

Hydrograph Report

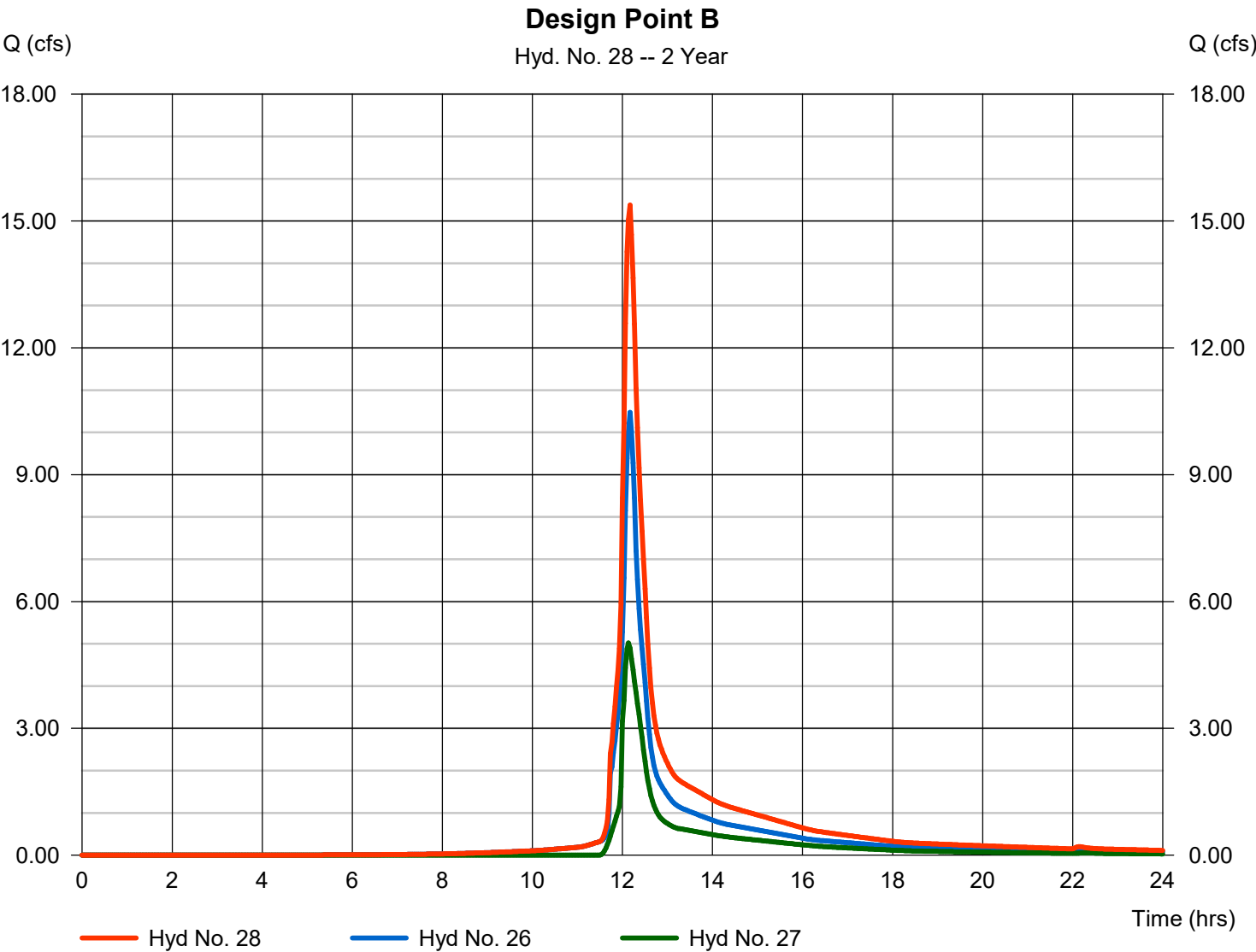
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 28

Design Point B

Hydrograph type	= Combine	Peak discharge	= 15.38 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.17 hrs
Time interval	= 2 min	Hyd. volume	= 53,163 cuft
Inflow hyds.	= 26, 27	Contrib. drain. area	= 0.000 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	2.888	2	732	12,129	-----	-----	-----	PR WS-01
2	SCS Runoff	2.311	2	724	7,833	-----	-----	-----	PR WS-02A(I)
3	SCS Runoff	2.068	2	732	9,225	-----	-----	-----	PR WS-02A(II)
4	SCS Runoff	2.352	2	726	8,205	-----	-----	-----	PR WS-02B(I)
5	SCS Runoff	2.046	2	724	7,053	-----	-----	-----	PR WS-02B(II)
6	SCS Runoff	0.575	2	724	1,764	-----	-----	-----	PR WS-02B(III)
7	SCS Runoff	2.622	2	726	9,558	-----	-----	-----	PR WS-02C
8	SCS Runoff	9.148	2	728	36,588	-----	-----	-----	PR WS-02D
9	SCS Runoff	1.006	2	724	3,313	-----	-----	-----	PR WS-02E
10	SCS Runoff	5.072	2	724	16,697	-----	-----	-----	PR WS-02F
11	SCS Runoff	4.656	2	724	15,541	-----	-----	-----	PR WS-02G
12	SCS Runoff	0.876	2	730	3,613	-----	-----	-----	PR WS-02H
13	SCS Runoff	4.450	2	732	20,472	-----	-----	-----	PR WS-02I
14	SCS Runoff	0.138	2	724	442	-----	-----	-----	PR WS-03
15	Reservoir	1.706	2	728	5,113	2	145.61	2,038	INFIL-1
16	Combine	3.643	2	730	14,338	3, 15	-----	-----	<no description>
17	Reservoir	3.595	2	732	12,718	16	136.99	1,353	INFIL-2
18	Reservoir	1.133	2	730	2,939	5	144.44	2,797	INFIL-3
19	Reservoir	8.916	2	730	31,682	8	139.12	3,650	TWIN 36IN PIPES (#2)
20	Reservoir	0.739	2	728	1,981	9	137.86	816	INFIL-4
21	Reservoir	4.208	2	726	13,323	10	136.63	2,653	INIFL-5
22	Reservoir	1.183	2	744	6,554	11	135.64	7,102	INFIL-6
23	Reservoir	0.000	2	676	0	12	132.37	3,398	36 INCH PIPE (#3)
24	Reservoir	4.422	2	732	17,270	13	135.72	2,454	TWO 36 INCH PIPES
25	Combine	11.13	2	730	41,240	7, 19,	-----	-----	<no description>
26	Combine	18.99	2	728	68,848	4, 6, 17, 18, 20, 25	-----	-----	<no description>
27	Combine	8.793	2	730	37,147	21, 22, 23, 24,	-----	-----	<no description>
28	Combine	27.64	2	730	105,995	26, 27	-----	-----	Design Point B
J:\F0173 Fuller 001 64 Danbury Rd\Calculations\Period 10 Years\Hydrographs					Reservoir Period 10 Years - Tuesday, 12 / 5 / 2023				

Hydrograph Report

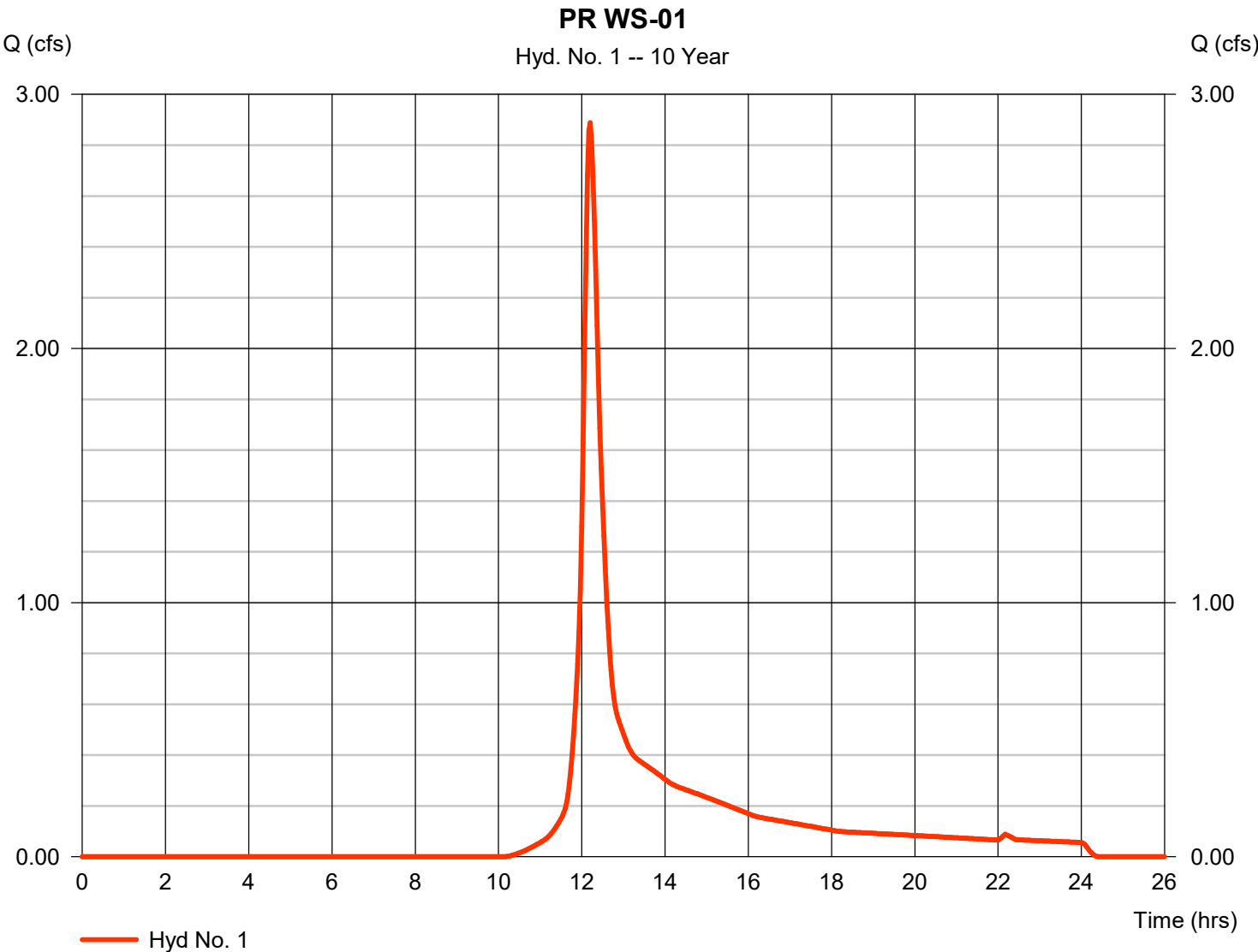
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 1

PR WS-01

Hydrograph type	= SCS Runoff	Peak discharge	= 2.888 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.20 hrs
Time interval	= 2 min	Hyd. volume	= 12,129 cuft
Drainage area	= 1.721 ac	Curve number	= 66
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 13.50 min
Total precip.	= 5.38 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

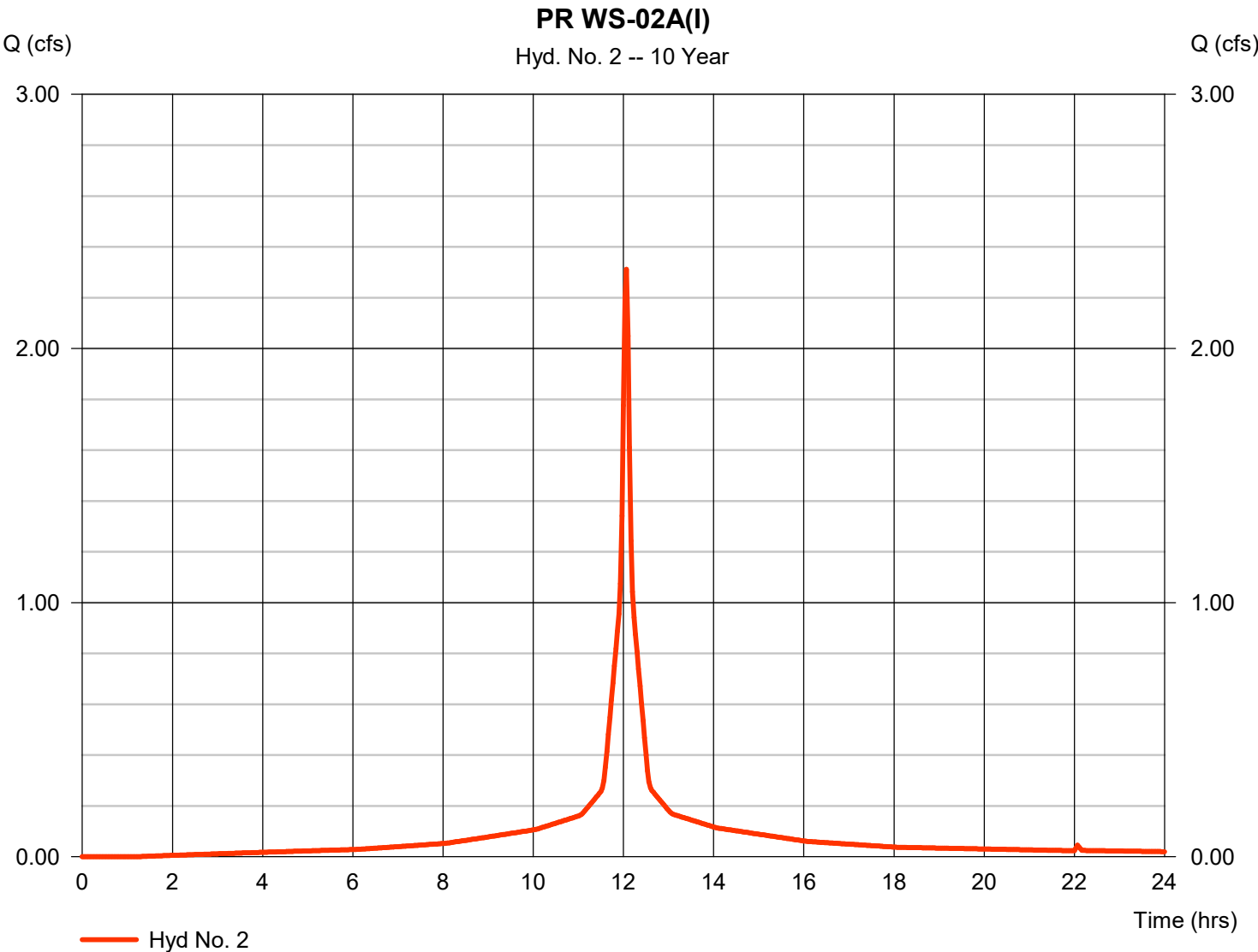


Hydrograph Report

Hyd. No. 2

PR WS-02A(I)

Hydrograph type	= SCS Runoff	Peak discharge	= 2.311 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 7,833 cuft
Drainage area	= 0.458 ac	Curve number	= 97
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.38 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

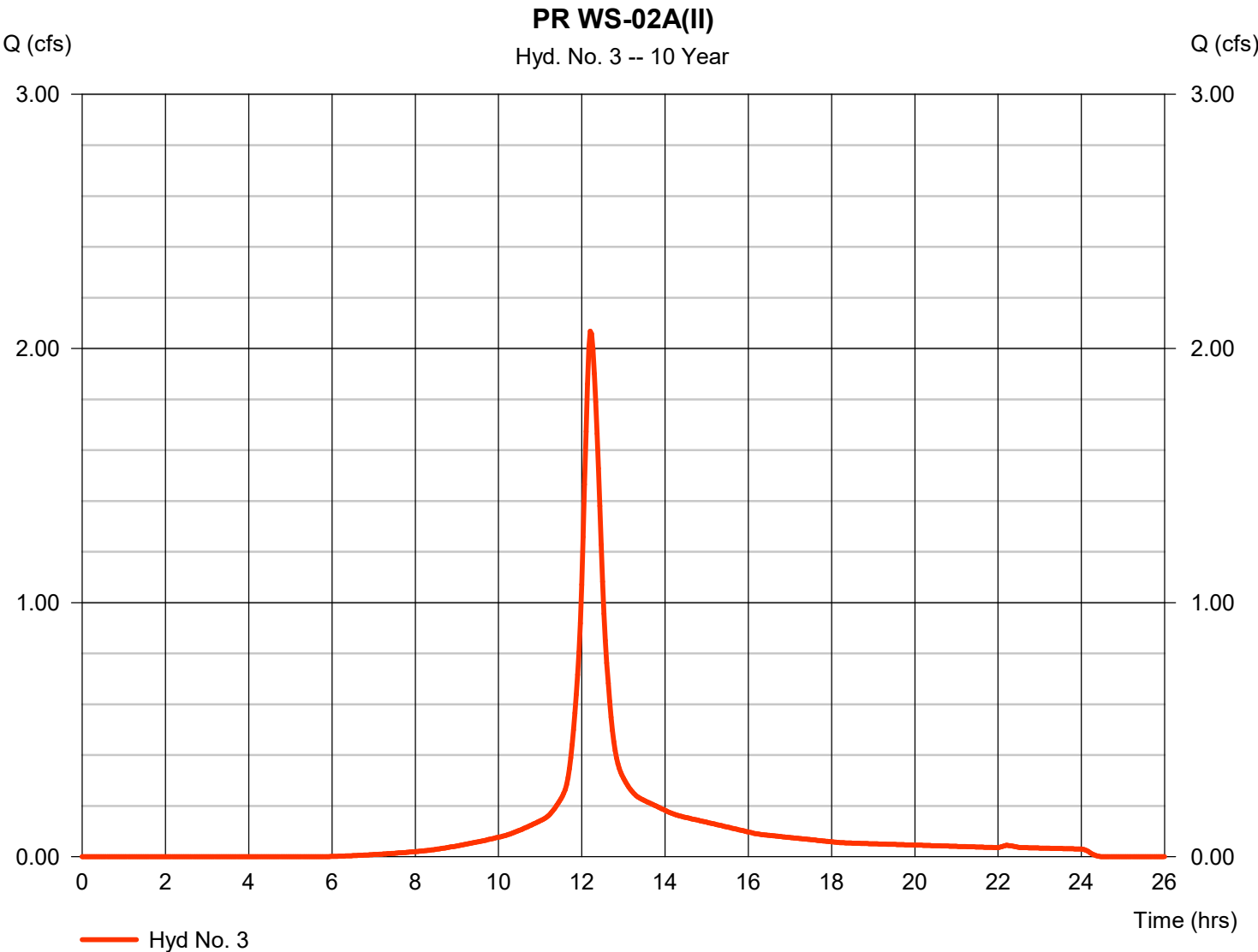
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Tuesday, 12 / 5 / 2023

Hyd. No. 3

PR WS-02A(II)

Hydrograph type	= SCS Runoff	Peak discharge	= 2.068 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.20 hrs
Time interval	= 2 min	Hyd. volume	= 9,225 cuft
Drainage area	= 0.683 ac	Curve number	= 85
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 17.10 min
Total precip.	= 5.38 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

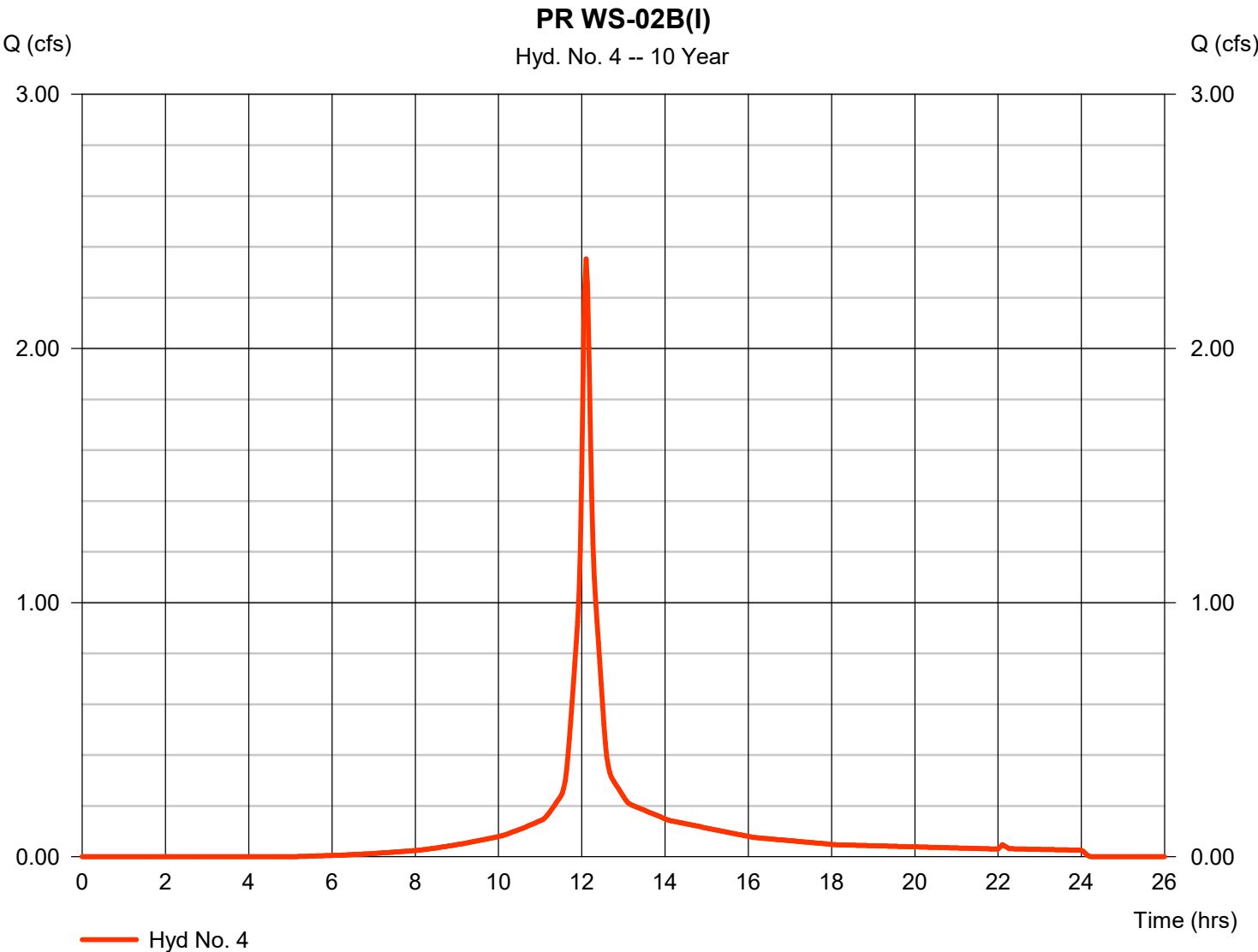
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Tuesday, 12 / 5 / 2023

Hyd. No. 4

PR WS-02B(I)

Hydrograph type	= SCS Runoff	Peak discharge	= 2.352 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.10 hrs
Time interval	= 2 min	Hyd. volume	= 8,205 cuft
Drainage area	= 0.576 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.40 min
Total precip.	= 5.38 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

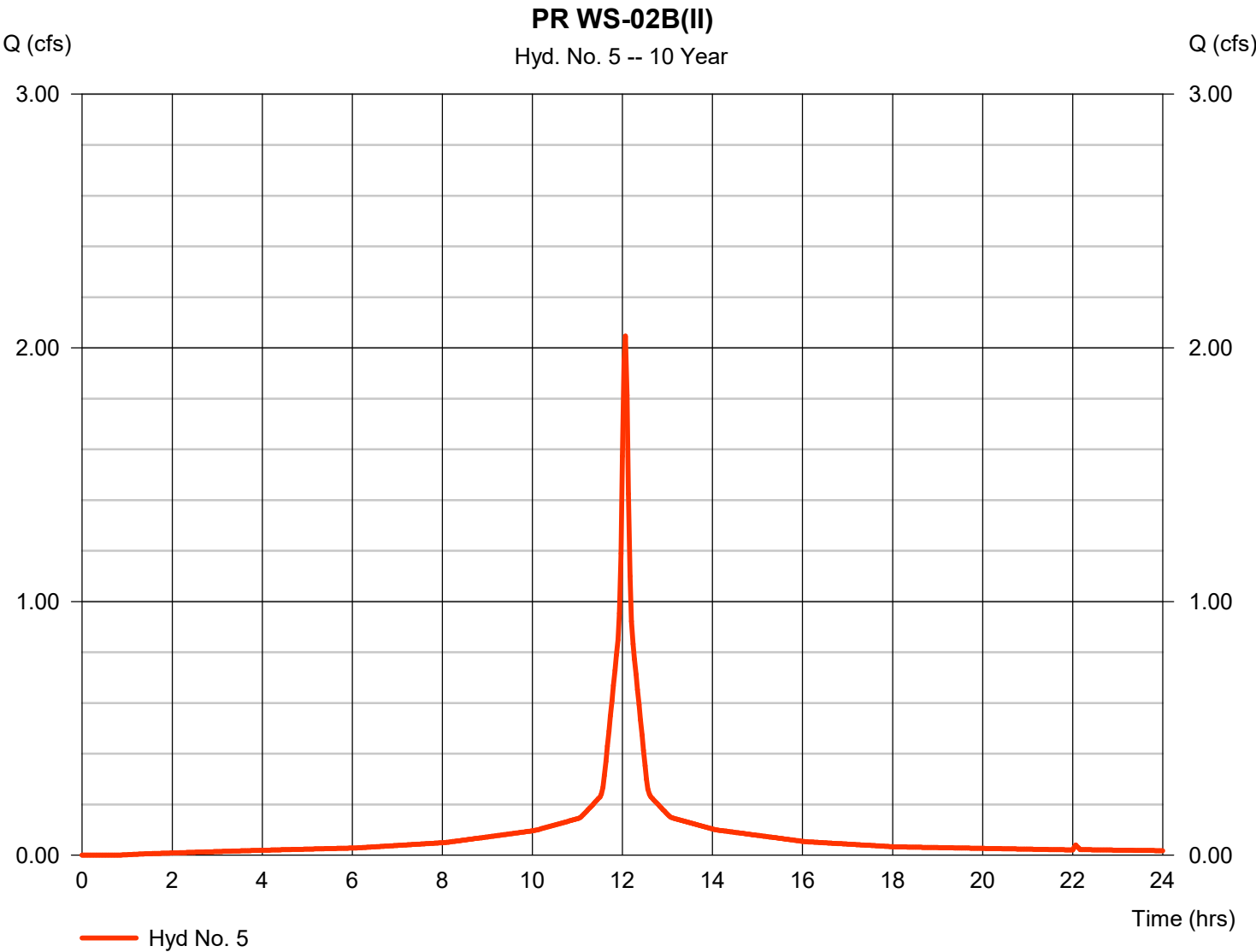
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Tuesday, 12 / 5 / 2023

Hyd. No. 5

PR WS-02B(II)

Hydrograph type	= SCS Runoff	Peak discharge	= 2.046 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 7,053 cuft
Drainage area	= 0.403 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.38 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

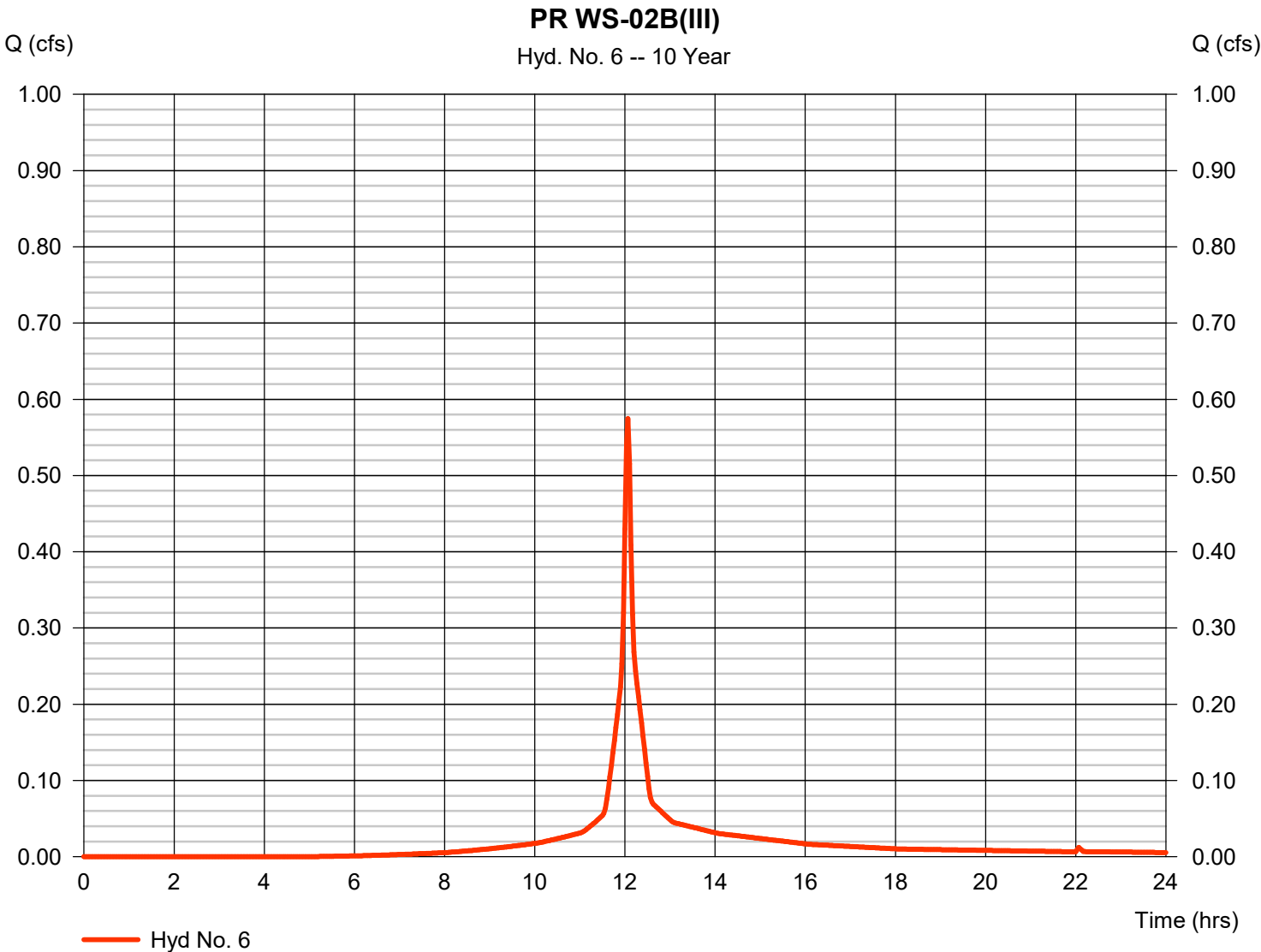
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Tuesday, 12 / 5 / 2023

Hyd. No. 6

PR WS-02B(III)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.575 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 1,764 cuft
Drainage area	= 0.132 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.38 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

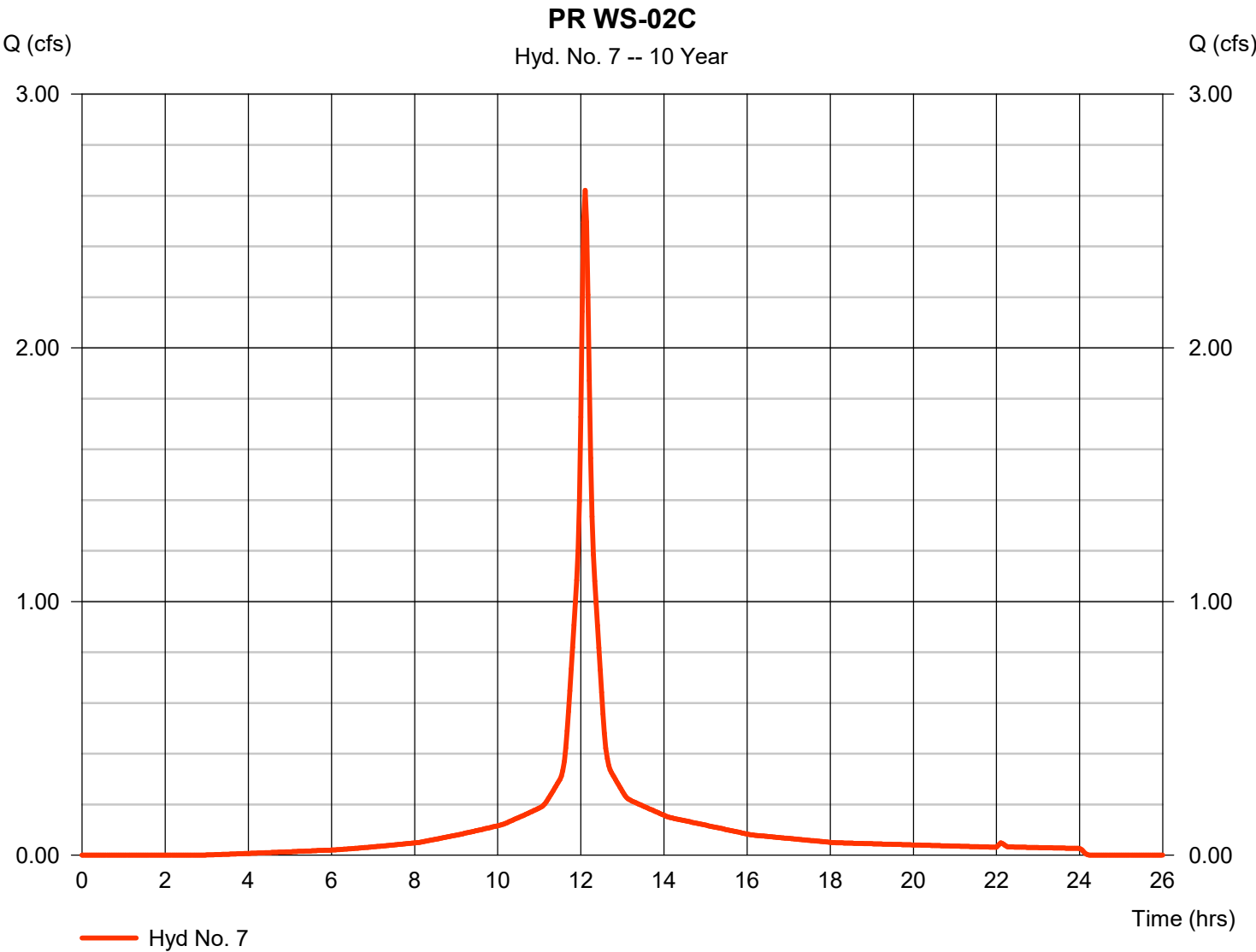


Hydrograph Report

Hyd. No. 7

PR WS-02C

Hydrograph type	= SCS Runoff	Peak discharge	= 2.622 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.10 hrs
Time interval	= 2 min	Hyd. volume	= 9,558 cuft
Drainage area	= 0.576 ac	Curve number	= 93
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 9.40 min
Total precip.	= 5.38 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

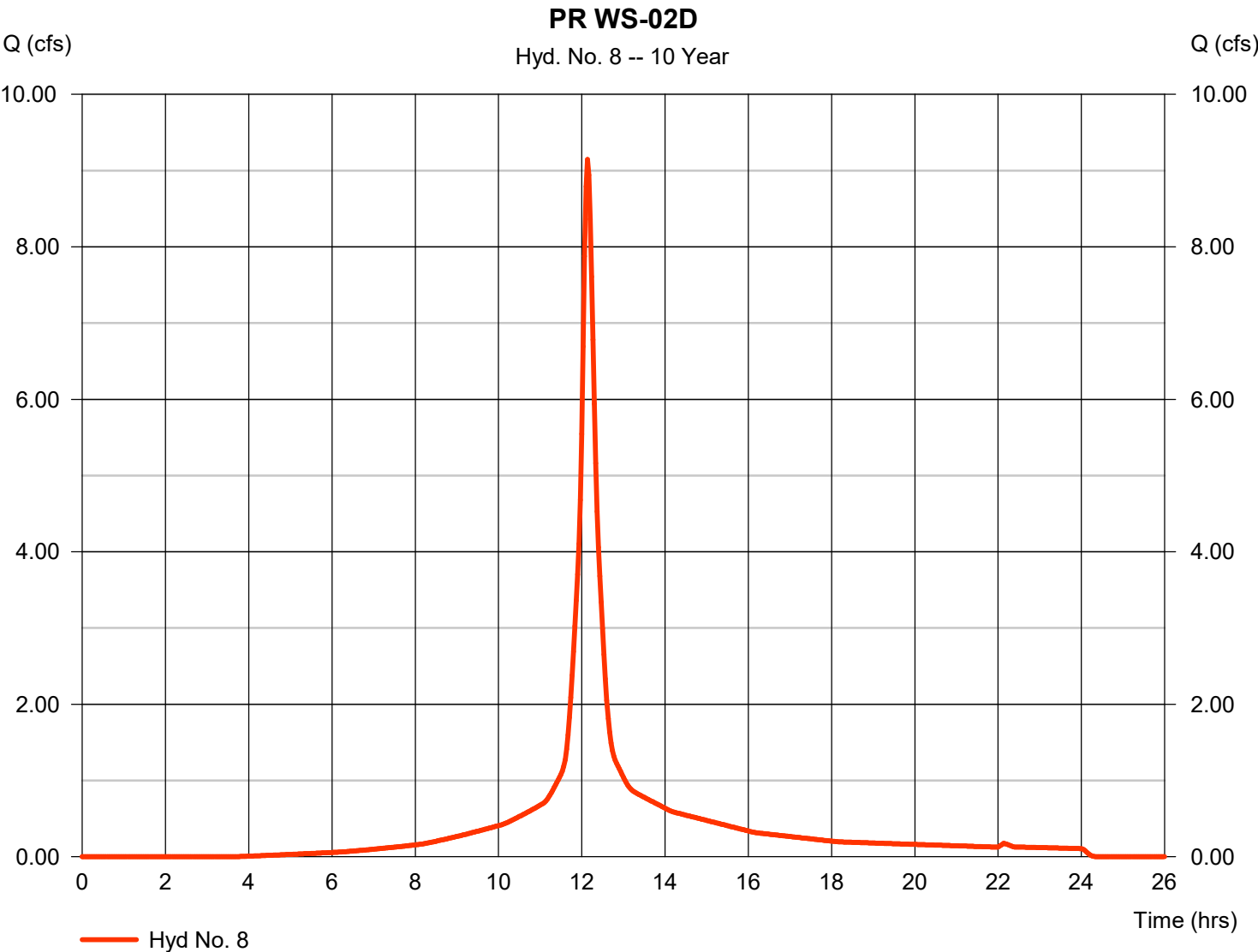
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Tuesday, 12 / 5 / 2023

Hyd. No. 8

PR WS-02D

Hydrograph type	= SCS Runoff	Peak discharge	= 9.148 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 36,588 cuft
Drainage area	= 2.246 ac	Curve number	= 91
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.10 min
Total precip.	= 5.38 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

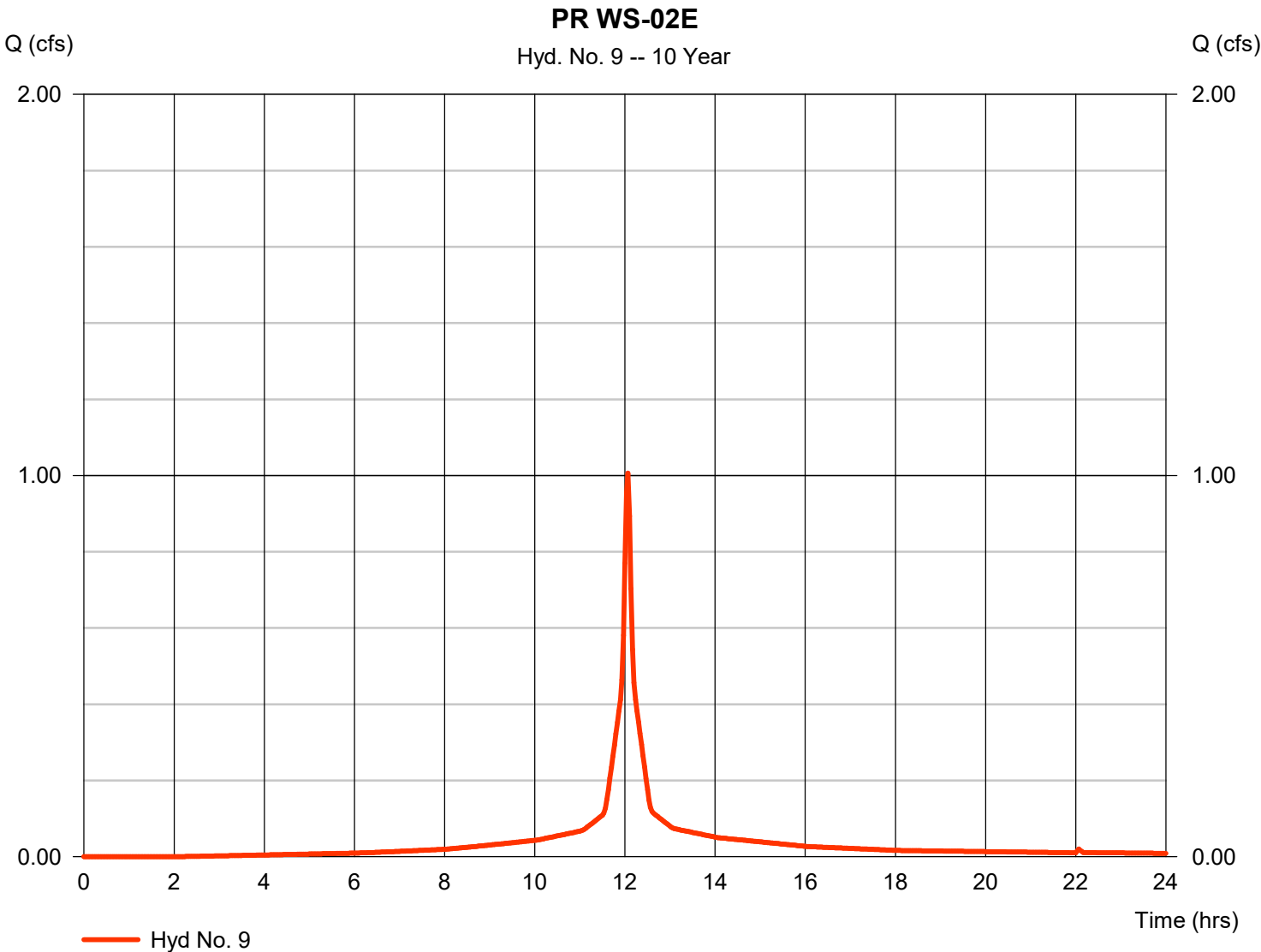
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Tuesday, 12 / 5 / 2023

Hyd. No. 9

PR WS-02E

Hydrograph type	= SCS Runoff	Peak discharge	= 1.006 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 3,313 cuft
Drainage area	= 0.203 ac	Curve number	= 95
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.38 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

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

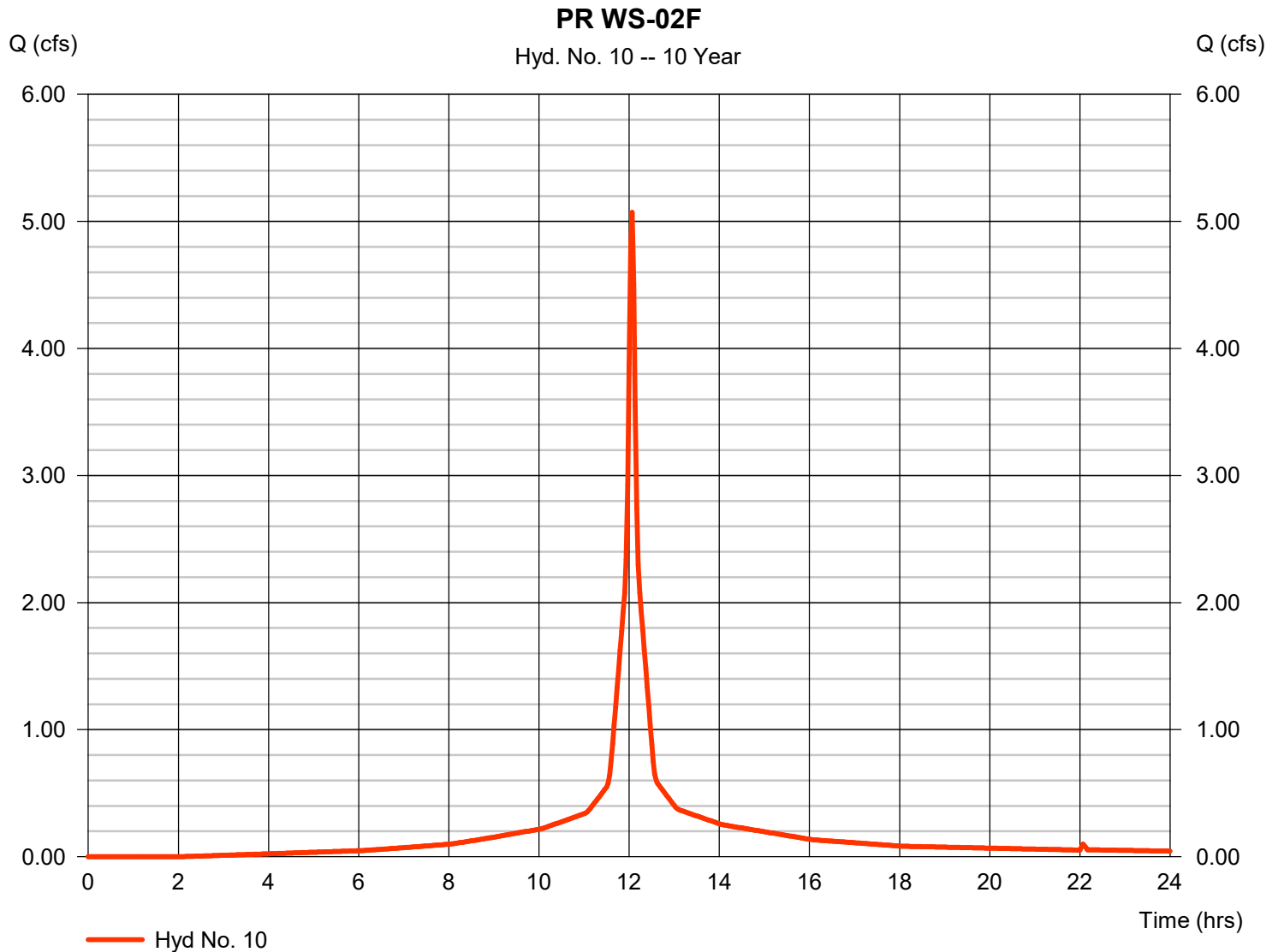
Tuesday, 12 / 5 / 2023

Hyd. No. 10

PR WS-02F

Hydrograph type = SCS Runoff
 Storm frequency = 10 yrs
 Time interval = 2 min
 Drainage area = 1.023 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 5.38 in
 Storm duration = 24 hrs

Peak discharge = 5.072 cfs
 Time to peak = 12.07 hrs
 Hyd. volume = 16,697 cuft
 Curve number = 95
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 5.00 min
 Distribution = Type III
 Shape factor = 484



