

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Wednesday, 01 / 29 / 2025

Hyd. No. 1

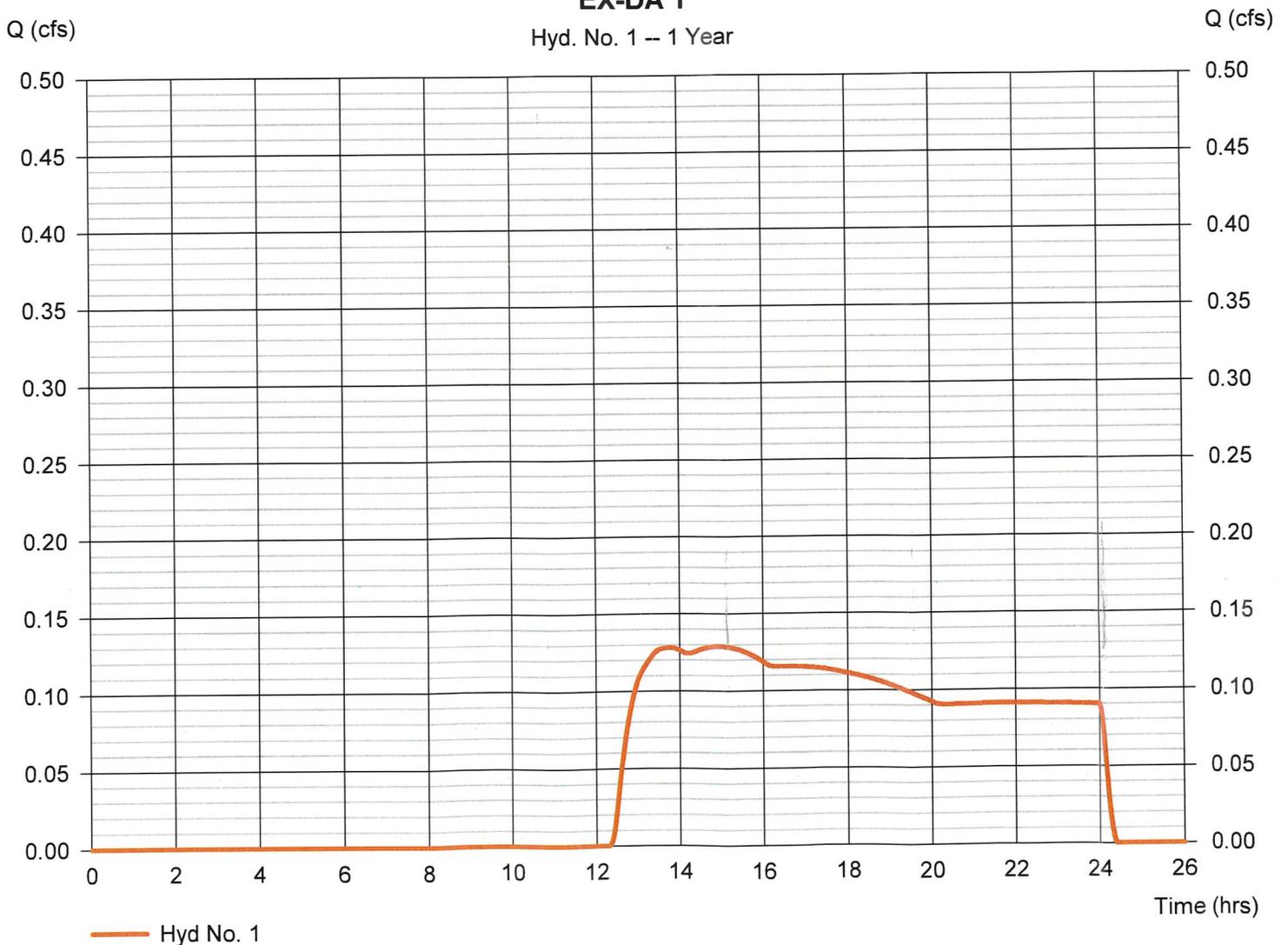
EX-DA 1

Hydrograph type	= SCS Runoff	Peak discharge	= 0.129 cfs
Storm frequency	= 1 yrs	Time to peak	= 14.93 hrs
Time interval	= 2 min	Hyd. volume	= 4,430 cuft
Drainage area	= 23.790 ac	Curve number	= 54*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 15.20 min
Total precip.	= 2.40 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(5.640 x 39) + (0.690 x 61) + (8.150 x 77) + (5.640 x 30) + (2.770 x 55) + (0.900 x 74)] / 23.790

EX-DA 1

Hyd. No. 1 -- 1 Year



TR55 T_c Worksheet

Hyd. No. 2

EX-DA2

<u>Description</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>Totals</u>
Sheet Flow				
Manning's n-value	= 0.170	0.011	0.011	
Flow length (ft)	= 150.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 3.00	0.00	0.00	
Land slope (%)	= 9.50	0.00	0.00	
Travel Time (min)	= 8.30	+ 0.00	+ 0.00	= 8.30
Shallow Concentrated Flow				
Flow length (ft)	= 150.00	200.00	886.00	
Watercourse slope (%)	= 9.50	5.00	7.50	
Surface description	= Unpaved	Unpaved	Unpaved	
Average velocity (ft/s)	=4.97	3.61	4.42	
Travel Time (min)	= 0.50	+ 0.92	+ 3.34	= 4.77
Channel Flow				
X sectional flow area (sqft)	= 0.00	0.00	0.00	
Wetted perimeter (ft)	= 0.00	0.00	0.00	
Channel slope (%)	= 0.00	0.00	0.00	
Manning's n-value	= 0.015	0.015	0.015	
Velocity (ft/s)	=0.00	0.00	0.00	
Flow length (ft)	(0)0.0	0.0	0.0	
Travel Time (min)	= 0.00	+ 0.00	+ 0.00	= 0.00
Total Travel Time, T_c				13.10 min

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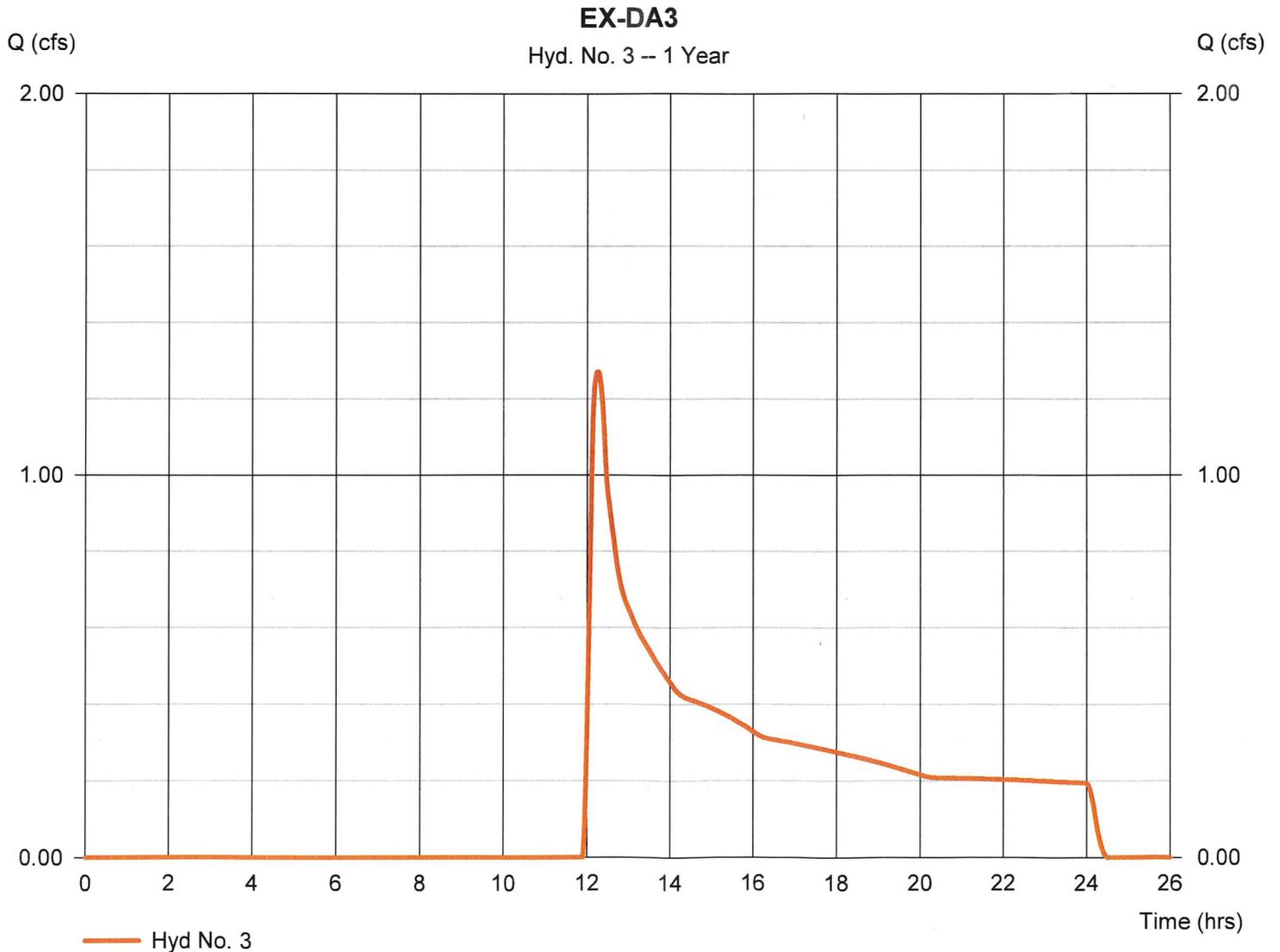
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Hyd. No. 3

EX-DA3

Hydrograph type	= SCS Runoff	Peak discharge	= 1.271 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.27 hrs
Time interval	= 2 min	Hyd. volume	= 15,096 cuft
Drainage area	= 28.290 ac	Curve number	= 60*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 18.90 min
Total precip.	= 2.40 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(2.920 x 39) + (11.890 x 77) + (0.630 x 61) + (7.210 x 30) + (4.530 x 70) + (1.110 x 98)] / 28.290



TR55 Tc Worksheet

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Hyd. No. 3

EX-DA3

<u>Description</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>Totals</u>
Sheet Flow				
Manning's n-value	= 0.150	0.011	0.011	
Flow length (ft)	= 150.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 3.00	0.00	0.00	
Land slope (%)	= 3.06	0.00	0.00	
Travel Time (min)	= 11.81	+ 0.00	+ 0.00	= 11.81
Shallow Concentrated Flow				
Flow length (ft)	= 150.00	1132.00	0.00	
Watercourse slope (%)	= 3.06	3.50	0.00	
Surface description	= Unpaved	Unpaved	Paved	
Average velocity (ft/s)	=2.82	3.02	0.00	
Travel Time (min)	= 0.89	+ 6.25	+ 0.00	= 7.14
Channel Flow				
X sectional flow area (sqft)	= 0.00	0.00	0.00	
Wetted perimeter (ft)	= 0.00	0.00	0.00	
Channel slope (%)	= 0.00	0.00	0.00	
Manning's n-value	= 0.015	0.015	0.015	
Velocity (ft/s)	=0.00	0.00	0.00	
Flow length (ft)	(0)0.0	0.0	0.0	
Travel Time (min)	= 0.00	+ 0.00	+ 0.00	= 0.00
Total Travel Time, Tc				18.90 min

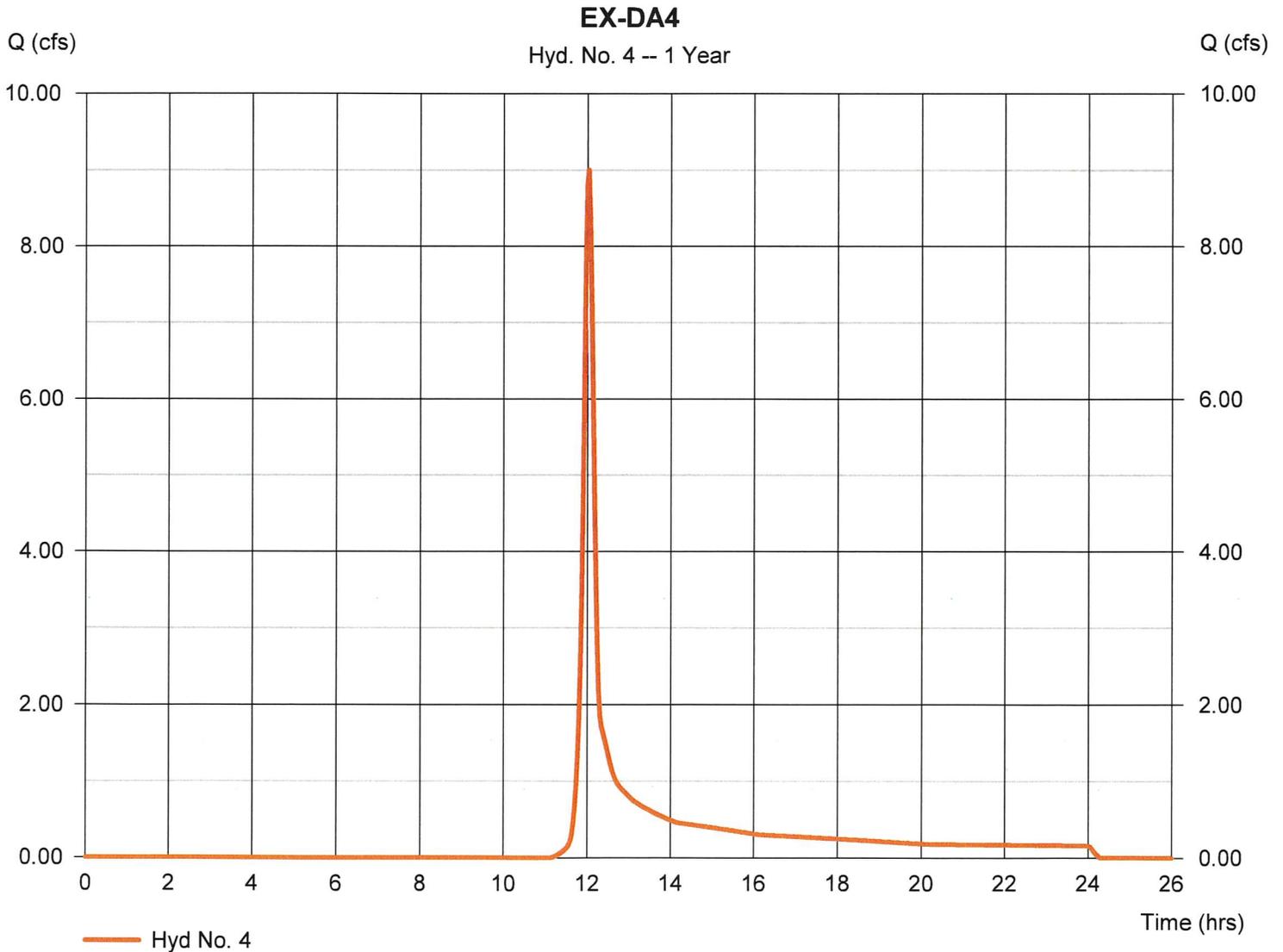
Hydrograph Report

Hyd. No. 4

EX-DA4

Hydrograph type	= SCS Runoff	Peak discharge	= 9.002 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.03 hrs
Time interval	= 2 min	Hyd. volume	= 24,306 cuft
Drainage area	= 8.970 ac	Curve number	= 78*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 11.50 min
Total precip.	= 2.40 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(8.040 x 77) + (0.420 x 74) + (0.510 x 98)] / 8.970



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Hyd. No. 4

EX-DA4

<u>Description</u>	<u>A</u>		<u>B</u>		<u>C</u>		<u>Totals</u>
Sheet Flow							
Manning's n-value	= 0.130		0.011		0.011		
Flow length (ft)	= 150.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.00		0.00		0.00		
Land slope (%)	= 5.00		0.00		0.00		
Travel Time (min)	= 8.65	+	0.00	+	0.00	=	8.65
Shallow Concentrated Flow							
Flow length (ft)	= 150.00		539.00		0.00		
Watercourse slope (%)	= 5.00		6.50		0.00		
Surface description	= Unpaved		Unpaved		Paved		
Average velocity (ft/s)	=3.61		4.11		0.00		
Travel Time (min)	= 0.69	+	2.18	+	0.00	=	2.88
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00		0.00		0.00		
Flow length (ft)	{0}0.0		0.0		0.0		
Travel Time (min)	= 0.00	+	0.00	+	0.00	=	0.00
Total Travel Time, Tc							11.50 min

Hydrograph Report

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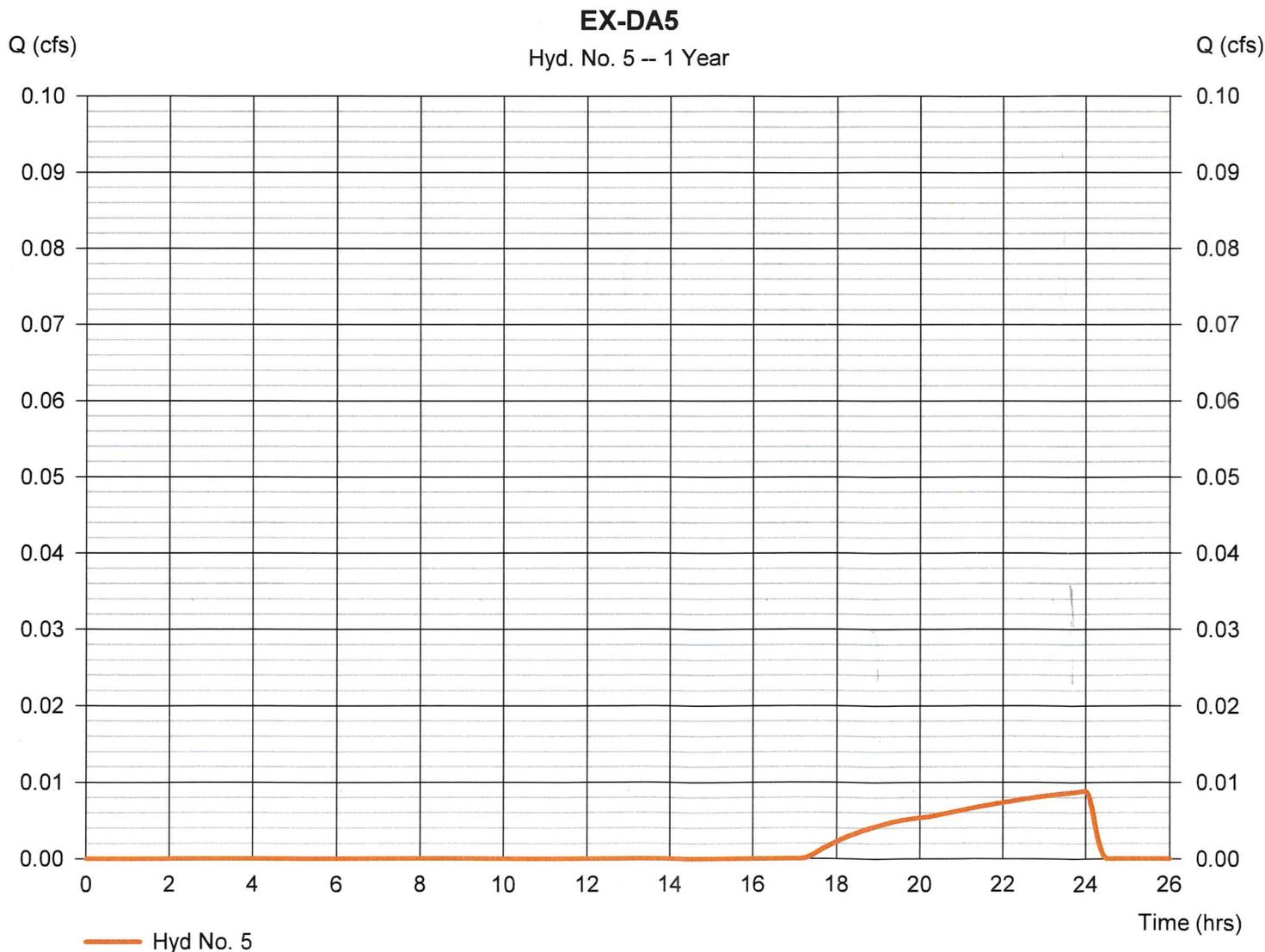
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Hyd. No. 5

EX-DA5

Hydrograph type	= SCS Runoff	Peak discharge	= 0.009 cfs
Storm frequency	= 1 yrs	Time to peak	= 24.00 hrs
Time interval	= 2 min	Hyd. volume	= 144 cuft
Drainage area	= 8.090 ac	Curve number	= 48*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 17.50 min
Total precip.	= 2.40 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.910 x 39) + (0.260 x 77) + (0.690 x 61) + (3.640 x 30) + (2.270 x 65) + (0.320 x 98)] / 8.090



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Hyd. No. 5

EX-DA5

<u>Description</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>Totals</u>
Sheet Flow				
Manning's n-value	= 0.150	0.011	0.011	
Flow length (ft)	= 150.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 3.00	0.00	0.00	
Land slope (%)	= 3.00	0.00	0.00	
Travel Time (min)	= 11.90	+ 0.00	+ 0.00	= 11.90
Shallow Concentrated Flow				
Flow length (ft)	= 150.00	856.00	0.00	
Watercourse slope (%)	= 3.00	3.50	0.00	
Surface description	= Unpaved	Unpaved	Paved	
Average velocity (ft/s)	=2.79	3.02	0.00	
Travel Time (min)	= 0.89	+ 4.73	+ 0.00	= 5.62
Channel Flow				
X sectional flow area (sqft)	= 0.00	0.00	0.00	
Wetted perimeter (ft)	= 0.00	0.00	0.00	
Channel slope (%)	= 0.00	0.00	0.00	
Manning's n-value	= 0.015	0.015	0.015	
Velocity (ft/s)	=0.00	0.00	0.00	
Flow length (ft)	(0)0.0	0.0	0.0	
Travel Time (min)	= 0.00	+ 0.00	+ 0.00	= 0.00
Total Travel Time, Tc				17.50 min

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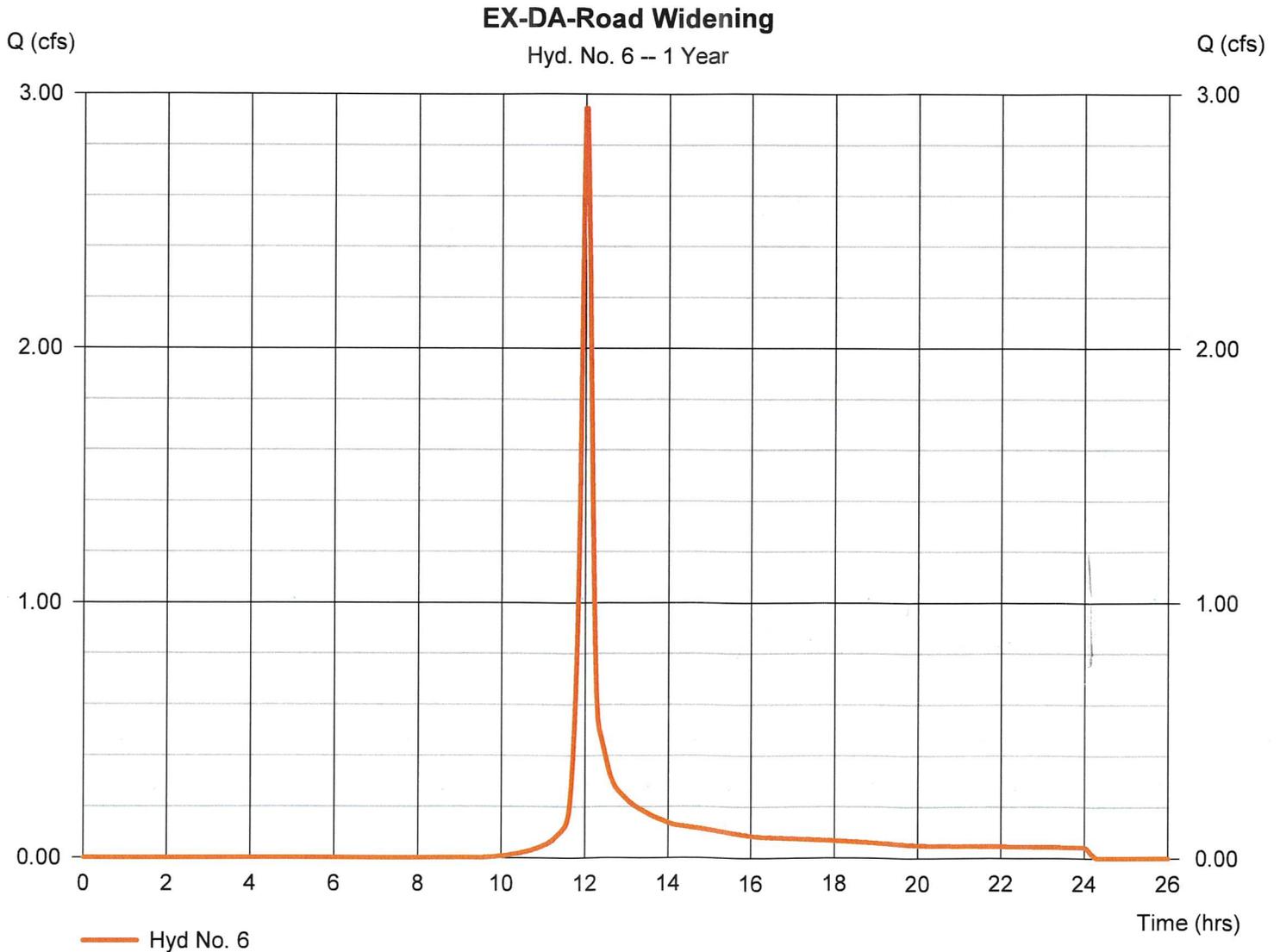
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Hyd. No. 6

EX-DA-Road Widening

Hydrograph type	= SCS Runoff	Peak discharge	= 2.945 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 7,701 cuft
Drainage area	= 1.980 ac	Curve number	= 84*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 12.60 min
Total precip.	= 2.40 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.200 x 77) + (1.000 x 74) + (0.780 x 98)] / 1.980



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Hyd. No. 6

EX-DA-Road Widening

<u>Description</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>Totals</u>
Sheet Flow				
Manning's n-value	= 0.011	0.011	0.011	
Flow length (ft)	= 150.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 3.00	0.00	0.00	
Land slope (%)	= 1.00	0.00	0.00	
Travel Time (min)	= 2.28	+ 0.00	+ 0.00	= 2.28
Shallow Concentrated Flow				
Flow length (ft)	= 679.00	856.00	0.00	
Watercourse slope (%)	= 1.00	3.50	0.00	
Surface description	= Paved	Unpaved	Paved	
Average velocity (ft/s)	=2.03	3.02	0.00	
Travel Time (min)	= 5.57	+ 4.73	+ 0.00	= 10.29
Channel Flow				
X sectional flow area (sqft)	= 0.00	0.00	0.00	
Wetted perimeter (ft)	= 0.00	0.00	0.00	
Channel slope (%)	= 0.00	0.00	0.00	
Manning's n-value	= 0.015	0.015	0.015	
Velocity (ft/s)	=0.00	0.00	0.00	
Flow length (ft)	(0)0.0	0.0	0.0	
Travel Time (min)	= 0.00	+ 0.00	+ 0.00	= 0.00
Total Travel Time, Tc				12.60 min

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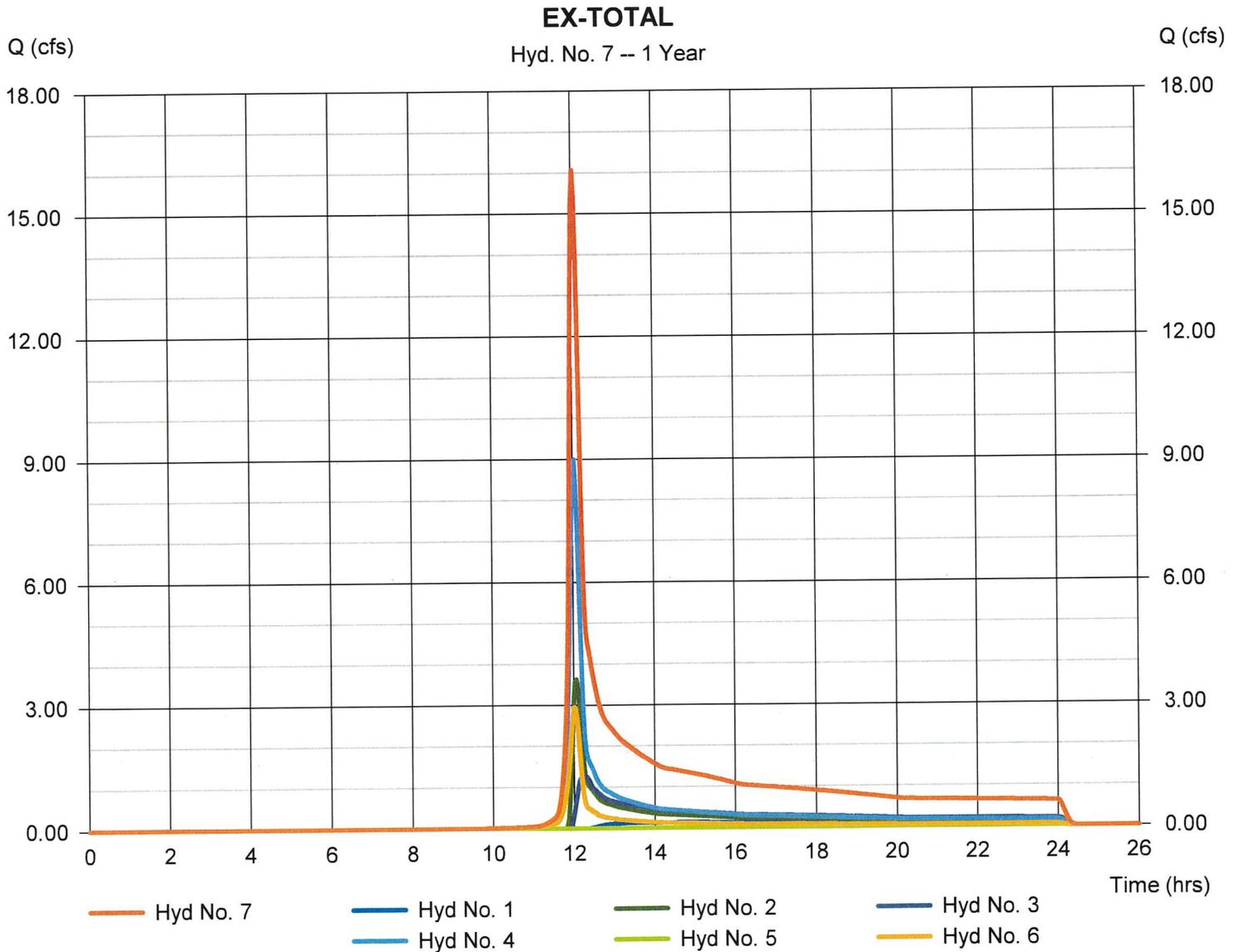
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Hyd. No. 7

EX-TOTAL

Hydrograph type = Combine
Storm frequency = 1 yrs
Time interval = 2 min
Inflow hyd. = 1, 2, 3, 4, 5, 6

Peak discharge = 16.07 cfs
Time to peak = 12.03 hrs
Hyd. volume = 65,571 cuft
Contrib. drain. area = 82.880 ac



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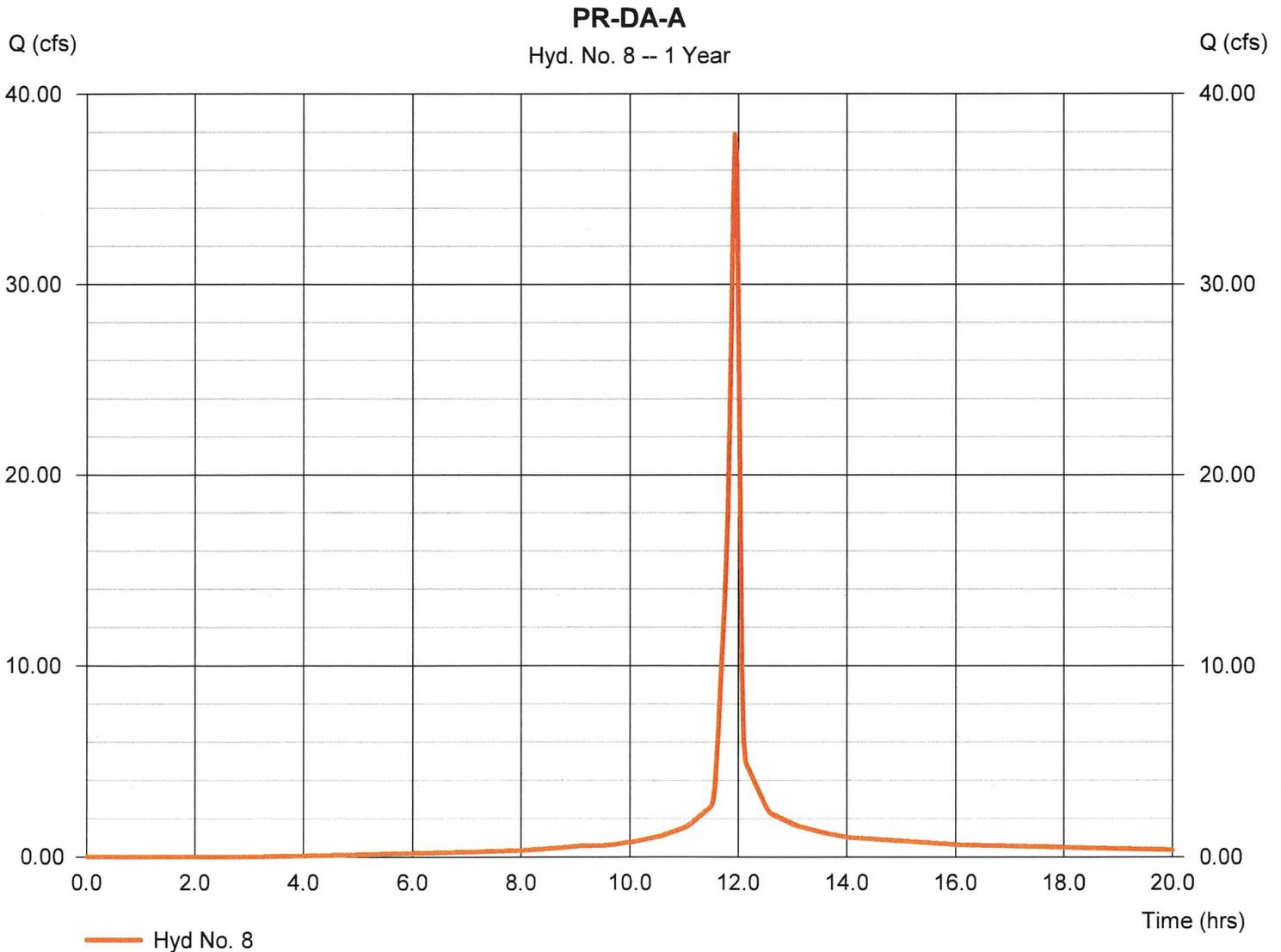
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Hyd. No. 8

PR-DA-A

Hydrograph type	= SCS Runoff	Peak discharge	= 37.88 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 82,858 cuft
Drainage area	= 12.400 ac	Curve number	= 96*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 6.30 min
Total precip.	= 2.40 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.200 x 39) + (0.450 x 80) + (11.750 x 98)] / 12.400



TR55 Tc Worksheet

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Hyd. No. 8

PR-DA-A

<u>Description</u>	<u>A</u>		<u>B</u>		<u>C</u>		<u>Totals</u>
Sheet Flow							
Manning's n-value	= 0.011		0.240		0.011		
Flow length (ft)	= 150.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.00		0.00		0.00		
Land slope (%)	= 1.00		0.00		0.00		
Travel Time (min)	= 2.28	+	0.00	+	0.00	=	2.28
Shallow Concentrated Flow							
Flow length (ft)	= 160.00		0.00		0.00		
Watercourse slope (%)	= 1.00		0.00		0.00		
Surface description	= Paved		Paved		Paved		
Average velocity (ft/s)	=2.03		0.00		0.00		
Travel Time (min)	= 1.31	+	0.00	+	0.00	=	1.31
Channel Flow							
X sectional flow area (sqft)	= 0.79		1.77		12.56		
Wetted perimeter (ft)	= 3.14		4.71		12.56		
Channel slope (%)	= 4.00		0.50		10.00		
Manning's n-value	= 0.010		0.010		0.010		
Velocity (ft/s)	=11.77		5.46				
					47.12		
Flow length (ft)	(0)242.0		764.0		76.0		
Travel Time (min)	= 0.34	+	2.33	+	0.03	=	2.70
Total Travel Time, Tc							6.30 min

