrs	Time to peak	=	12.17 hrs
Time interval	=	5 min	Hyd. volume	=	324 cuft
Drainage area	=	0.030 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	3.41 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484



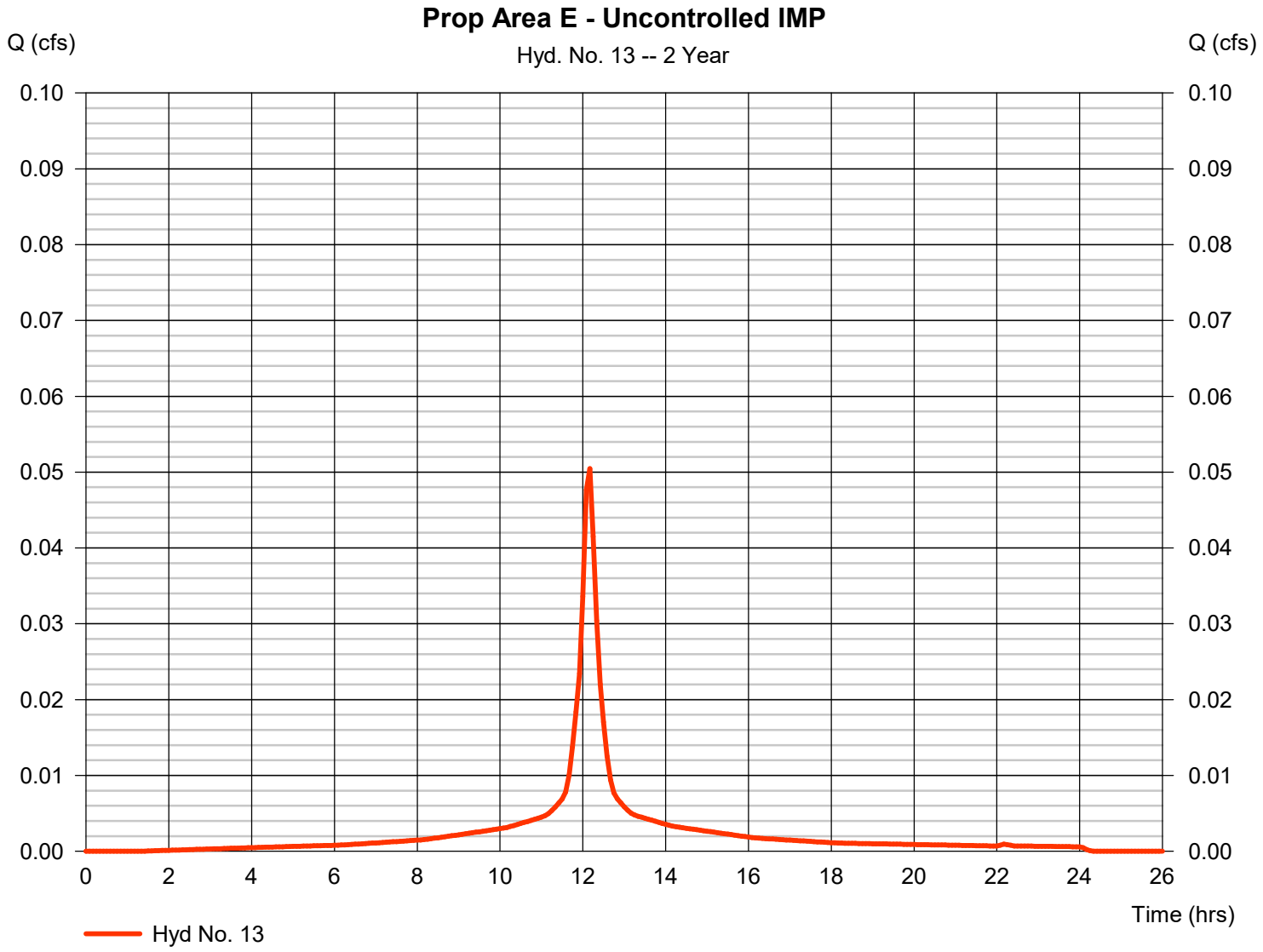
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 13

Prop Area E - Uncontrolled IMP

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.050 cfs
Storm frequency	=	2 yrs	Time to peak	=	12.17 hrs
Time interval	=	5 min	Hyd. volume	=	227 cuft
Drainage area	=	0.021 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	3.41 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484



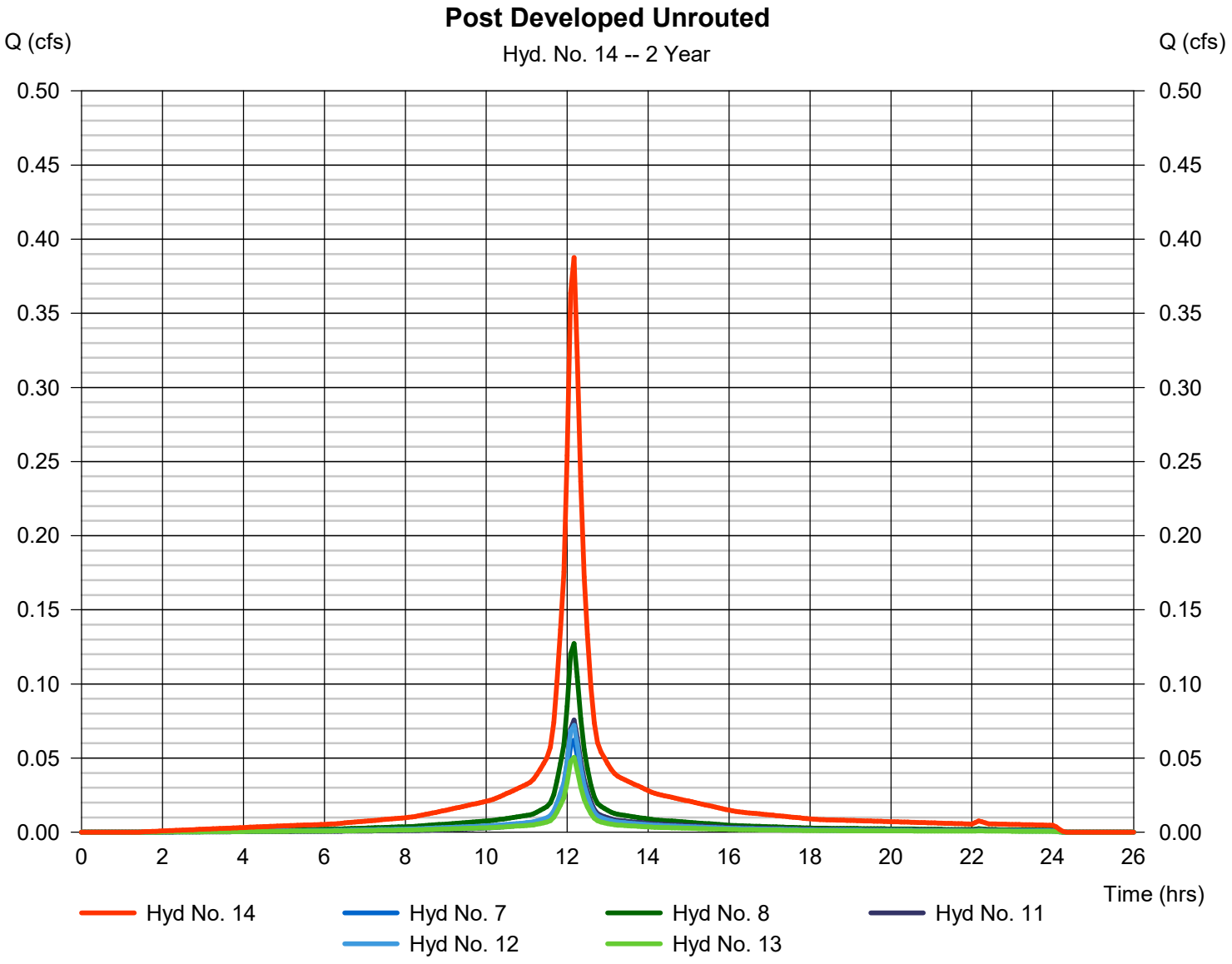
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 14

Post Developed Unrouted

Hydrograph type	= Combine	Peak discharge	= 0.388 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.17 hrs
Time interval	= 5 min	Hyd. volume	= 1,719 cuft
Inflow hyds.	= 7, 8, 11, 12, 13	Contrib. drain. area	= 0.104 ac



Hydrograph Report

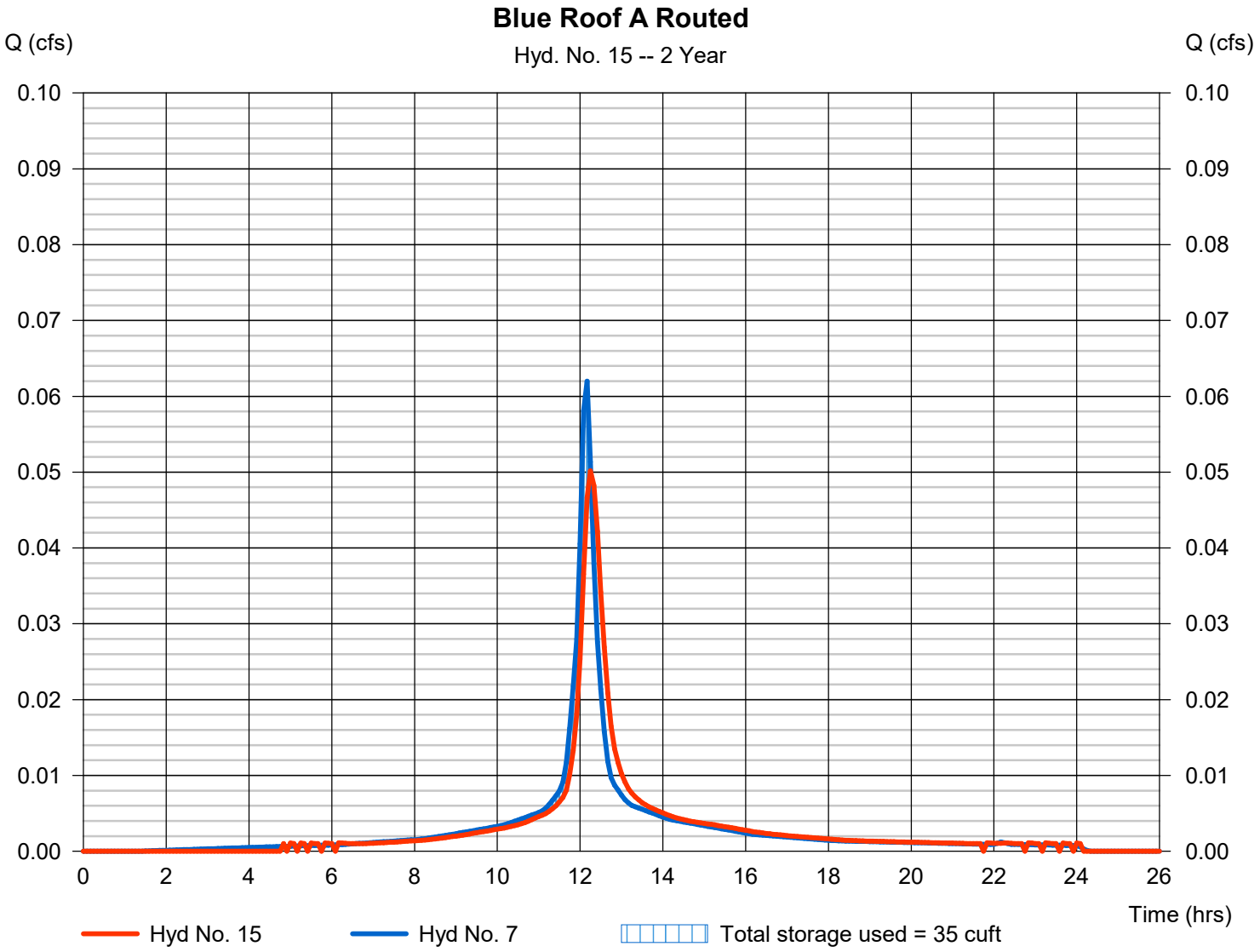
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 15

Blue Roof A Routed

Hydrograph type	=	Reservoir	Peak discharge	=	0.050 cfs
Storm frequency	=	2 yrs	Time to peak	=	12.25 hrs
Time interval	=	5 min	Hyd. volume	=	270 cuft
Inflow hyd. No.	=	7 - Prop Area A	Max. Elevation	=	100.22 ft
Reservoir name	=	Blue Roof A	Max. Storage	=	35 cuft

Storage Indication method used.



Hydrograph Report

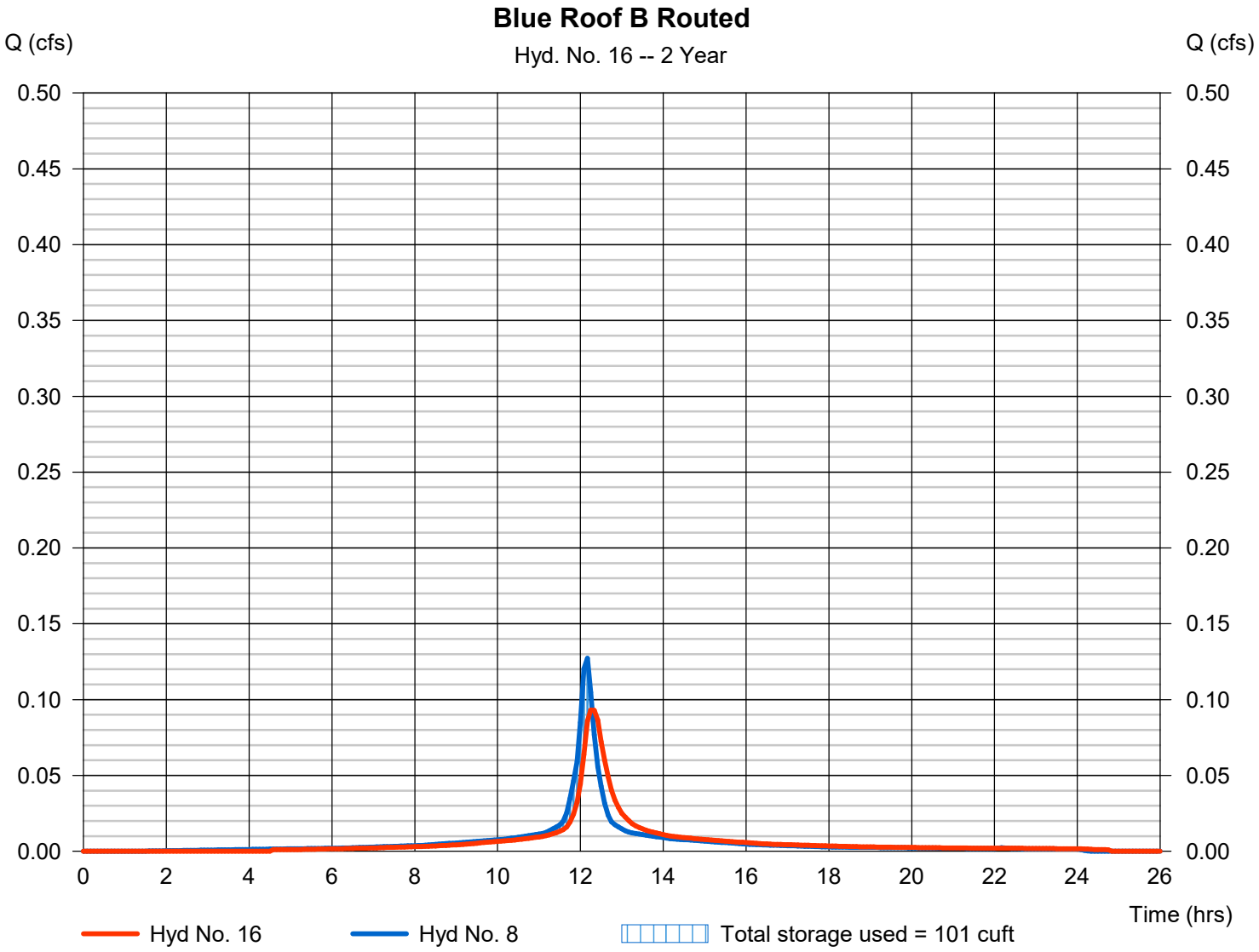
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 16

Blue Roof B Routed

Hydrograph type	=	Reservoir	Peak discharge	=	0.093 cfs
Storm frequency	=	2 yrs	Time to peak	=	12.25 hrs
Time interval	=	5 min	Hyd. volume	=	565 cuft
Inflow hyd. No.	=	8 - Prop Area B - Blue Roof	Max. Elevation	=	100.25 ft
Reservoir name	=	Blue Roof B	Max. Storage	=	101 cuft

Storage Indication method used.



Hydrograph Report

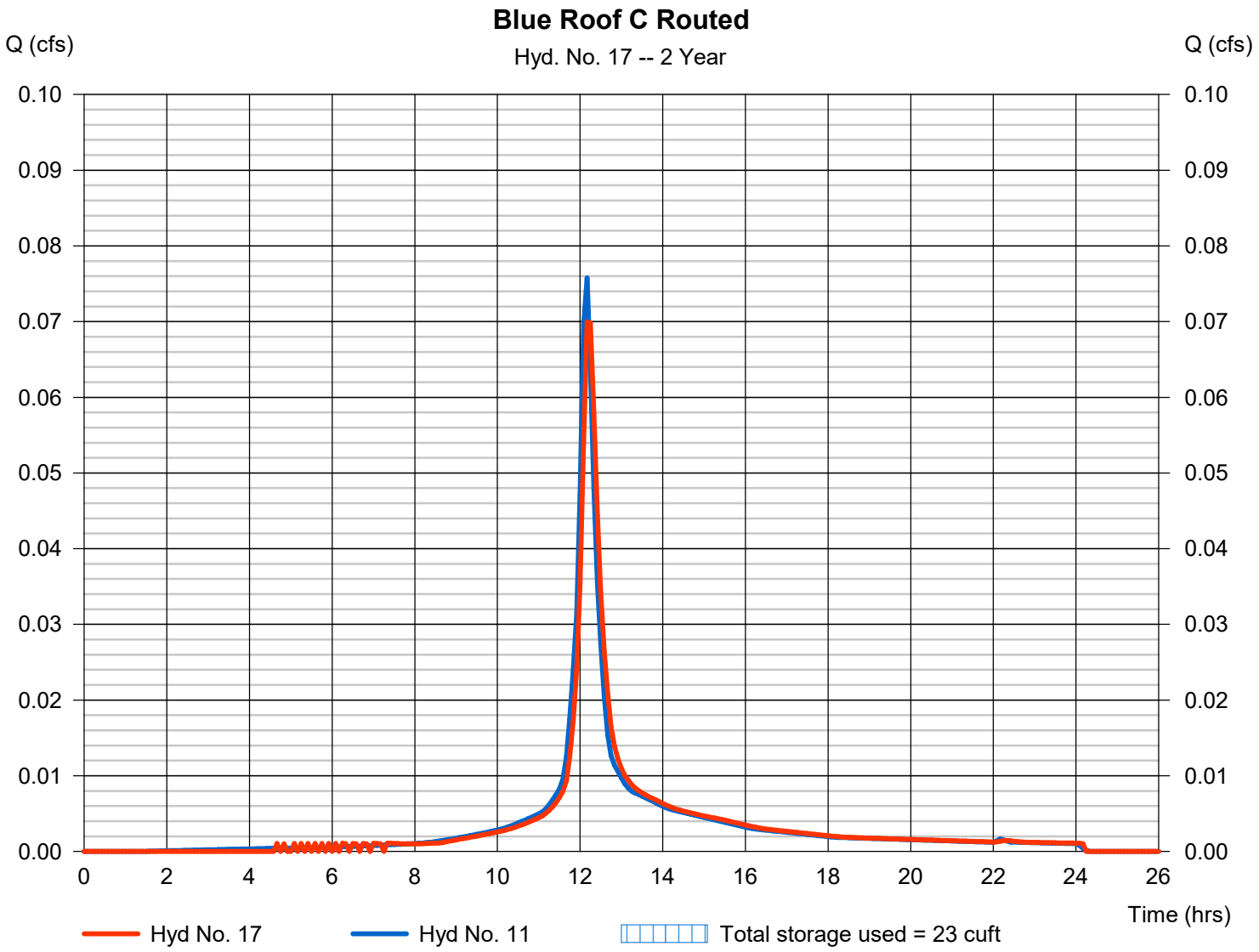
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 17

Blue Roof C Routed

Hydrograph type	=	Reservoir	Peak discharge	=	0.070 cfs
Storm frequency	=	2 yrs	Time to peak	=	12.17 hrs
Time interval	=	5 min	Hyd. volume	=	318 cuft
Inflow hyd. No.	=	11 - Proposed Area C	Max. Elevation	=	100.21 ft
Reservoir name	=	Blue Roof C	Max. Storage	=	23 cuft

Storage Indication method used.



Hydrograph Report

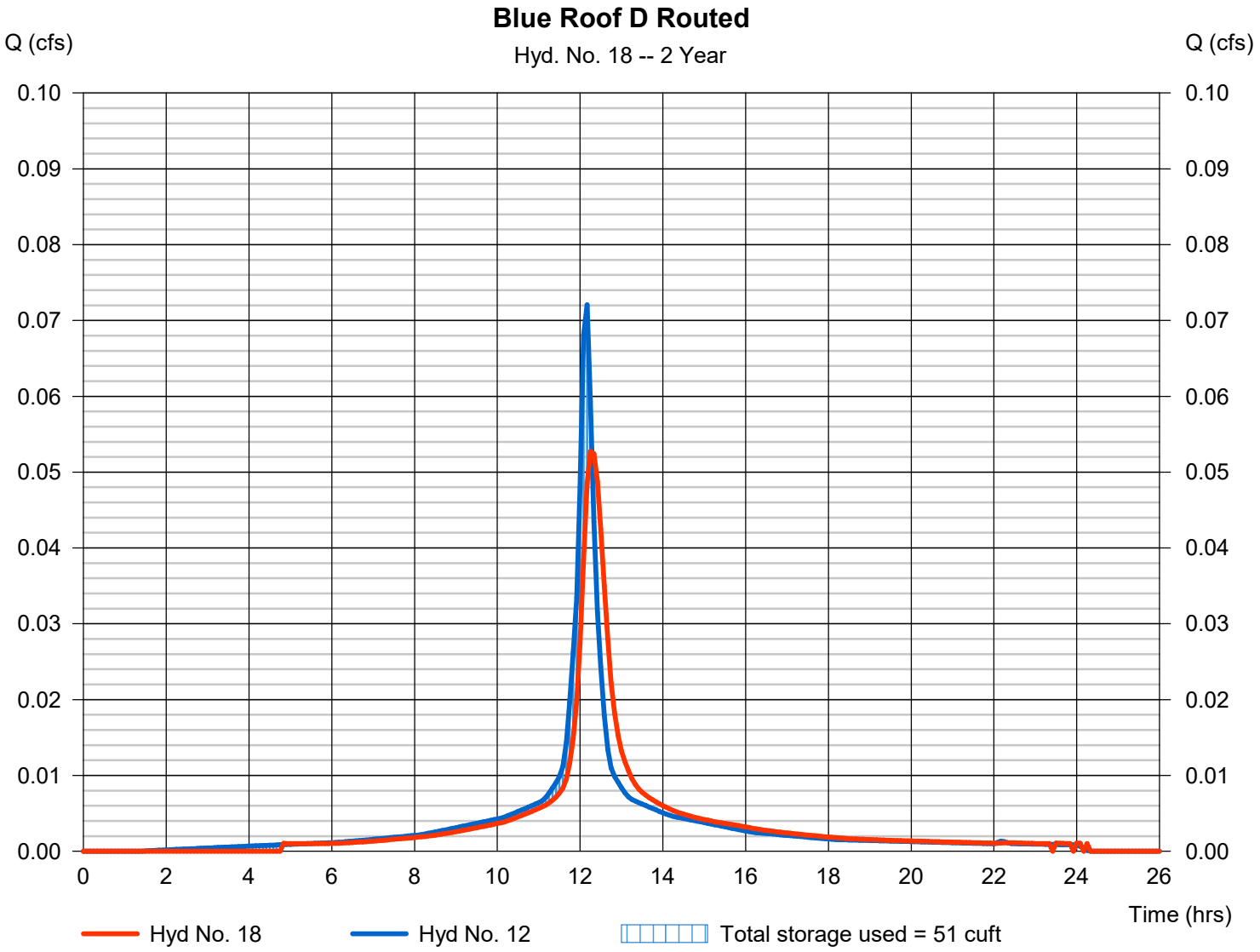
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 18

Blue Roof D Routed

Hydrograph type	=	Reservoir	Peak discharge	=	0.053 cfs
Storm frequency	=	2 yrs	Time to peak	=	12.25 hrs
Time interval	=	5 min	Hyd. volume	=	319 cuft
Inflow hyd. No.	=	12 - Prop Area D - Blue Roof	Max. Elevation	=	100.24 ft
Reservoir name	=	Blue Roof D	Max. Storage	=	51 cuft

Storage Indication method used.