Hydrograph Report

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

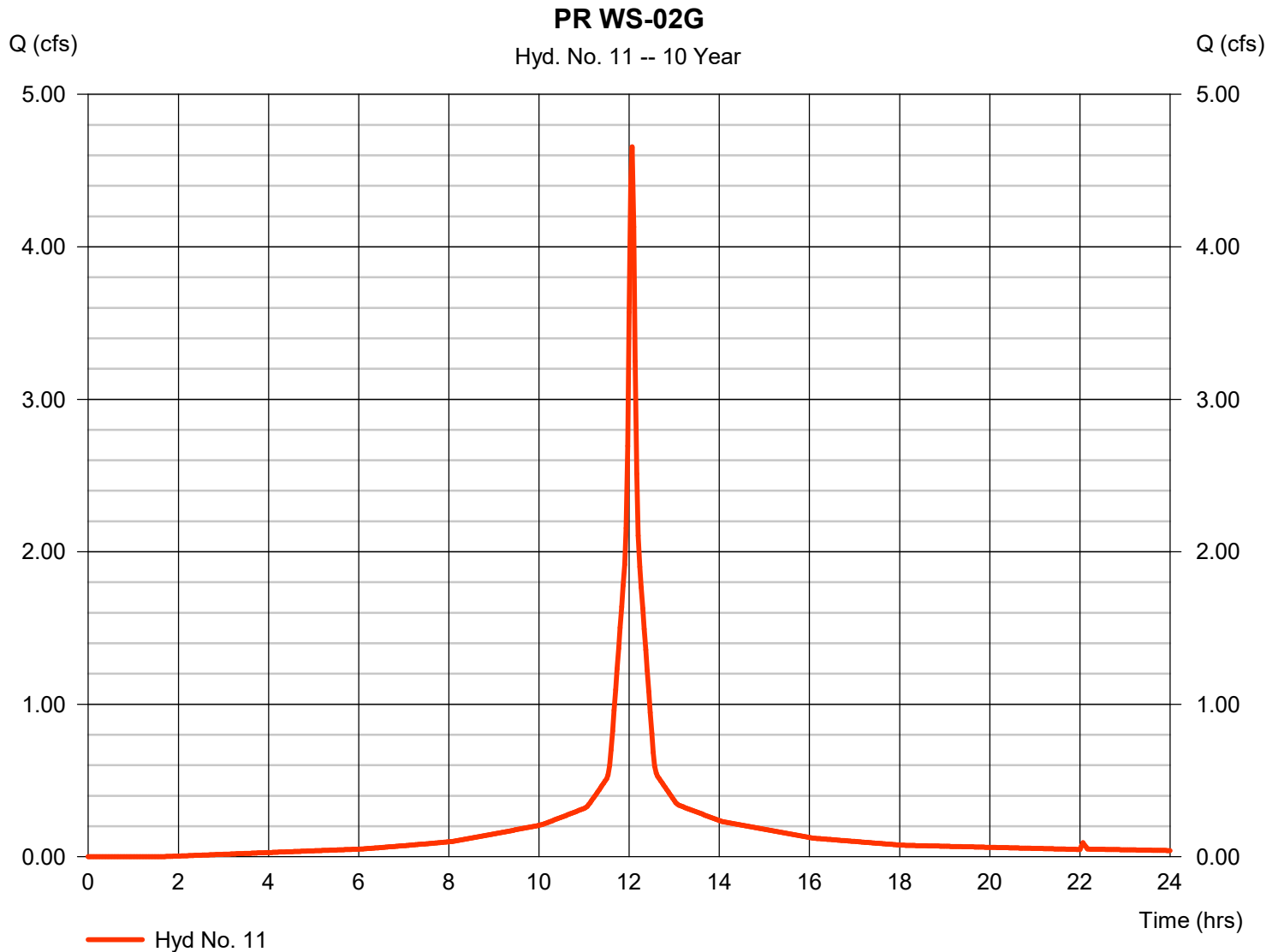
Tuesday, 12 / 5 / 2023

Hyd. No. 11

PR WS-02G

Hydrograph type = SCS Runoff
 Storm frequency = 10 yrs
 Time interval = 2 min
 Drainage area = 0.930 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 5.38 in
 Storm duration = 24 hrs

Peak discharge = 4.656 cfs
 Time to peak = 12.07 hrs
 Hyd. volume = 15,541 cuft
 Curve number = 96
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 5.00 min
 Distribution = Type III
 Shape factor = 484



Hydrograph Report

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

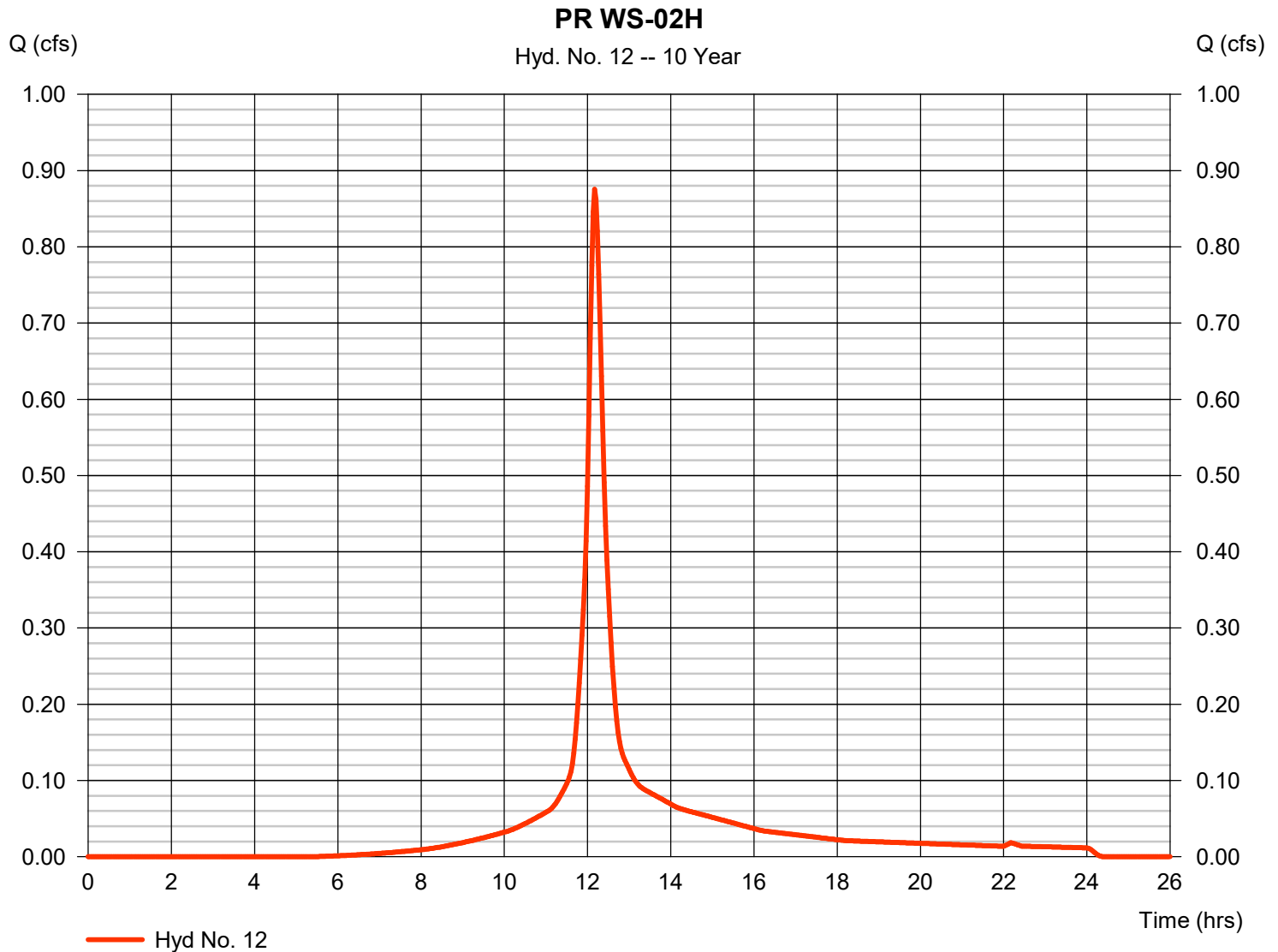
Tuesday, 12 / 5 / 2023

Hyd. No. 12

PR WS-02H

Hydrograph type = SCS Runoff
 Storm frequency = 10 yrs
 Time interval = 2 min
 Drainage area = 0.267 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 5.38 in
 Storm duration = 24 hrs

Peak discharge = 0.876 cfs
 Time to peak = 12.17 hrs
 Hyd. volume = 3,613 cuft
 Curve number = 86
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 13.80 min
 Distribution = Type III
 Shape factor = 484



Hydrograph Report

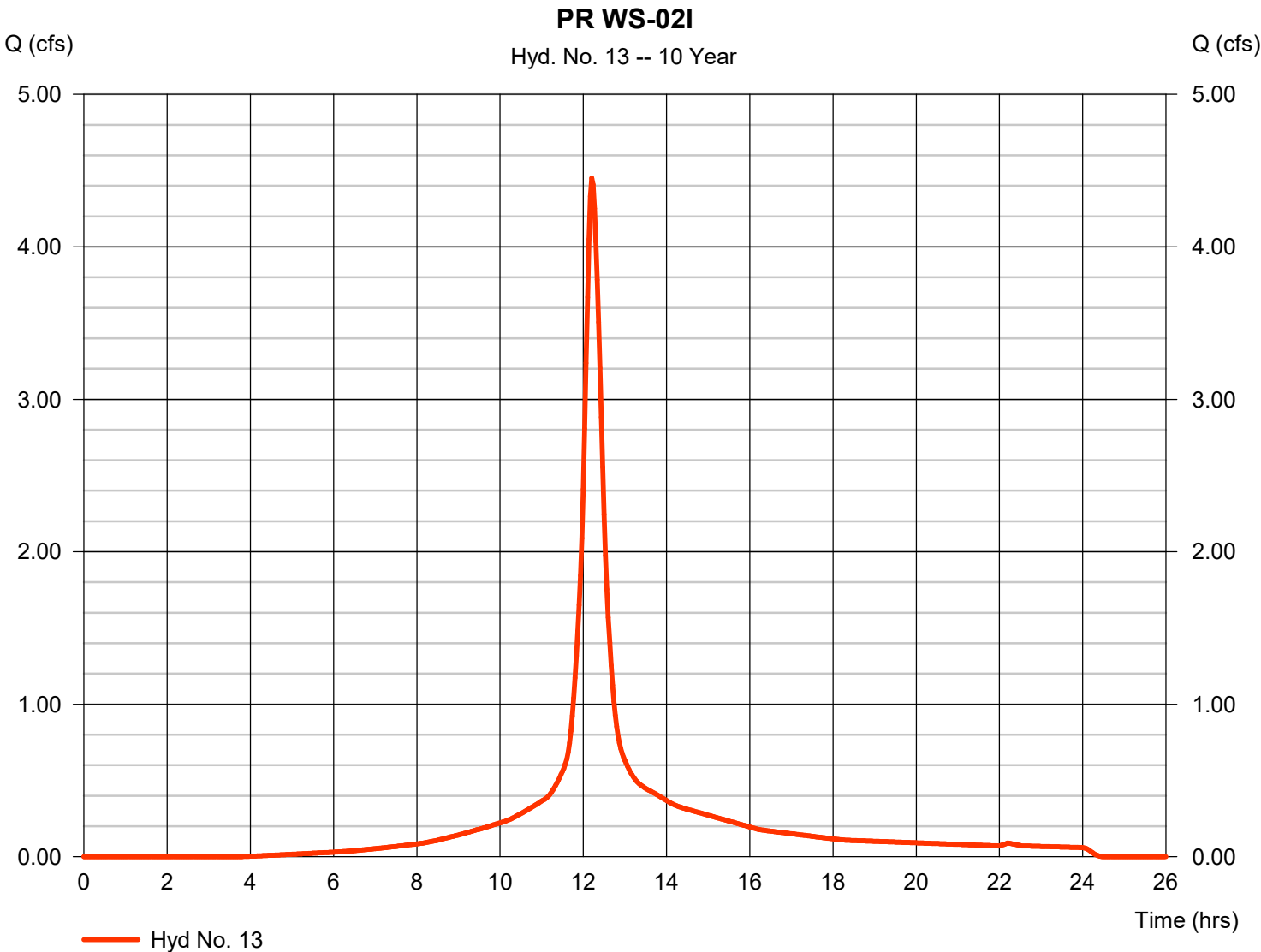
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 13

PR WS-02I

Hydrograph type	=	SCS Runoff	Peak discharge	=	4.450 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.20 hrs
Time interval	=	2 min	Hyd. volume	=	20,472 cuft
Drainage area	=	1.296 ac	Curve number	=	91
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	18.60 min
Total precip.	=	5.38 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484

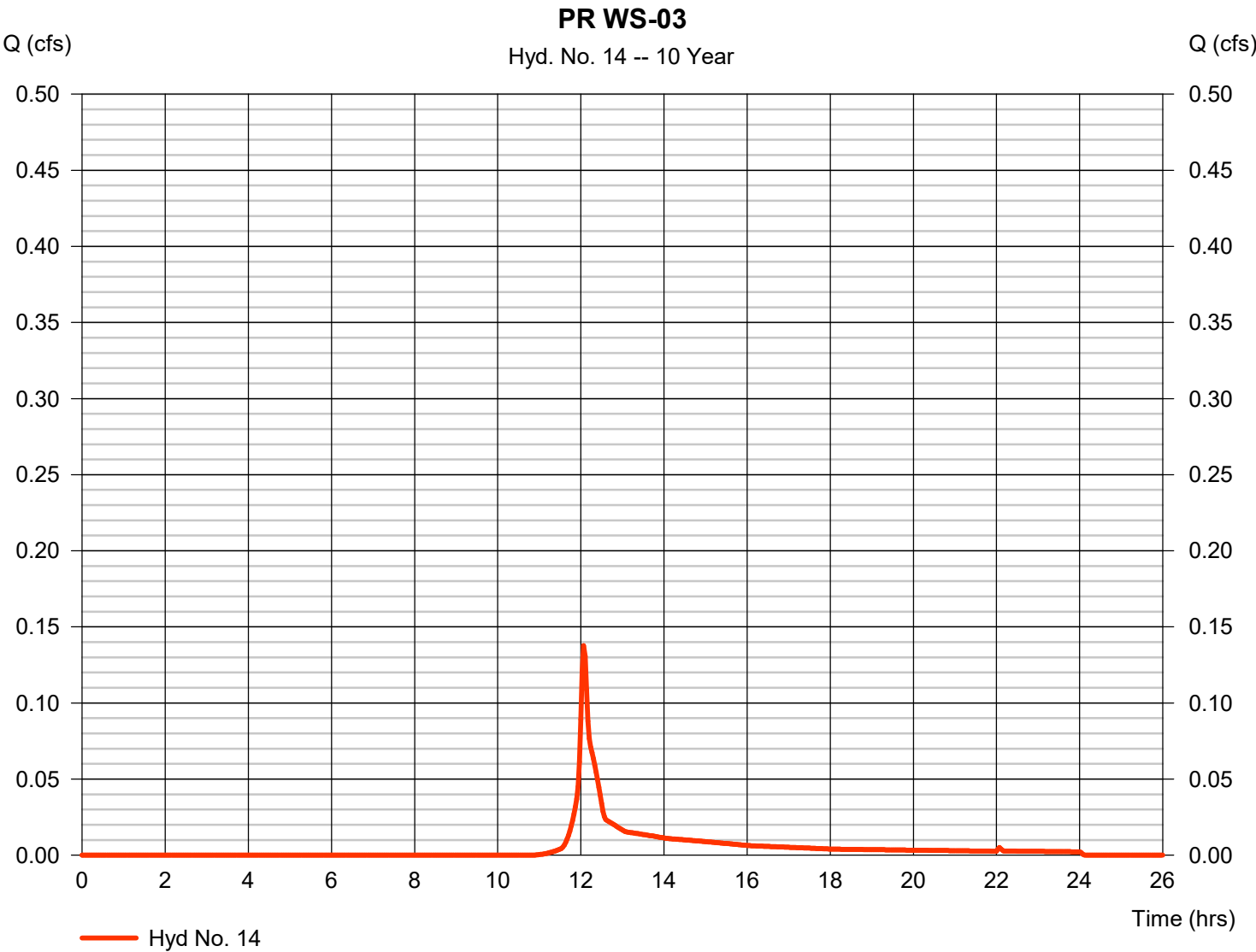


Hydrograph Report

Hyd. No. 14

PR WS-03

Hydrograph type	= SCS Runoff	Peak discharge	= 0.138 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 442 cuft
Drainage area	= 0.081 ac	Curve number	= 61
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.10 min
Total precip.	= 5.38 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

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

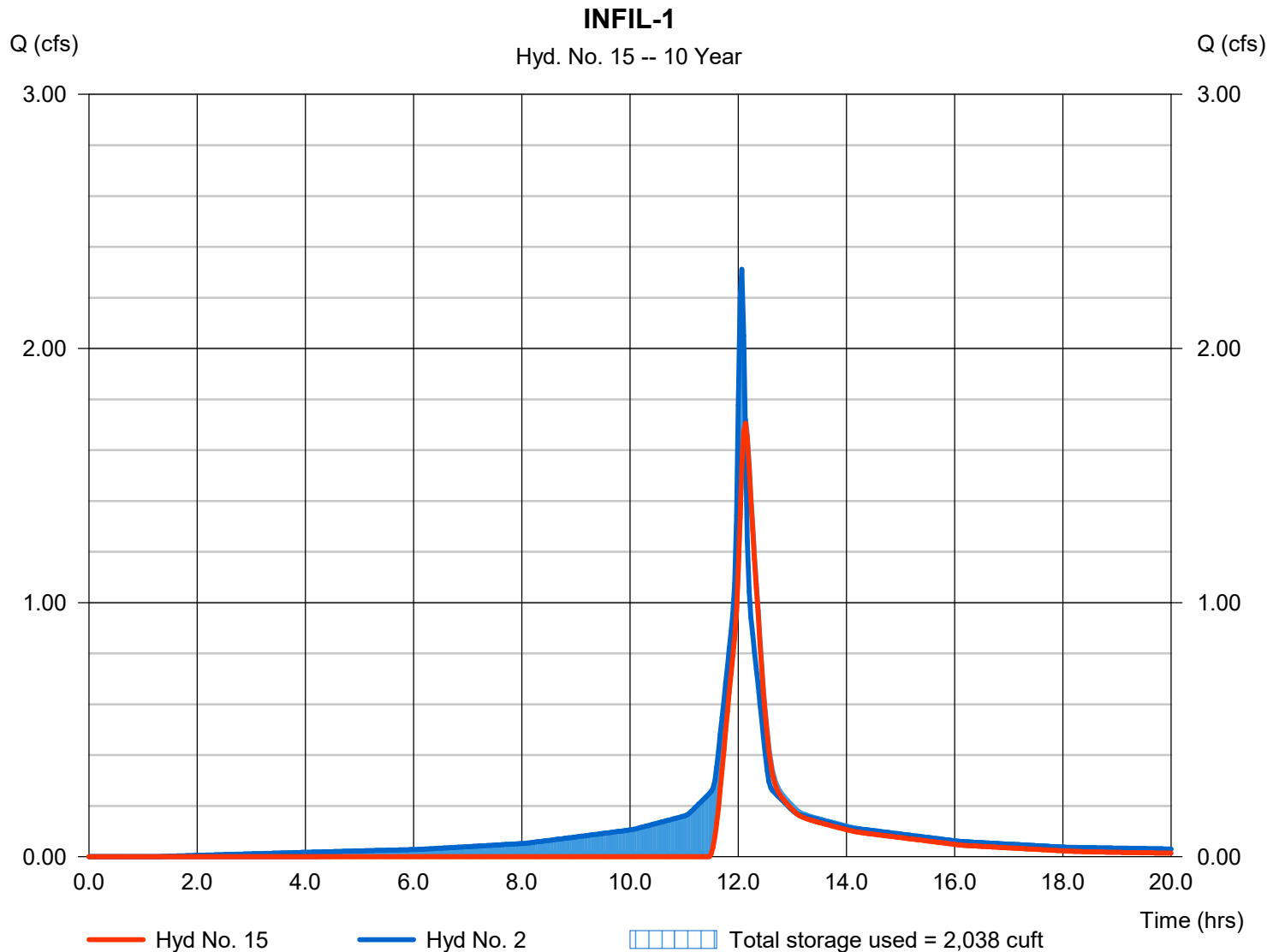
Tuesday, 12 / 5 / 2023

Hyd. No. 15

INFIL-1

Hydrograph type	= Reservoir	Peak discharge	= 1.706 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 5,113 cuft
Inflow hyd. No.	= 2 - PR WS-02A(I)	Max. Elevation	= 145.61 ft
Reservoir name	= INFIL-1	Max. Storage	= 2,038 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

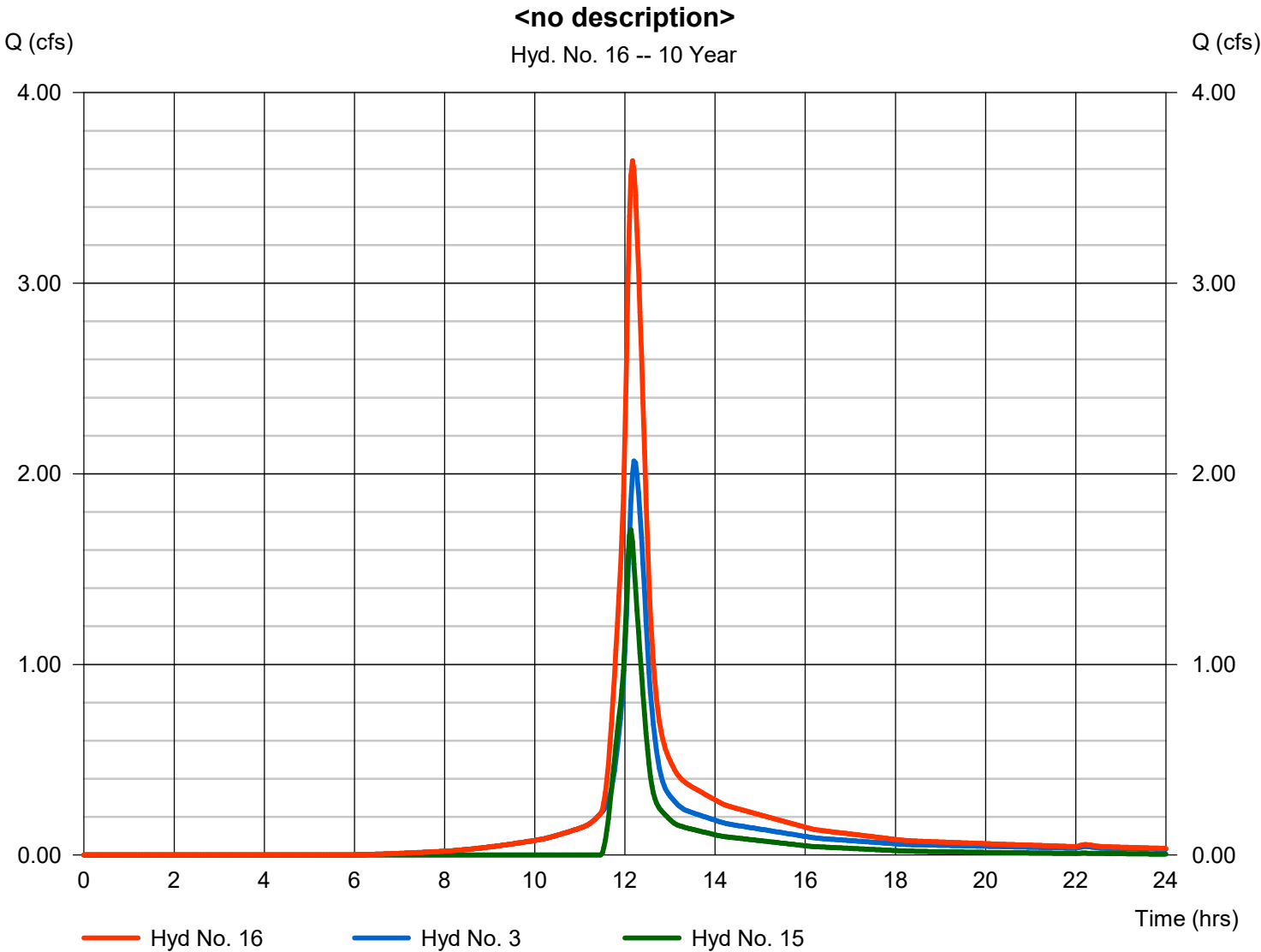
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Tuesday, 12 / 5 / 2023

Hyd. No. 16

<no description>

Hydrograph type	= Combine	Peak discharge	= 3.643 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.17 hrs
Time interval	= 2 min	Hyd. volume	= 14,338 cuft
Inflow hyds.	= 3, 15	Contrib. drain. area	= 0.683 ac



Hydrograph Report

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

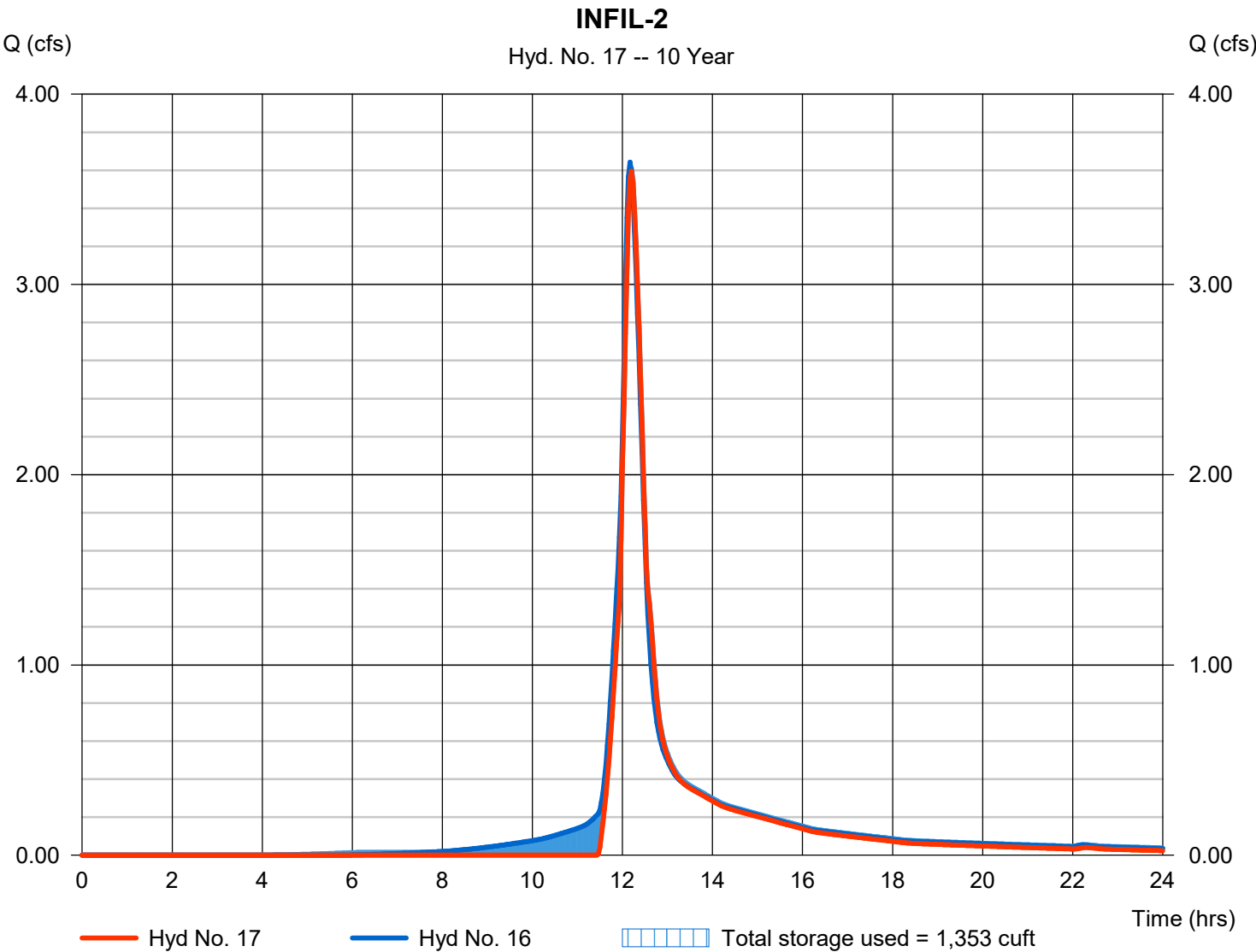
Tuesday, 12 / 5 / 2023

Hyd. No. 17

INFIL-2

Hydrograph type	= Reservoir	Peak discharge	= 3.595 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.20 hrs
Time interval	= 2 min	Hyd. volume	= 12,718 cuft
Inflow hyd. No.	= 16 - <no description>	Max. Elevation	= 136.99 ft
Reservoir name	= INFIL-2	Max. Storage	= 1,353 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

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

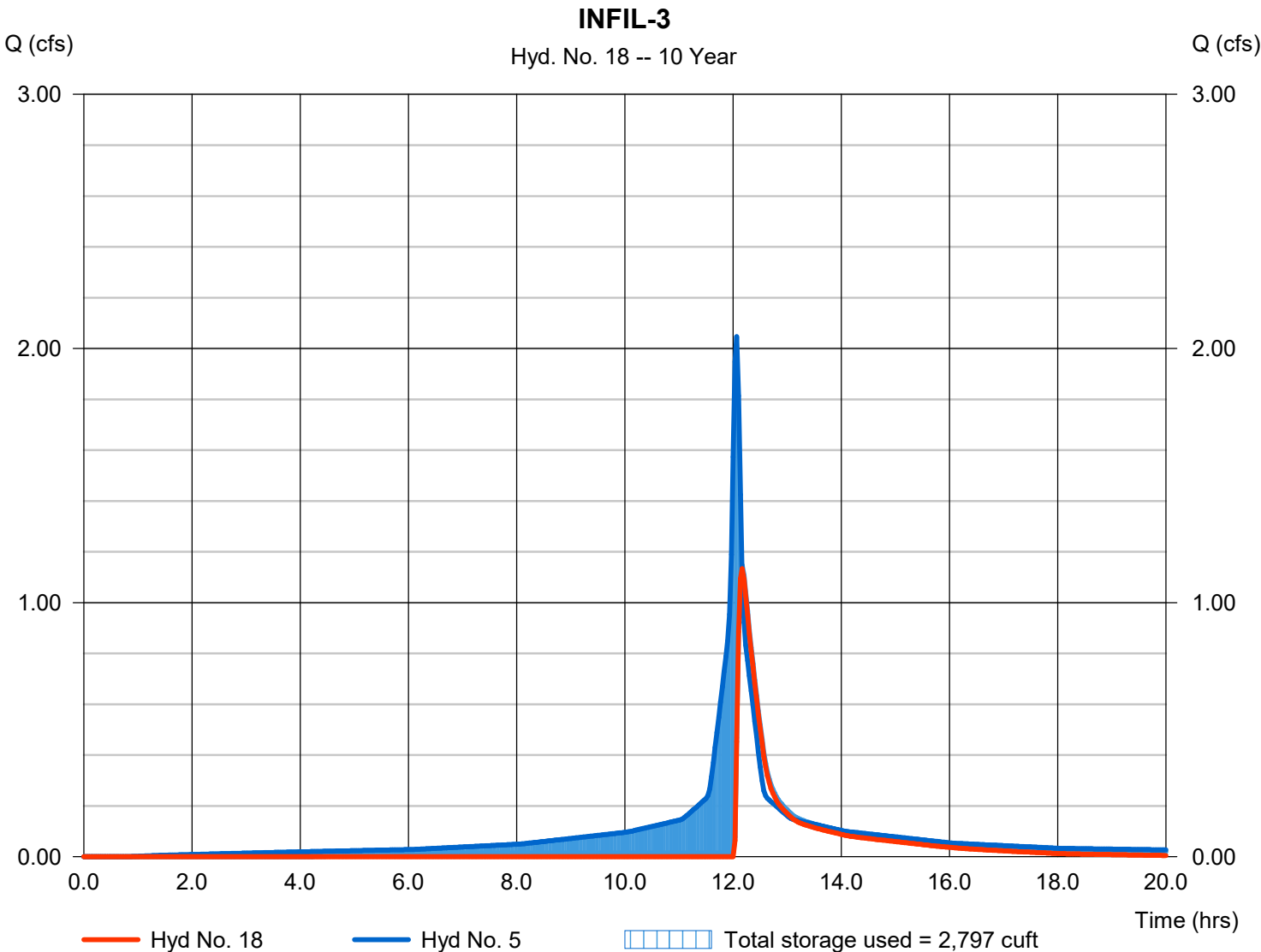
Tuesday, 12 / 5 / 2023

Hyd. No. 18

INFIL-3

Hydrograph type	= Reservoir	Peak discharge	= 1.133 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.17 hrs
Time interval	= 2 min	Hyd. volume	= 2,939 cuft
Inflow hyd. No.	= 5 - PR WS-02B(II)	Max. Elevation	= 144.44 ft
Reservoir name	= INFIL-3	Max. Storage	= 2,797 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

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

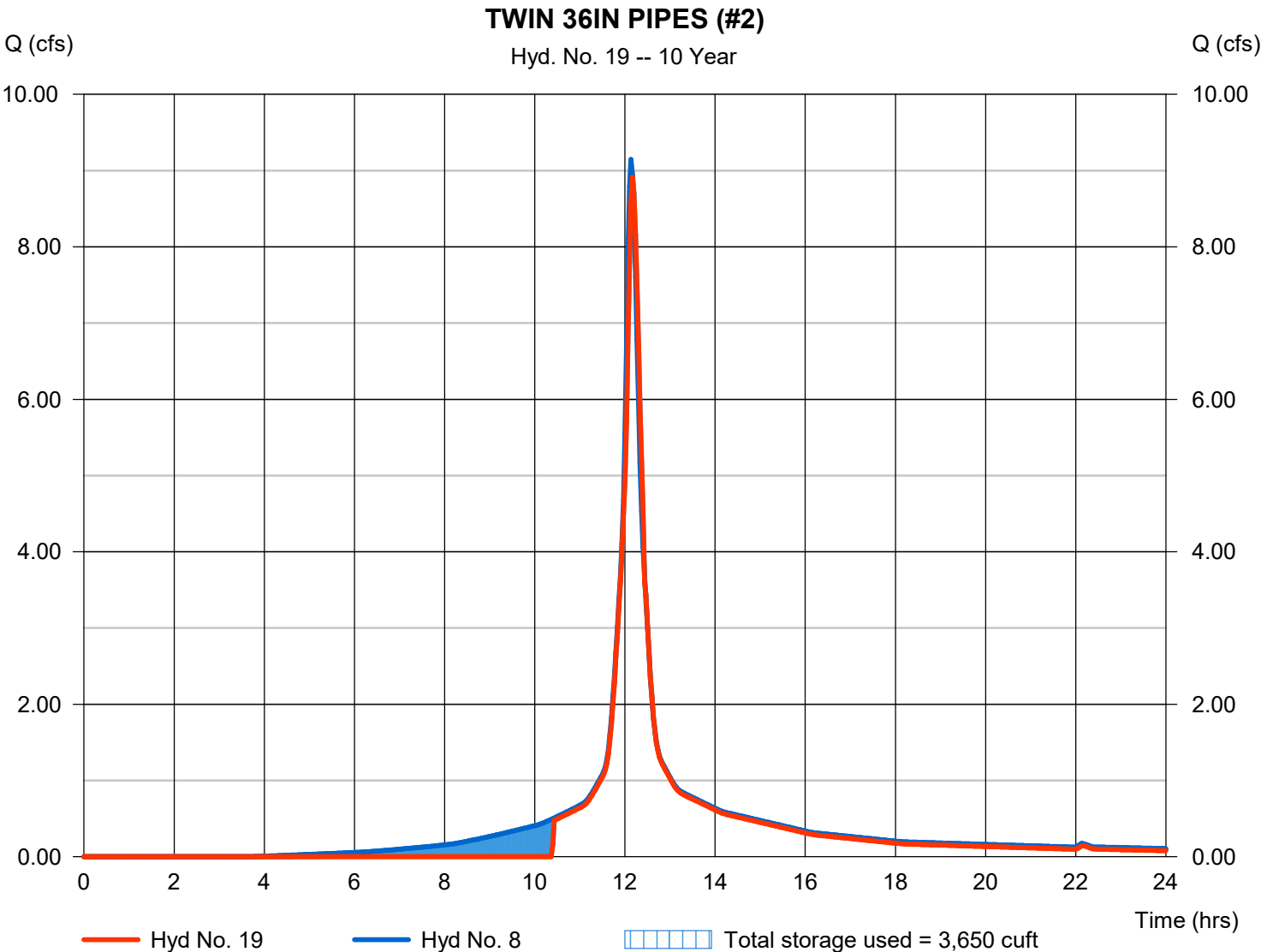
Tuesday, 12 / 5 / 2023

Hyd. No. 19

TWIN 36IN PIPES (#2)

Hydrograph type	= Reservoir	Peak discharge	= 8.916 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.17 hrs
Time interval	= 2 min	Hyd. volume	= 31,682 cuft
Inflow hyd. No.	= 8 - PR WS-02D	Max. Elevation	= 139.12 ft
Reservoir name	= Northern Twin 36IN	Max. Storage	= 3,650 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

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

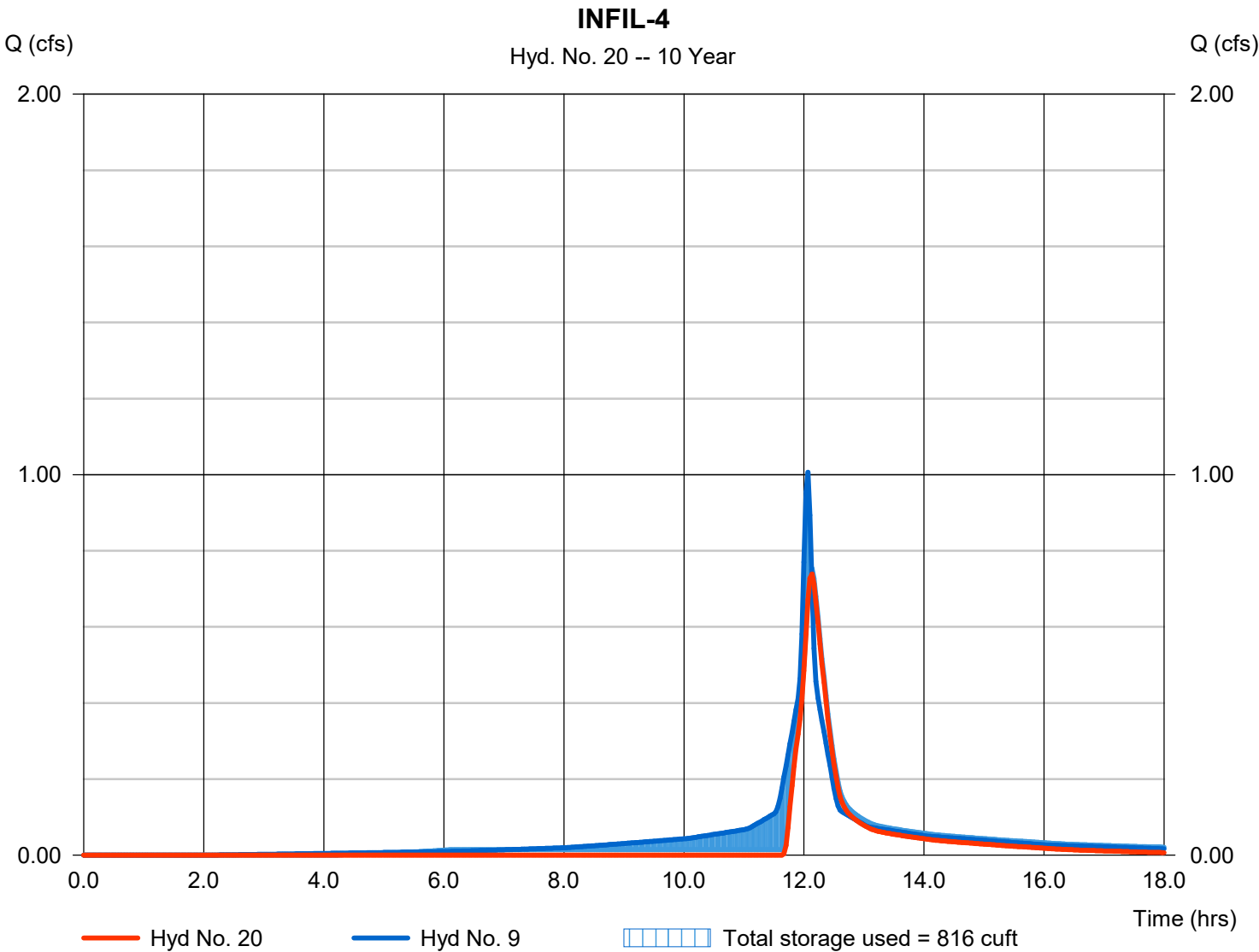
Tuesday, 12 / 5 / 2023

Hyd. No. 20

INFIL-4

Hydrograph type	= Reservoir	Peak discharge	= 0.739 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 1,981 cuft
Inflow hyd. No.	= 9 - PR WS-02E	Max. Elevation	= 137.86 ft
Reservoir name	= INFIL-4	Max. Storage	= 816 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

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

Tuesday, 12 / 5 / 2023

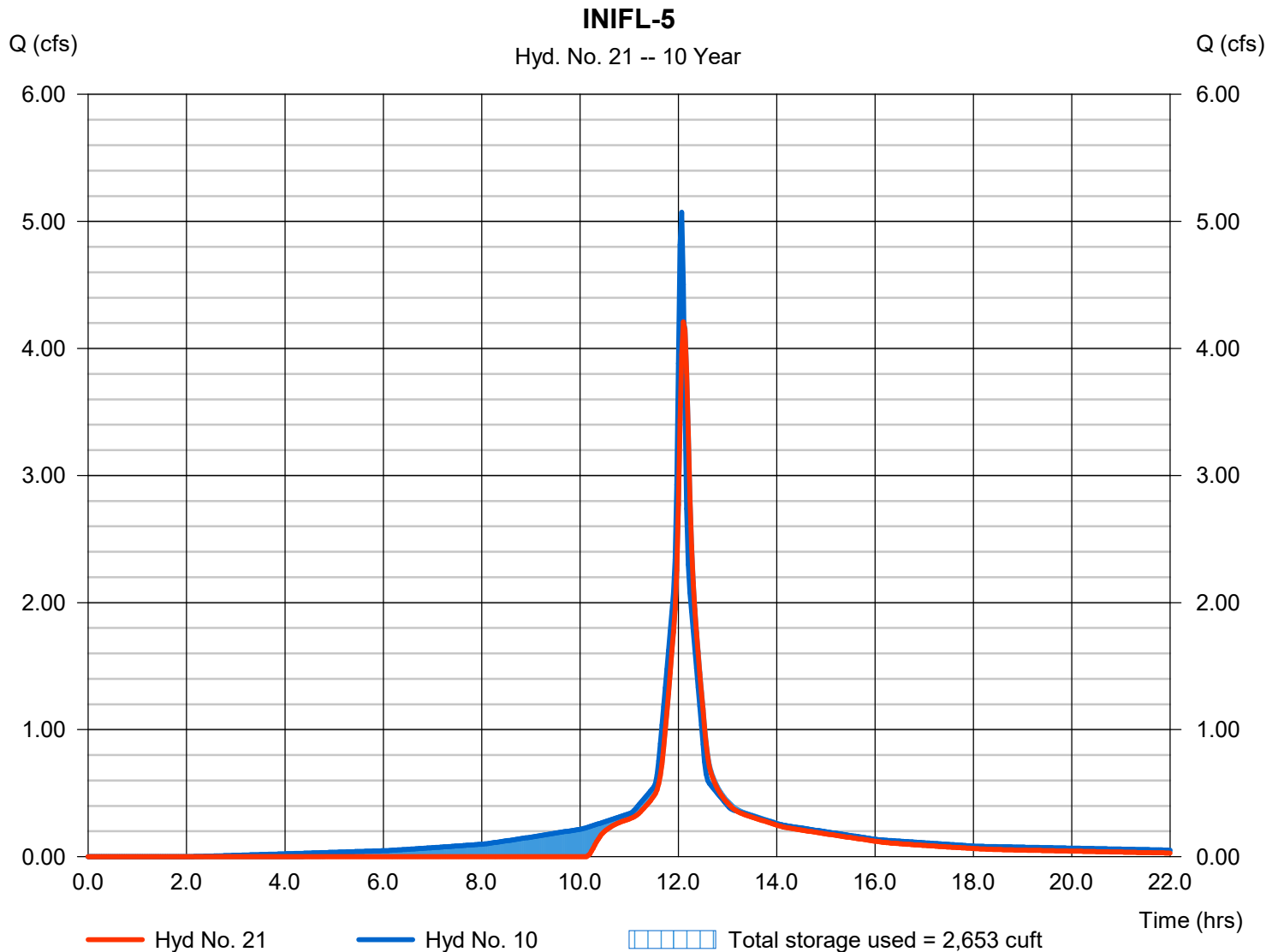
Hyd. No. 21

INIFL-5

Hydrograph type = Reservoir
 Storm frequency = 10 yrs
 Time interval = 2 min
 Inflow hyd. No. = 10 - PR WS-02F
 Reservoir name = INIFL-5

Peak discharge = 4.208 cfs
 Time to peak = 12.10 hrs
 Hyd. volume = 13,323 cuft
 Max. Elevation = 136.63 ft
 Max. Storage = 2,653 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