Hydrograph Report

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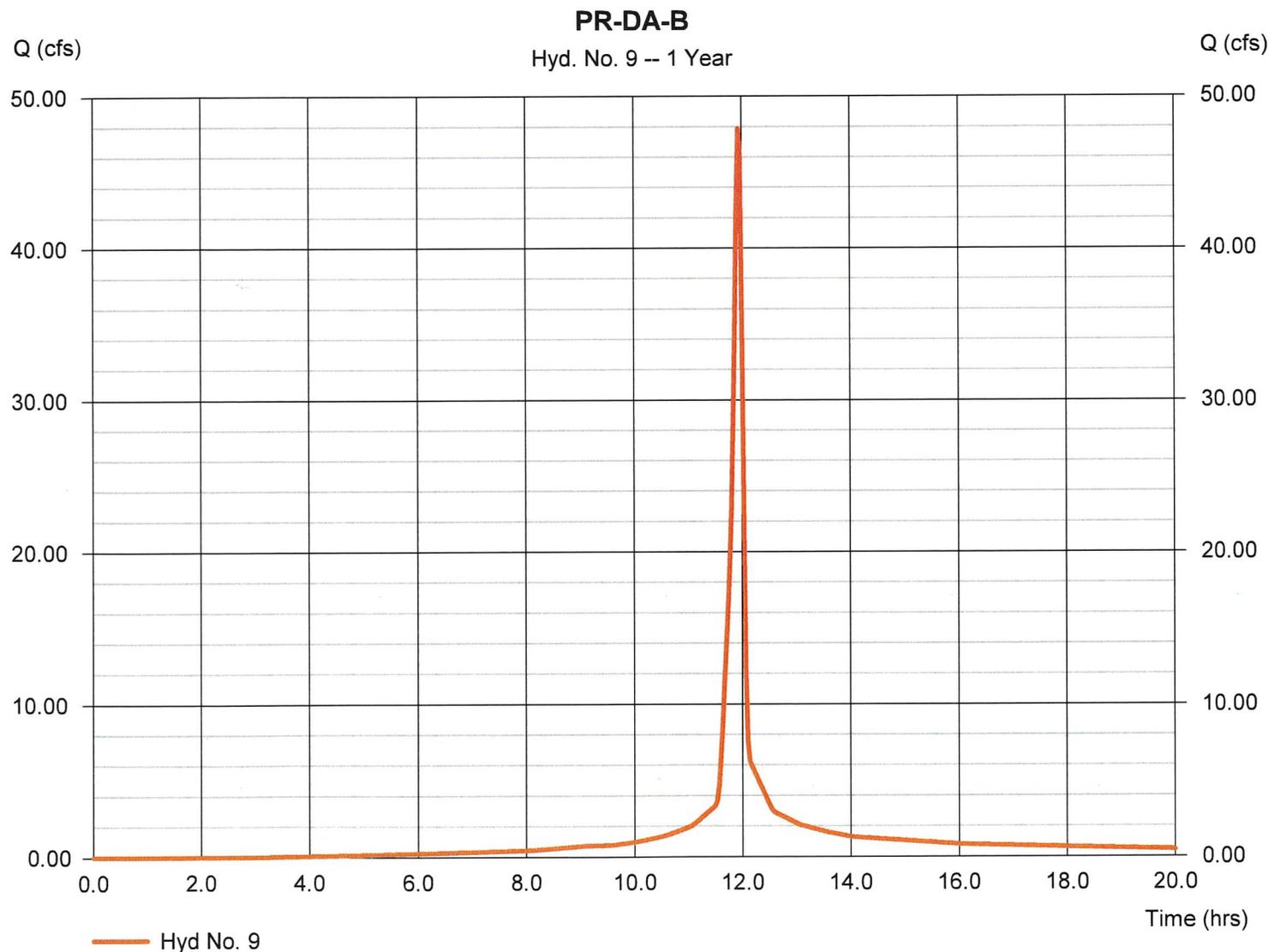
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Hyd. No. 9

PR-DA-B

Hydrograph type	= SCS Runoff	Peak discharge	= 47.87 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 104,708 cuft
Drainage area	= 15.670 ac	Curve number	= 96*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 2.40 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.100 x 39) + (1.610 x 80) + (13.960 x 98)] / 15.670



Hydrograph Report

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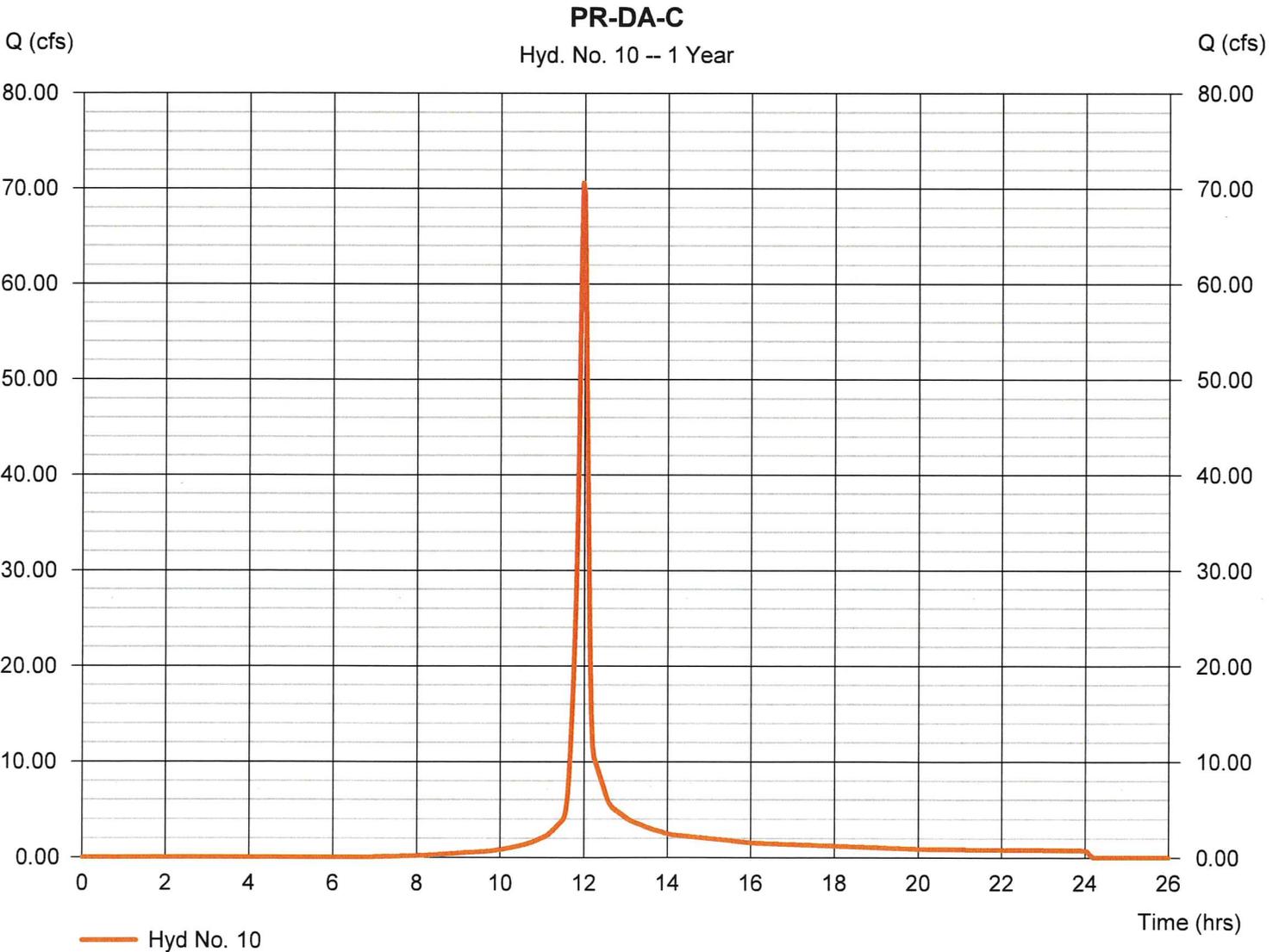
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Hyd. No. 10

PR-DA-C

Hydrograph type	= SCS Runoff	Peak discharge	= 70.60 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 162,535 cuft
Drainage area	= 31.050 ac	Curve number	= 90*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 9.50 min
Total precip.	= 2.40 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(2.830 x 39) + (5.270 x 80) + (22.950 x 98)] / 31.050



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Hyd. No. 10

PR-DA-C

<u>Description</u>	<u>A</u>		<u>B</u>		<u>C</u>		<u>Totals</u>
Sheet Flow							
Manning's n-value	= 0.011		0.011		0.011		
Flow length (ft)	= 150.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.00		0.00		0.00		
Land slope (%)	= 1.00		0.00		0.00		
Travel Time (min)	= 2.28	+	0.00	+	0.00	=	2.28
Shallow Concentrated Flow							
Flow length (ft)	= 224.00		0.00		0.00		
Watercourse slope (%)	= 1.00		0.00		0.00		
Surface description	= Paved		Paved		Paved		
Average velocity (ft/s)	=2.03		0.00		0.00		
Travel Time (min)	= 1.84	+	0.00	+	0.00	=	1.84
Channel Flow							
X sectional flow area (sqft)	= 0.79		7.07		12.56		
Wetted perimeter (ft)	= 3.14		9.42		12.56		
Channel slope (%)	= 4.00		0.50		0.50		
Manning's n-value	= 0.010		0.010		0.010		
Velocity (ft/s)	=11.77		8.69		10.54		
Flow length (ft)	(0)173.0		563.0		2588.0		
Travel Time (min)	= 0.24	+	1.08	+	4.09	=	5.42
Total Travel Time, Tc							9.50 min

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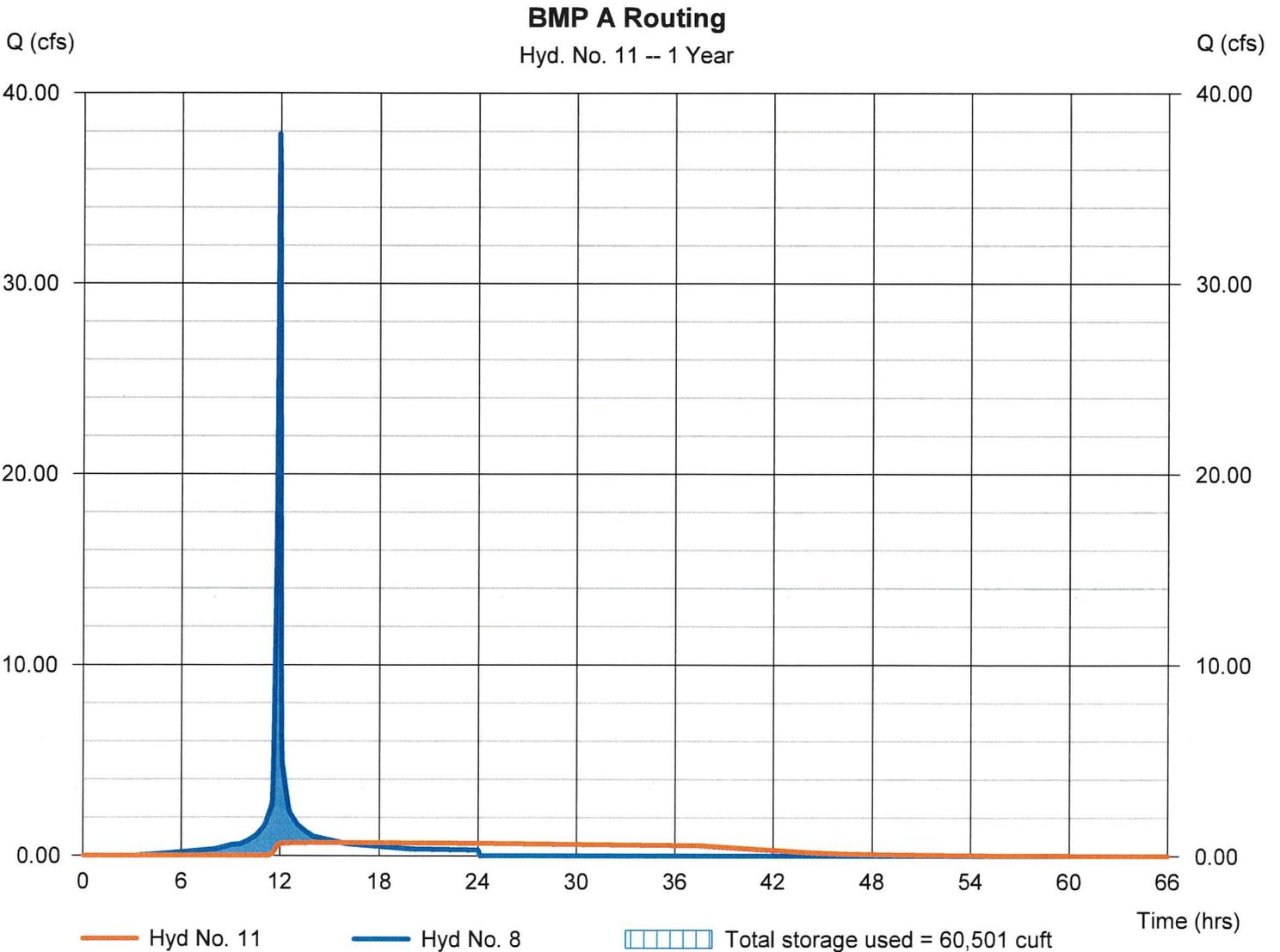
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Hyd. No. 11

BMP A Routing

Hydrograph type	= Reservoir	Peak discharge	= 0.677 cfs
Storm frequency	= 1 yrs	Time to peak	= 15.80 hrs
Time interval	= 2 min	Hyd. volume	= 70,851 cuft
Inflow hyd. No.	= 8 - PR-DA-A	Max. Elevation	= 290.44 ft
Reservoir name	= BMP A	Max. Storage	= 60,501 cuft

Storage Indication method used.



BMP A

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
5.40	320,718	293.40	1.90 ic	1.26 ic	0.61 ic	---	0.00	---	---	---	---	---	1.874
5.60	339,163	293.60	2.01 ic	1.29 ic	0.72 ic	---	0.00	---	---	---	---	---	2.009
5.80	357,608	293.80	2.18 ic	1.32 ic	0.81 ic	---	0.00	---	---	---	---	---	2.130
6.00	376,054	294.00	2.28 ic	1.35 ic	0.89 ic	---	0.00	---	---	---	---	---	2.241
6.20	396,204	294.20	5.91 ic	1.31 ic	0.97 ic	---	3.57	---	---	---	---	---	5.856
6.40	416,354	294.40	12.44 ic	1.24 ic	1.04 ic	---	10.11	---	---	---	---	---	12.39
6.60	436,504	294.60	20.74 ic	1.06 ic	1.11 ic	---	18.57	---	---	---	---	---	20.74
6.80	456,654	294.80	29.98 ic	0.60 ic	0.78 ic	---	28.59	---	---	---	---	---	29.98
7.00	476,804	295.00	32.43 ic	0.41 ic	0.53 ic	---	31.49 s	---	---	---	---	---	32.43
7.20	496,954	295.20	33.65 ic	0.32 ic	0.42 ic	---	32.90 s	---	---	---	---	---	33.64
7.40	517,104	295.40	34.59 ic	0.27 ic	0.35 ic	---	33.97 s	---	---	---	---	---	34.58
7.60	537,254	295.60	35.40 ic	0.23 ic	0.29 ic	---	34.88 s	---	---	---	---	---	35.40
7.80	557,405	295.80	36.14 ic	0.19 ic	0.25 ic	---	35.68 s	---	---	---	---	---	36.13
8.00	577,555	296.00	36.83 ic	0.17 ic	0.22 ic	---	36.43 s	---	---	---	---	---	36.83

...End

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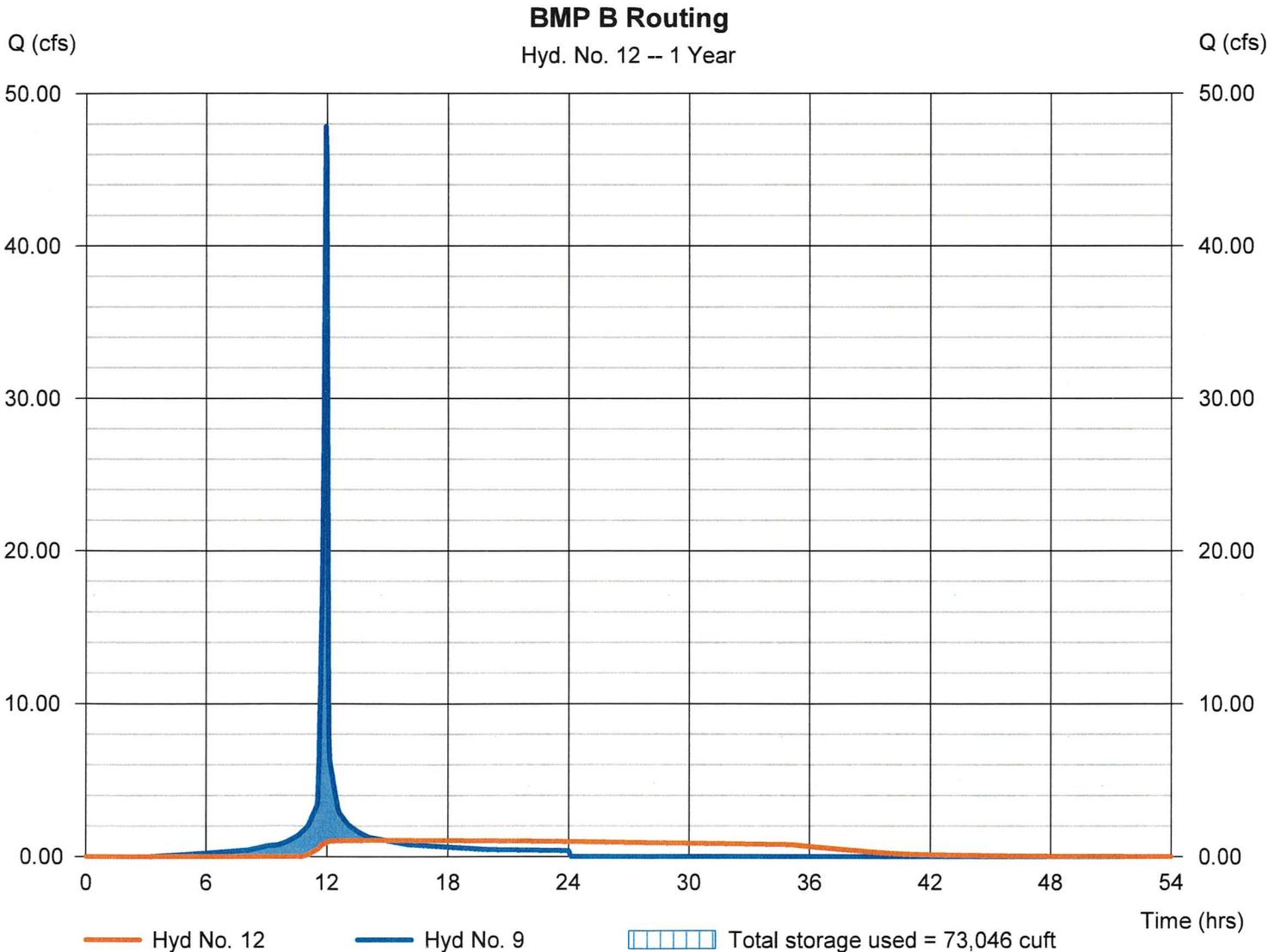
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Hyd. No. 12

BMP B Routing

Hydrograph type	= Reservoir	Peak discharge	= 1.058 cfs
Storm frequency	= 1 yrs	Time to peak	= 14.97 hrs
Time interval	= 2 min	Hyd. volume	= 93,228 cuft
Inflow hyd. No.	= 9 - PR-DA-B	Max. Elevation	= 286.62 ft
Reservoir name	= BMP B	Max. Storage	= 73,046 cuft

Storage Indication method used.



Pond Report

Pond No. 2 - BMP B

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Beginning Elevation = 284.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	284.00	00	0	0
2.00	286.00	34,400	22,931	22,931
2.01	286.01	76,441	540	23,471
4.00	288.00	87,488	162,970	186,441
6.00	290.00	95,788	183,195	369,636
8.00	292.00	104,371	200,078	569,713

581,011 Pric

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 24.00	3.50	4.00	0.00
Span (in)	= 24.00	3.50	4.00	0.00
No. Barrels	= 1	3	2	0
Invert El. (ft)	= 285.00	285.00	288.50	0.00
Length (ft)	= 238.00	0.00	0.00	0.00
Slope (%)	= 29.00	0.00	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	Yes	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 12.00	300.00	Inactive	0.00
Crest El. (ft)	= 290.00	290.50	0.00	0.00
Weir Coeff.	= 3.33	2.80	3.33	3.33
Weir Type	= Rect	Broad	---	---
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).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	284.00	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.20	2,293	284.20	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.40	4,586	284.40	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.60	6,879	284.60	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.80	9,172	284.80	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
1.00	11,466	285.00	0.00	0.00 ic	0.00	---	0.00	0.00	---	---	---	---	0.000
1.20	13,759	285.20	0.15 ic	0.15 ic	0.00	---	0.00	0.00	---	---	---	---	0.151
1.40	16,052	285.40	0.38 ic	0.38 ic	0.00	---	0.00	0.00	---	---	---	---	0.381
1.60	18,345	285.60	0.56 ic	0.53 ic	0.00	---	0.00	0.00	---	---	---	---	0.535
1.80	20,638	285.80	0.69 ic	0.66 ic	0.00	---	0.00	0.00	---	---	---	---	0.664
2.00	22,931	286.00	0.78 ic	0.78 ic	0.00	---	0.00	0.00	---	---	---	---	0.778
2.00	22,985	286.00	0.78 ic	0.78 ic	0.00	---	0.00	0.00	---	---	---	---	0.778
2.00	23,039	286.00	0.78 ic	0.78 ic	0.00	---	0.00	0.00	---	---	---	---	0.779
2.00	23,093	286.00	0.78 ic	0.78 ic	0.00	---	0.00	0.00	---	---	---	---	0.779
2.00	23,147	286.00	0.78 ic	0.78 ic	0.00	---	0.00	0.00	---	---	---	---	0.780
2.01	23,201	286.01	0.78 ic	0.78 ic	0.00	---	0.00	0.00	---	---	---	---	0.781
2.01	23,255	286.01	0.78 ic	0.78 ic	0.00	---	0.00	0.00	---	---	---	---	0.781
2.01	23,309	286.01	0.78 ic	0.78 ic	0.00	---	0.00	0.00	---	---	---	---	0.782
2.01	23,363	286.01	0.78 ic	0.78 ic	0.00	---	0.00	0.00	---	---	---	---	0.782
2.01	23,417	286.01	0.78 ic	0.78 ic	0.00	---	0.00	0.00	---	---	---	---	0.783
2.01	23,471	286.01	0.78 ic	0.78 ic	0.00	---	0.00	0.00	---	---	---	---	0.783
2.21	39,768	286.21	0.89 ic	0.88 ic	0.00	---	0.00	0.00	---	---	---	---	0.881
2.41	56,065	286.41	1.01 ic	0.97 ic	0.00	---	0.00	0.00	---	---	---	---	0.969
2.61	72,362	286.61	1.07 ic	1.05 ic	0.00	---	0.00	0.00	---	---	---	---	1.055
2.81	88,659	286.81	1.13 ic	1.13 ic	0.00	---	0.00	0.00	---	---	---	---	1.133
3.01	104,956	287.01	1.21 ic	1.21 ic	0.00	---	0.00	0.00	---	---	---	---	1.205
3.20	121,253	287.20	1.27 ic	1.27 ic	0.00	---	0.00	0.00	---	---	---	---	1.275
3.40	137,550	287.40	1.34 ic	1.34 ic	0.00	---	0.00	0.00	---	---	---	---	1.342
3.60	153,847	287.60	1.41 ic	1.41 ic	0.00	---	0.00	0.00	---	---	---	---	1.407
3.80	170,144	287.80	1.48 ic	1.47 ic	0.00	---	0.00	0.00	---	---	---	---	1.467
4.00	186,441	288.00	1.56 ic	1.52 ic	0.00	---	0.00	0.00	---	---	---	---	1.524
4.20	204,760	288.20	1.58 ic	1.58 ic	0.00	---	0.00	0.00	---	---	---	---	1.581
4.40	223,080	288.40	1.64 ic	1.64 ic	0.00	---	0.00	0.00	---	---	---	---	1.638
4.60	241,399	288.60	1.74 ic	1.69 ic	0.05 ic	---	0.00	0.00	---	---	---	---	1.736
4.80	259,719	288.80	2.08 ic	1.73 ic	0.31 ic	---	0.00	0.00	---	---	---	---	2.039
5.00	278,038	289.00	2.28 ic	1.77 ic	0.49 ic	---	0.00	0.00	---	---	---	---	2.260
5.20	296,358	289.20	2.48 ic	1.82 ic	0.61 ic	---	0.00	0.00	---	---	---	---	2.433

Continues on next page...

BMP B

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
5.40	314,677	289.40	2.59 ic	1.87 ic	0.72 ic	---	0.00	0.00	---	---	---	---	2.586
5.60	332,997	289.60	2.72 ic	1.91 ic	0.81 ic	---	0.00	0.00	---	---	---	---	2.720
5.80	351,316	289.80	2.92 ic	1.95 ic	0.89 ic	---	0.00	0.00	---	---	---	---	2.847
6.00	369,636	290.00	3.03 ic	2.00 ic	0.97 ic	---	0.00	0.00	---	---	---	---	2.966
6.20	389,644	290.20	6.56 ic	1.95 ic	1.04 ic	---	3.57	0.00	---	---	---	---	6.564
6.40	409,651	290.40	13.09 ic	1.85 ic	1.11 ic	---	10.11	0.00	---	---	---	---	13.06
6.60	429,659	290.60	21.30 ic	1.56 ic	1.17 ic	---	18.57	26.57	---	---	---	---	47.87
6.80	449,667	290.80	30.22 ic	0.87 ic	0.76 ic	---	28.59	138.02	---	---	---	---	168.23
7.00	469,675	291.00	32.45 ic	0.61 ic	0.53 ic	---	31.31 s	297.07	---	---	---	---	329.52
7.20	489,682	291.20	33.66 ic	0.48 ic	0.42 ic	---	32.76 s	492.07	---	---	---	---	525.72
7.40	509,690	291.40	34.59 ic	0.40 ic	0.35 ic	---	33.85 s	717.31	---	---	---	---	751.90
7.60	529,698	291.60	35.40 ic	0.34 ic	0.29 ic	---	34.77 s	969.23	---	---	---	---	1004.63
7.80	549,706	291.80	36.14 ic	0.29 ic	0.25 ic	---	35.58 s	1245.23	---	---	---	---	1281.36
8.00	569,713	292.00	36.83 ic	0.26 ic	0.22 ic	---	36.35 s	1543.18	---	---	---	---	1580.01

...End

OCS Source of Power

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

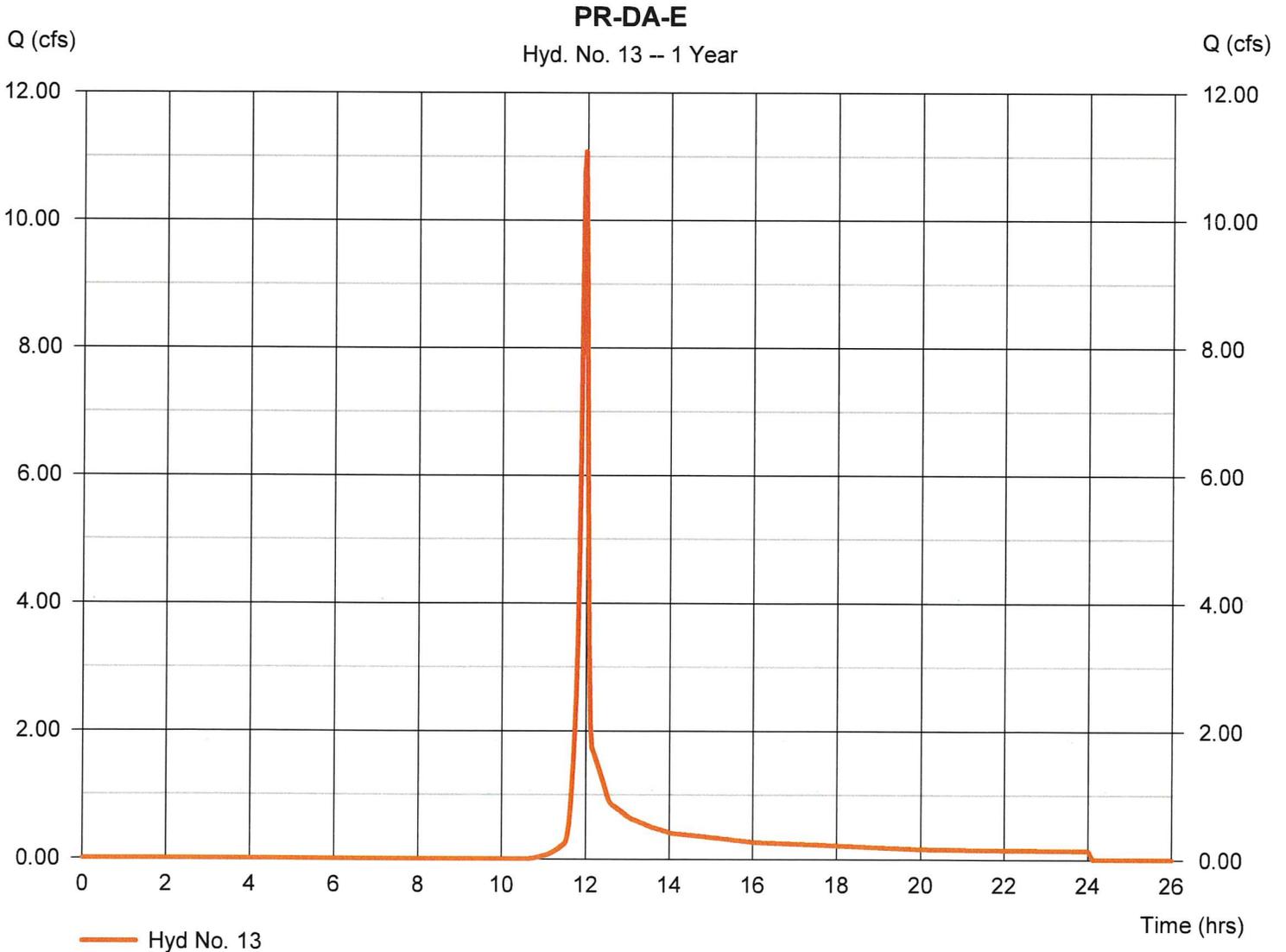
Wednesday, 01 / 29 / 2025

Hyd. No. 13

PR-DA-E

Hydrograph type	= SCS Runoff	Peak discharge	= 11.08 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 22,169 cuft
Drainage area	= 7.940 ac	Curve number	= 80*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 2.40 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.220 x 39) + (0.880 x 61) + (2.190 x 80) + (3.650 x 98)] / 7.940



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

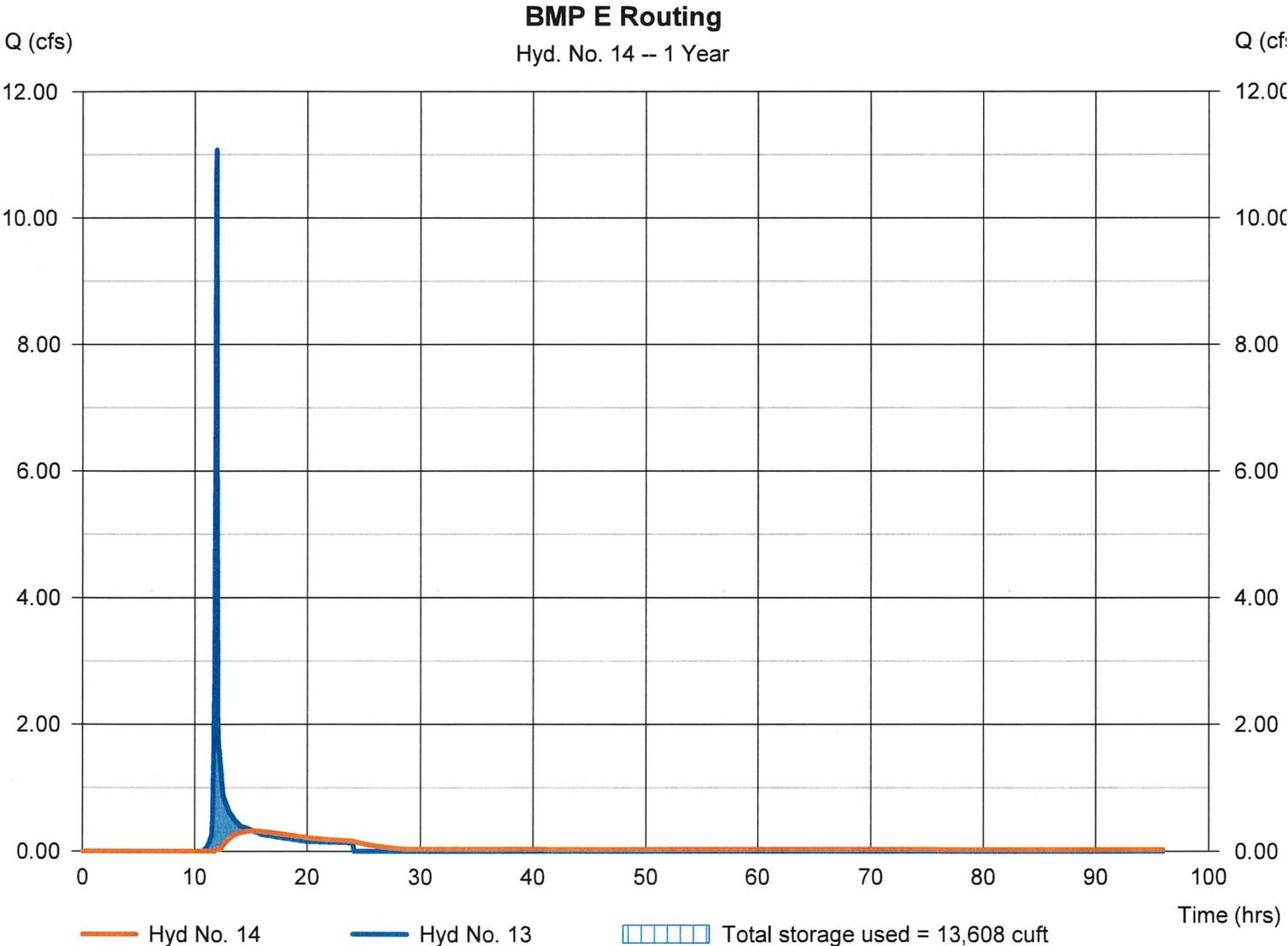
Wednesday, 01 / 29 / 2025

Hyd. No. 14

BMP E Routing

Hydrograph type	= Reservoir	Peak discharge	= 0.320 cfs
Storm frequency	= 1 yrs	Time to peak	= 15.27 hrs
Time interval	= 2 min	Hyd. volume	= 18,858 cuft
Inflow hyd. No.	= 13 - PR-DA-E	Max. Elevation	= 257.10 ft
Reservoir name	= BMP E	Max. Storage	= 13,608 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Wednesday, 01 / 29 / 2025

Pond No. 4 - BMP E

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Beginning Elevation = 252.00 ft

1st spillway @ 222 ft
83,694 cu ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	252.00	00	0	0
4.00	256.00	1,972	2,629	2,629
4.01	256.01	8,762	50	2,679
6.00	258.00	11,385	19,987	22,666
8.00	260.00	14,240	25,569	48,235
10.00	262.00	17,331	31,517	79,753

Q_{in} 66.22
@ WSEL = 260.69

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 24.00	1.00	4.00	0.00
Span (in)	= 24.00	1.00	4.00	0.00
No. Barrels	= 1	1	2	0
Invert El. (ft)	= 255.00	255.00	256.80	0.00
Length (ft)	= 3.18	0.00	0.00	0.00
Slope (%)	= 5.42	0.00	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	Yes	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 12.00	0.00	Inactive	0.00
Crest El. (ft)	= 259.50	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
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).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	252.00	0.00	0.00	0.00	---	0.00	---	---	---	---	---	0.000
0.40	263	252.40	0.00	0.00	0.00	---	0.00	---	---	---	---	---	0.000
0.80	526	252.80	0.00	0.00	0.00	---	0.00	---	---	---	---	---	0.000
1.20	789	253.20	0.00	0.00	0.00	---	0.00	---	---	---	---	---	0.000
1.60	1,052	253.60	0.00	0.00	0.00	---	0.00	---	---	---	---	---	0.000
2.00	1,315	254.00	0.00	0.00	0.00	---	0.00	---	---	---	---	---	0.000
2.40	1,577	254.40	0.00	0.00	0.00	---	0.00	---	---	---	---	---	0.000
2.80	1,840	254.80	0.00	0.00	0.00	---	0.00	---	---	---	---	---	0.000
3.20	2,103	255.20	0.01 ic	0.01 ic	0.00	---	0.00	---	---	---	---	---	0.010
3.60	2,366	255.60	0.02 ic	0.02 ic	0.00	---	0.00	---	---	---	---	---	0.019
4.00	2,629	256.00	0.03 ic	0.03 ic	0.00	---	0.00	---	---	---	---	---	0.025
4.00	2,634	256.00	0.03 ic	0.03 ic	0.00	---	0.00	---	---	---	---	---	0.025
4.00	2,639	256.00	0.03 ic	0.03 ic	0.00	---	0.00	---	---	---	---	---	0.025
4.00	2,644	256.00	0.03 ic	0.03 ic	0.00	---	0.00	---	---	---	---	---	0.026
4.00	2,649	256.00	0.03 ic	0.03 ic	0.00	---	0.00	---	---	---	---	---	0.026
4.01	2,654	256.01	0.03 ic	0.03 ic	0.00	---	0.00	---	---	---	---	---	0.026
4.01	2,659	256.01	0.03 ic	0.03 ic	0.00	---	0.00	---	---	---	---	---	0.026
4.01	2,664	256.01	0.03 ic	0.03 ic	0.00	---	0.00	---	---	---	---	---	0.026
4.01	2,669	256.01	0.03 ic	0.03 ic	0.00	---	0.00	---	---	---	---	---	0.026
4.01	2,674	256.01	0.03 ic	0.03 ic	0.00	---	0.00	---	---	---	---	---	0.026
4.01	2,679	256.01	0.03 ic	0.03 ic	0.00	---	0.00	---	---	---	---	---	0.026
4.21	4,677	256.21	0.03 ic	0.03 ic	0.00	---	0.00	---	---	---	---	---	0.028
4.41	6,676	256.41	0.03 ic	0.03 ic	0.00	---	0.00	---	---	---	---	---	0.030
4.61	8,675	256.61	0.04 ic	0.03 ic	0.00	---	0.00	---	---	---	---	---	0.033
4.81	10,674	256.81	0.04 ic	0.03 ic	0.00 ic	---	0.00	---	---	---	---	---	0.035
5.01	12,672	257.01	0.22 ic	0.04 ic	0.17 ic	---	0.00	---	---	---	---	---	0.210
5.20	14,671	257.20	0.45 ic	0.04 ic	0.41 ic	---	0.00	---	---	---	---	---	0.446
5.40	16,670	257.40	0.60 ic	0.04 ic	0.56 ic	---	0.00	---	---	---	---	---	0.593
5.60	18,669	257.60	0.73 ic	0.04 ic	0.67 ic	---	0.00	---	---	---	---	---	0.709
5.80	20,667	257.80	0.84 ic	0.04 ic	0.77 ic	---	0.00	---	---	---	---	---	0.809
6.00	22,666	258.00	0.90 ic	0.04 ic	0.85 ic	---	0.00	---	---	---	---	---	0.897
6.20	25,223	258.20	1.00 ic	0.04 ic	0.93 ic	---	0.00	---	---	---	---	---	0.977
6.40	27,780	258.40	1.07 ic	0.05 ic	1.01 ic	---	0.00	---	---	---	---	---	1.051
6.60	30,337	258.60	1.13 ic	0.05 ic	1.07 ic	---	0.00	---	---	---	---	---	1.121
6.80	32,894	258.80	1.20 ic	0.05 ic	1.14 ic	---	0.00	---	---	---	---	---	1.186
7.00	35,451	259.00	1.26 ic	0.05 ic	1.20 ic	---	0.00	---	---	---	---	---	1.248
7.20	38,008	259.20	1.33 ic	0.05 ic	1.26 ic	---	0.00	---	---	---	---	---	1.307

Continues on next page...