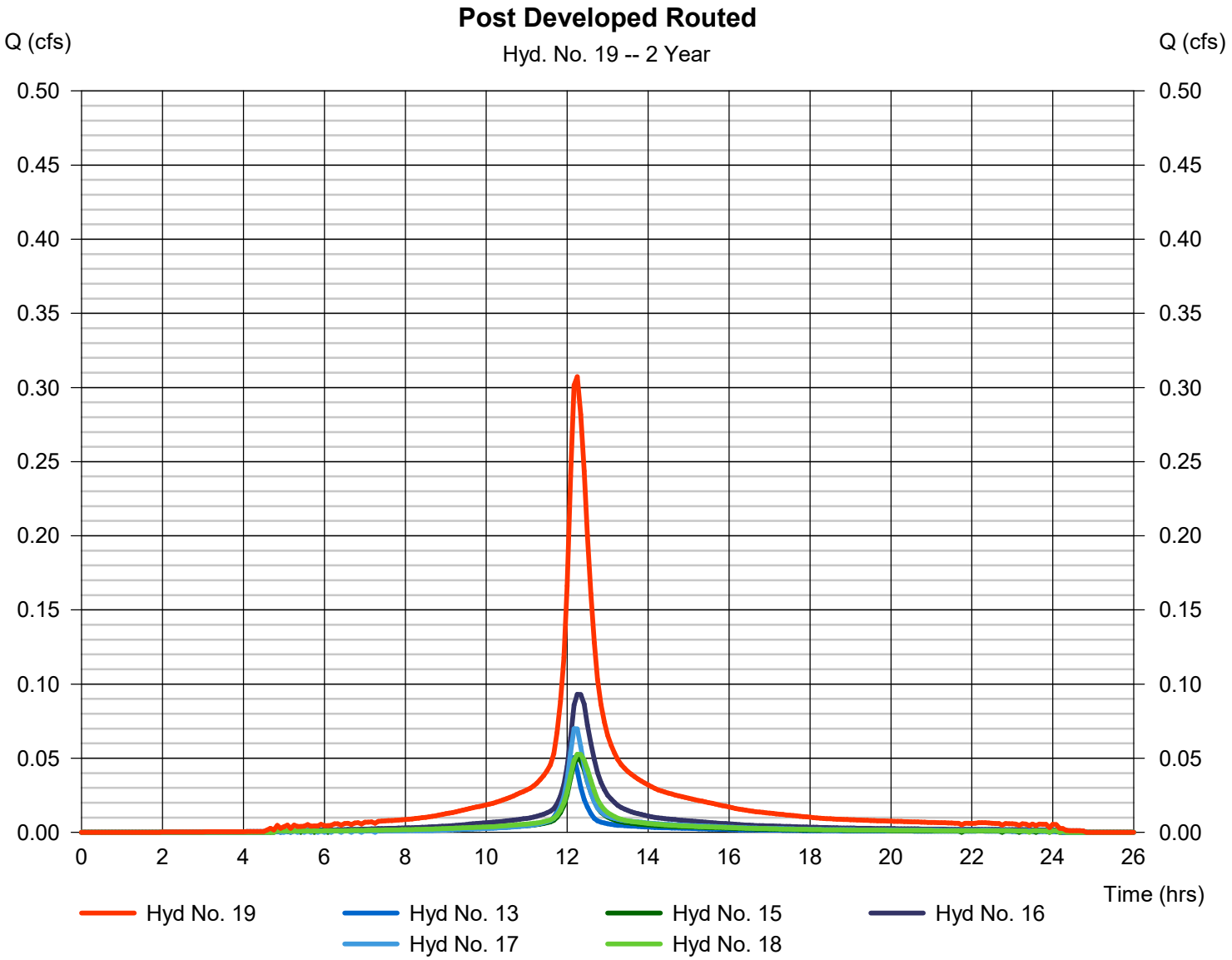
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 19

Post Developed Routed

Hydrograph type	= Combine	Peak discharge	= 0.307 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.25 hrs
Time interval	= 5 min	Hyd. volume	= 1,699 cuft
Inflow hyds.	= 13, 15, 16, 17, 18	Contrib. drain. area	= 0.021 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	0.123	5	730	565	------	------	------	Existing Area A - IMP
2	SCS Runoff	0.523	5	730	2,398	------	------	------	Existing Area B - IMP
3	Combine	0.647	5	730	2,963	1, 2	------	------	Existing
5	SCS Runoff	0.082	5	730	377	------	------	------	Prop Area A - Blue Roof
6	SCS Runoff	0.017	5	730	70	------	------	------	Prop Area A1 - Green Roof
7	Combine	0.100	5	730	447	5, 6	------	------	Prop Area A
8	SCS Runoff	0.198	5	730	908	------	------	------	Prop Area B - Blue Roof
9	SCS Runoff	0.056	5	730	257	------	------	------	Prop Area C - Blue Roof
10	SCS Runoff	0.075	5	730	303	------	------	------	Prop Area C1 - Green Roof
11	Combine	0.132	5	730	559	9, 10	------	------	Proposed Area C
12	SCS Runoff	0.112	5	730	514	------	------	------	Prop Area D - Blue Roof
13	SCS Runoff	0.078	5	730	360	------	------	------	Prop Area E - Uncontrolled IMP
14	Combine	0.620	5	730	2,787	7, 8, 11, 12, 13	------	------	Post Developed Unrouted
15	Reservoir	0.062	5	740	443	7	100.28	64.0	Blue Roof A Routed
16	Reservoir	0.116	5	740	900	8	100.29	165	Blue Roof B Routed
17	Reservoir	0.110	5	735	557	11	100.28	41.3	Blue Roof C Routed
18	Reservoir	0.062	5	740	509	12	100.29	88.6	Blue Roof D Routed
19	Combine	0.409	5	735	2,768	13, 15, 16, 17, 18	------	------	Post Developed Routed

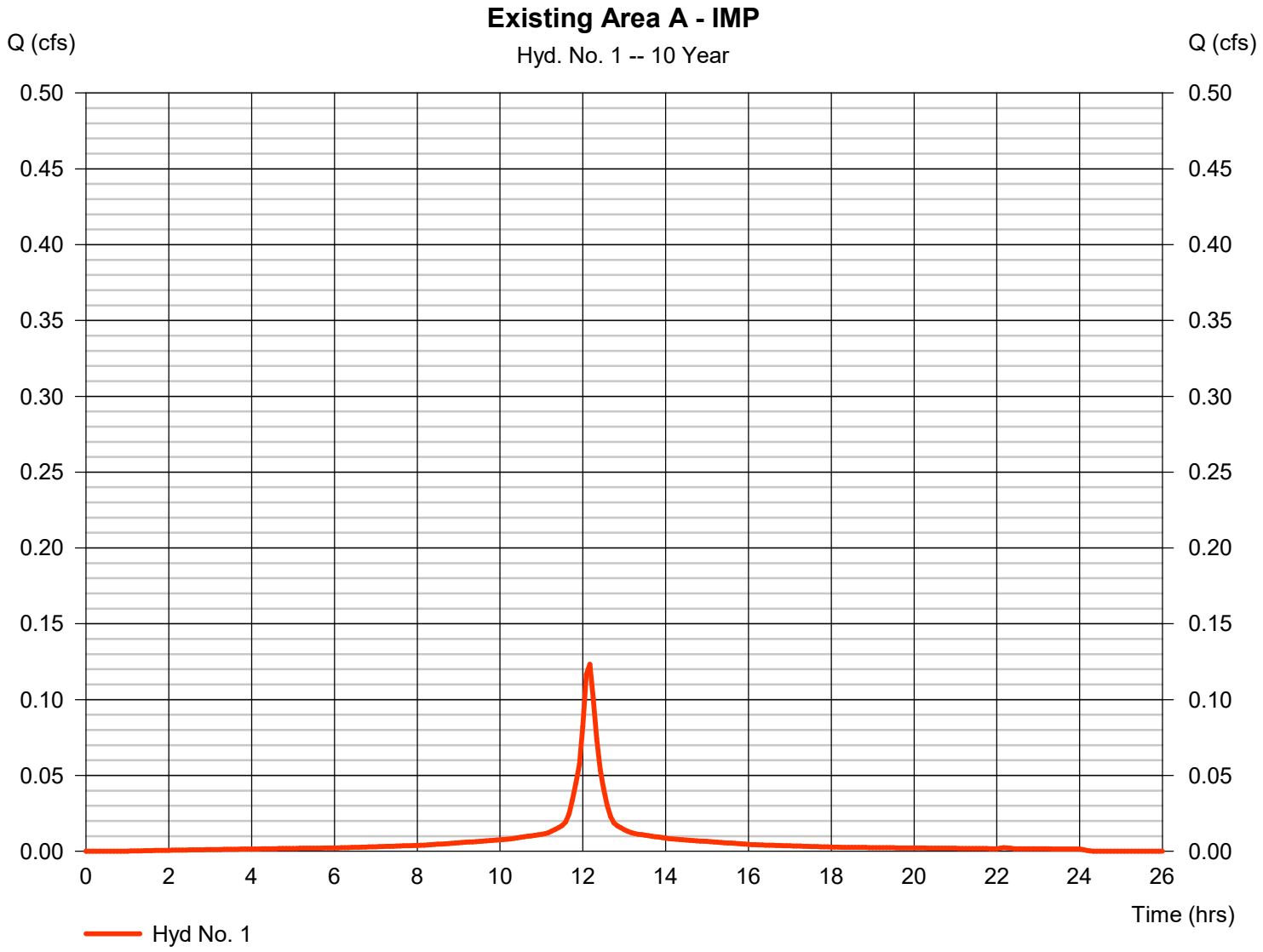
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 1

Existing Area A - IMP

Hydrograph type	= SCS Runoff	Peak discharge	= 0.123 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.17 hrs
Time interval	= 5 min	Hyd. volume	= 565 cuft
Drainage area	= 0.033 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 5.27 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



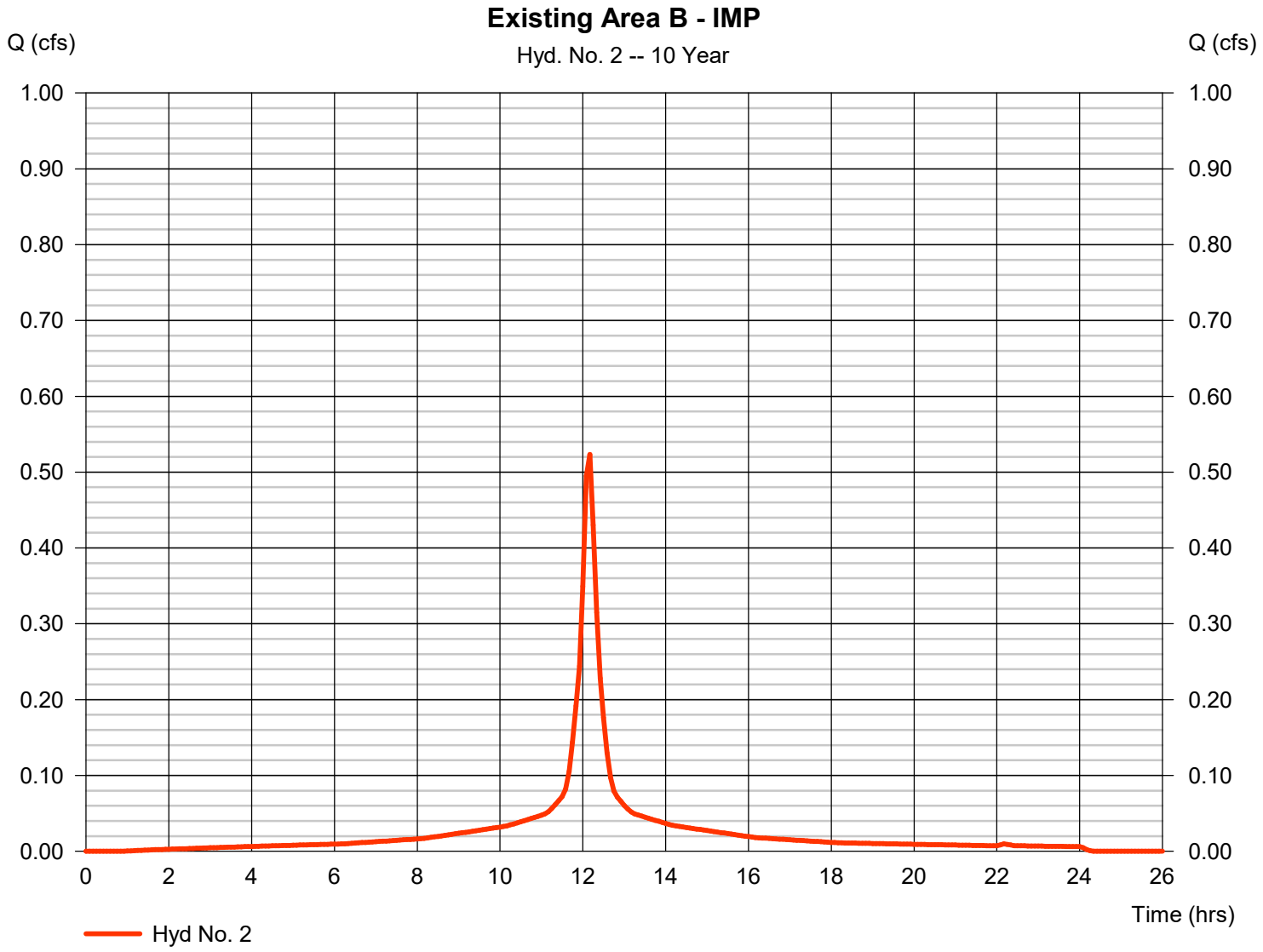
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 2

Existing Area B - IMP

Hydrograph type	= SCS Runoff	Peak discharge	= 0.523 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.17 hrs
Time interval	= 5 min	Hyd. volume	= 2,398 cuft
Drainage area	= 0.140 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 5.27 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



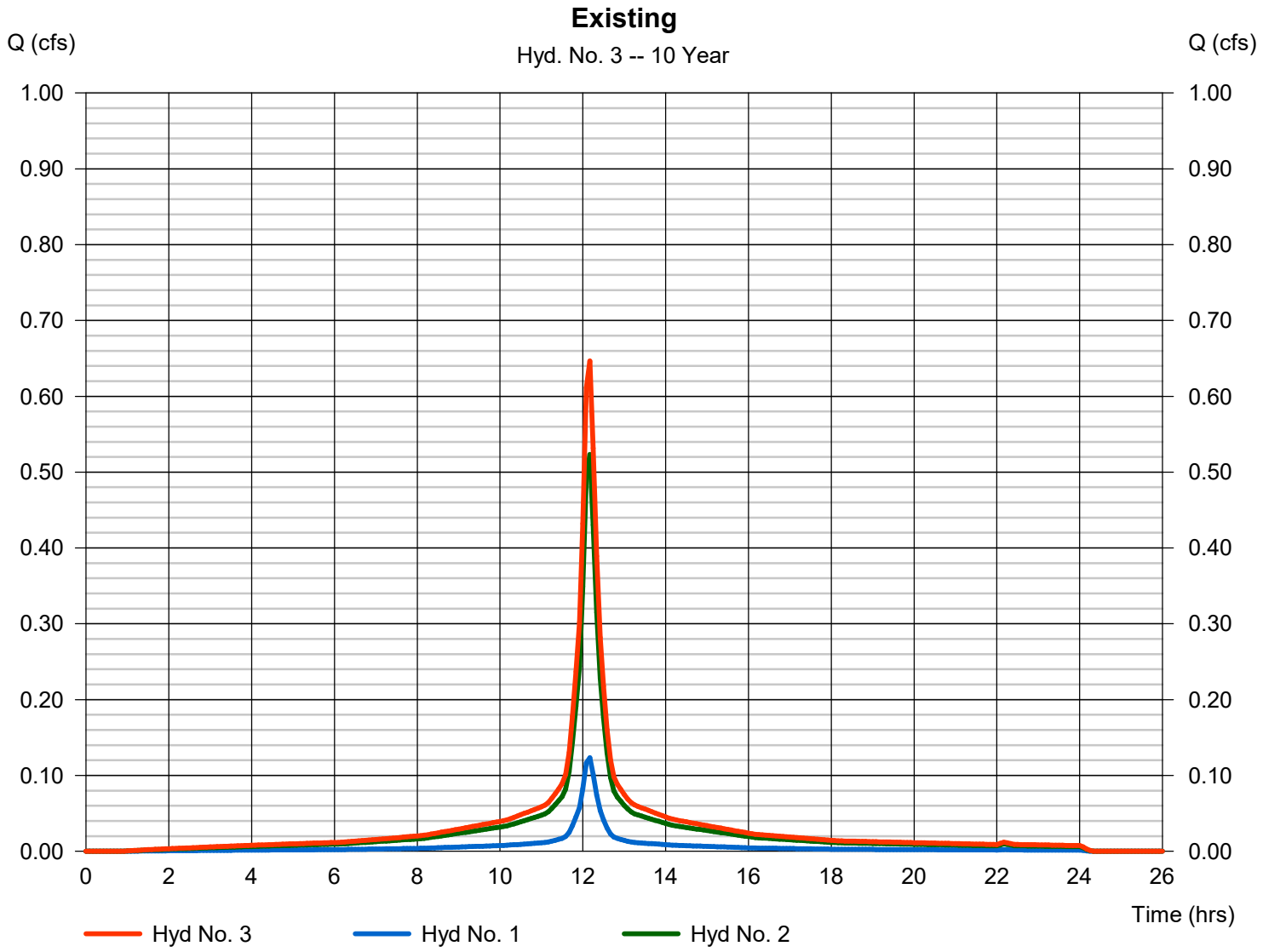
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 3

Existing

Hydrograph type	= Combine	Peak discharge	= 0.647 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.17 hrs
Time interval	= 5 min	Hyd. volume	= 2,963 cuft
Inflow hyds.	= 1, 2	Contrib. drain. area	= 0.173 ac



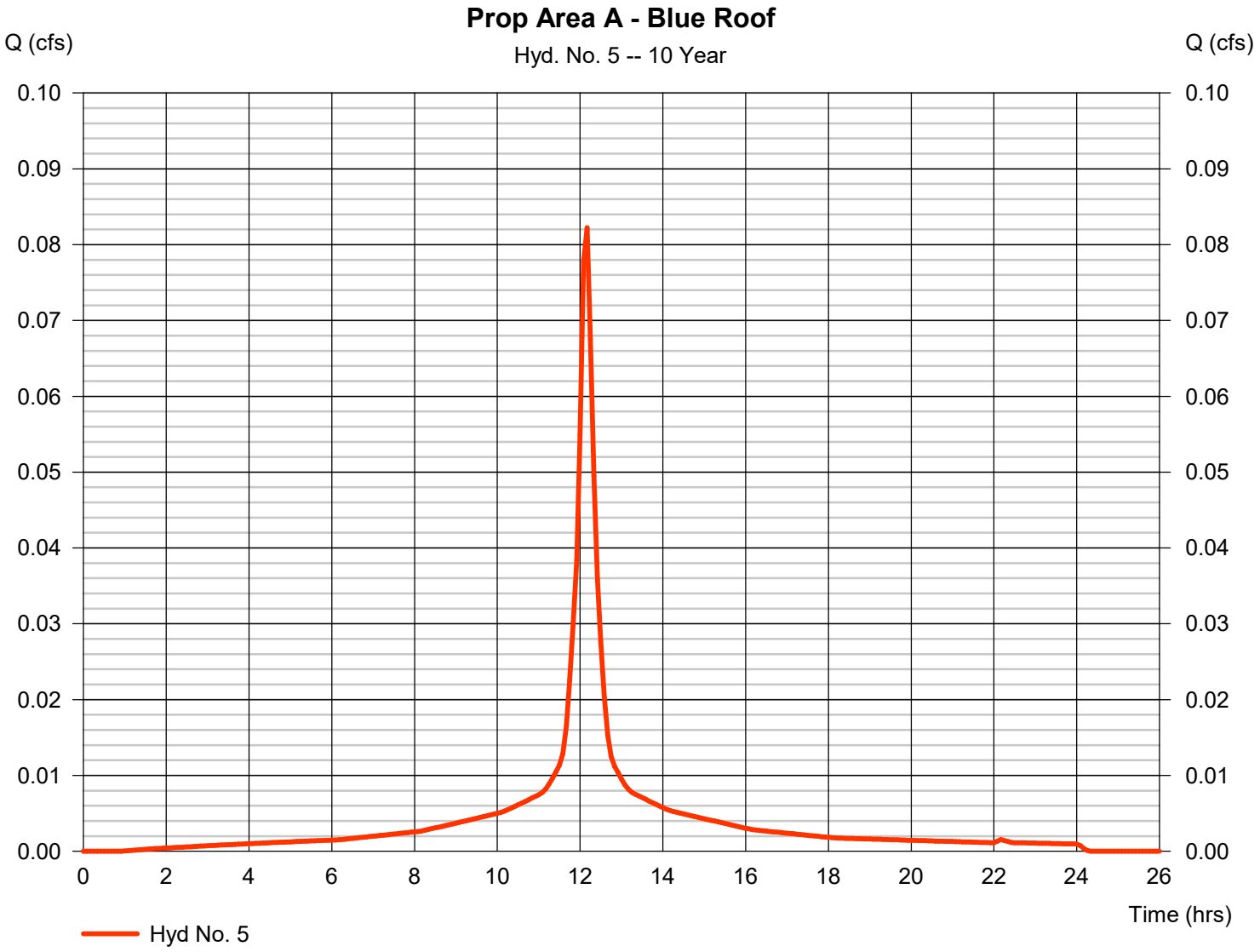
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 5

Prop Area A - Blue Roof

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.082 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.17 hrs
Time interval	=	5 min	Hyd. volume	=	377 cuft
Drainage area	=	0.022 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	5.27 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484