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

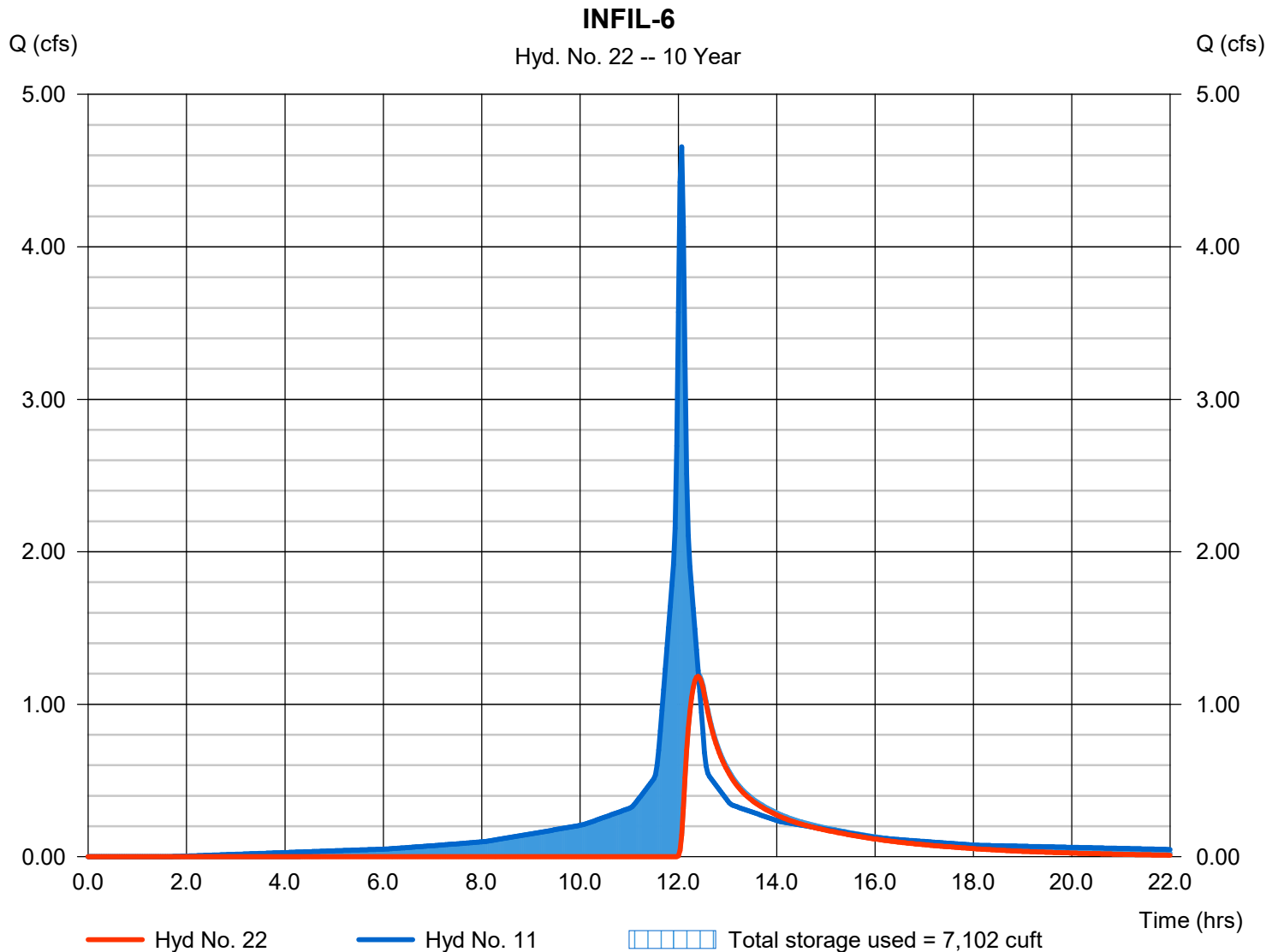
Tuesday, 12 / 5 / 2023

Hyd. No. 22

INFIL-6

Hydrograph type	= Reservoir	Peak discharge	= 1.183 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.40 hrs
Time interval	= 2 min	Hyd. volume	= 6,554 cuft
Inflow hyd. No.	= 11 - PR WS-02G	Max. Elevation	= 135.64 ft
Reservoir name	= INFIL-6	Max. Storage	= 7,102 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

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

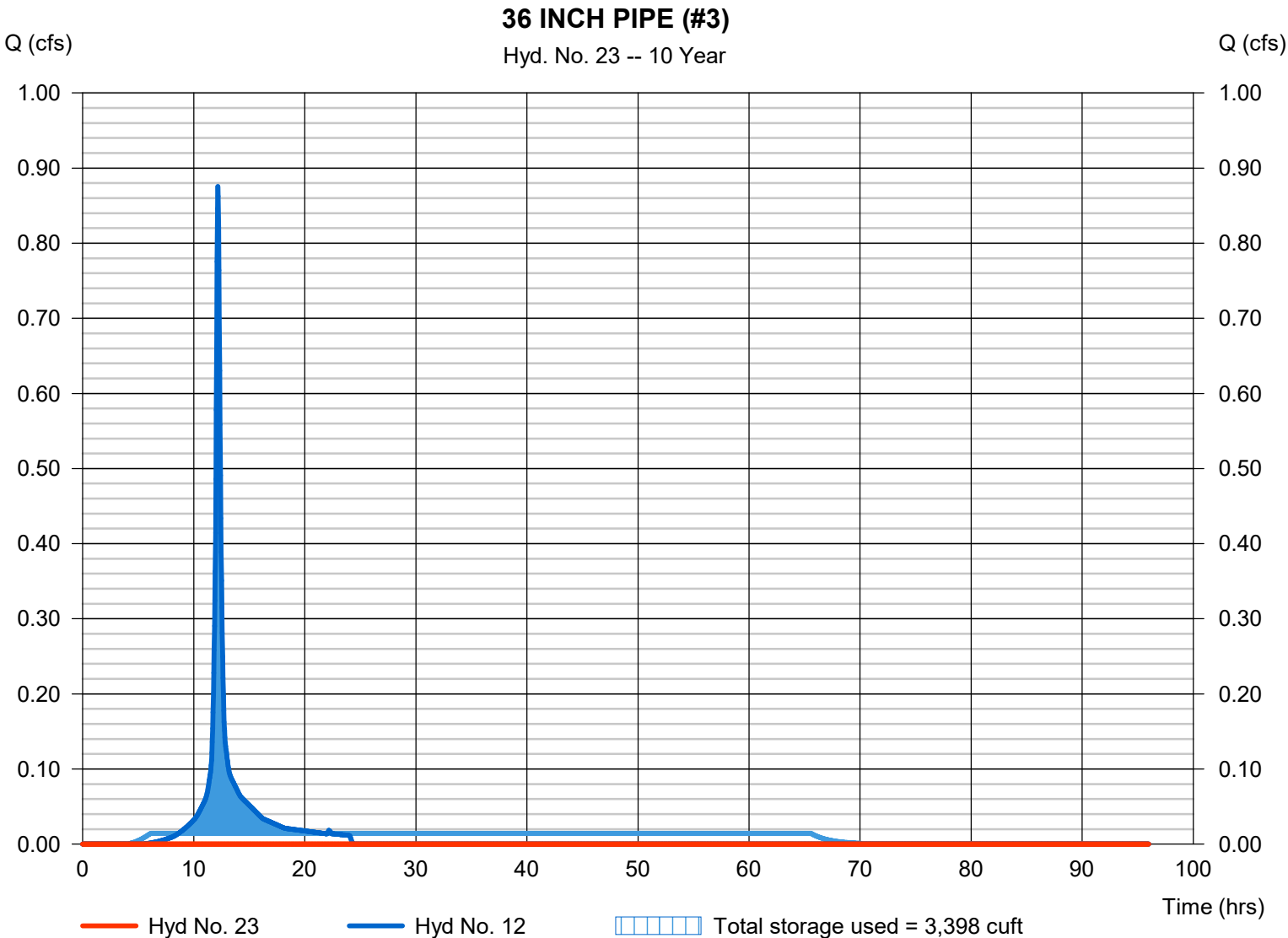
Tuesday, 12 / 5 / 2023

Hyd. No. 23

36 INCH PIPE (#3)

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 10 yrs	Time to peak	= 11.27 hrs
Time interval	= 2 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 12 - PR WS-02H	Max. Elevation	= 132.37 ft
Reservoir name	= 36IN - 3	Max. Storage	= 3,398 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

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

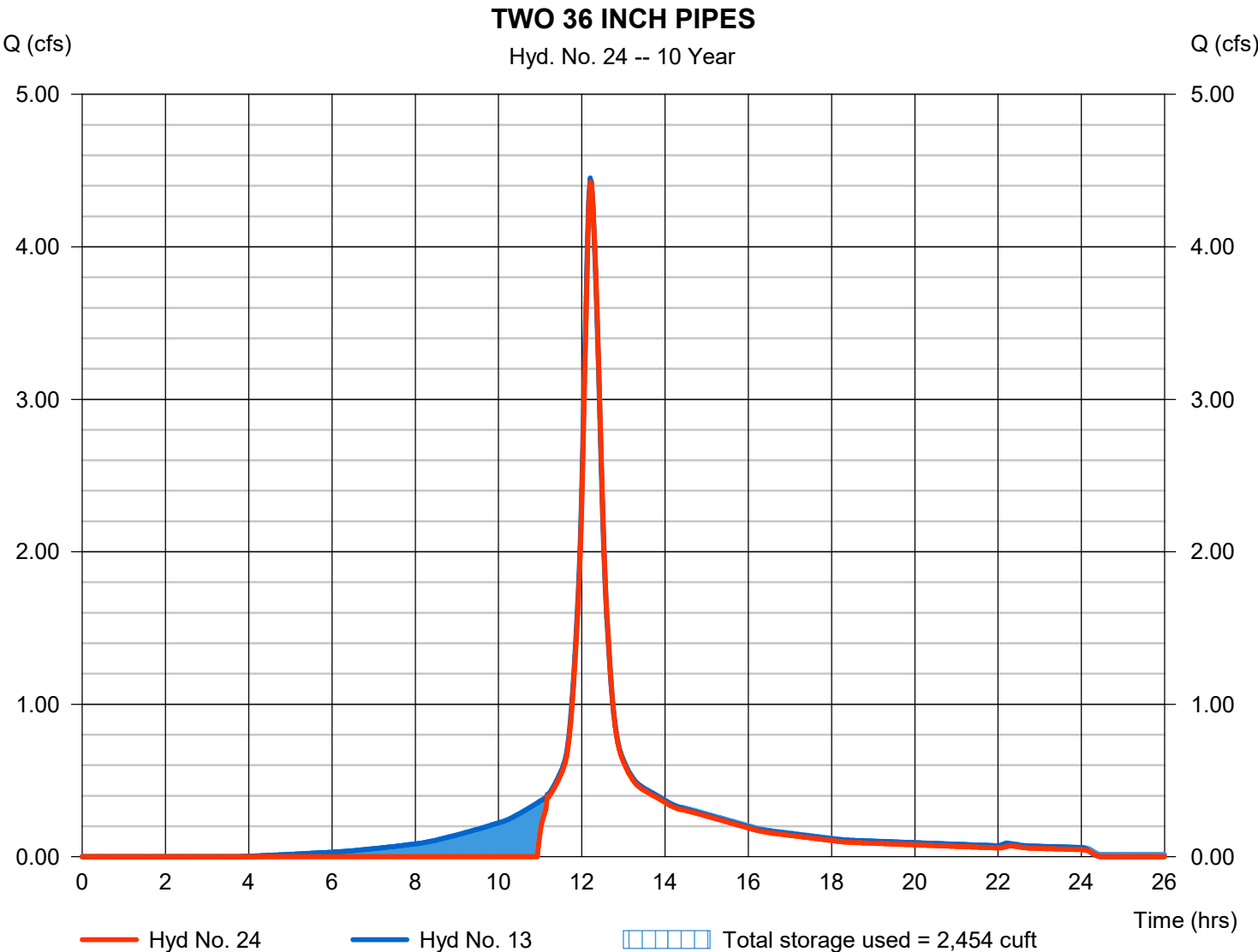
Tuesday, 12 / 5 / 2023

Hyd. No. 24

TWO 36 INCH PIPES

Hydrograph type	= Reservoir	Peak discharge	= 4.422 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.20 hrs
Time interval	= 2 min	Hyd. volume	= 17,270 cuft
Inflow hyd. No.	= 13 - PR WS-02I	Max. Elevation	= 135.72 ft
Reservoir name	= TWIN 36IN	Max. Storage	= 2,454 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

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

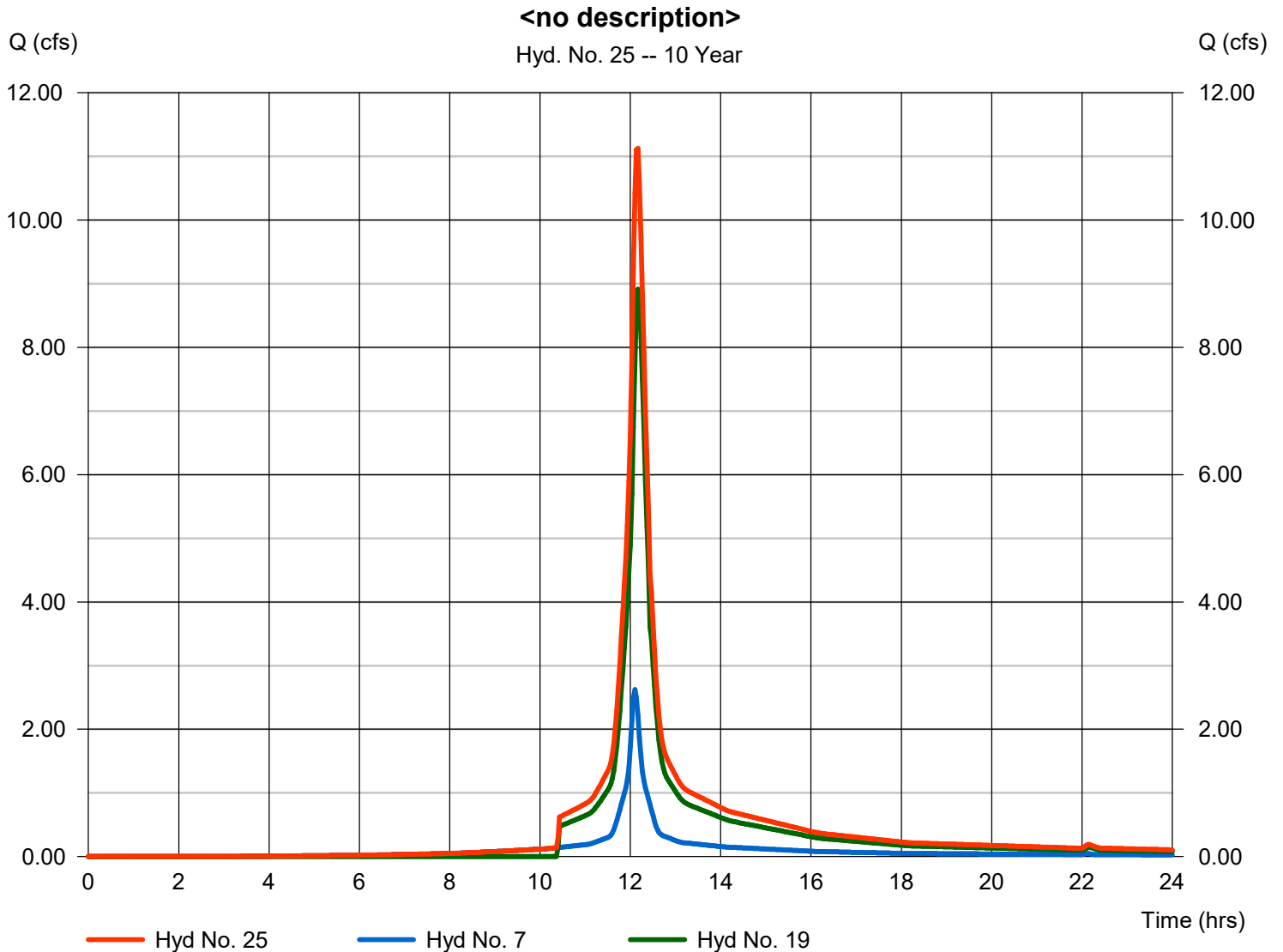
Tuesday, 12 / 5 / 2023

Hyd. No. 25

<no description>

Hydrograph type = Combine
 Storm frequency = 10 yrs
 Time interval = 2 min
 Inflow hyds. = 7, 19

Peak discharge = 11.13 cfs
 Time to peak = 12.17 hrs
 Hyd. volume = 41,240 cuft
 Contrib. drain. area = 0.576 ac



Hydrograph Report

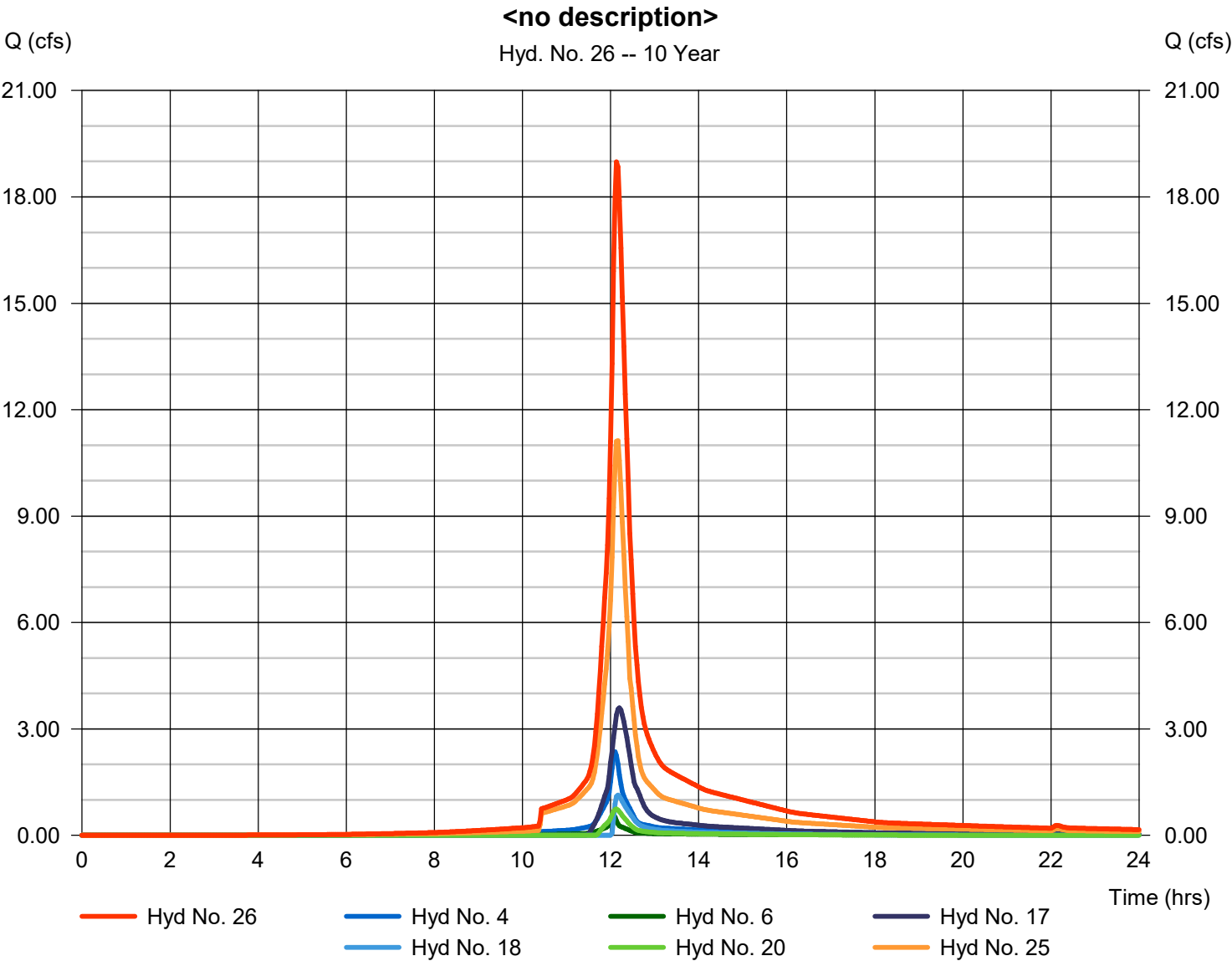
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 26

<no description>

Hydrograph type	= Combine	Peak discharge	= 18.99 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 68,848 cuft
Inflow hyds.	= 4, 6, 17, 18, 20, 25	Contrib. drain. area	= 0.708 ac



Hydrograph Report

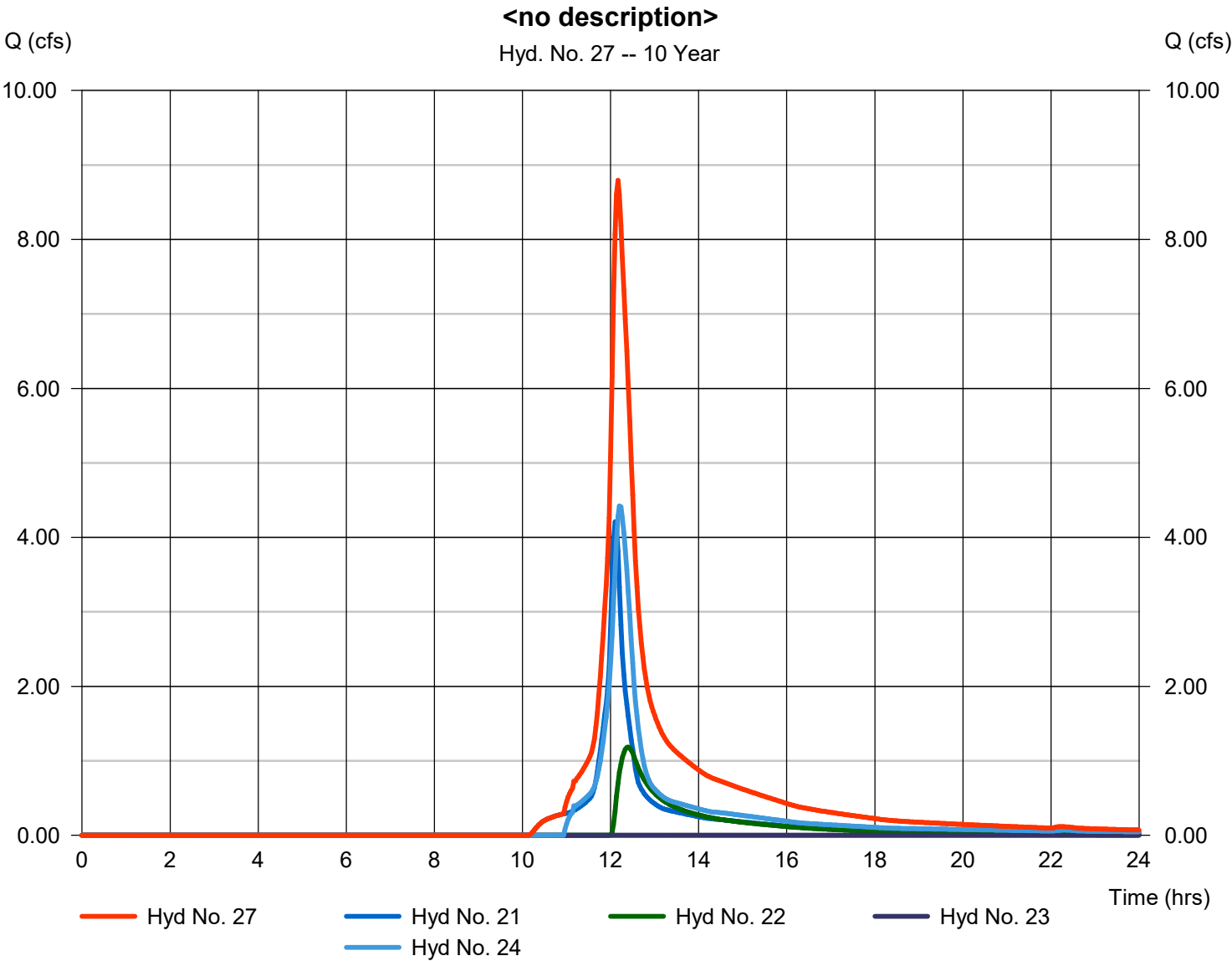
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 27

<no description>

Hydrograph type	= Combine	Peak discharge	= 8.793 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.17 hrs
Time interval	= 2 min	Hyd. volume	= 37,147 cuft
Inflow hyds.	= 21, 22, 23, 24	Contrib. drain. area	= 0.000 ac



Hydrograph Report

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

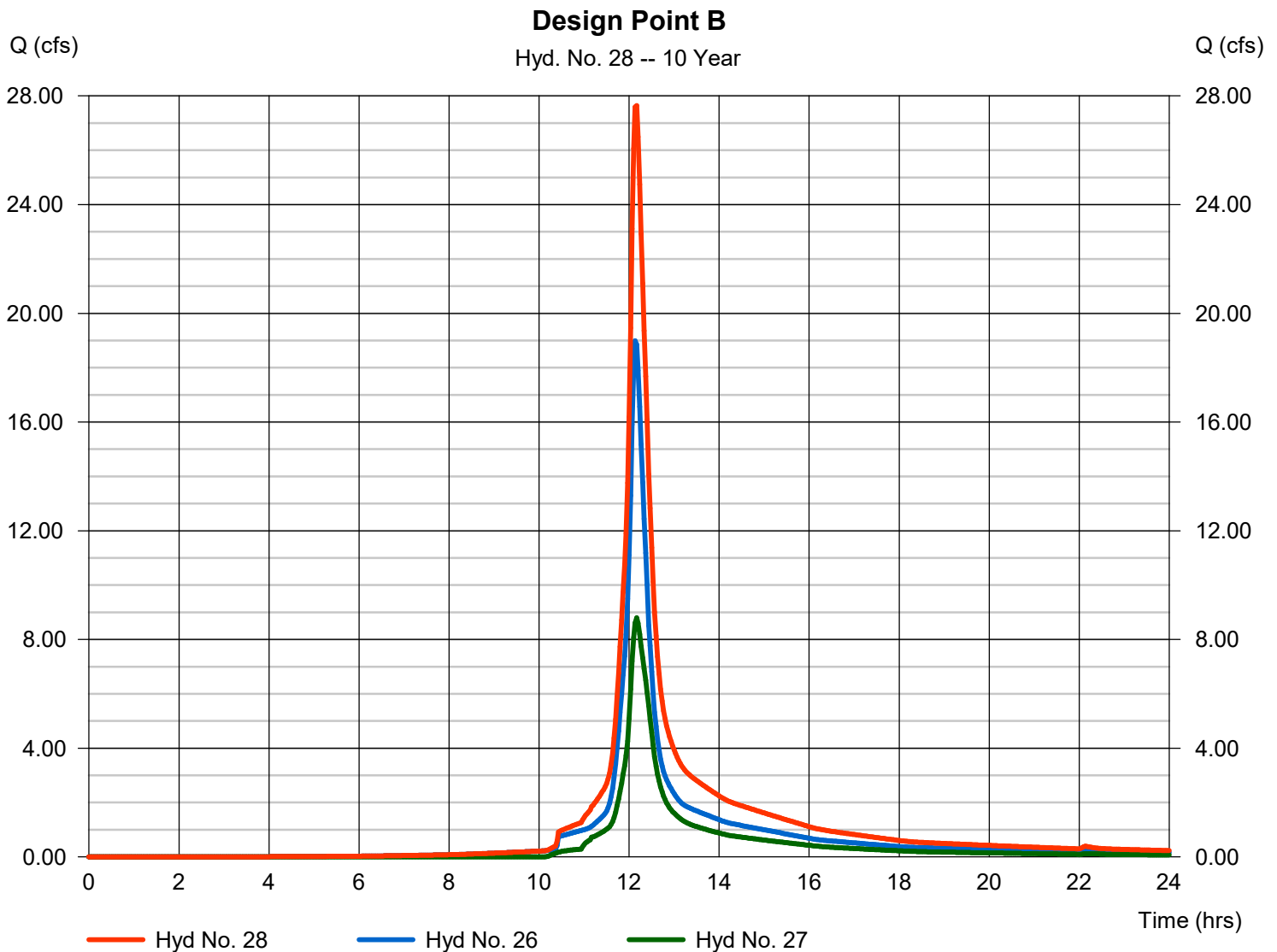
Tuesday, 12 / 5 / 2023

Hyd. No. 28

Design Point B

Hydrograph type = Combine
 Storm frequency = 10 yrs
 Time interval = 2 min
 Inflow hyds. = 26, 27

Peak discharge = 27.64 cfs
 Time to peak = 12.17 hrs
 Hyd. volume = 105,995 cuft
 Contrib. drain. area = 0.000 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	4.203	2	732	17,344	-----	-----	-----	PR WS-01
2	SCS Runoff	2.819	2	724	9,637	-----	-----	-----	PR WS-02A(I)
3	SCS Runoff	2.652	2	732	11,935	-----	-----	-----	PR WS-02A(II)
4	SCS Runoff	2.982	2	726	10,523	-----	-----	-----	PR WS-02B(I)
5	SCS Runoff	2.491	2	724	8,642	-----	-----	-----	PR WS-02B(II)
6	SCS Runoff	0.728	2	724	2,262	-----	-----	-----	PR WS-02B(III)
7	SCS Runoff	3.236	2	726	11,952	-----	-----	-----	PR WS-02C
8	SCS Runoff	11.39	2	728	46,130	-----	-----	-----	PR WS-02D
9	SCS Runoff	1.234	2	724	4,109	-----	-----	-----	PR WS-02E
10	SCS Runoff	6.217	2	724	20,708	-----	-----	-----	PR WS-02F
11	SCS Runoff	5.692	2	724	19,196	-----	-----	-----	PR WS-02G
12	SCS Runoff	1.116	2	730	4,653	-----	-----	-----	PR WS-02H
13	SCS Runoff	5.543	2	732	25,812	-----	-----	-----	PR WS-02I
14	SCS Runoff	0.212	2	724	655	-----	-----	-----	PR WS-03
15	Reservoir	2.043	2	728	6,871	2	146.06	2,209	INFIL-1
16	Combine	4.539	2	730	18,807	3, 15	-----	-----	<no description>
17	Reservoir	4.408	2	734	17,146	16	137.36	1,461	INFIL-2
18	Reservoir	1.687	2	728	4,424	5	144.88	3,070	INFIL-3
19	Reservoir	11.13	2	730	41,147	8	139.17	3,870	TWIN 36IN PIPES (#2)
20	Reservoir	0.882	2	728	2,727	9	138.12	894	INFIL-4
21	Reservoir	4.987	2	726	17,273	10	137.05	2,929	INIFL-5
22	Reservoir	2.355	2	734	9,861	11	136.11	7,919	INFIL-6
23	Reservoir	0.070	2	902	781	12	137.46	3,650	36 INCH PIPE (#3)
24	Reservoir	5.516	2	732	22,569	13	135.73	2,476	TWO 36 INCH PIPES
25	Combine	13.91	2	728	53,099	7, 19,	-----	-----	<no description>
26	Combine	23.97	2	728	90,181	4, 6, 17, 18, 20, 25	-----	-----	<no description>
27	Combine	12.22	2	730	50,484	21, 22, 23, 24,	-----	-----	<no description>
28	Combine	35.87	2	728	140,665	26, 27	-----	-----	Design Point B
J:\F0173 Fuller 001 64 Danbury Rd\Calculations\Period 25 Year					Reservoir Period 25 Year based-Hydraflow Tuesday, 12 / 5 / 2023				

Hydrograph Report

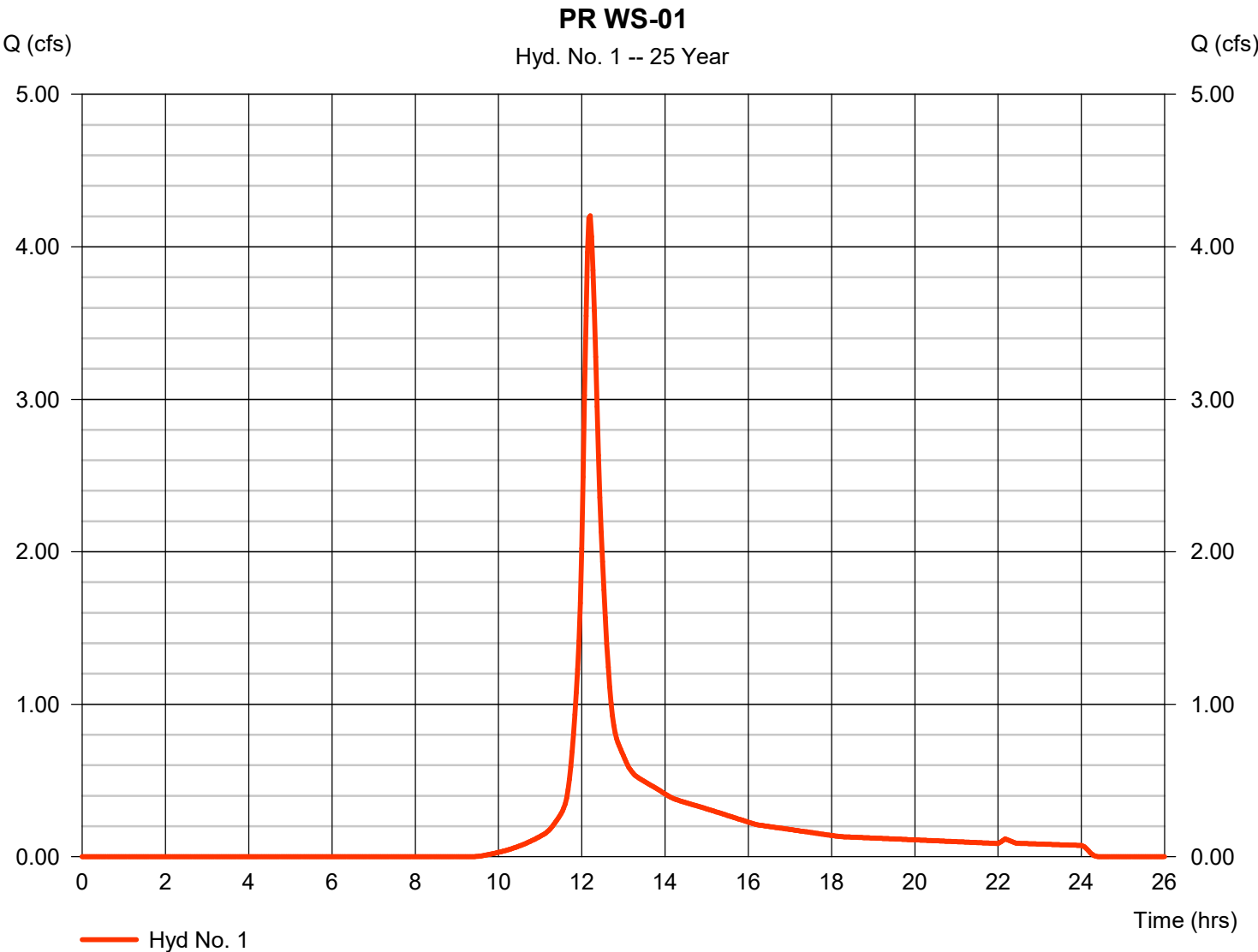
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 1

PR WS-01

Hydrograph type	= SCS Runoff	Peak discharge	= 4.203 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.20 hrs
Time interval	= 2 min	Hyd. volume	= 17,344 cuft
Drainage area	= 1.721 ac	Curve number	= 66
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 13.50 min
Total precip.	= 6.54 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

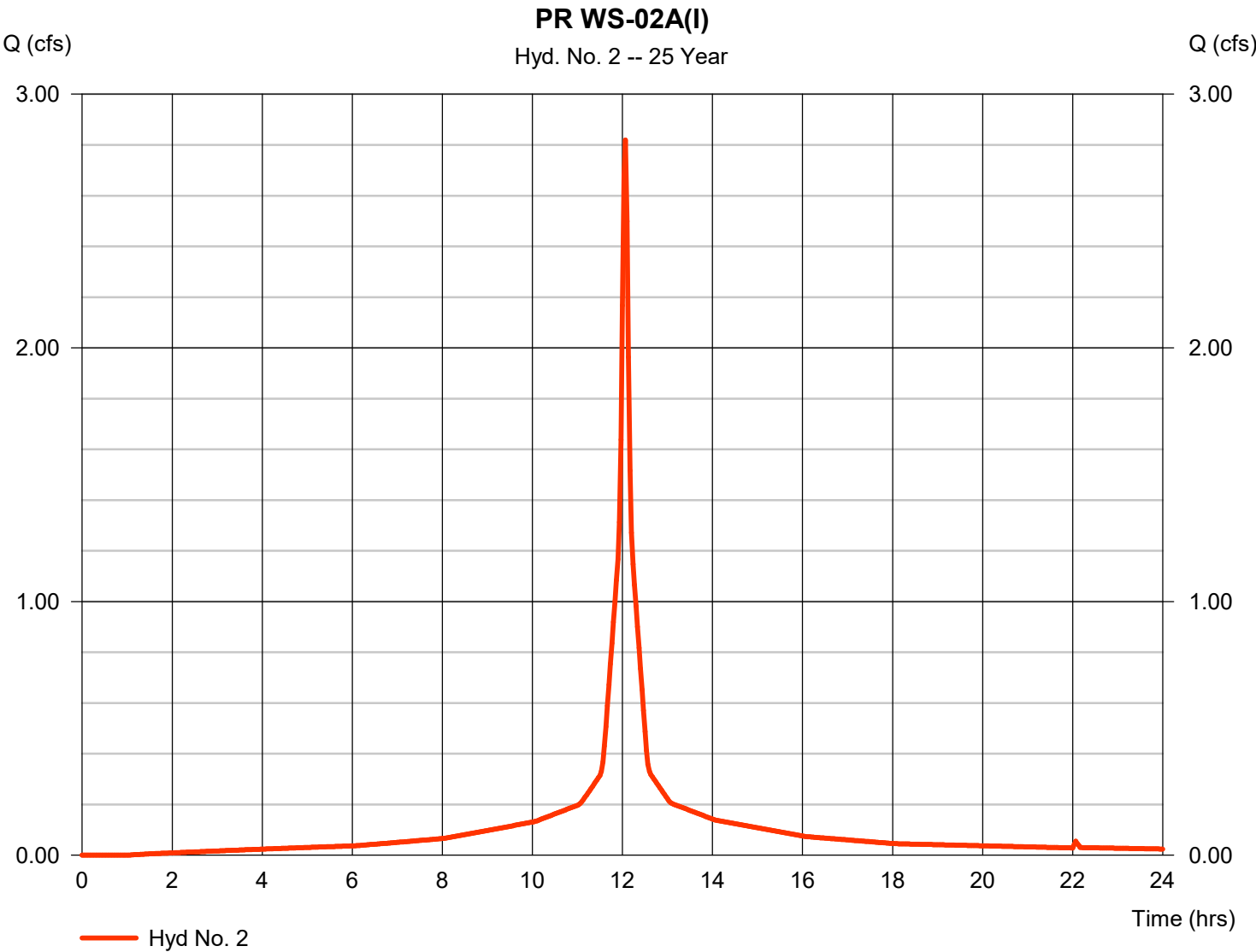
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 2

PR WS-02A(I)

Hydrograph type	= SCS Runoff	Peak discharge	= 2.819 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 9,637 cuft
Drainage area	= 0.458 ac	Curve number	= 97
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.54 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

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

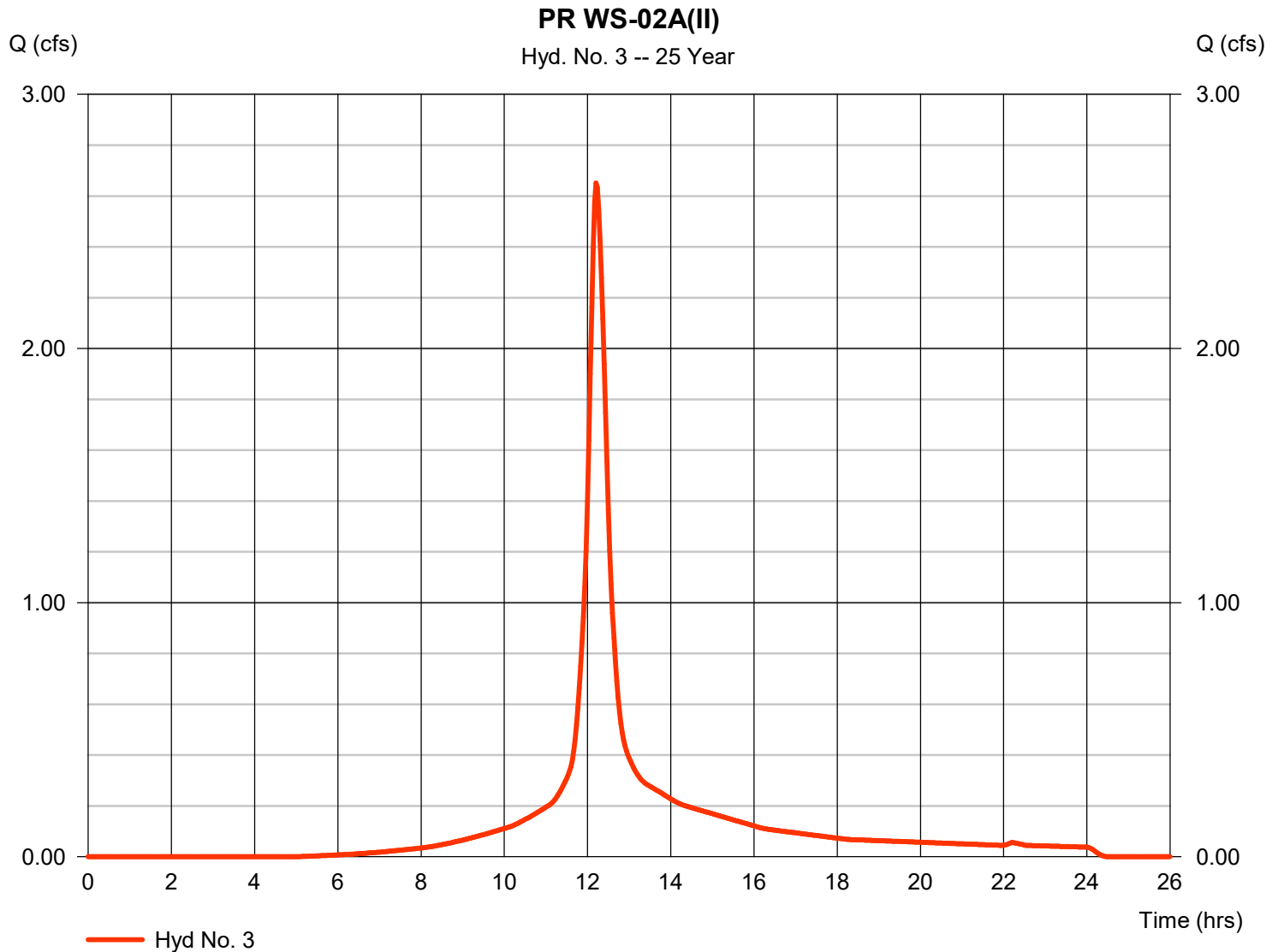
Tuesday, 12 / 5 / 2023

Hyd. No. 3

PR WS-02A(II)

Hydrograph type = SCS Runoff
 Storm frequency = 25 yrs
 Time interval = 2 min
 Drainage area = 0.683 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 6.54 in
 Storm duration = 24 hrs

Peak discharge = 2.652 cfs
 Time to peak = 12.20 hrs
 Hyd. volume = 11,935 cuft
 Curve number = 85
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 17.10 min
 Distribution = Type III
 Shape factor = 484



Hydrograph Report

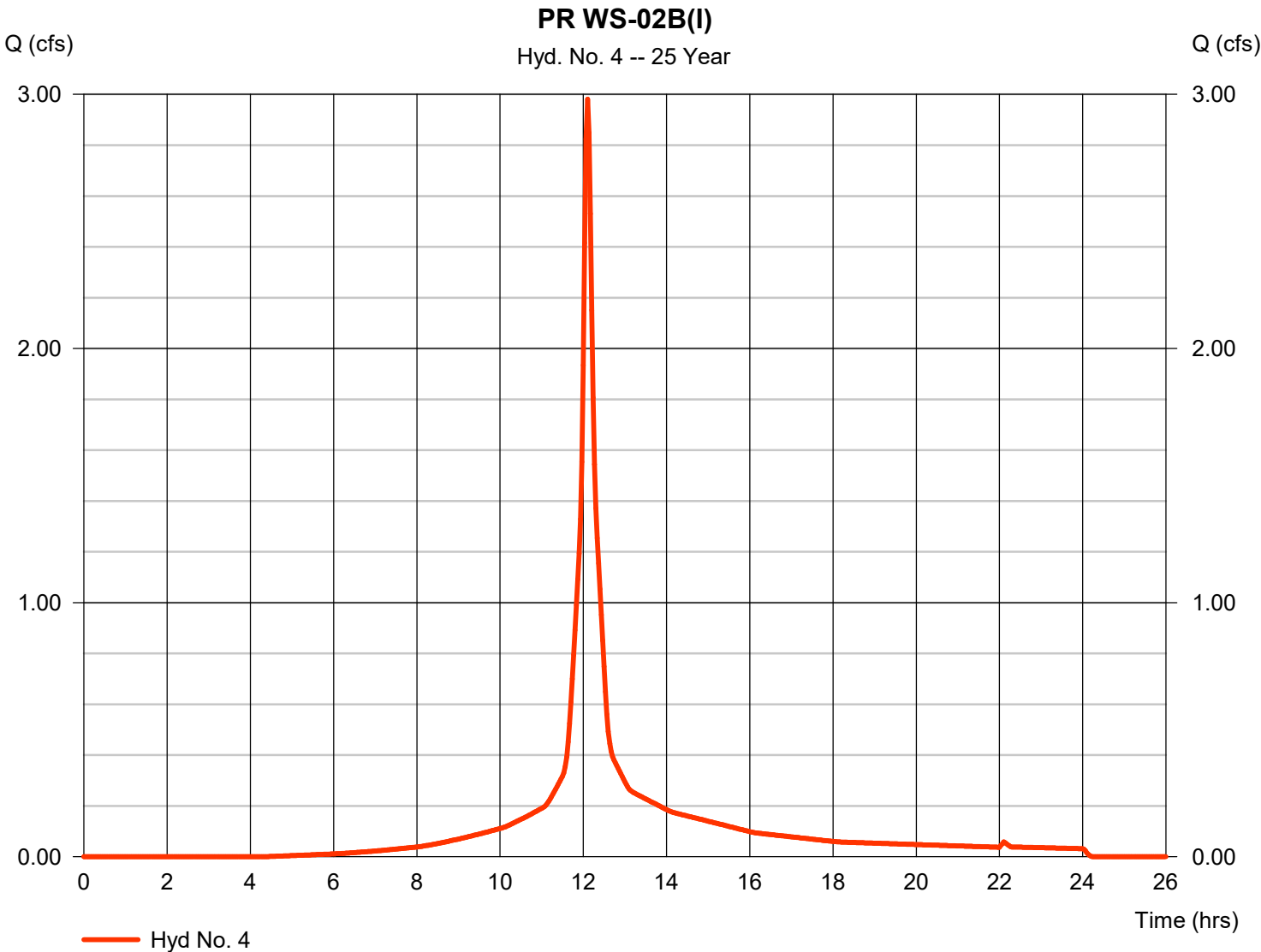
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 4

PR WS-02B(I)

Hydrograph type	= SCS Runoff	Peak discharge	= 2.982 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.10 hrs
Time interval	= 2 min	Hyd. volume	= 10,523 cuft
Drainage area	= 0.576 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.40 min
Total precip.	= 6.54 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