BMP E

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
7.40	40,565	259.40	1.41 ic	0.05 ic	1.31 ic	---	0.00	---	---	---	---	---	1.363
7.60	43,122	259.60	2.73 oc	0.05 ic	1.36 ic	---	1.27	---	---	---	---	---	2.681
7.80	45,678	259.80	8.05 oc	0.05 ic	1.41 ic	---	6.57	---	---	---	---	---	8.030
8.00	48,235	260.00	15.52 oc	0.04 ic	1.35 ic	---	14.13	---	---	---	---	---	15.52
8.20	51,387	260.20	24.49 ic	0.03 ic	1.06 ic	---	23.40	---	---	---	---	---	24.49
8.40	54,539	260.40	29.96 ic	0.02 ic	0.58 ic	---	29.36 s	---	---	---	---	---	29.96
8.60	57,691	260.60	31.44 ic	0.01 ic	0.44 ic	---	30.98 s	---	---	---	---	---	31.43
8.80	60,842	260.80	32.50 ic	0.01 ic	0.36 ic	---	32.12 s	---	---	---	---	---	32.49
9.00	63,994	261.00	33.38 ic	0.01 ic	0.30 ic	---	33.06 s	---	---	---	---	---	33.38
9.20	67,146	261.20	34.17 ic	0.01 ic	0.26 ic	---	33.90 s	---	---	---	---	---	34.17
9.40	70,297	261.40	34.91 ic	0.01 ic	0.23 ic	---	34.67 s	---	---	---	---	---	34.91
9.60	73,449	261.60	35.61 ic	0.01 ic	0.20 ic	---	35.38 s	---	---	---	---	---	35.59
9.80	76,601	261.80	36.28 ic	0.01 ic	0.18 ic	---	36.09 s	---	---	---	---	---	36.28
10.00	79,753	262.00	36.93 ic	0.01 ic	0.16 ic	---	36.74 s	---	---	---	---	---	36.91

...End

OCS same of PWA

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Wednesday, 01 / 29 / 2025

Hyd. No. 15

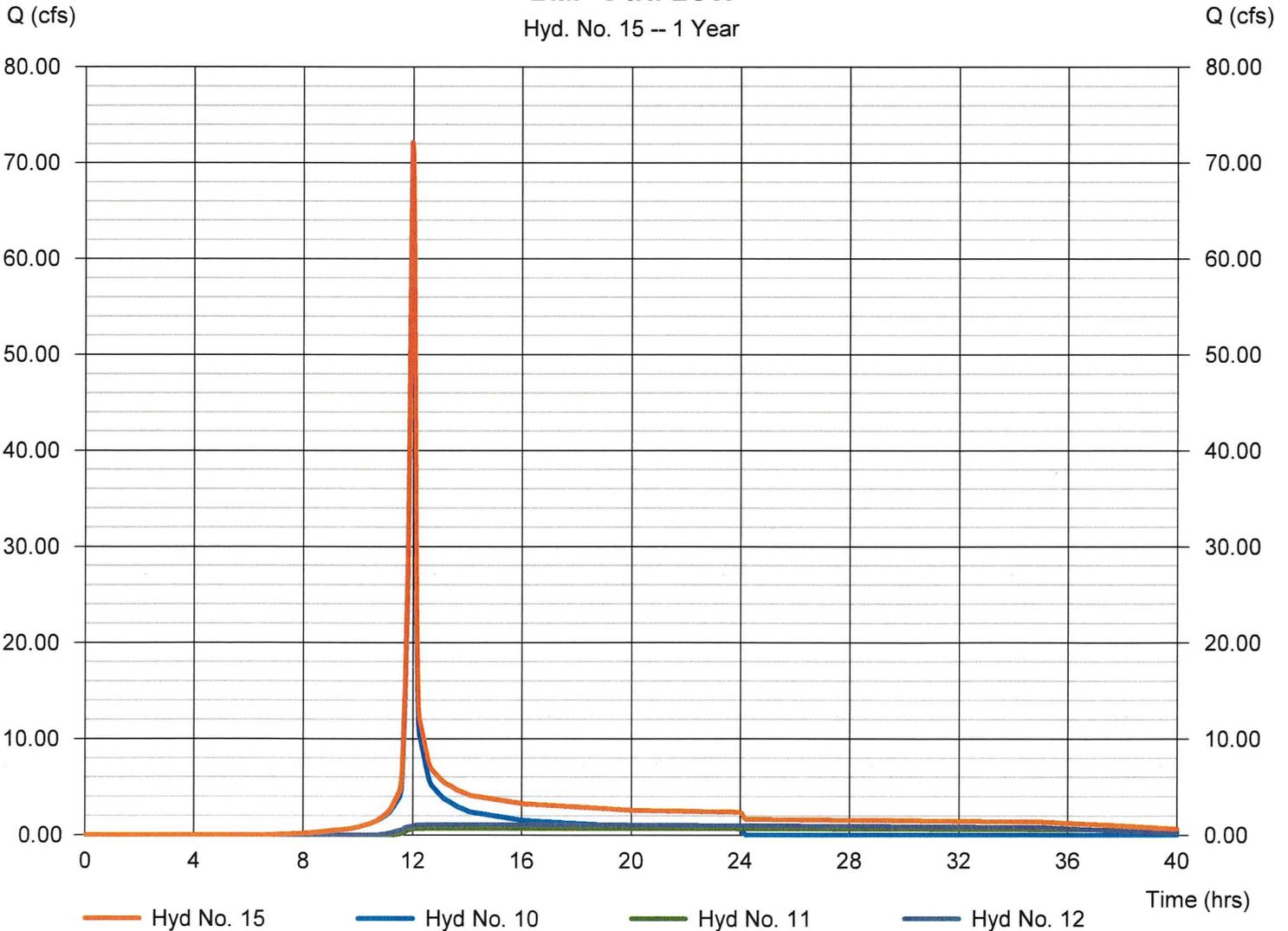
BMP C INFLOW

Hydrograph type = Combine
Storm frequency = 1 yrs
Time interval = 2 min
Inflow hyds. = 10, 11, 12

Peak discharge = 72.15 cfs
Time to peak = 11.97 hrs
Hyd. volume = 326,613 cuft
Contrib. drain. area = 31.050 ac

BMP C INFLOW

Hyd. No. 15 -- 1 Year



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Wednesday, 01 / 29 / 2025

Hyd. No. 16

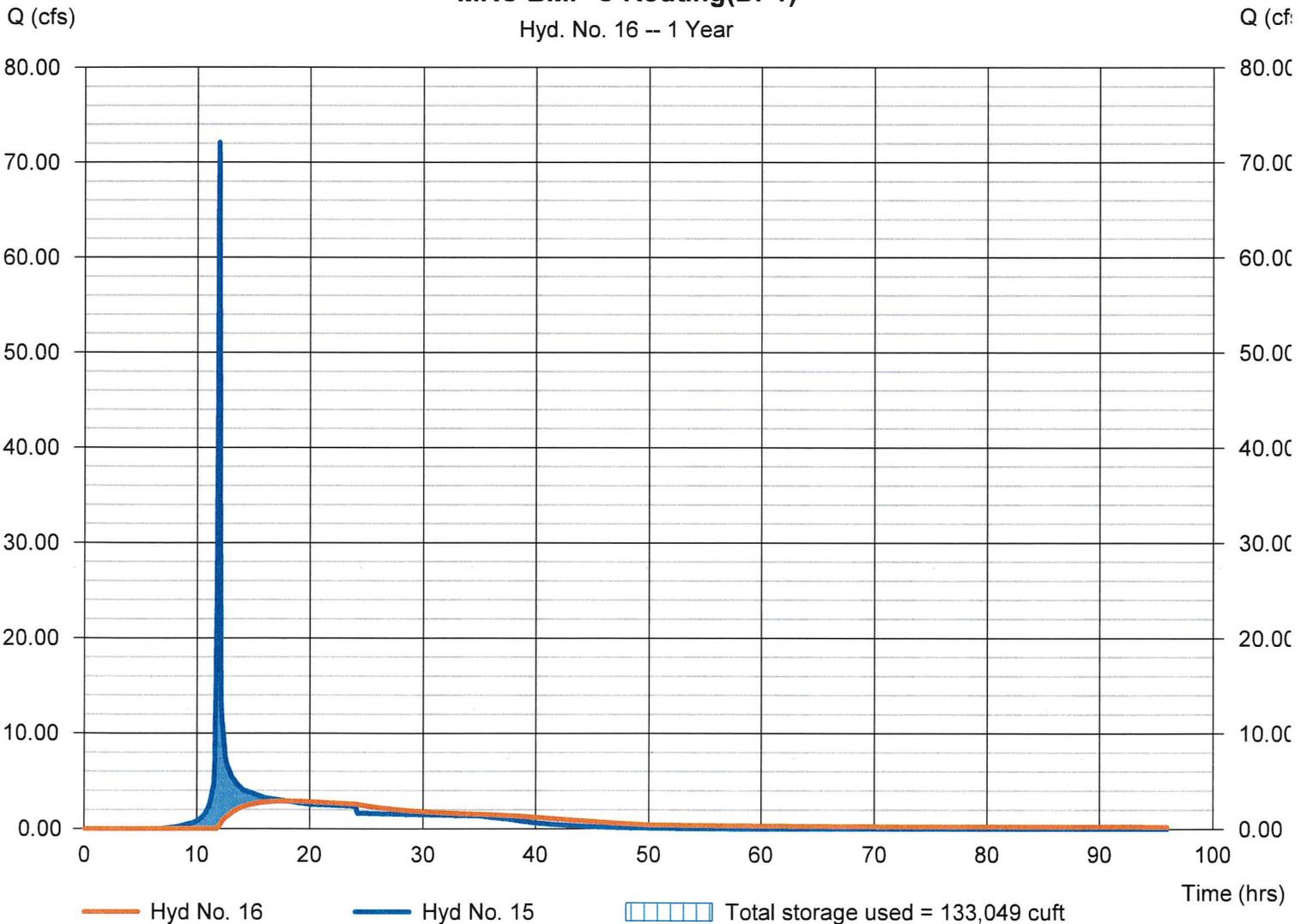
MRC BMP C Routing(DP1)

Hydrograph type	= Reservoir	Peak discharge	= 2.896 cfs
Storm frequency	= 1 yrs	Time to peak	= 18.10 hrs
Time interval	= 2 min	Hyd. volume	= 283,871 cuft
Inflow hyd. No.	= 15 - BMP C INFLOW	Max. Elevation	= 216.79 ft
Reservoir name	= BMP C	Max. Storage	= 133,049 cuft

Storage Indication method used.

MRC BMP C Routing(DP1)

Hyd. No. 16 -- 1 Year



Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Wednesday, 01 / 29 / 2025

Pond No. 3 - BMP C

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 212.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	212.00	00	0	0
4.00	216.00	28,333	37,774	37,774
4.01	216.01	115,916	672	38,445
6.00	218.00	126,194	240,803	279,248
8.00	220.00	136,697	262,795	542,043
10.00	222.00	147,725	284,322	826,365
12.00	224.00	158,385	306,018	1,132,383

1,181,483 cfm
Q_{in} = 239.90
Q_{low SEL} = 219.67

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 24.00	1.50	8.00	0.00
Span (in)	= 24.00	1.50	8.00	0.00
No. Barrels	= 1	4	4	0
Invert El. (ft)	= 215.00	215.00	216.30	0.00
Length (ft)	= 61.00	0.00	0.00	0.00
Slope (%)	= 3.26	0.00	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	Yes	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 12.00	100.00	Inactive	0.00
Crest El. (ft)	= 220.00	222.00	0.00	0.00
Weir Coeff.	= 3.33	2.80	3.33	3.33
Weir Type	= Rect	Broad	---	---
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).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	212.00	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.40	3,777	212.40	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
0.80	7,555	212.80	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
1.20	11,332	213.20	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
1.60	15,109	213.60	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
2.00	18,887	214.00	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
2.40	22,664	214.40	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
2.80	26,441	214.80	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
3.20	30,219	215.20	0.07 ic	0.07 ic	0.00	---	0.00	0.00	---	---	---	---	0.073
3.60	33,996	215.60	0.16 ic	0.16 ic	0.00	---	0.00	0.00	---	---	---	---	0.158
4.00	37,774	216.00	0.22 ic	0.21 ic	0.00	---	0.00	0.00	---	---	---	---	0.214
4.00	37,841	216.00	0.22 ic	0.21 ic	0.00	---	0.00	0.00	---	---	---	---	0.214
4.00	37,908	216.00	0.22 ic	0.21 ic	0.00	---	0.00	0.00	---	---	---	---	0.214
4.00	37,975	216.00	0.22 ic	0.21 ic	0.00	---	0.00	0.00	---	---	---	---	0.214
4.00	38,042	216.00	0.22 ic	0.21 ic	0.00	---	0.00	0.00	---	---	---	---	0.214
4.01	38,109	216.01	0.22 ic	0.21 ic	0.00	---	0.00	0.00	---	---	---	---	0.214
4.01	38,177	216.01	0.22 ic	0.21 ic	0.00	---	0.00	0.00	---	---	---	---	0.215
4.01	38,244	216.01	0.22 ic	0.21 ic	0.00	---	0.00	0.00	---	---	---	---	0.215
4.01	38,311	216.01	0.22 ic	0.21 ic	0.00	---	0.00	0.00	---	---	---	---	0.215
4.01	38,378	216.01	0.22 ic	0.21 ic	0.00	---	0.00	0.00	---	---	---	---	0.215
4.01	38,445	216.01	0.22 ic	0.22 ic	0.00	---	0.00	0.00	---	---	---	---	0.215
4.21	62,526	216.21	0.24 ic	0.24 ic	0.00	---	0.00	0.00	---	---	---	---	0.238
4.41	86,606	216.41	0.44 ic	0.25 ic	0.17 ic	---	0.00	0.00	---	---	---	---	0.420
4.61	110,686	216.61	1.48 ic	0.25 ic	1.19 ic	---	0.00	0.00	---	---	---	---	1.435
4.81	134,767	216.81	3.03 ic	0.25 ic	2.76 ic	---	0.00	0.00	---	---	---	---	3.008
5.01	158,847	217.01	4.44 ic	0.25 ic	4.10 ic	---	0.00	0.00	---	---	---	---	4.348
5.20	182,927	217.20	5.34 ic	0.26 ic	5.08 ic	---	0.00	0.00	---	---	---	---	5.338
5.40	207,007	217.40	6.22 ic	0.27 ic	5.90 ic	---	0.00	0.00	---	---	---	---	6.169
5.60	231,088	217.60	7.00 ic	0.28 ic	6.62 ic	---	0.00	0.00	---	---	---	---	6.900
5.80	255,168	217.80	7.64 ic	0.30 ic	7.26 ic	---	0.00	0.00	---	---	---	---	7.561
6.00	279,248	218.00	8.28 ic	0.31 ic	7.86 ic	---	0.00	0.00	---	---	---	---	8.168
6.20	305,528	218.20	8.76 ic	0.32 ic	8.41 ic	---	0.00	0.00	---	---	---	---	8.738
6.40	331,807	218.40	9.27 ic	0.34 ic	8.93 ic	---	0.00	0.00	---	---	---	---	9.271
6.60	358,087	218.60	9.84 ic	0.35 ic	9.43 ic	---	0.00	0.00	---	---	---	---	9.775
6.80	384,366	218.80	10.29 ic	0.36 ic	9.89 ic	---	0.00	0.00	---	---	---	---	10.26
7.00	410,646	219.00	10.73 ic	0.37 ic	10.34 ic	---	0.00	0.00	---	---	---	---	10.71

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BMP C

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
7.20	436,925	219.20	11.16 ic	0.38 ic	10.77 ic	---	0.00	0.00	---	---	---	---	11.15
7.40	463,205	219.40	11.58 ic	0.40 ic	11.18 ic	---	0.00	0.00	---	---	---	---	11.58
7.60	489,484	219.60	11.98 ic	0.41 ic	11.58 ic	---	0.00	0.00	---	---	---	---	11.98
7.80	515,764	219.80	12.32 ic	0.42 ic	11.91 ic	---	0.00	0.00	---	---	---	---	12.32
8.00	542,043	220.00	12.66 ic	0.43 ic	12.22 ic	---	0.00	0.00	---	---	---	---	12.65
8.20	570,475	220.20	15.83 ic	0.42 ic	11.84 ic	---	3.57	0.00	---	---	---	---	15.83
8.40	598,908	220.40	21.04 ic	0.37 ic	10.56 ic	---	10.11	0.00	---	---	---	---	21.04
8.60	627,340	220.60	26.91 ic	0.28 ic	8.05 ic	---	18.57	0.00	---	---	---	---	26.91
8.80	655,772	220.80	31.27 ic	0.17 ic	4.87 ic	---	26.22 s	0.00	---	---	---	---	31.27
9.00	684,204	221.00	32.75 ic	0.13 ic	3.76 ic	---	28.86 s	0.00	---	---	---	---	32.75
9.20	712,637	221.20	33.80 ic	0.11 ic	3.05 ic	---	30.63 s	0.00	---	---	---	---	33.79
9.40	741,069	221.40	34.67 ic	0.09 ic	2.56 ic	---	32.01 s	0.00	---	---	---	---	34.66
9.60	769,501	221.60	35.45 ic	0.08 ic	2.20 ic	---	33.16 s	0.00	---	---	---	---	35.44
9.80	797,933	221.80	36.17 ic	0.07 ic	1.92 ic	---	34.17 s	0.00	---	---	---	---	36.17
10.00	826,365	222.00	36.85 ic	0.06 ic	1.70 ic	---	35.07 s	0.00	---	---	---	---	36.83
10.20	856,967	222.20	37.50 ic	0.05 ic	1.53 ic	---	35.91 s	25.04	---	---	---	---	62.54
10.40	887,569	222.40	38.14 ic	0.05 ic	1.39 ic	---	36.68 s	70.83	---	---	---	---	108.95
10.60	918,171	222.60	38.75 ic	0.04 ic	1.27 ic	---	37.44 s	130.13	---	---	---	---	168.88
10.80	948,772	222.80	39.35 ic	0.04 ic	1.16 ic	---	38.12 s	200.35	---	---	---	---	239.67
11.00	979,374	223.00	39.94 ic	0.04 ic	1.08 ic	---	38.79 s	279.99	---	---	---	---	319.90
11.20	1,009,976	223.20	40.52 ic	0.04 ic	1.00 ic	---	39.46 s	368.06	---	---	---	---	408.56
11.40	1,040,578	223.40	41.09 ic	0.03 ic	0.94 ic	---	40.09 s	463.81	---	---	---	---	504.88
11.60	1,071,179	223.60	41.65 ic	0.03 ic	0.88 ic	---	40.72 s	566.67	---	---	---	---	608.30
11.80	1,101,781	223.80	42.20 ic	0.03 ic	0.83 ic	---	41.24 s	676.17	---	---	---	---	718.27
12.00	1,132,383	224.00	42.74 ic	0.03 ic	0.78 ic	---	41.87 s	791.96	---	---	---	---	834.64

...End

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

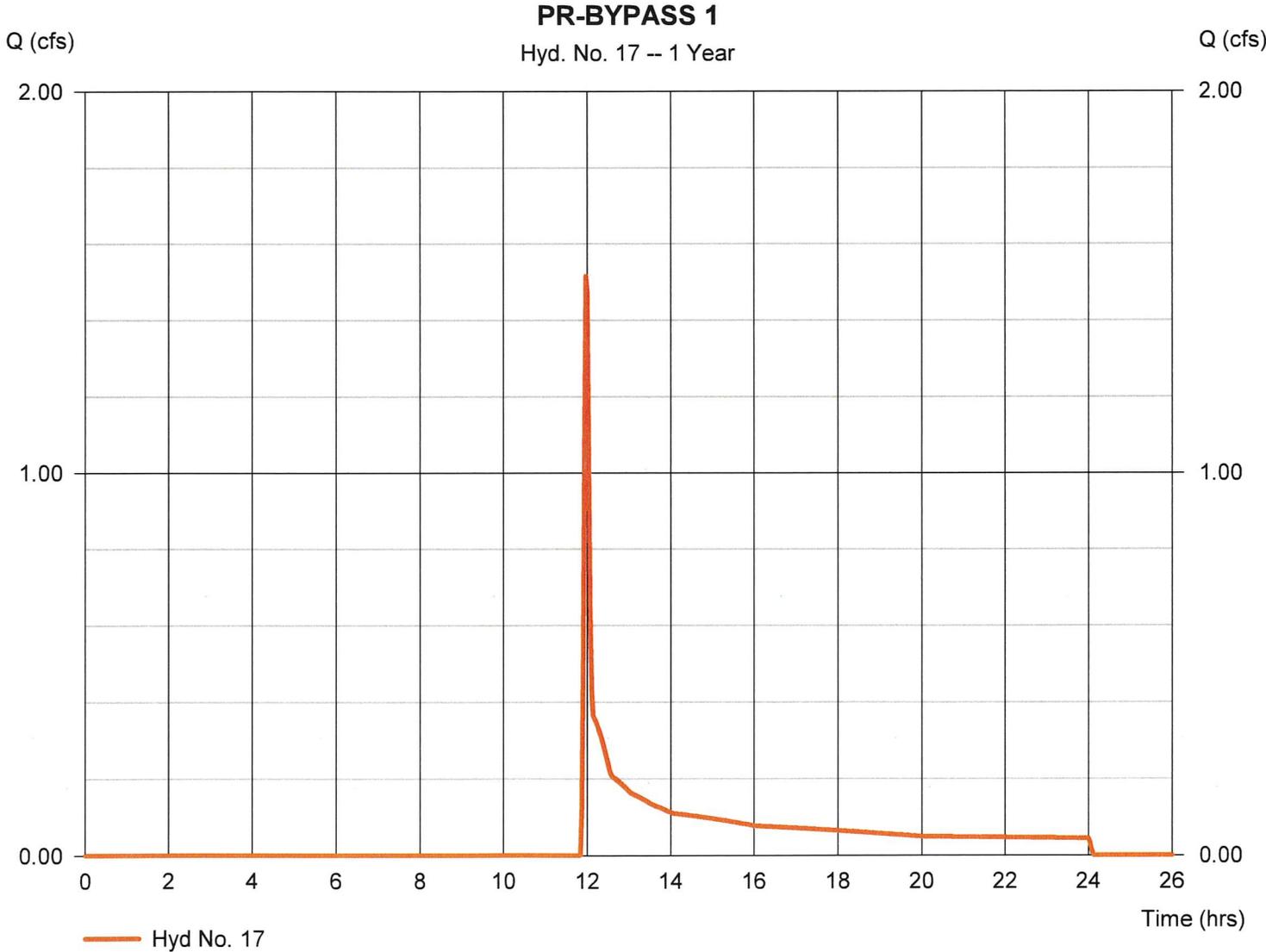
Wednesday, 01 / 29 / 2025

Hyd. No. 17

PR-BYPASS 1

Hydrograph type	= SCS Runoff	Peak discharge	= 1.516 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 4,390 cuft
Drainage area	= 4.950 ac	Curve number	= 65*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 6.30 min
Total precip.	= 2.40 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.830 x 39) + (1.480 x 61) + (1.640 x 98)] / 4.950



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Hyd. No. 17

PR-BYPASS 1

<u>Description</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>Totals</u>
Sheet Flow				
Manning's n-value	= 0.150	0.011	0.011	
Flow length (ft)	= 150.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 3.00	0.00	0.00	
Land slope (%)	= 30.00	0.00	0.00	
Travel Time (min)	= 4.74	+	0.00	+
			0.00	= 4.74
Shallow Concentrated Flow				
Flow length (ft)	= 140.00	153.00	0.00	
Watercourse slope (%)	= 30.00	1.00	0.00	
Surface description	= Unpaved	Paved	Paved	
Average velocity (ft/s)	=8.84	2.03	0.00	
Travel Time (min)	= 0.26	+	1.25	+
			0.00	= 1.52
Channel Flow				
X sectional flow area (sqft)	= 0.00	0.00	0.00	
Wetted perimeter (ft)	= 0.00	0.00	0.00	
Channel slope (%)	= 0.00	0.00	0.00	
Manning's n-value	= 0.015	0.015	0.015	
Velocity (ft/s)	=0.00	0.00	0.00	
Flow length (ft)	(0)0.0	0.0	0.0	
Travel Time (min)	= 0.00	+	0.00	+
			0.00	= 0.00
Total Travel Time, Tc				6.30 min

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

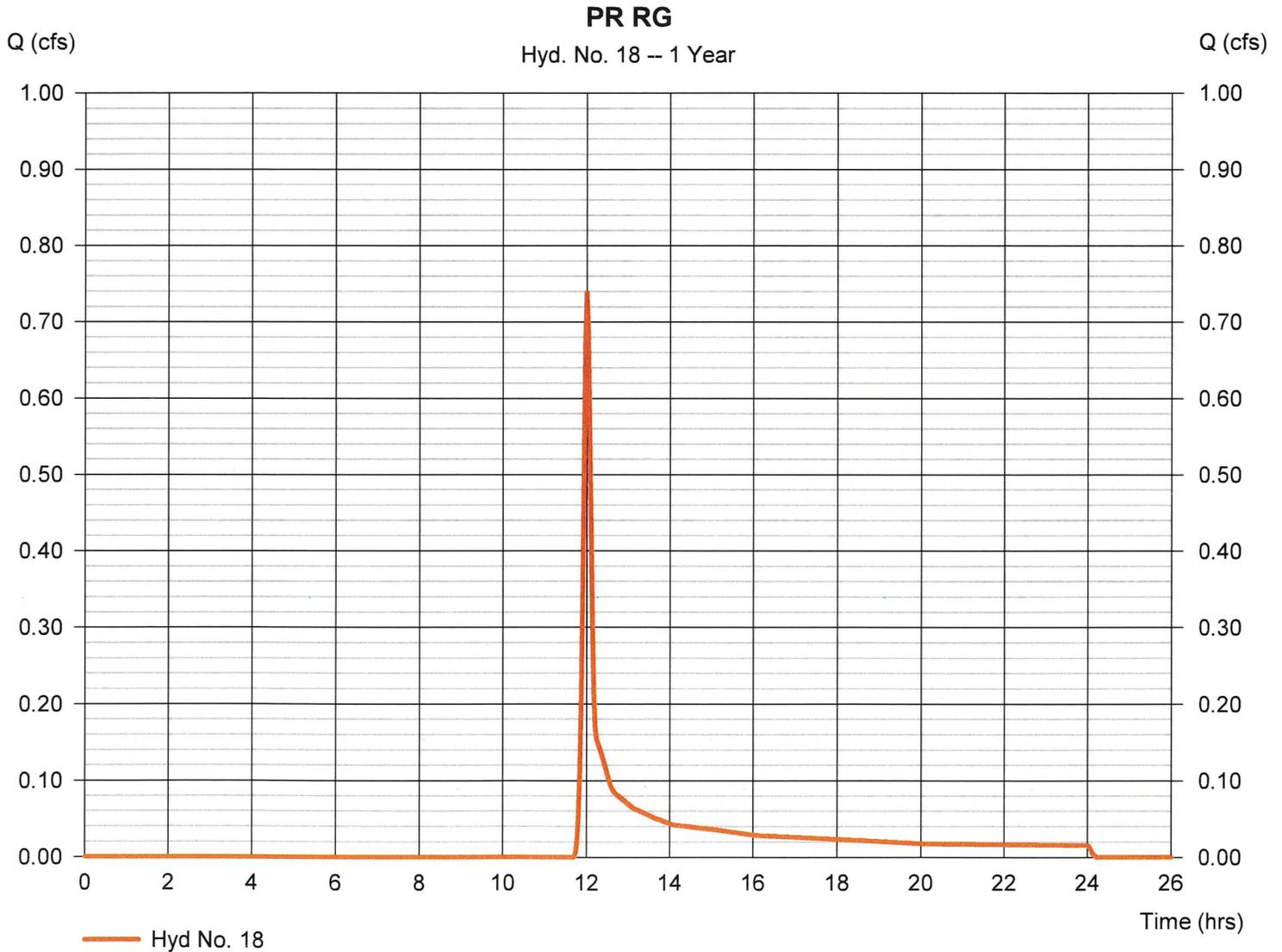
Wednesday, 01 / 29 / 2025

Hyd. No. 18

PR RG

Hydrograph type	= SCS Runoff	Peak discharge	= 0.739 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 1,926 cuft
Drainage area	= 1.200 ac	Curve number	= 71*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 7.40 min
Total precip.	= 2.40 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.410 x 80) + (0.690 x 61) + (0.100 x 98)] / 1.200



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Hyd. No. 18

PR RG

<u>Description</u>	<u>A</u>		<u>B</u>		<u>C</u>		<u>Totals</u>
Sheet Flow							
Manning's n-value	= 0.150		0.011		0.011		
Flow length (ft)	= 0.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 0.00		0.00		0.00		
Land slope (%)	= 0.00		0.00		0.00		
Travel Time (min)	= 0.00	+	0.00	+	0.00	=	0.00
Shallow Concentrated Flow							
Flow length (ft)	= 0.00		1007.00		0.00		
Watercourse slope (%)	= 0.00		2.00		0.00		
Surface description	= Unpaved		Unpaved		Paved		
Average velocity (ft/s)	=0.00		2.28		0.00		
Travel Time (min)	= 0.00	+	7.36	+	0.00	=	7.36
Channel Flow							
X sectional flow area (sqft)	= 3.14		0.00		0.00		
Wetted perimeter (ft)	= 0.50		0.00		0.00		
Channel slope (%)	= 1.50		0.00		0.00		
Manning's n-value	= 0.010		0.015		0.015		
Velocity (ft/s)	=62.50		0.00		0.00		
Flow length (ft)	{0}120.0		0.0		0.0		
Travel Time (min)	= 0.03	+	0.00	+	0.00	=	0.03
Total Travel Time, Tc							7.40 min

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

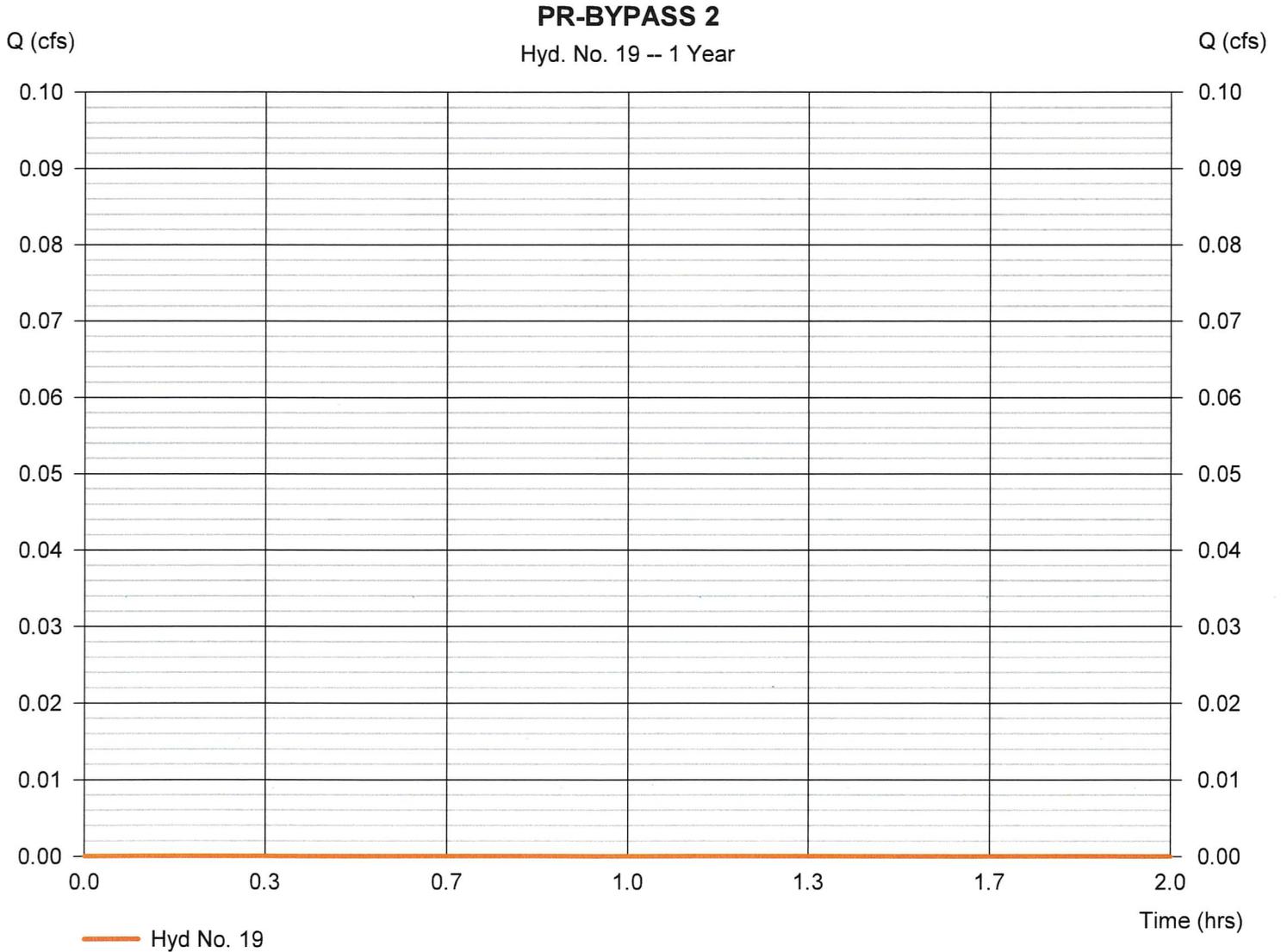
Wednesday, 01 / 29 / 2025

Hyd. No. 19

PR-BYPASS 2

Hydrograph type	= SCS Runoff	Peak discharge	= 0.000 cfs
Storm frequency	= 1 yrs	Time to peak	= n/a
Time interval	= 2 min	Hyd. volume	= 0 cuft
Drainage area	= 5.600 ac	Curve number	= 45*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 9.50 min
Total precip.	= 2.40 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(4.520 x 39) + (0.490 x 61) + (0.530 x 80) + (0.060 x 98)] / 5.600