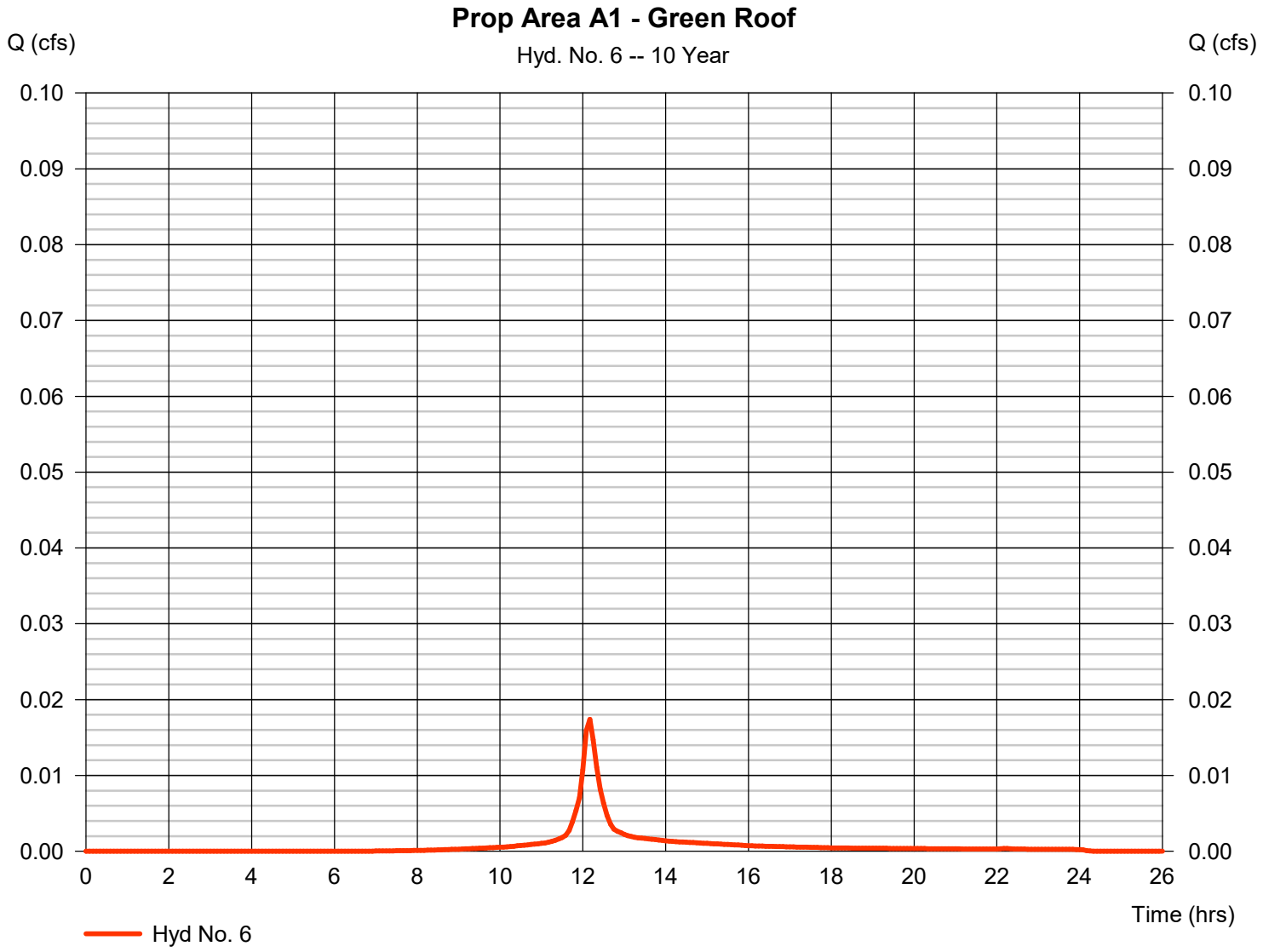
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 6

Prop Area A1 - Green Roof

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.017 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.17 hrs
Time interval	=	5 min	Hyd. volume	=	70 cuft
Drainage area	=	0.006 ac	Curve number	=	83
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	5.27 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484



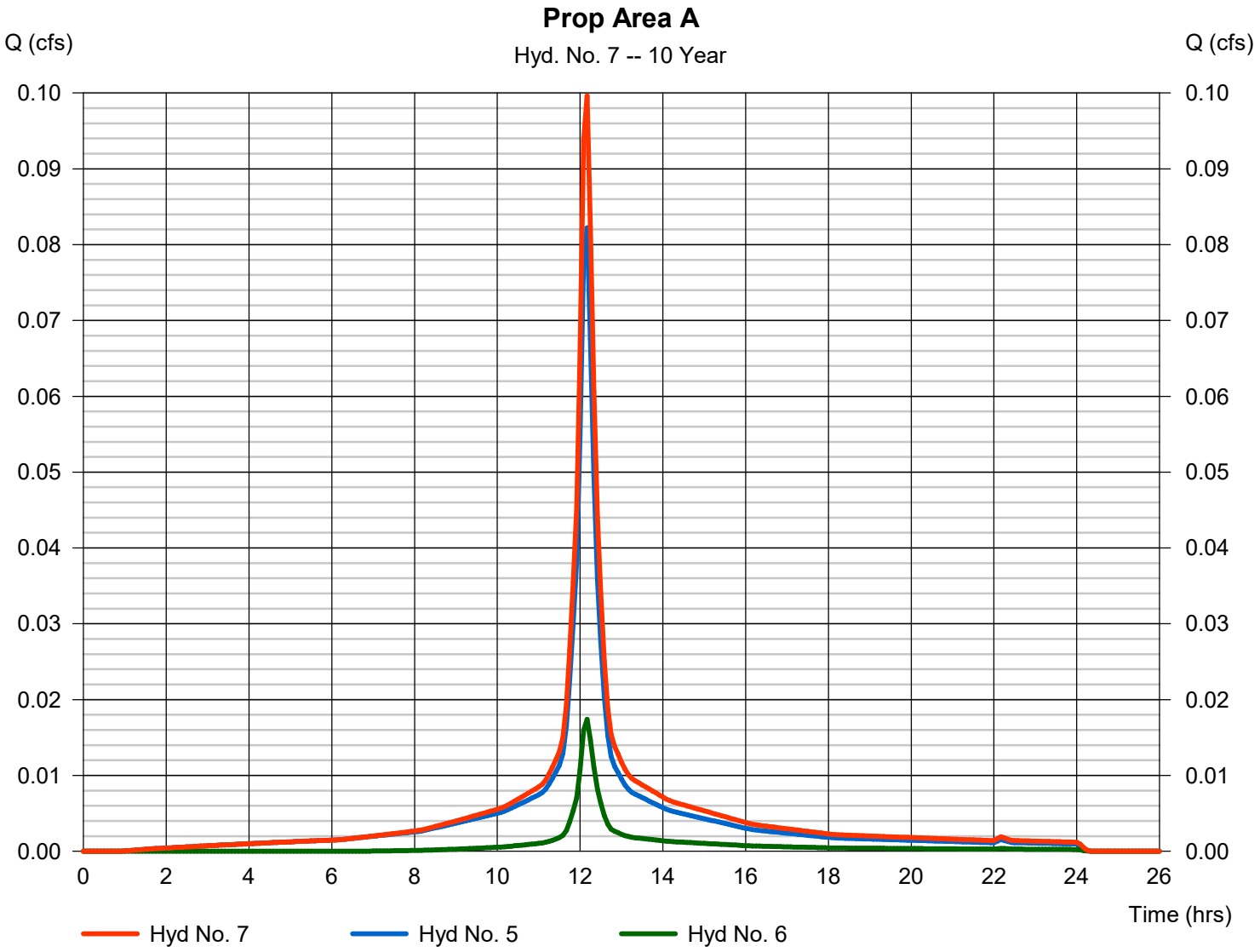
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 7

Prop Area A

Hydrograph type	= Combine	Peak discharge	= 0.100 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.17 hrs
Time interval	= 5 min	Hyd. volume	= 447 cuft
Inflow hyds.	= 5, 6	Contrib. drain. area	= 0.028 ac



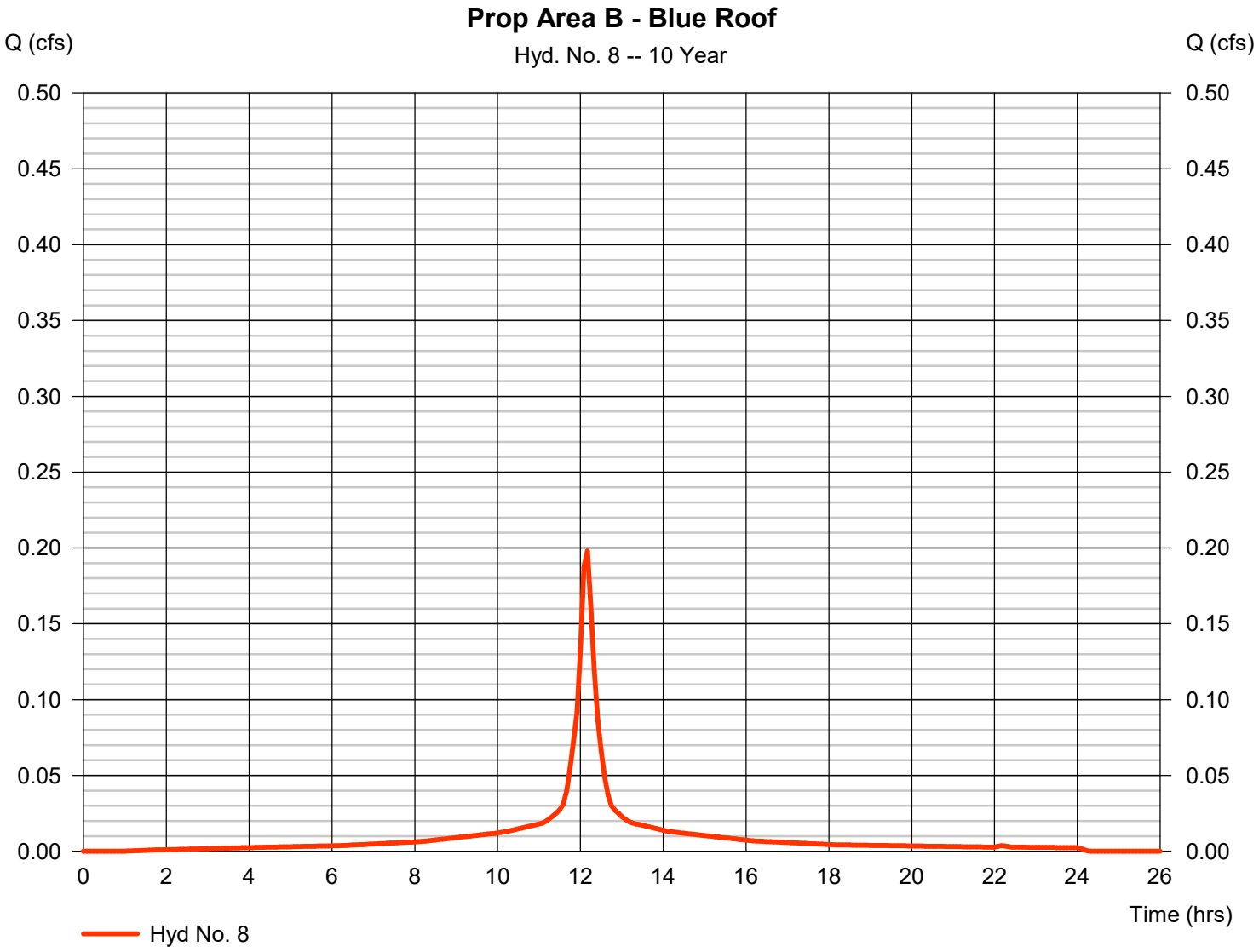
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 8

Prop Area B - Blue Roof

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.198 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.17 hrs
Time interval	=	5 min	Hyd. volume	=	908 cuft
Drainage area	=	0.053 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	5.27 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484



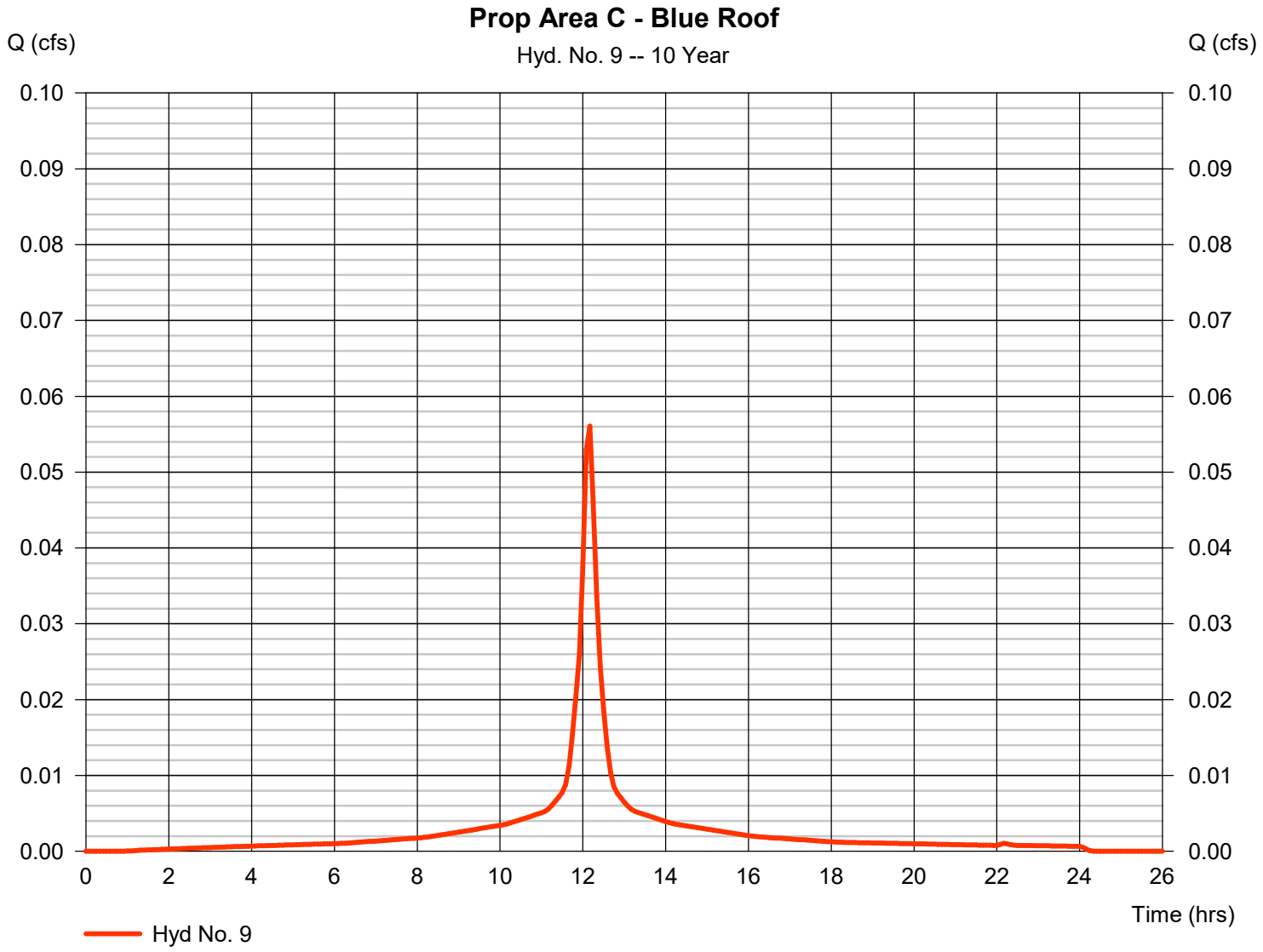
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 9

Prop Area C - Blue Roof

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.056 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.17 hrs
Time interval	=	5 min	Hyd. volume	=	257 cuft
Drainage area	=	0.015 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	5.27 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484



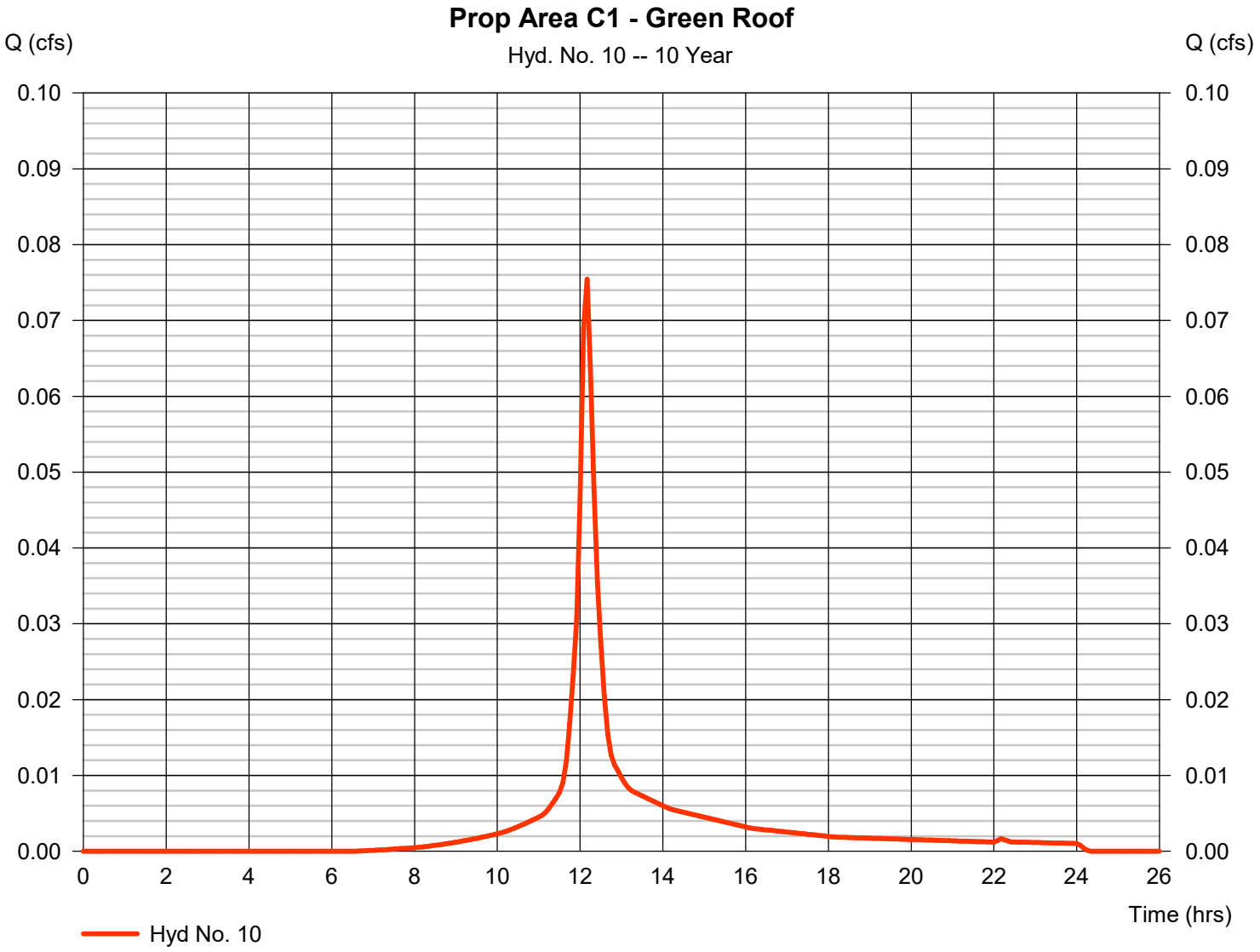
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 10

Prop Area C1 - Green Roof

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.075 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.17 hrs
Time interval	=	5 min	Hyd. volume	=	303 cuft
Drainage area	=	0.026 ac	Curve number	=	83
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	5.27 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484



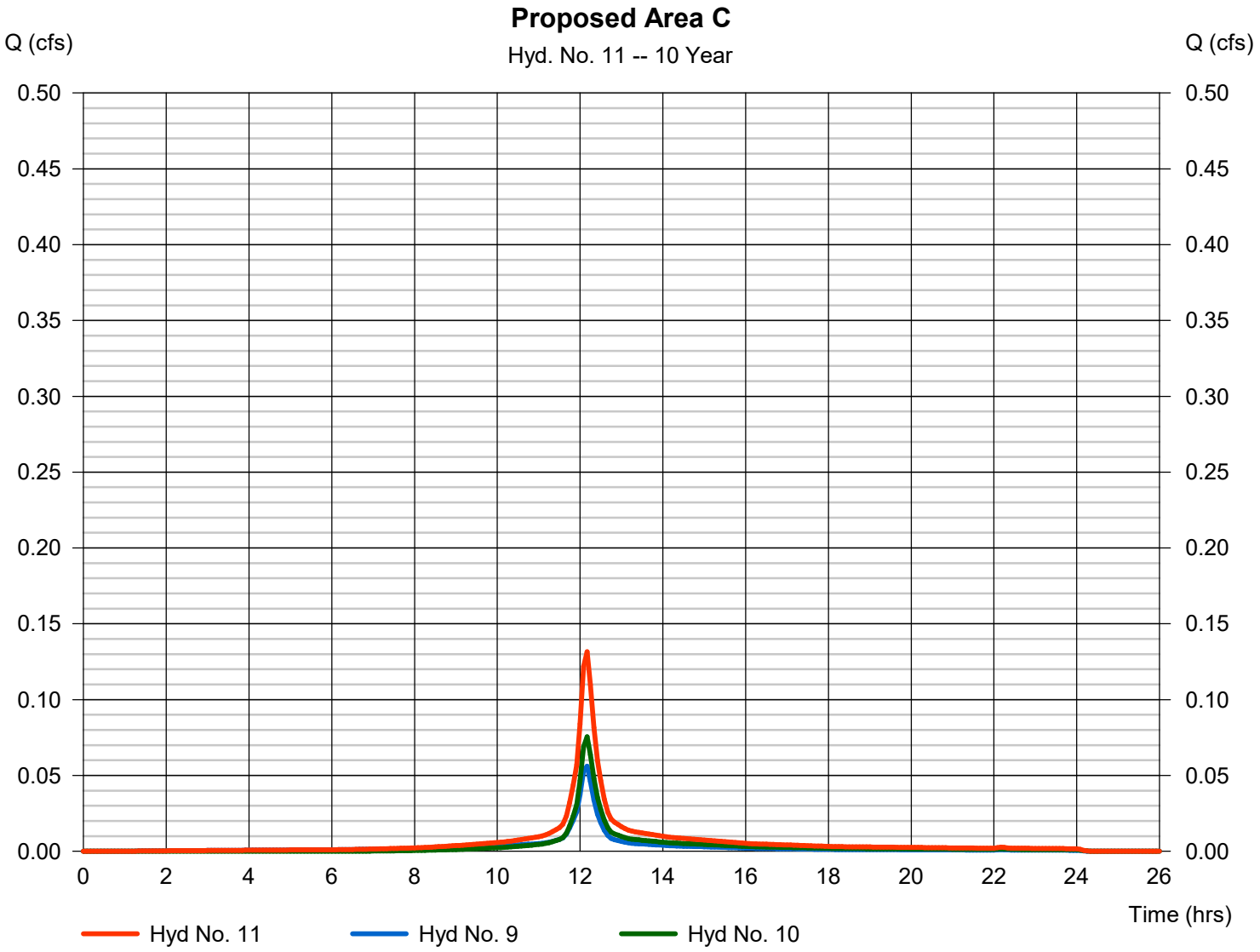
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 11

Proposed Area C

Hydrograph type	= Combine	Peak discharge	= 0.132 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.17 hrs
Time interval	= 5 min	Hyd. volume	= 559 cuft
Inflow hyds.	= 9, 10	Contrib. drain. area	= 0.041 ac