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

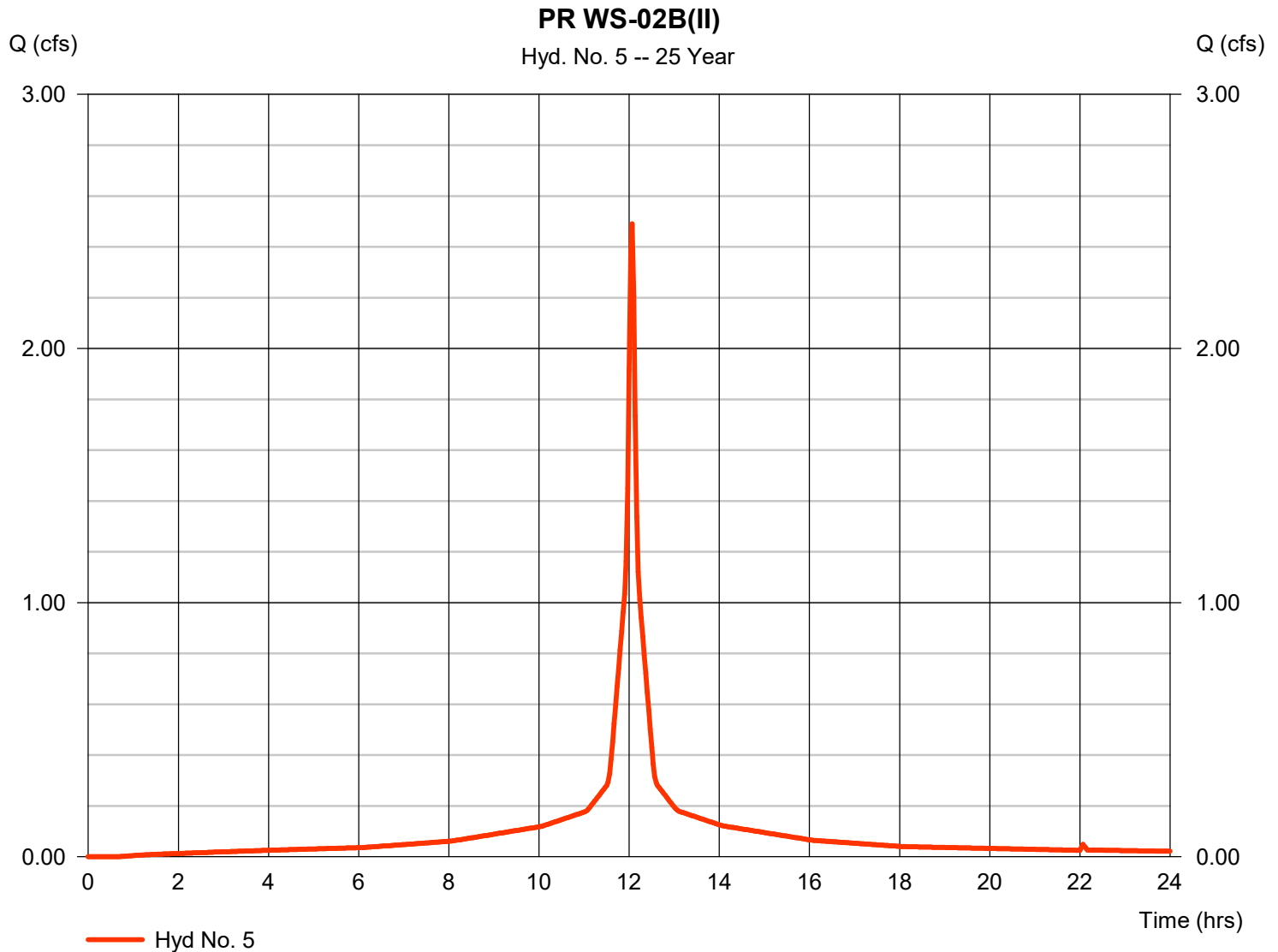
Tuesday, 12 / 5 / 2023

Hyd. No. 5

PR WS-02B(II)

Hydrograph type = SCS Runoff
 Storm frequency = 25 yrs
 Time interval = 2 min
 Drainage area = 0.403 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 6.54 in
 Storm duration = 24 hrs

Peak discharge = 2.491 cfs
 Time to peak = 12.07 hrs
 Hyd. volume = 8,642 cuft
 Curve number = 98
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 5.00 min
 Distribution = Type III
 Shape factor = 484



Hydrograph Report

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

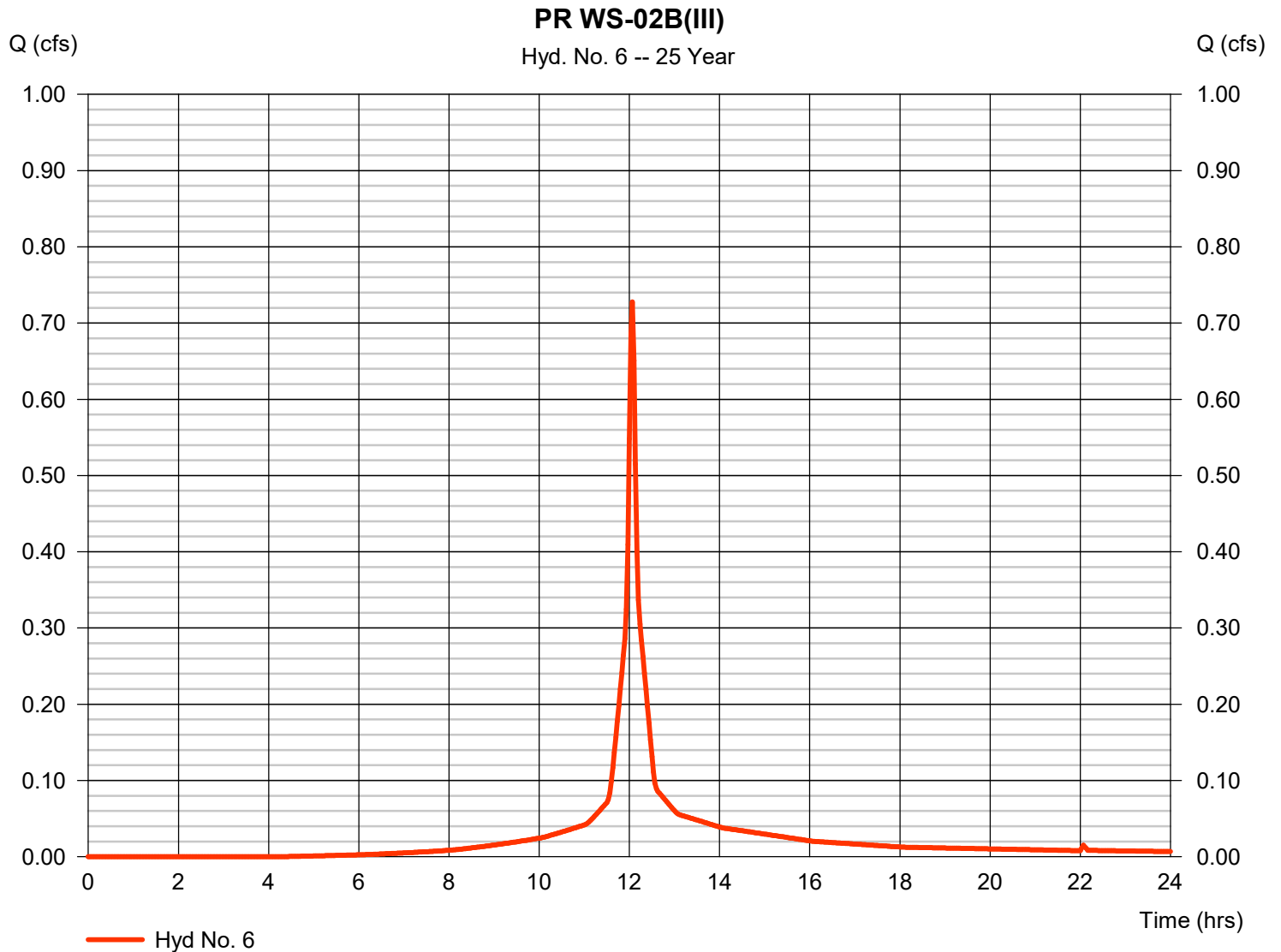
Tuesday, 12 / 5 / 2023

Hyd. No. 6

PR WS-02B(III)

Hydrograph type = SCS Runoff
 Storm frequency = 25 yrs
 Time interval = 2 min
 Drainage area = 0.132 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 6.54 in
 Storm duration = 24 hrs

Peak discharge = 0.728 cfs
 Time to peak = 12.07 hrs
 Hyd. volume = 2,262 cuft
 Curve number = 87
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 5.00 min
 Distribution = Type III
 Shape factor = 484



Hydrograph Report

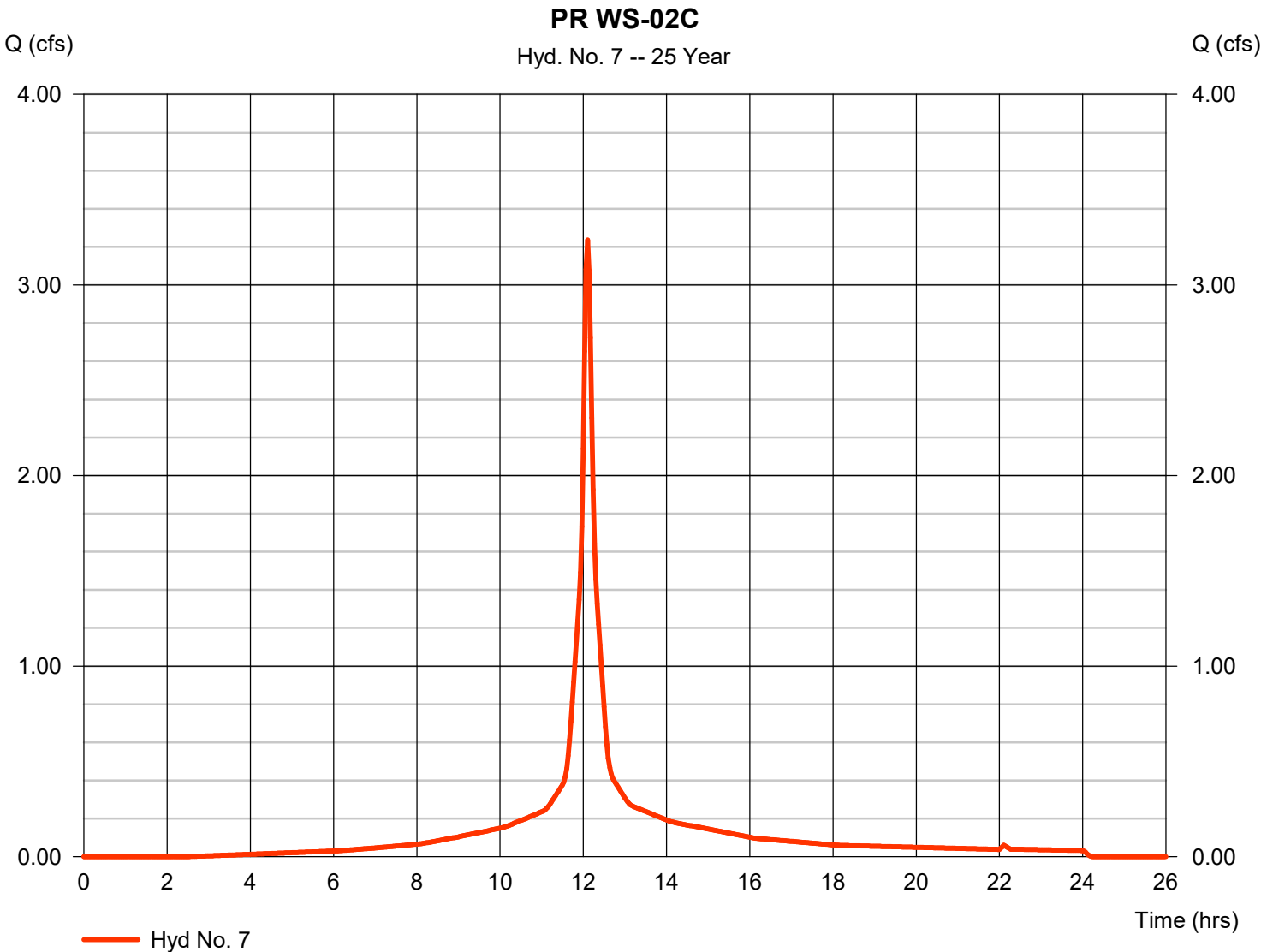
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 7

PR WS-02C

Hydrograph type	= SCS Runoff	Peak discharge	= 3.236 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.10 hrs
Time interval	= 2 min	Hyd. volume	= 11,952 cuft
Drainage area	= 0.576 ac	Curve number	= 93
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 9.40 min
Total precip.	= 6.54 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

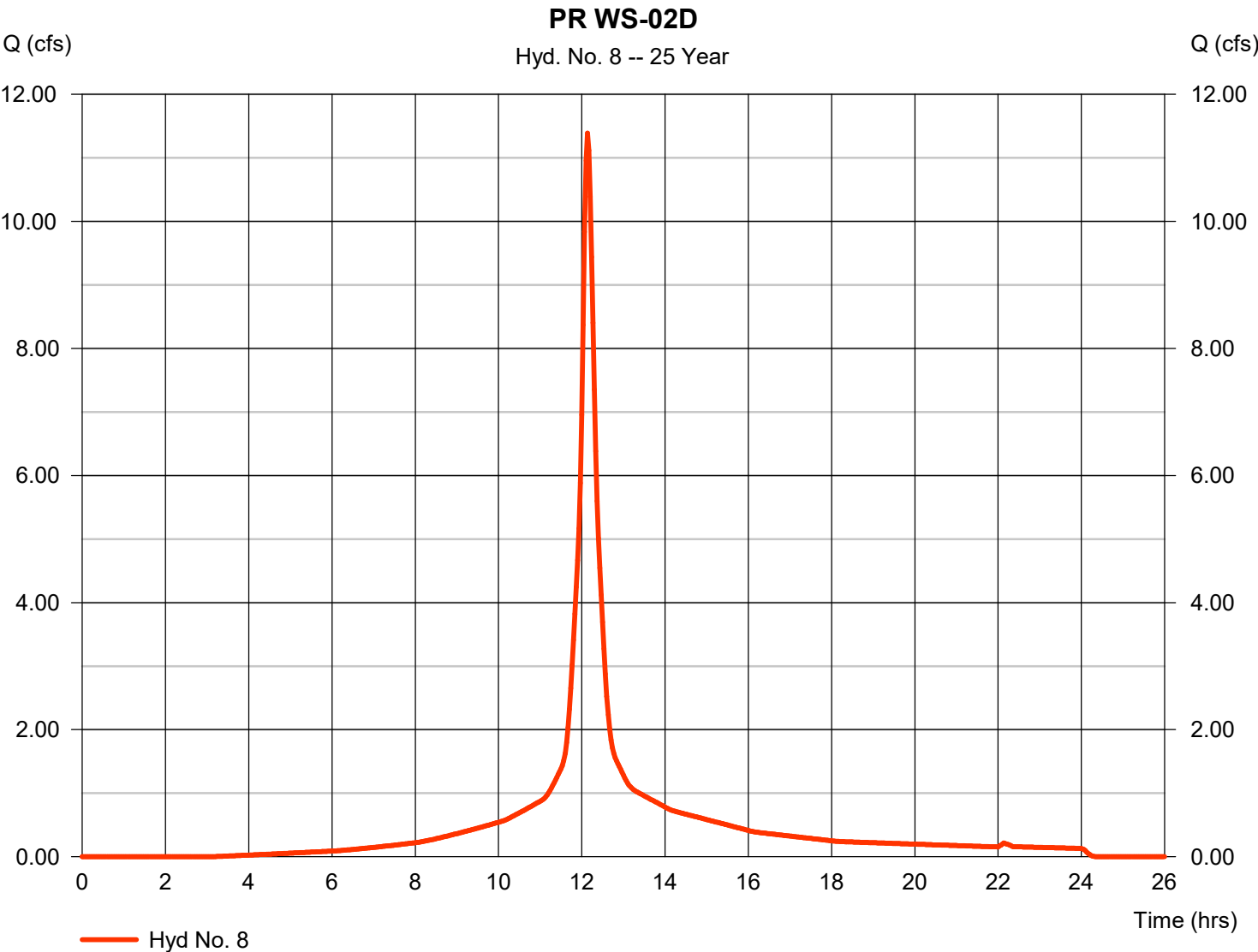
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 8

PR WS-02D

Hydrograph type	= SCS Runoff	Peak discharge	= 11.39 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 46,130 cuft
Drainage area	= 2.246 ac	Curve number	= 91
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.10 min
Total precip.	= 6.54 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

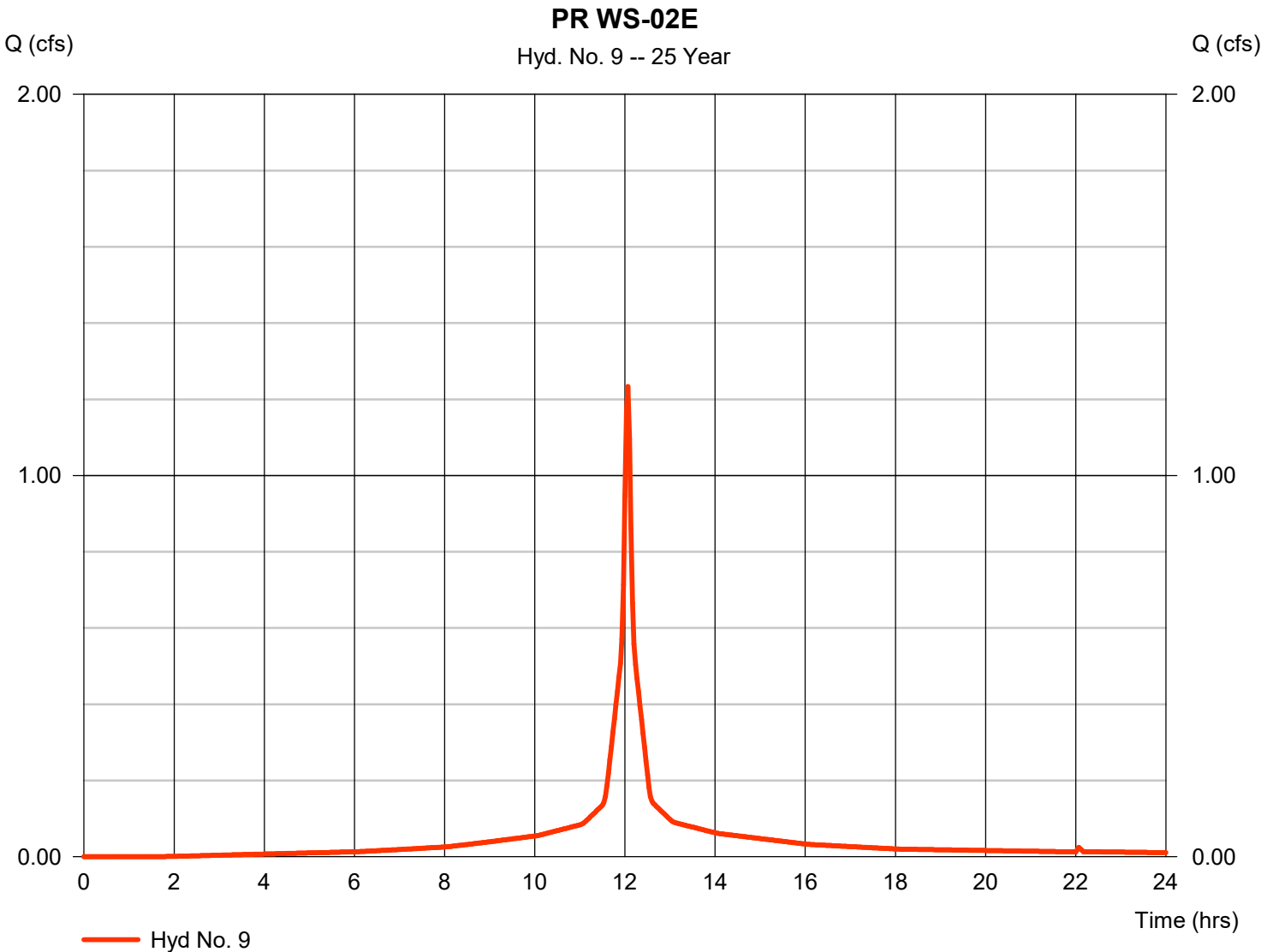
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 9

PR WS-02E

Hydrograph type	= SCS Runoff	Peak discharge	= 1.234 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 4,109 cuft
Drainage area	= 0.203 ac	Curve number	= 95
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.54 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

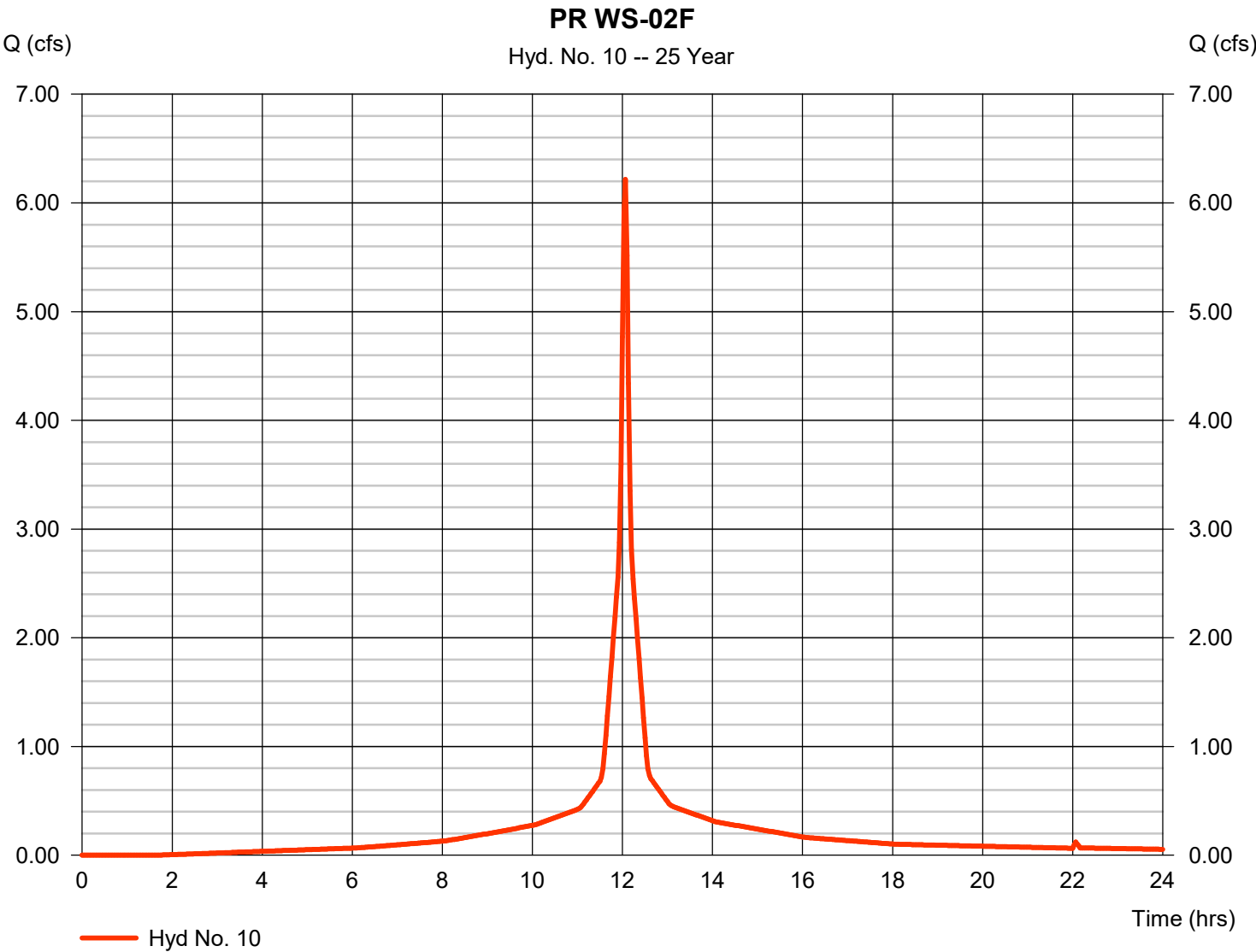
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 10

PR WS-02F

Hydrograph type	= SCS Runoff	Peak discharge	= 6.217 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 20,708 cuft
Drainage area	= 1.023 ac	Curve number	= 95
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.54 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

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

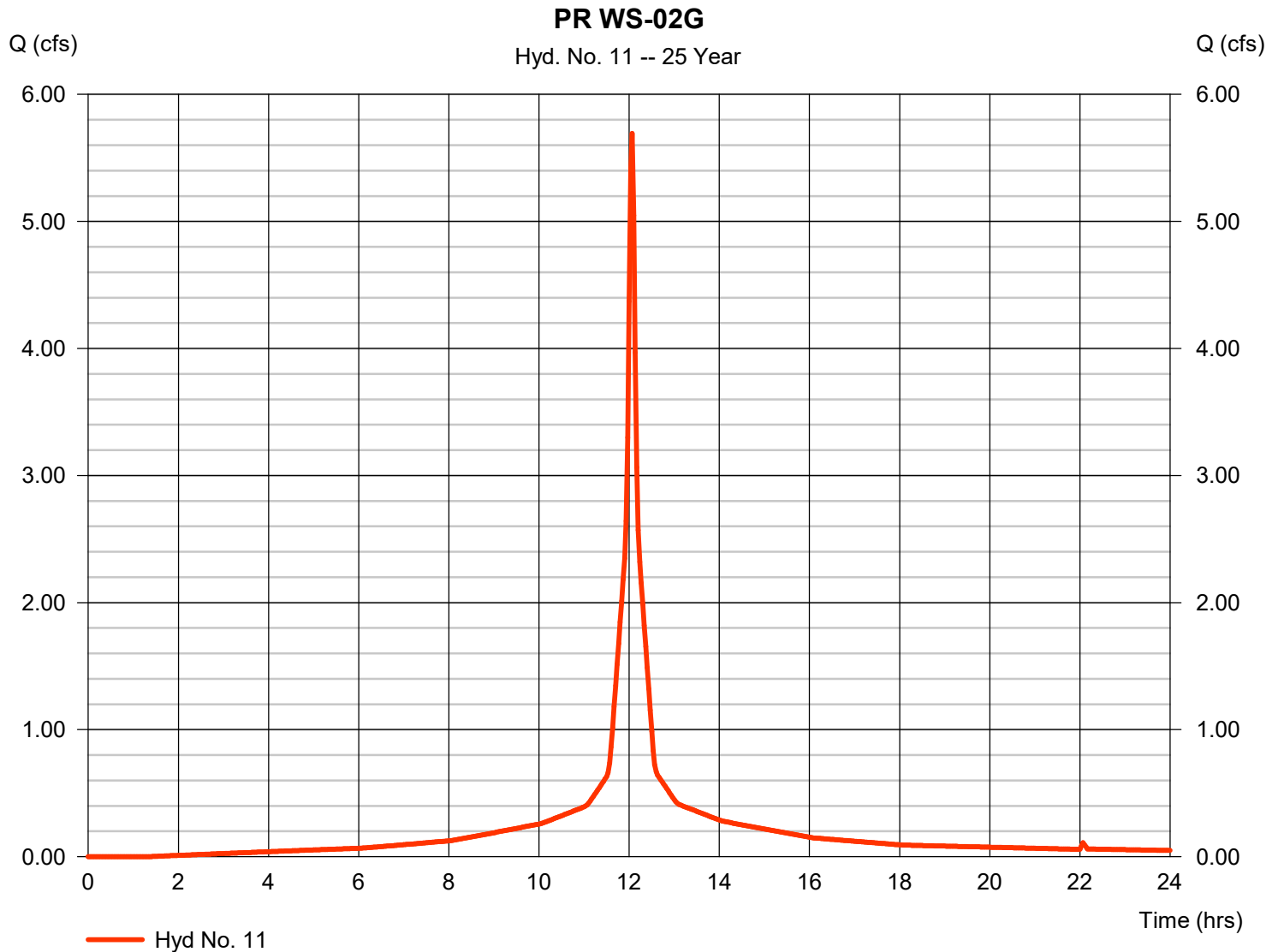
Tuesday, 12 / 5 / 2023

Hyd. No. 11

PR WS-02G

Hydrograph type = SCS Runoff
 Storm frequency = 25 yrs
 Time interval = 2 min
 Drainage area = 0.930 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 6.54 in
 Storm duration = 24 hrs

Peak discharge = 5.692 cfs
 Time to peak = 12.07 hrs
 Hyd. volume = 19,196 cuft
 Curve number = 96
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 5.00 min
 Distribution = Type III
 Shape factor = 484



Hydrograph Report

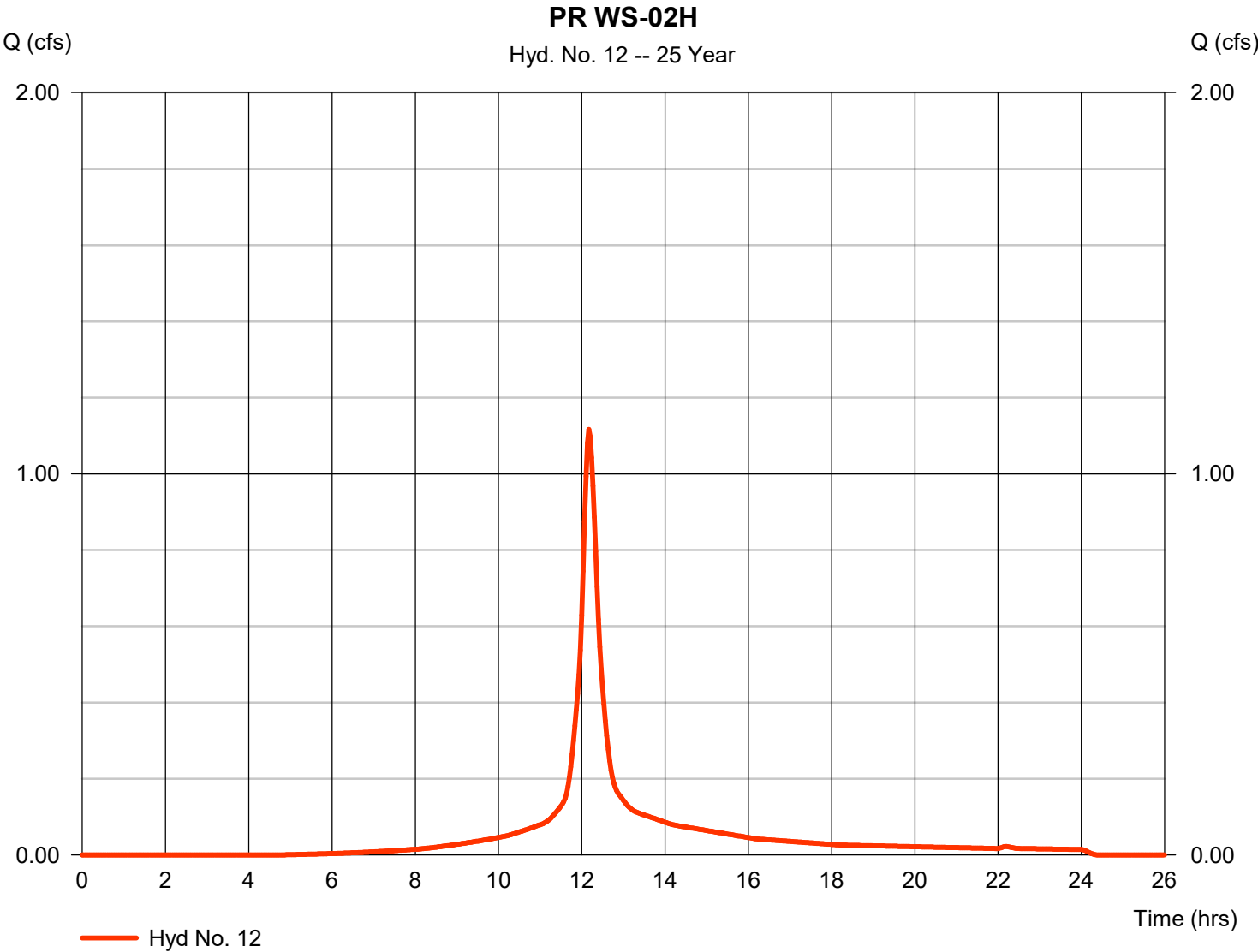
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 12

PR WS-02H

Hydrograph type	= SCS Runoff	Peak discharge	= 1.116 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.17 hrs
Time interval	= 2 min	Hyd. volume	= 4,653 cuft
Drainage area	= 0.267 ac	Curve number	= 86
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 13.80 min
Total precip.	= 6.54 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

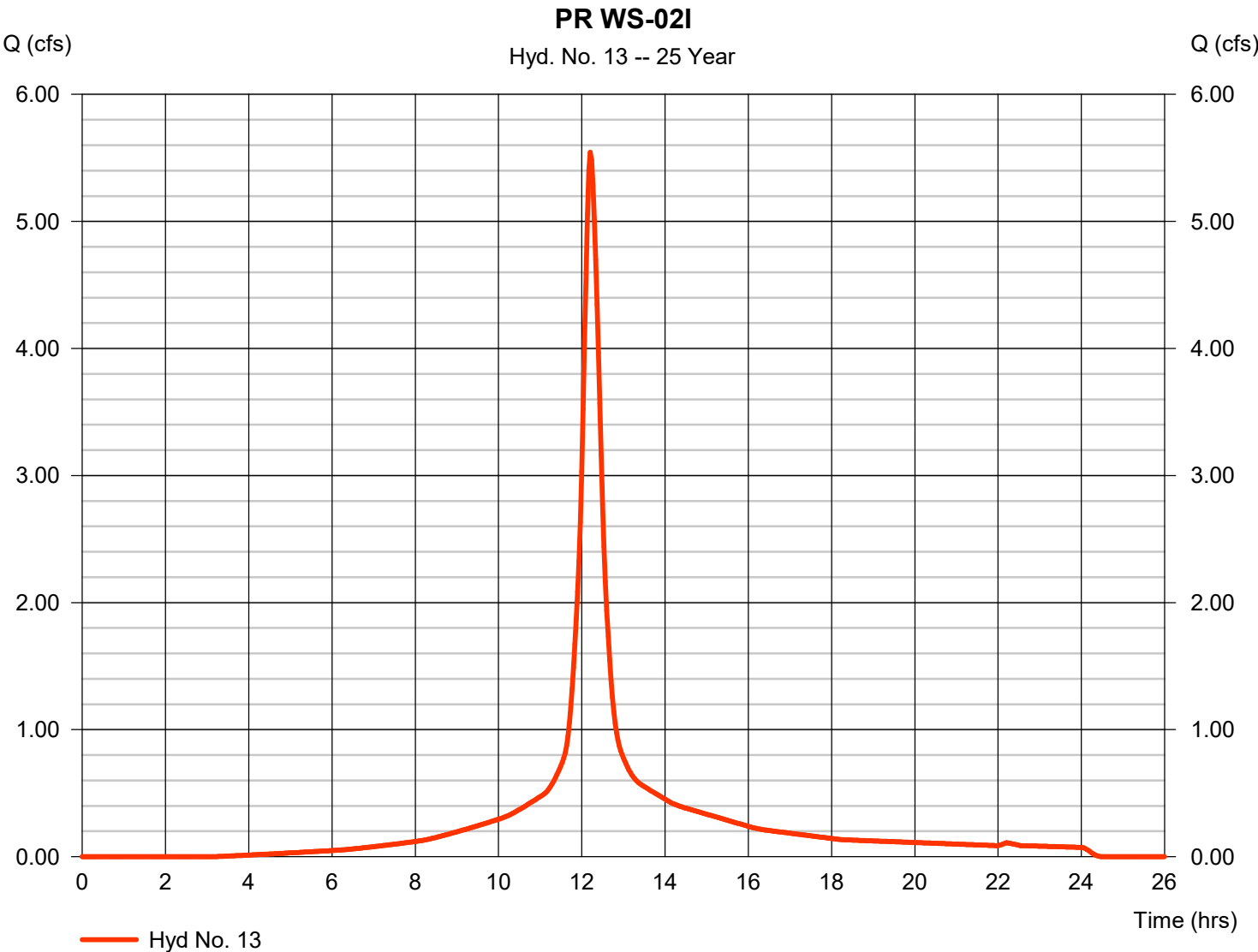
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 13

PR WS-02I

Hydrograph type	= SCS Runoff	Peak discharge	= 5.543 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.20 hrs
Time interval	= 2 min	Hyd. volume	= 25,812 cuft
Drainage area	= 1.296 ac	Curve number	= 91
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 18.60 min
Total precip.	= 6.54 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

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

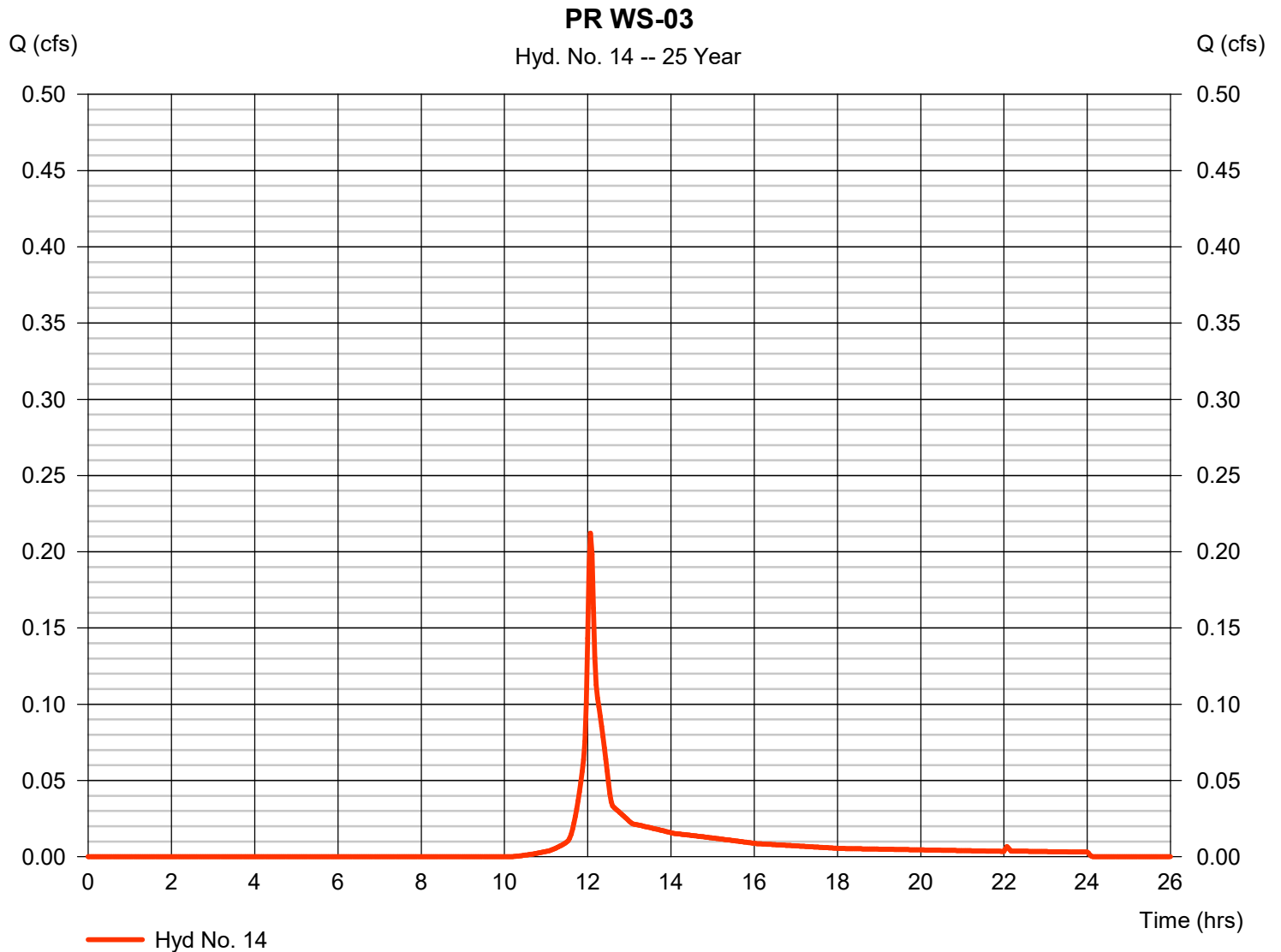
Tuesday, 12 / 5 / 2023

Hyd. No. 14

PR WS-03

Hydrograph type = SCS Runoff
 Storm frequency = 25 yrs
 Time interval = 2 min
 Drainage area = 0.081 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 6.54 in
 Storm duration = 24 hrs

Peak discharge = 0.212 cfs
 Time to peak = 12.07 hrs
 Hyd. volume = 655 cuft
 Curve number = 61
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 5.10 min
 Distribution = Type III
 Shape factor = 484



Hydrograph Report

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

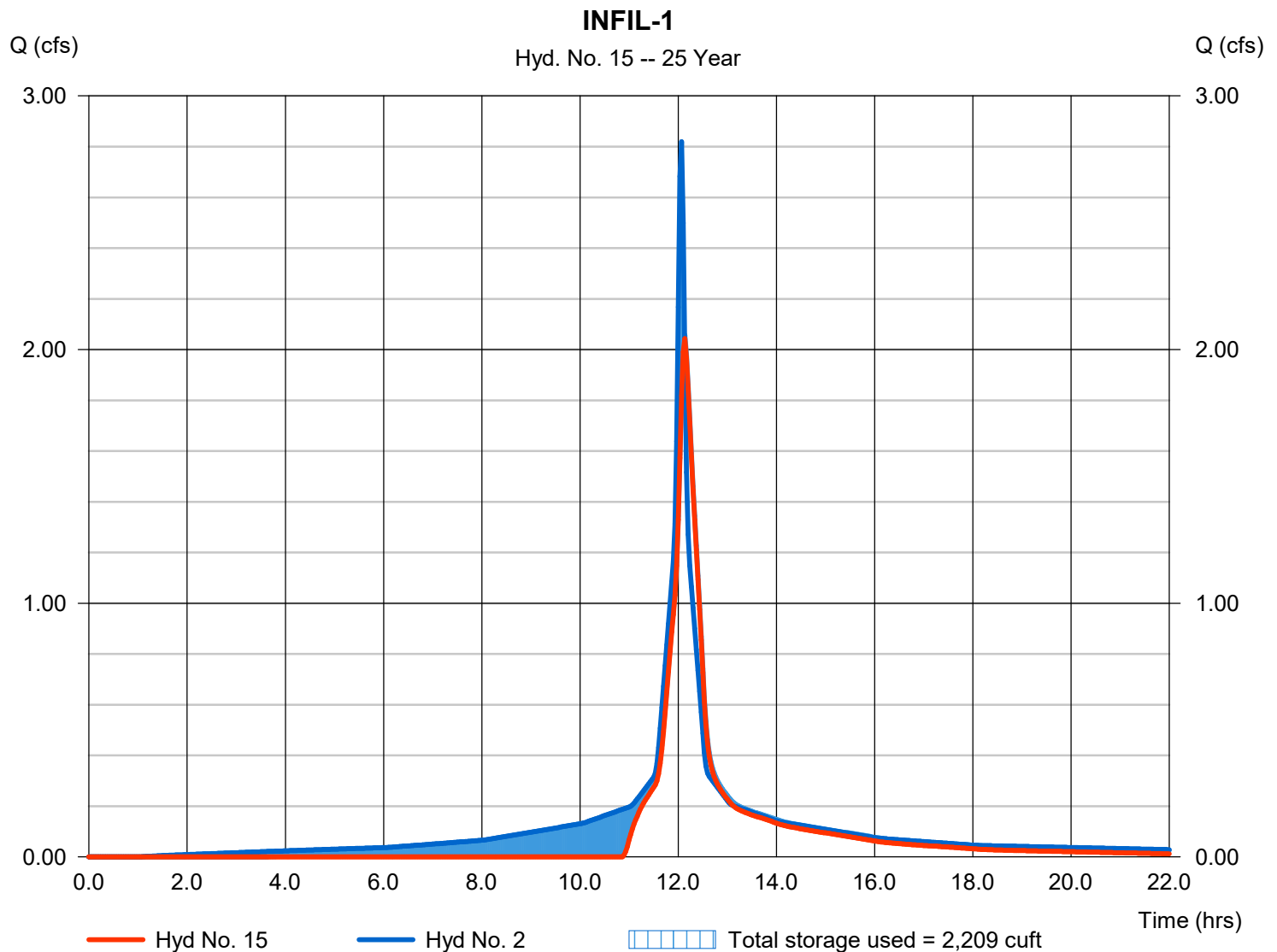
Tuesday, 12 / 5 / 2023

Hyd. No. 15

INFIL-1

Hydrograph type	= Reservoir	Peak discharge	= 2.043 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 6,871 cuft
Inflow hyd. No.	= 2 - PR WS-02A(I)	Max. Elevation	= 146.06 ft
Reservoir name	= INFIL-1	Max. Storage	= 2,209 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

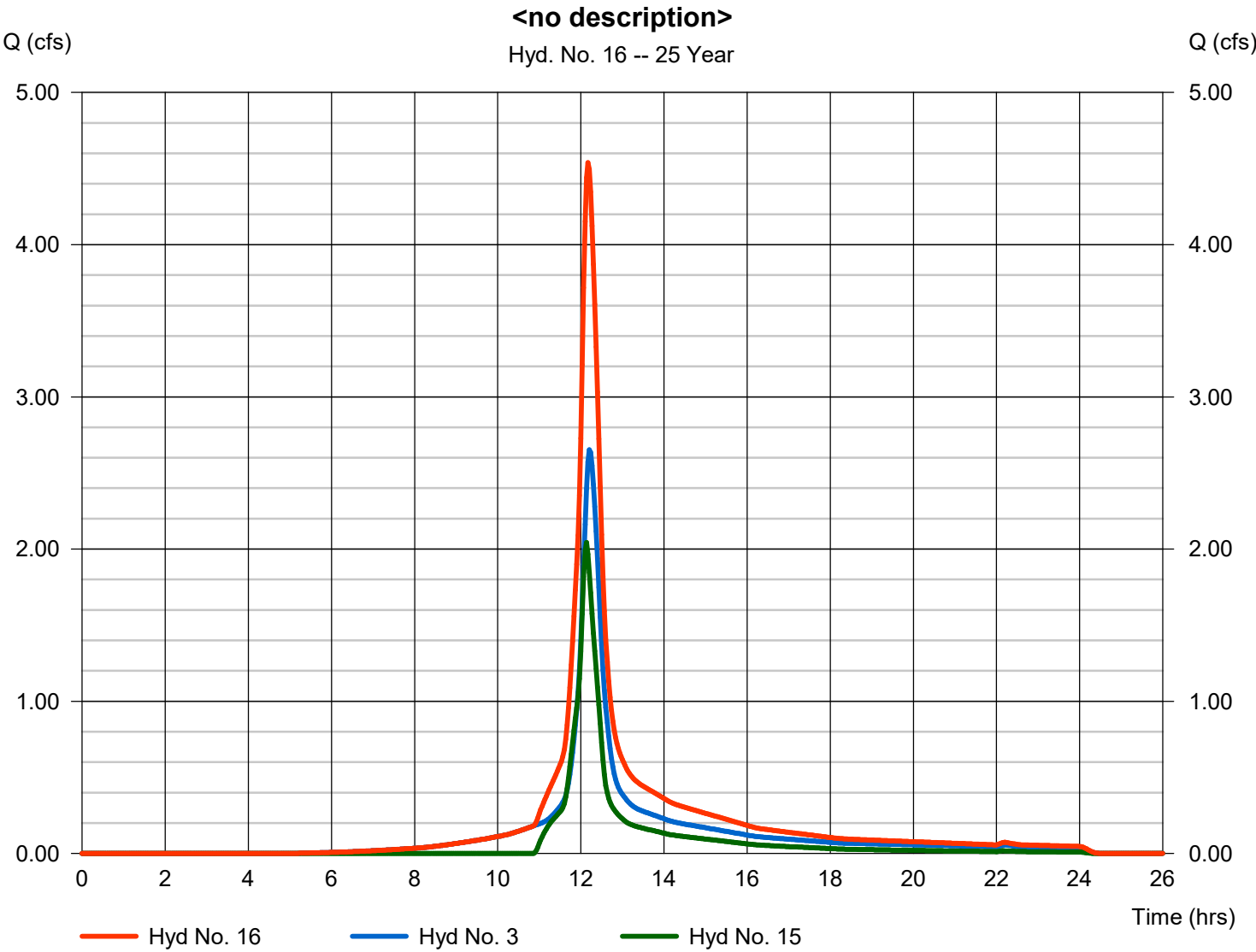
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 16