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Hyd. No. 19

PR-BYPASS 2

<u>Description</u>	<u>A</u>		<u>B</u>		<u>C</u>		<u>Totals</u>
Sheet Flow							
Manning's n-value	= 0.150		0.011		0.011		
Flow length (ft)	= 0.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 0.00		0.00		0.00		
Land slope (%)	= 0.00		0.00		0.00		
Travel Time (min)	= 0.00	+	0.00	+	0.00	=	0.00
Shallow Concentrated Flow							
Flow length (ft)	= 1131.00		1007.00		0.00		
Watercourse slope (%)	= 30.00		2.00		0.00		
Surface description	= Unpaved		Unpaved		Paved		
Average velocity (ft/s)	=8.84		2.28		0.00		
Travel Time (min)	= 2.13	+	7.36	+	0.00	=	9.49
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00		0.00		0.00		
Flow length (ft)	{0}0.0		0.0		0.0		
Travel Time (min)	= 0.00	+	0.00	+	0.00	=	0.00
Total Travel Time, Tc							9.50 min

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

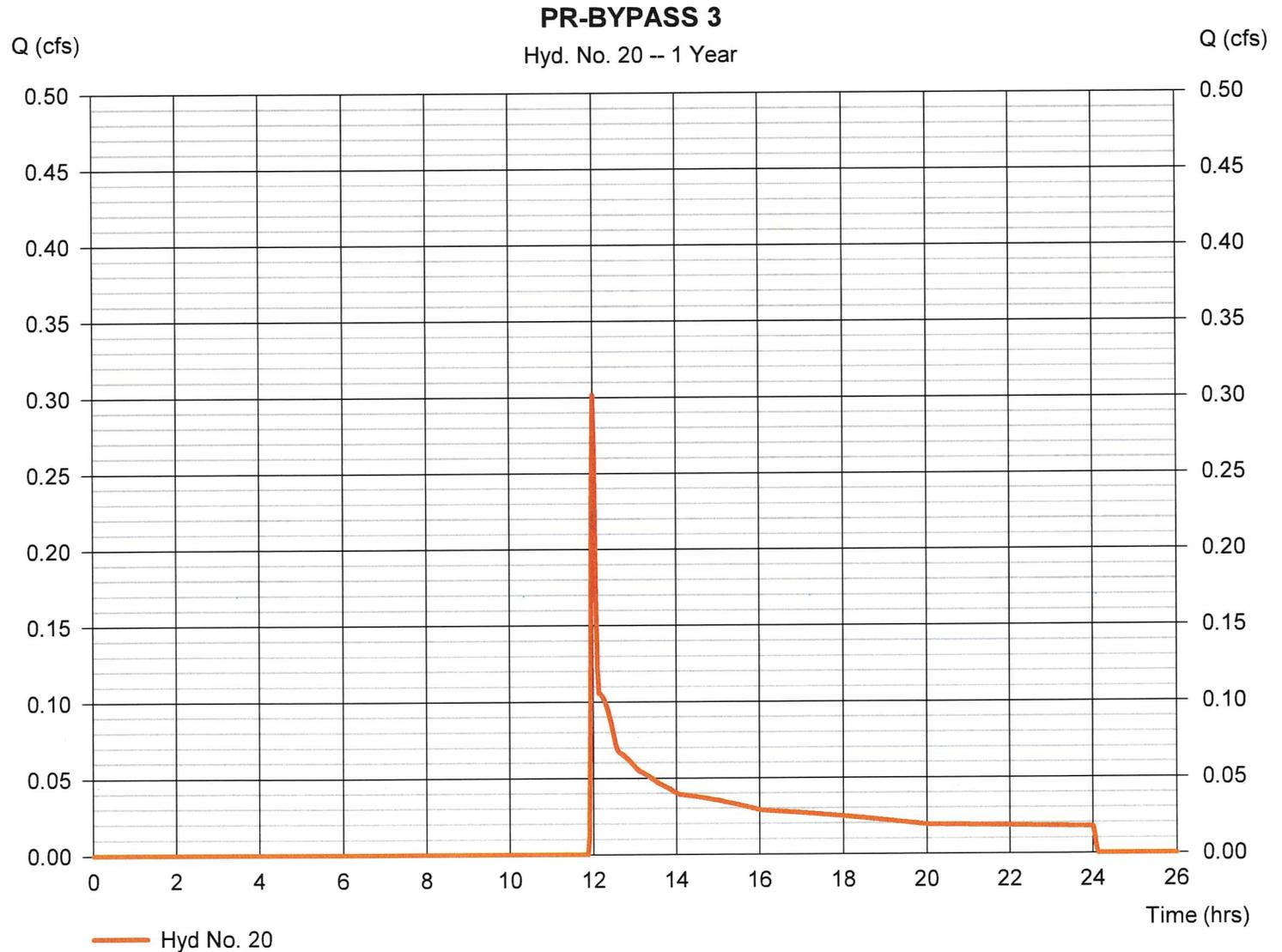
Wednesday, 01 / 29 / 2025

Hyd. No. 20

PR-BYPASS 3

Hydrograph type	= SCS Runoff	Peak discharge	= 0.302 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 1,438 cuft
Drainage area	= 2.530 ac	Curve number	= 61*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 4.90 min
Total precip.	= 2.40 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(2.530 x 61)] / 2.530



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Hyd. No. 20

PR-BYPASS 3

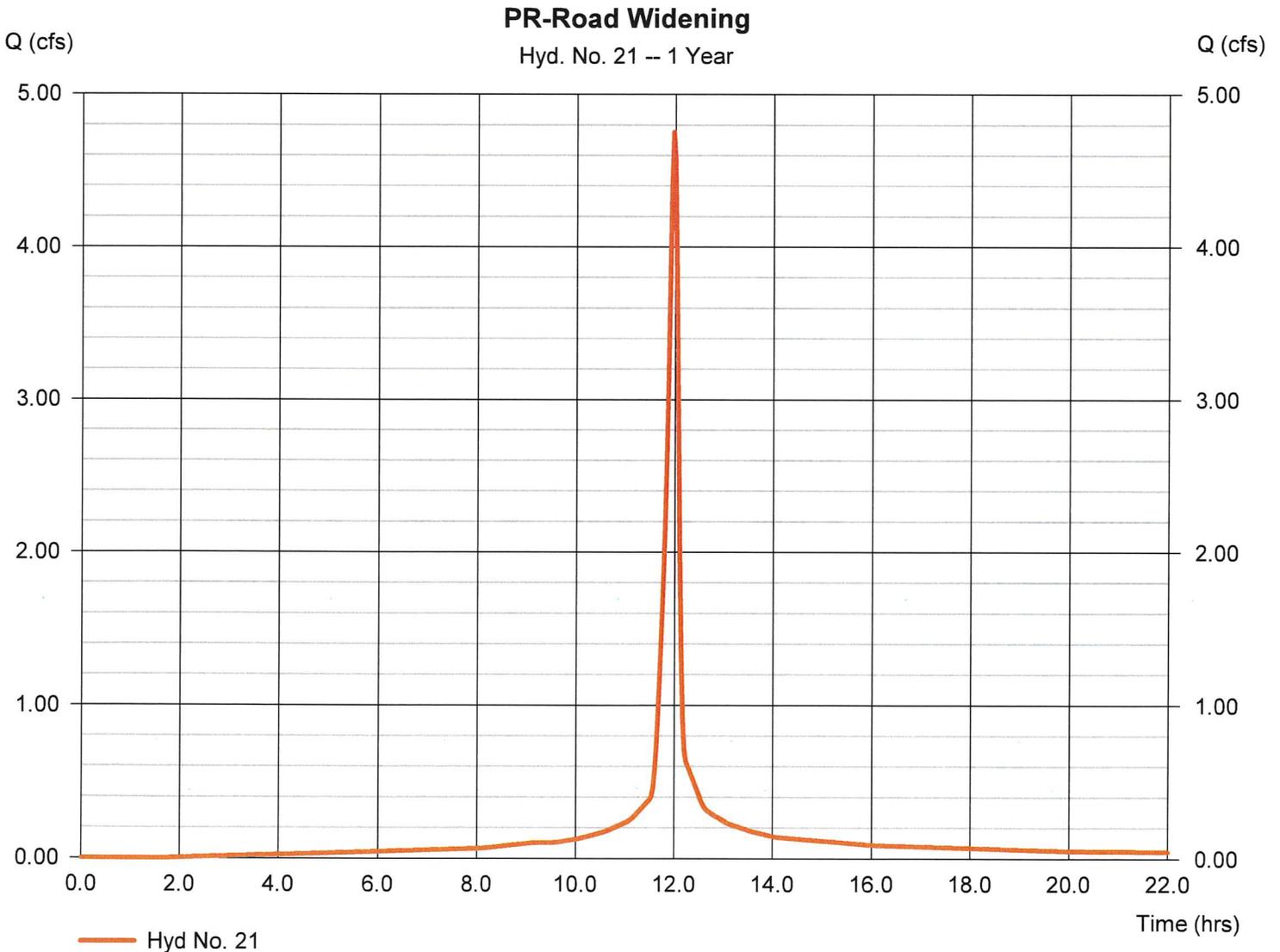
<u>Description</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>Totals</u>
Sheet Flow				
Manning's n-value	= 0.150	0.011	0.011	
Flow length (ft)	= 150.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 3.00	0.00	0.00	
Land slope (%)	= 30.00	0.00	0.00	
Travel Time (min)	= 4.74	+ 0.00	+ 0.00	= 4.74
Shallow Concentrated Flow				
Flow length (ft)	= 97.00	0.00	0.00	
Watercourse slope (%)	= 30.00	0.00	0.00	
Surface description	= Unpaved	Paved	Paved	
Average velocity (ft/s)	=8.84	0.00	0.00	
Travel Time (min)	= 0.18	+ 0.00	+ 0.00	= 0.18
Channel Flow				
X sectional flow area (sqft)	= 0.00	0.00	0.00	
Wetted perimeter (ft)	= 0.00	0.00	0.00	
Channel slope (%)	= 0.00	0.00	0.00	
Manning's n-value	= 0.015	0.015	0.015	
Velocity (ft/s)	=0.00	0.00	0.00	
Flow length (ft)	(0)0.0	0.0	0.0	
Travel Time (min)	= 0.00	+ 0.00	+ 0.00	= 0.00
Total Travel Time, Tc				4.90 min

Hydrograph Report

Hyd. No. 21

PR-Road Widening

Hydrograph type	= SCS Runoff	Peak discharge	= 4.753 cfs
Storm frequency	= 1 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 12,217 cuft
Drainage area	= 1.550 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 7.70 min
Total precip.	= 2.40 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Hyd. No. 21

PR-Road Widening

<u>Description</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>Totals</u>
Sheet Flow				
Manning's n-value	= 0.011	0.011	0.011	
Flow length (ft)	= 0.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 0.00	0.00	0.00	
Land slope (%)	= 0.00	0.00	0.00	
Travel Time (min)	= 0.00	+	0.00	+
			0.00	= 0.00
Shallow Concentrated Flow				
Flow length (ft)	= 735.00	0.00	0.00	
Watercourse slope (%)	= 1.00	0.00	0.00	
Surface description	= Paved	Paved	Paved	
Average velocity (ft/s)	=2.03	0.00	0.00	
Travel Time (min)	= 6.03	+	0.00	+
			0.00	= 6.03
Channel Flow				
X sectional flow area (sqft)	= 1.77	0.00	0.00	
Wetted perimeter (ft)	= 3.54	0.00	0.00	
Channel slope (%)	= 1.00	0.00	0.00	
Manning's n-value	= 0.015	0.015	0.015	
Velocity (ft/s)	=6.24	0.00	0.00	
			0.00	
Flow length (ft)	(0)614.0	0.0	0.0	
Travel Time (min)	= 1.64	+	0.00	+
			0.00	= 1.64
Total Travel Time, Tc				7.70 min

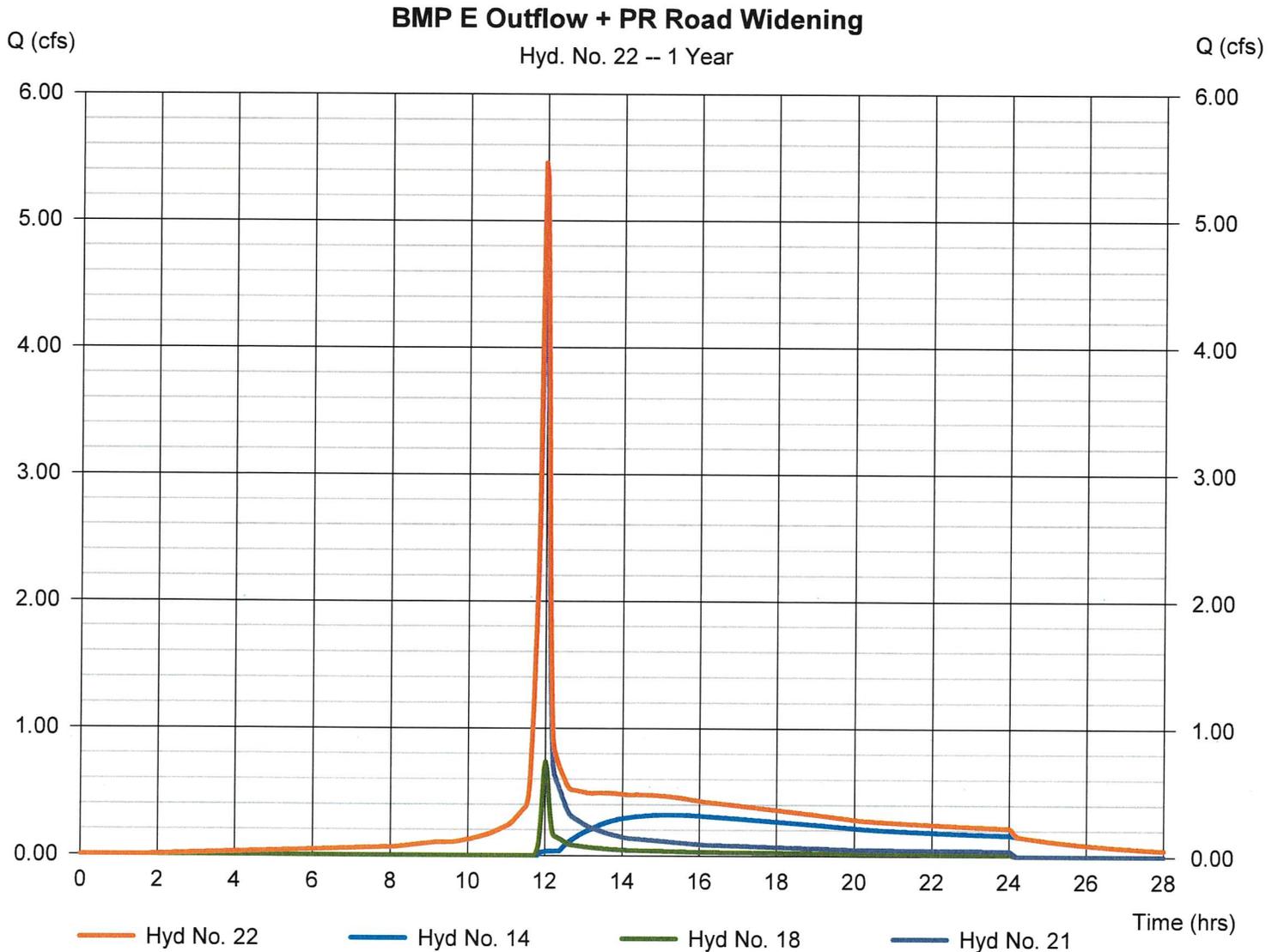
Hydrograph Report

Hyd. No. 22

BMP E Outflow + PR Road Widening

Hydrograph type = Combine
Storm frequency = 1 yrs
Time interval = 2 min
Inflow hyds. = 14, 18, 21

Peak discharge = 5.457 cfs
Time to peak = 11.97 hrs
Hyd. volume = 33,001 cuft
Contrib. drain. area = 2.750 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

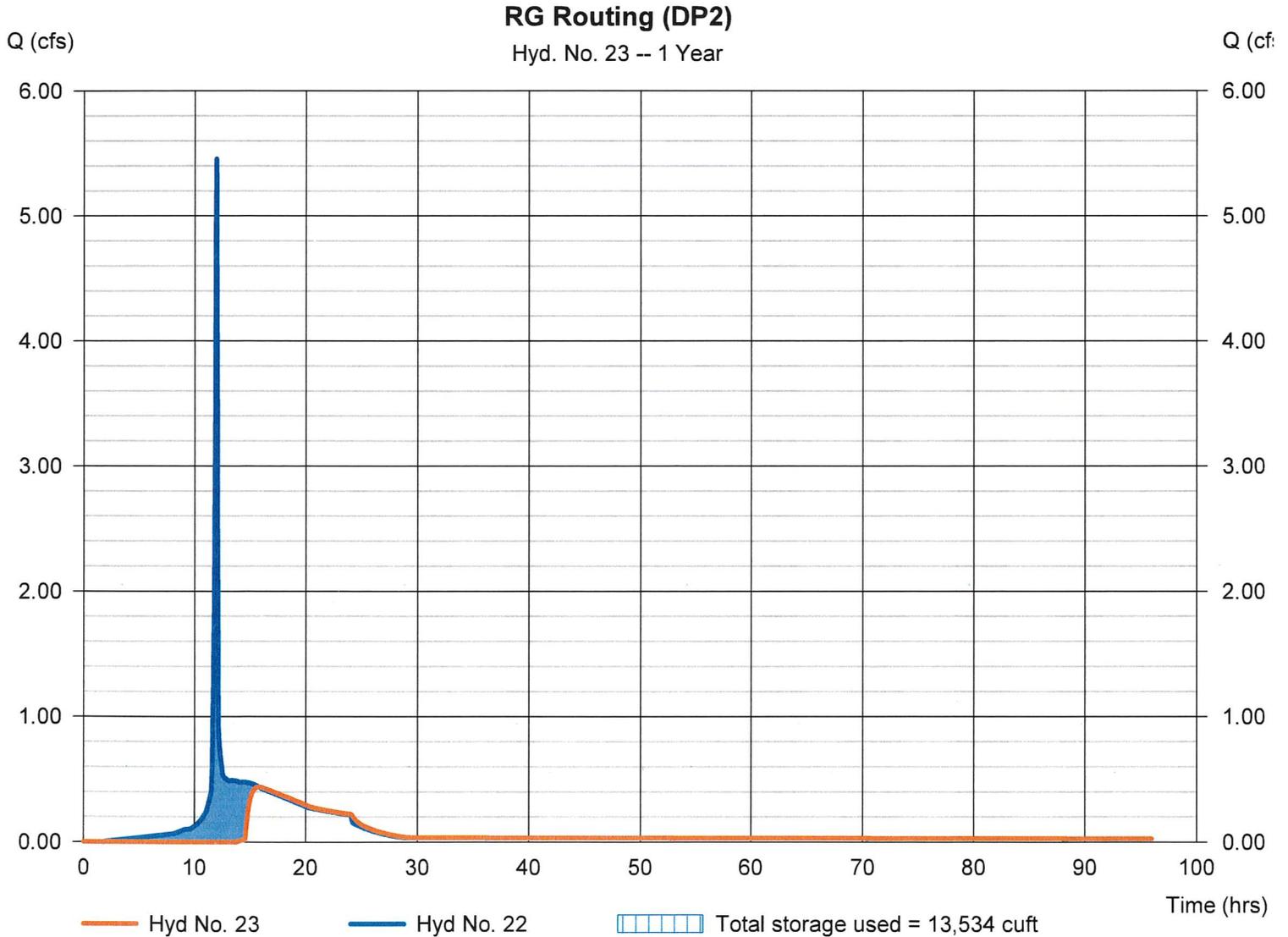
Wednesday, 01 / 29 / 2025

Hyd. No. 23

RG Routing (DP2)

Hydrograph type	= Reservoir	Peak discharge	= 0.440 cfs
Storm frequency	= 1 yrs	Time to peak	= 15.80 hrs
Time interval	= 2 min	Hyd. volume	= 19,987 cuft
Inflow hyd. No.	= 22 - BMP E Outflow + PR Road Mid Elevation	Max. Elevation	= 232.67 ft
Reservoir name	= Hacket Rain Garden	Max. Storage	= 13,534 cuft

Storage Indication method used.



Pond Report

Pond No. 5 - Hackett Rain Garden

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Beginning Elevation = 228.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	228.00	00	0	0
3.70	231.70	5,492	6,773	6,773
4.00	232.00	6,285	1,765	8,538
6.00	234.00	8,690	14,909	23,447

Handwritten notes:
 Q100 WSEL = 233.7
 Q25 WSEL = 233.22
 Q10 WSEL = 233.07
 Q2 = 232.77
 WSEL

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	4.00	0.00	0.00
Span (in)	= 18.00	4.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 228.13	232.50	0.00	0.00
Length (ft)	= 30.00	0.00	0.00	0.00
Slope (%)	= 3.30	0.00	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)	= 12.00	10.00	0.00	0.00
Crest El. (ft)	= 233.00	232.70	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	Broad	---	---
Multi-Stage	= Yes	No	No	No
Exfil.(in/hr)	= 0.000 (by Wet area)			
TW Elev. (ft)	= 0.00			

Handwritten note: R.G. will get engaged

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

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	228.00	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.37	677	228.37	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
0.74	1,355	228.74	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.11	2,032	229.11	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.48	2,709	229.48	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.85	3,386	229.85	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.22	4,064	230.22	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.59	4,741	230.59	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
2.96	5,418	230.96	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.33	6,096	231.33	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.70	6,773	231.70	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.73	6,949	231.73	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.76	7,126	231.76	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.79	7,302	231.79	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.82	7,479	231.82	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.85	7,655	231.85	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.88	7,832	231.88	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.91	8,008	231.91	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.94	8,185	231.94	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
3.97	8,361	231.97	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.00	8,538	232.00	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.20	10,029	232.20	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.40	11,520	232.40	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
4.60	13,010	232.60	0.02 ic	0.02 ic	---	---	0.00	0.00	---	---	---	---	0.024
4.80	14,501	232.80	0.16 ic	0.15 ic	---	---	0.00	1.05	---	---	---	---	1.208
5.00	15,992	233.00	0.25 ic	0.24 ic	---	---	0.00	5.47	---	---	---	---	5.714
5.20	17,483	233.20	3.88 ic	0.31 ic	---	---	3.57	11.77	---	---	---	---	15.65
5.40	18,974	233.40	10.47 ic	0.36 ic	---	---	10.11	19.50	---	---	---	---	29.97
5.60	20,465	233.60	17.64 ic	0.27 ic	---	---	17.36 s	28.43	---	---	---	---	46.07
5.80	21,956	233.80	18.52 ic	0.18 ic	---	---	18.35 s	38.42	---	---	---	---	56.94
6.00	23,447	234.00	19.07 ic	0.13 ic	---	---	18.93 s	49.36	---	---	---	---	68.42

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

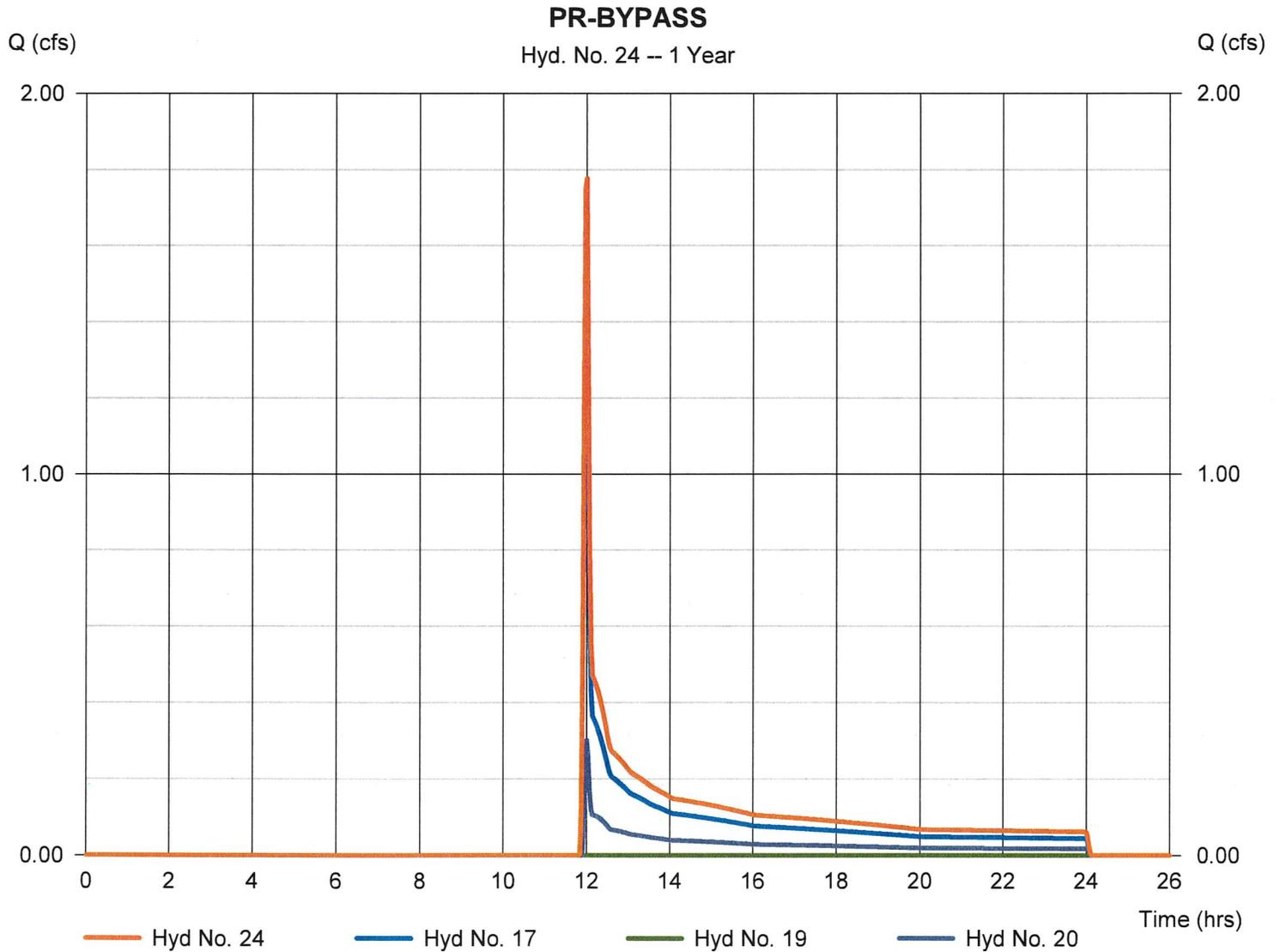
Wednesday, 01 / 29 / 2025

Hyd. No. 24

PR-BYPASS

Hydrograph type = Combine
Storm frequency = 1 yrs
Time interval = 2 min
Inflow hyds. = 17, 19, 20

Peak discharge = 1.777 cfs
Time to peak = 12.00 hrs
Hyd. volume = 5,828 cuft
Contrib. drain. area = 13.080 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

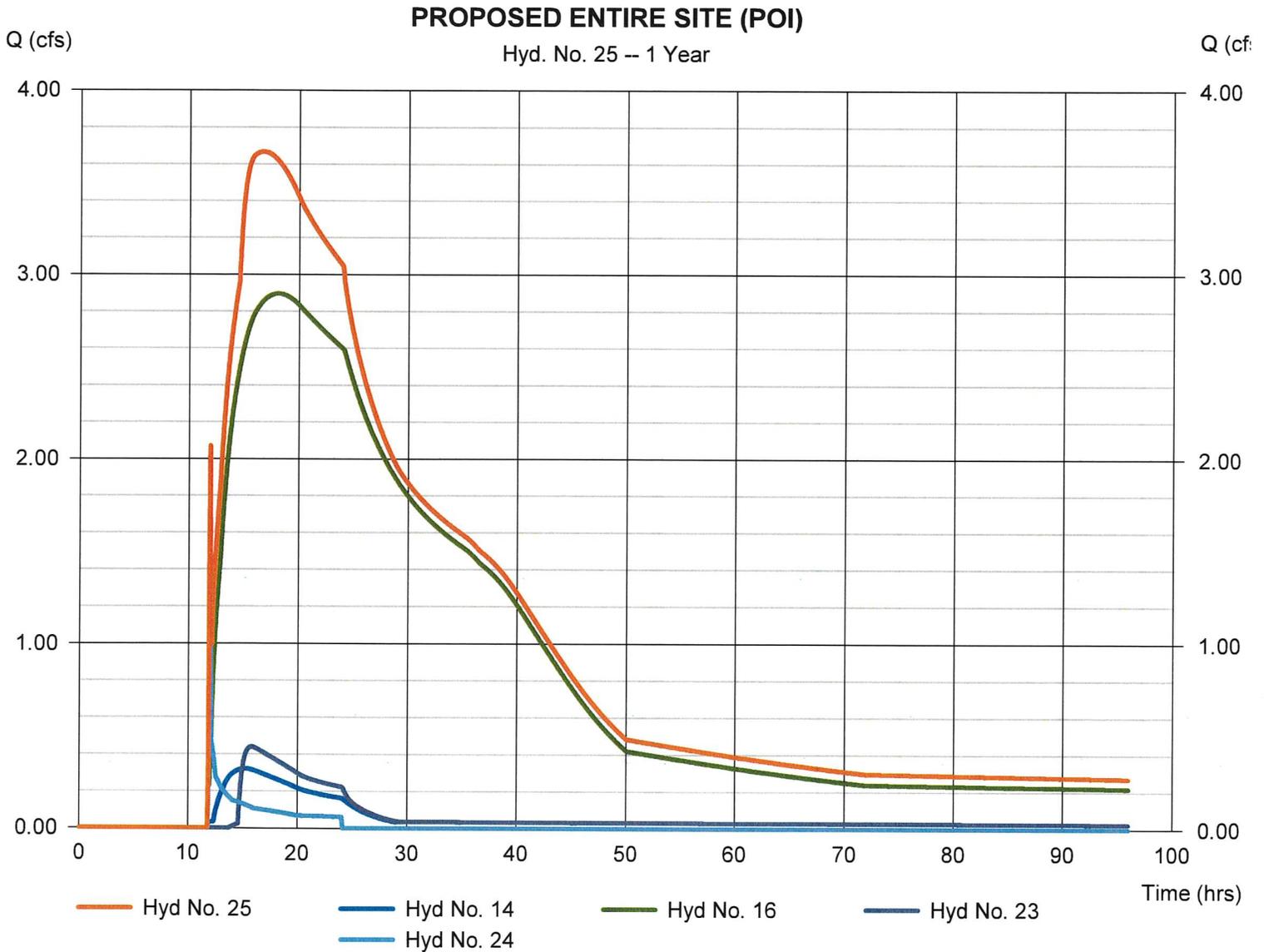
Wednesday, 01 / 29 / 2025

Hyd. No. 25

PROPOSED ENTIRE SITE (POI)

Hydrograph type = Combine
Storm frequency = 1 yrs
Time interval = 2 min
Inflow hyds. = 14, 16, 23, 24

Peak discharge = 3.667 cfs
Time to peak = 16.73 hrs
Hyd. volume = 328,544 cuft
Contrib. drain. area = 0.000 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

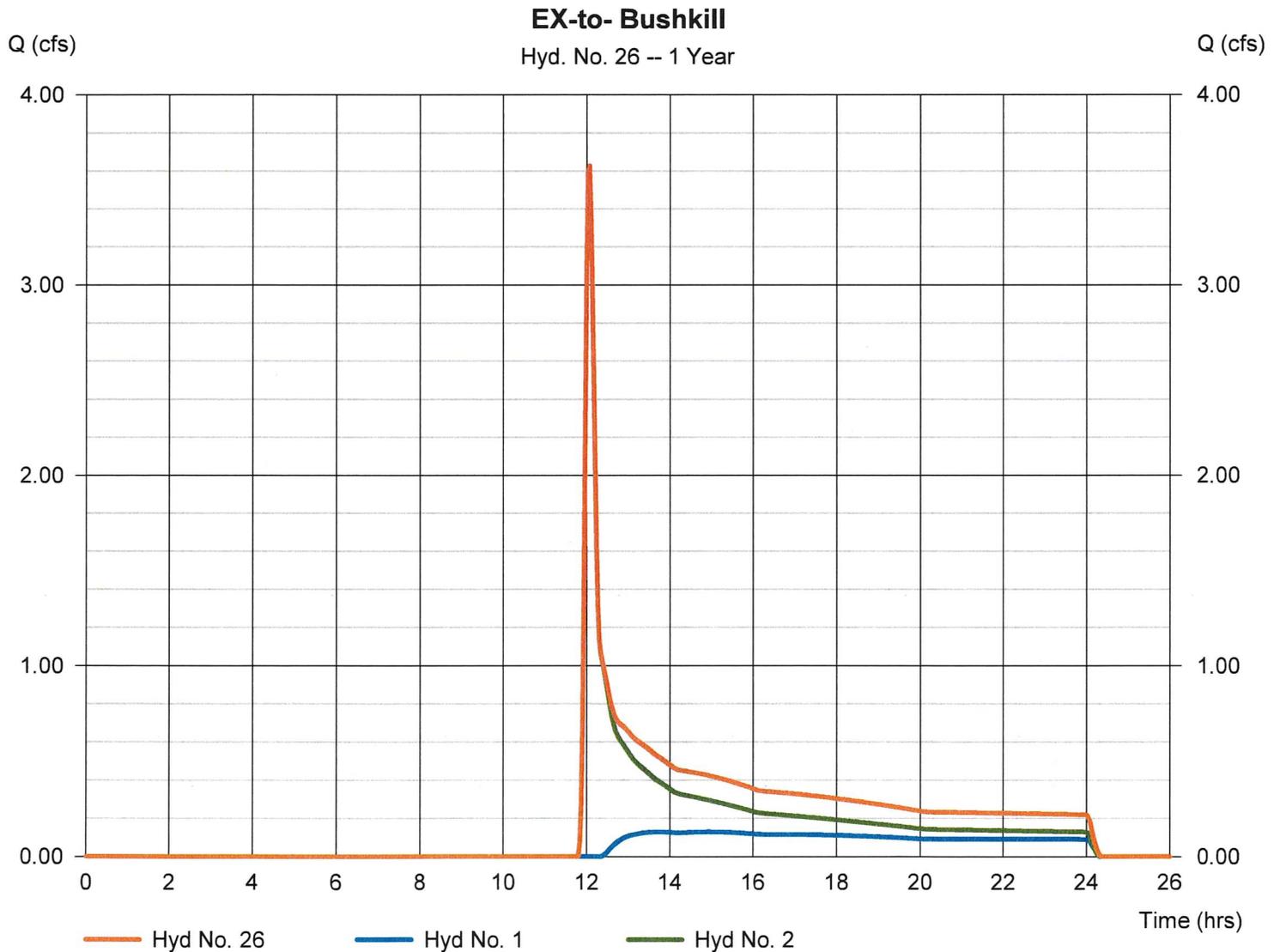
Wednesday, 01 / 29 / 2025

Hyd. No. 26

EX-to- Bushkill

Hydrograph type = Combine
Storm frequency = 1 yrs
Time interval = 2 min
Inflow hyds. = 1, 2

Peak discharge = 3.627 cfs
Time to peak = 12.07 hrs
Hyd. volume = 18,325 cuft
Contrib. drain. area = 35.550 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