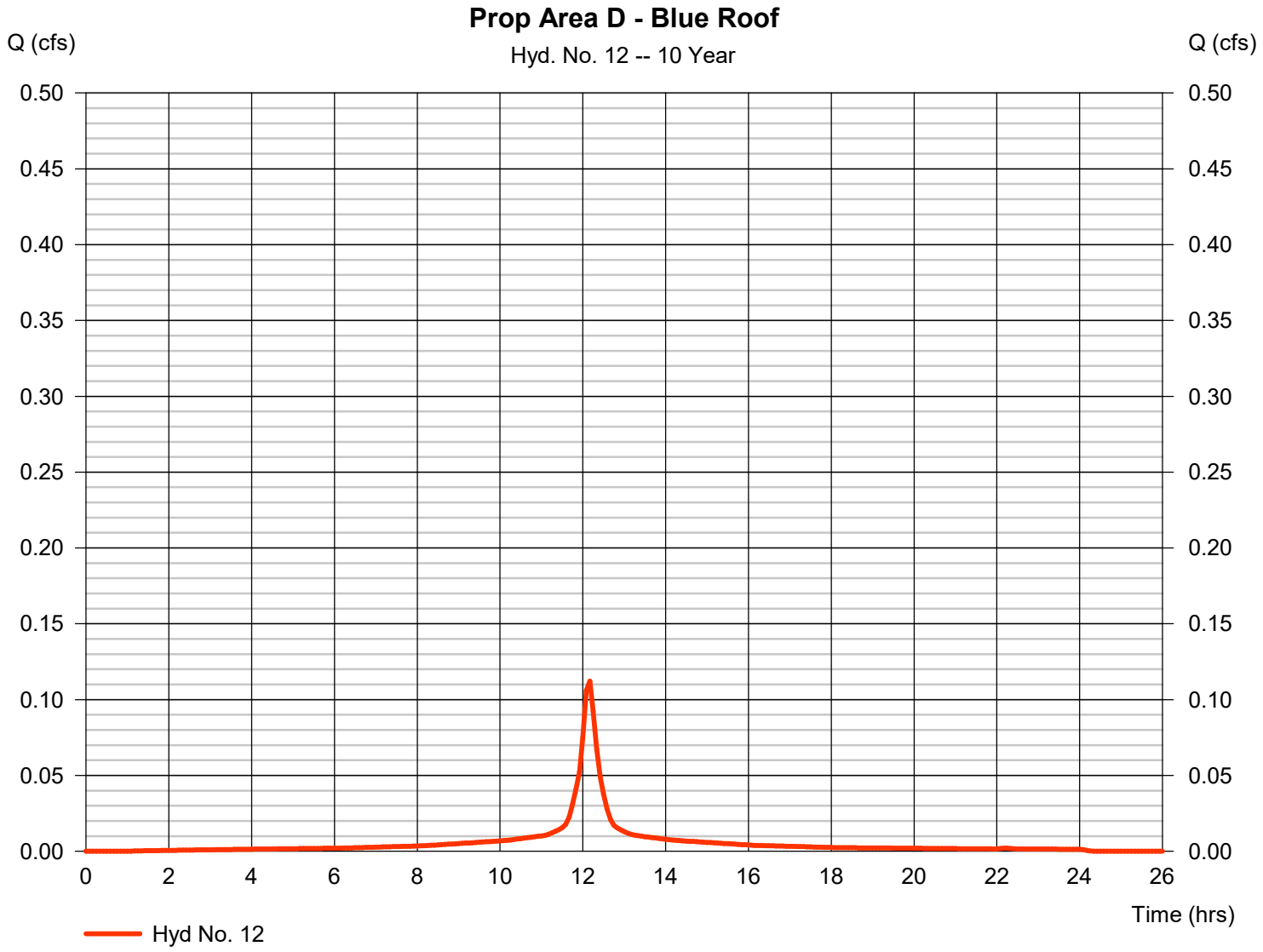
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 12

Prop Area D - Blue Roof

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.112 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.17 hrs
Time interval	=	5 min	Hyd. volume	=	514 cuft
Drainage area	=	0.030 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	5.27 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484



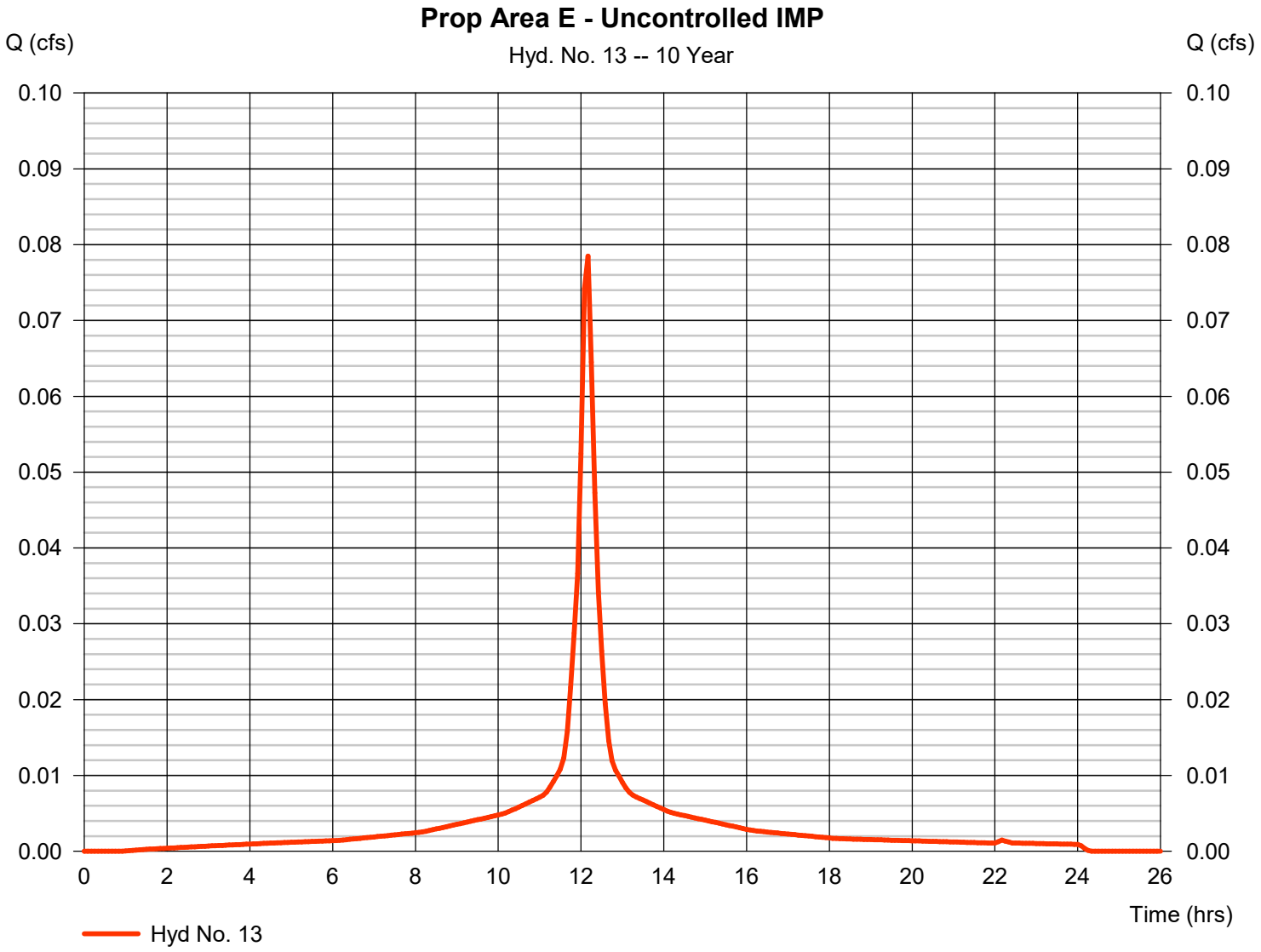
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 13

Prop Area E - Uncontrolled IMP

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.078 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.17 hrs
Time interval	=	5 min	Hyd. volume	=	360 cuft
Drainage area	=	0.021 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	5.27 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484



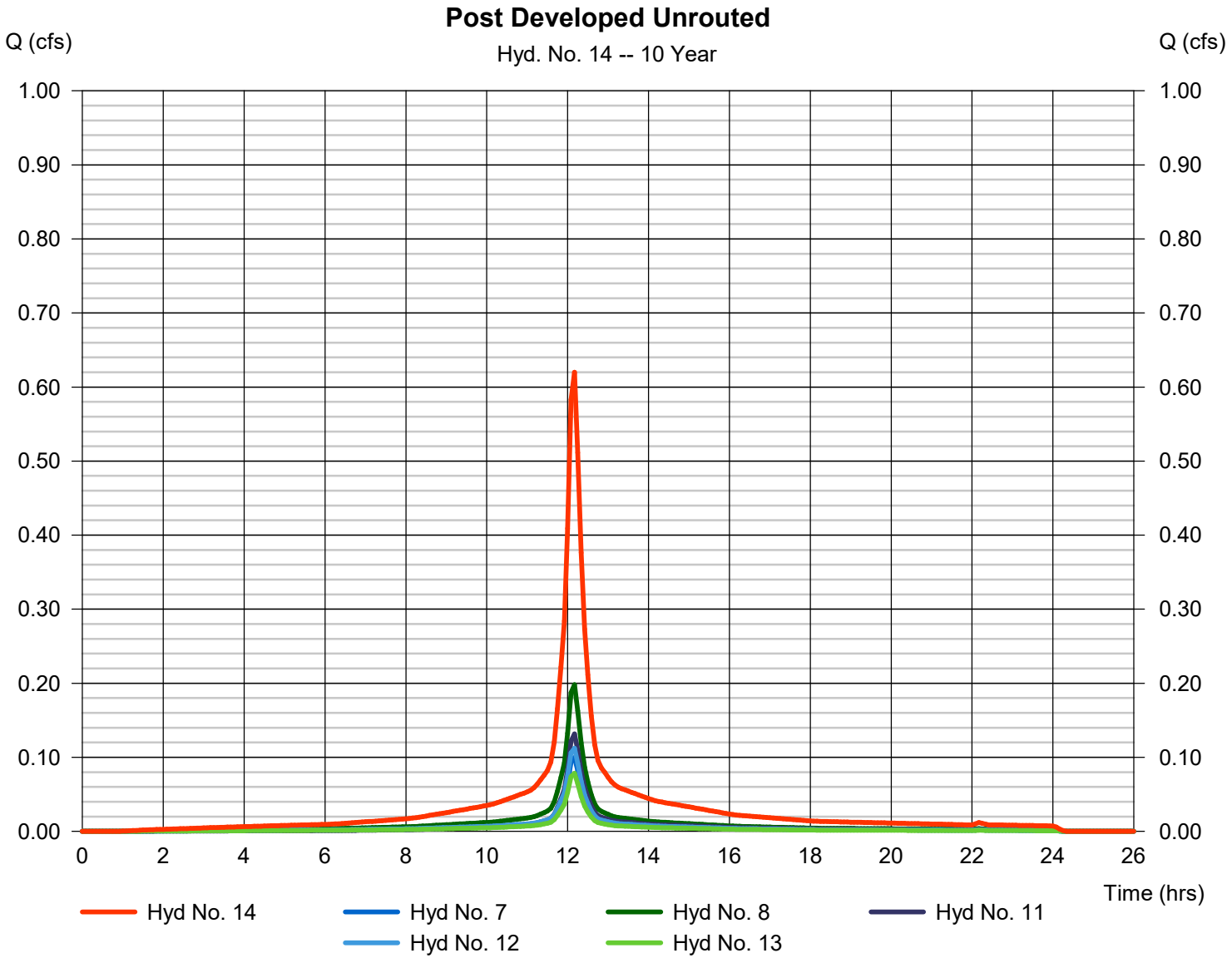
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 14

Post Developed Unrouted

Hydrograph type	= Combine	Peak discharge	= 0.620 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.17 hrs
Time interval	= 5 min	Hyd. volume	= 2,787 cuft
Inflow hyds.	= 7, 8, 11, 12, 13	Contrib. drain. area	= 0.104 ac



Hydrograph Report

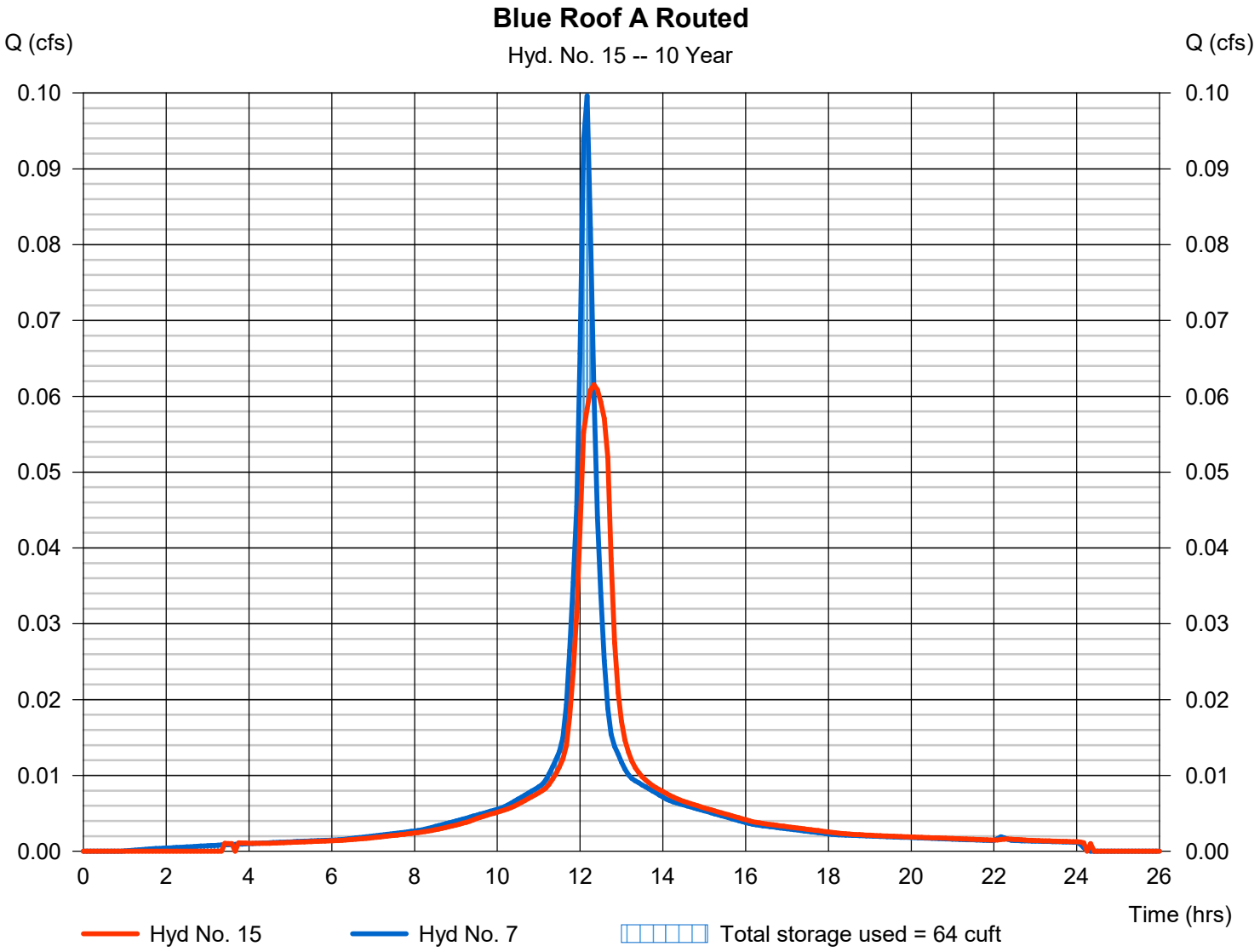
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 15

Blue Roof A Routed

Hydrograph type	= Reservoir	Peak discharge	= 0.062 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.33 hrs
Time interval	= 5 min	Hyd. volume	= 443 cuft
Inflow hyd. No.	= 7 - Prop Area A	Max. Elevation	= 100.28 ft
Reservoir name	= Blue Roof A	Max. Storage	= 64 cuft

Storage Indication method used.



Hydrograph Report

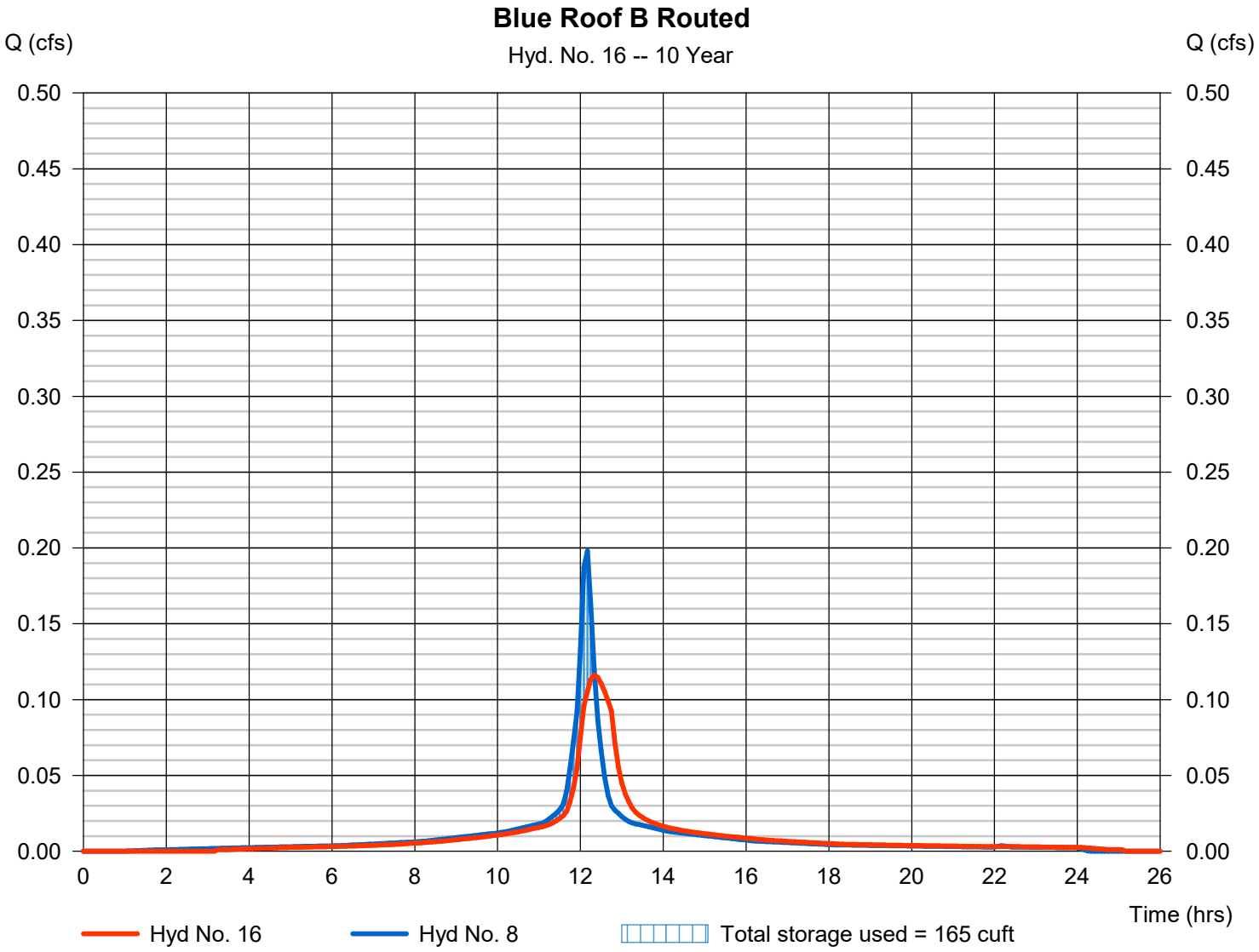
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 16

Blue Roof B Routed

Hydrograph type	=	Reservoir	Peak discharge	=	0.116 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.33 hrs
Time interval	=	5 min	Hyd. volume	=	900 cuft
Inflow hyd. No.	=	8 - Prop Area B - Blue Roof	Max. Elevation	=	100.29 ft
Reservoir name	=	Blue Roof B	Max. Storage	=	165 cuft

Storage Indication method used.



Hydrograph Report

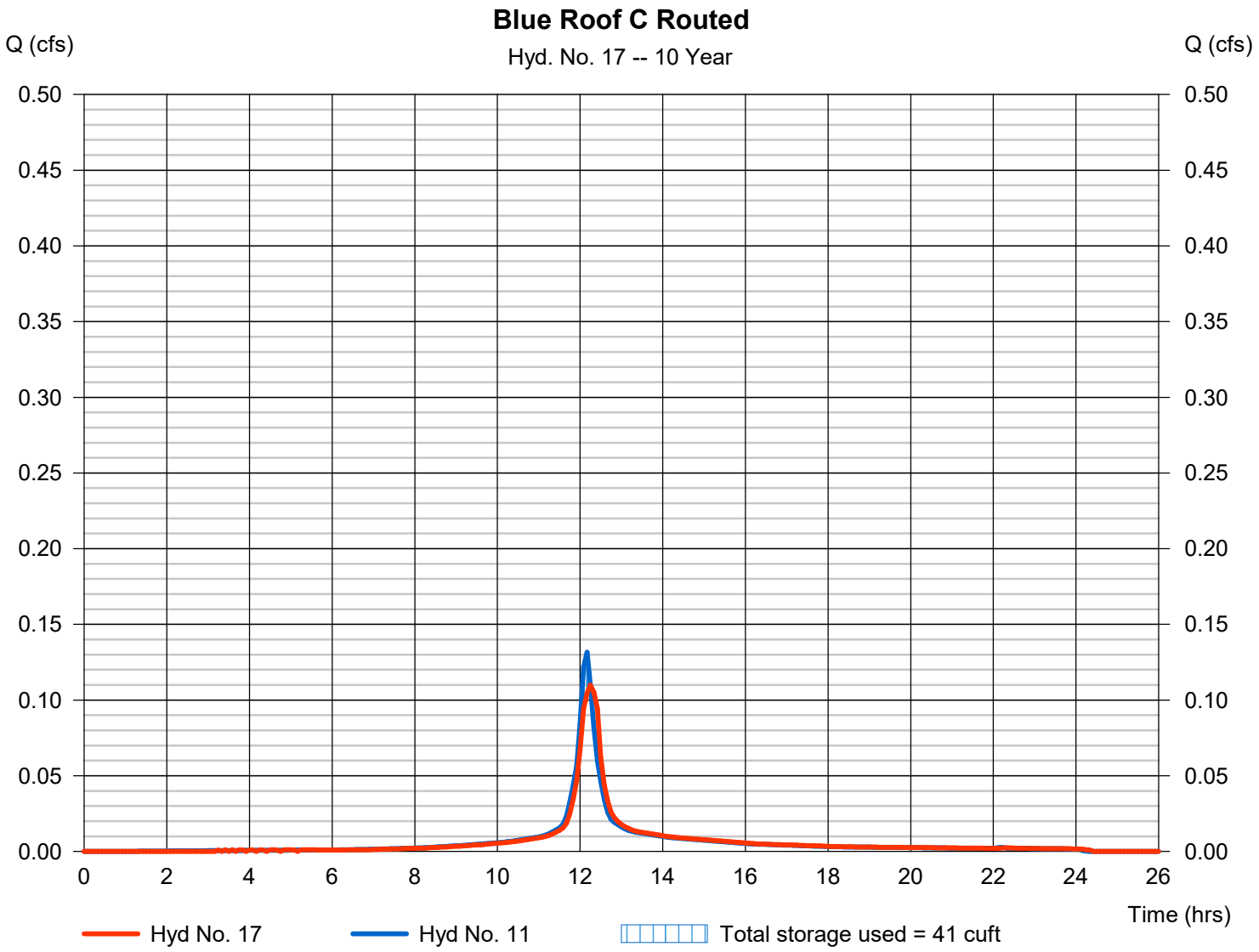
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 17

Blue Roof C Routed

Hydrograph type	=	Reservoir	Peak discharge	=	0.110 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.25 hrs
Time interval	=	5 min	Hyd. volume	=	557 cuft
Inflow hyd. No.	=	11 - Proposed Area C	Max. Elevation	=	100.28 ft
Reservoir name	=	Blue Roof C	Max. Storage	=	41 cuft

Storage Indication method used.