<no description>

Hydrograph type	= Combine	Peak discharge	= 4.539 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.17 hrs
Time interval	= 2 min	Hyd. volume	= 18,807 cuft
Inflow hyds.	= 3, 15	Contrib. drain. area	= 0.683 ac



Hydrograph Report

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

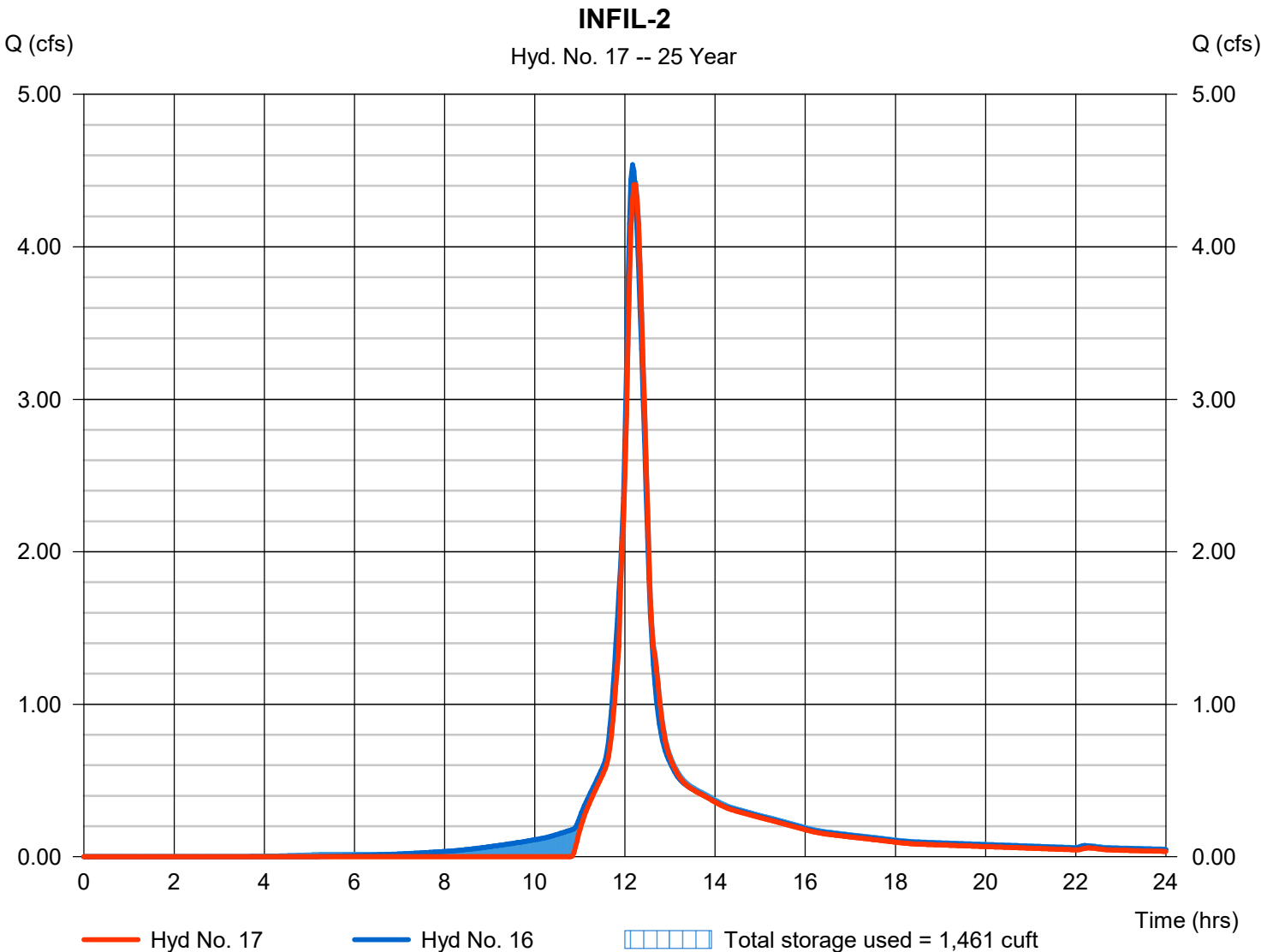
Tuesday, 12 / 5 / 2023

Hyd. No. 17

INFIL-2

Hydrograph type	= Reservoir	Peak discharge	= 4.408 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.23 hrs
Time interval	= 2 min	Hyd. volume	= 17,146 cuft
Inflow hyd. No.	= 16 - <no description>	Max. Elevation	= 137.36 ft
Reservoir name	= INFIL-2	Max. Storage	= 1,461 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

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

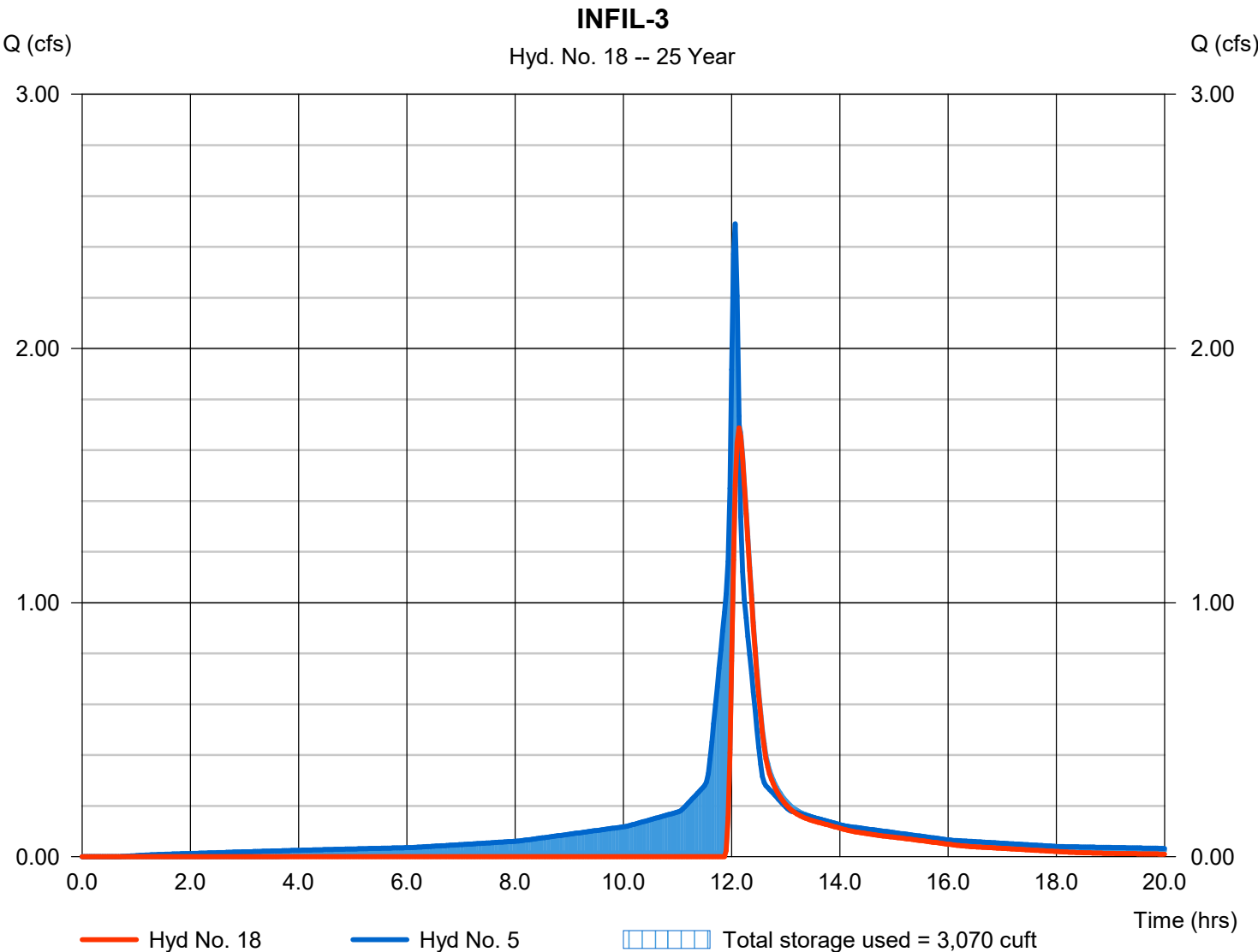
Tuesday, 12 / 5 / 2023

Hyd. No. 18

INFIL-3

Hydrograph type	= Reservoir	Peak discharge	= 1.687 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 4,424 cuft
Inflow hyd. No.	= 5 - PR WS-02B(II)	Max. Elevation	= 144.88 ft
Reservoir name	= INFIL-3	Max. Storage	= 3,070 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

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

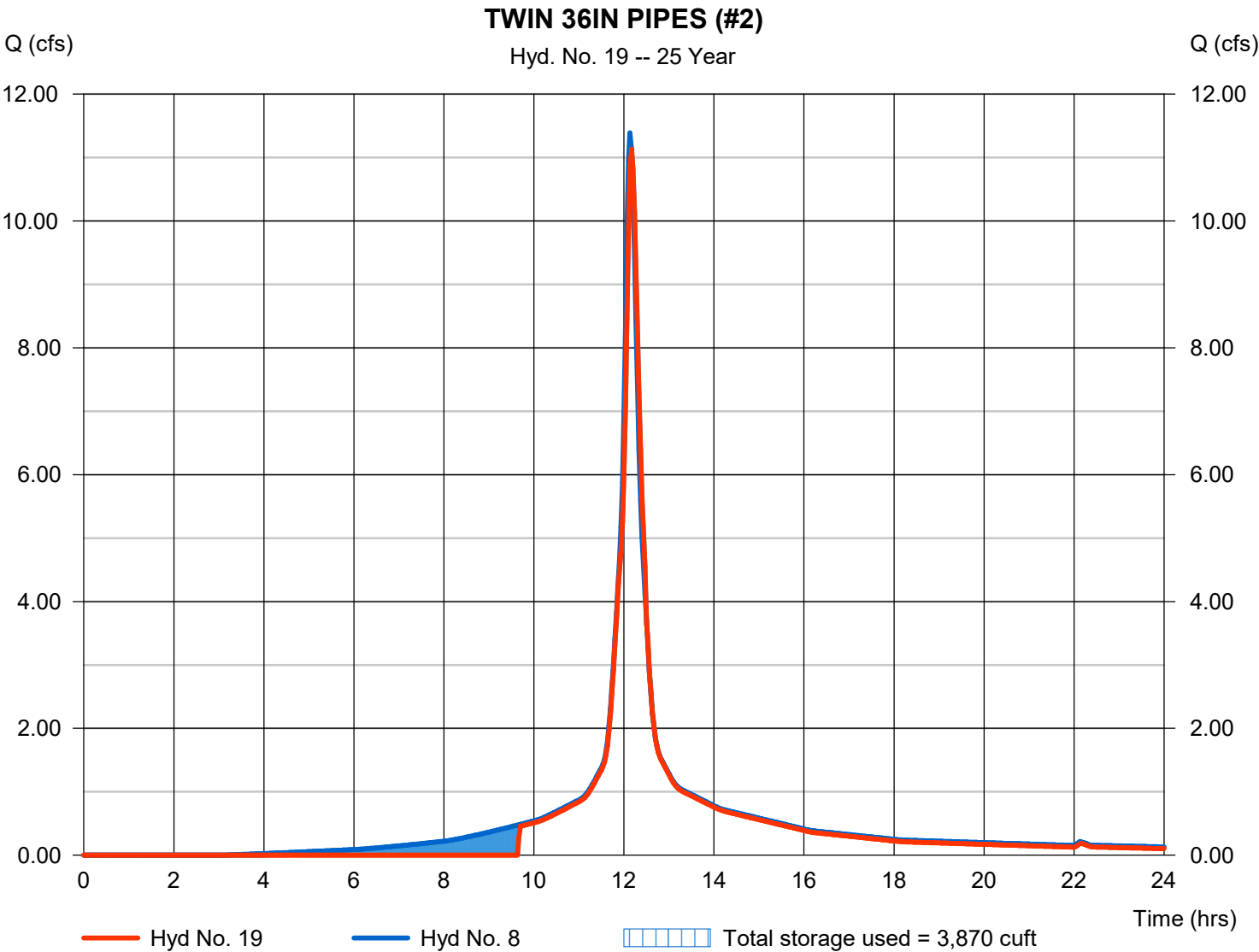
Tuesday, 12 / 5 / 2023

Hyd. No. 19

TWIN 36IN PIPES (#2)

Hydrograph type	= Reservoir	Peak discharge	= 11.13 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.17 hrs
Time interval	= 2 min	Hyd. volume	= 41,147 cuft
Inflow hyd. No.	= 8 - PR WS-02D	Max. Elevation	= 139.17 ft
Reservoir name	= Northern Twin 36IN	Max. Storage	= 3,870 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



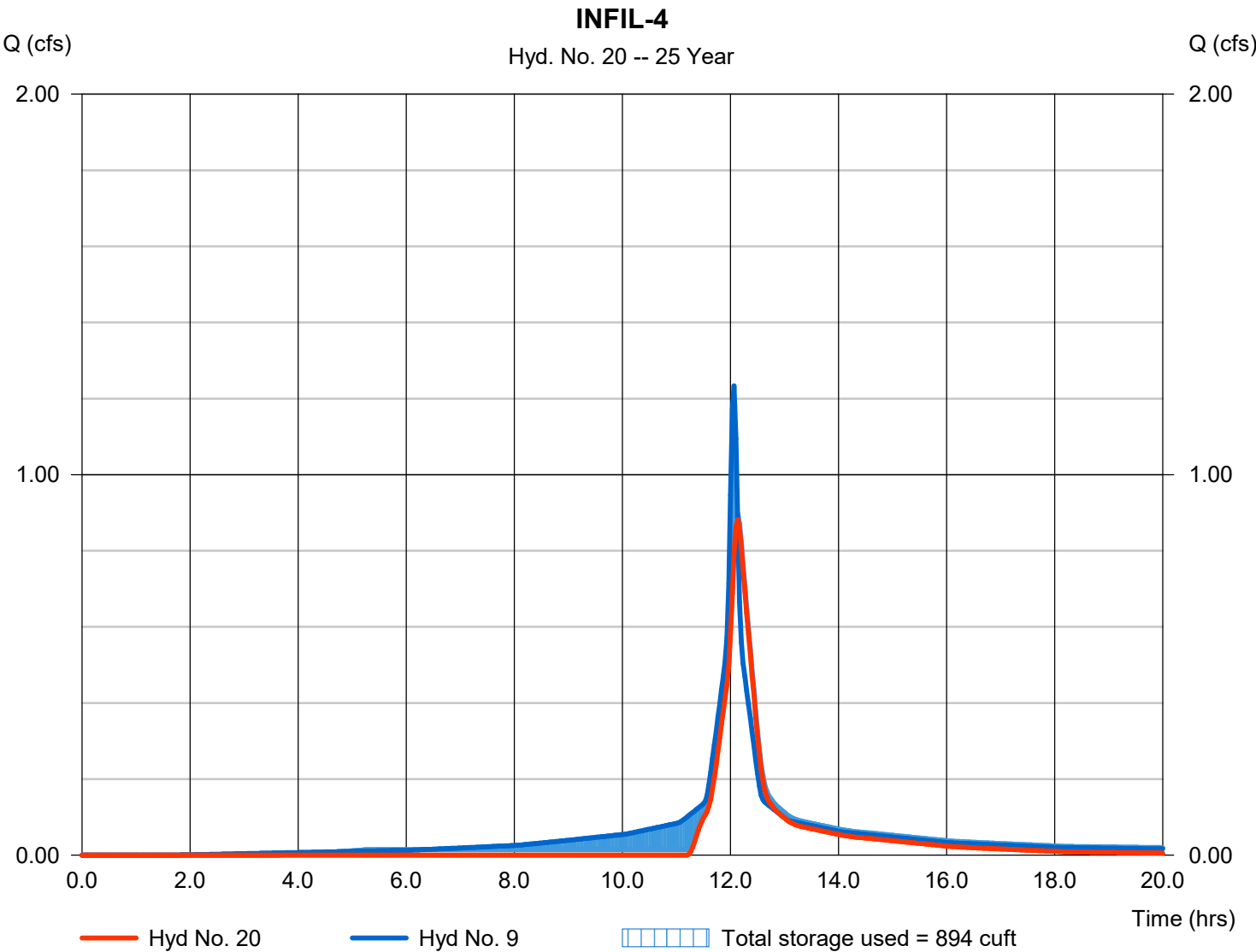
Hydrograph Report

Hyd. No. 20

INFIL-4

Hydrograph type	= Reservoir	Peak discharge	= 0.882 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 2,727 cuft
Inflow hyd. No.	= 9 - PR WS-02E	Max. Elevation	= 138.12 ft
Reservoir name	= INFIL-4	Max. Storage	= 894 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

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

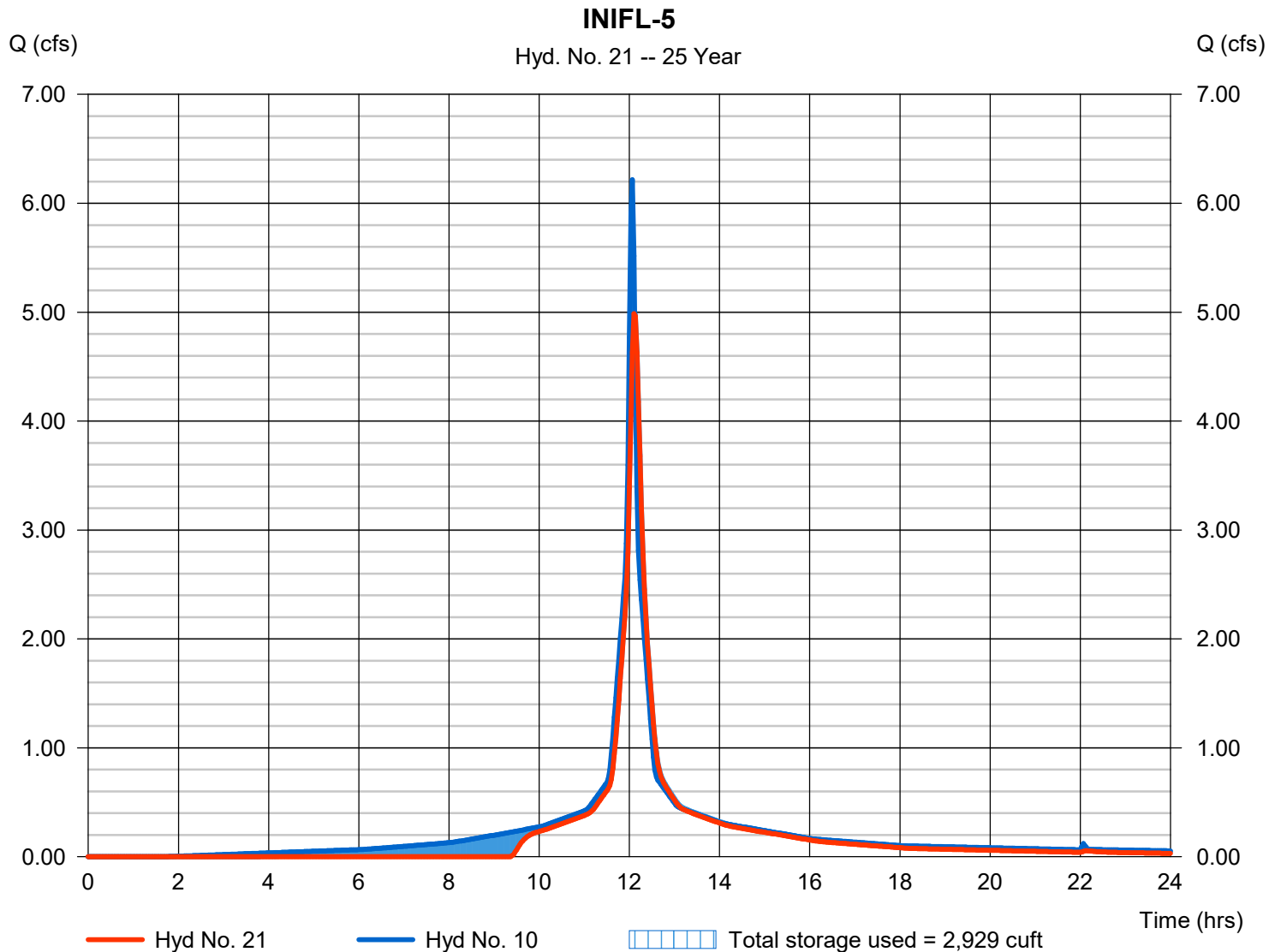
Tuesday, 12 / 5 / 2023

Hyd. No. 21

INIFL-5

Hydrograph type	= Reservoir	Peak discharge	= 4.987 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.10 hrs
Time interval	= 2 min	Hyd. volume	= 17,273 cuft
Inflow hyd. No.	= 10 - PR WS-02F	Max. Elevation	= 137.05 ft
Reservoir name	= INIFL-5	Max. Storage	= 2,929 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

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

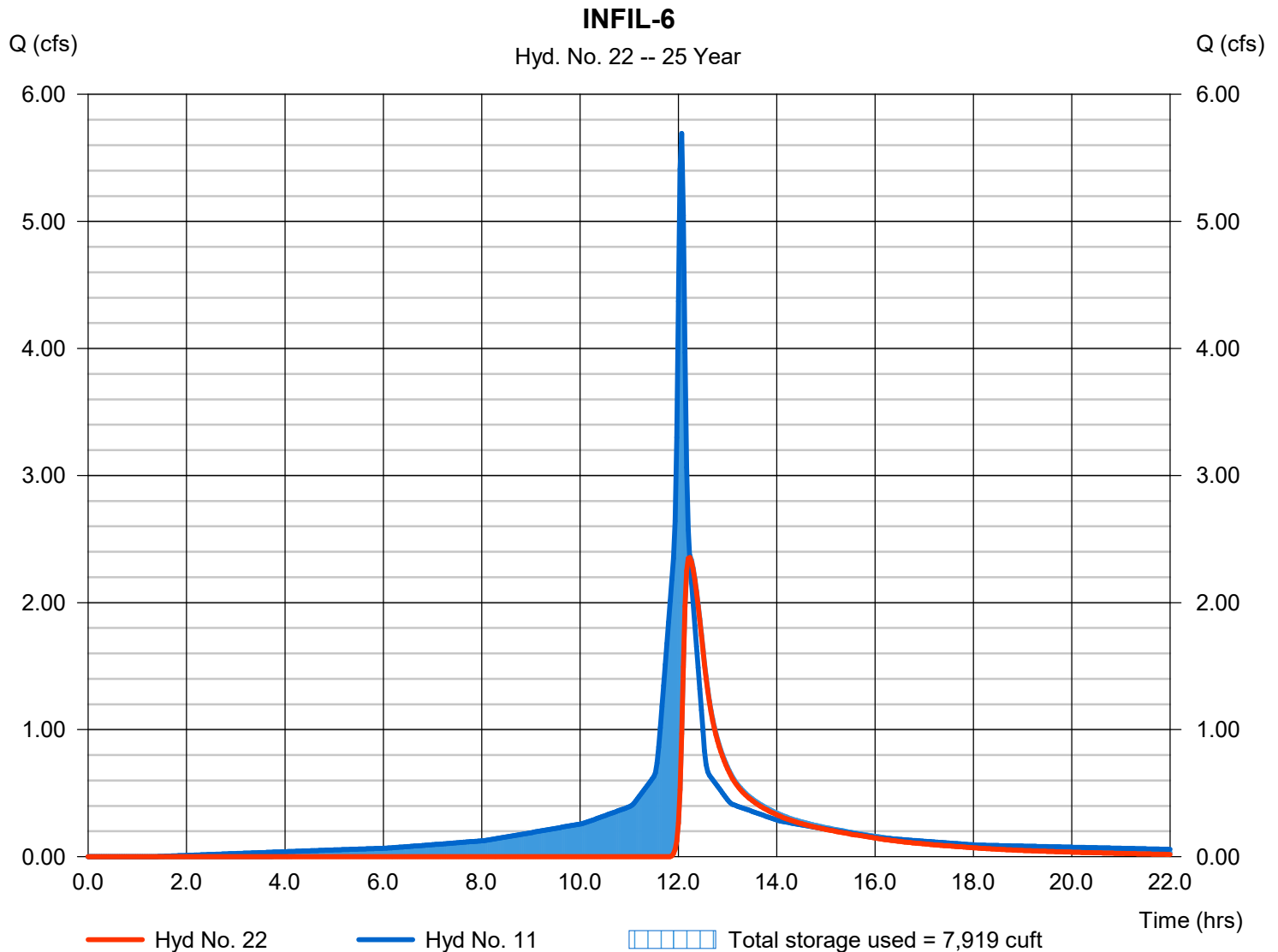
Tuesday, 12 / 5 / 2023

Hyd. No. 22

INFIL-6

Hydrograph type	= Reservoir	Peak discharge	= 2.355 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.23 hrs
Time interval	= 2 min	Hyd. volume	= 9,861 cuft
Inflow hyd. No.	= 11 - PR WS-02G	Max. Elevation	= 136.11 ft
Reservoir name	= INFIL-6	Max. Storage	= 7,919 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

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

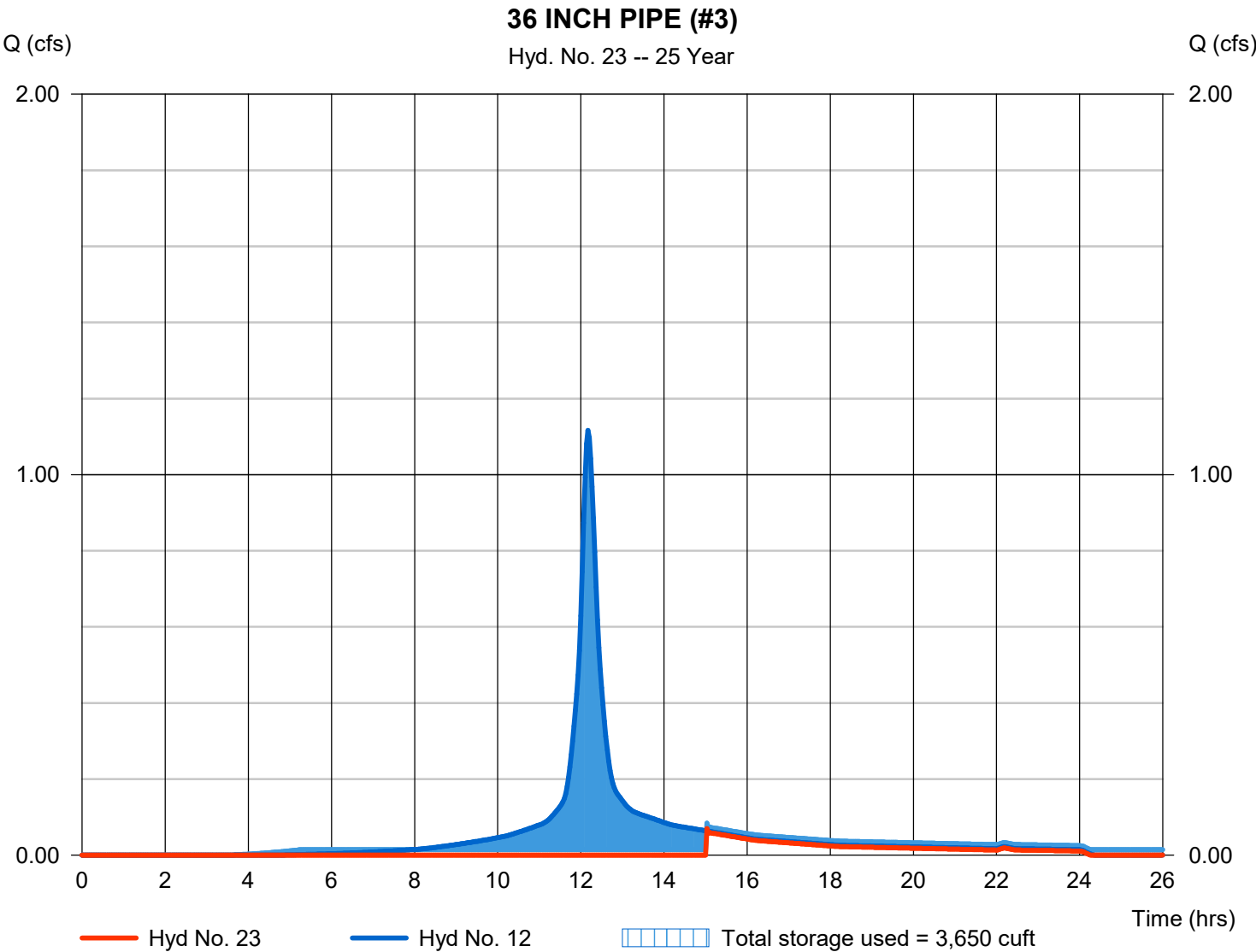
Tuesday, 12 / 5 / 2023

Hyd. No. 23

36 INCH PIPE (#3)

Hydrograph type	= Reservoir	Peak discharge	= 0.070 cfs
Storm frequency	= 25 yrs	Time to peak	= 15.03 hrs
Time interval	= 2 min	Hyd. volume	= 781 cuft
Inflow hyd. No.	= 12 - PR WS-02H	Max. Elevation	= 137.46 ft
Reservoir name	= 36IN - 3	Max. Storage	= 3,650 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

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

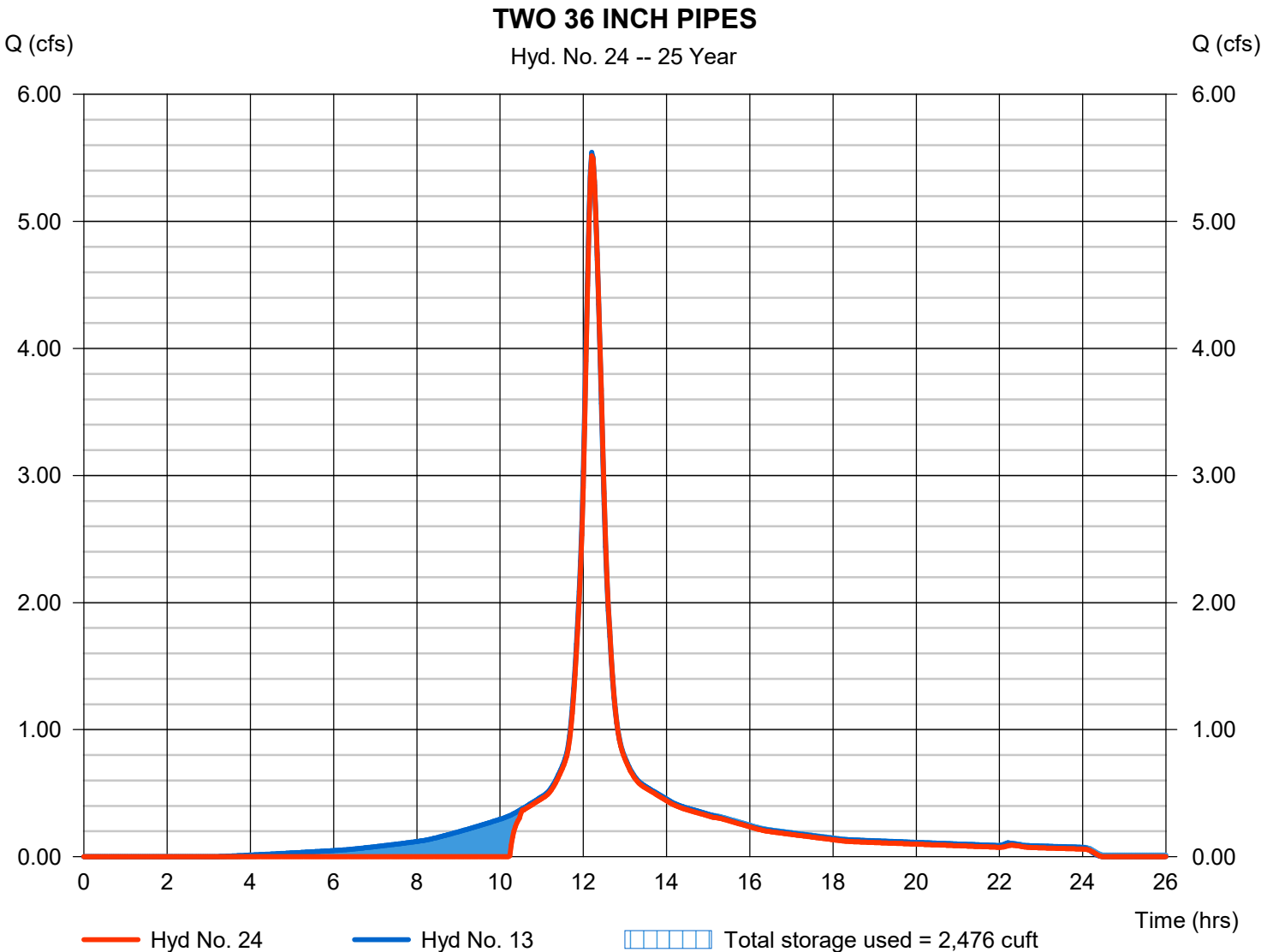
Tuesday, 12 / 5 / 2023

Hyd. No. 24

TWO 36 INCH PIPES

Hydrograph type	= Reservoir	Peak discharge	= 5.516 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.20 hrs
Time interval	= 2 min	Hyd. volume	= 22,569 cuft
Inflow hyd. No.	= 13 - PR WS-02I	Max. Elevation	= 135.73 ft
Reservoir name	= TWIN 36IN	Max. Storage	= 2,476 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

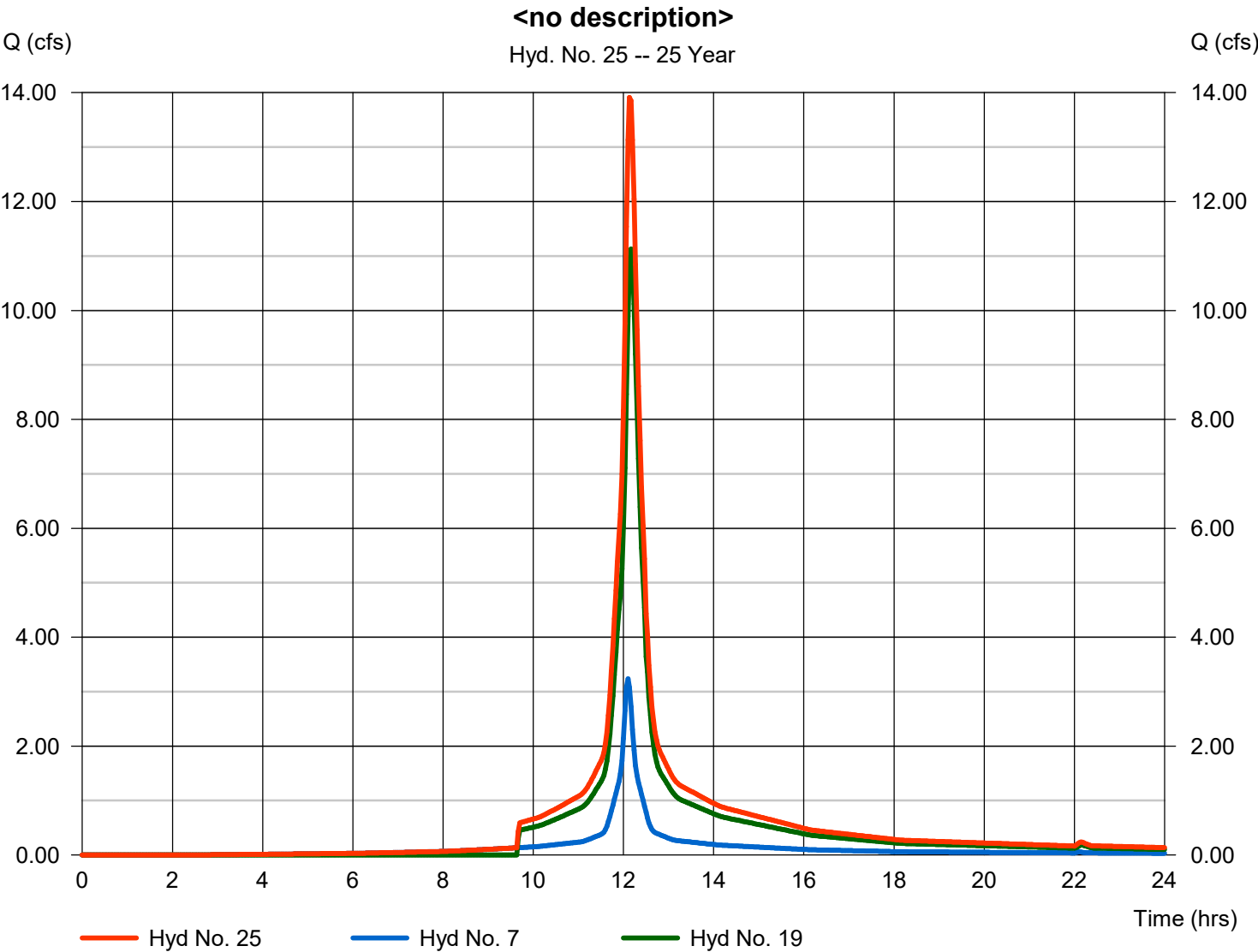
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 25

<no description>

Hydrograph type	= Combine	Peak discharge	= 13.91 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 53,099 cuft
Inflow hyds.	= 7, 19	Contrib. drain. area	= 0.576 ac



Hydrograph Report

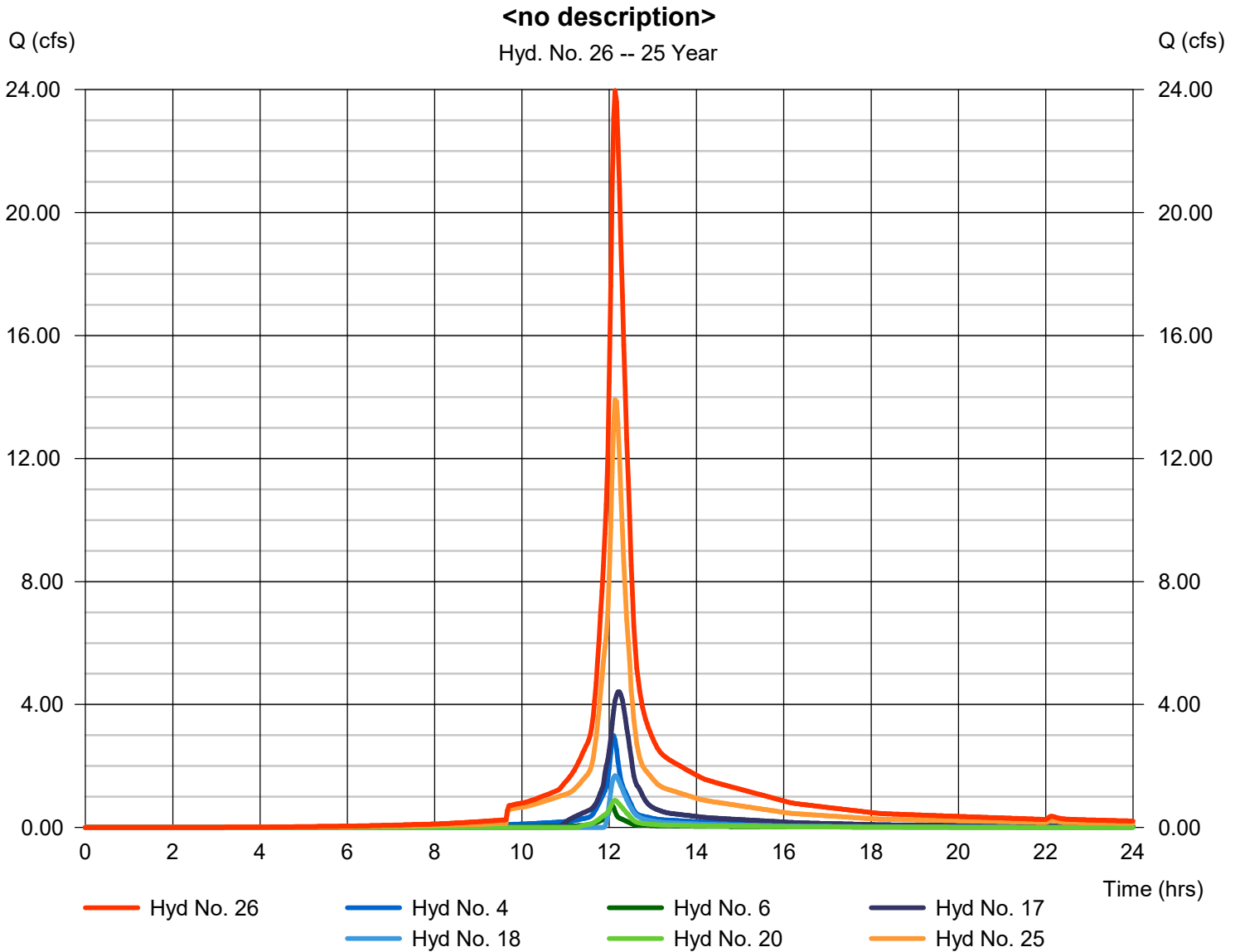
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 26

<no description>

Hydrograph type	= Combine	Peak discharge	= 23.97 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 90,181 cuft
Inflow hyds.	= 4, 6, 17, 18, 20, 25	Contrib. drain. area	= 0.708 ac



Hydrograph Report

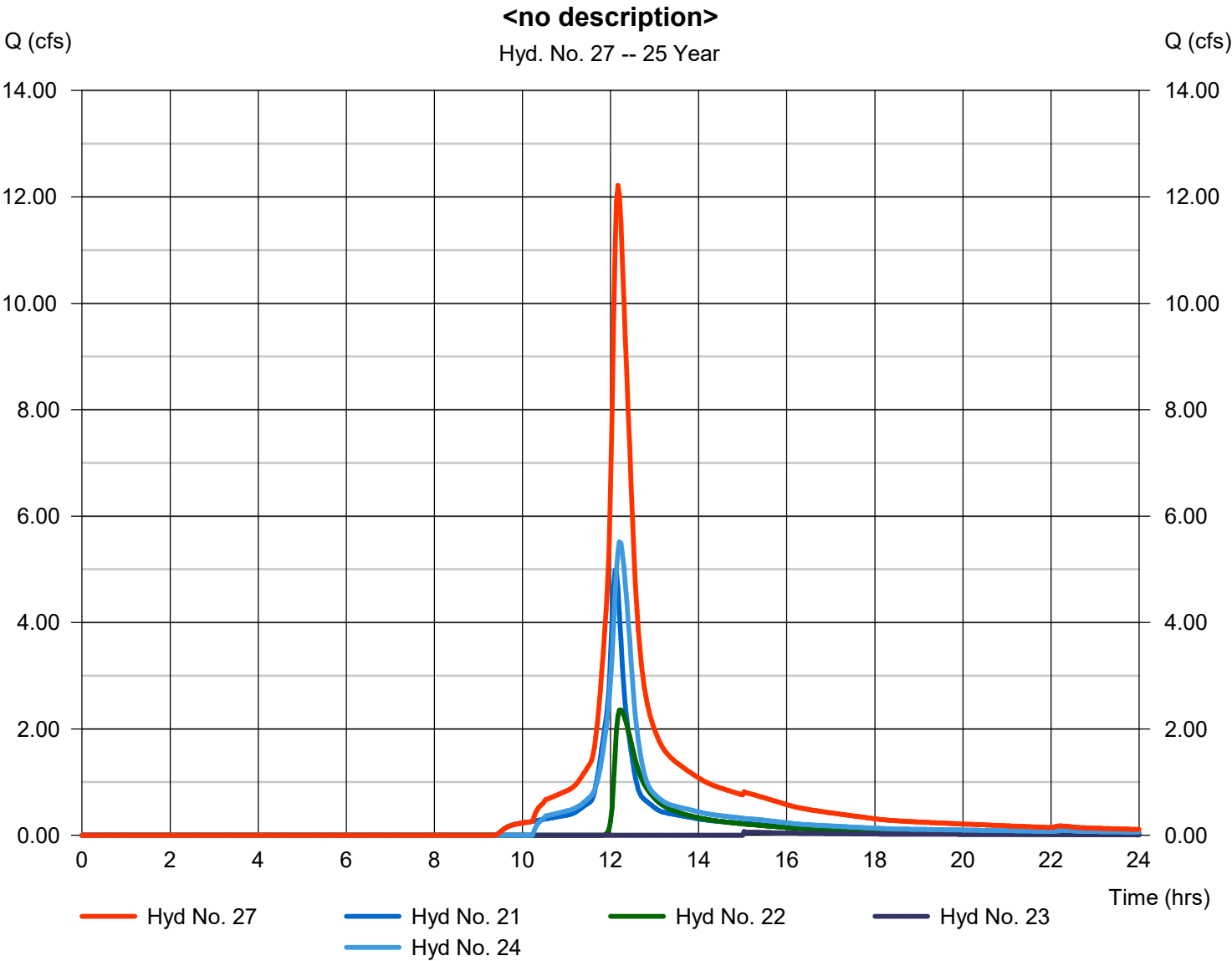
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 27

<no description>

Hydrograph type	= Combine	Peak discharge	= 12.22 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.17 hrs
Time interval	= 2 min	Hyd. volume	= 50,484 cuft
Inflow hyds.	= 21, 22, 23, 24	Contrib. drain. area	= 0.000 ac