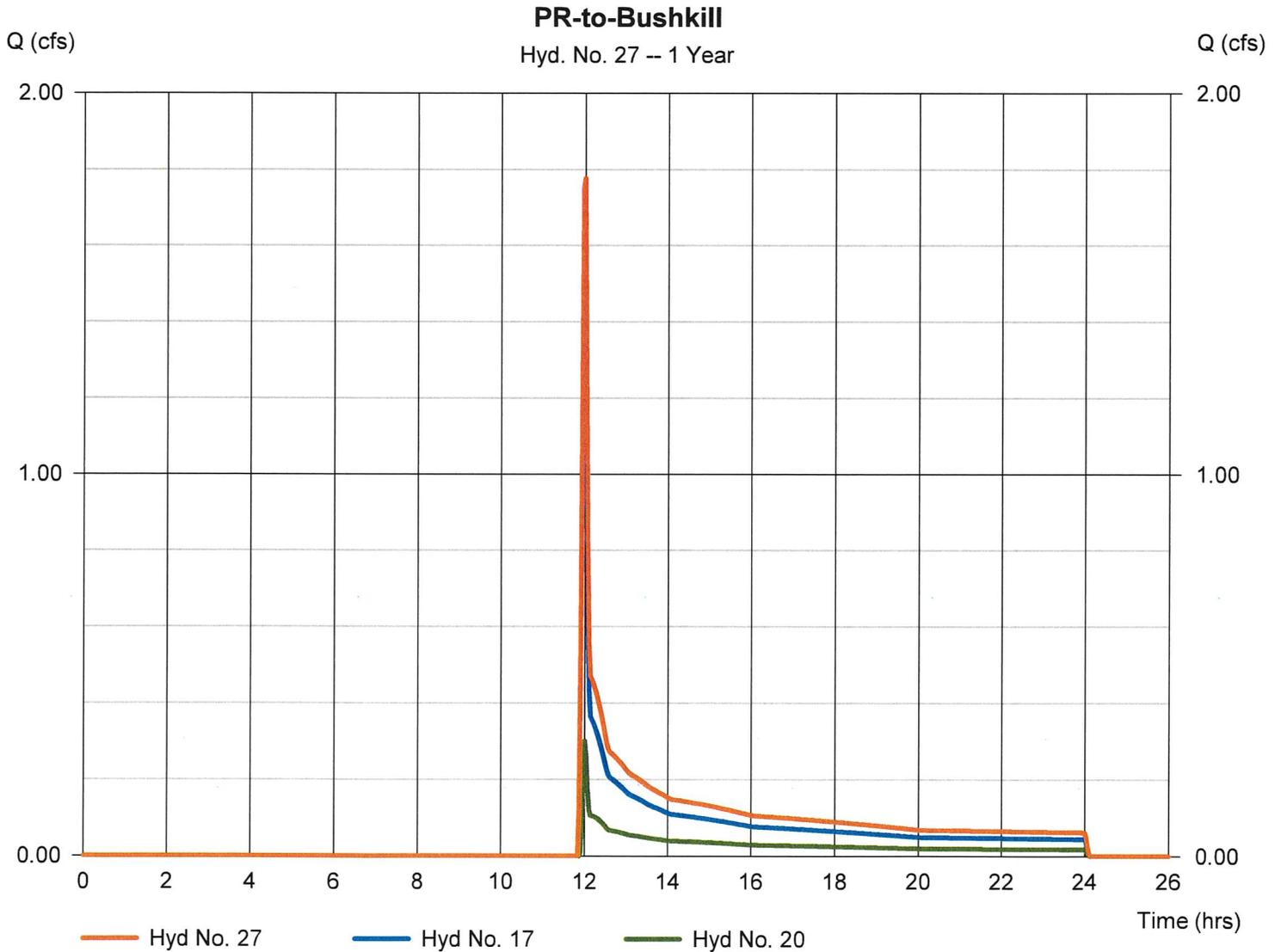
Wednesday, 01 / 29 / 2025

Hyd. No. 27

PR-to-Bushkill

Hydrograph type = Combine
Storm frequency = 1 yrs
Time interval = 2 min
Inflow hyds. = 17, 20

Peak discharge = 1.777 cfs
Time to peak = 12.00 hrs
Hyd. volume = 5,828 cuft
Contrib. drain. area = 7.480 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

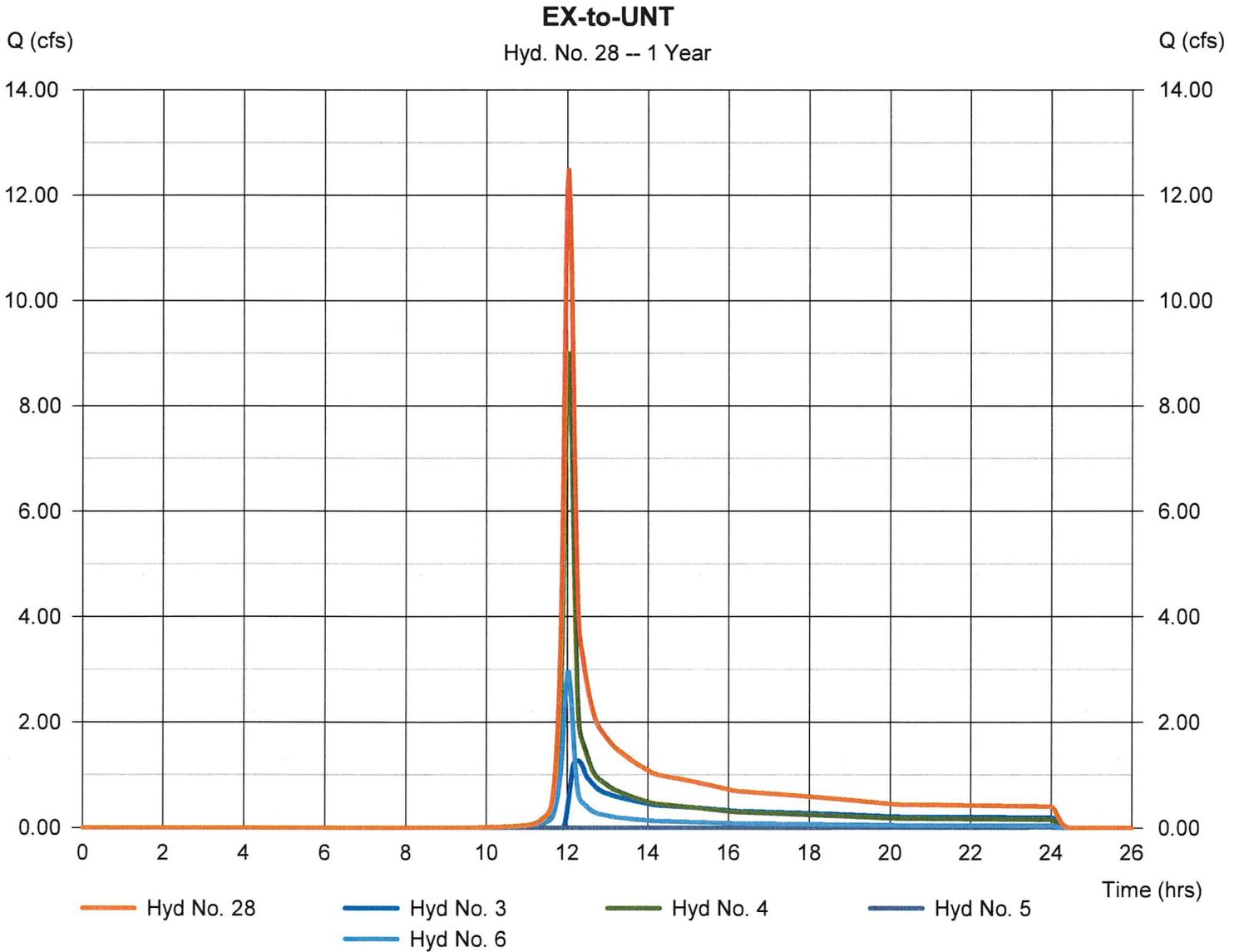
Wednesday, 01 / 29 / 2025

Hyd. No. 28

EX-to-UNT

Hydrograph type = Combine
Storm frequency = 1 yrs
Time interval = 2 min
Inflow hyds. = 3, 4, 5, 6

Peak discharge = 12.48 cfs
Time to peak = 12.03 hrs
Hyd. volume = 47,246 cuft
Contrib. drain. area = 47.330 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

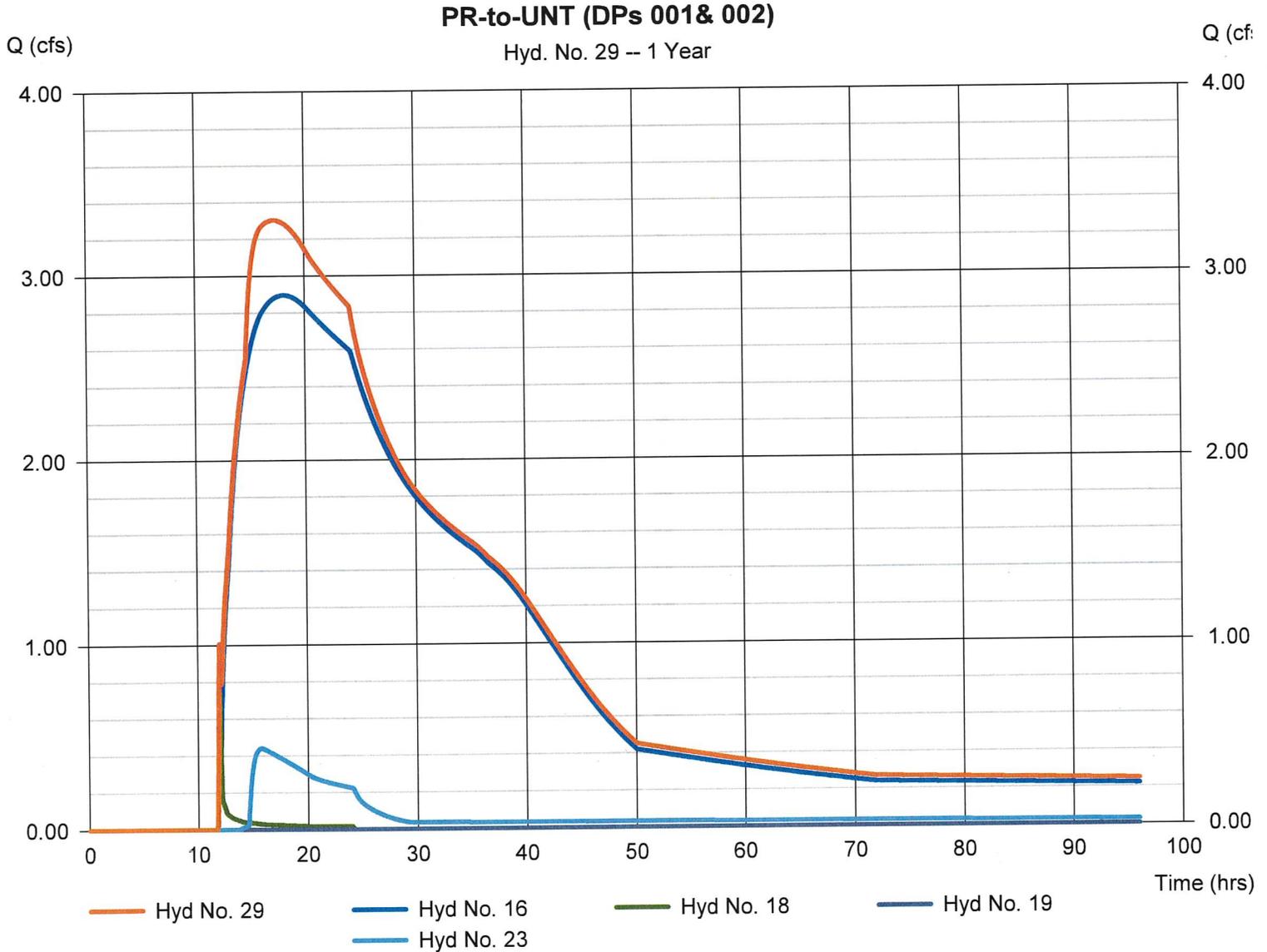
Wednesday, 01 / 29 / 2025

Hyd. No. 29

PR-to-UNT (DPs 001& 002)

Hydrograph type = Combine
Storm frequency = 1 yrs
Time interval = 2 min
Inflow hyd. = 16, 18, 19, 23

Peak discharge = 3.304 cfs
Time to peak = 17.27 hrs
Hyd. volume = 305,785 cuft
Contrib. drain. area = 6.800 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

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	1.184	2	732	14,416	----	----	----	EX-DA 1
2	SCS Runoff	8.484	2	722	25,748	----	----	----	EX-DA2
3	SCS Runoff	6.047	2	728	34,205	----	----	----	EX-DA3
4	SCS Runoff	14.39	2	722	37,905	----	----	----	EX-DA4
5	SCS Runoff	0.051	2	908	1,748	----	----	----	EX-DA5
6	SCS Runoff	4.333	2	720	11,239	----	----	----	EX-DA-Road Widening
7	Combine	31.95	2	722	125,260	1, 2, 3, 4, 5, 6	----	----	EX-TOTAL
8	SCS Runoff	48.40	2	716	107,695	----	----	----	PR-DA-A
9	SCS Runoff	61.17	2	716	136,095	----	----	----	PR-DA-B
10	SCS Runoff	96.15	2	718	223,634	----	----	----	PR-DA-C
11	Reservoir	0.743	2	998	95,688	8	290.68	80,516	BMP A Routing
12	Reservoir	1.169	2	930	124,614	9	286.90	96,740	BMP B Routing
13	SCS Runoff	16.85	2	718	33,776	----	----	----	PR-DA-E
14	Reservoir	0.700	2	818	30,368	13	257.59	18,510	BMP E Routing
15	Combine	97.82	2	718	443,935	10, 11, 12,	----	----	BMP C INFLOW
16	Reservoir	4.410	2	908	395,047	15	217.02	160,361	MRC BMP C Routing(DP1)
17	SCS Runoff	3.812	2	718	8,524	----	----	----	PR-BYPASS 1
18	SCS Runoff	1.385	2	720	3,312	----	----	----	PR RG
19	SCS Runoff	0.016	2	1440	491	----	----	----	PR-BYPASS 2
20	SCS Runoff	1.190	2	718	3,143	----	----	----	PR-BYPASS 3
21	SCS Runoff	5.984	2	718	15,576	----	----	----	PR-Road Widening
22	Combine	7.356	2	718	49,256	14, 18, 21	----	----	BMP E Outflow + PR Road Widening
23	Reservoir	1.027	2	808	36,242	22	232.77	14,274	RG Routing (DP2)
24	Combine	5.002	2	718	12,159	17, 19, 20,	----	----	PR-BYPASS
25	Combine	6.318	2	830	473,817	14, 16, 23, 24	----	----	PROPOSED ENTIRE SITE (POI)
26	Combine	9.106	2	722	40,163	1, 2,	----	----	EX-to- Bushkill
27	Combine	5.002	2	718	11,668	17, 20,	----	----	PR-to-Bushkill
28	Combine	22.84	2	722	85,096	3, 4, 5, 6,	----	----	EX-to-UNT
29	Combine	5.408	2	840	435,094	16, 18, 19, 23,	----	----	PR-to-UNT (DPs 001& 002)

24hours_Sep for LVPC.gpw

Return Period: 2 Year

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Hydrograph Report

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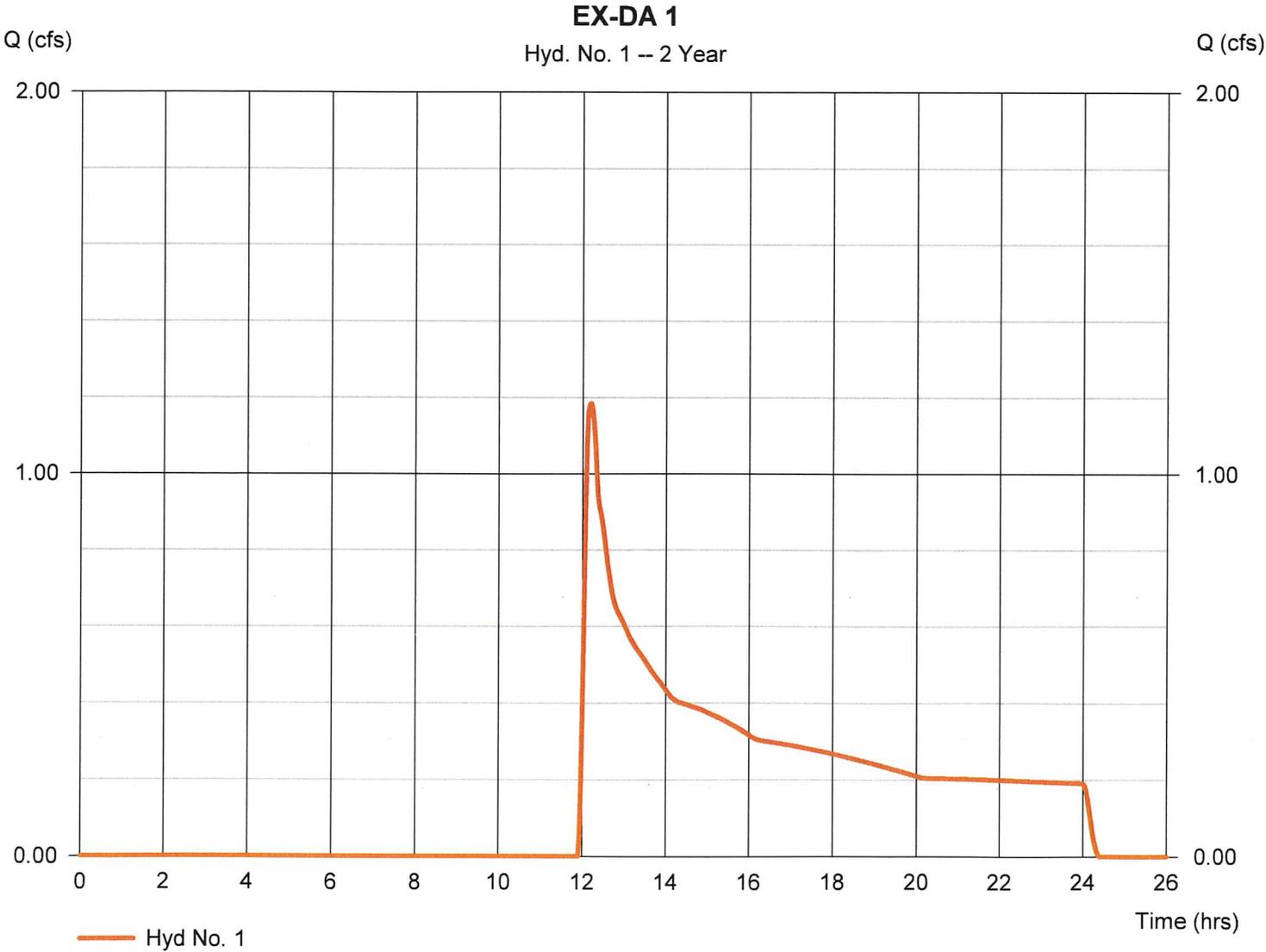
Wednesday, 01 / 29 / 2025

Hyd. No. 1

EX-DA 1

Hydrograph type	= SCS Runoff	Peak discharge	= 1.184 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.20 hrs
Time interval	= 2 min	Hyd. volume	= 14,416 cuft
Drainage area	= 23.790 ac	Curve number	= 54*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 15.20 min
Total precip.	= 3.00 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(5.640 x 39) + (0.690 x 61) + (8.150 x 77) + (5.640 x 30) + (2.770 x 55) + (0.900 x 74)] / 23.790



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

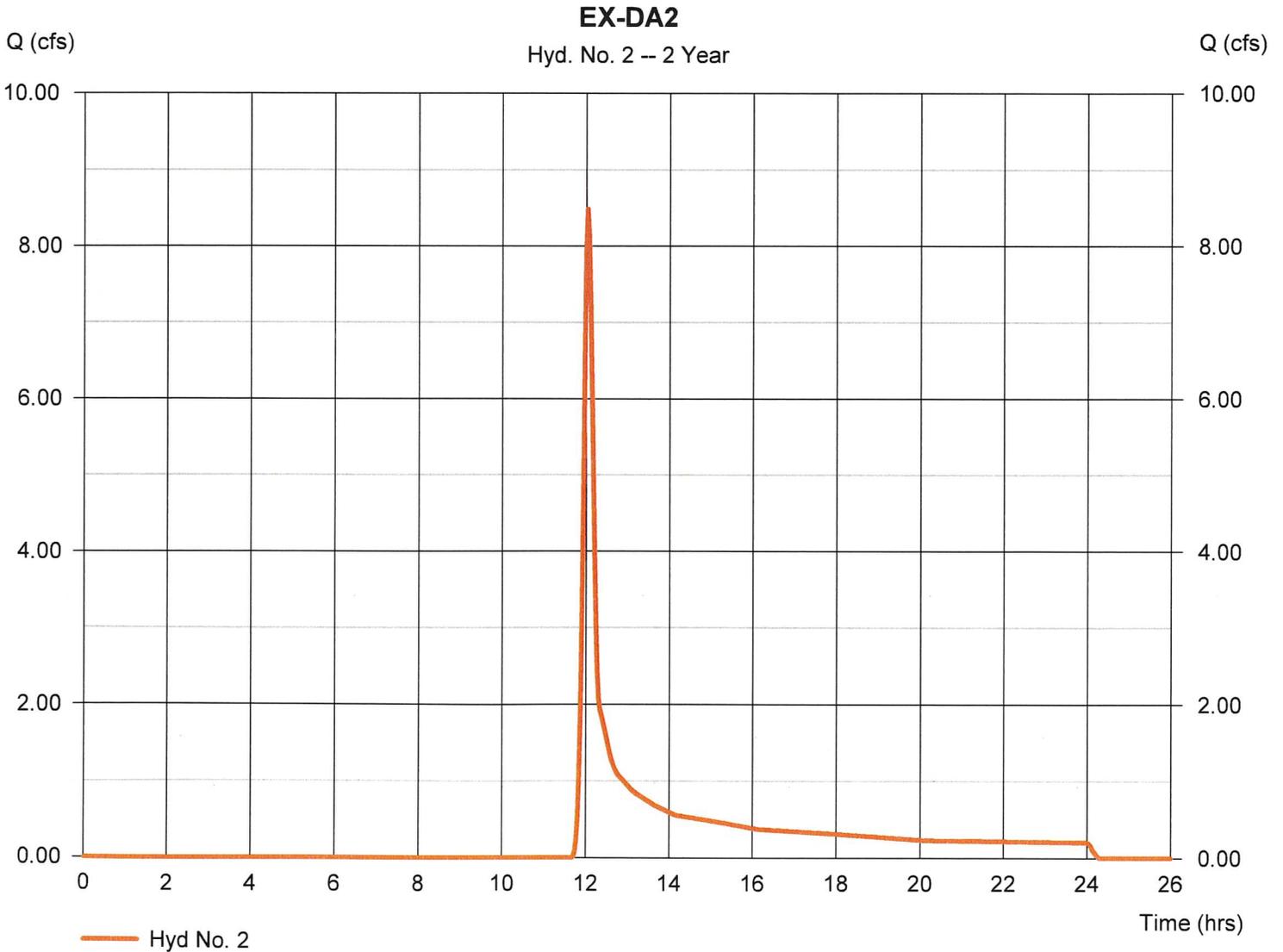
Wednesday, 01 / 29 / 2025

Hyd. No. 2

EX-DA2

Hydrograph type	= SCS Runoff	Peak discharge	= 8.484 cfs ^P
Storm frequency	= 2 yrs	Time to peak	= 12.03 hrs
Time interval	= 2 min	Hyd. volume	= 25,748 cuft
Drainage area	= 11.760 ac ^S	Curve number	= 67* ^S
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 13.10 min ^S
Total precip.	= 3.00 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(2.060 x 39) + (5.190 x 77) + (1.370 x 30) + (1.600 x 74) + (1.540 x 98)] / 11.760



Hydrograph Report

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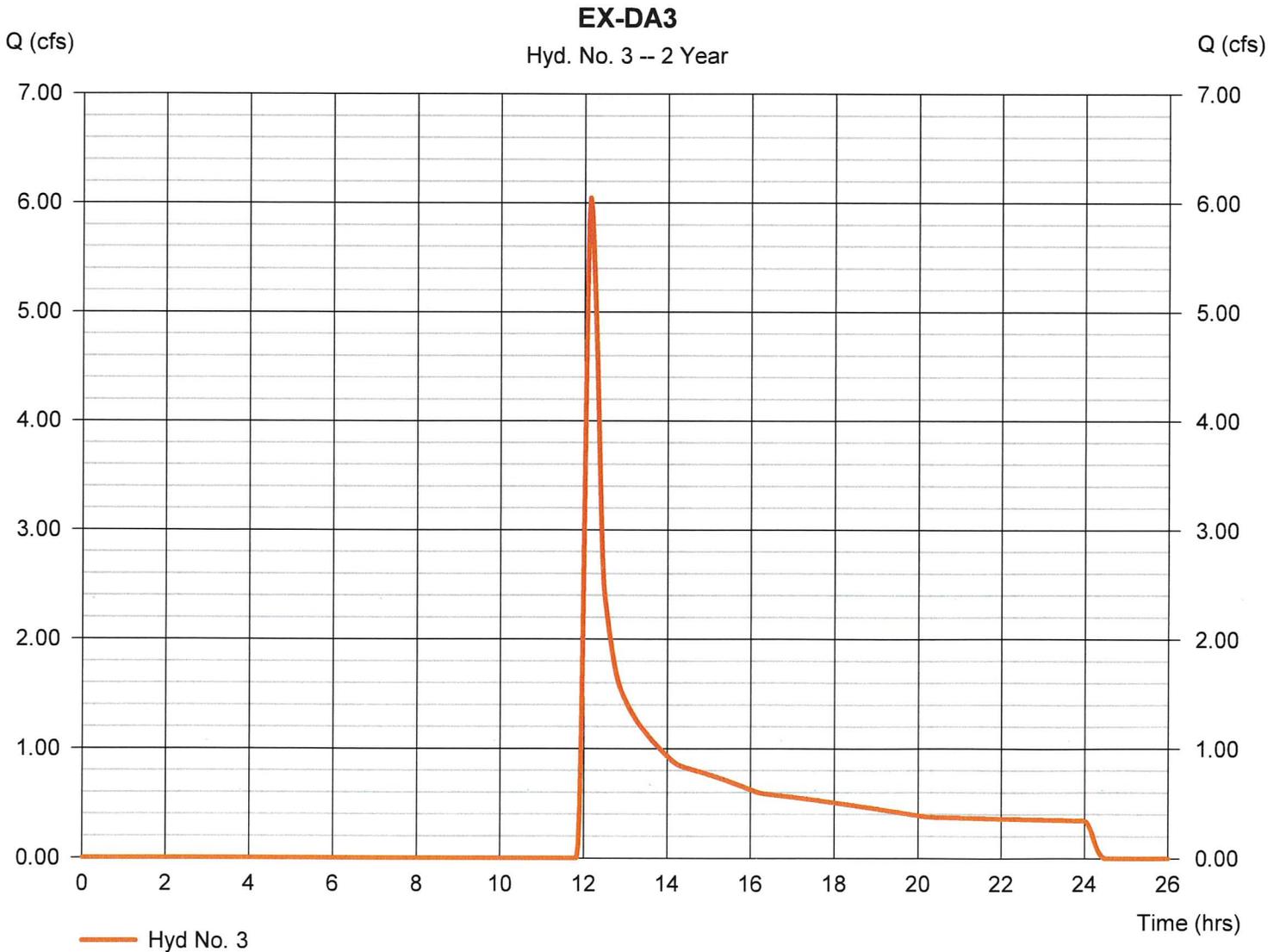
Wednesday, 01 / 29 / 2025

Hyd. No. 3

EX-DA3

Hydrograph type	= SCS Runoff	Peak discharge	= 6.047 cfs ⁹
Storm frequency	= 2 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 34,205 cuft
Drainage area	= 28.290 ac ^S	Curve number	= 60* ^S
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 18.90 min ^S
Total precip.	= 3.00 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(2.920 x 39) + (11.890 x 77) + (0.630 x 61) + (7.210 x 30) + (4.530 x 70) + (1.110 x 98)] / 28.290



Hydrograph Report

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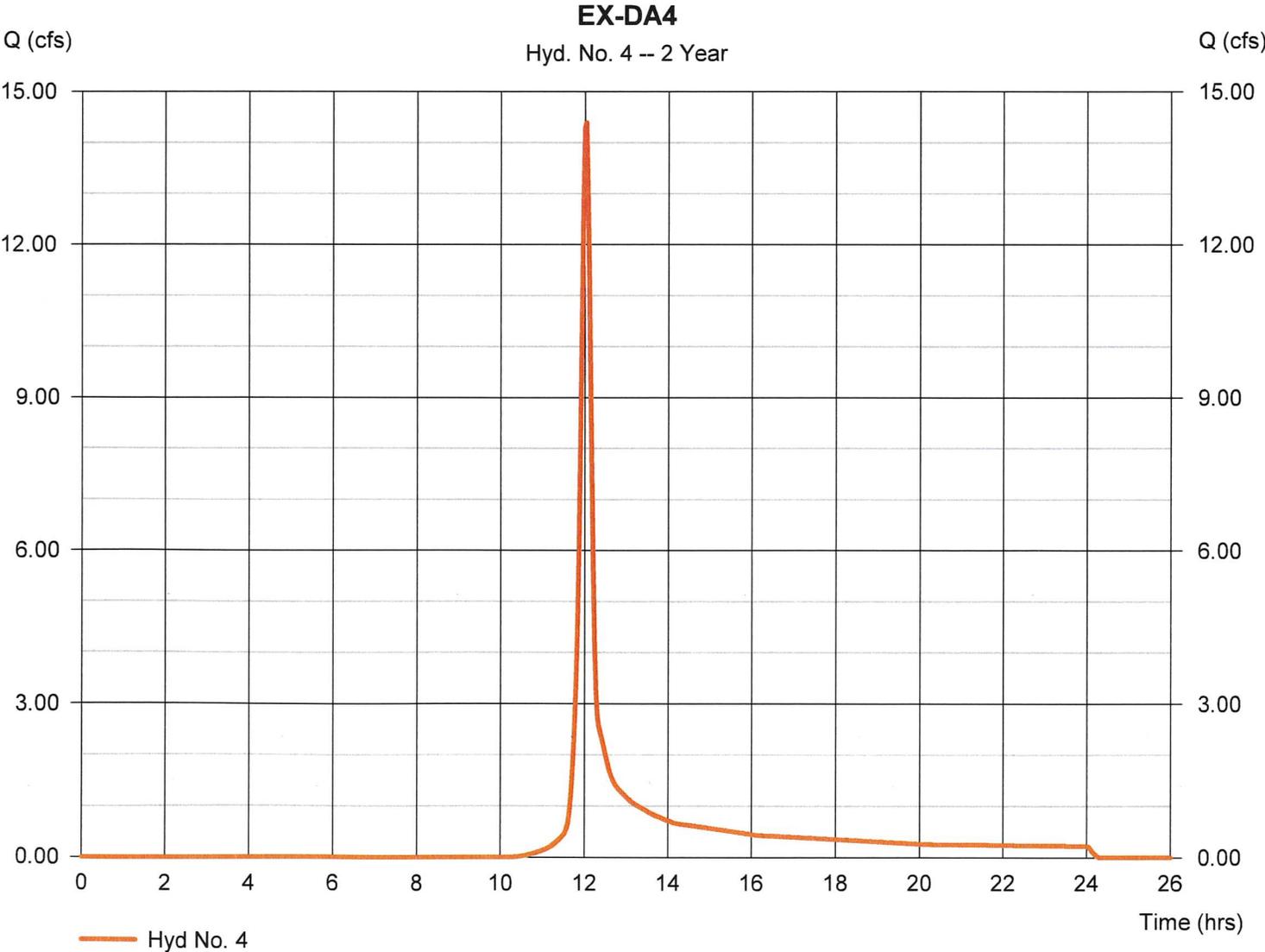
Wednesday, 01 / 29 / 2025

Hyd. No. 4

EX-DA4

Hydrograph type	= SCS Runoff	Peak discharge	= 14.39 cfs ^P
Storm frequency	= 2 yrs	Time to peak	= 12.03 hrs
Time interval	= 2 min	Hyd. volume	= 37,905 cuft
Drainage area	= 8.970 ac ^S	Curve number	= 78* ^S
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 11.50 min ^S
Total precip.	= 3.00 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(8.040 x 77) + (0.420 x 74) + (0.510 x 98)] / 8.970



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

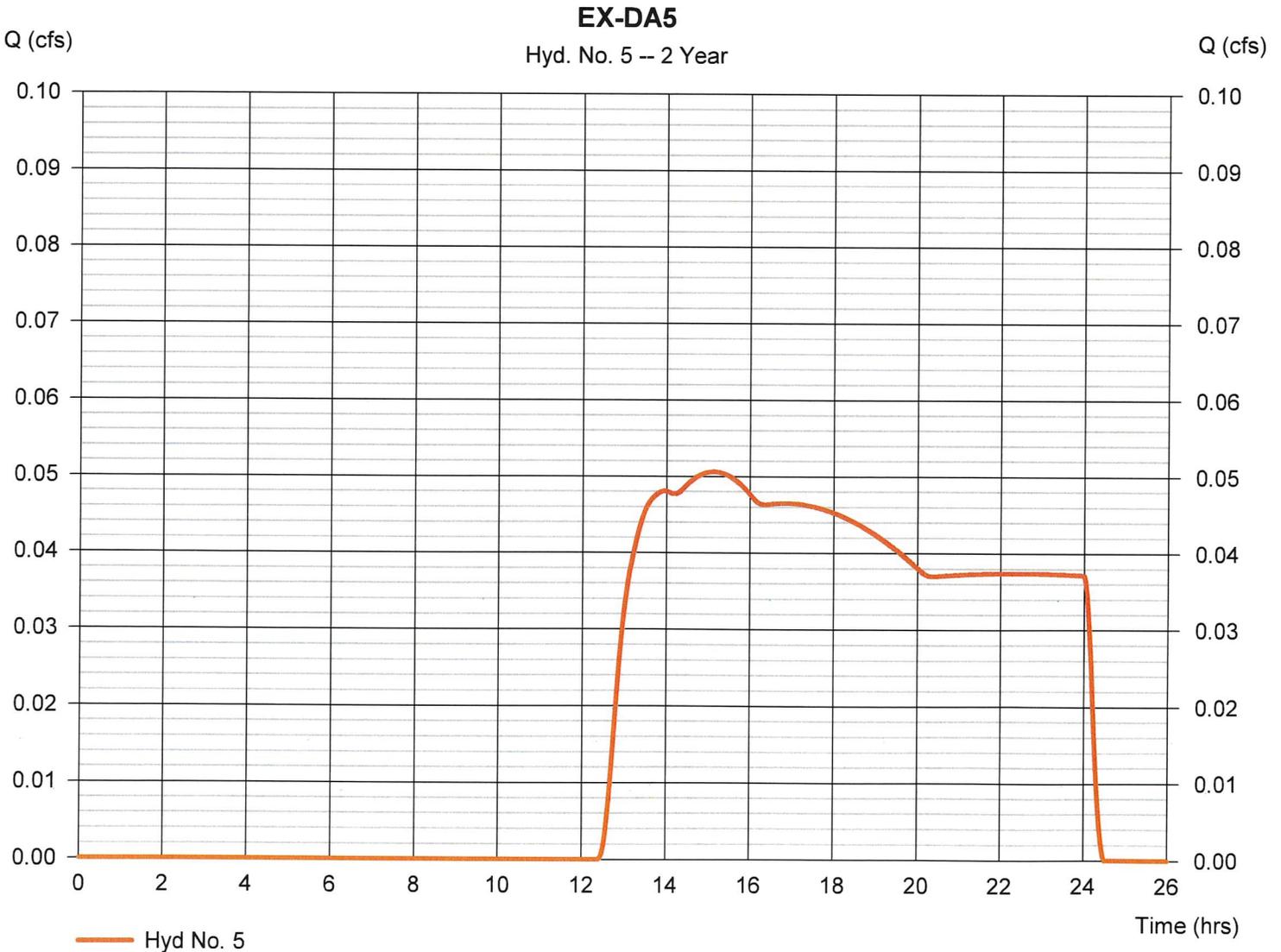
Wednesday, 01 / 29 / 2025

Hyd. No. 5

EX-DA5

Hydrograph type	= SCS Runoff	Peak discharge	= 0.051 cfs ^{IS}
Storm frequency	= 2 yrs	Time to peak	= 15.13 hrs
Time interval	= 2 min	Hyd. volume	= 1,748 cuft
Drainage area	= 8.090 ac ^S	Curve number	= 48* ^S
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft ^S
Tc method	= TR55	Time of conc. (Tc)	= 17.50 min ^S
Total precip.	= 3.00 in	Distribution	= Type II ^S
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.910 x 39) + (0.260 x 77) + (0.690 x 61) + (3.640 x 30) + (2.270 x 65) + (0.320 x 98)] / 8.090