Hydrograph Report

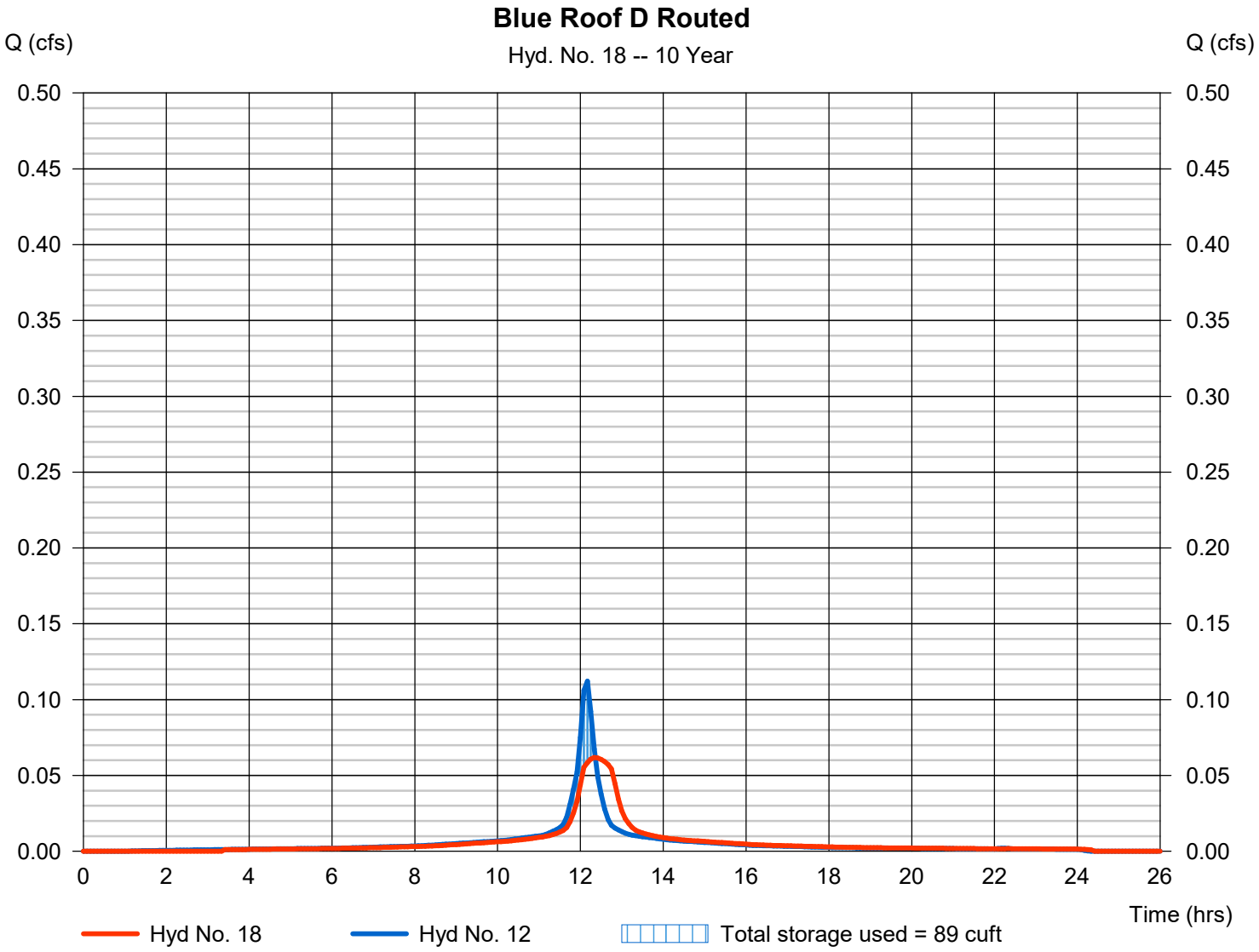
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 18

Blue Roof D Routed

Hydrograph type	=	Reservoir	Peak discharge	=	0.062 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.33 hrs
Time interval	=	5 min	Hyd. volume	=	509 cuft
Inflow hyd. No.	=	12 - Prop Area D - Blue Roof	Max. Elevation	=	100.29 ft
Reservoir name	=	Blue Roof D	Max. Storage	=	89 cuft

Storage Indication method used.



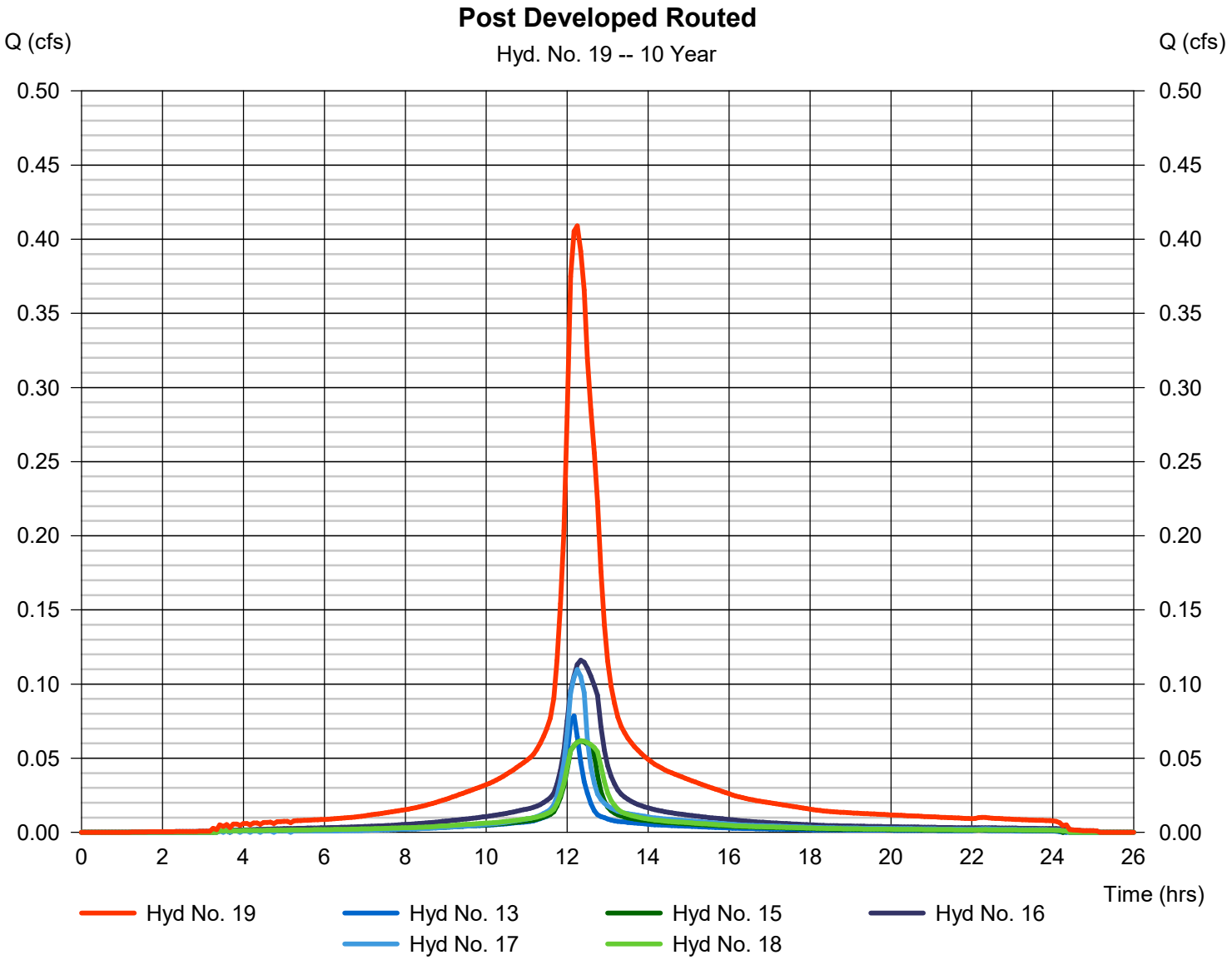
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 19

Post Developed Routed

Hydrograph type	= Combine	Peak discharge	= 0.409 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.25 hrs
Time interval	= 5 min	Hyd. volume	= 2,768 cuft
Inflow hyds.	= 13, 15, 16, 17, 18	Contrib. drain. area	= 0.021 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	0.213	5	730	990	------	------	------	Existing Area A - IMP
2	SCS Runoff	0.903	5	730	4,202	------	------	------	Existing Area B - IMP
3	Combine	1.115	5	730	5,192	1, 2	------	------	Existing
5	SCS Runoff	0.142	5	730	660	------	------	------	Prop Area A - Blue Roof
6	SCS Runoff	0.035	5	730	143	------	------	------	Prop Area A1 - Green Roof
7	Combine	0.176	5	730	803	5, 6	------	------	Prop Area A
8	SCS Runoff	0.342	5	730	1,591	------	------	------	Prop Area B - Blue Roof
9	SCS Runoff	0.097	5	730	450	------	------	------	Prop Area C - Blue Roof
10	SCS Runoff	0.150	5	730	619	------	------	------	Prop Area C1 - Green Roof
11	Combine	0.246	5	730	1,069	9, 10	------	------	Proposed Area C
12	SCS Runoff	0.193	5	730	900	------	------	------	Prop Area D - Blue Roof
13	SCS Runoff	0.135	5	730	630	------	------	------	Prop Area E - Uncontrolled IMP
14	Combine	1.093	5	730	4,994	7, 8, 11, 12, 13	------	------	Post Developed Unrouted
15	Reservoir	0.081	5	745	799	7	100.41	150	Blue Roof A Routed
16	Reservoir	0.159	5	745	1,582	8	100.38	324	Blue Roof B Routed
17	Reservoir	0.173	5	740	1,067	11	100.42	109	Blue Roof C Routed
18	Reservoir	0.078	5	745	895	12	100.39	190	Blue Roof D Routed
19	Combine	0.586	5	735	4,974	13, 15, 16, 17, 18	------	------	Post Developed Routed

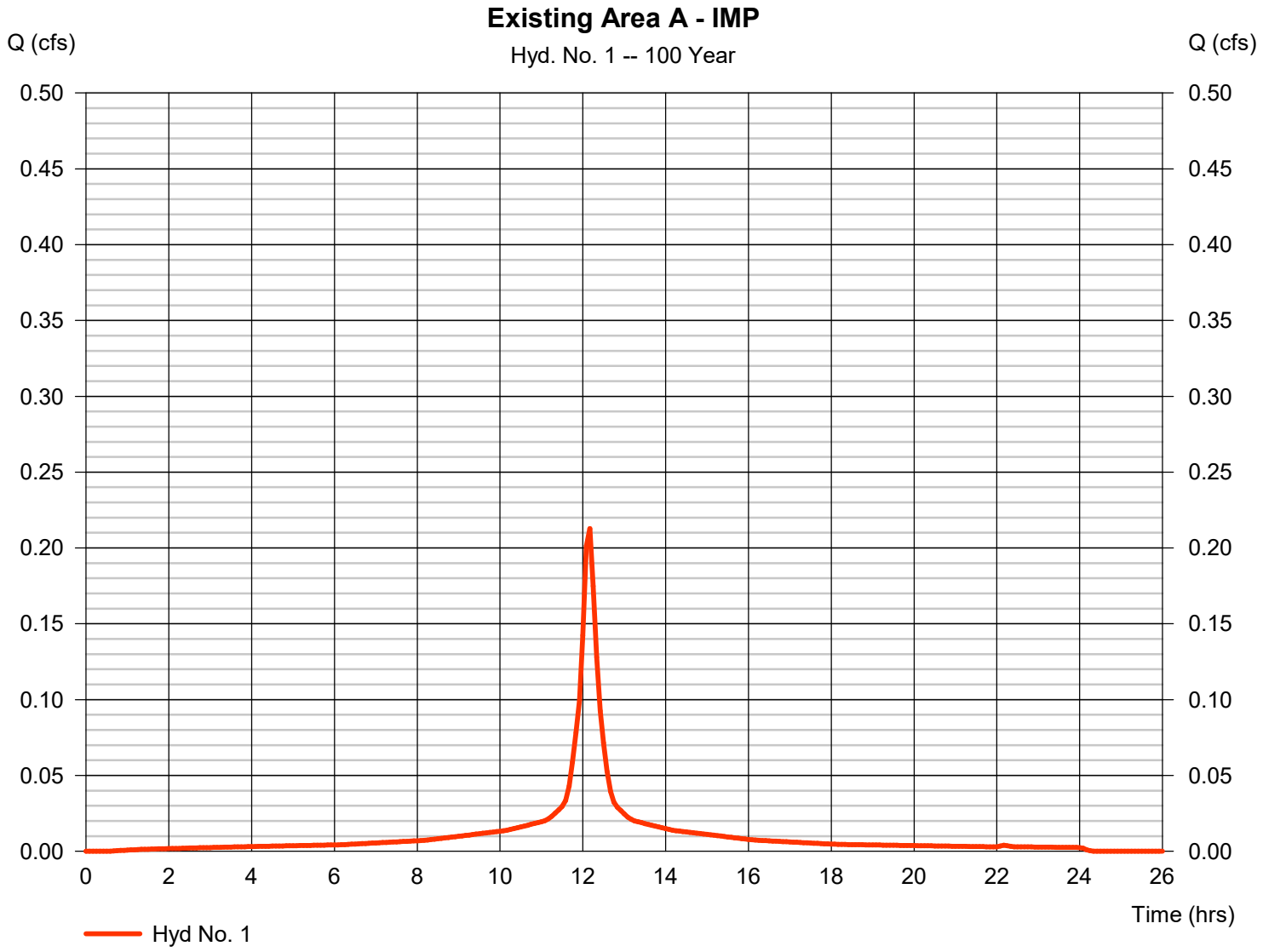
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 1

Existing Area A - IMP

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.213 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.17 hrs
Time interval	=	5 min	Hyd. volume	=	990 cuft
Drainage area	=	0.033 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	9.06 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484



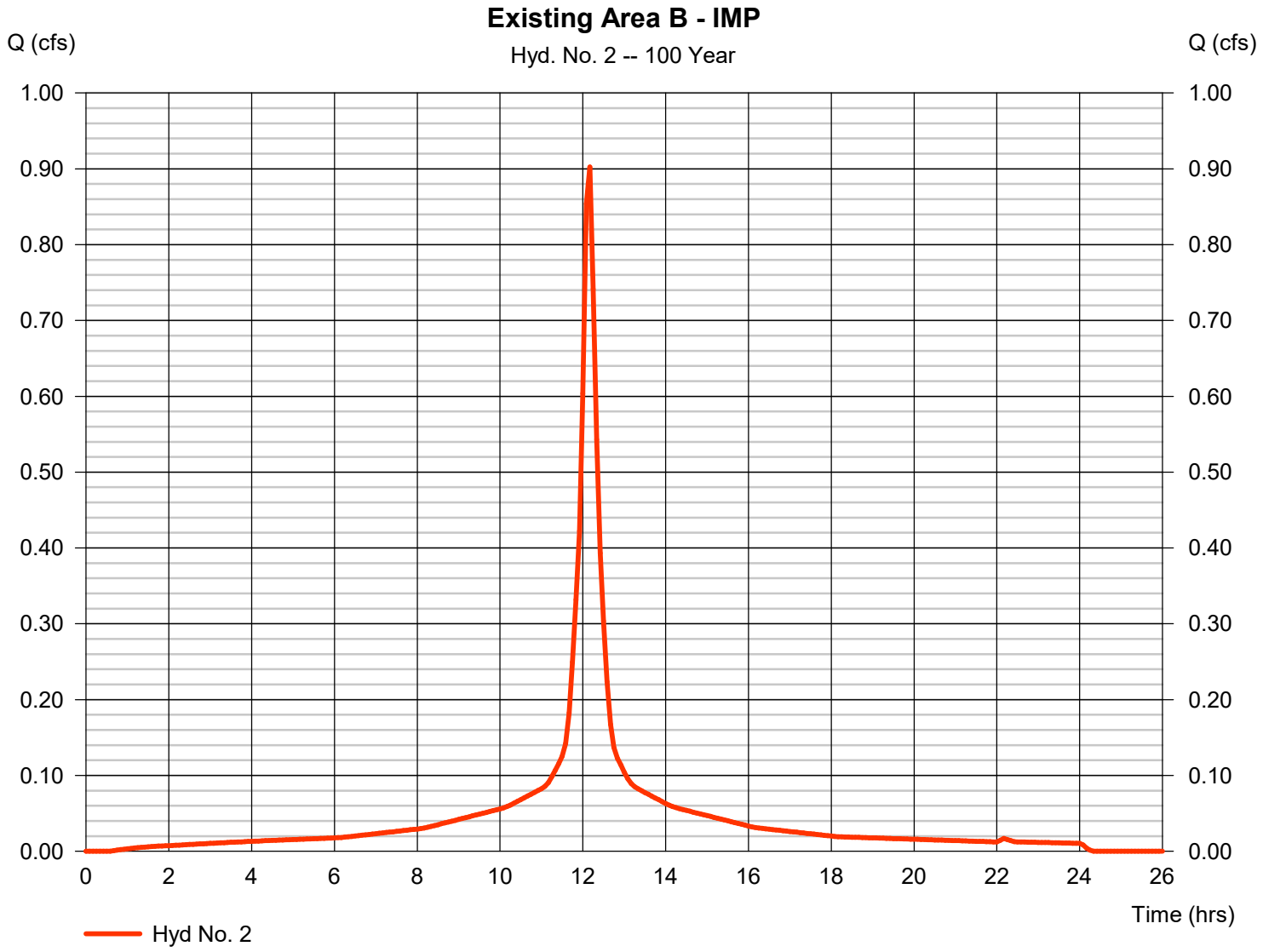
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 2

Existing Area B - IMP

Hydrograph type	= SCS Runoff	Peak discharge	= 0.903 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.17 hrs
Time interval	= 5 min	Hyd. volume	= 4,202 cuft
Drainage area	= 0.140 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 9.06 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



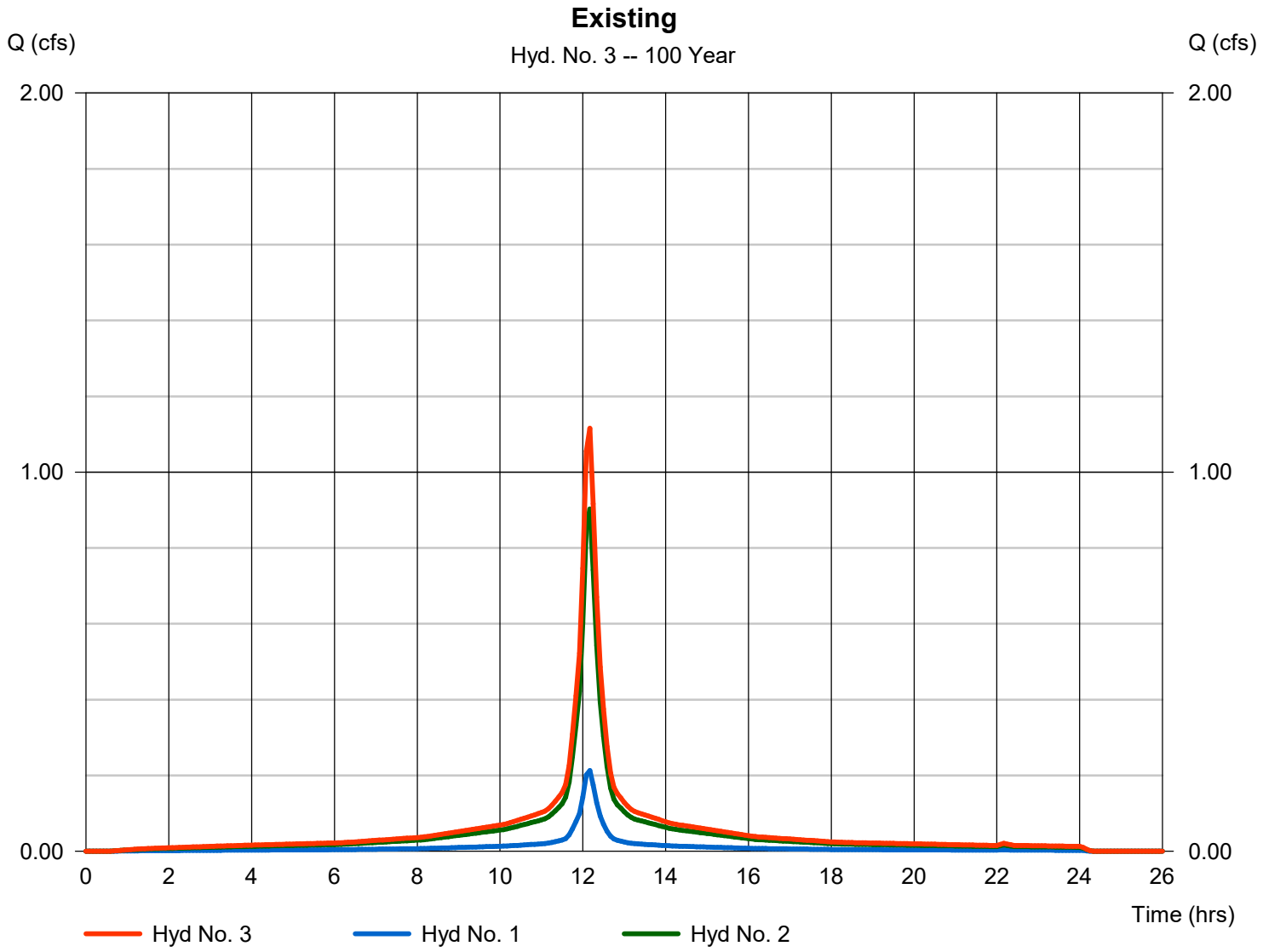
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 3

Existing

Hydrograph type	= Combine	Peak discharge	= 1.115 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.17 hrs
Time interval	= 5 min	Hyd. volume	= 5,192 cuft
Inflow hyds.	= 1, 2	Contrib. drain. area	= 0.173 ac



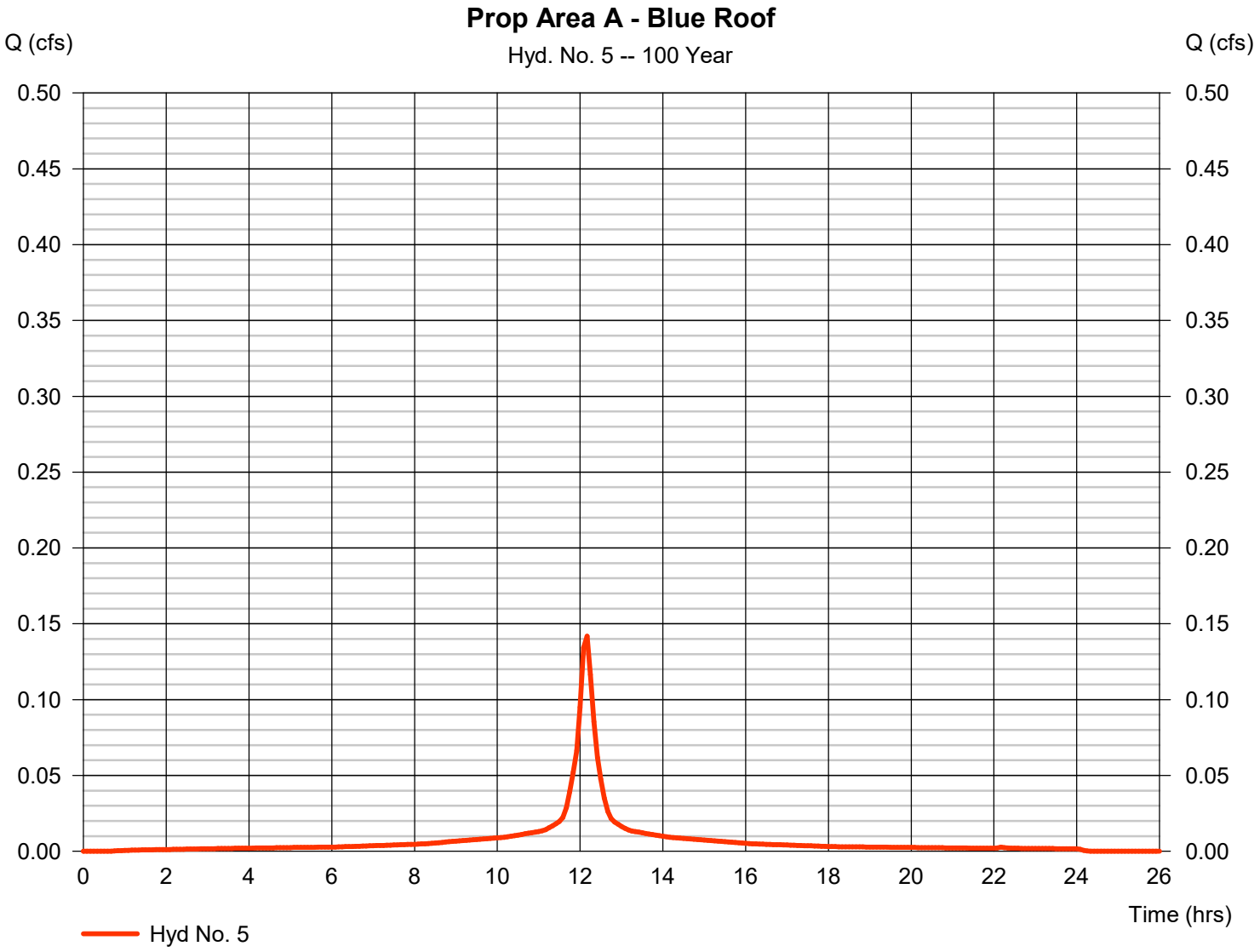
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 5