Hydrograph Report

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

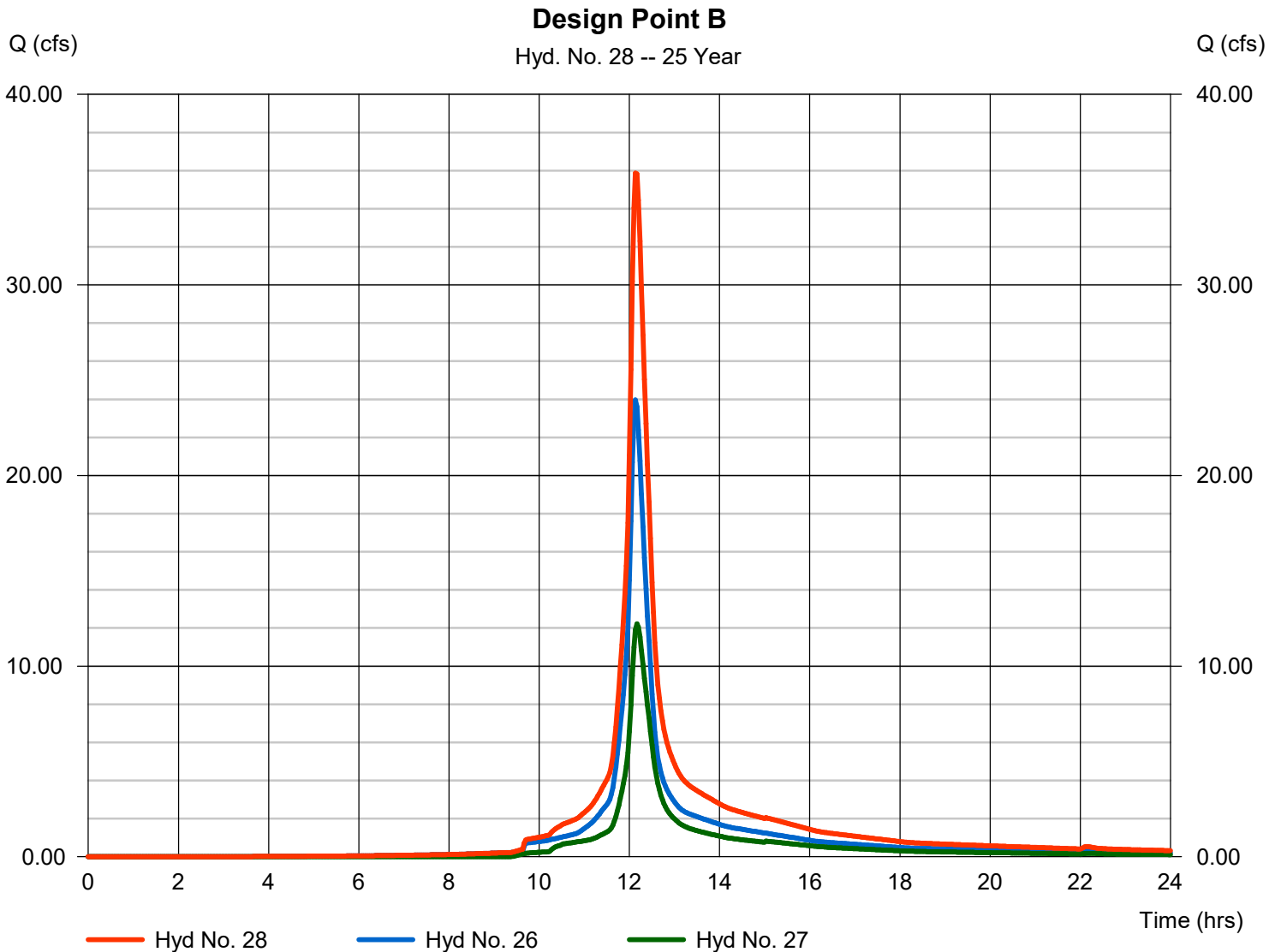
Tuesday, 12 / 5 / 2023

Hyd. No. 28

Design Point B

Hydrograph type = Combine
Storm frequency = 25 yrs
Time interval = 2 min
Inflow hyds. = 26, 27

Peak discharge = 35.87 cfs
Time to peak = 12.13 hrs
Hyd. volume = 140,665 cuft
Contrib. drain. area = 0.000 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	5.239	2	730	21,499	-----	-----	-----	PR WS-01
2	SCS Runoff	3.199	2	724	10,990	-----	-----	-----	PR WS-02A(I)
3	SCS Runoff	3.089	2	732	13,997	-----	-----	-----	PR WS-02A(II)
4	SCS Runoff	3.451	2	726	12,280	-----	-----	-----	PR WS-02B(I)
5	SCS Runoff	2.824	2	724	9,834	-----	-----	-----	PR WS-02B(II)
6	SCS Runoff	0.842	2	724	2,640	-----	-----	-----	PR WS-02B(III)
7	SCS Runoff	3.695	2	726	13,753	-----	-----	-----	PR WS-02C
8	SCS Runoff	13.06	2	728	53,326	-----	-----	-----	PR WS-02D
9	SCS Runoff	1.404	2	724	4,707	-----	-----	-----	PR WS-02E
10	SCS Runoff	7.074	2	724	23,722	-----	-----	-----	PR WS-02F
11	SCS Runoff	6.467	2	724	21,940	-----	-----	-----	PR WS-02G
12	SCS Runoff	1.296	2	730	5,444	-----	-----	-----	PR WS-02H
13	SCS Runoff	6.358	2	732	29,838	-----	-----	-----	PR WS-02I
14	SCS Runoff	0.272	2	724	827	-----	-----	-----	PR WS-03
15	Reservoir	2.310	2	728	8,200	2	146.47	2,337	INFIL-1
16	Combine	5.234	2	730	22,197	3, 15	-----	-----	<no description>
17	Reservoir	5.080	2	732	20,511	16	137.80	1,561	INFIL-2
18	Reservoir	1.927	2	728	5,568	5	145.20	3,232	INFIL-3
19	Reservoir	12.78	2	730	48,298	8	139.20	4,033	TWIN 36IN PIPES (#2)
20	Reservoir	0.989	2	728	3,300	9	138.34	955	INFIL-4
21	Reservoir	5.575	2	728	20,252	10	137.41	3,146	INIFL-5
22	Reservoir	3.607	2	730	12,398	11	136.47	8,476	INFIL-6
23	Reservoir	0.167	2	790	1,564	12	137.46	3,653	36 INCH PIPE (#3)
24	Reservoir	6.332	2	732	26,572	13	135.75	2,492	TWO 36 INCH PIPES
25	Combine	15.96	2	728	62,051	7, 19,	-----	-----	<no description>
26	Combine	27.38	2	728	106,350	4, 6, 17, 18, 20, 25	-----	-----	<no description>
27	Combine	14.97	2	730	60,787	21, 22, 23, 24,	-----	-----	<no description>
28	Combine	42.12	2	728	167,137	26, 27	-----	-----	Design Point B
J:\F0173 Fuller 001 64 Danbury Rd\Calculations\Period 50 Year\					Reservoir Period 50 Year - Hydraflow, 12 / 5 / 2023				

Hydrograph Report

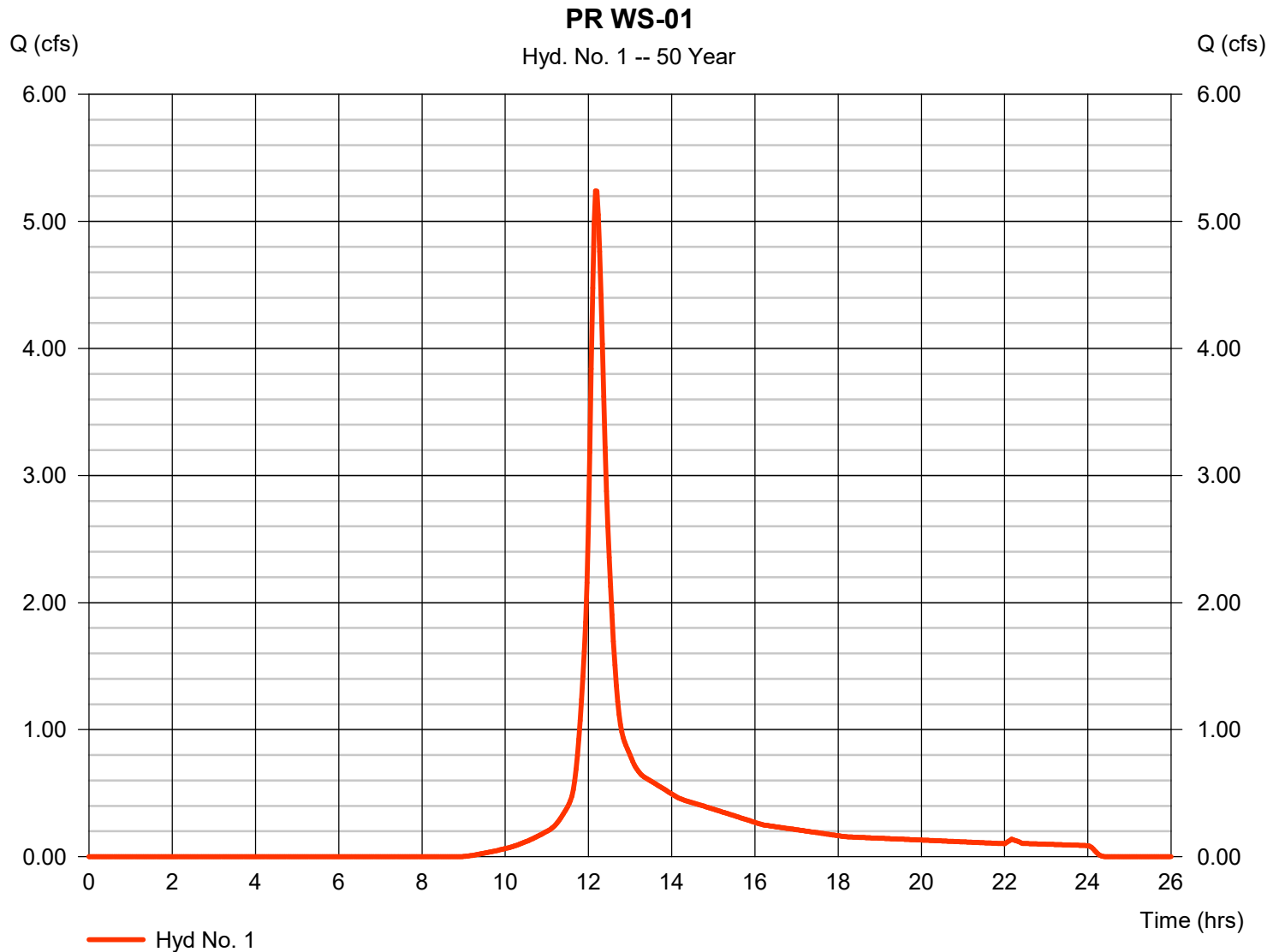
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 1

PR WS-01

Hydrograph type	= SCS Runoff	Peak discharge	= 5.239 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.17 hrs
Time interval	= 2 min	Hyd. volume	= 21,499 cuft
Drainage area	= 1.721 ac	Curve number	= 66
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 13.50 min
Total precip.	= 7.41 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

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

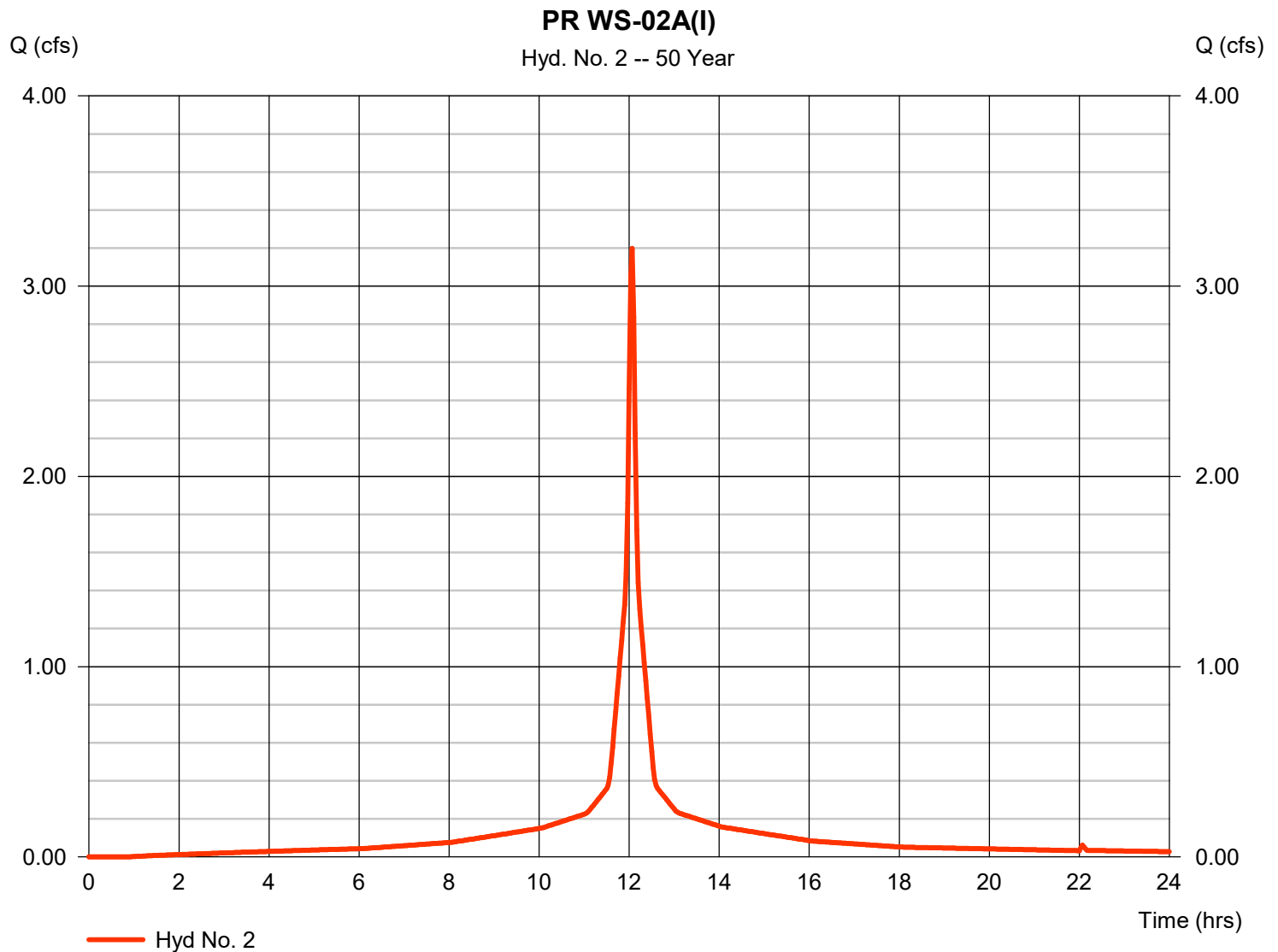
Tuesday, 12 / 5 / 2023

Hyd. No. 2

PR WS-02A(I)

Hydrograph type = SCS Runoff
Storm frequency = 50 yrs
Time interval = 2 min
Drainage area = 0.458 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 7.41 in
Storm duration = 24 hrs

Peak discharge = 3.199 cfs
Time to peak = 12.07 hrs
Hyd. volume = 10,990 cuft
Curve number = 97
Hydraulic length = 0 ft
Time of conc. (Tc) = 5.00 min
Distribution = Type III
Shape factor = 484



Hydrograph Report

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

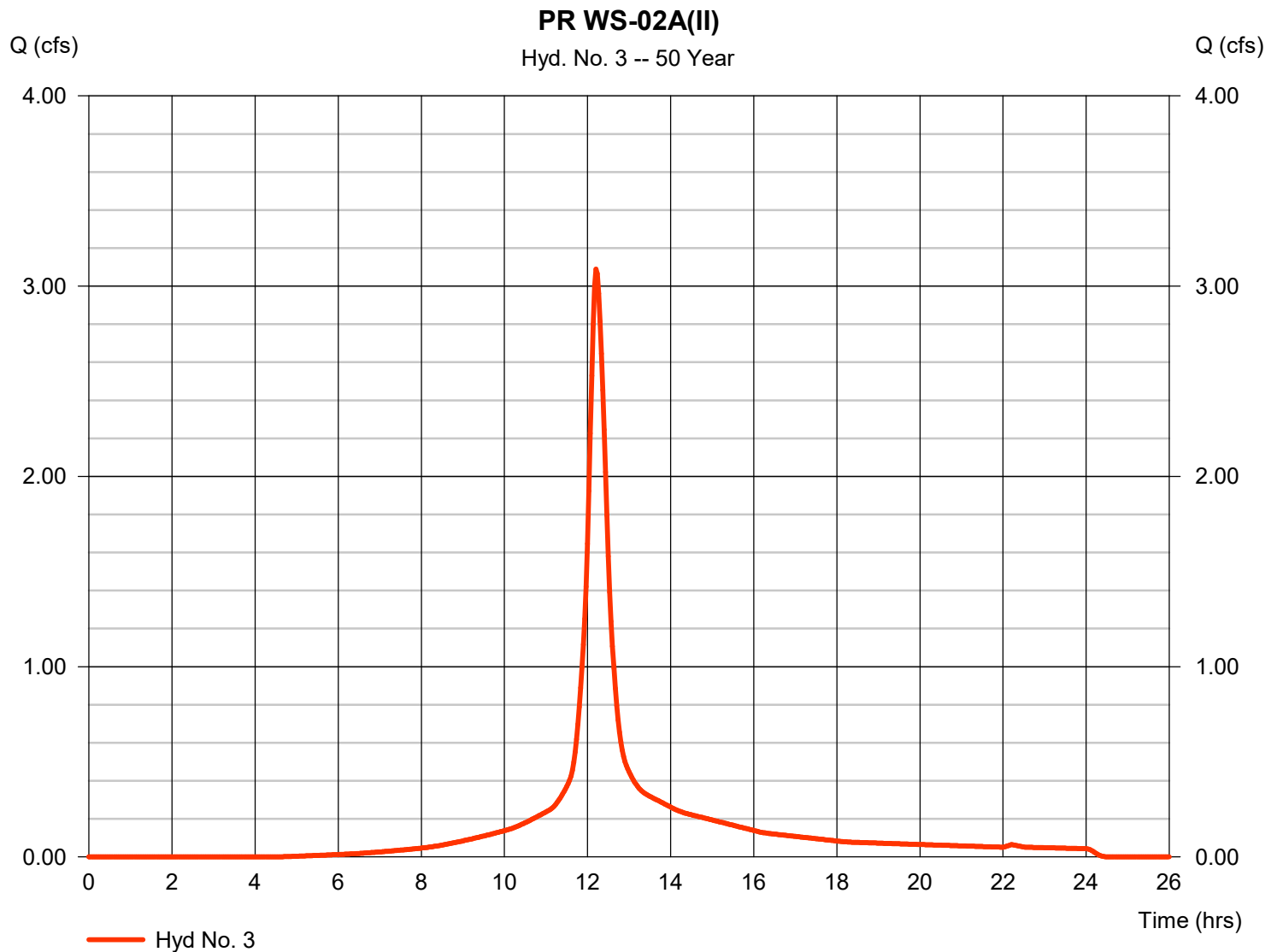
Tuesday, 12 / 5 / 2023

Hyd. No. 3

PR WS-02A(II)

Hydrograph type = SCS Runoff
 Storm frequency = 50 yrs
 Time interval = 2 min
 Drainage area = 0.683 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 7.41 in
 Storm duration = 24 hrs

Peak discharge = 3.089 cfs
 Time to peak = 12.20 hrs
 Hyd. volume = 13,997 cuft
 Curve number = 85
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 17.10 min
 Distribution = Type III
 Shape factor = 484



Hydrograph Report

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

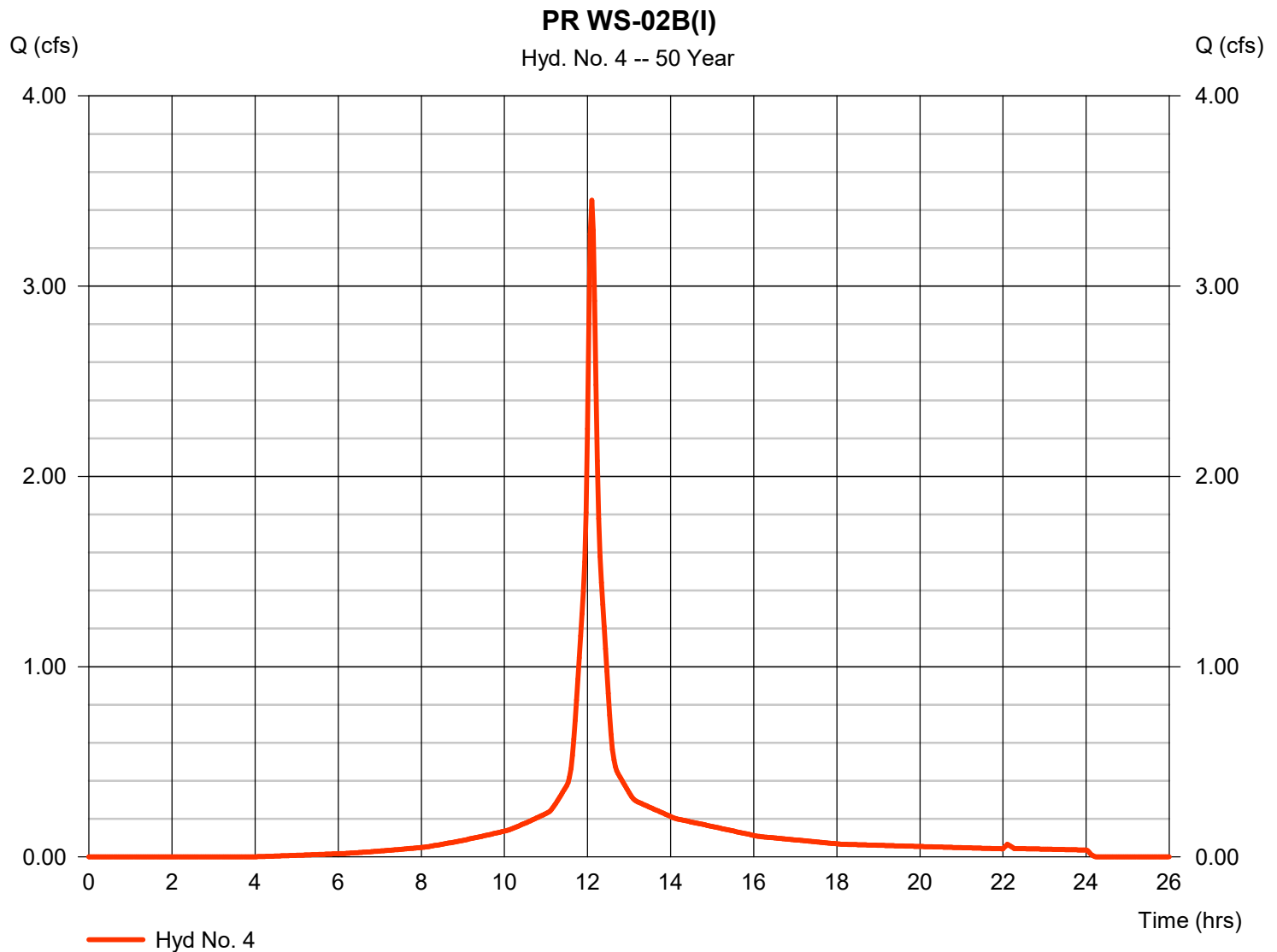
Tuesday, 12 / 5 / 2023

Hyd. No. 4

PR WS-02B(I)

Hydrograph type = SCS Runoff
Storm frequency = 50 yrs
Time interval = 2 min
Drainage area = 0.576 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 7.41 in
Storm duration = 24 hrs

Peak discharge = 3.451 cfs
Time to peak = 12.10 hrs
Hyd. volume = 12,280 cuft
Curve number = 87
Hydraulic length = 0 ft
Time of conc. (Tc) = 7.40 min
Distribution = Type III
Shape factor = 484



Hydrograph Report

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

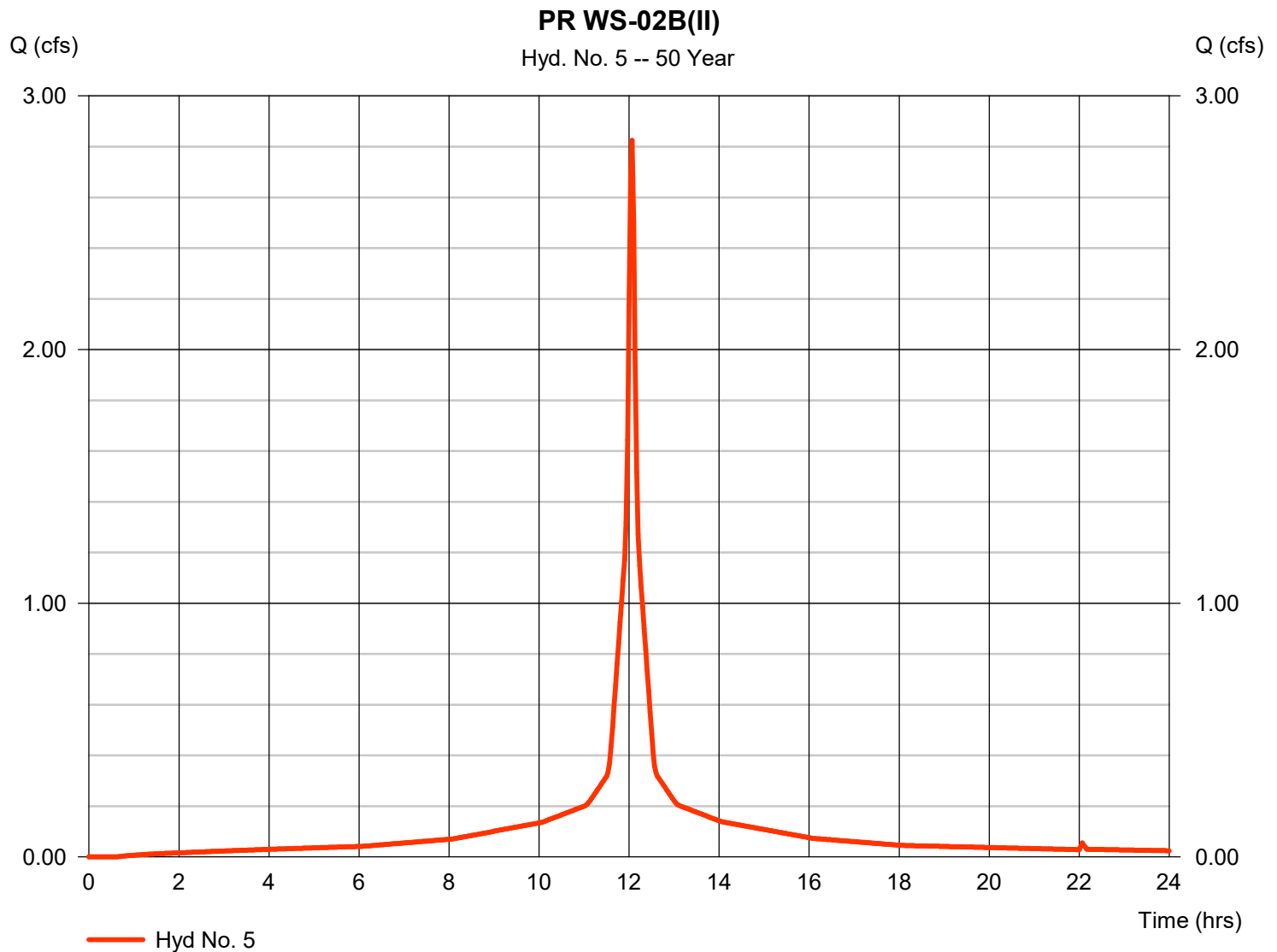
Tuesday, 12 / 5 / 2023

Hyd. No. 5

PR WS-02B(II)

Hydrograph type = SCS Runoff
 Storm frequency = 50 yrs
 Time interval = 2 min
 Drainage area = 0.403 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 7.41 in
 Storm duration = 24 hrs

Peak discharge = 2.824 cfs
 Time to peak = 12.07 hrs
 Hyd. volume = 9,834 cuft
 Curve number = 98
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 5.00 min
 Distribution = Type III
 Shape factor = 484



Hydrograph Report

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

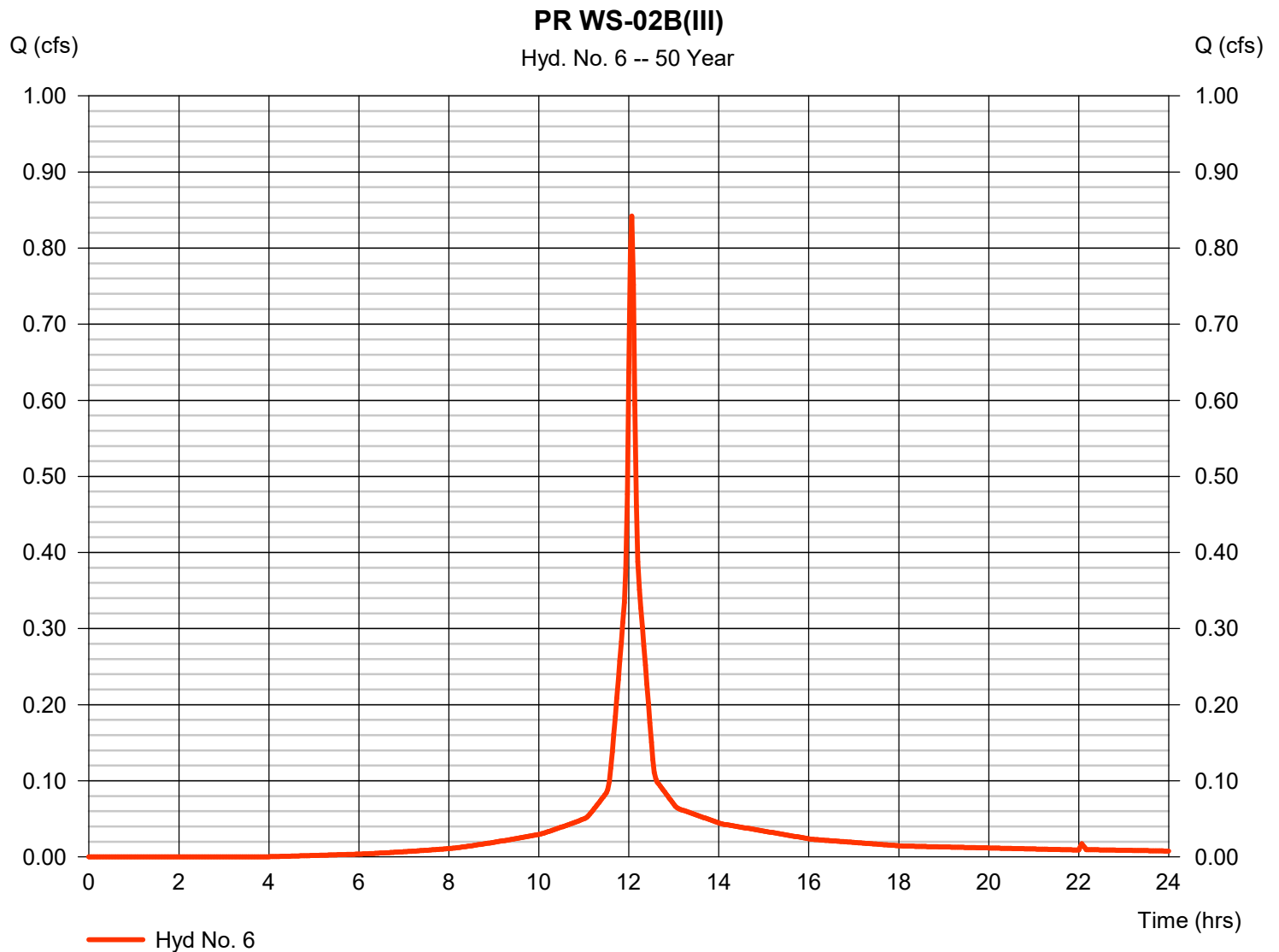
Tuesday, 12 / 5 / 2023

Hyd. No. 6

PR WS-02B(III)

Hydrograph type = SCS Runoff
Storm frequency = 50 yrs
Time interval = 2 min
Drainage area = 0.132 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 7.41 in
Storm duration = 24 hrs

Peak discharge = 0.842 cfs
Time to peak = 12.07 hrs
Hyd. volume = 2,640 cuft
Curve number = 87
Hydraulic length = 0 ft
Time of conc. (Tc) = 5.00 min
Distribution = Type III
Shape factor = 484



Hydrograph Report

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

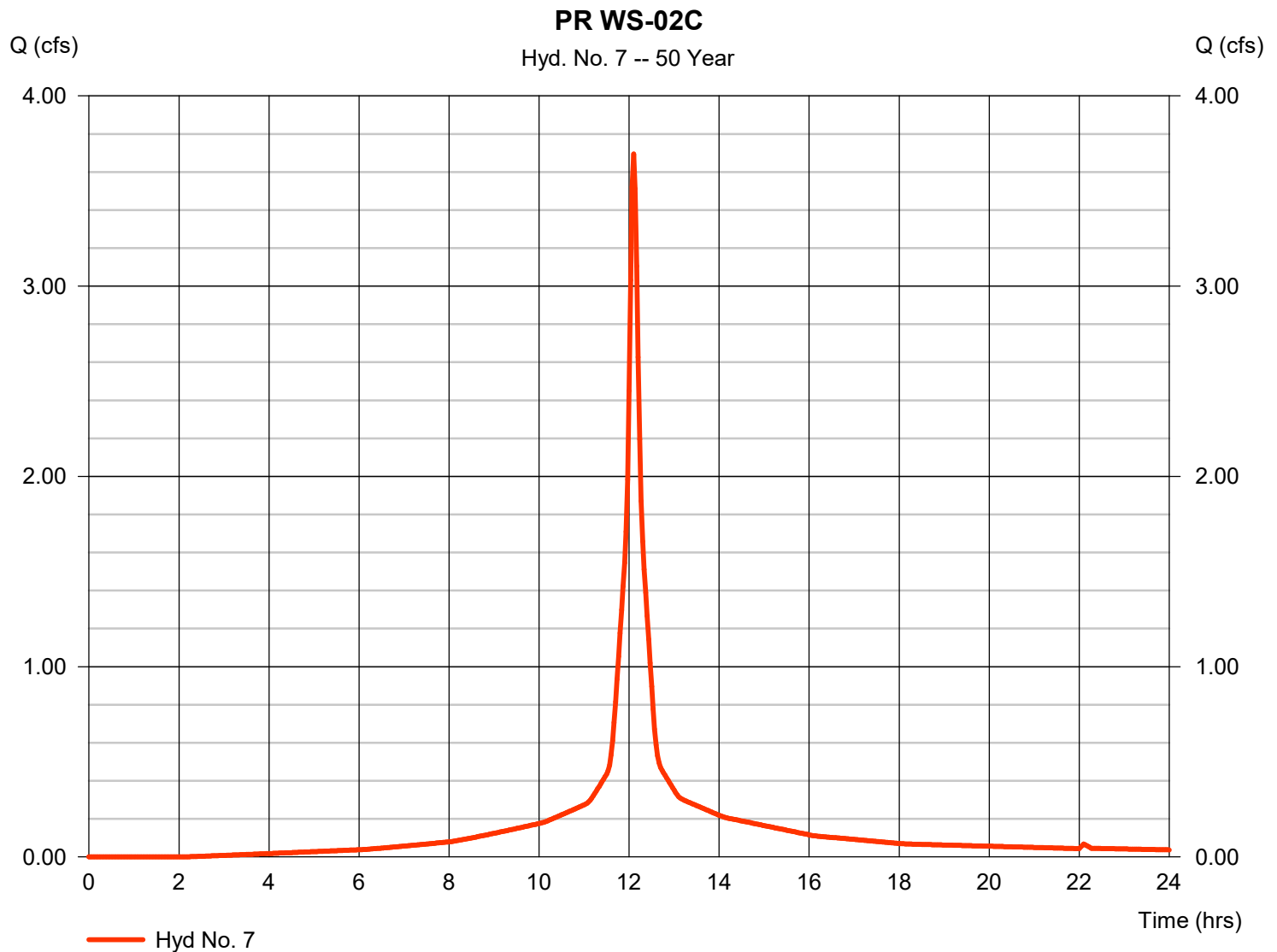
Tuesday, 12 / 5 / 2023

Hyd. No. 7

PR WS-02C

Hydrograph type = SCS Runoff
 Storm frequency = 50 yrs
 Time interval = 2 min
 Drainage area = 0.576 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 7.41 in
 Storm duration = 24 hrs

Peak discharge = 3.695 cfs
 Time to peak = 12.10 hrs
 Hyd. volume = 13,753 cuft
 Curve number = 93
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 9.40 min
 Distribution = Type III
 Shape factor = 484



Hydrograph Report

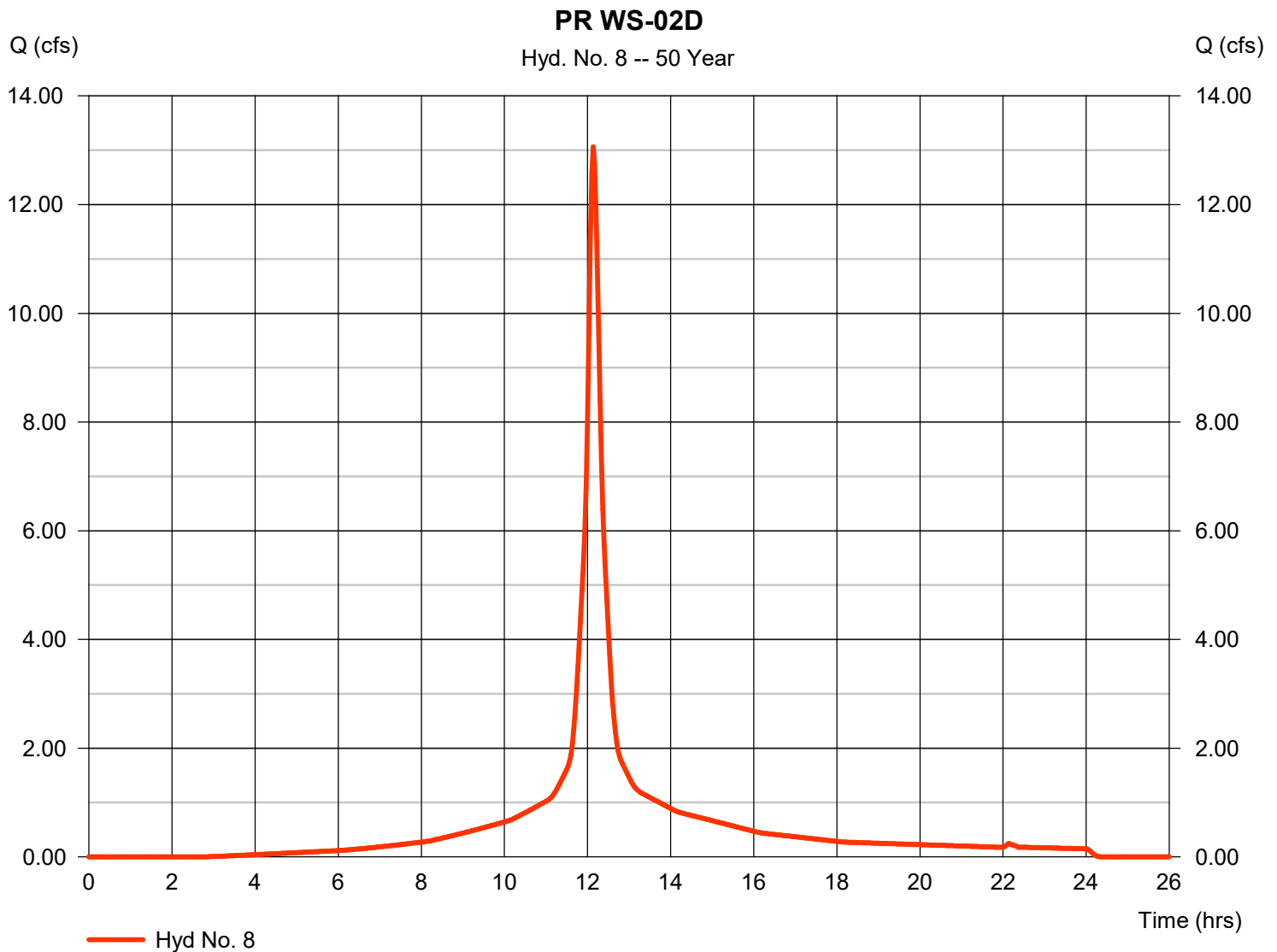
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 8

PR WS-02D

Hydrograph type	= SCS Runoff	Peak discharge	= 13.06 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 53,326 cuft
Drainage area	= 2.246 ac	Curve number	= 91
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.10 min
Total precip.	= 7.41 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

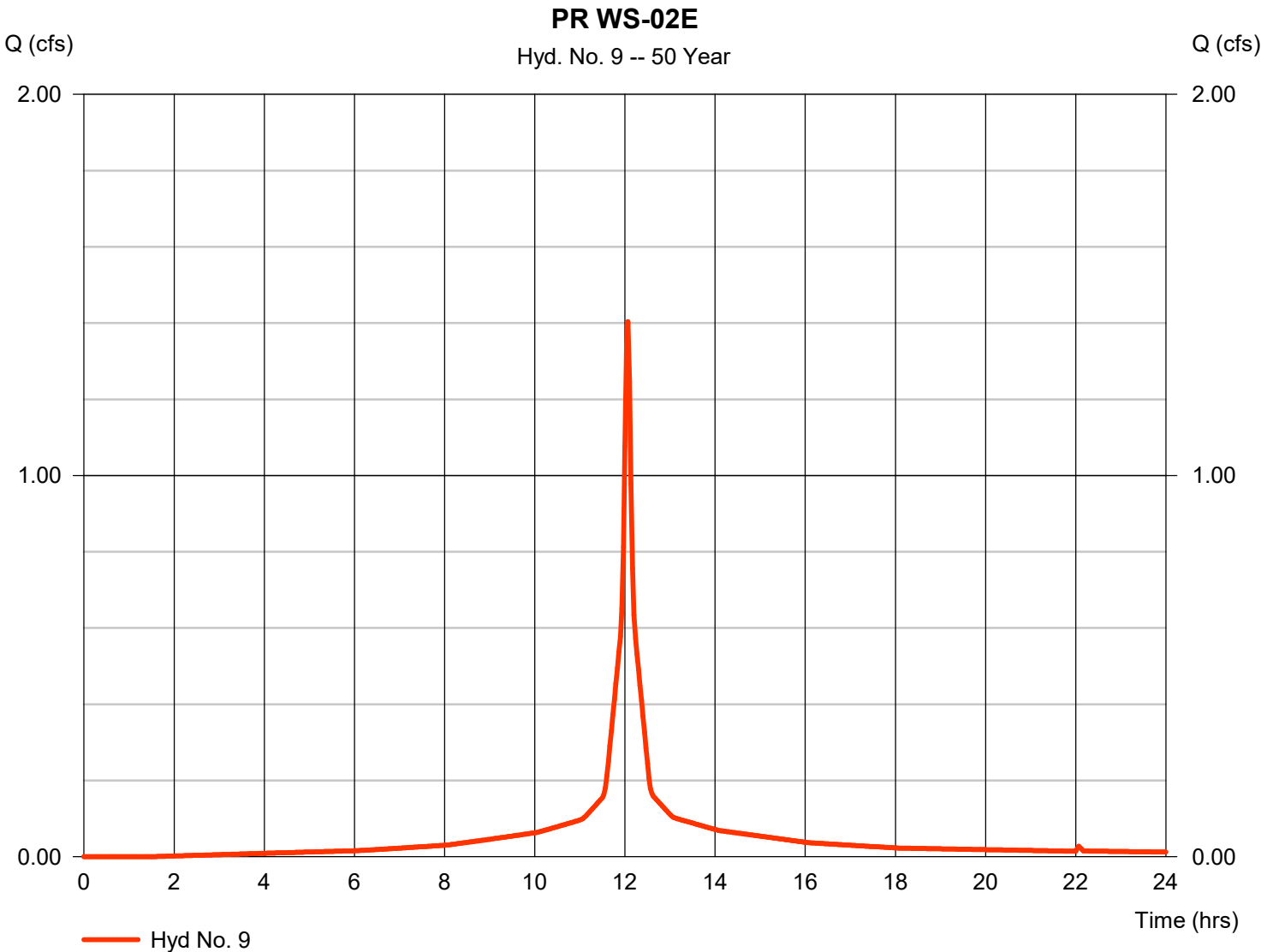
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 9

PR WS-02E

Hydrograph type	= SCS Runoff	Peak discharge	= 1.404 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 4,707 cuft
Drainage area	= 0.203 ac	Curve number	= 95
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 7.41 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

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

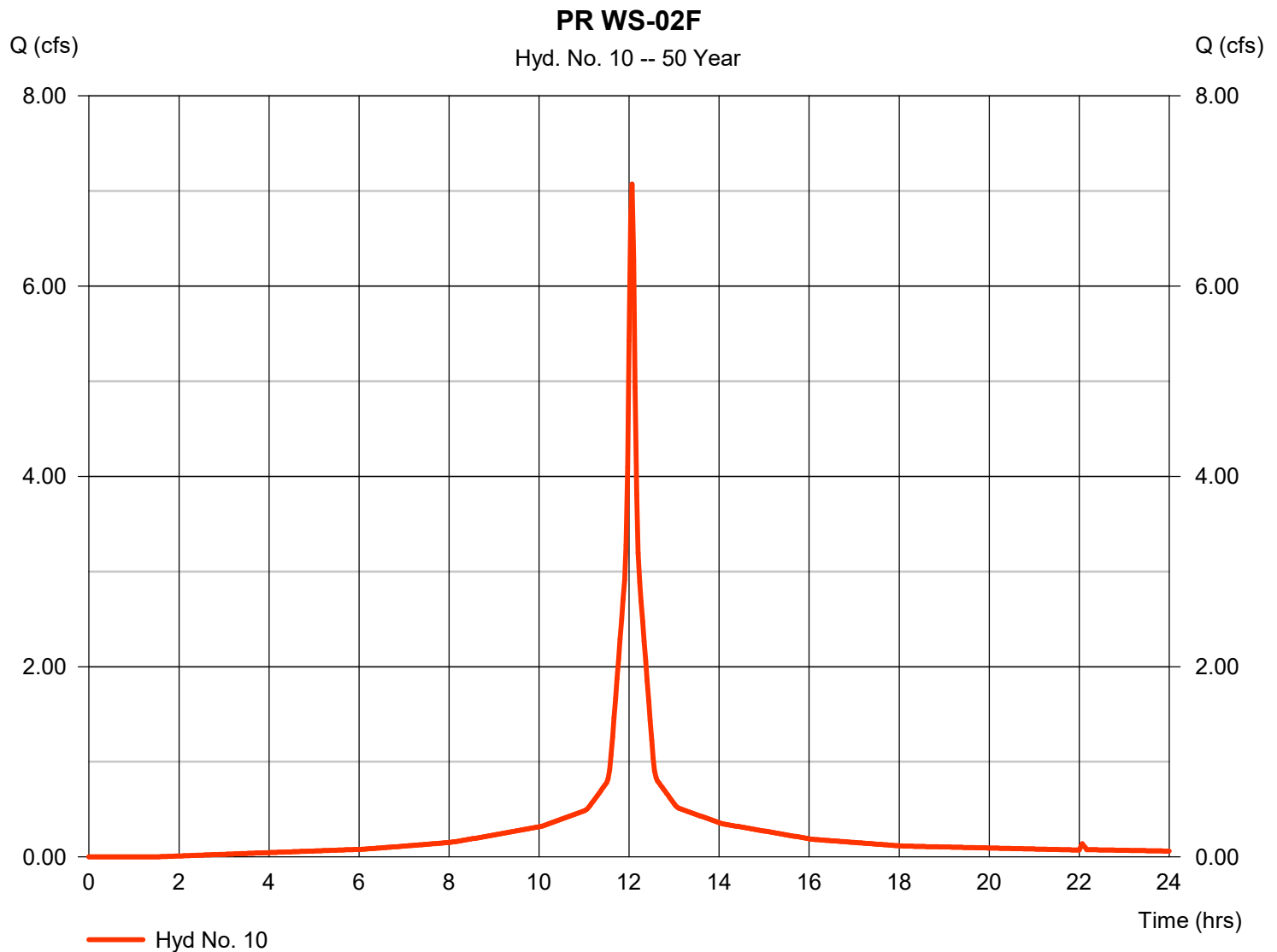
Tuesday, 12 / 5 / 2023

Hyd. No. 10

PR WS-02F

Hydrograph type = SCS Runoff
 Storm frequency = 50 yrs
 Time interval = 2 min
 Drainage area = 1.023 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 7.41 in
 Storm duration = 24 hrs