Hydrograph Report

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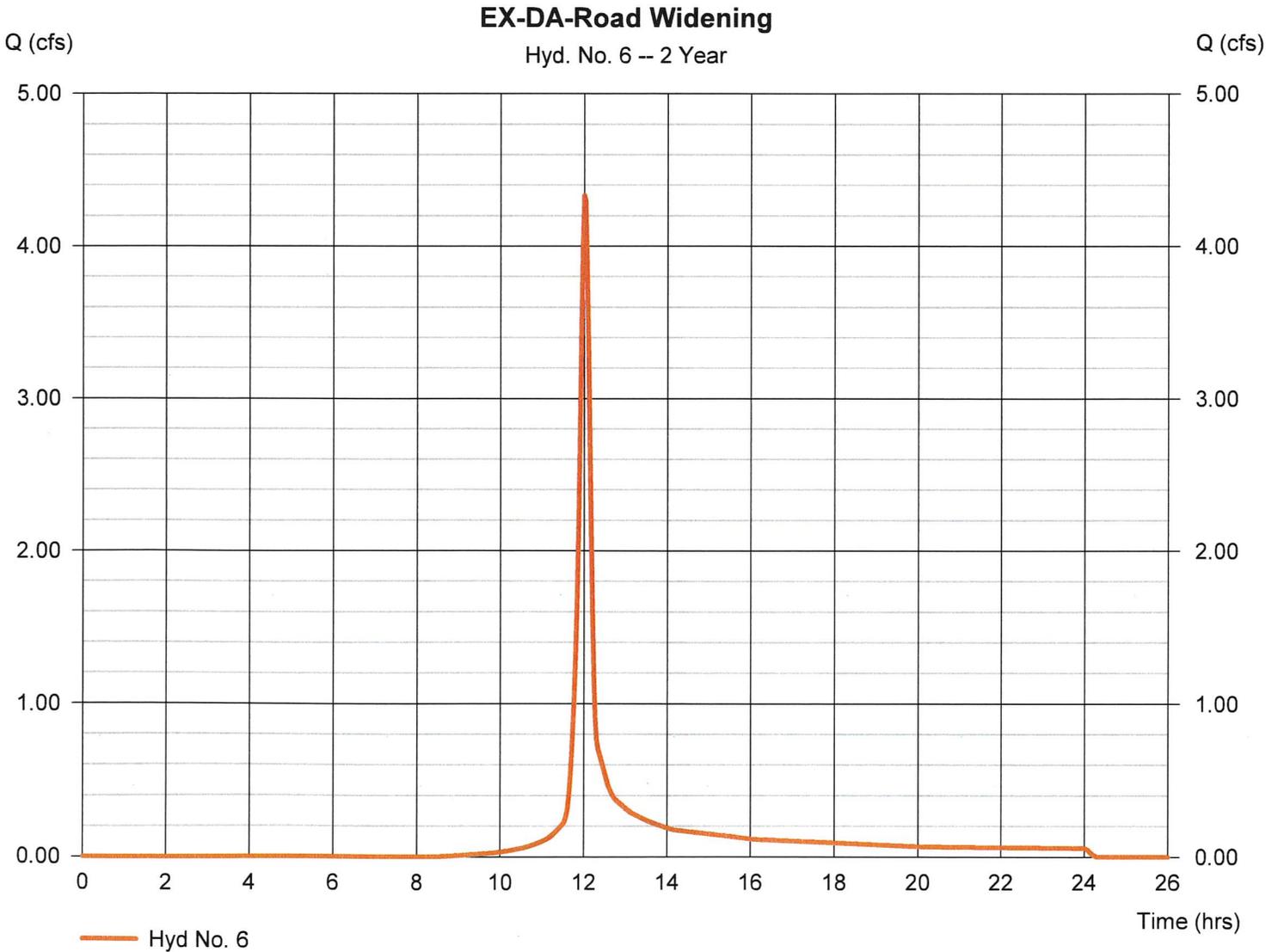
Wednesday, 01 / 29 / 2025

Hyd. No. 6

EX-DA-Road Widening

Hydrograph type	= SCS Runoff	Peak discharge	= 4.333 cfs P
Storm frequency	= 2 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 11,239 cuft
Drainage area	= 1.980 ac	Curve number	= 84*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 12.60 min S
Total precip.	= 3.00 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.200 x 77) + (1.000 x 74) + (0.780 x 98)] / 1.980



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Wednesday, 01 / 29 / 2025

Hyd. No. 7

EX-TOTAL

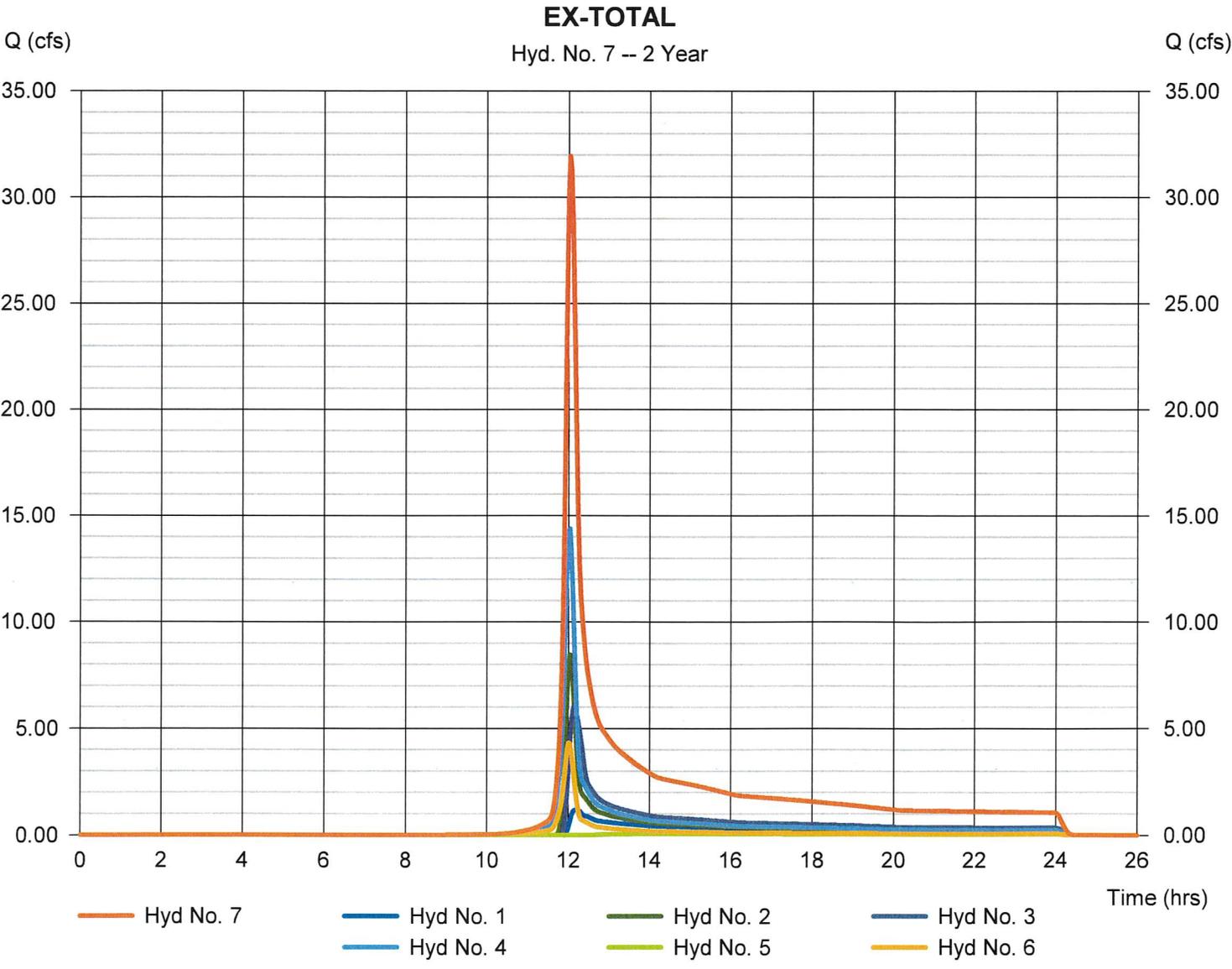
Hydrograph type = Combine
Storm frequency = 2 yrs
Time interval = 2 min
Inflow hyds. = 1, 2, 3, 4, 5, 6

Peak discharge = 31.95 cfs
Time to peak = 12.03 hrs
Hyd. volume = 125,260 cuft
Contrib. drain. area = 82.880 ac

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9

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Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

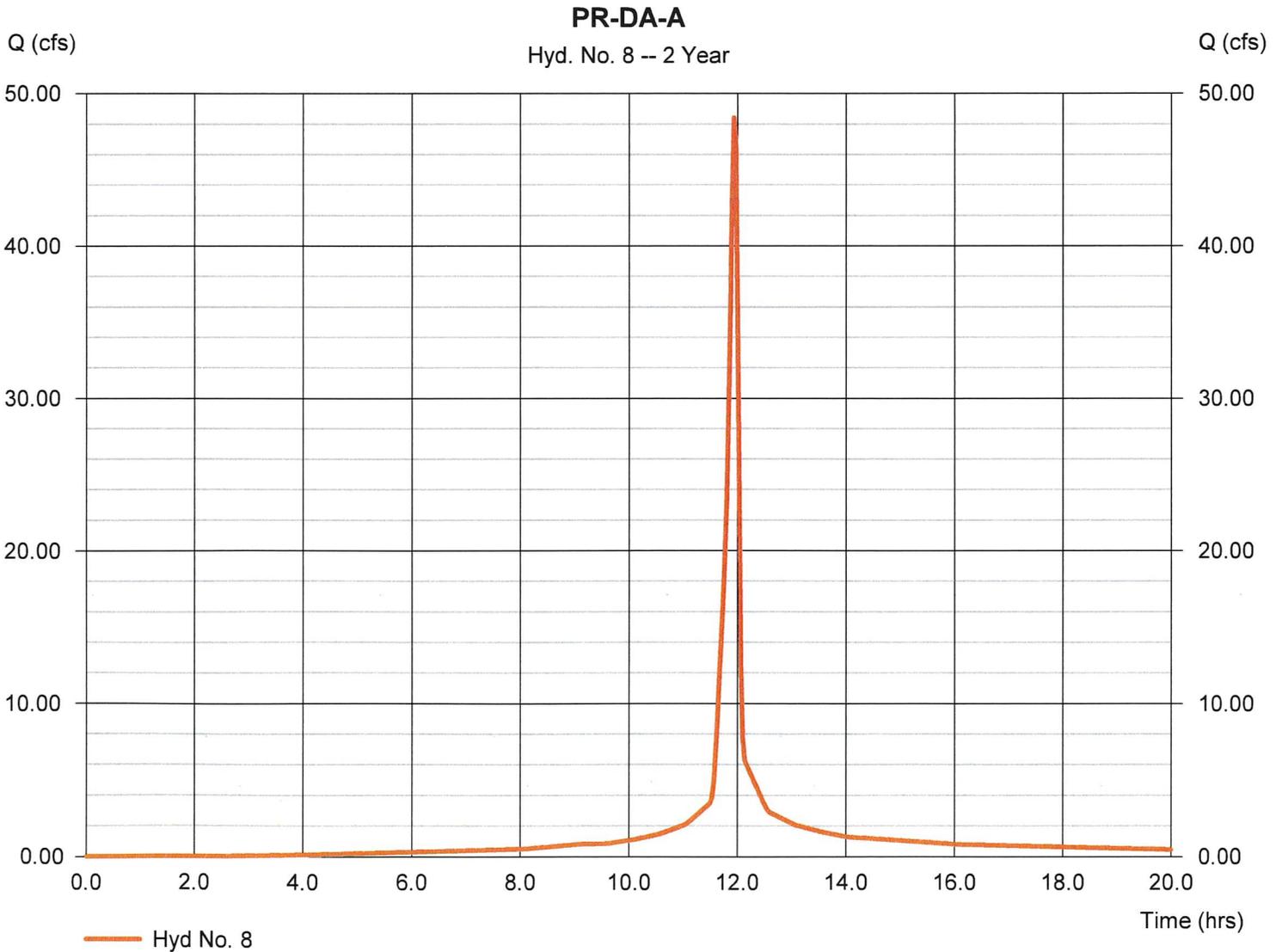
Wednesday, 01 / 29 / 2025

Hyd. No. 8

PR-DA-A

Hydrograph type	= SCS Runoff	Peak discharge	= 48.40 cfs ^P
Storm frequency	= 2 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 107,695 cuft
Drainage area	= 12.400 ac ^S	Curve number	= 96* ^S
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 6.30 min ^S
Total precip.	= 3.00 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.200 x 39) + (0.450 x 80) + (11.750 x 98)] / 12.400



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

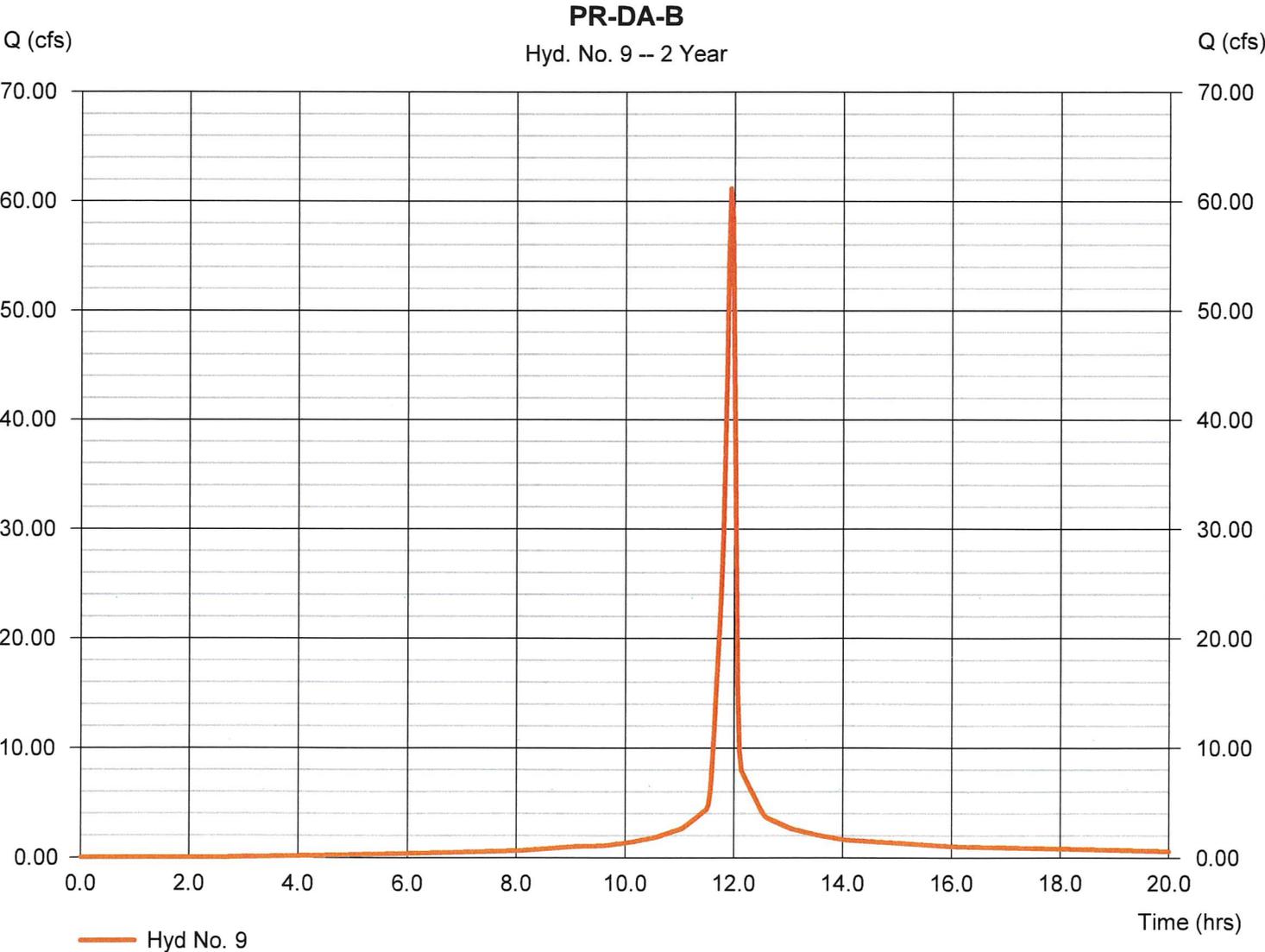
Wednesday, 01 / 29 / 2025

Hyd. No. 9

PR-DA-B

Hydrograph type	= SCS Runoff	Peak discharge	= 61.17 cfs
Storm frequency	= 2 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 136,095 cuft
Drainage area	= 15.670 ac	Curve number	= 96*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 3.00 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.100 x 39) + (1.610 x 80) + (13.960 x 98)] / 15.670



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

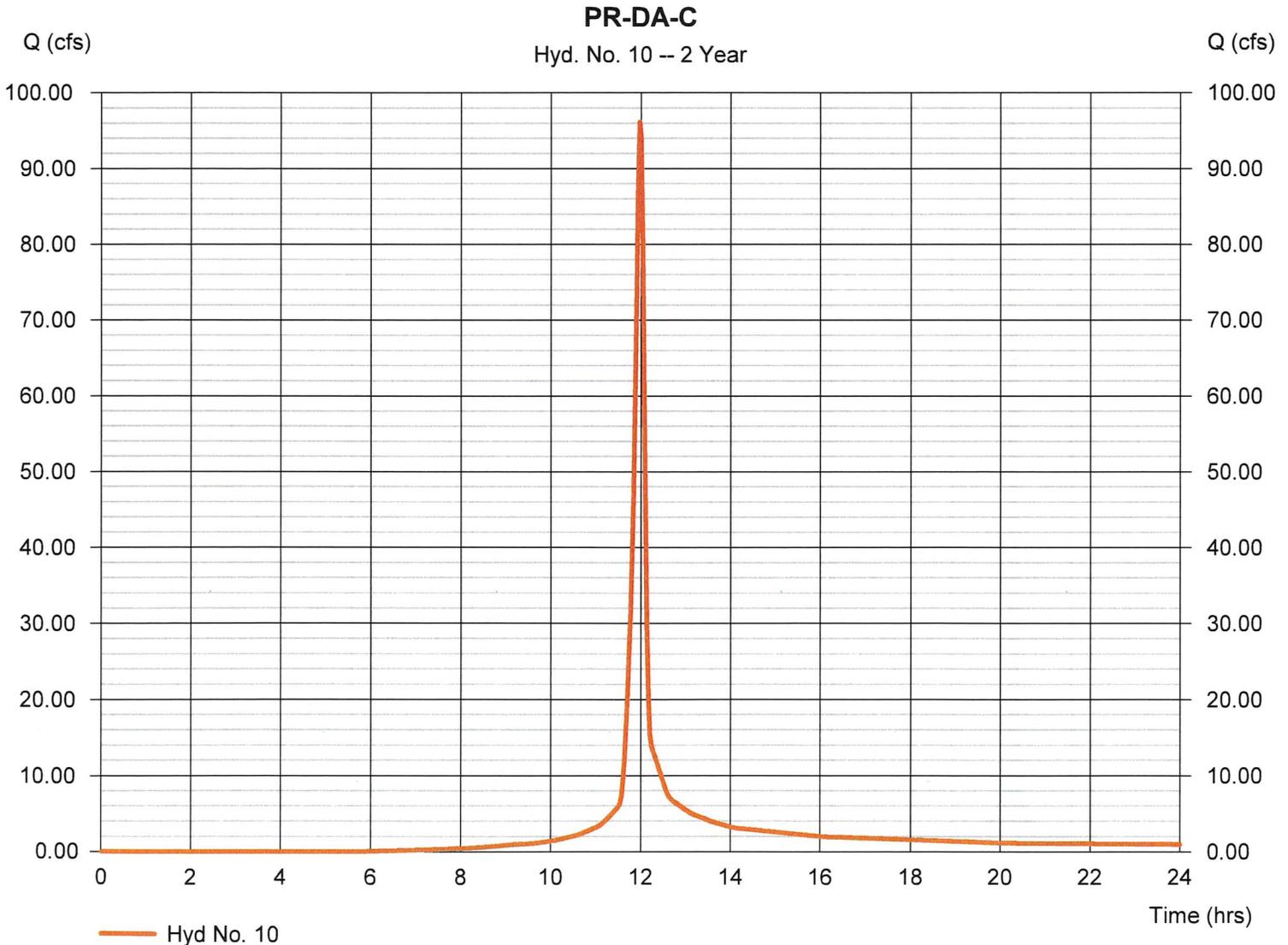
Wednesday, 01 / 29 / 2025

Hyd. No. 10

PR-DA-C

Hydrograph type	= SCS Runoff	Peak discharge	= 96.15 cfs <i>P</i>
Storm frequency	= 2 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 223,634 cuft
Drainage area	= 31.050 ac <i>S</i>	Curve number	= 90* <i>S</i>
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 9.50 min <i>S</i>
Total precip.	= 3.00 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(2.830 x 39) + (5.270 x 80) + (22.950 x 98)] / 31.050



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

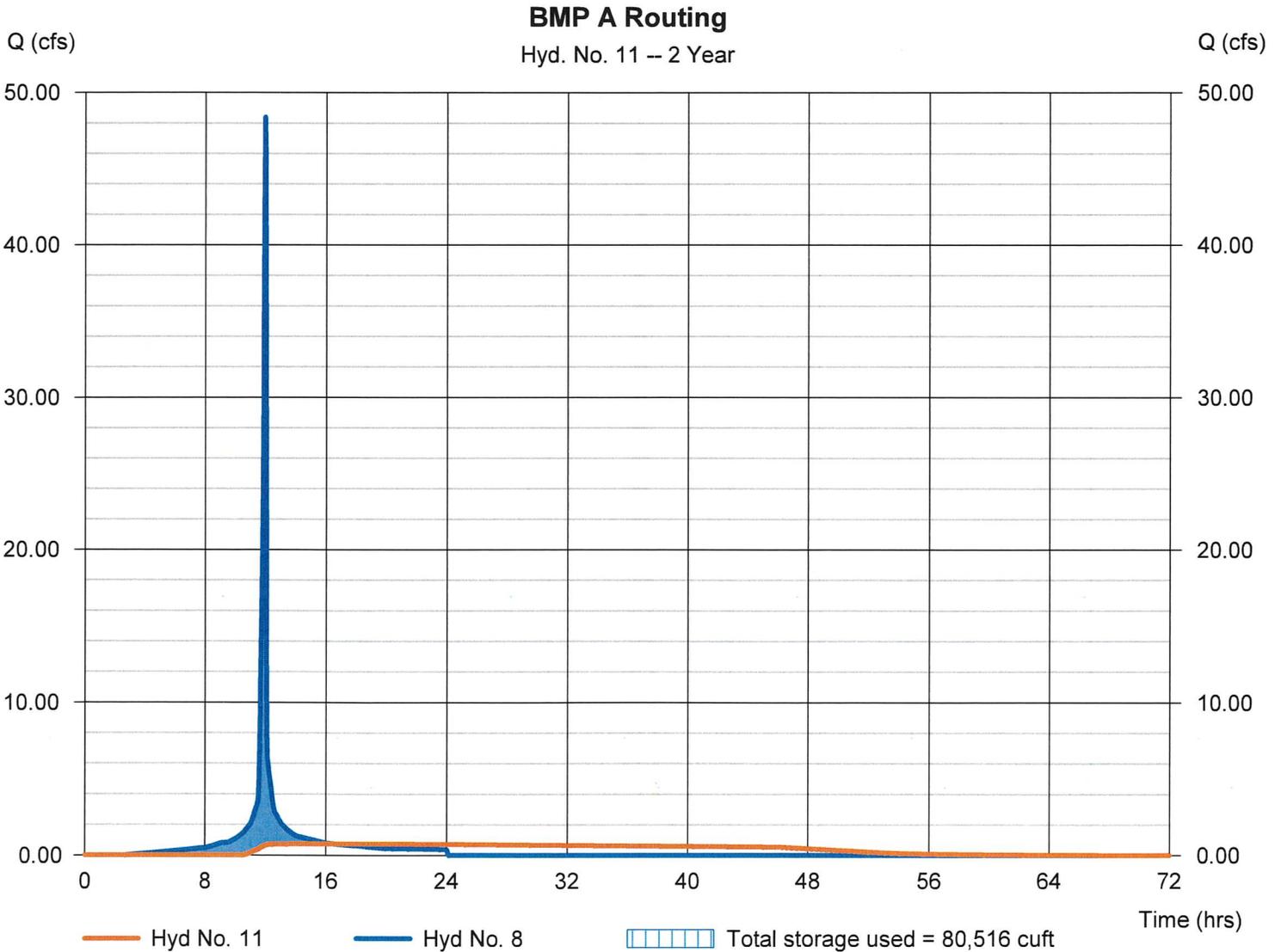
Wednesday, 01 / 29 / 2025

Hyd. No. 11

BMP A Routing

Hydrograph type	= Reservoir	Peak discharge	= 0.743 cfs φ
Storm frequency	= 2 yrs	Time to peak	= 16.63 hrs
Time interval	= 2 min	Hyd. volume	= 95,688 cuft
Inflow hyd. No.	= 8 - PR-DA-A S	Max. Elevation	= 290.68 ft
Reservoir name	= BMP A	Max. Storage	= 80,516 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

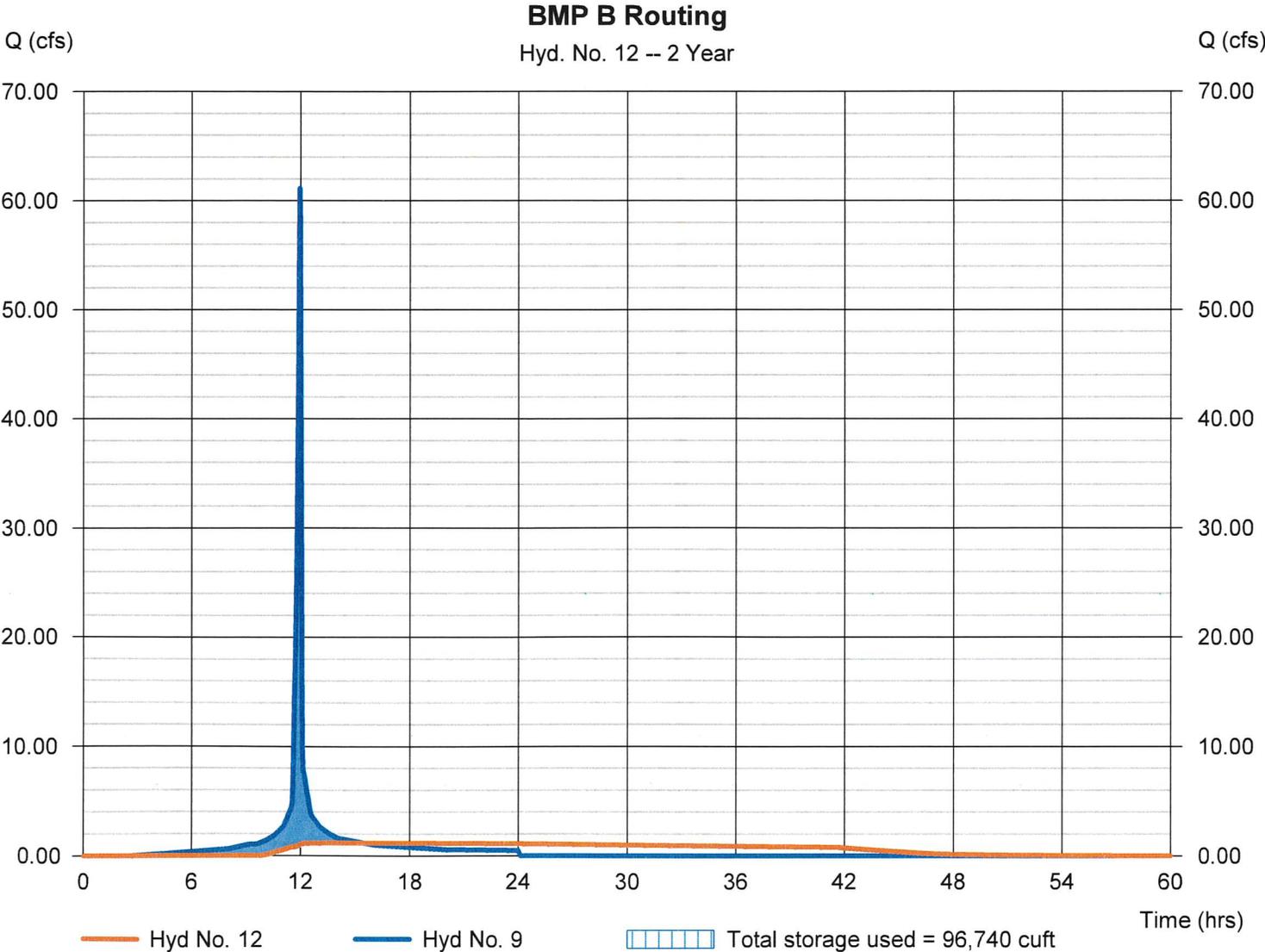
Wednesday, 01 / 29 / 2025

Hyd. No. 12

BMP B Routing

Hydrograph type	= Reservoir	Peak discharge	= 1.169 cfs
Storm frequency	= 2 yrs	Time to peak	= 15.50 hrs
Time interval	= 2 min	Hyd. volume	= 124,614 cuft
Inflow hyd. No.	= 9 - PR-DA-B	Max. Elevation	= 286.90 ft
Reservoir name	= BMP B	Max. Storage	= 96,740 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

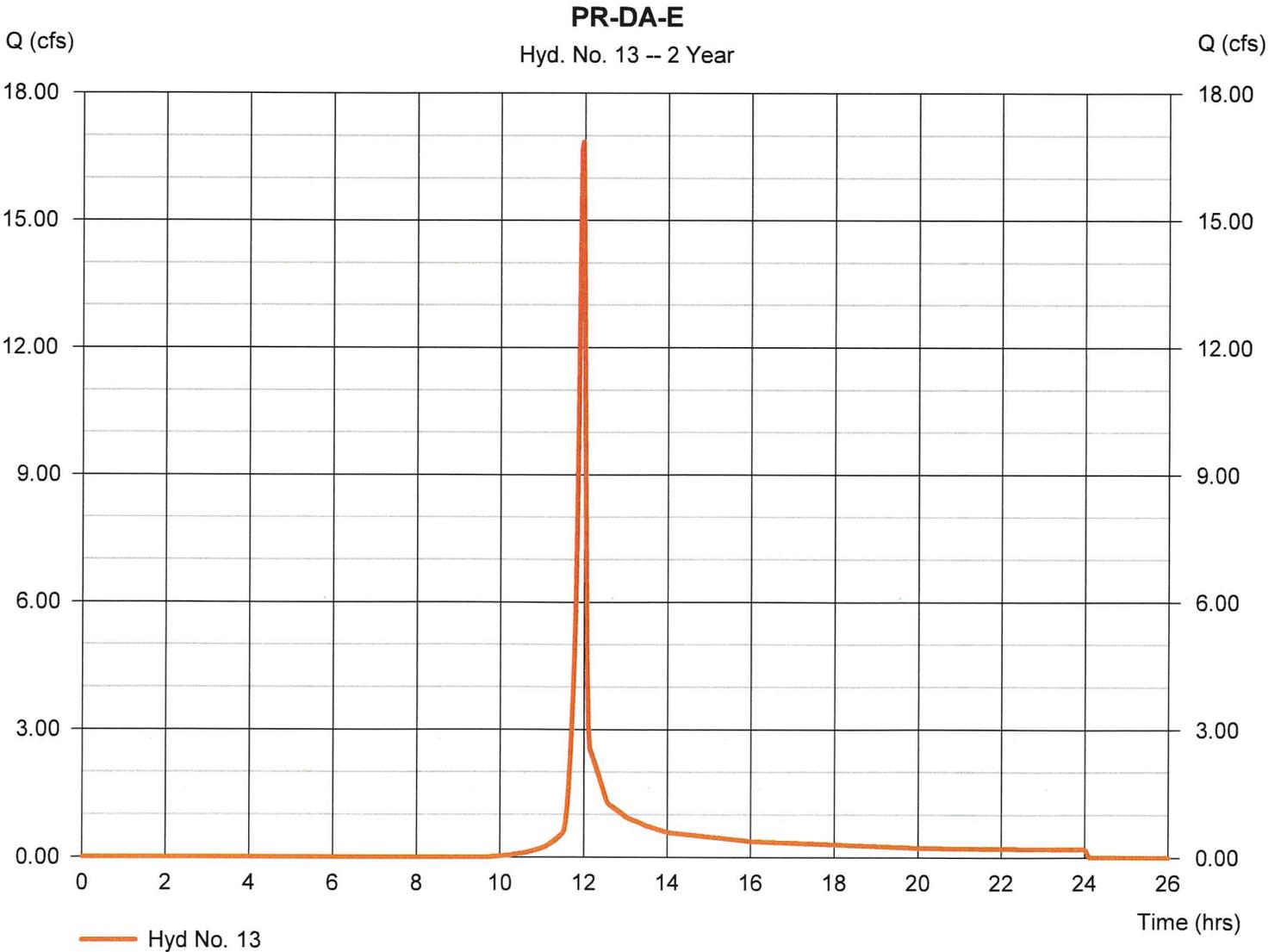
Wednesday, 01 / 29 / 2025

Hyd. No. 13

PR-DA-E

Hydrograph type	= SCS Runoff	Peak discharge	= 16.85 cfs
Storm frequency	= 2 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 33,776 cuft
Drainage area	= 7.940 ac	Curve number	= 80*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 3.00 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.220 x 39) + (0.880 x 61) + (2.190 x 80) + (3.650 x 98)] / 7.940



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Wednesday, 01 / 29 / 2025

Hyd. No. 14

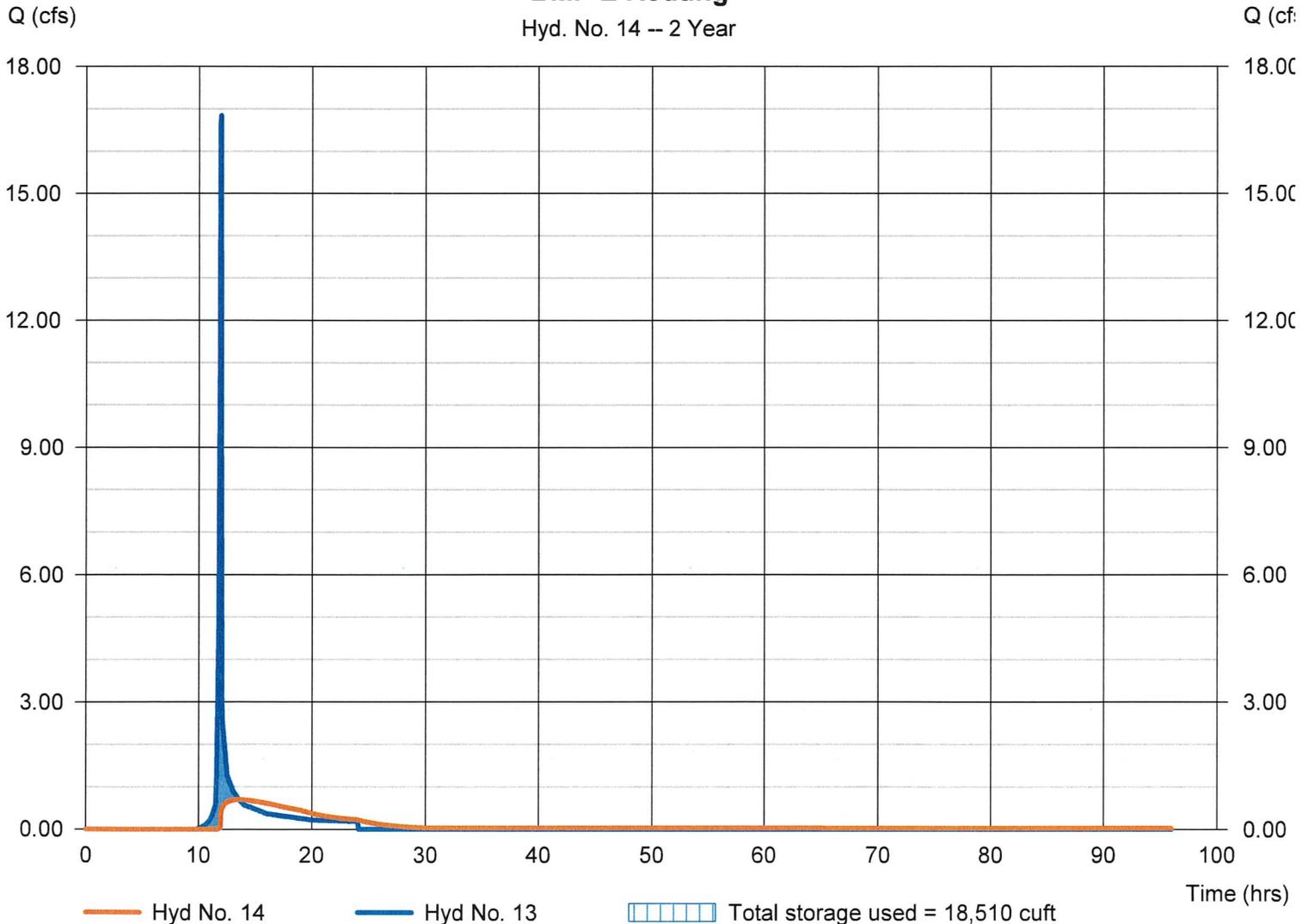
BMP E Routing

Hydrograph type	= Reservoir	Peak discharge	= 0.700 cfs <i>P</i>
Storm frequency	= 2 yrs	Time to peak	= 13.63 hrs
Time interval	= 2 min	Hyd. volume	= 30,368 cuft
Inflow hyd. No.	= 13 - PR-DA-E <i>S</i>	Max. Elevation	= 257.59 ft
Reservoir name	= BMP E	Max. Storage	= 18,510 cuft

Storage Indication method used.