Prop Area A - Blue Roof

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.142 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.17 hrs
Time interval	=	5 min	Hyd. volume	=	660 cuft
Drainage area	=	0.022 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	9.06 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484



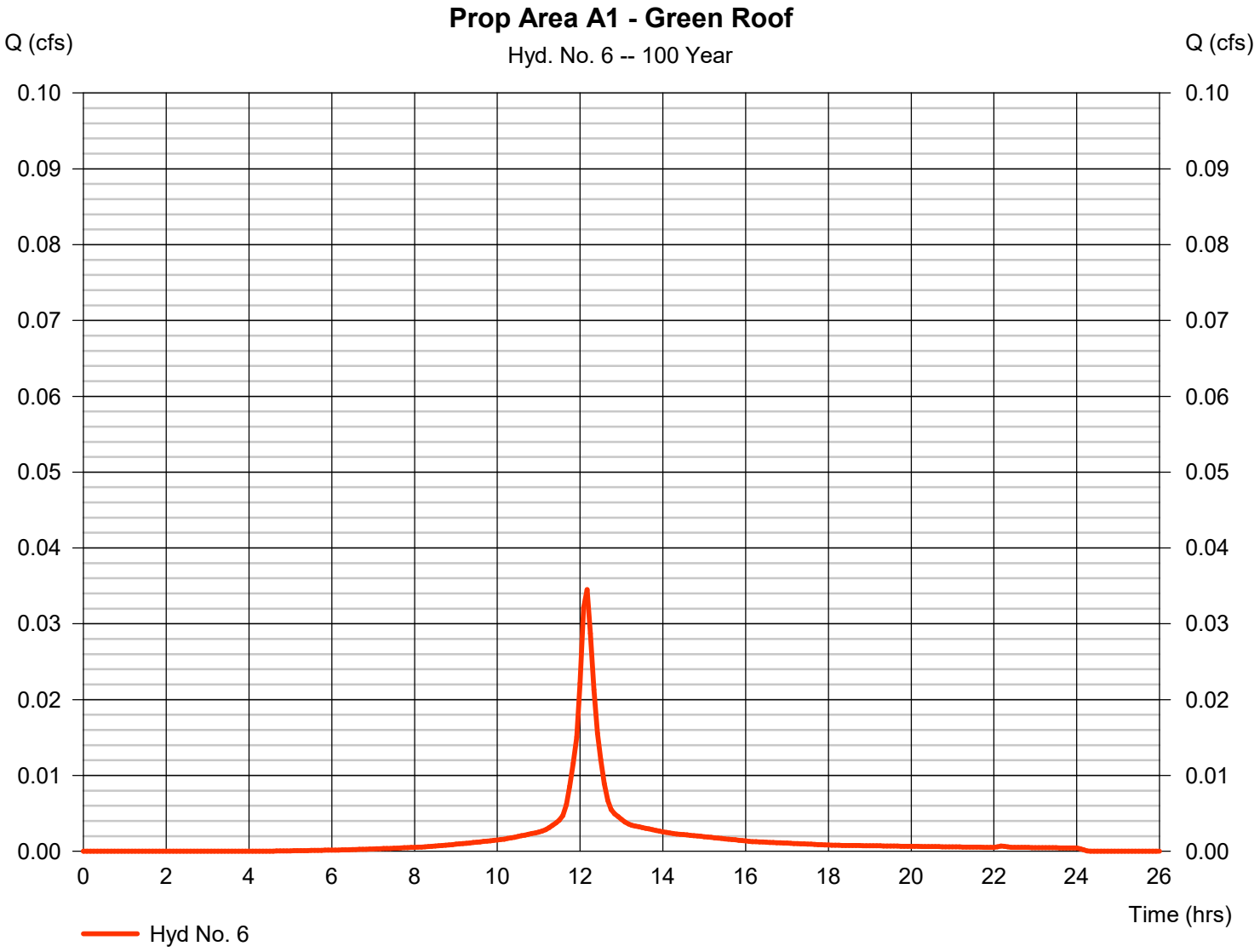
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 6

Prop Area A1 - Green Roof

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.035 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.17 hrs
Time interval	=	5 min	Hyd. volume	=	143 cuft
Drainage area	=	0.006 ac	Curve number	=	83
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	9.06 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484



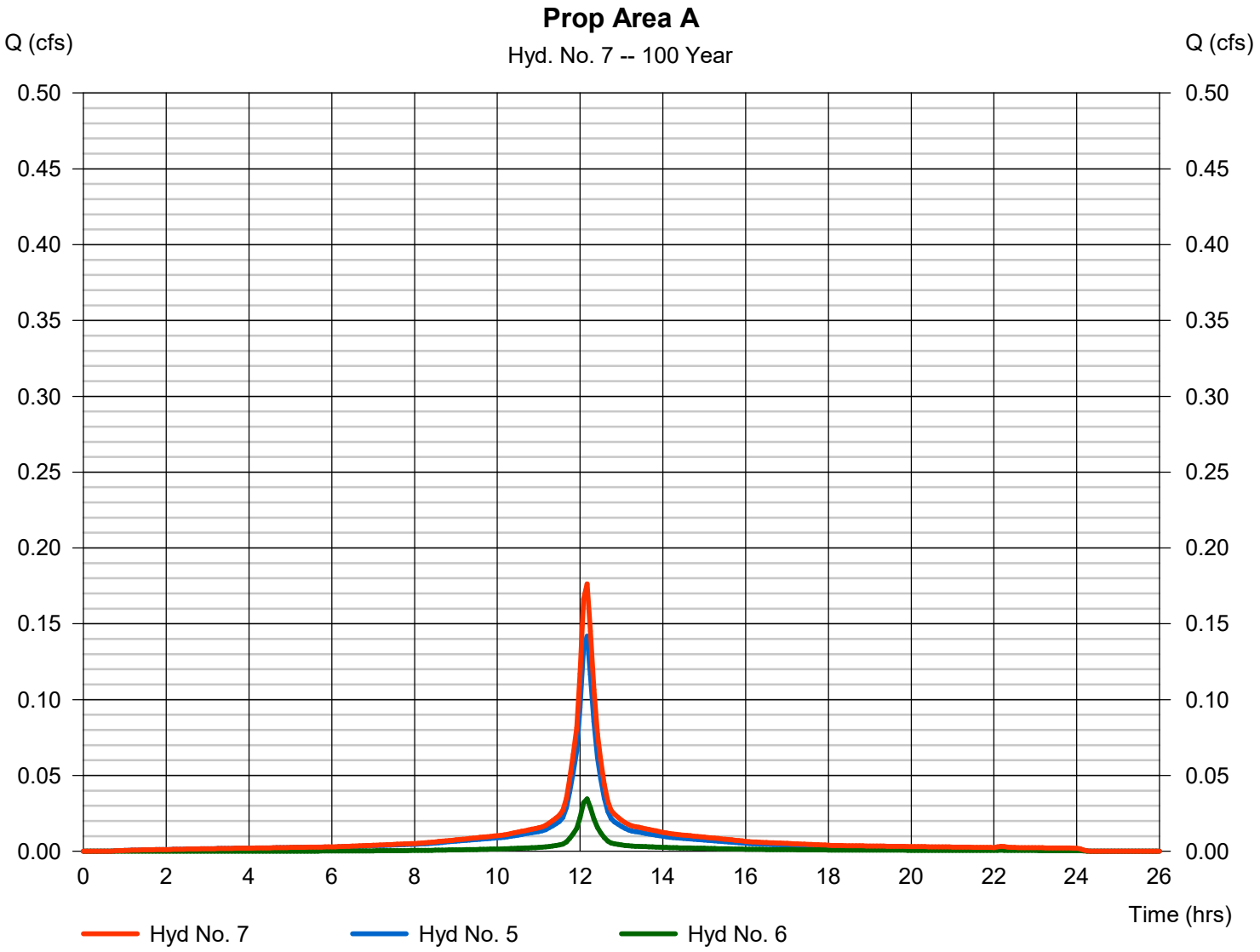
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 7

Prop Area A

Hydrograph type	= Combine	Peak discharge	= 0.176 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.17 hrs
Time interval	= 5 min	Hyd. volume	= 803 cuft
Inflow hyds.	= 5, 6	Contrib. drain. area	= 0.028 ac



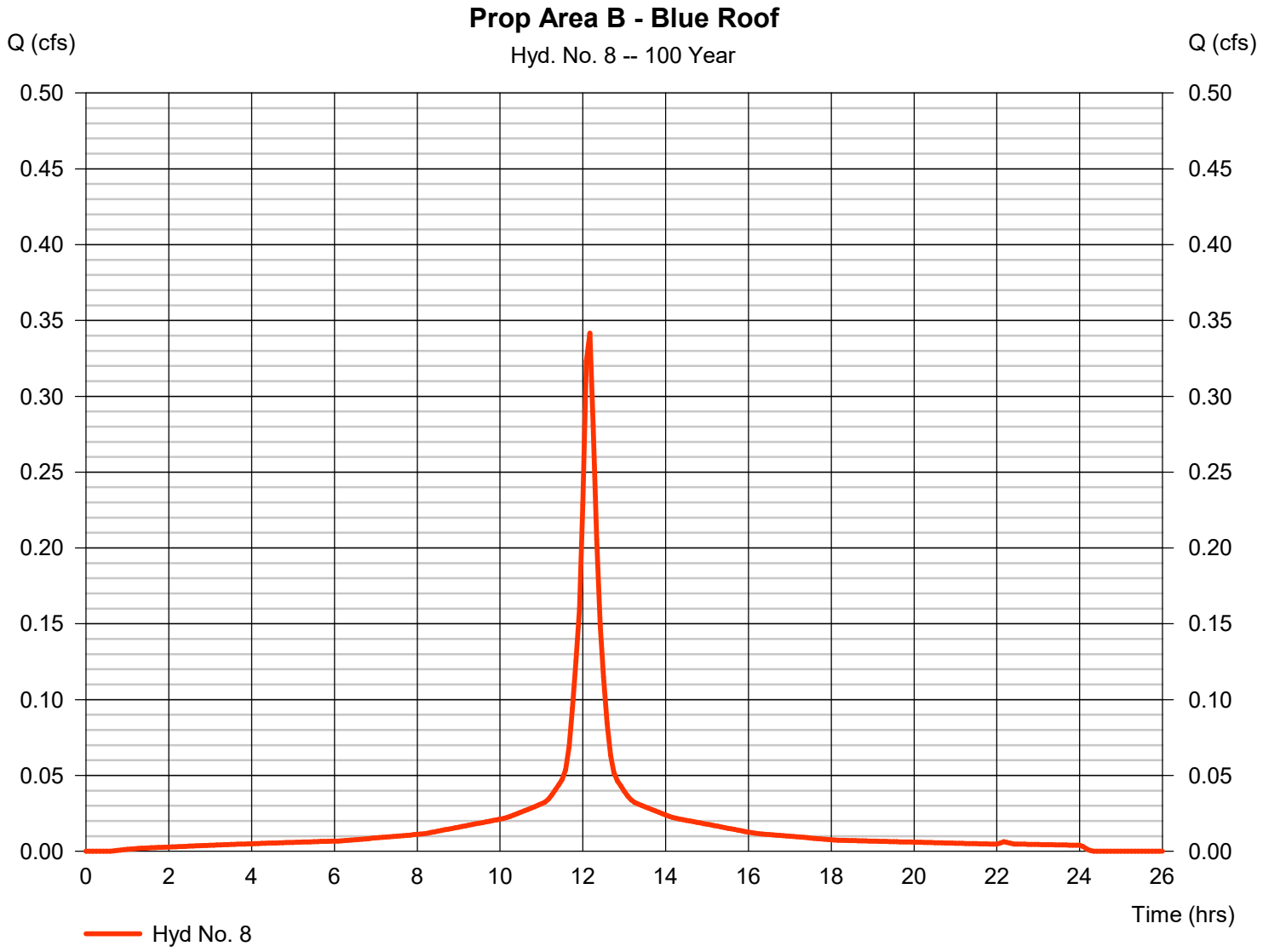
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 8

Prop Area B - Blue Roof

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.342 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.17 hrs
Time interval	=	5 min	Hyd. volume	=	1,591 cuft
Drainage area	=	0.053 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	9.06 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484



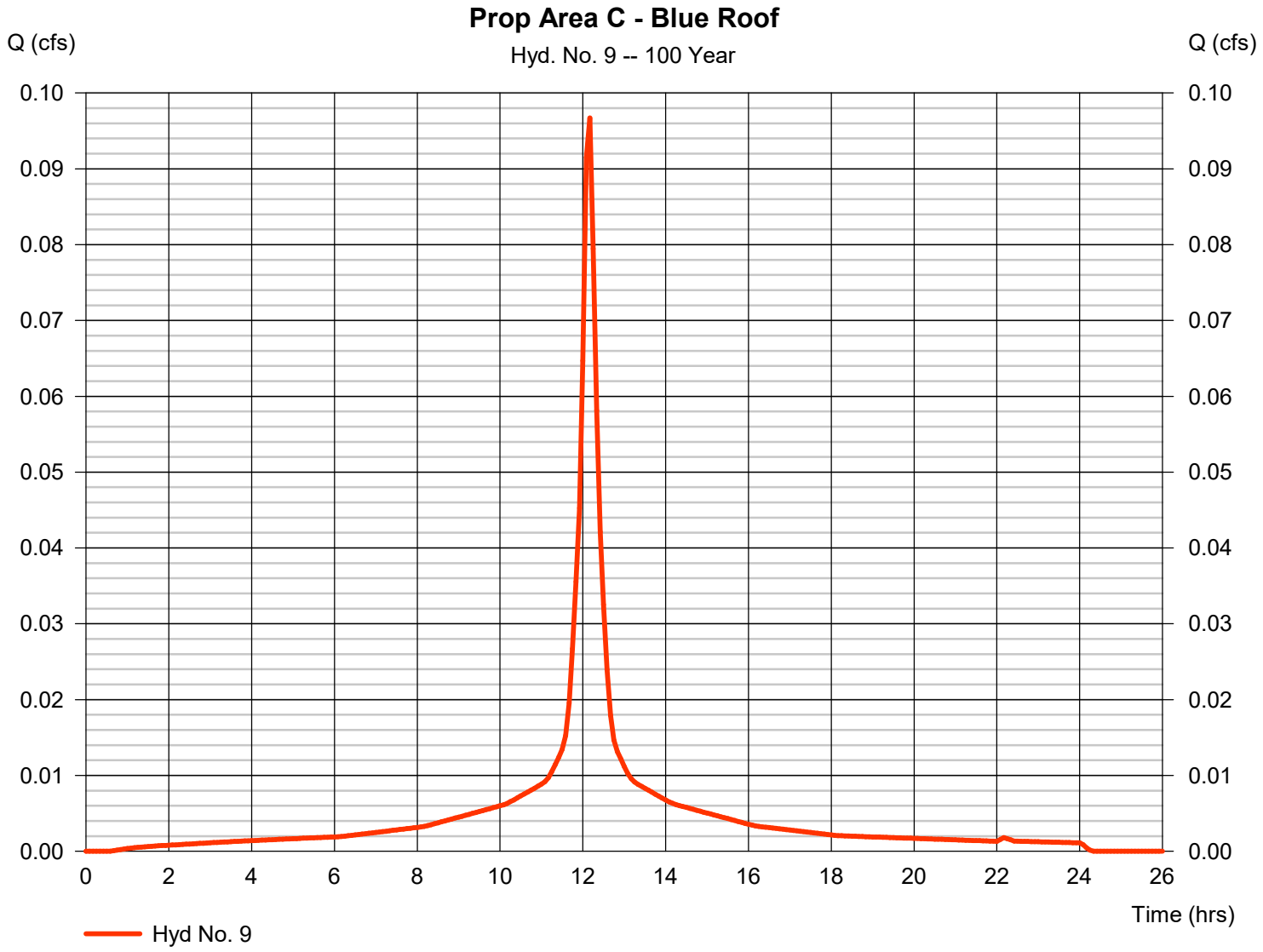
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 9

Prop Area C - Blue Roof

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.097 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.17 hrs
Time interval	=	5 min	Hyd. volume	=	450 cuft
Drainage area	=	0.015 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	9.06 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484



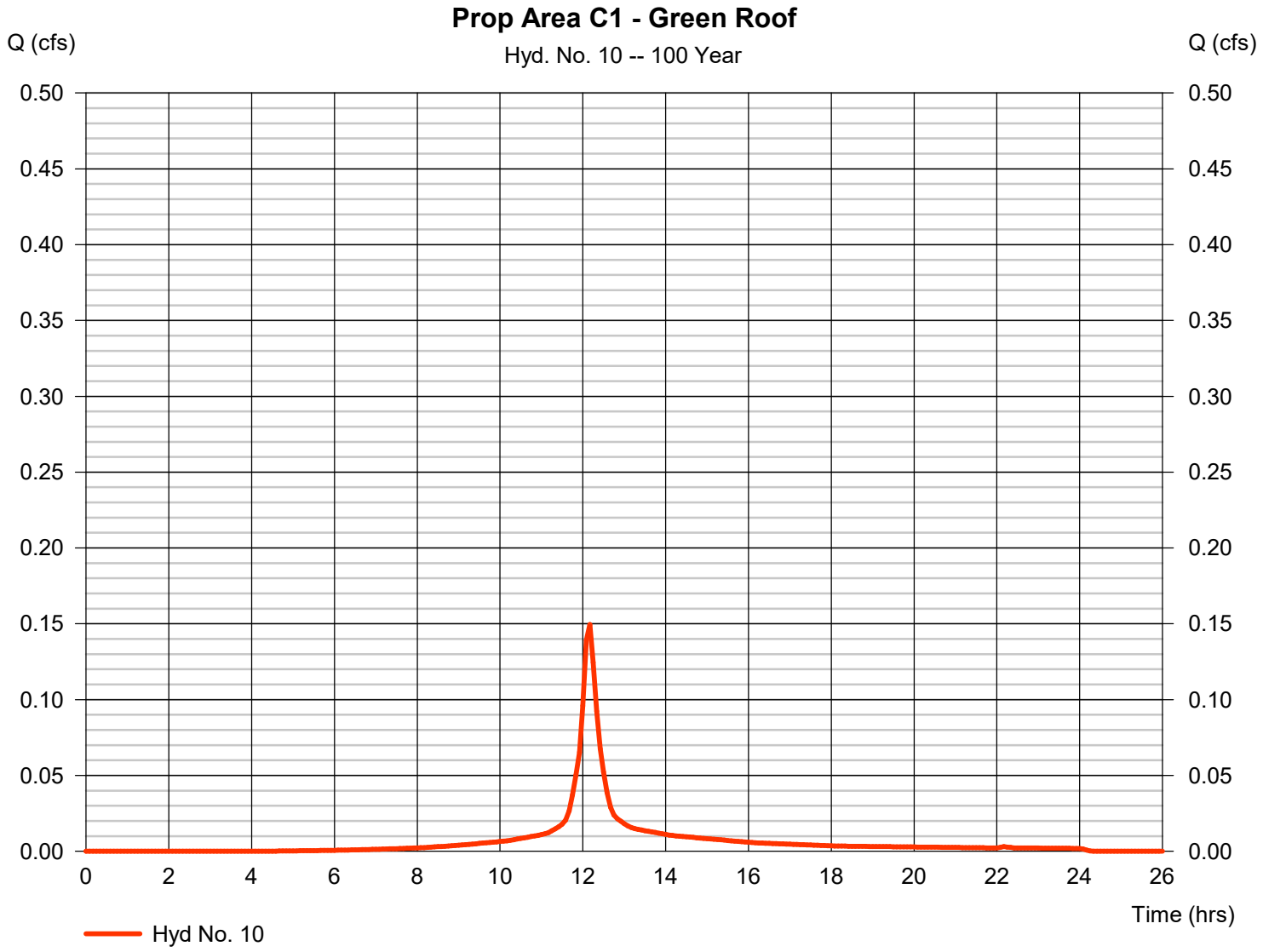
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 10

Prop Area C1 - Green Roof

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.150 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.17 hrs
Time interval	=	5 min	Hyd. volume	=	619 cuft
Drainage area	=	0.026 ac	Curve number	=	83
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	9.06 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484



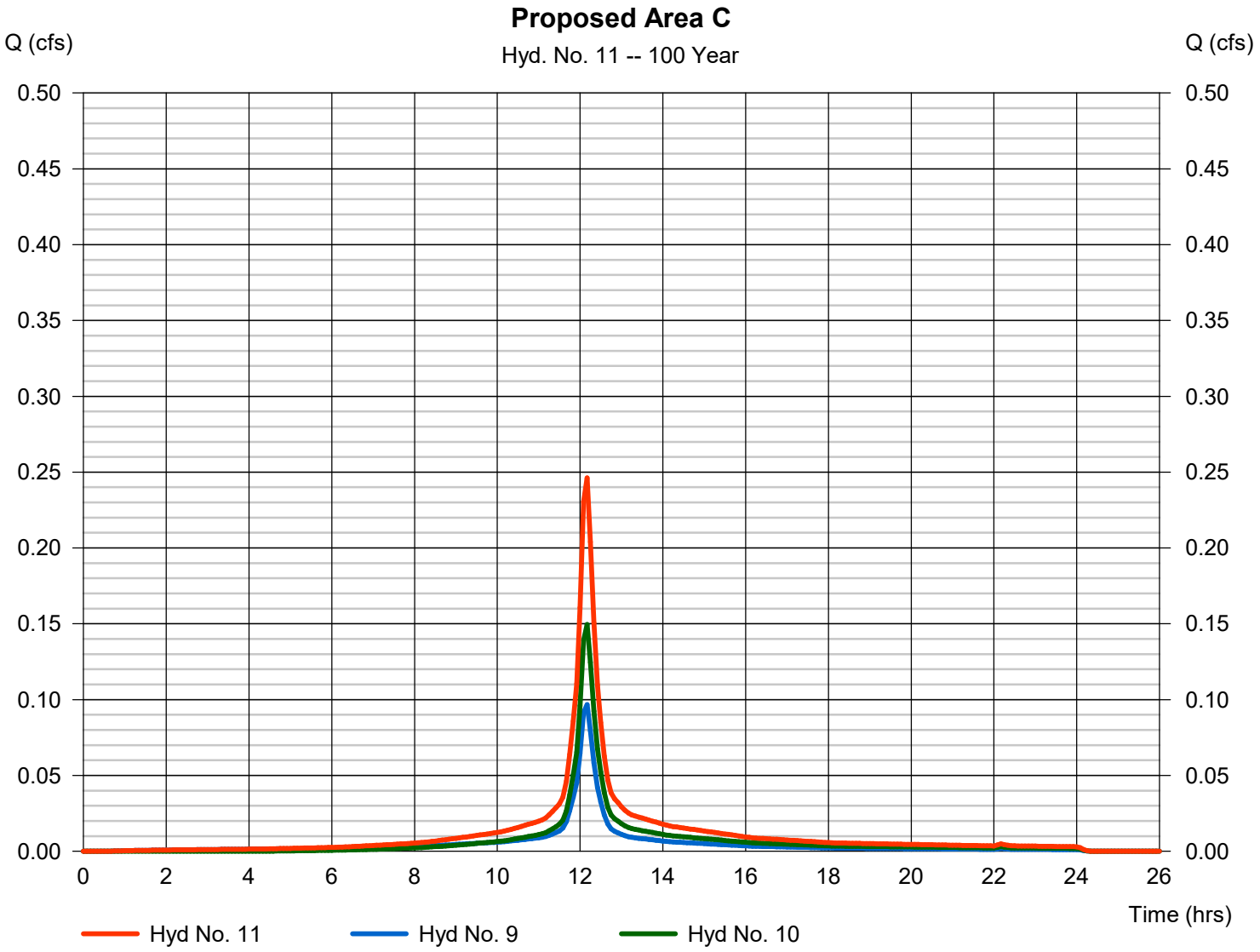
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 11