Peak discharge = 7.074 cfs
 Time to peak = 12.07 hrs
 Hyd. volume = 23,722 cuft
 Curve number = 95
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 5.00 min
 Distribution = Type III
 Shape factor = 484



Hydrograph Report

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

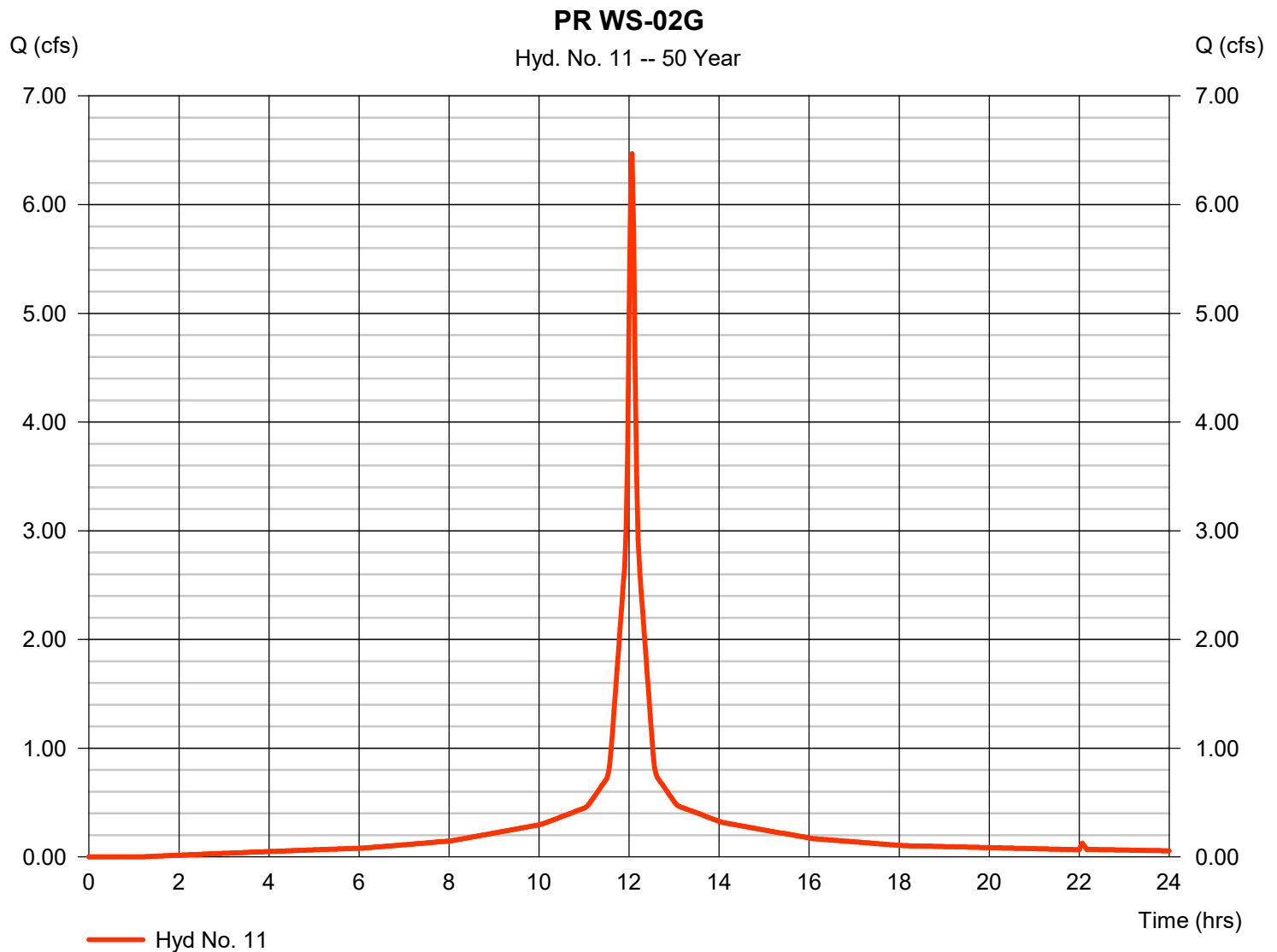
Tuesday, 12 / 5 / 2023

Hyd. No. 11

PR WS-02G

Hydrograph type = SCS Runoff
Storm frequency = 50 yrs
Time interval = 2 min
Drainage area = 0.930 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 7.41 in
Storm duration = 24 hrs

Peak discharge = 6.467 cfs
Time to peak = 12.07 hrs
Hyd. volume = 21,940 cuft
Curve number = 96
Hydraulic length = 0 ft
Time of conc. (Tc) = 5.00 min
Distribution = Type III
Shape factor = 484



Hydrograph Report

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

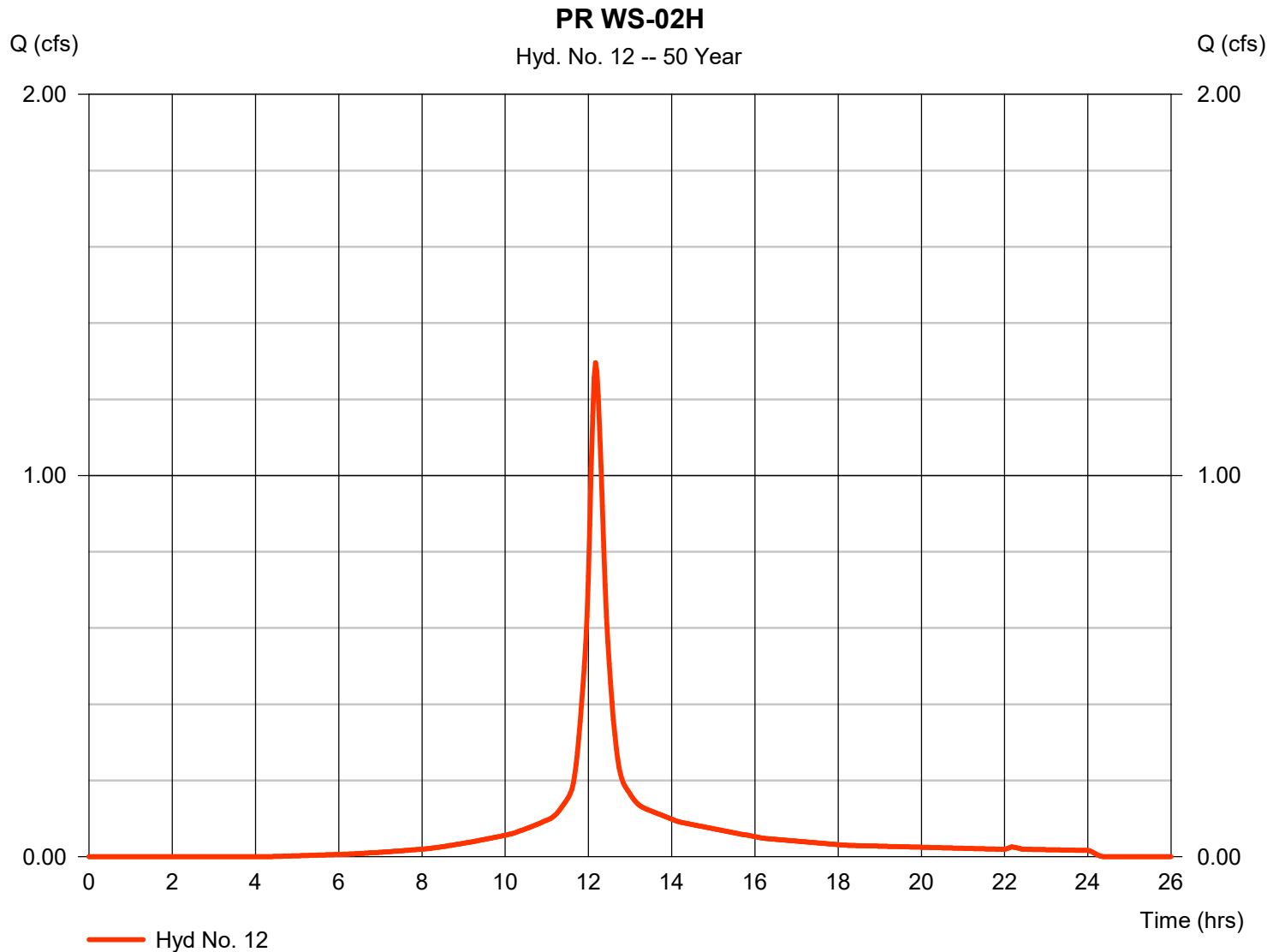
Tuesday, 12 / 5 / 2023

Hyd. No. 12

PR WS-02H

Hydrograph type = SCS Runoff
 Storm frequency = 50 yrs
 Time interval = 2 min
 Drainage area = 0.267 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 7.41 in
 Storm duration = 24 hrs

Peak discharge = 1.296 cfs
 Time to peak = 12.17 hrs
 Hyd. volume = 5,444 cuft
 Curve number = 86
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 13.80 min
 Distribution = Type III
 Shape factor = 484



Hydrograph Report

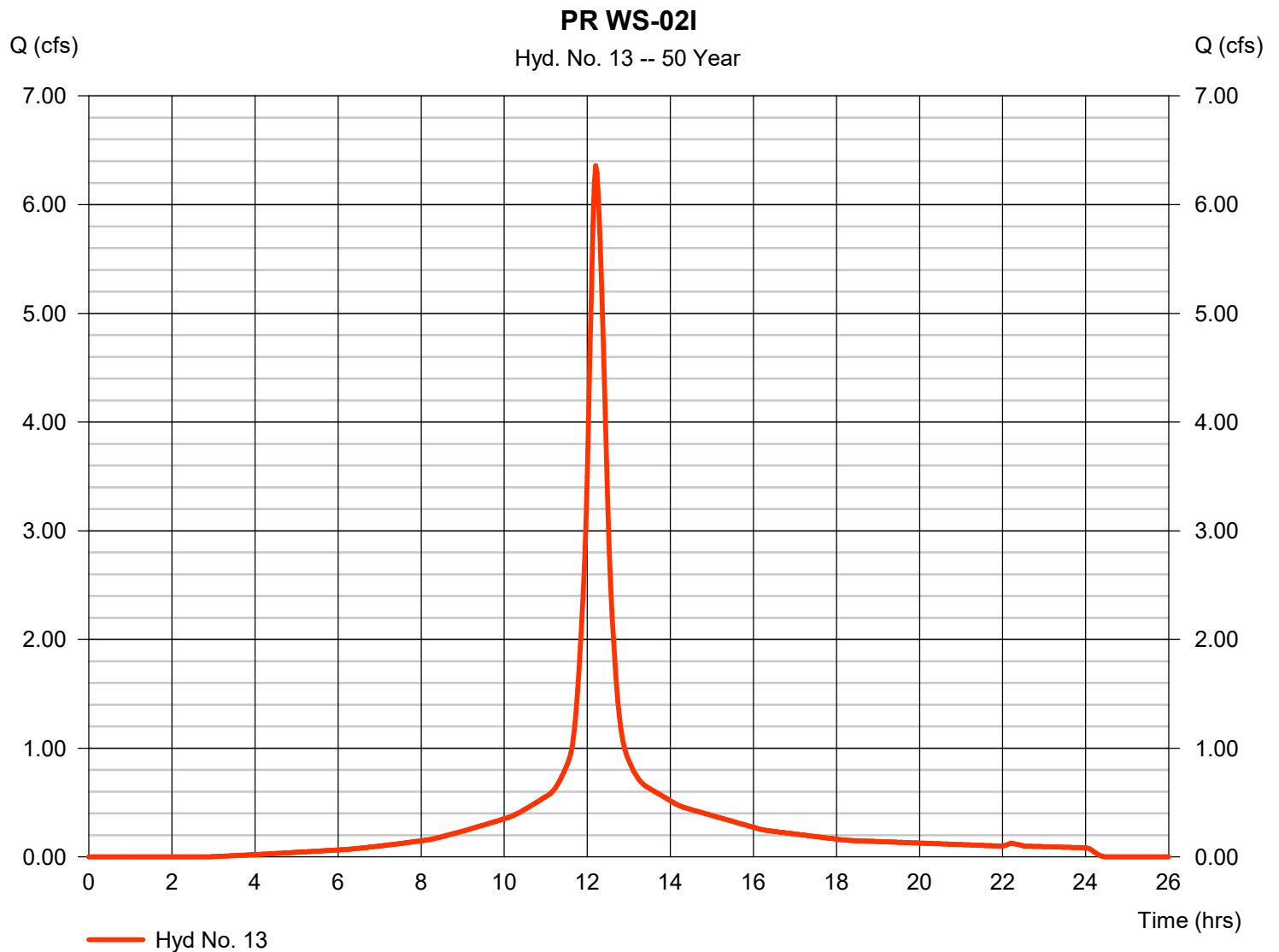
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 13

PR WS-02I

Hydrograph type	= SCS Runoff	Peak discharge	= 6.358 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.20 hrs
Time interval	= 2 min	Hyd. volume	= 29,838 cuft
Drainage area	= 1.296 ac	Curve number	= 91
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 18.60 min
Total precip.	= 7.41 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

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

Tuesday, 12 / 5 / 2023

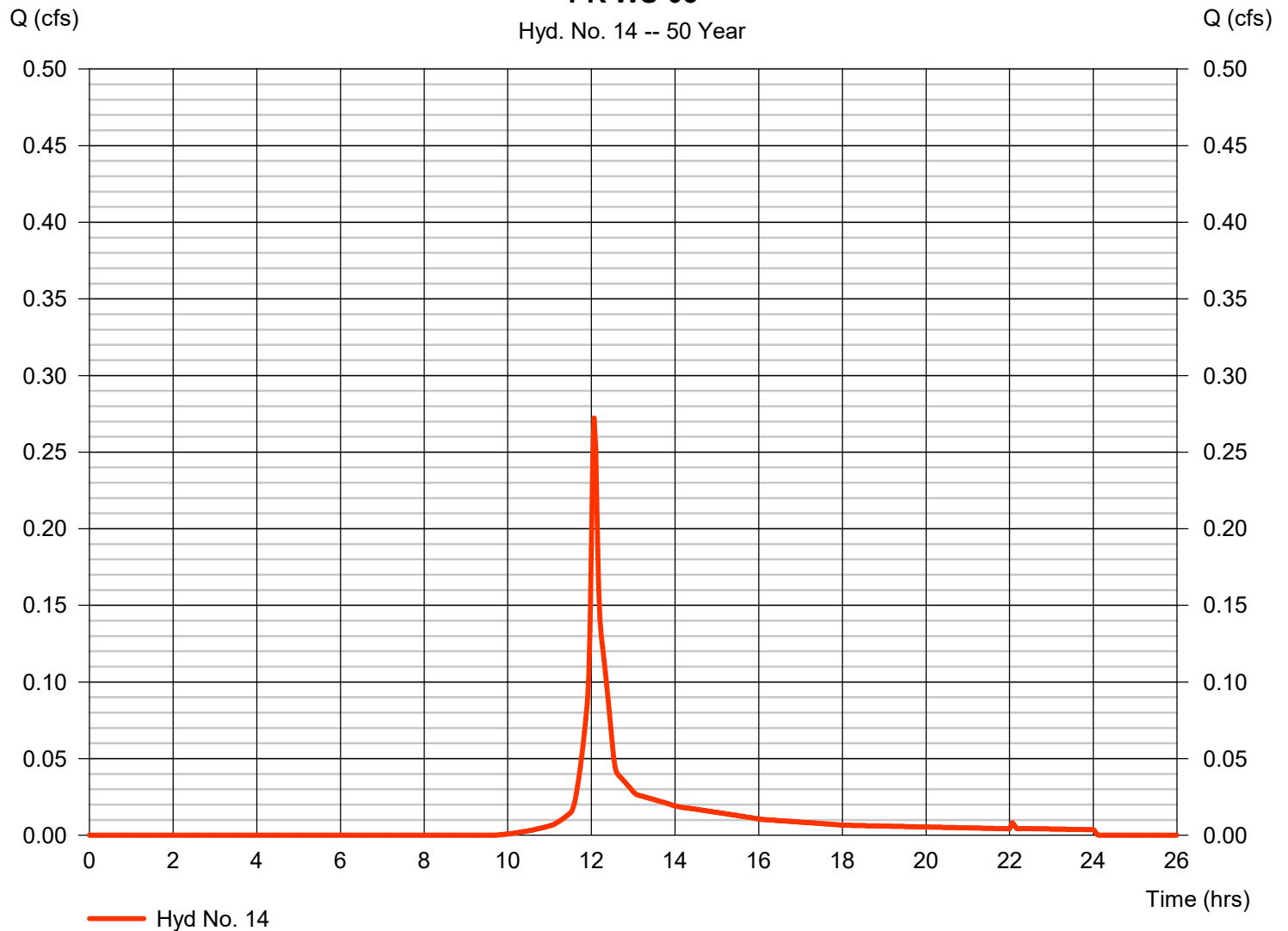
Hyd. No. 14

PR WS-03

Hydrograph type	= SCS Runoff	Peak discharge	= 0.272 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 827 cuft
Drainage area	= 0.081 ac	Curve number	= 61
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.10 min
Total precip.	= 7.41 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

PR WS-03

Hyd. No. 14 -- 50 Year



Hydrograph Report

114

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

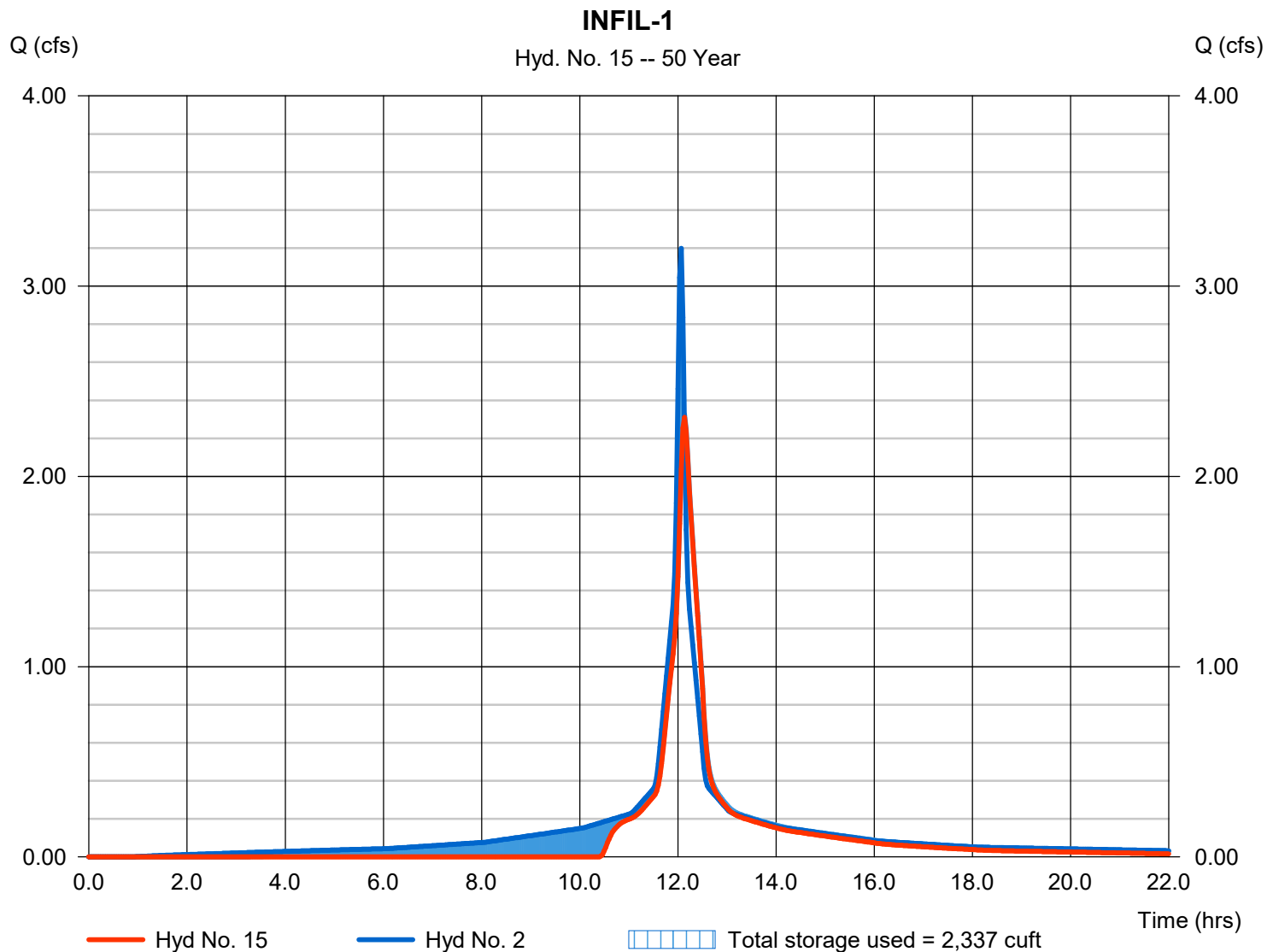
Tuesday, 12 / 5 / 2023

Hyd. No. 15

INFIL-1

Hydrograph type	= Reservoir	Peak discharge	= 2.310 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 8,200 cuft
Inflow hyd. No.	= 2 - PR WS-02A(I)	Max. Elevation	= 146.47 ft
Reservoir name	= INFIL-1	Max. Storage	= 2,337 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

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

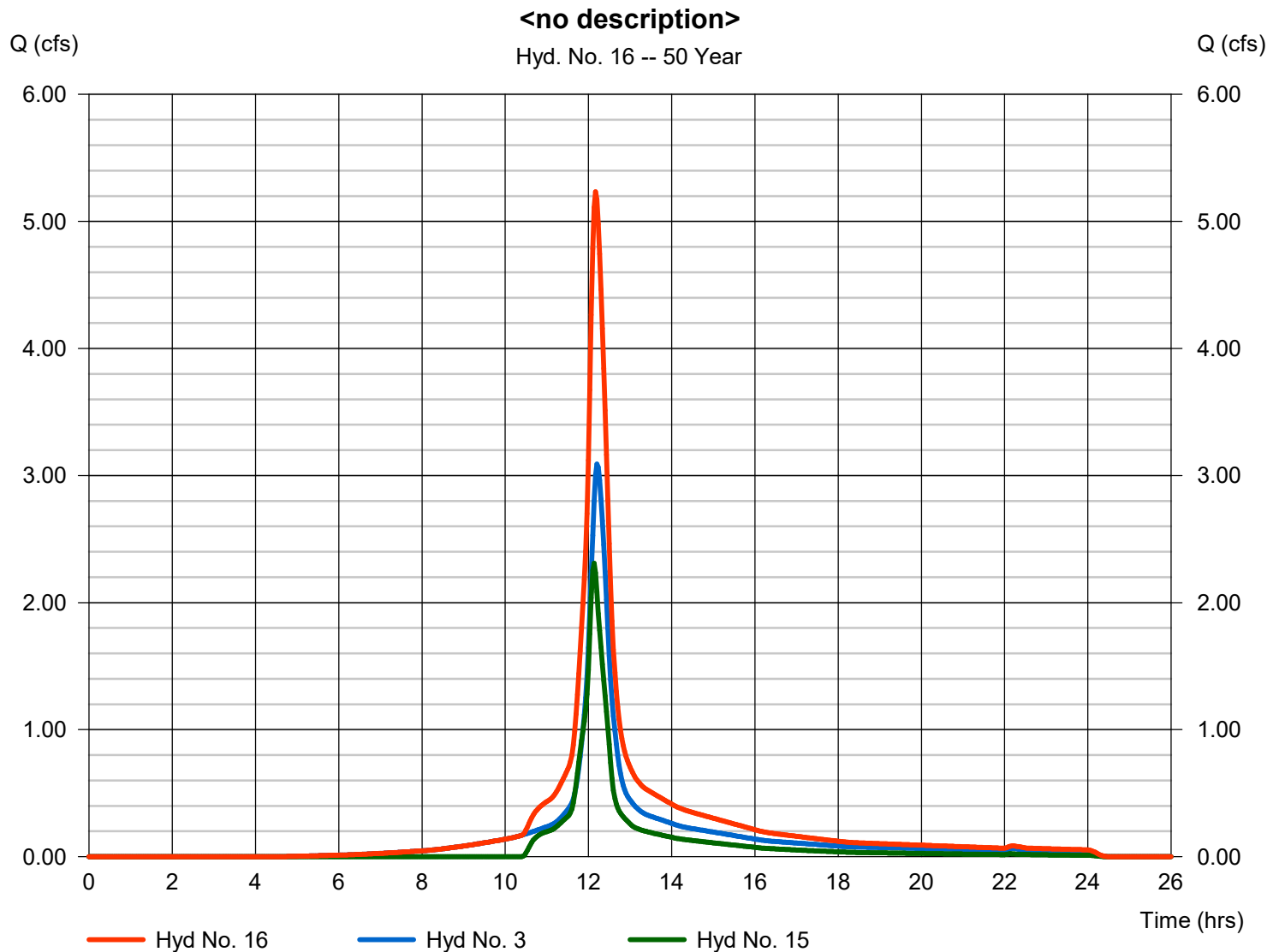
Tuesday, 12 / 5 / 2023

Hyd. No. 16

<no description>

Hydrograph type = Combine
Storm frequency = 50 yrs
Time interval = 2 min
Inflow hyds. = 3, 15

Peak discharge = 5.234 cfs
Time to peak = 12.17 hrs
Hyd. volume = 22,197 cuft
Contrib. drain. area = 0.683 ac



Hydrograph Report

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

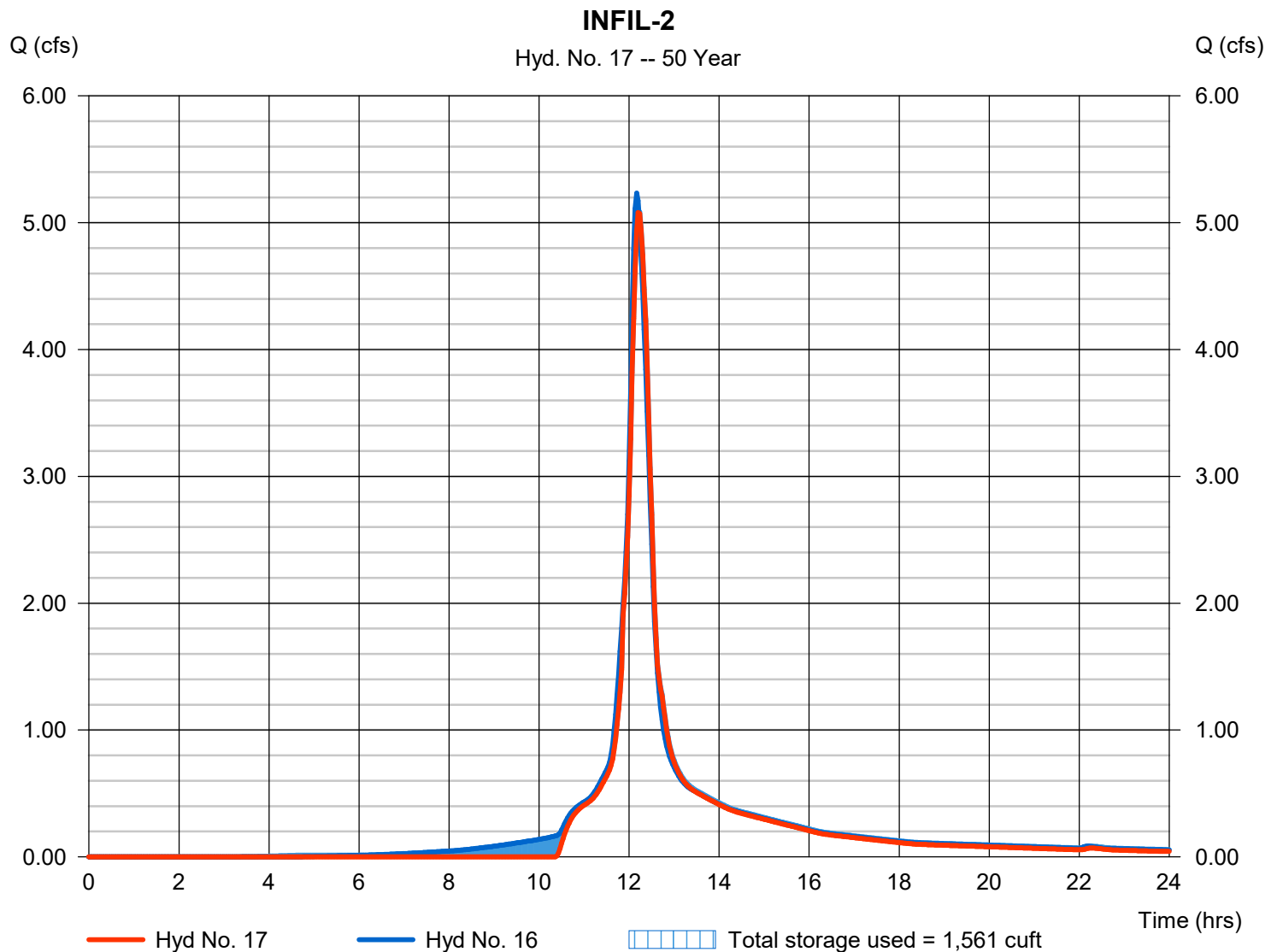
Tuesday, 12 / 5 / 2023

Hyd. No. 17

INFIL-2

Hydrograph type	= Reservoir	Peak discharge	= 5.080 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.20 hrs
Time interval	= 2 min	Hyd. volume	= 20,511 cuft
Inflow hyd. No.	= 16 - <no description>	Max. Elevation	= 137.80 ft
Reservoir name	= INFIL-2	Max. Storage	= 1,561 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

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

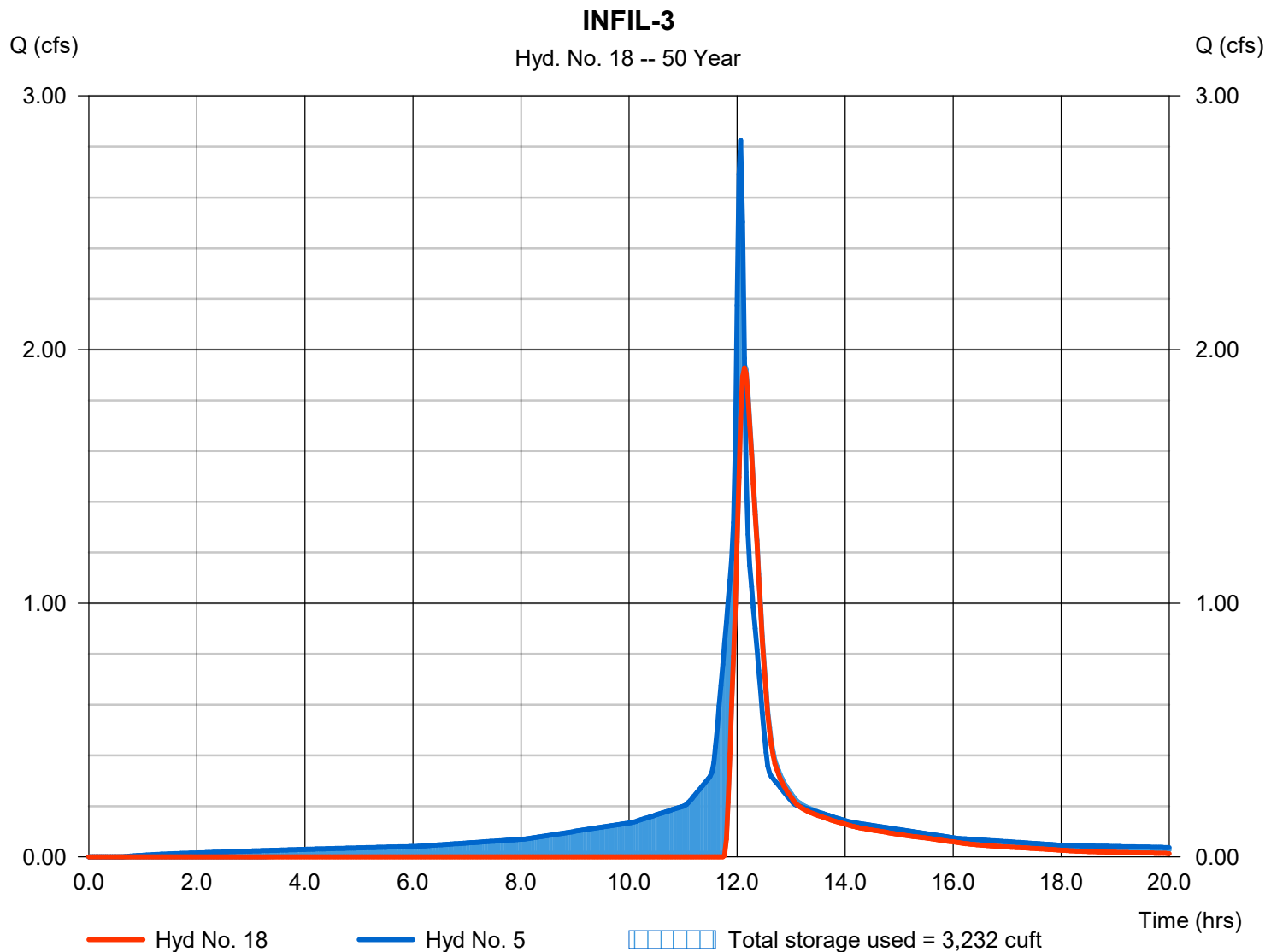
Tuesday, 12 / 5 / 2023

Hyd. No. 18

INFIL-3

Hydrograph type	= Reservoir	Peak discharge	= 1.927 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 5,568 cuft
Inflow hyd. No.	= 5 - PR WS-02B(II)	Max. Elevation	= 145.20 ft
Reservoir name	= INFIL-3	Max. Storage	= 3,232 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

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

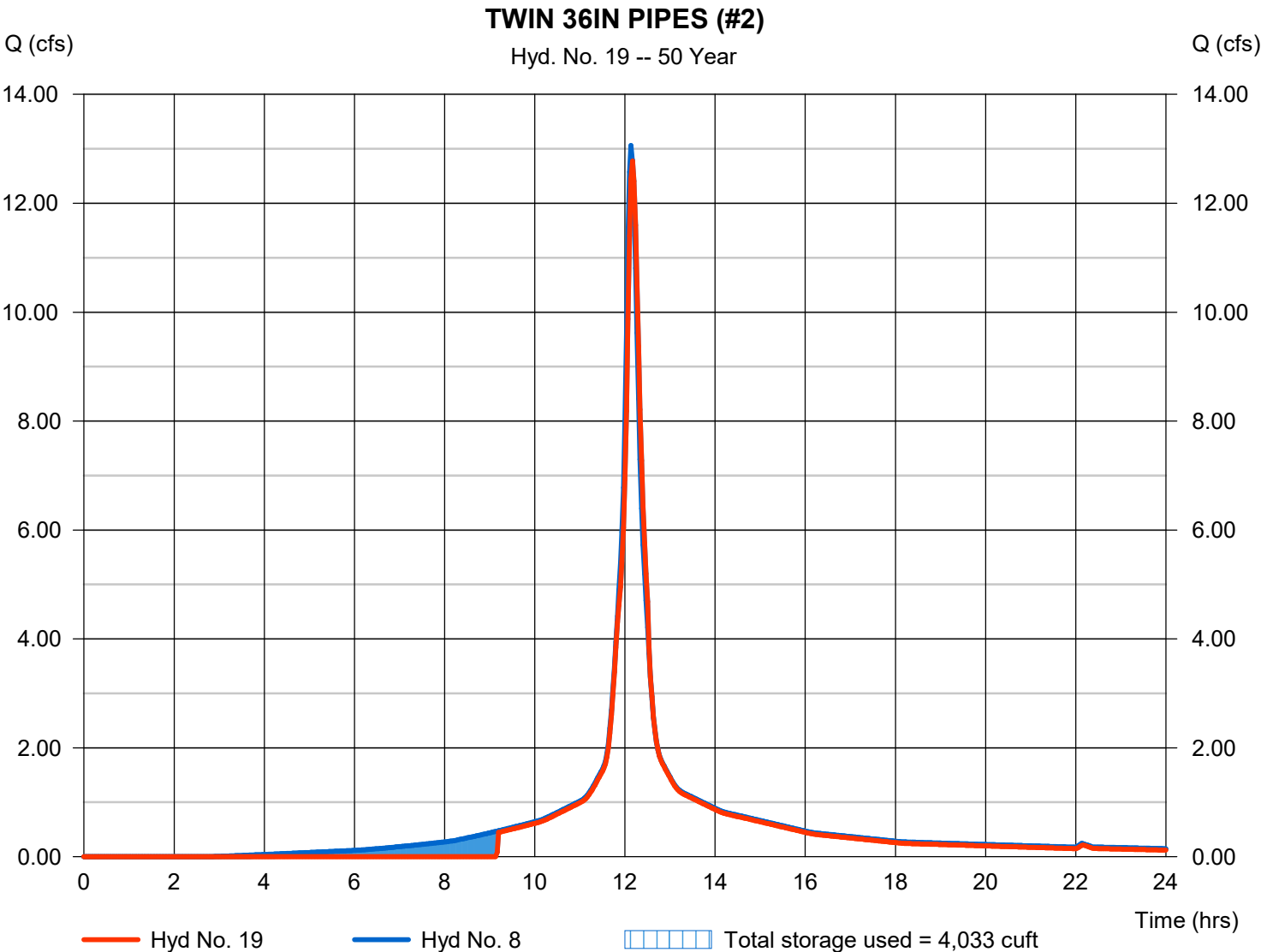
Tuesday, 12 / 5 / 2023

Hyd. No. 19

TWIN 36IN PIPES (#2)

Hydrograph type	= Reservoir	Peak discharge	= 12.78 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.17 hrs
Time interval	= 2 min	Hyd. volume	= 48,298 cuft
Inflow hyd. No.	= 8 - PR WS-02D	Max. Elevation	= 139.20 ft
Reservoir name	= Northern Twin 36IN	Max. Storage	= 4,033 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

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

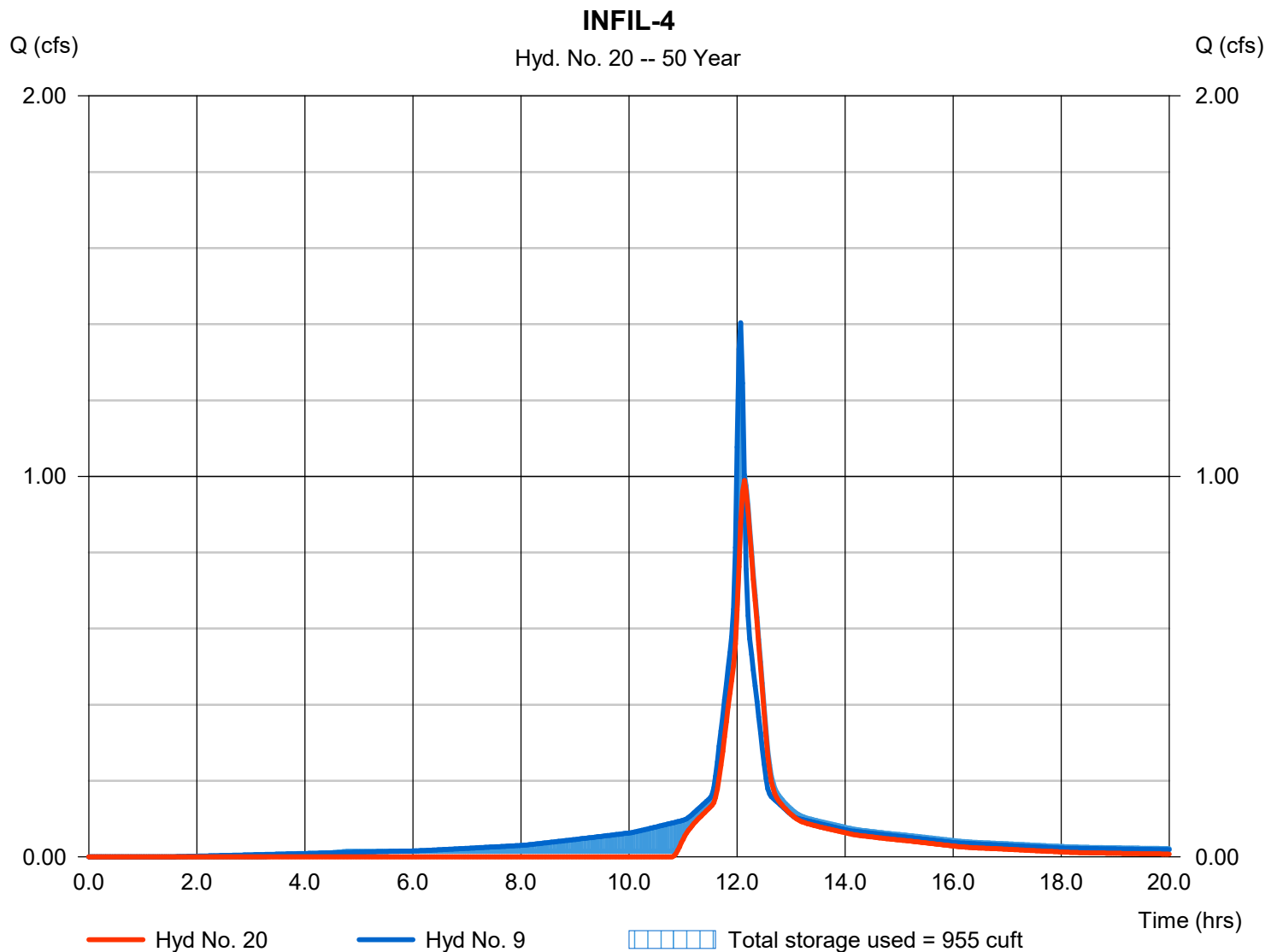
Tuesday, 12 / 5 / 2023

Hyd. No. 20

INFIL-4

Hydrograph type	= Reservoir	Peak discharge	= 0.989 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 3,300 cuft
Inflow hyd. No.	= 9 - PR WS-02E	Max. Elevation	= 138.34 ft
Reservoir name	= INFIL-4	Max. Storage	= 955 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

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

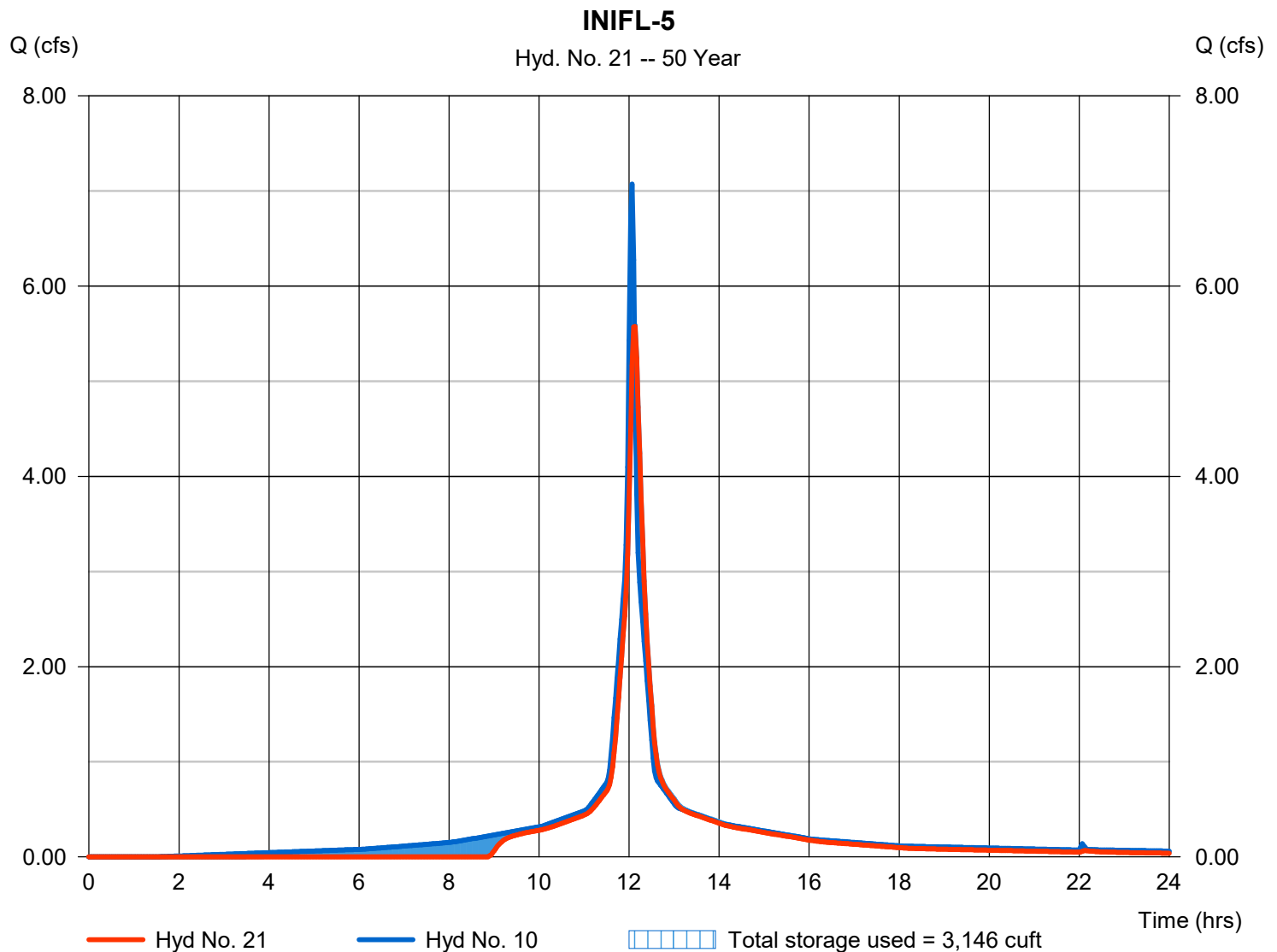
Tuesday, 12 / 5 / 2023

Hyd. No. 21

INIFL-5

Hydrograph type	= Reservoir	Peak discharge	= 5.575 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 20,252 cuft
Inflow hyd. No.	= 10 - PR WS-02F	Max. Elevation	= 137.41 ft
Reservoir name	= INIFL-5	Max. Storage	= 3,146 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