BMP E Routing

Hyd. No. 14 -- 2 Year



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Wednesday, 01 / 29 / 2025

Hyd. No. 15

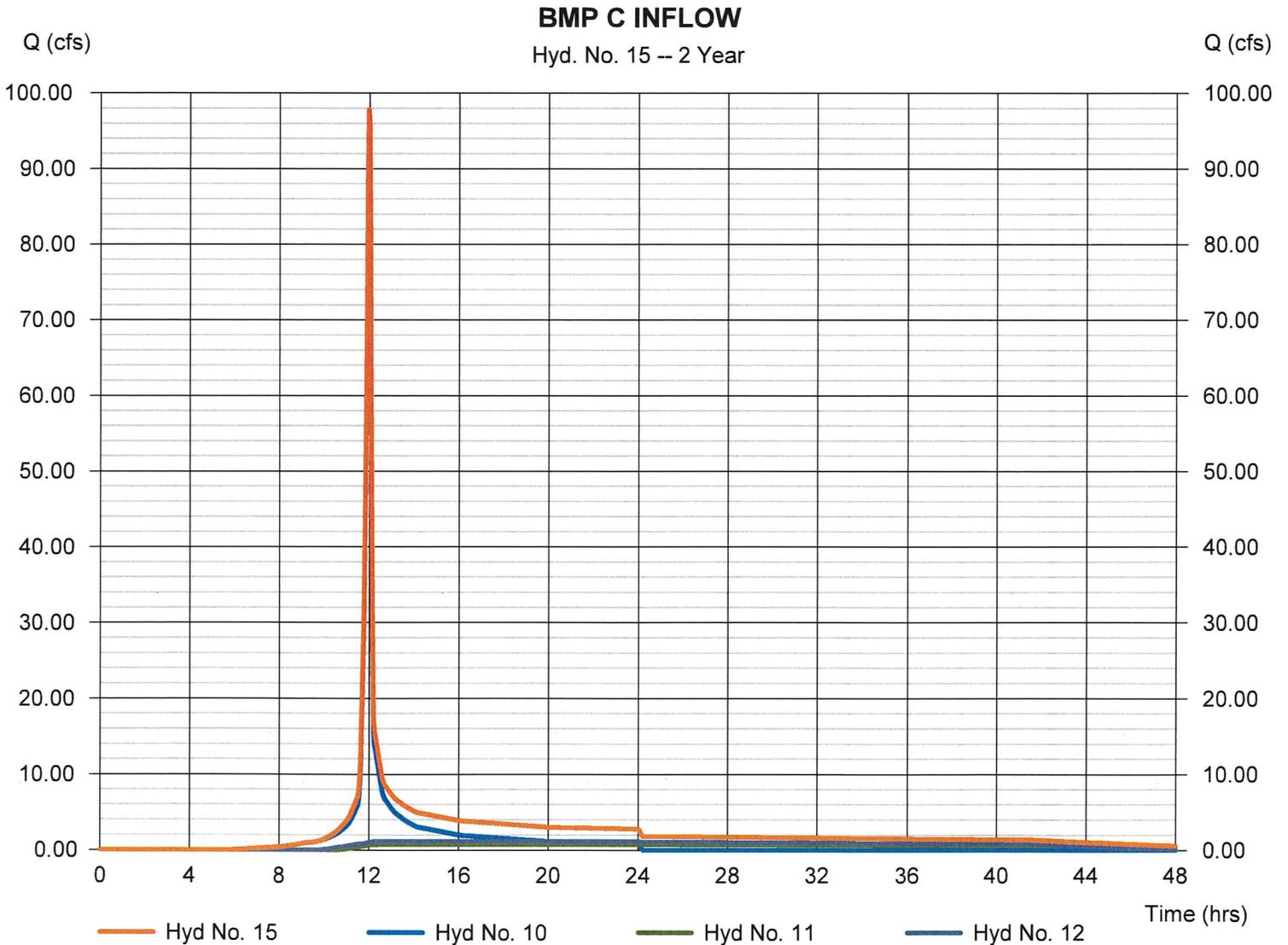
BMP C INFLOW

Hydrograph type = Combine
Storm frequency = 2 yrs
Time interval = 2 min
Inflow hyds. = 10, 11, 12

Peak discharge = 97.82 cfs
Time to peak = 11.97 hrs
Hyd. volume = 443,935 cuft
Contrib. drain. area = 31.050 ac

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Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Wednesday, 01 / 29 / 2025

Hyd. No. 16

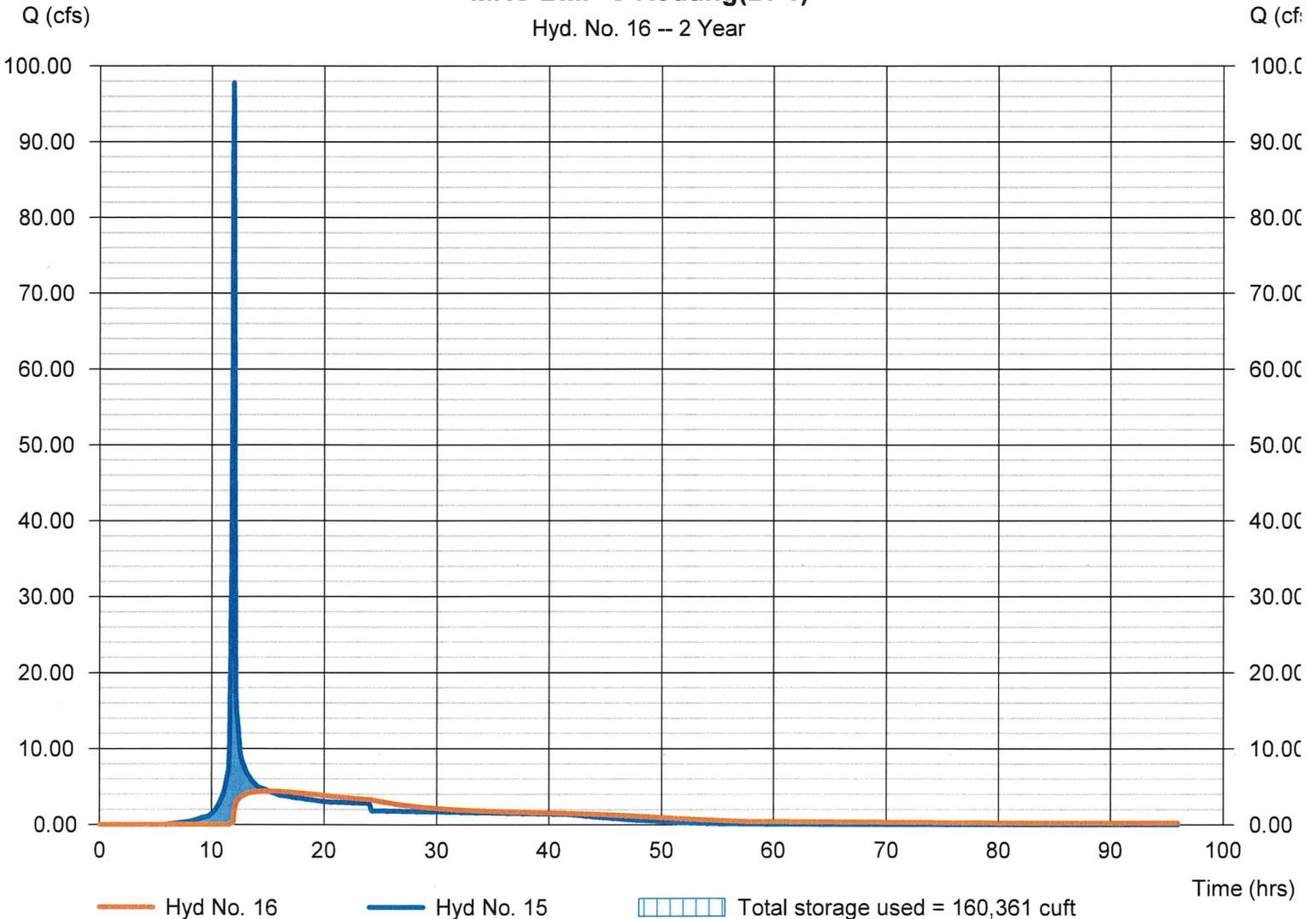
MRC BMP C Routing(DP1)

Hydrograph type	= Reservoir	Peak discharge	= 4.410 cfs ⁴
Storm frequency	= 2 yrs	Time to peak	= 15.13 hrs
Time interval	= 2 min	Hyd. volume	= 395,047 cuft
Inflow hyd. No.	= 15 - BMP C INFLOW _S	Max. Elevation	= 217.02 ft
Reservoir name	= BMP C	Max. Storage	= 160,361 cuft

Storage Indication method used.

MRC BMP C Routing(DP1)

Hyd. No. 16 -- 2 Year



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

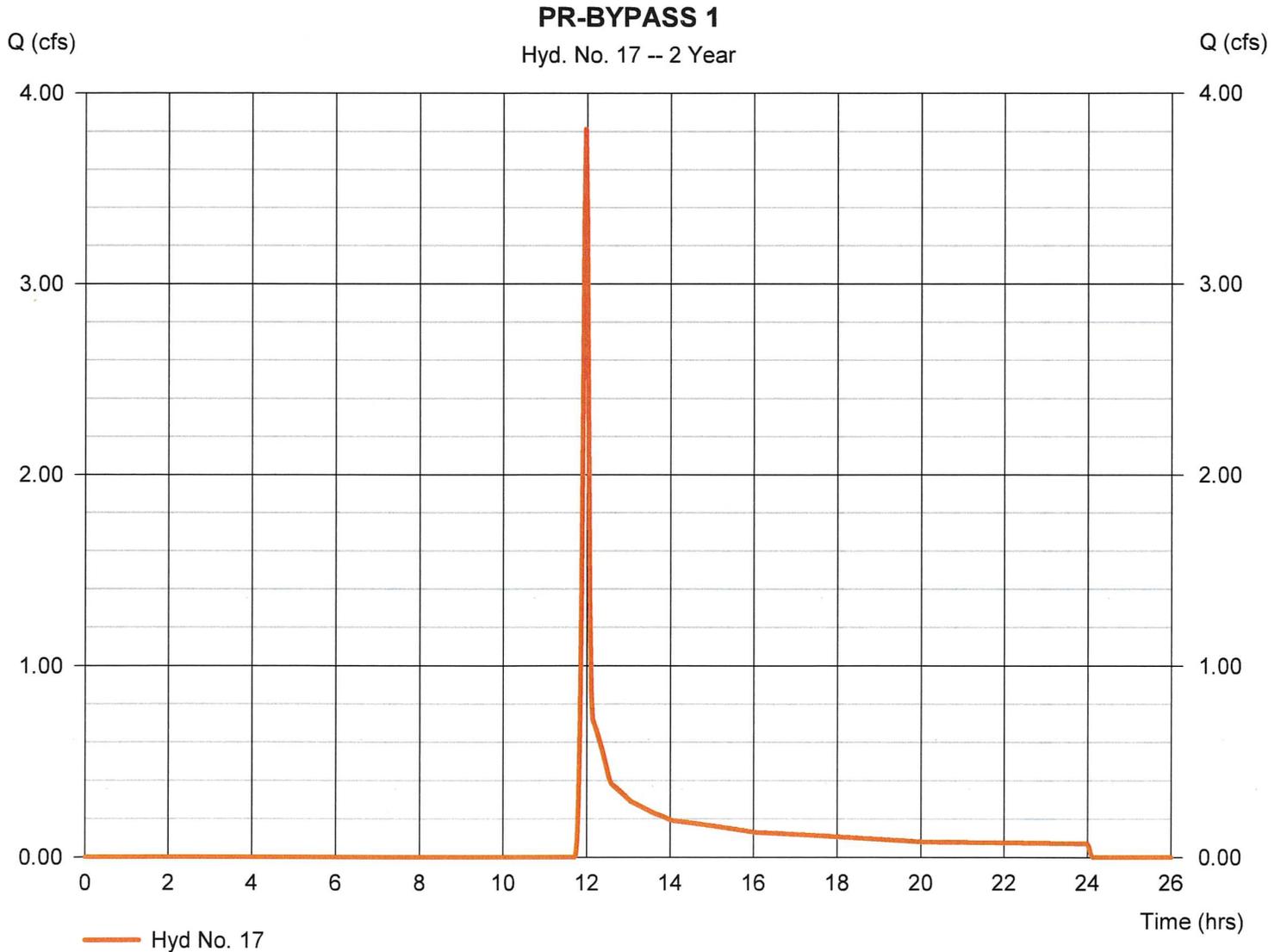
Wednesday, 01 / 29 / 2025

Hyd. No. 17

PR-BYPASS 1

Hydrograph type	= SCS Runoff	Peak discharge	= 3.812 cfs ^P
Storm frequency	= 2 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 8,524 cuft
Drainage area	= 4.950 ac ^S	Curve number	= 65* ^S
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 6.30 min ^S
Total precip.	= 3.00 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.830 x 39) + (1.480 x 61) + (1.640 x 98)] / 4.950



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Wednesday, 01 / 29 / 2025

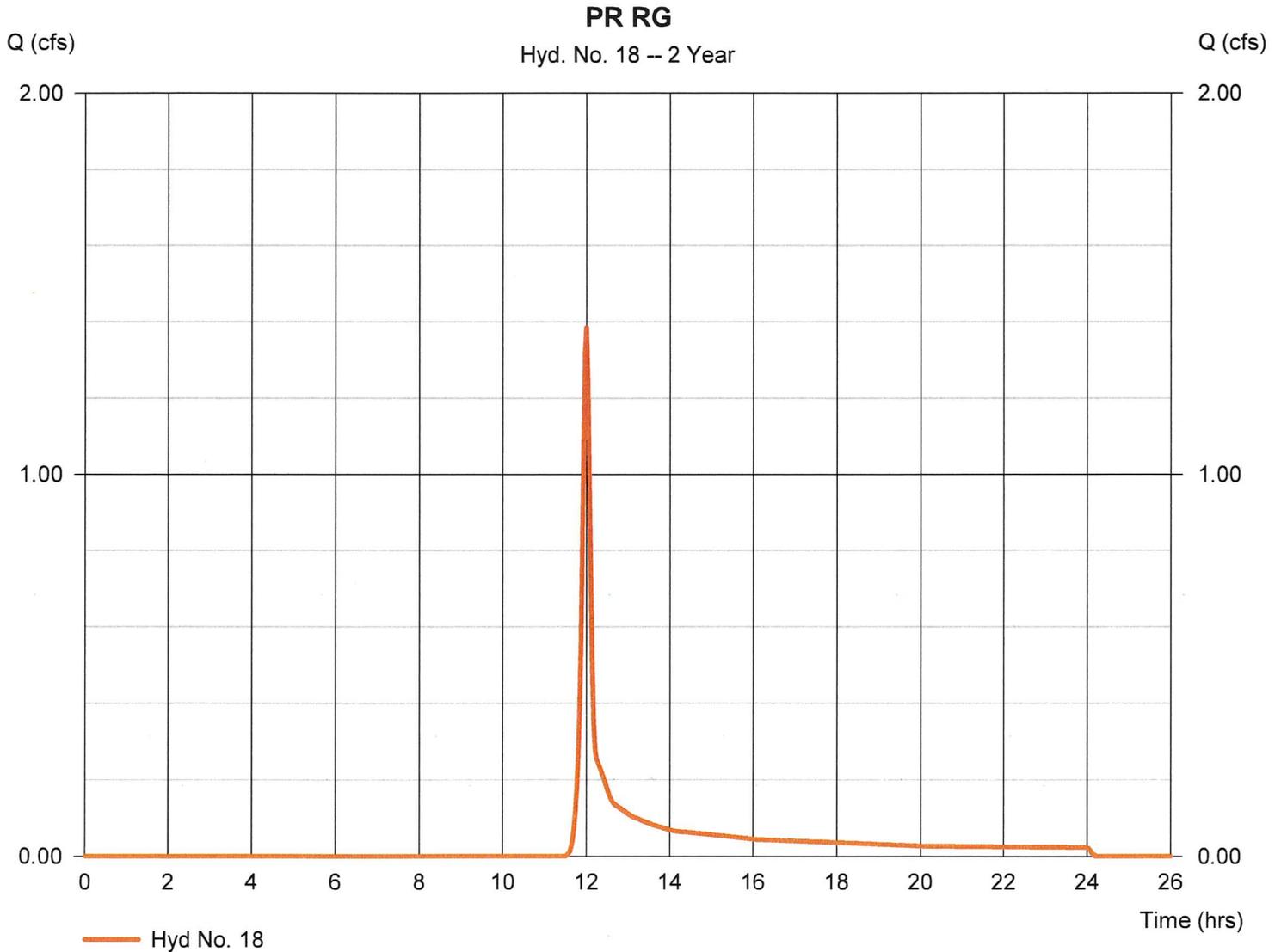
Hyd. No. 18

PR RG

Hydrograph type = SCS Runoff
 Storm frequency = 2 yrs
 Time interval = 2 min
 Drainage area = 1.200 ac
 Basin Slope = 0.0 %
 Tc method = TR55
 Total precip. = 3.00 in
 Storm duration = 24 hrs

Peak discharge = 1.385 cfs
 Time to peak = 12.00 hrs
 Hyd. volume = 3,312 cuft
 Curve number = 71*
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 7.40 min
 Distribution = Type II
 Shape factor = 484

* Composite (Area/CN) = [(0.410 x 80) + (0.690 x 61) + (0.100 x 98)] / 1.200



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

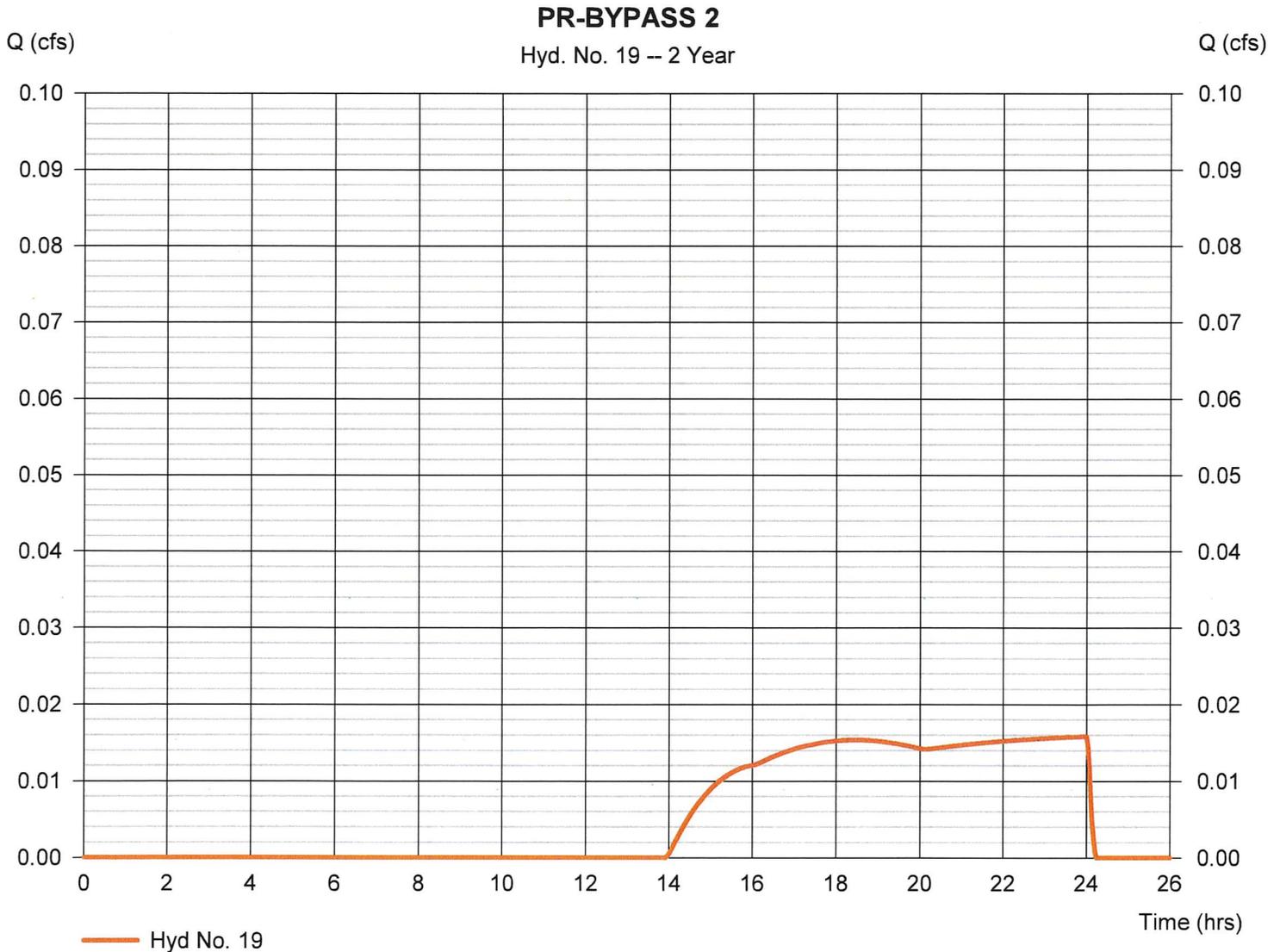
Wednesday, 01 / 29 / 2025

Hyd. No. 19

PR-BYPASS 2

Hydrograph type	= SCS Runoff	Peak discharge	= 0.016 cfs
Storm frequency	= 2 yrs	Time to peak	= 24.00 hrs
Time interval	= 2 min	Hyd. volume	= 491 cuft
Drainage area	= 5.600 ac <i>S</i>	Curve number	= 45* <i>S</i>
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 9.50 min <i>S</i>
Total precip.	= 3.00 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(4.520 x 39) + (0.490 x 61) + (0.530 x 80) + (0.060 x 98)] / 5.600



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Wednesday, 01 / 29 / 2025

Hyd. No. 20

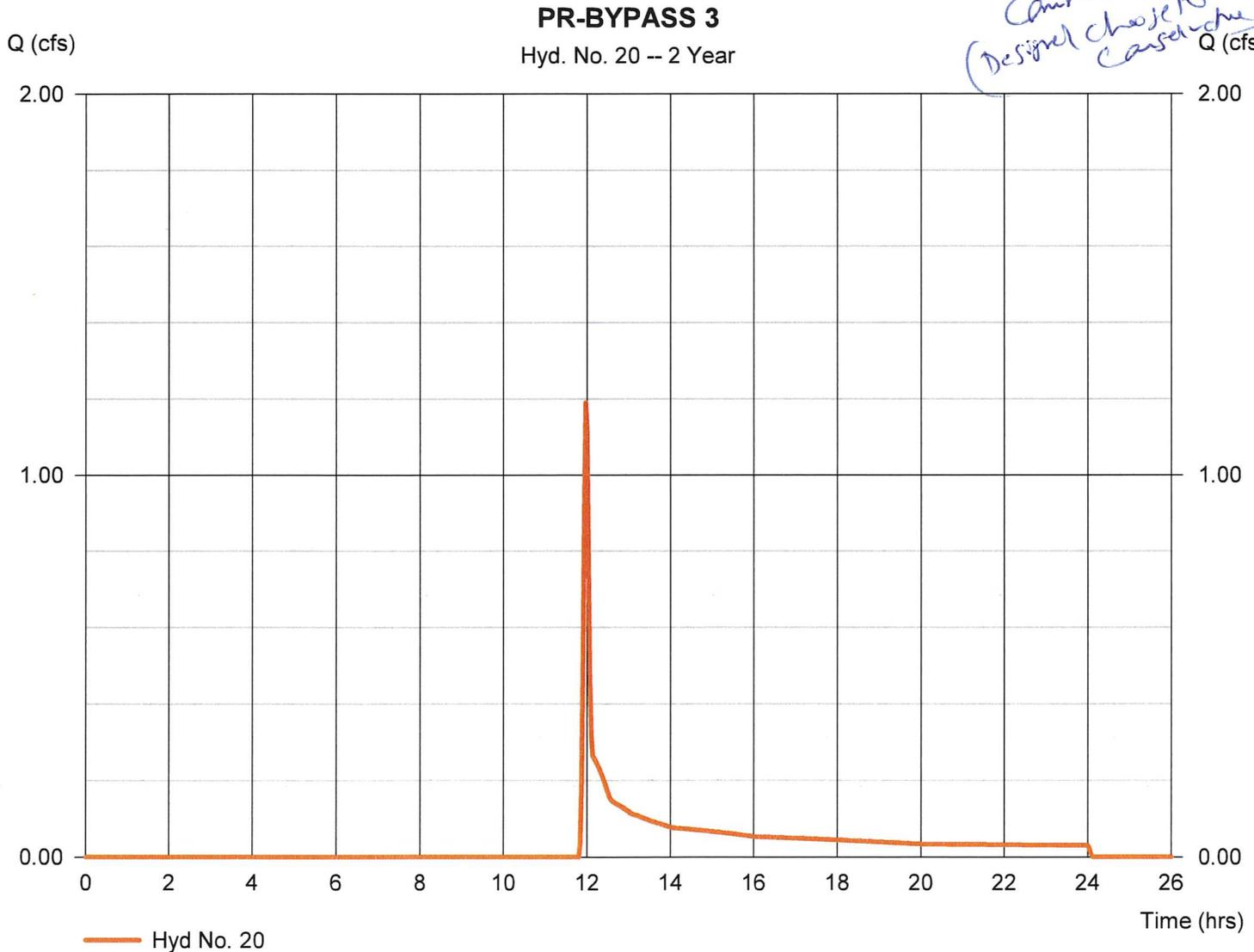
PR-BYPASS 3

Hydrograph type	= SCS Runoff	Peak discharge	= 1.190 cfs ^{cp}
Storm frequency	= 2 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 3,143 cuft
Drainage area	= 2.530 ac	Curve number	= 61 ^S
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 4.90 min [↓]
Total precip.	= 3.00 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

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* Composite (Area/CN) = [(2.530 x 61)] / 2.530

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Hydrograph Report

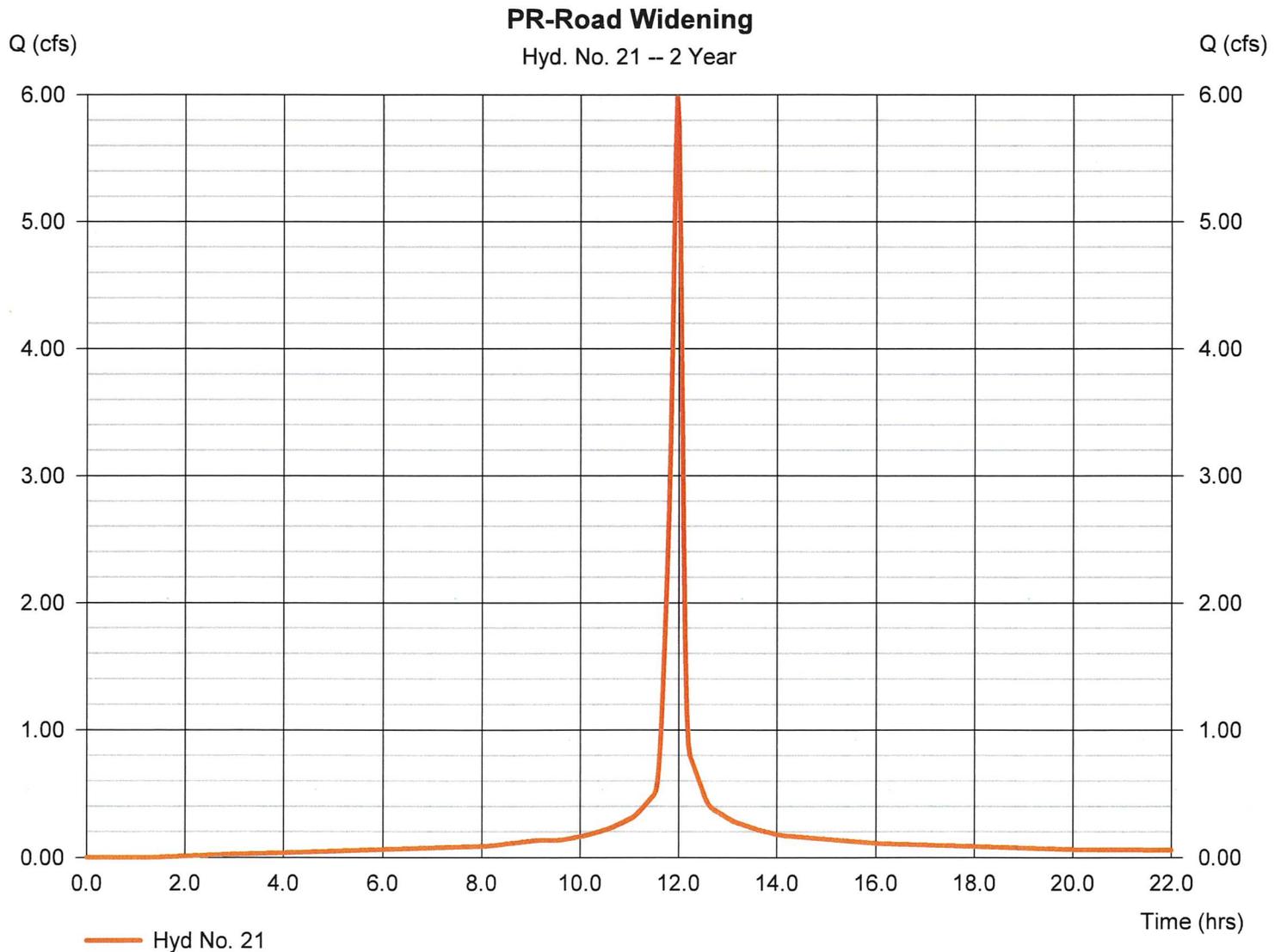
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Wednesday, 01 / 29 / 2025

Hyd. No. 21

PR-Road Widening

Hydrograph type	= SCS Runoff	Peak discharge	= 5.984 cfs ^P
Storm frequency	= 2 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 15,576 cuft
Drainage area	= 1.550 ac ^S	Curve number	= 98 ^S
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 7.70 min ^S
Total precip.	= 3.00 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Wednesday, 01 / 29 / 2025

Hyd. No. 22

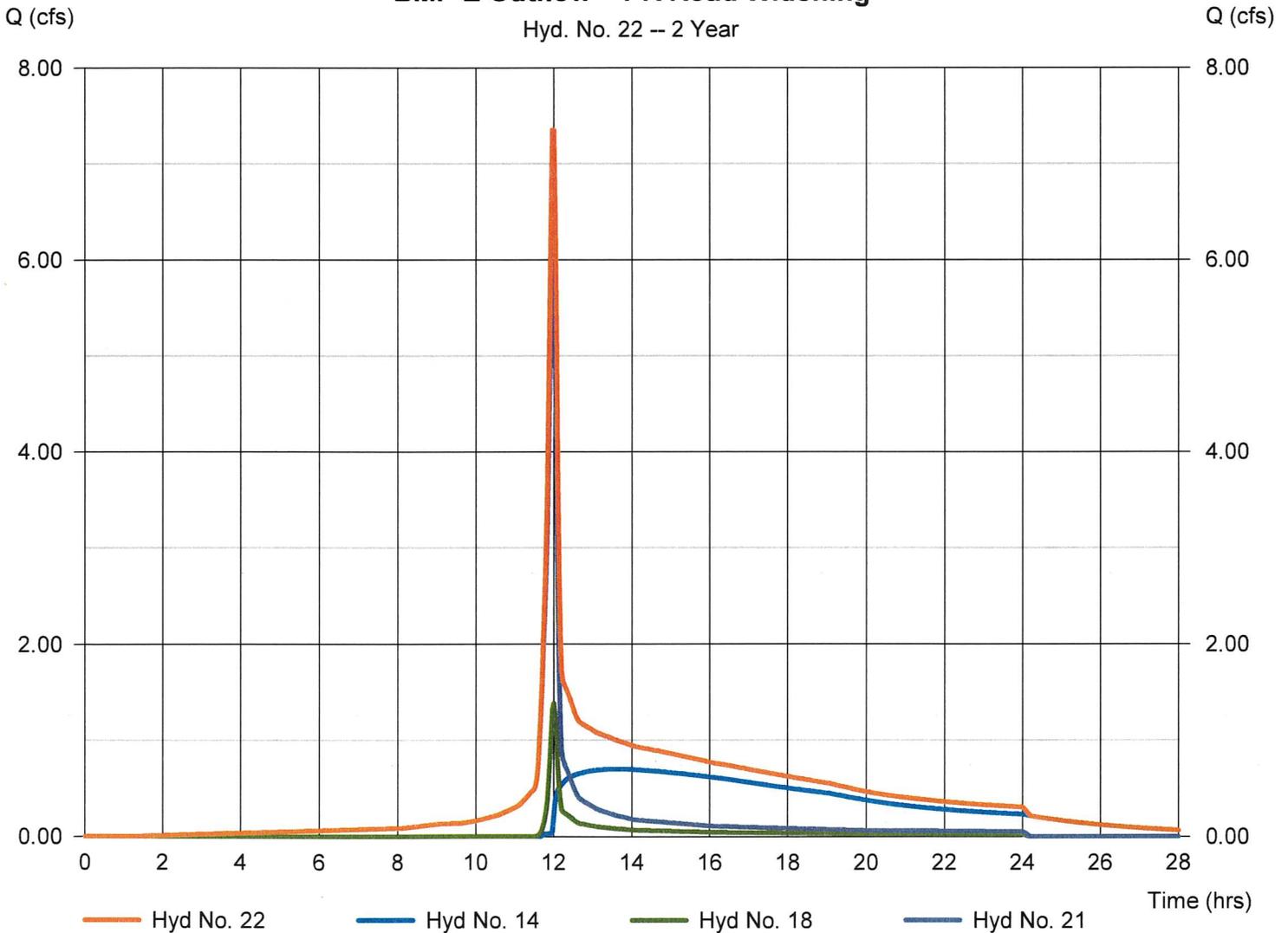
BMP E Outflow + PR Road Widening

Hydrograph type = Combine
Storm frequency = 2 yrs
Time interval = 2 min
Inflow hyds. = 14, 18, 21

Peak discharge = 7.356 cfs
Time to peak = 11.97 hrs
Hyd. volume = 49,256 cuft
Contrib. drain. area = 2.750 ac

BMP E Outflow + PR Road Widening

Hyd. No. 22 -- 2 Year



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

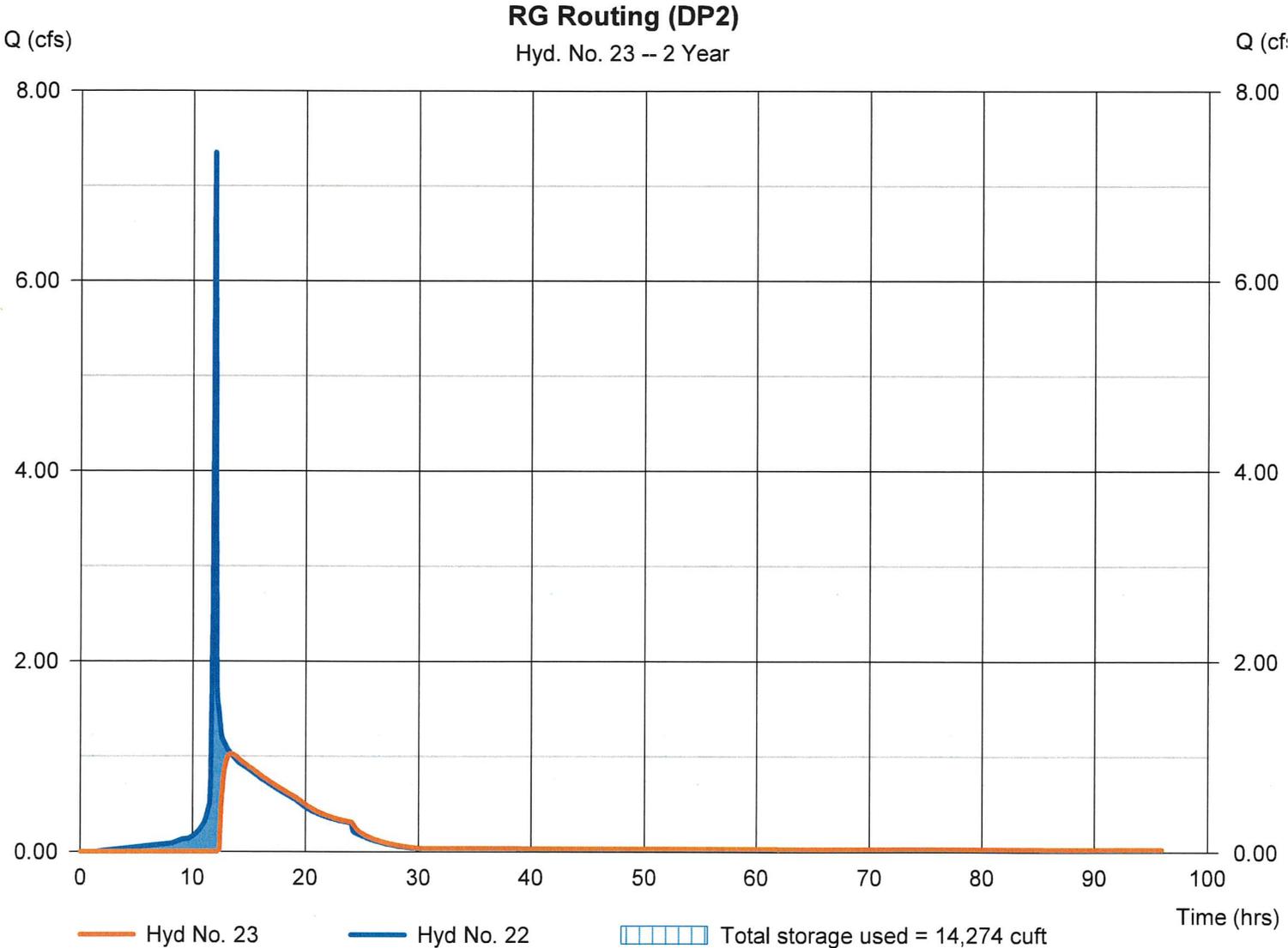
Wednesday, 01 / 29 / 2025

Hyd. No. 23

RG Routing (DP2)