Proposed Area C

Hydrograph type	= Combine	Peak discharge	= 0.246 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.17 hrs
Time interval	= 5 min	Hyd. volume	= 1,069 cuft
Inflow hyds.	= 9, 10	Contrib. drain. area	= 0.041 ac



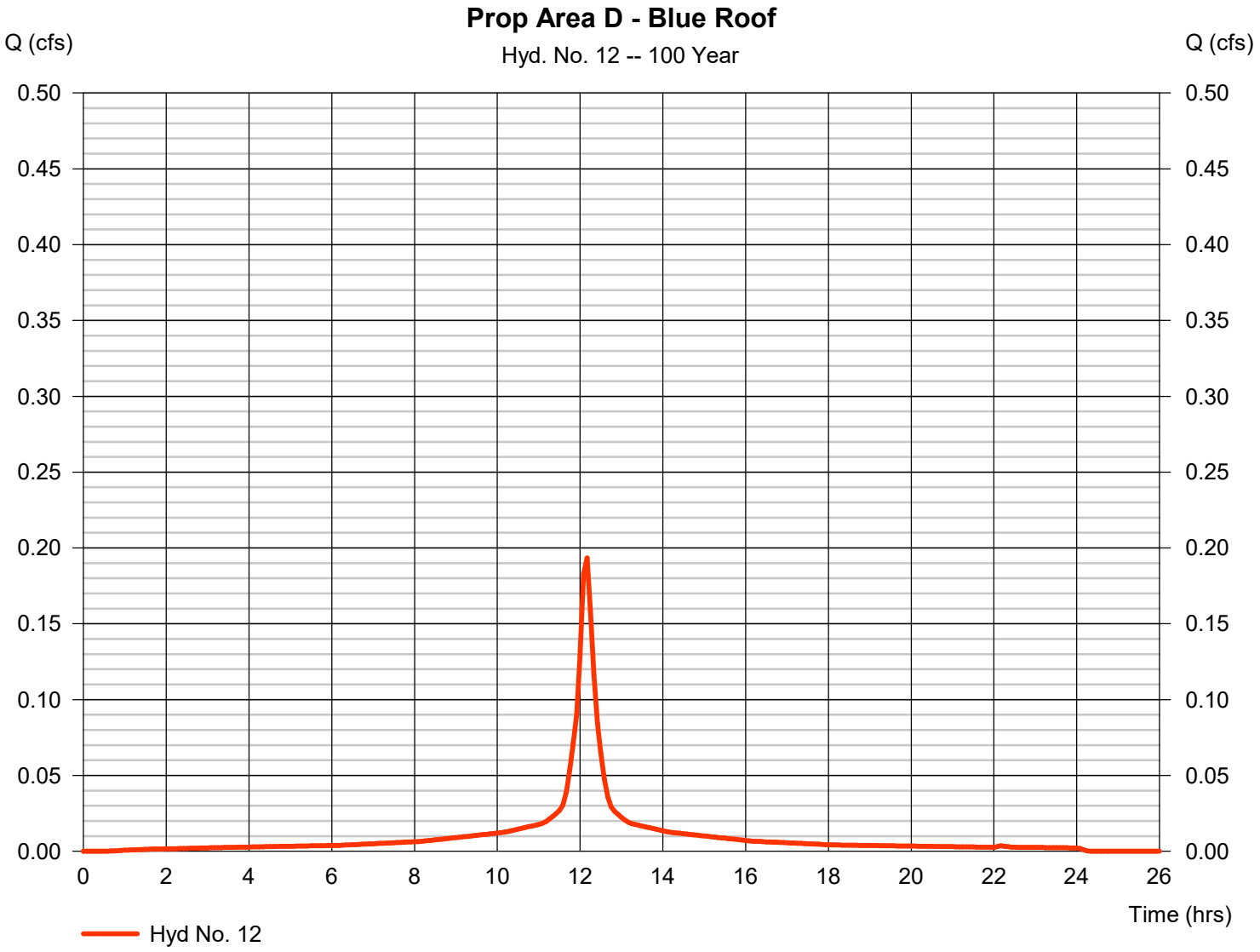
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 12

Prop Area D - Blue Roof

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.193 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.17 hrs
Time interval	=	5 min	Hyd. volume	=	900 cuft
Drainage area	=	0.030 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	9.06 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484



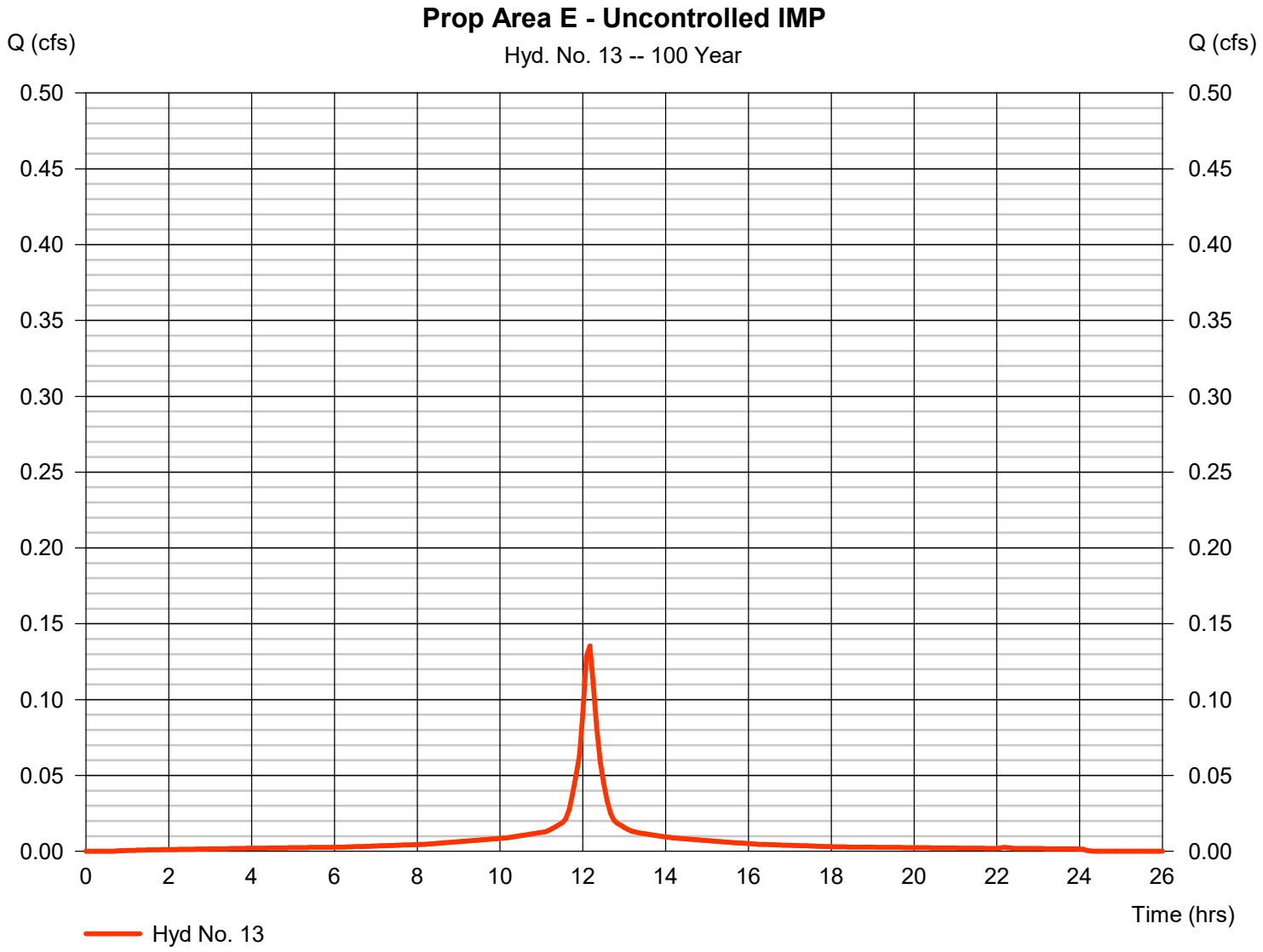
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 13

Prop Area E - Uncontrolled IMP

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.135 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.17 hrs
Time interval	=	5 min	Hyd. volume	=	630 cuft
Drainage area	=	0.021 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	9.06 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484



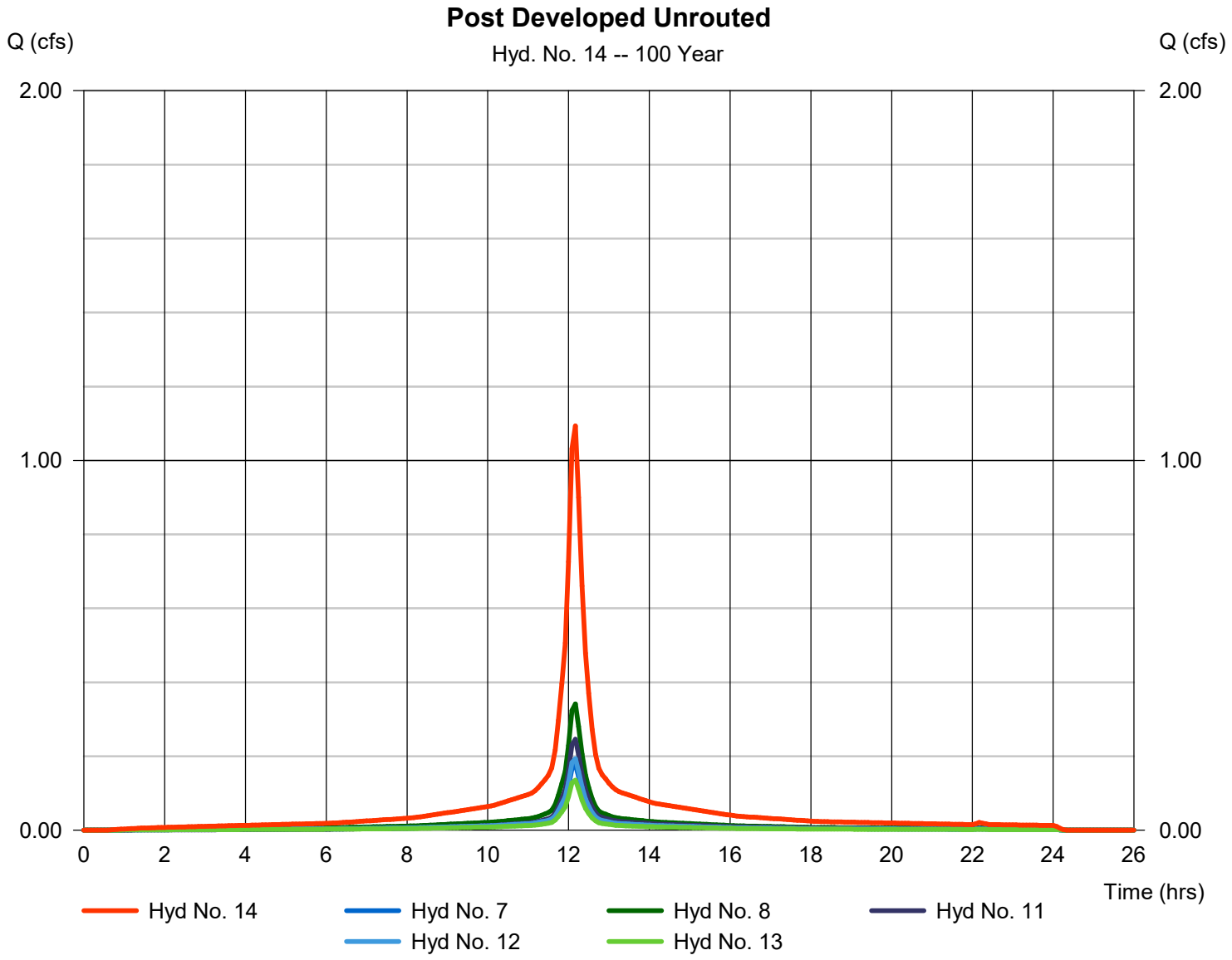
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 14

Post Developed Unrouted

Hydrograph type	= Combine	Peak discharge	= 1.093 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.17 hrs
Time interval	= 5 min	Hyd. volume	= 4,994 cuft
Inflow hyds.	= 7, 8, 11, 12, 13	Contrib. drain. area	= 0.104 ac



Hydrograph Report

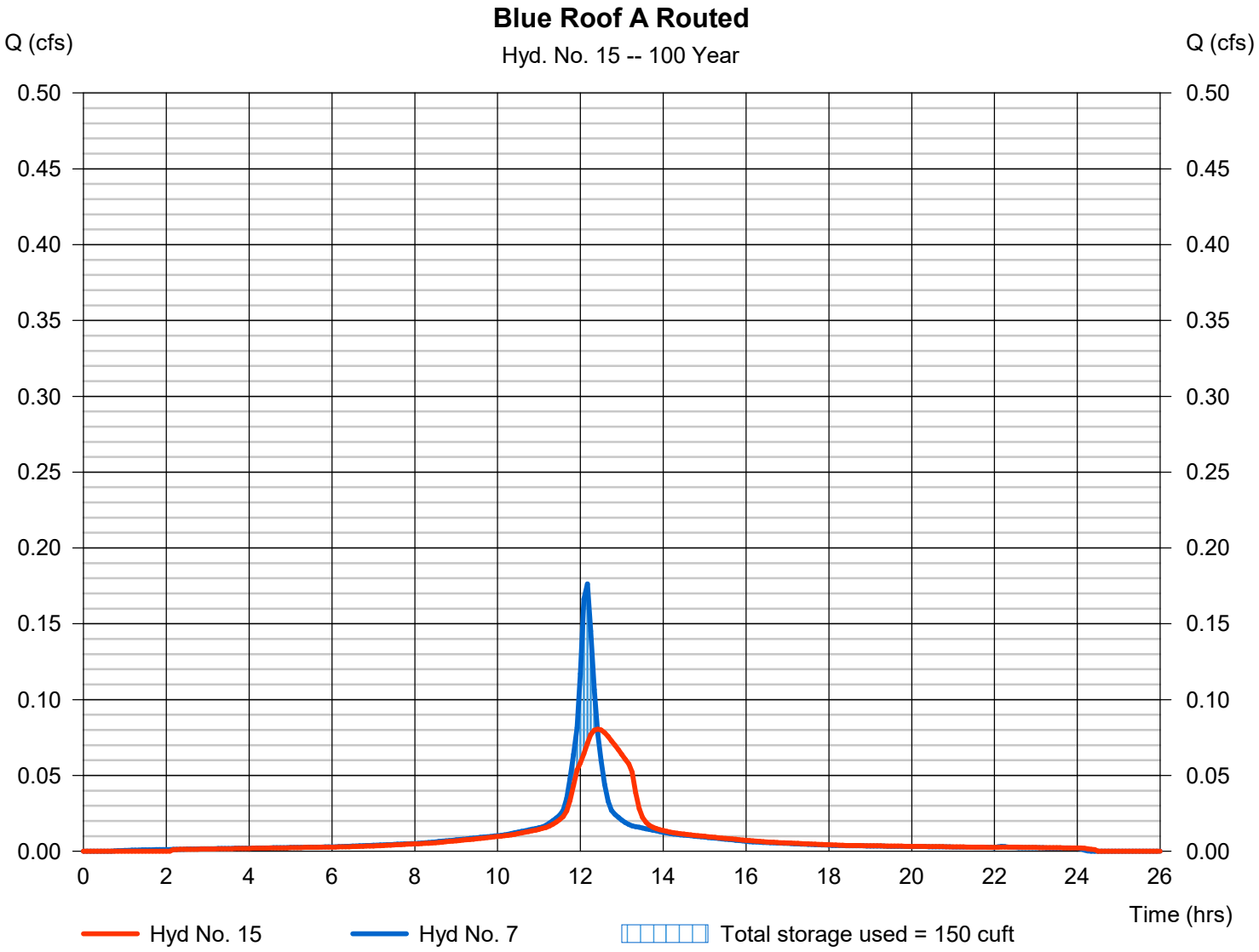
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 15

Blue Roof A Routed

Hydrograph type	= Reservoir	Peak discharge	= 0.081 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.42 hrs
Time interval	= 5 min	Hyd. volume	= 799 cuft
Inflow hyd. No.	= 7 - Prop Area A	Max. Elevation	= 100.41 ft
Reservoir name	= Blue Roof A	Max. Storage	= 150 cuft

Storage Indication method used.



Hydrograph Report

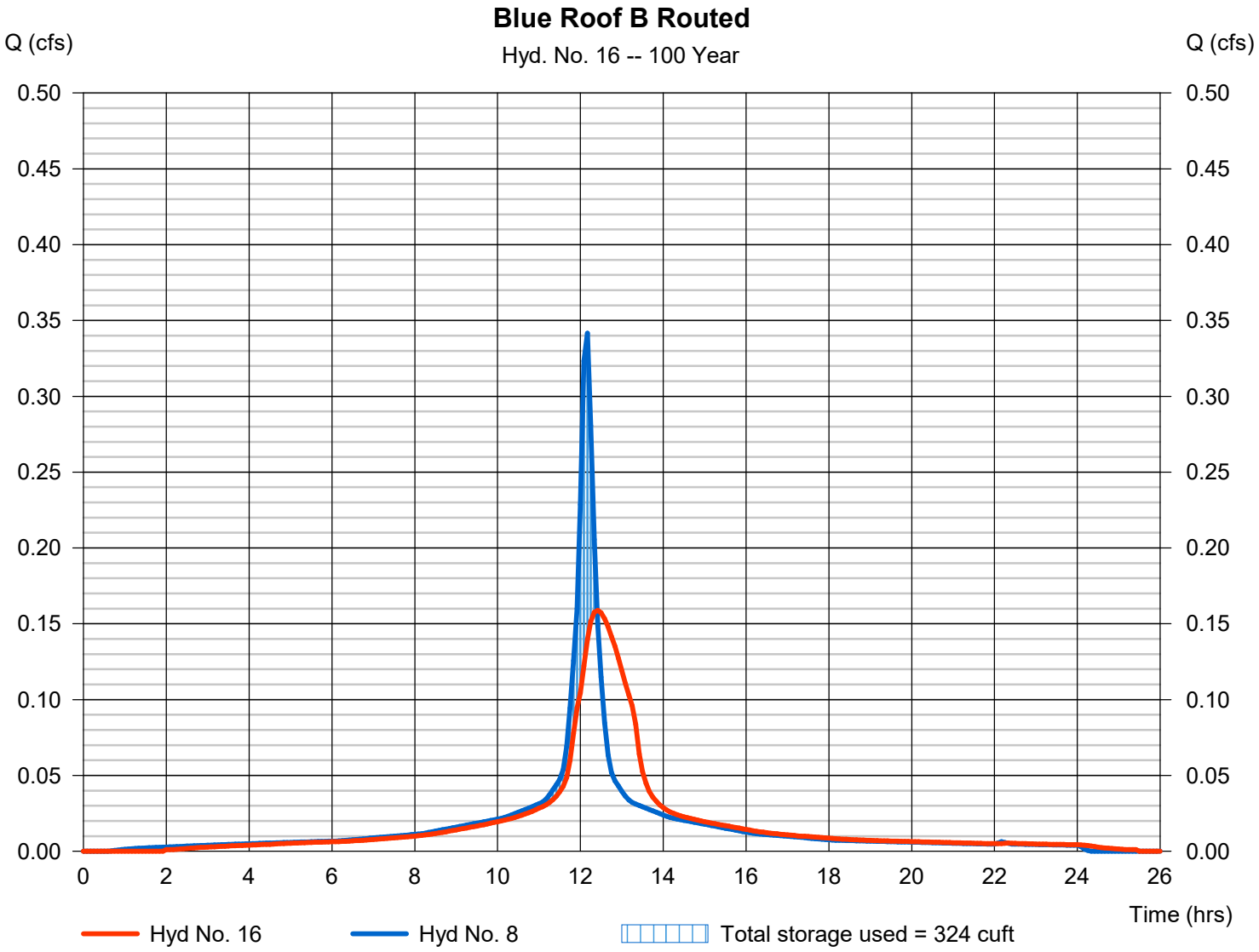
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 16

Blue Roof B Routed

Hydrograph type	=	Reservoir	Peak discharge	=	0.159 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.42 hrs
Time interval	=	5 min	Hyd. volume	=	1,582 cuft
Inflow hyd. No.	=	8 - Prop Area B - Blue Roof	Max. Elevation	=	100.38 ft
Reservoir name	=	Blue Roof B	Max. Storage	=	324 cuft

Storage Indication method used.



Hydrograph Report

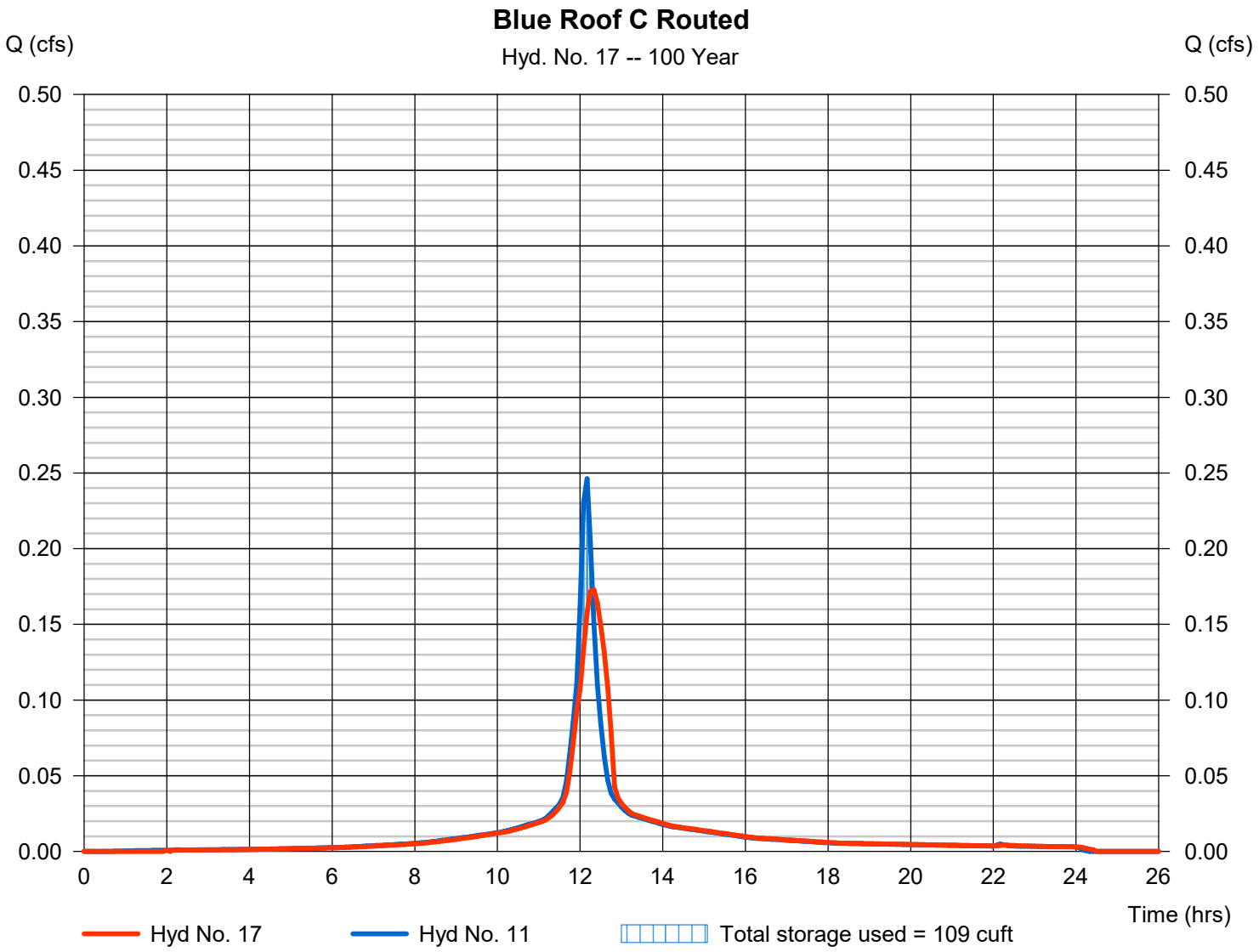
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 17

Blue Roof C Routed

Hydrograph type	=	Reservoir	Peak discharge	=	0.173 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.33 hrs
Time interval	=	5 min	Hyd. volume	=	1,067 cuft
Inflow hyd. No.	=	11 - Proposed Area C	Max. Elevation	=	100.42 ft
Reservoir name	=	Blue Roof C	Max. Storage	=	109 cuft

Storage Indication method used.



Hydrograph Report

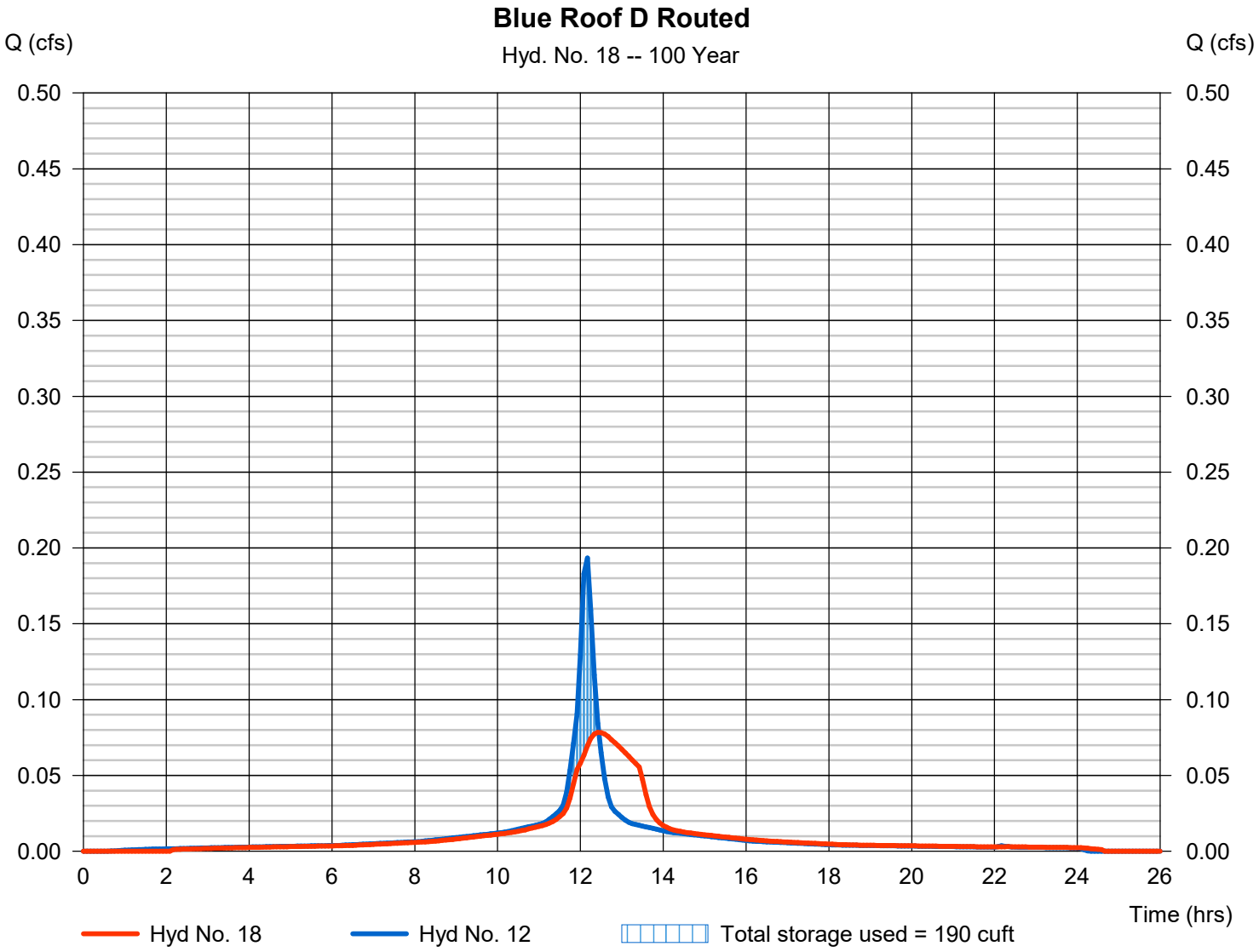
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 18

Blue Roof D Routed

Hydrograph type	=	Reservoir	Peak discharge	=	0.078 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.42 hrs
Time interval	=	5 min	Hyd. volume	=	895 cuft
Inflow hyd. No.	=	12 - Prop Area D - Blue Roof	Max. Elevation	=	100.39 ft
Reservoir name	=	Blue Roof D	Max. Storage	=	190 cuft

Storage Indication method used.



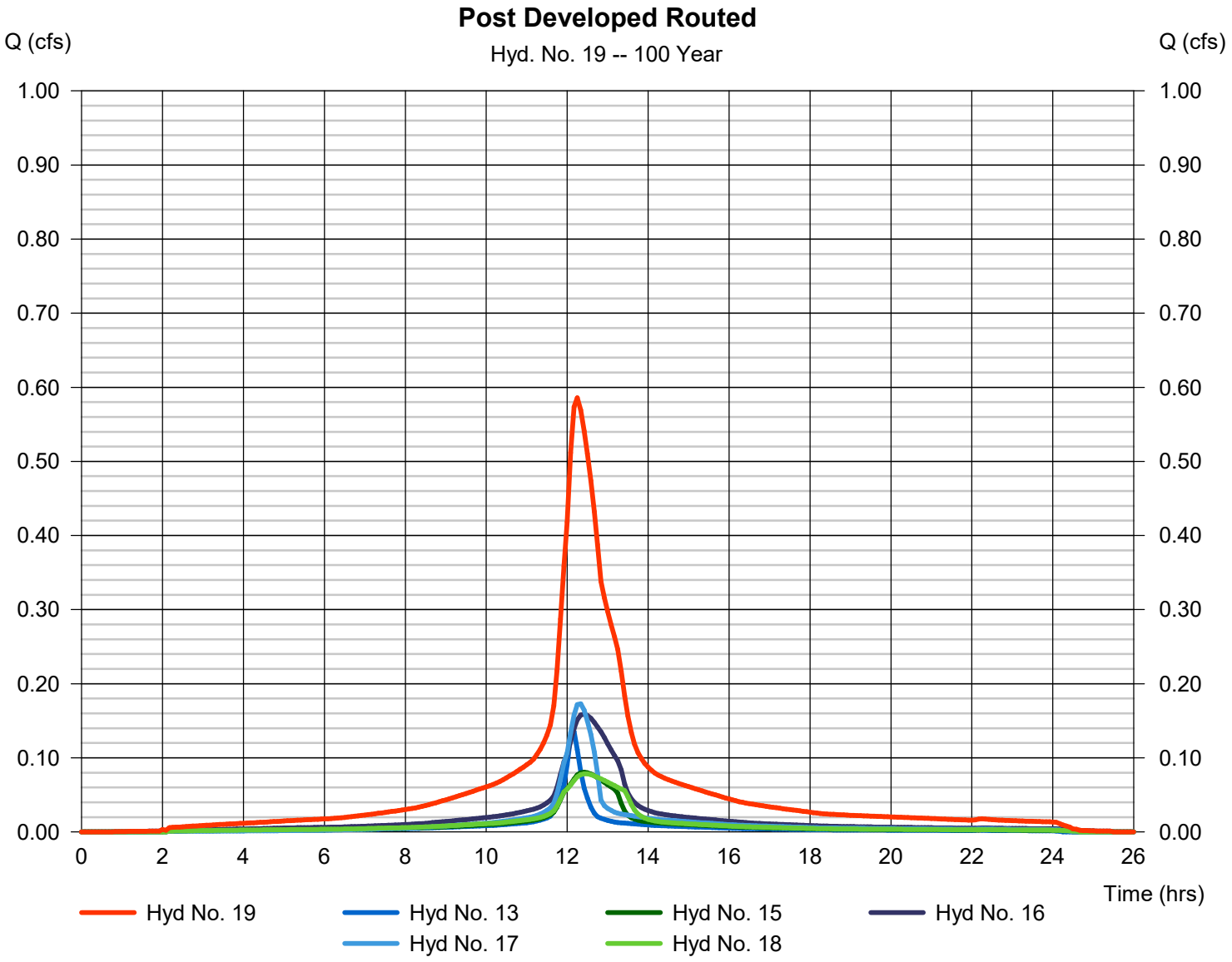
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Hyd. No. 19

Post Developed Routed

Hydrograph type	= Combine	Peak discharge	= 0.586 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.25 hrs
Time interval	= 5 min	Hyd. volume	= 4,974 cuft
Inflow hyds.	= 13, 15, 16, 17, 18	Contrib. drain. area	= 0.021 ac



Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Pond No. 1 - Blue Roof A

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 100.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	100.00	00	0	0
0.25	100.25	476	40	40
0.50	100.50	951	175	215
0.75	100.75	951	238	452
1.00	101.00	951	238	690
1.25	101.25	951	238	928
1.50	101.50	951	238	1,165

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 6.00	2.50	0.00	0.00
Span (in)	= 6.00	2.50	0.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 100.00	100.00	0.00	0.00
Length (ft)	= 30.00	1.00	0.00	0.00
Slope (%)	= 2.00	2.00	2.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	Yes	No

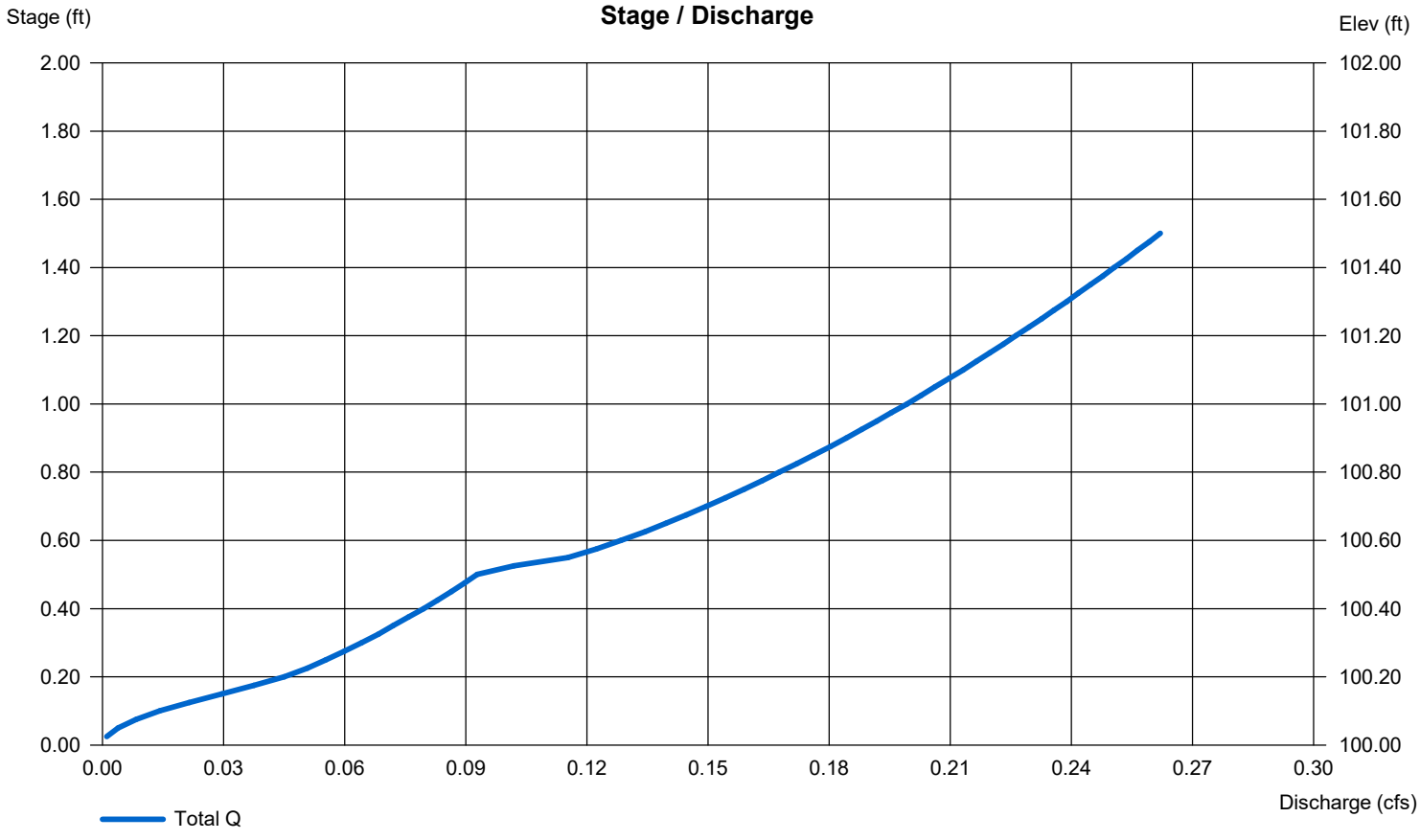
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.50	0.00	0.00	0.00
Crest El. (ft)	= 100.50	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= 1	---	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Pond No. 2 - Blue Roof B

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 100.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	100.00	00	0	0
0.25	100.25	1,153	96	96
0.50	100.50	2,305	424	520
0.75	100.75	2,305	576	1,096
1.00	101.00	2,305	576	1,672
1.25	101.25	2,305	576	2,249
1.50	101.50	2,305	576	2,825

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 6.00	4.00	0.00	0.00
Span (in)	= 6.00	4.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 100.00	100.00	0.00	0.00
Length (ft)	= 30.00	1.00	0.00	0.00
Slope (%)	= 2.00	2.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

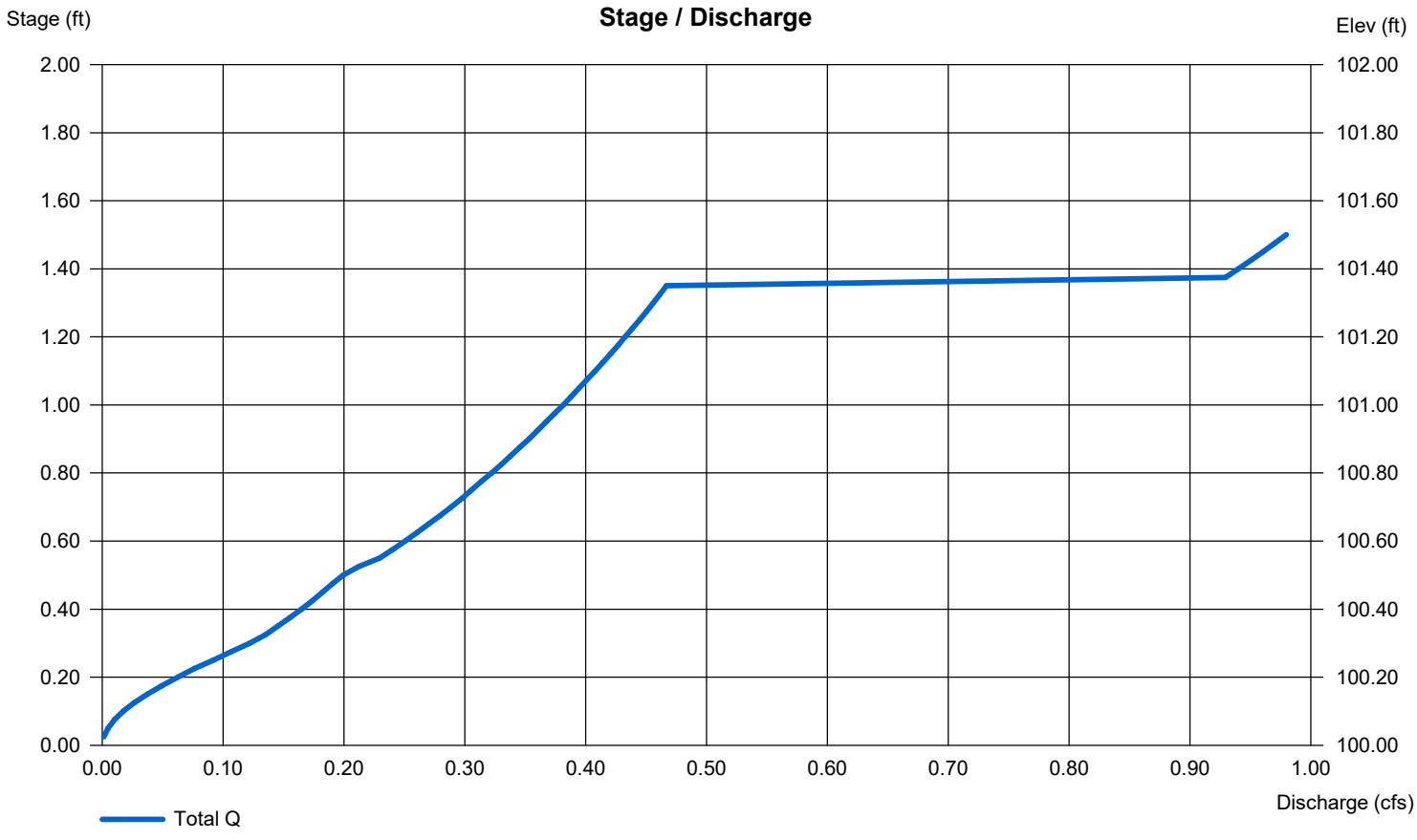
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.50	0.00	0.00	0.00
Crest El. (ft)	= 100.50	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= 1	---	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Pond No. 3 - Blue Roof C

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 100.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	100.00	00	0	0
0.25	100.25	323	27	27
0.50	100.50	646	119	146
0.75	100.75	646	161	307
1.00	101.00	646	161	469
1.25	101.25	646	161	630
1.50	101.50	646	161	792

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 6.00	4.00	0.00	0.00
Span (in)	= 6.00	4.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 100.00	100.00	0.00	0.00
Length (ft)	= 30.00	1.00	0.00	0.00
Slope (%)	= 2.00	2.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

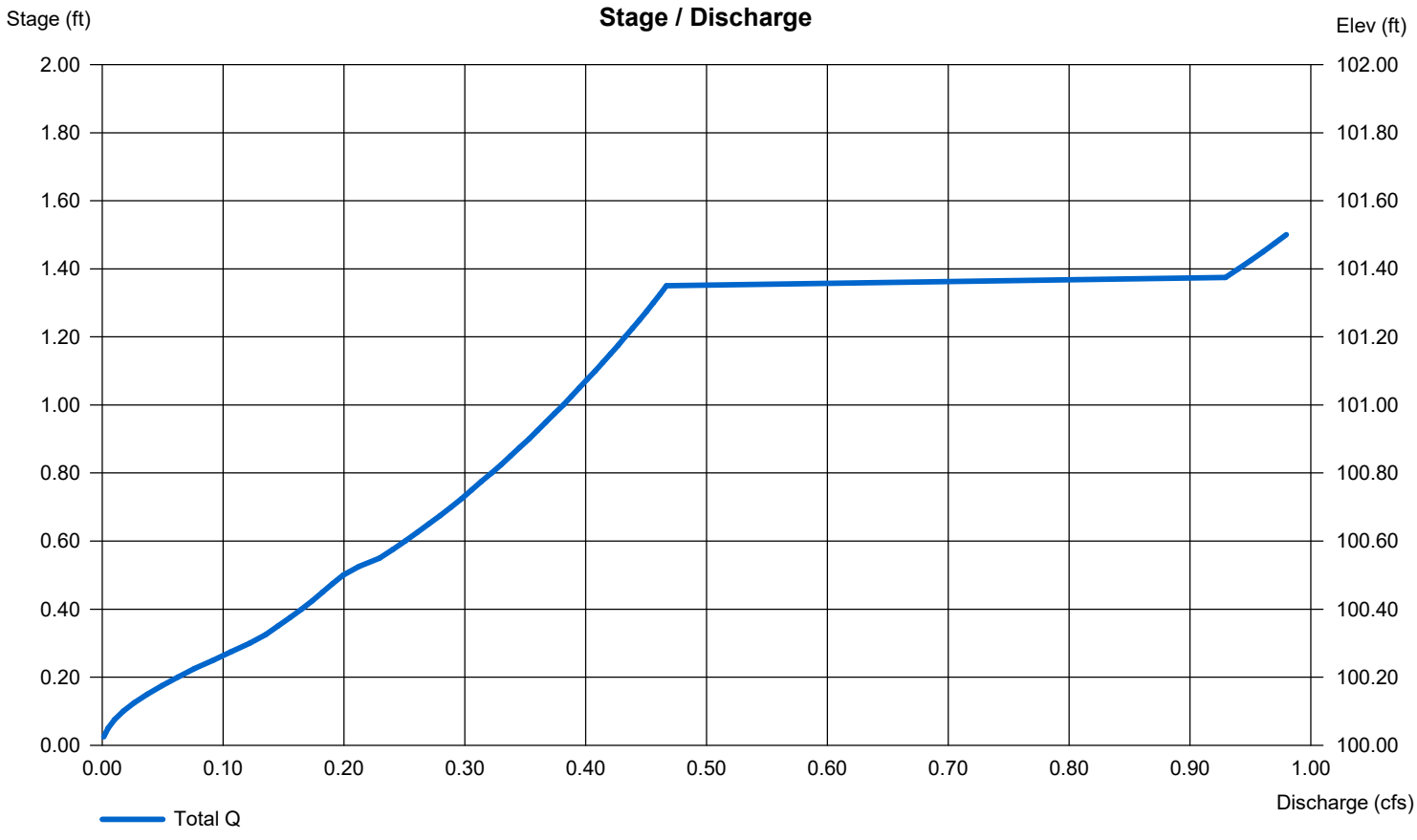
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.50	0.00	0.00	0.00
Crest El. (ft)	= 100.50	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= 1	---	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Sunday, 06 / 18 / 2023

Pond No. 4 - Blue Roof D

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 100.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	100.00	00	0	0
0.25	100.25	649	54	54
0.50	100.50	1,297	239	293
0.75	100.75	1,297	324	617
1.00	101.00	1,297	324	941
1.25	101.25	1,297	324	1,265
1.50	101.50	1,297	324	1,589

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 6.00	2.50	0.00	0.00
Span (in)	= 6.00	2.50	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 100.00	100.00	0.00	0.00
Length (ft)	= 30.00	1.00	0.00	0.00
Slope (%)	= 2.00	2.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.50	0.00	0.00	0.00
Crest El. (ft)	= 100.50	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= 1	---	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).