Hydrograph type	= Reservoir	Peak discharge	= 1.027 cfs ↑
Storm frequency	= 2 yrs	Time to peak	= 13.47 hrs
Time interval	= 2 min	Hyd. volume	= 36,242 cuft
Inflow hyd. No.	= 22 - BMP E Outflow + PR Road Mid Elevation	Max. Elevation	= 232.77 ft
Reservoir name	= Hacket Rain Garden	Max. Storage	= 14,274 cuft ↓

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

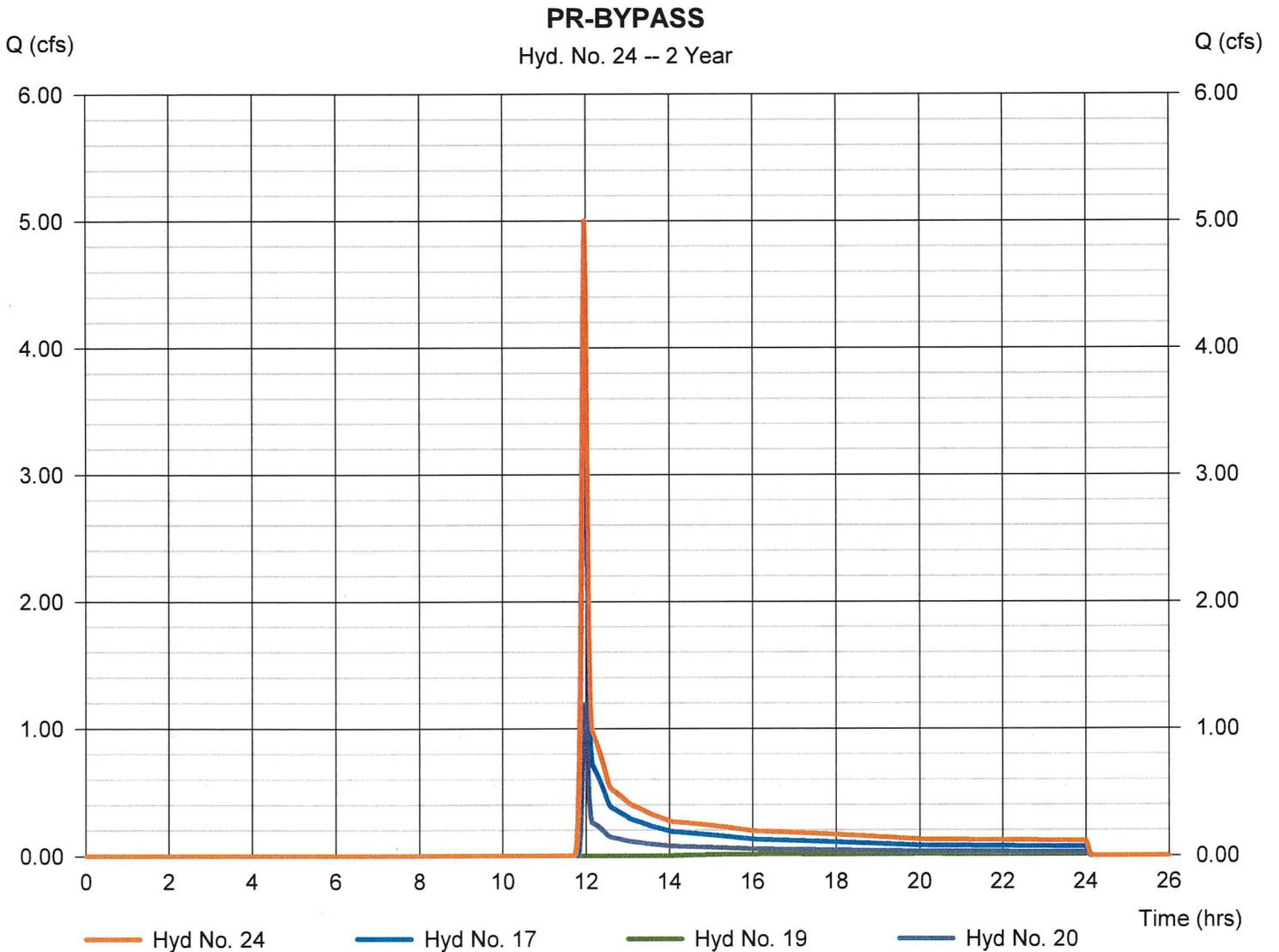
Wednesday, 01 / 29 / 2025

Hyd. No. 24

PR-BYPASS

Hydrograph type = Combine
 Storm frequency = 2 yrs
 Time interval = 2 min
 Inflow hyds. = 17, 19, 20 *S*

Peak discharge = 5.002 cfs *P*
 Time to peak = 11.97 hrs
 Hyd. volume = 12,159 cuft
 Contrib. drain. area = 13.080 ac *S*



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Wednesday, 01 / 29 / 2025

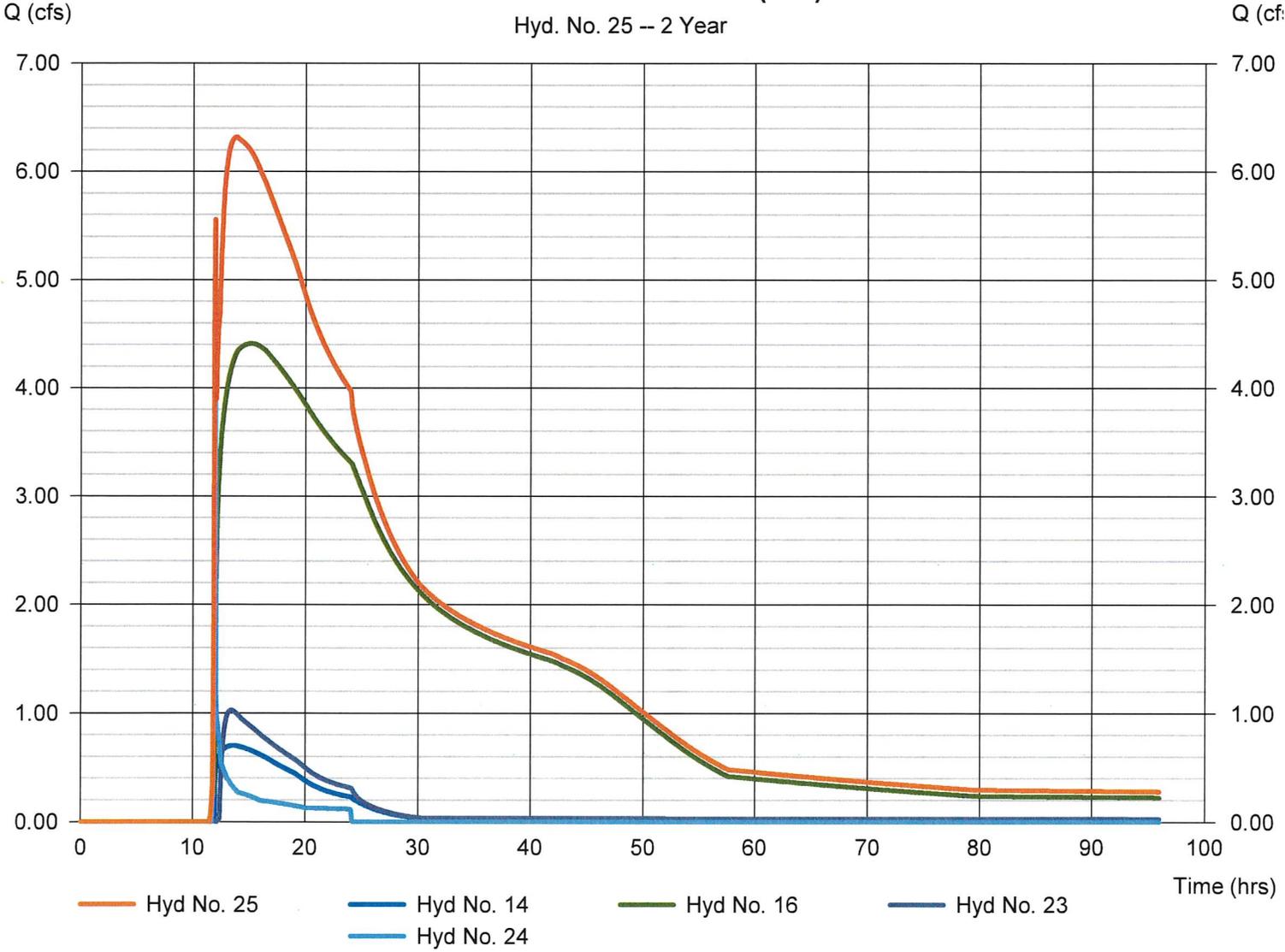
Hyd. No. 25

PROPOSED ENTIRE SITE (POI)

Hydrograph type	= Combine	Peak discharge	= 6.318 cfs
Storm frequency	= 2 yrs	Time to peak	= 13.83 hrs
Time interval	= 2 min	Hyd. volume	= 473,817 cuft
Inflow hyds.	= 14, 16, 23, 24	Contrib. drain. area	= 0.000 ac

PROPOSED ENTIRE SITE (POI)

Hyd. No. 25 -- 2 Year



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

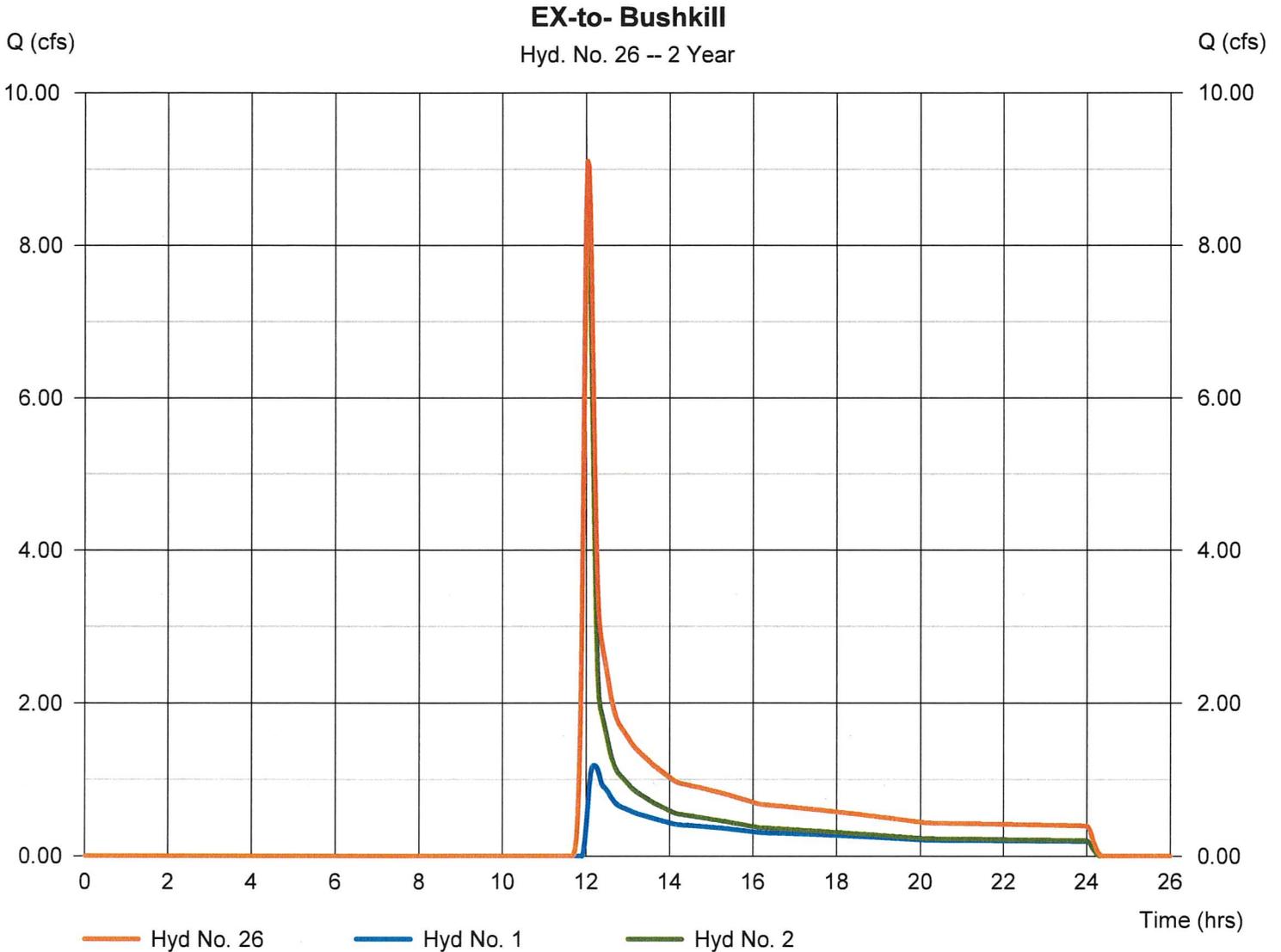
Wednesday, 01 / 29 / 2025

Hyd. No. 26

EX-to- Bushkill

Hydrograph type = Combine
Storm frequency = 2 yrs
Time interval = 2 min
Inflow hyds. = 1, 2 S

Peak discharge = 9.106 cfs
Time to peak = 12.03 hrs
Hyd. volume = 40,163 cuft
Contrib. drain. area = 35.550 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

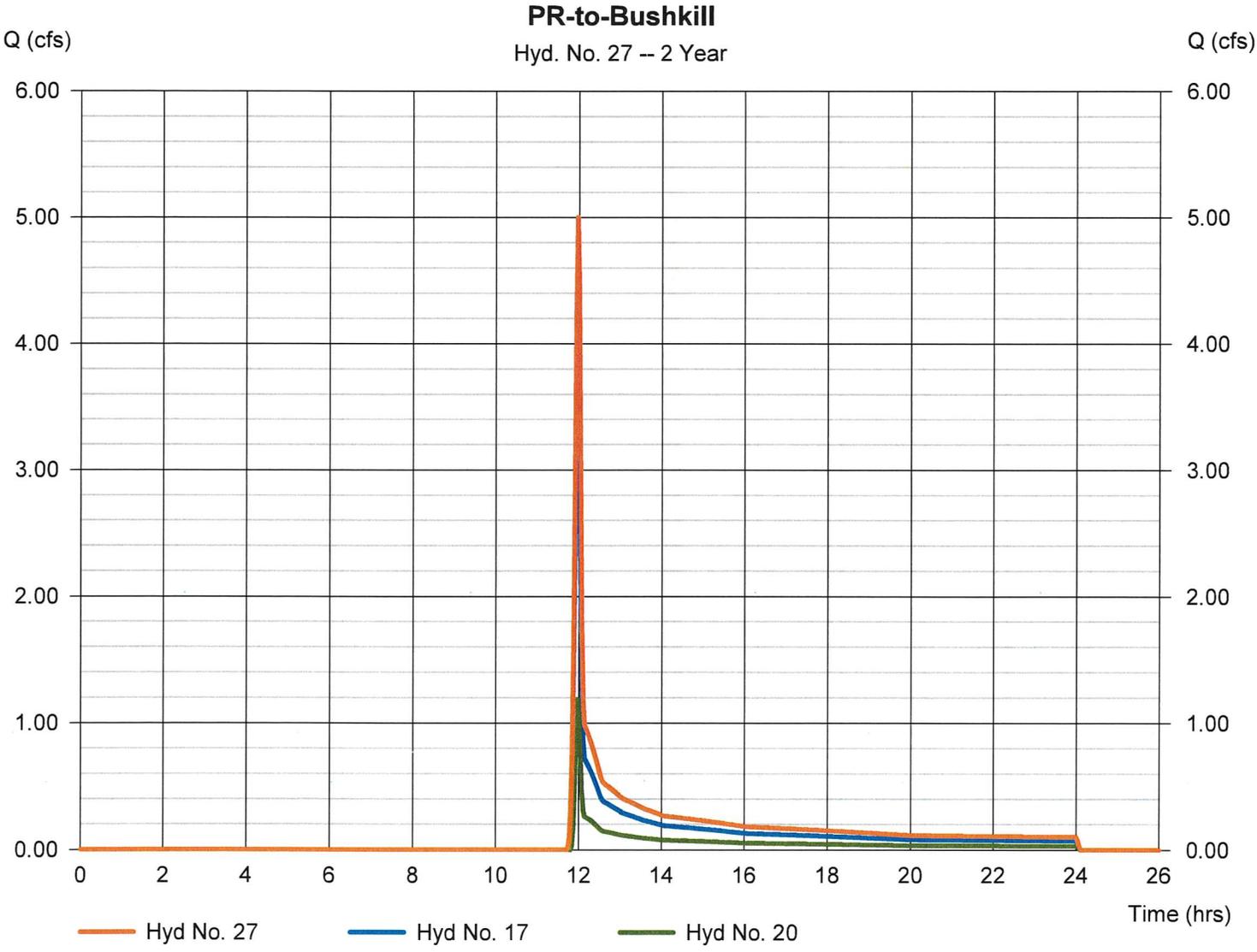
Wednesday, 01 / 29 / 2025

Hyd. No. 27

PR-to-Bushkill

Hydrograph type = Combine
Storm frequency = 2 yrs
Time interval = 2 min
Inflow hyds. = 17, 20

Peak discharge = 5.002 cfs
Time to peak = 11.97 hrs
Hyd. volume = 11,668 cuft
Contrib. drain. area = 7.480 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Wednesday, 01 / 29 / 2025

Hyd. No. 28

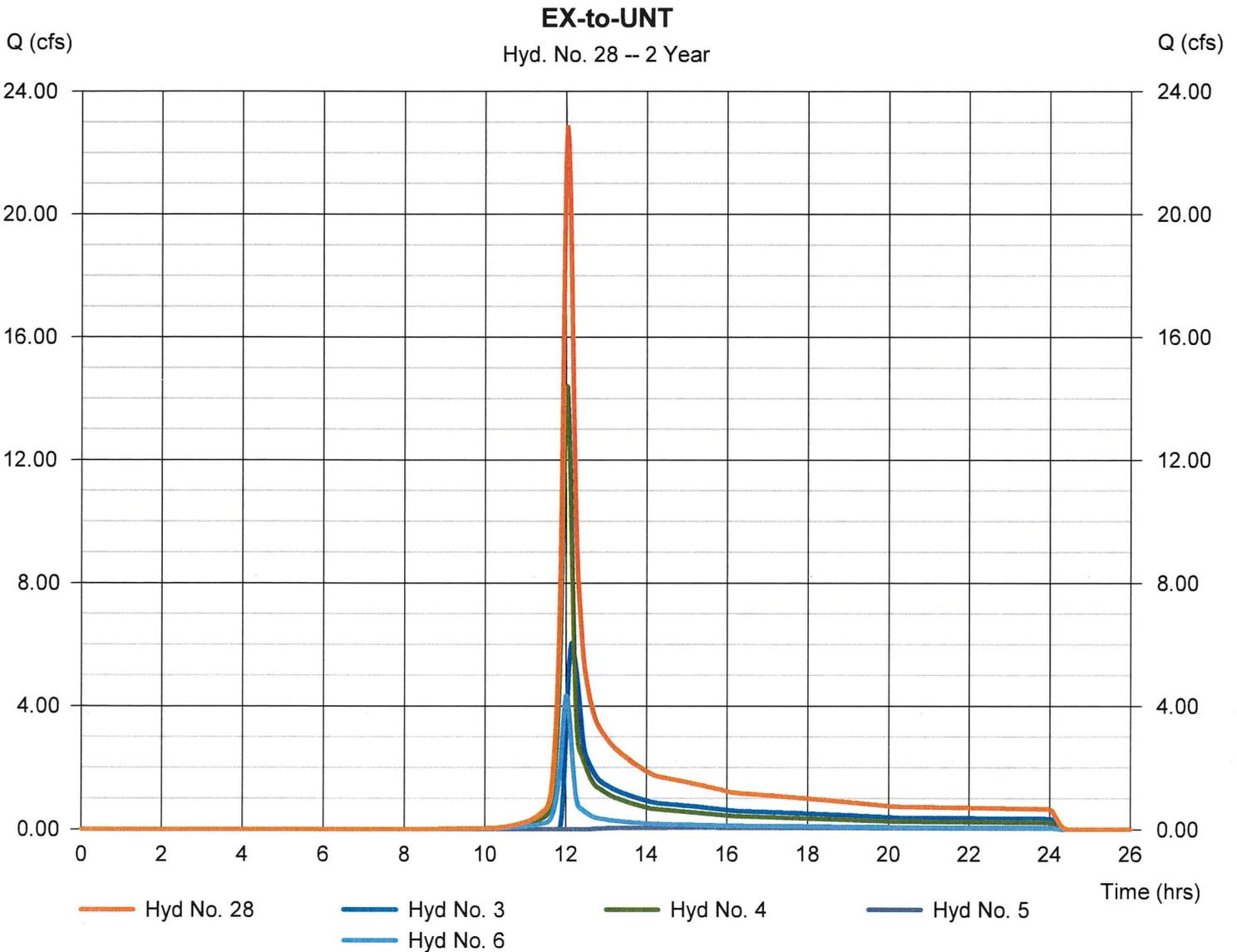
EX-to-UNT

Hydrograph type = Combine
Storm frequency = 2 yrs
Time interval = 2 min
Inflow hyds. = 3, 4, 5, 6

Peak discharge = 22.84 cfs
Time to peak = 12.03 hrs
Hyd. volume = 85,096 cuft
Contrib. drain. area = 47.330 ac

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Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Wednesday, 01 / 29 / 2025

Hyd. No. 29

PR-to-UNT (DPs 001& 002)

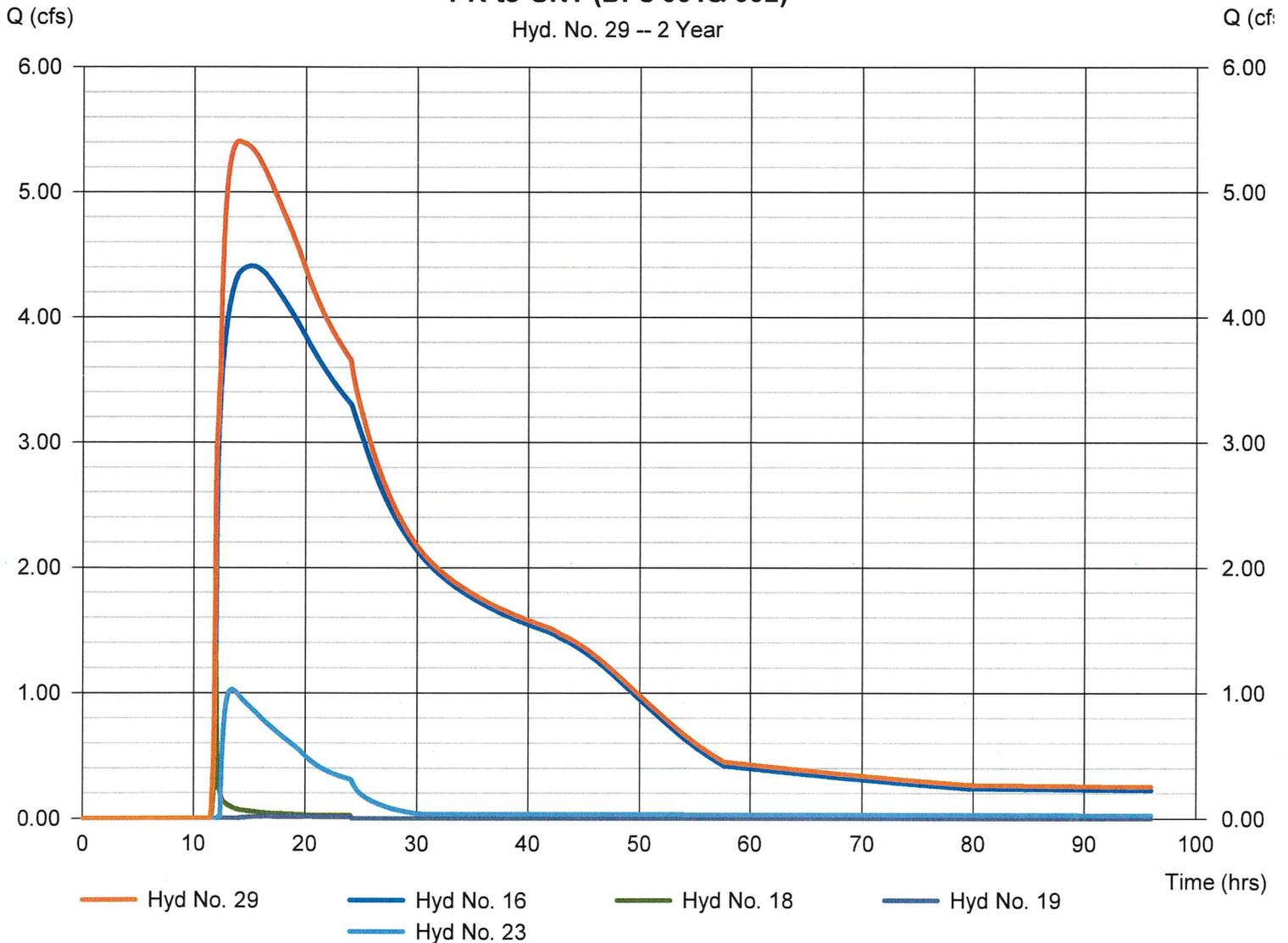
Hydrograph type = Combine
Storm frequency = 2 yrs
Time interval = 2 min
Inflow hyds. = 16, 18, 19, 23

Peak discharge = 5.408 cfs
Time to peak = 14.00 hrs
Hyd. volume = 435,094 cuft
Contrib. drain. area = 6.800 ac

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PR-to-UNT (DPs 001& 002)

Hyd. No. 29 -- 2 Year



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

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	5.145	2	726	29,069	----	----	----	EX-DA 1
2	SCS Runoff	14.28	2	722	39,921	----	----	----	EX-DA2
3	SCS Runoff	13.66	2	728	59,056	----	----	----	EX-DA3
4	SCS Runoff	20.23	2	720	52,845	----	----	----	EX-DA4
5	SCS Runoff	0.282	2	744	4,911	----	----	----	EX-DA5
6	SCS Runoff	5.779	2	720	14,990	----	----	----	EX-DA-Road Widening
7	Combine	55.33	2	722	200,793	1, 2, 3, 4, 5, 6	----	----	EX-TOTAL
8	SCS Runoff	58.85	2	716	132,679	----	----	----	PR-DA-A
9	SCS Runoff	74.37	2	716	167,667	----	----	----	PR-DA-B
10	SCS Runoff	121.84	2	718	286,478	----	----	----	PR-DA-C
11	Reservoir	0.803	2	1052	120,672	8	290.92	100,794	BMP A Routing
12	Reservoir	1.273	2	954	156,187	9	287.20	120,727	BMP B Routing
13	SCS Runoff	22.97	2	716	46,370	----	----	----	PR-DA-E
14	Reservoir	0.992	2	808	42,859	13	258.24	25,738	BMP E Routing
15	Combine	123.64	2	718	563,336	10, 11, 12,	----	----	BMP C INFLOW
16	Reservoir	5.905	2	846	508,578	15	217.34	199,360	MRC BMP C Routing(DP1)
17	SCS Runoff	6.515	2	718	13,561	----	----	----	PR-BYPASS 1
18	SCS Runoff	2.116	2	720	4,913	----	----	----	PR RG
19	SCS Runoff	0.066	2	798	2,029	----	----	----	PR-BYPASS 2
20	SCS Runoff	2.395	2	718	5,324	----	----	----	PR-BYPASS 3
21	SCS Runoff	7.211	2	718	18,940	----	----	----	PR-Road Widening
22	Combine	9.830	2	718	66,712	14, 18, 21	----	----	BMP E Outflow + PR Road Widening
23	Reservoir	2.119	2	738	53,698	22	232.84	14,803	RG Routing (DP2)
24	Combine	8.910	2	718	20,913	17, 19, 20,	----	----	PR-BYPASS
25	Combine	11.32	2	718	626,048	14, 16, 23, 24	----	----	PROPOSED ENTIRE SITE (POI)
26	Combine	18.35	2	722	68,991	1, 2,	----	----	EX-to- Bushkill
27	Combine	8.910	2	718	18,884	17, 20,	----	----	PR-to-Bushkill
28	Combine	36.98	2	722	131,802	3, 4, 5, 6,	----	----	EX-to-UNT
29	Combine	7.742	2	744	569,217	16, 18, 19, 23,	----	----	PR-to-UNT (DPs 001 & 002)
24hours_Sep for LVPC.gpw					Return Period: 5 Year			Wednesday, 01 / 29 / 2025	

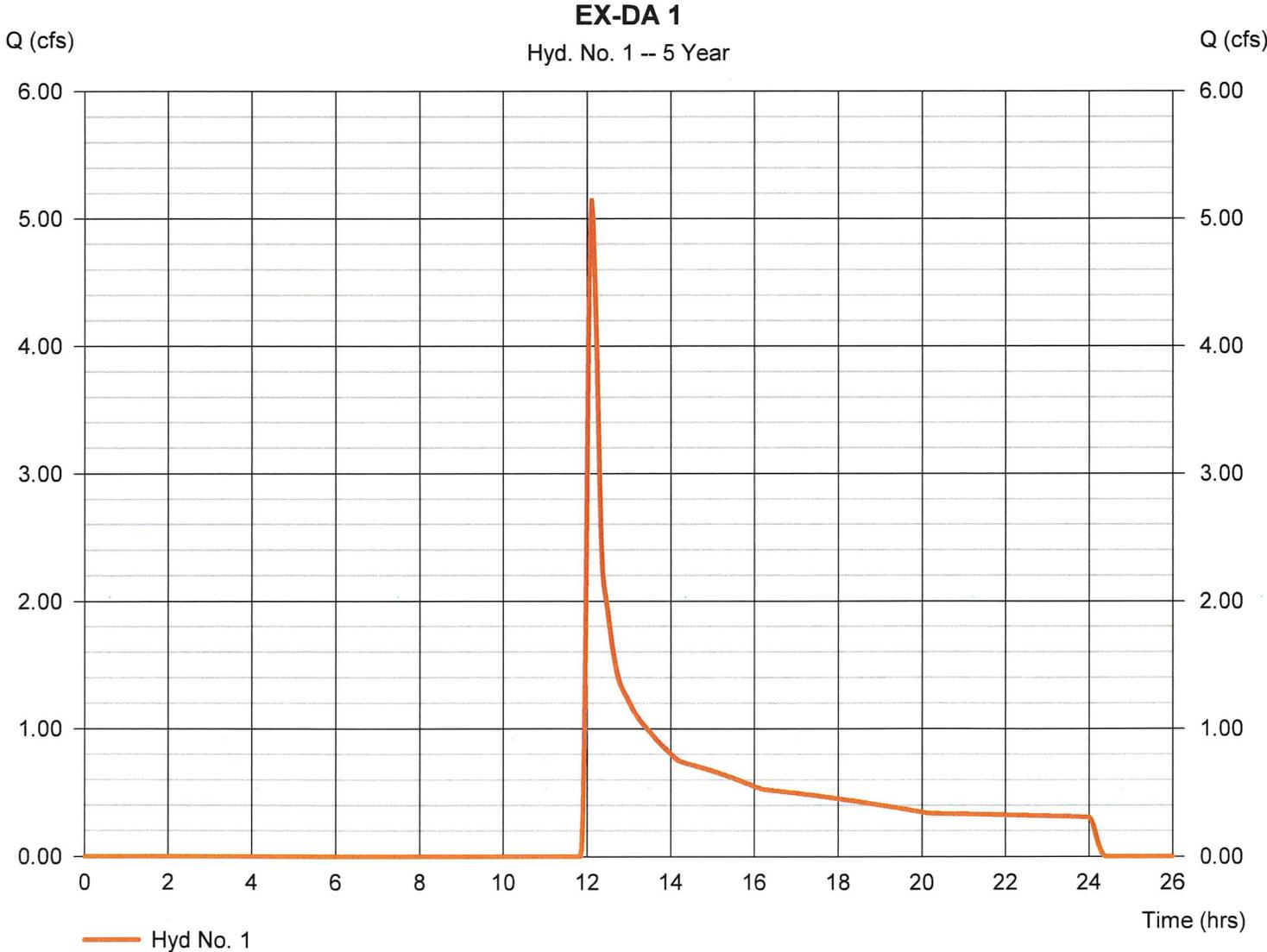
Hydrograph Report

Hyd. No. 1

EX-DA 1

Hydrograph type	= SCS Runoff	Peak discharge	= 5.145 cfs
Storm frequency	= 5 yrs	Time to peak	= 12.10 hrs
Time interval	= 2 min	Hyd. volume	= 29,069 cuft
Drainage area	= 23.790 ac	Curve number	= 54*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 15.20 min
Total precip.	= 3.60 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(5.640 x 39) + (0.690 x 61) + (8.150 x 77) + (5.640 x 30) + (2.770 x 55) + (0.900 x 74)] / 23.790



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

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	16.00	2	724	60,390	----	----	----	EX-DA 1
2	SCS Runoff	24.81	2	722	66,188	----	----	----	EX-DA2
3	SCS Runoff	30.08	2	726	108,065	----	----	----	EX-DA3
4	SCS Runoff	30.33	2	720	78,657	----	----	----	EX-DA4
5	SCS Runoff	1.919	2	728	12,716	----	----	----	EX-DA5
6	SCS Runoff	8.154	2	720	21,277	----	----	----	EX-DA-Road Widening
7	Combine	105.30	2	722	347,292	1, 2, 3, 4, 5, 6	----	----	EX-TOTAL
8	SCS Runoff	75.45	2	716	172,824	----	----	----	PR-DA-A
9	SCS Runoff	95.35	2	716	218,399	----	----	----	PR-DA-B
10	SCS Runoff	162.91	2	718	389,220	----	----	----	PR-DA-C
11	Reservoir	0.894	2	1112	160,794	8	291.31	133,835	BMP A Routing
12	Reservoir	1.429	2	1004	206,919	9	287.68	159,895	BMP B Routing
13	SCS Runoff	33.49	2	716	67,896	----	----	----	PR-DA-E
14	Reservoir	1.338	2	810	64,137	13	259.31	39,443	BMP E Routing
15	Combine	164.88	2	718	756,932	10, 11, 12,	----	----	BMP C INFLOW
16	Reservoir	7.953	2	830	693,175	15	217.93	270,697	MRC BMP C Routing(DP1)
17	SCS Runoff	11.45	2	718	23,046	----	----	----	PR-BYPASS 1
18	SCS Runoff	3.404	2	720	7,797	----	----	----	PR RG
19	SCS Runoff	0.941	2	722	6,330	----	----	----	PR-BYPASS 2
20	SCS Runoff	4.667	2	718	9,582	----	----	----	PR-BYPASS 3
21	SCS Runoff	9.169	2	718	24,329	----	----	----	PR-Road Widening
22	Combine	13.53	2	718	96,262	14, 18, 21	----	----	BMP E Outflow + PR Road Widening
23	Reservoir	9.117	2	724	83,248	22	233.07	16,503	RG Routing (DP2)
24	Combine	16.55	2	718	38,958	17, 19, 20,	----	----	PR-BYPASS
25	Combine	24.79	2	720	879,518	14, 16, 23, 24	----	----	PROPOSED ENTIRE SITE (POI)
26	Combine	39.60	2	722	126,577	1, 2,	----	----	EX-to- Bushkill
27	Combine	16.12	2	718	32,628	17, 20,	----	----	PR-to-Bushkill
28	Combine	65.70	2	722	220,715	3, 4, 5, 6,	----	----	EX-to-UNT
29	Combine	18.89	2	724	790,550	16, 18, 19, 23,	----	----	PR-to-UNT (DPs 001& 002)