121

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

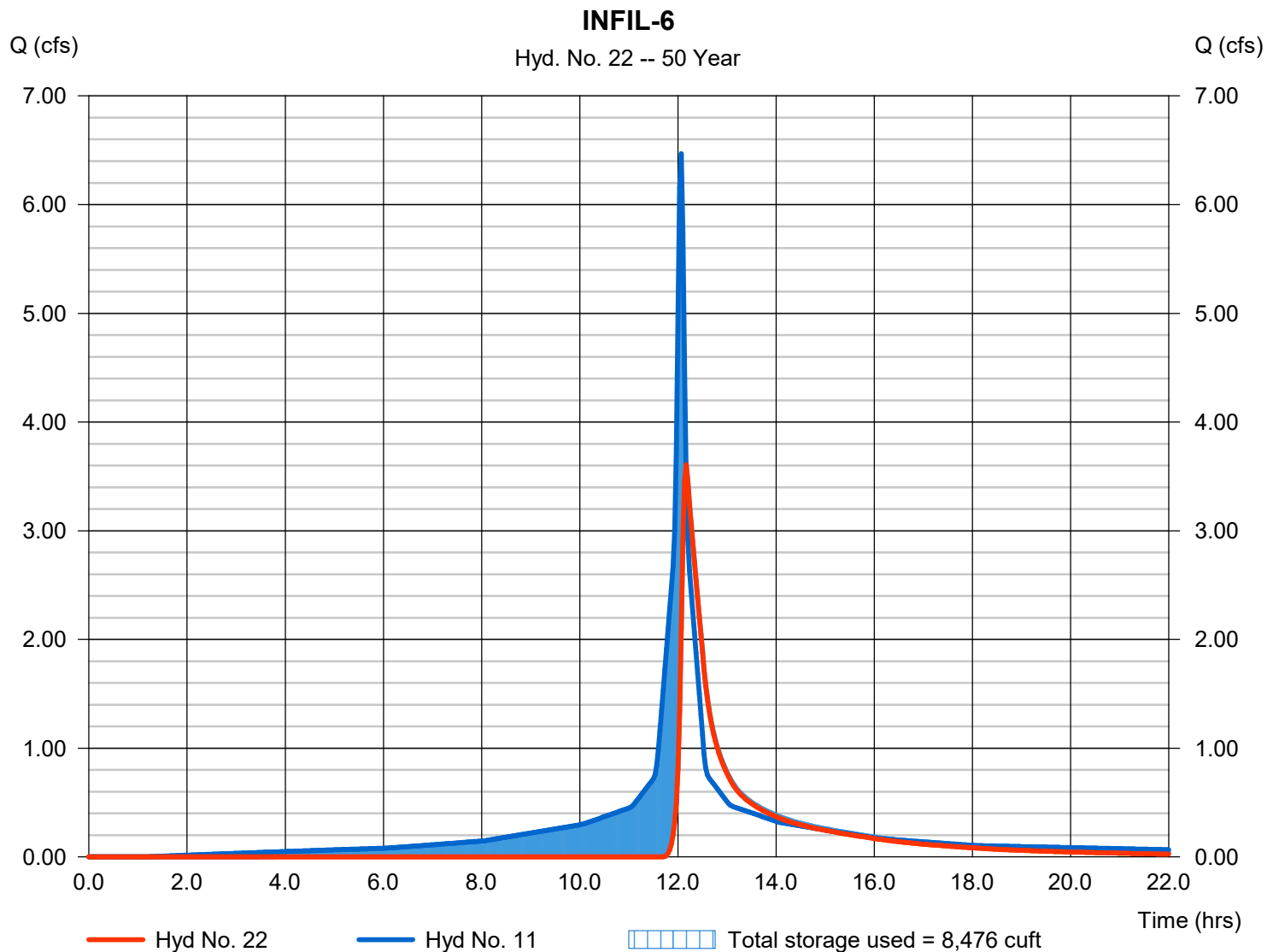
Tuesday, 12 / 5 / 2023

Hyd. No. 22

INFIL-6

Hydrograph type	= Reservoir	Peak discharge	= 3.607 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.17 hrs
Time interval	= 2 min	Hyd. volume	= 12,398 cuft
Inflow hyd. No.	= 11 - PR WS-02G	Max. Elevation	= 136.47 ft
Reservoir name	= INFIL-6	Max. Storage	= 8,476 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

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

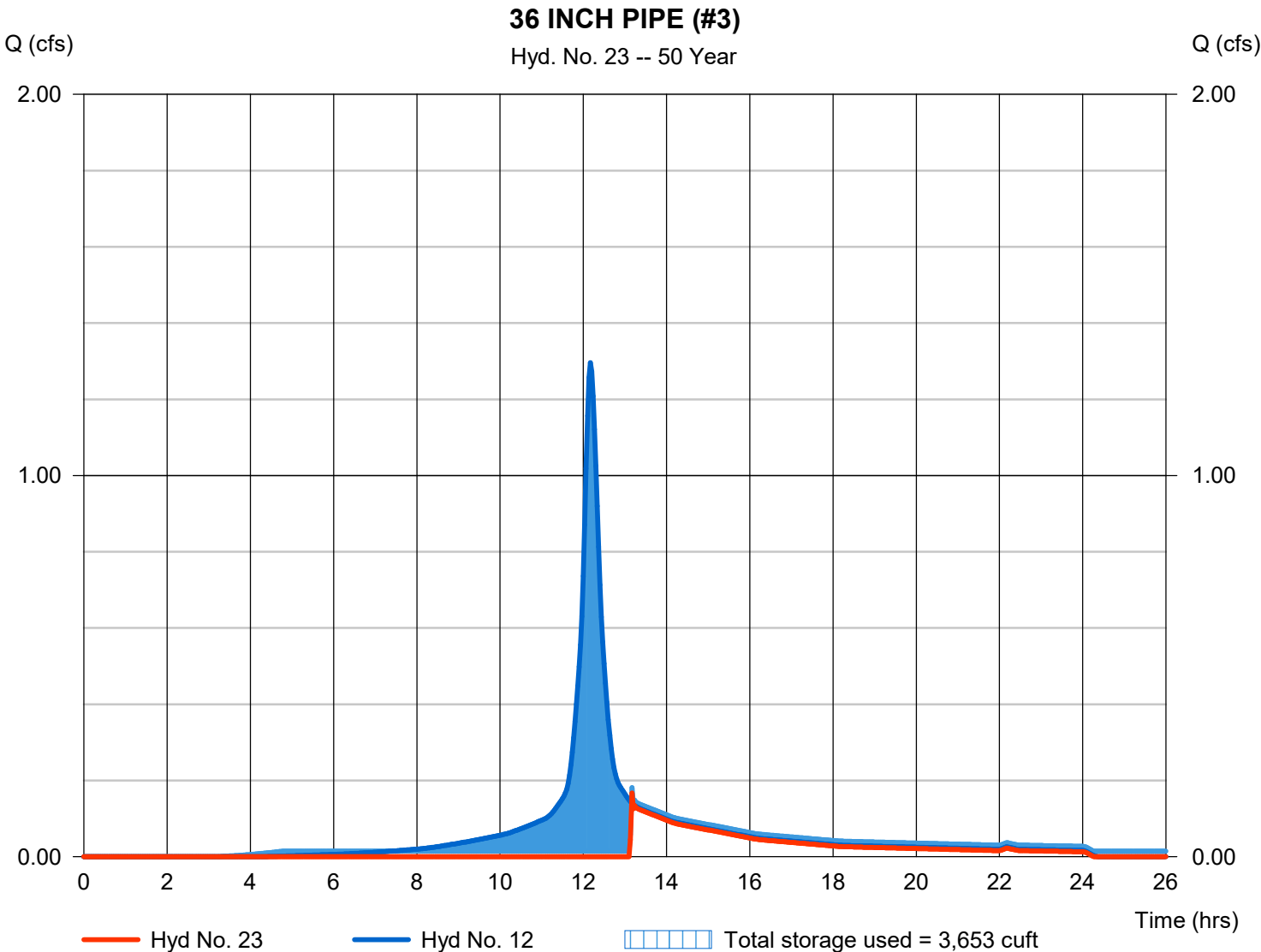
Tuesday, 12 / 5 / 2023

Hyd. No. 23

36 INCH PIPE (#3)

Hydrograph type	= Reservoir	Peak discharge	= 0.167 cfs
Storm frequency	= 50 yrs	Time to peak	= 13.17 hrs
Time interval	= 2 min	Hyd. volume	= 1,564 cuft
Inflow hyd. No.	= 12 - PR WS-02H	Max. Elevation	= 137.46 ft
Reservoir name	= 36IN - 3	Max. Storage	= 3,653 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

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

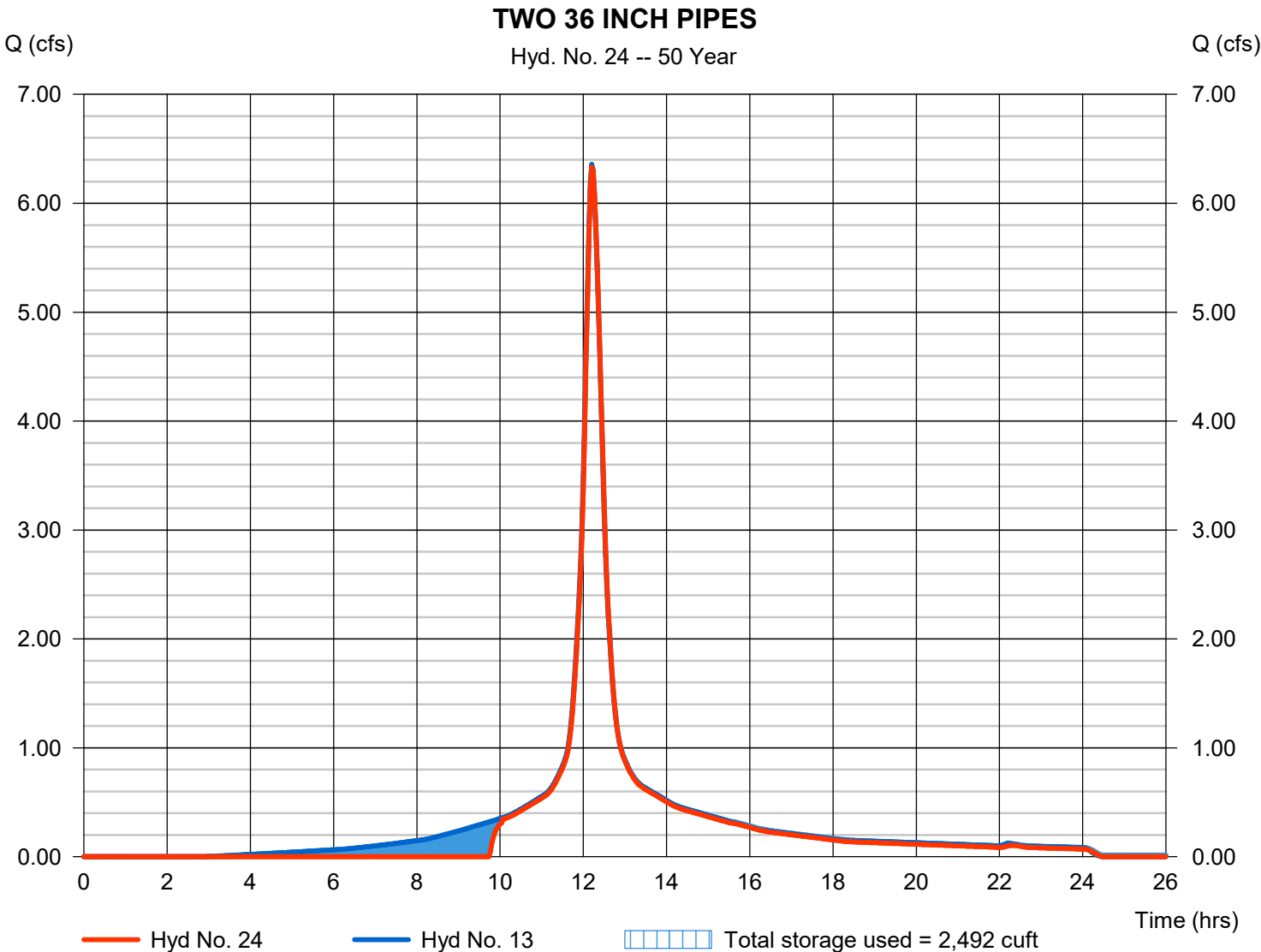
Tuesday, 12 / 5 / 2023

Hyd. No. 24

TWO 36 INCH PIPES

Hydrograph type	= Reservoir	Peak discharge	= 6.332 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.20 hrs
Time interval	= 2 min	Hyd. volume	= 26,572 cuft
Inflow hyd. No.	= 13 - PR WS-02I	Max. Elevation	= 135.75 ft
Reservoir name	= TWIN 36IN	Max. Storage	= 2,492 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

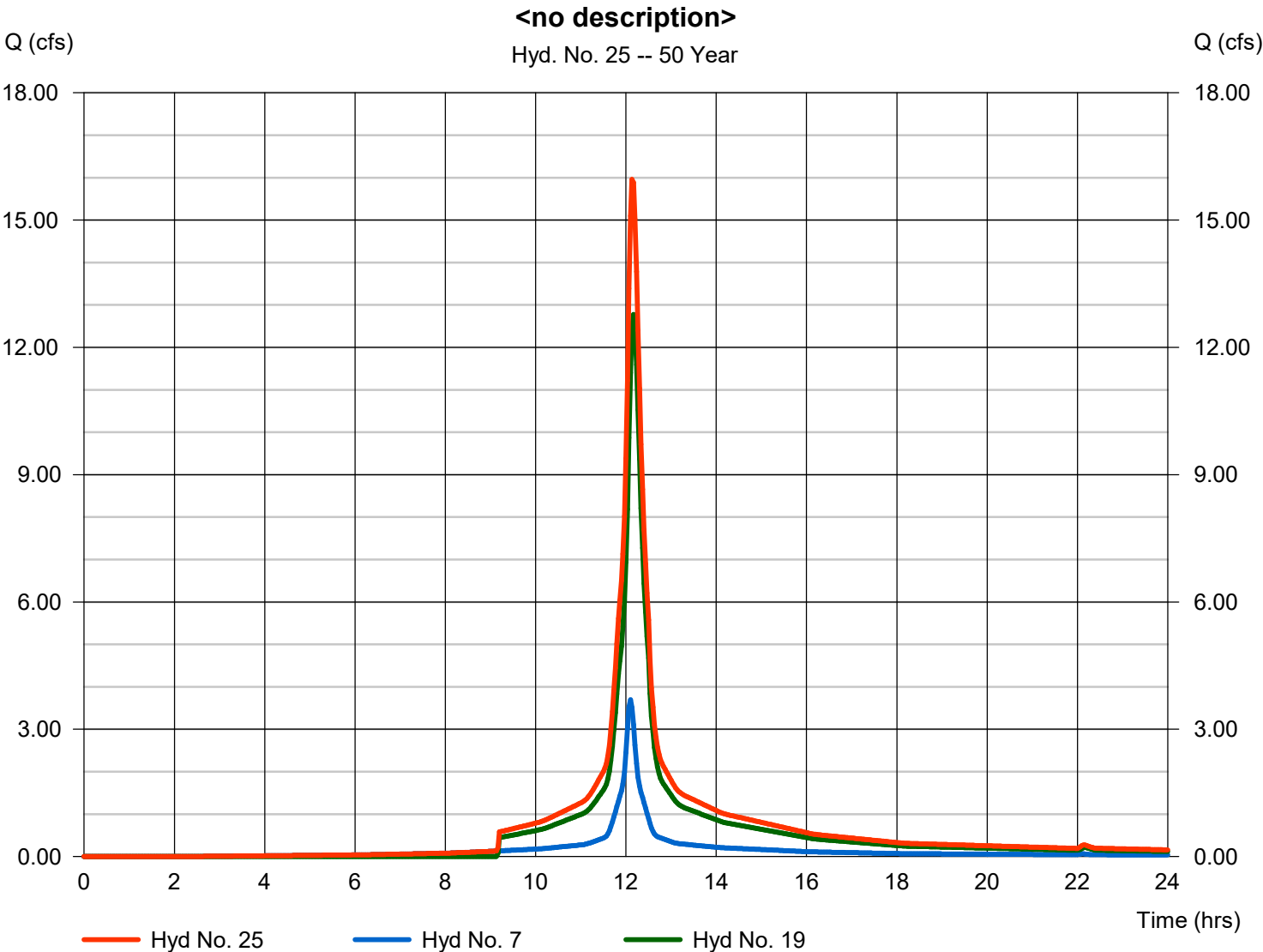
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 25

<no description>

Hydrograph type	= Combine	Peak discharge	= 15.96 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 62,051 cuft
Inflow hyds.	= 7, 19	Contrib. drain. area	= 0.576 ac



Hydrograph Report

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

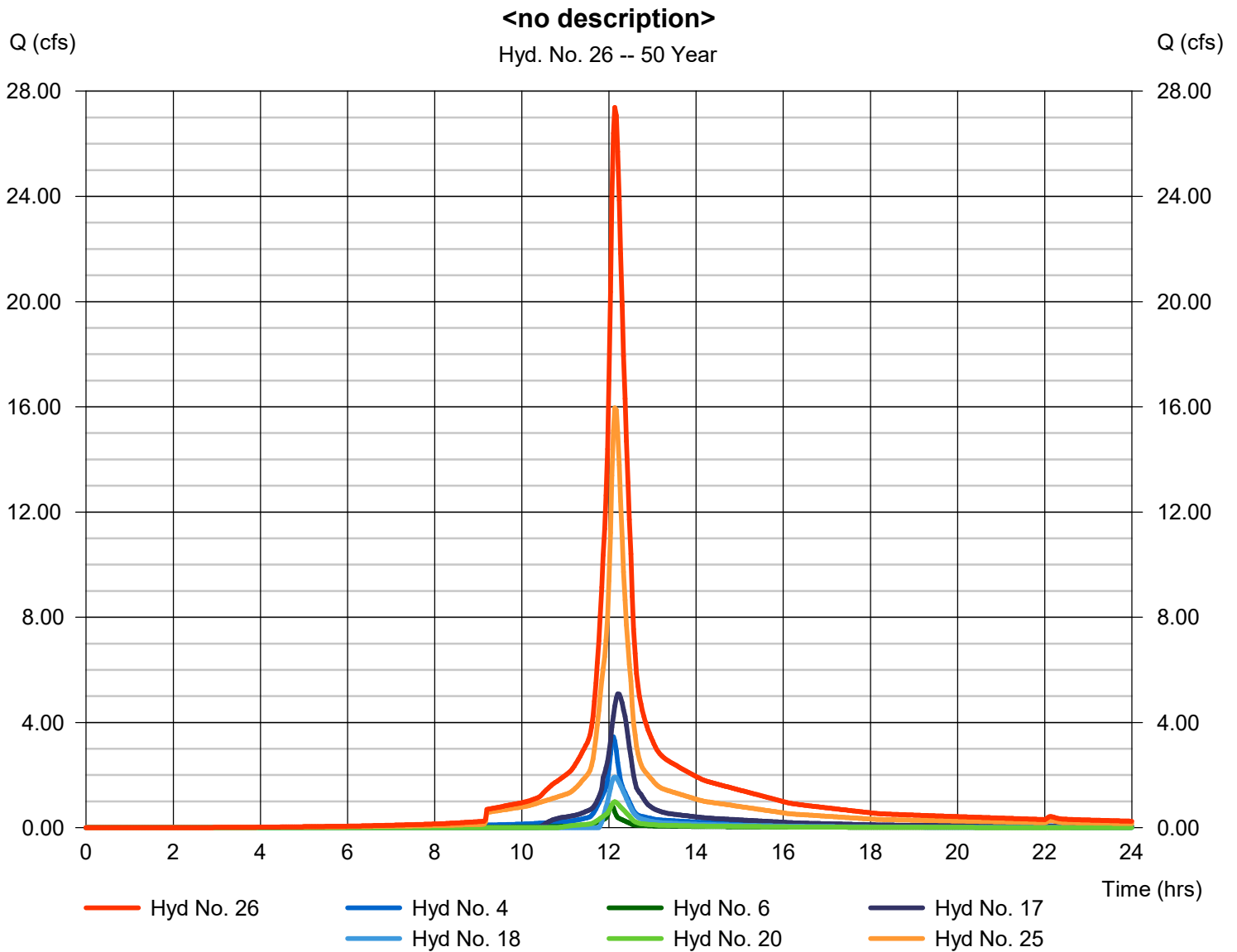
Tuesday, 12 / 5 / 2023

Hyd. No. 26

<no description>

Hydrograph type = Combine
Storm frequency = 50 yrs
Time interval = 2 min
Inflow hyds. = 4, 6, 17, 18, 20, 25

Peak discharge = 27.38 cfs
Time to peak = 12.13 hrs
Hyd. volume = 106,350 cuft
Contrib. drain. area = 0.708 ac



Hydrograph Report

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

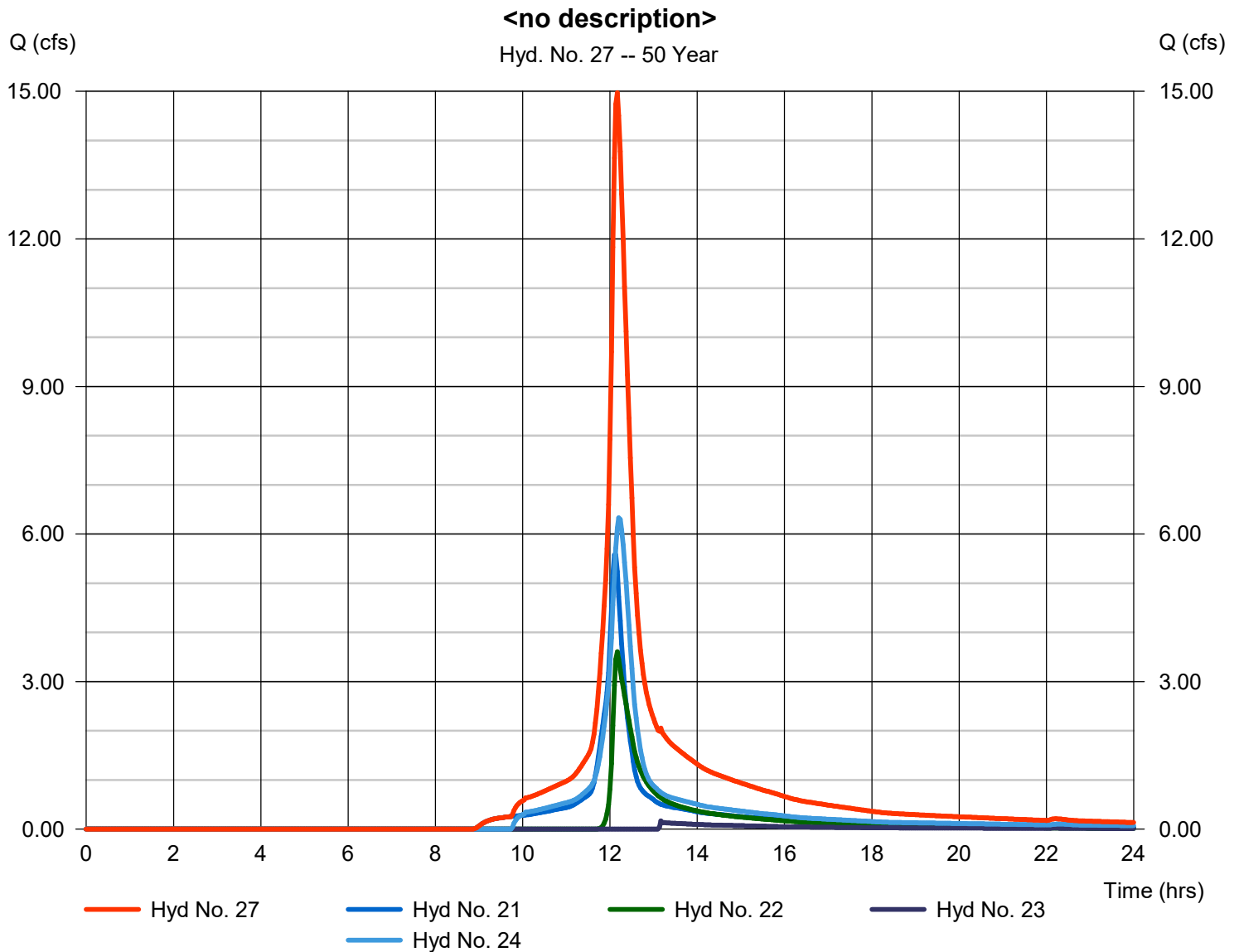
Tuesday, 12 / 5 / 2023

Hyd. No. 27

<no description>

Hydrograph type = Combine
Storm frequency = 50 yrs
Time interval = 2 min
Inflow hyds. = 21, 22, 23, 24

Peak discharge = 14.97 cfs
Time to peak = 12.17 hrs
Hyd. volume = 60,787 cuft
Contrib. drain. area = 0.000 ac



Hydrograph Report

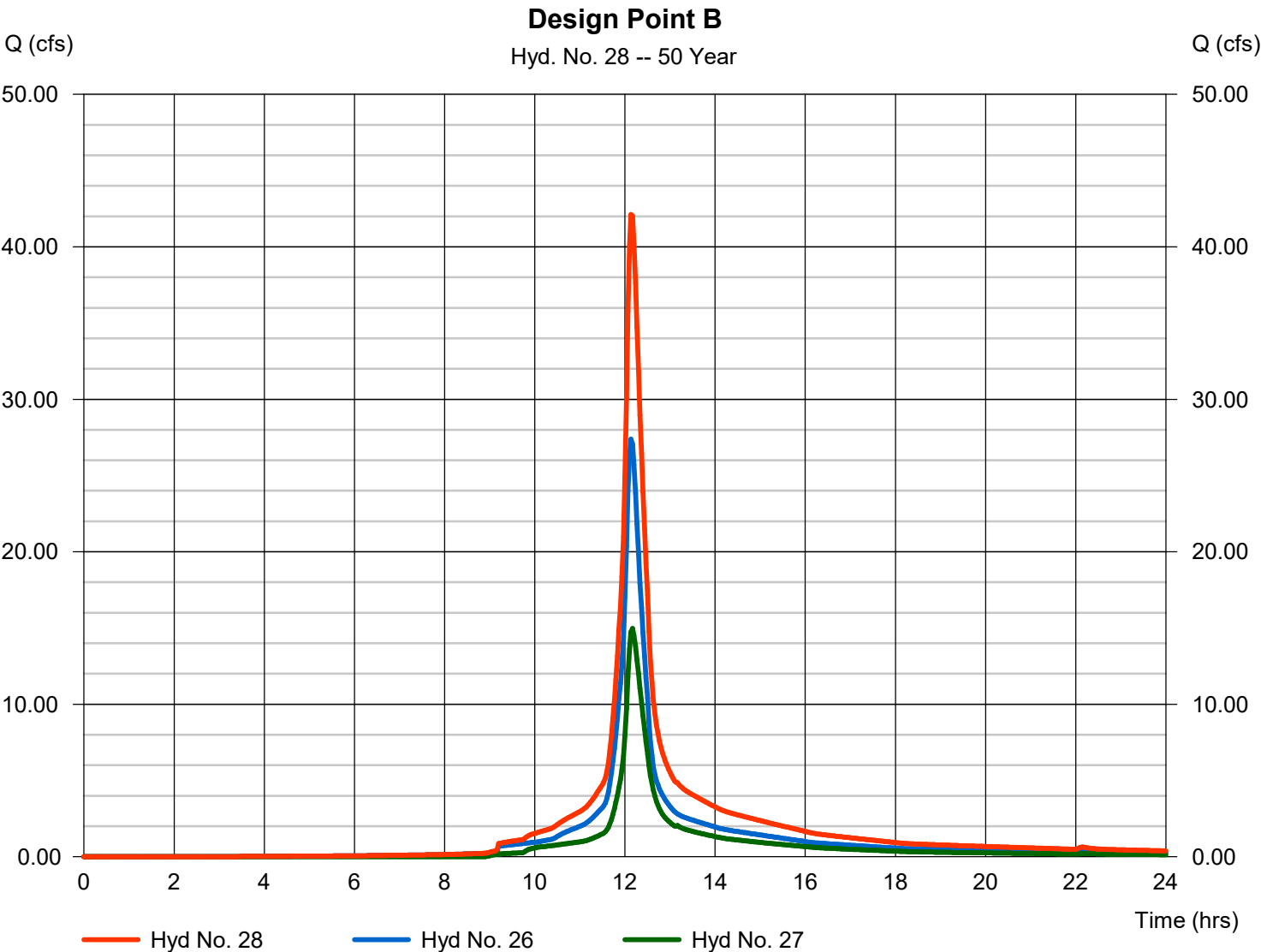
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 28

Design Point B

Hydrograph type	= Combine	Peak discharge	= 42.12 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 167,137 cuft
Inflow hyds.	= 26, 27	Contrib. drain. area	= 0.000 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	6.398	2	730	26,117	-----	-----	-----	PR WS-01
2	SCS Runoff	3.605	2	724	12,438	-----	-----	-----	PR WS-02A(I)
3	SCS Runoff	3.556	2	732	16,219	-----	-----	-----	PR WS-02A(II)
4	SCS Runoff	3.952	2	726	14,171	-----	-----	-----	PR WS-02B(I)
5	SCS Runoff	3.181	2	724	11,109	-----	-----	-----	PR WS-02B(II)
6	SCS Runoff	0.964	2	724	3,046	-----	-----	-----	PR WS-02B(III)
7	SCS Runoff	4.184	2	726	15,682	-----	-----	-----	PR WS-02C
8	SCS Runoff	14.84	2	728	61,043	-----	-----	-----	PR WS-02D
9	SCS Runoff	1.585	2	724	5,347	-----	-----	-----	PR WS-02E
10	SCS Runoff	7.986	2	724	26,946	-----	-----	-----	PR WS-02F
11	SCS Runoff	7.294	2	724	24,876	-----	-----	-----	PR WS-02G
12	SCS Runoff	1.488	2	730	6,295	-----	-----	-----	PR WS-02H
13	SCS Runoff	7.225	2	732	34,156	-----	-----	-----	PR WS-02I
14	SCS Runoff	0.339	2	724	1,022	-----	-----	-----	PR WS-03
15	Reservoir	2.580	2	728	9,629	2	146.94	2,479	INFIL-1
16	Combine	5.963	2	730	25,847	3, 15	-----	-----	<no description>
17	Reservoir	5.776	2	734	24,138	16	138.33	1,674	INFIL-2
18	Reservoir	2.266	2	728	6,804	5	145.49	3,366	INFIL-3
19	Reservoir	14.56	2	730	55,977	8	139.24	4,189	TWIN 36IN PIPES (#2)
20	Reservoir	1.107	2	728	3,919	9	138.62	1,020	INFIL-4
21	Reservoir	6.323	2	726	23,447	10	137.92	3,376	INIFL-5
22	Reservoir	4.990	2	728	15,158	11	136.84	8,905	INFIL-6
23	Reservoir	0.704	2	752	2,409	12	137.47	3,670	36 INCH PIPE (#3)
24	Reservoir	7.197	2	732	30,870	13	135.76	2,510	TWO 36 INCH PIPES
25	Combine	18.23	2	728	71,659	7, 19,	-----	-----	<no description>
26	Combine	31.28	2	728	123,737	4, 6, 17, 18, 20, 25	-----	-----	<no description>
27	Combine	17.81	2	728	71,885	21, 22, 23, 24,	-----	-----	<no description>
28	Combine	49.08	2	728	195,622	26, 27	-----	-----	Design Point B
J:\F\0173 Fuller 001 64 Danbury Rd\Calculations\Period 100 Year Flood-Hydrographs					Reservoir Period 100 Year Flood-Hydrographs, 12 / 5 / 2023				

Hydrograph Report

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

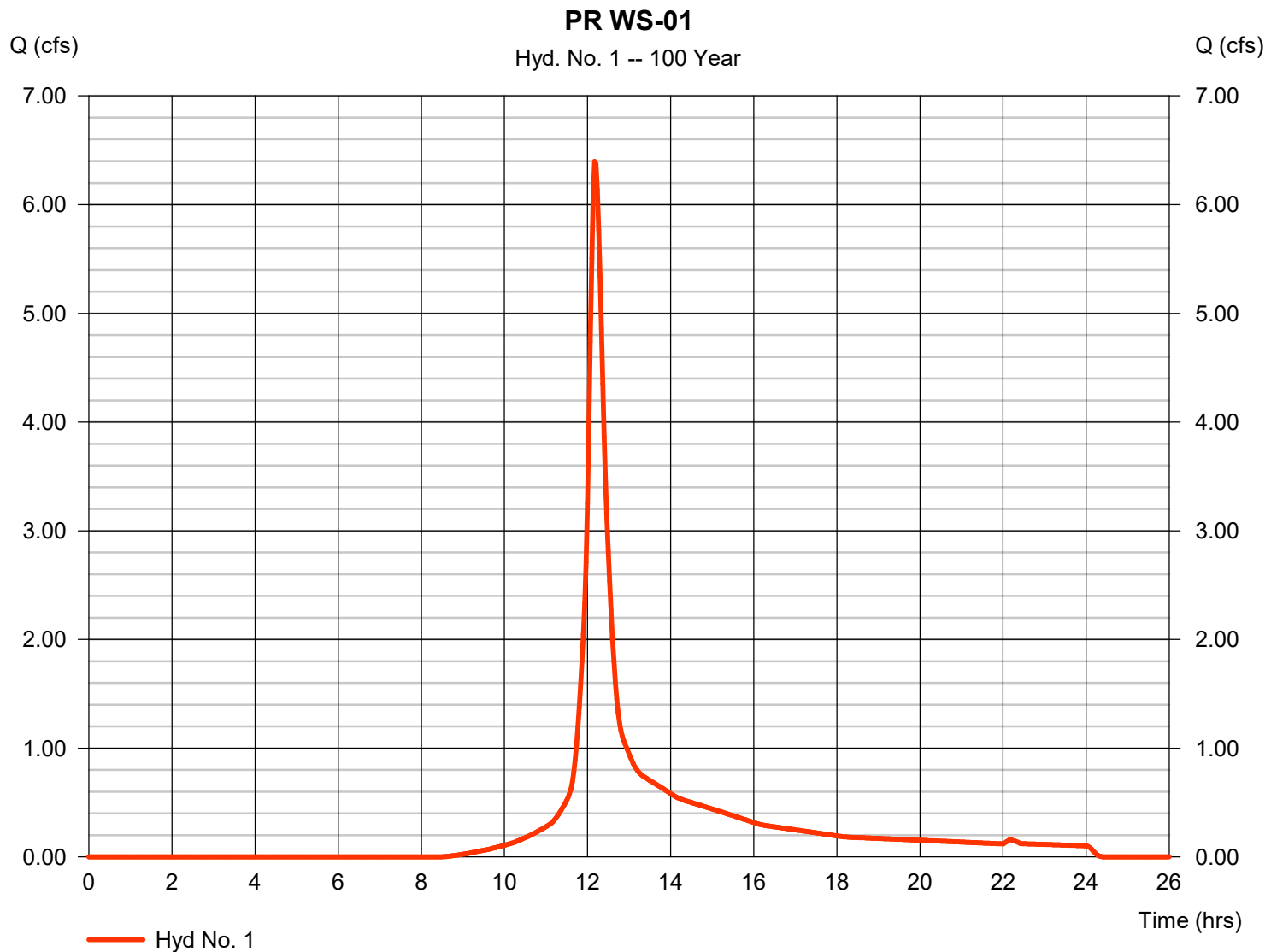
Tuesday, 12 / 5 / 2023

Hyd. No. 1

PR WS-01

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 2 min
Drainage area = 1.721 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 8.34 in
Storm duration = 24 hrs

Peak discharge = 6.398 cfs
Time to peak = 12.17 hrs
Hyd. volume = 26,117 cuft
Curve number = 66
Hydraulic length = 0 ft
Time of conc. (Tc) = 13.50 min
Distribution = Type III
Shape factor = 484



Hydrograph Report

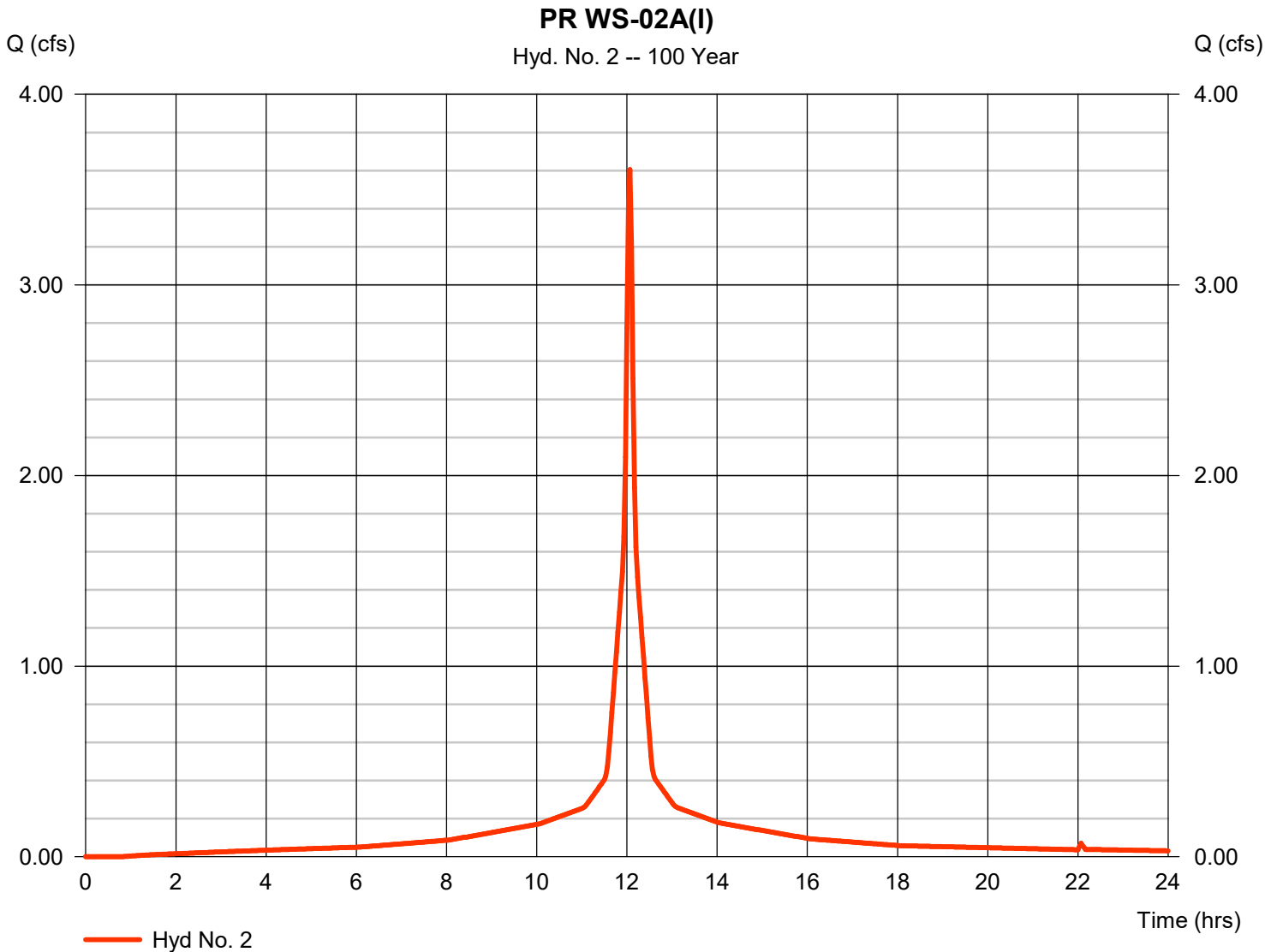
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 2

PR WS-02A(I)

Hydrograph type	= SCS Runoff	Peak discharge	= 3.605 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 12,438 cuft
Drainage area	= 0.458 ac	Curve number	= 97
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 8.34 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

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

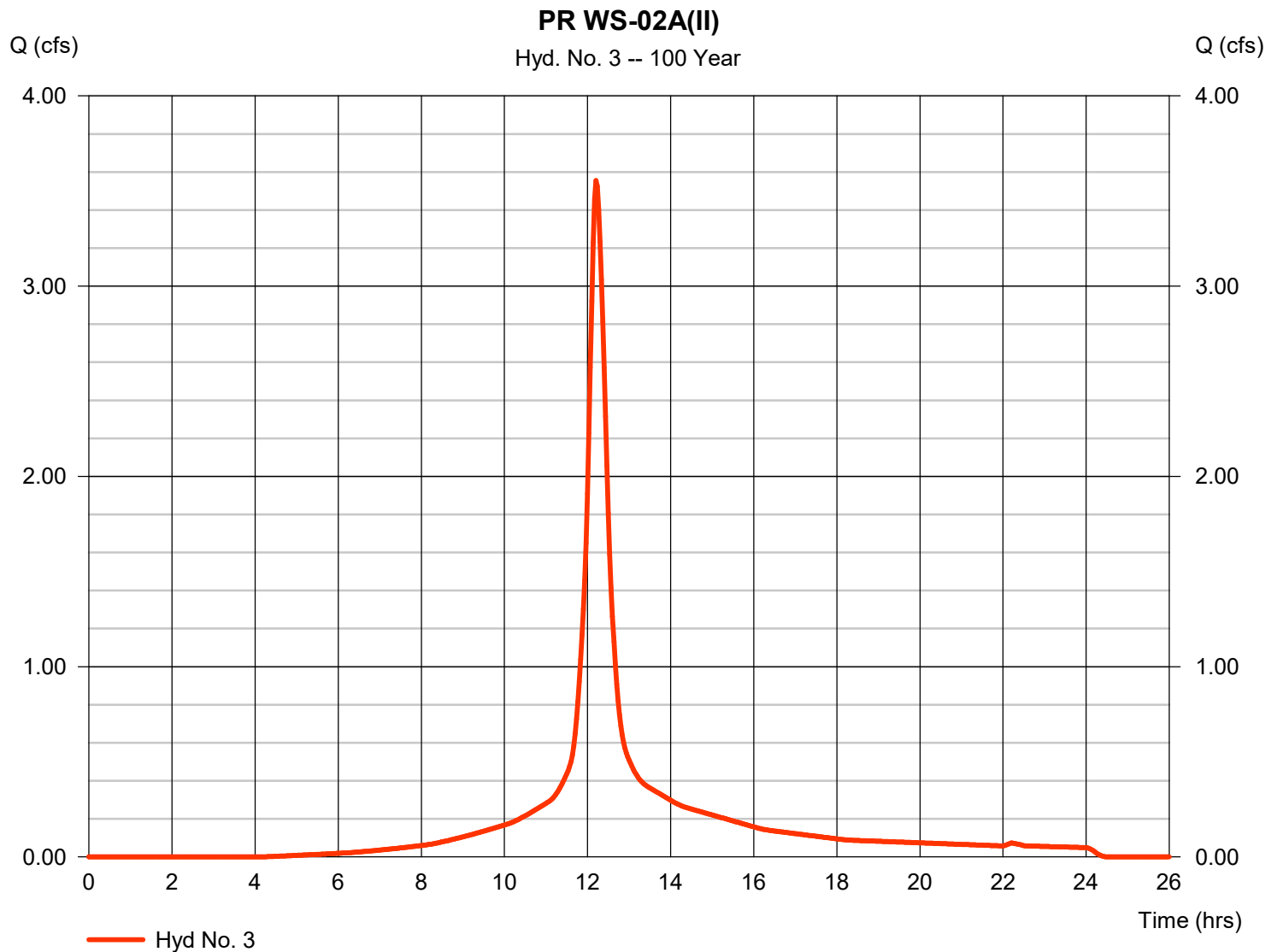
Tuesday, 12 / 5 / 2023

Hyd. No. 3

PR WS-02A(II)

Hydrograph type = SCS Runoff
 Storm frequency = 100 yrs
 Time interval = 2 min
 Drainage area = 0.683 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 8.34 in
 Storm duration = 24 hrs

Peak discharge = 3.556 cfs
 Time to peak = 12.20 hrs
 Hyd. volume = 16,219 cuft
 Curve number = 85
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 17.10 min
 Distribution = Type III
 Shape factor = 484



Hydrograph Report

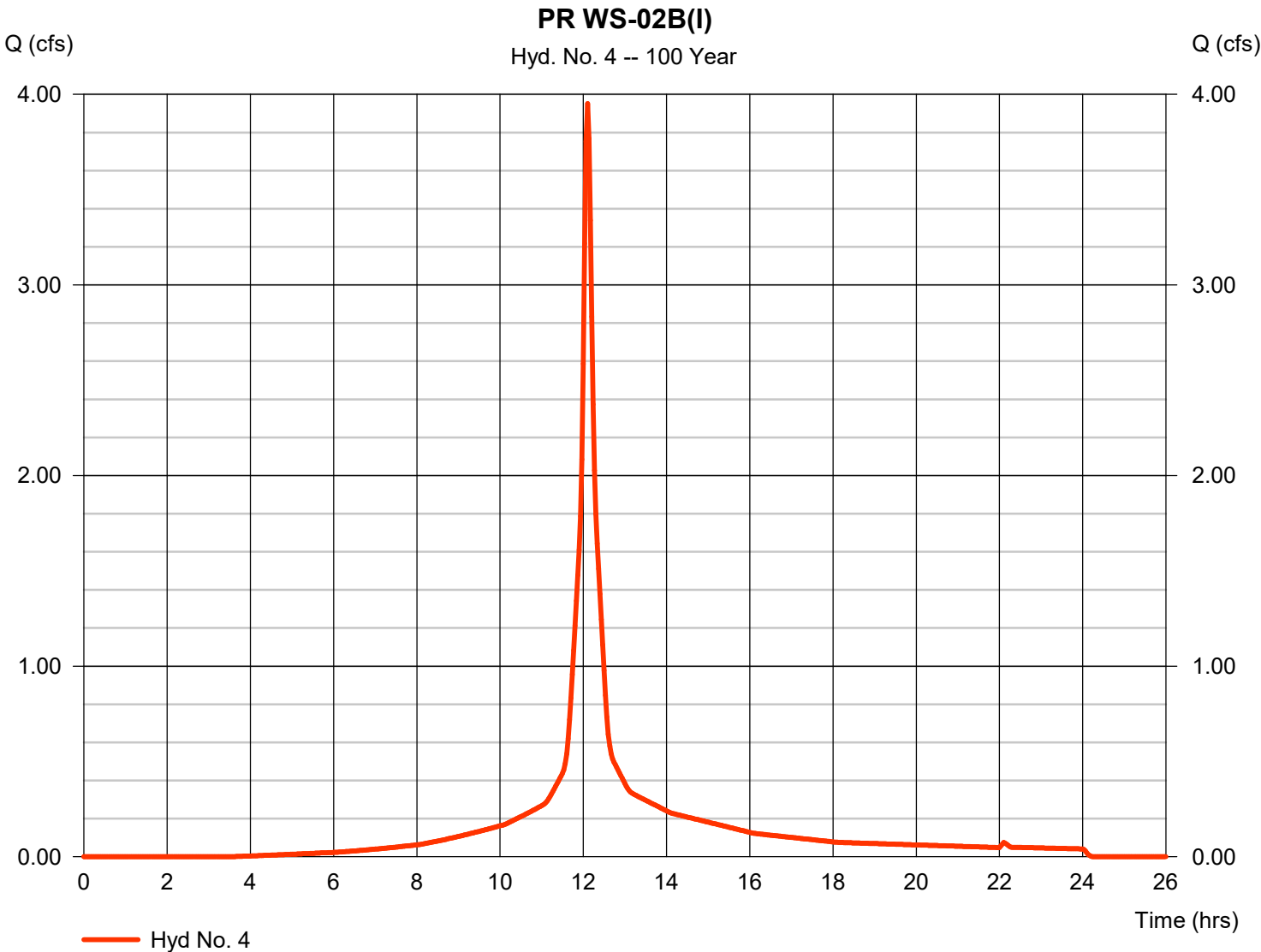
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 4

PR WS-02B(I)

Hydrograph type	= SCS Runoff	Peak discharge	= 3.952 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.10 hrs
Time interval	= 2 min	Hyd. volume	= 14,171 cuft
Drainage area	= 0.576 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.40 min
Total precip.	= 8.34 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

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

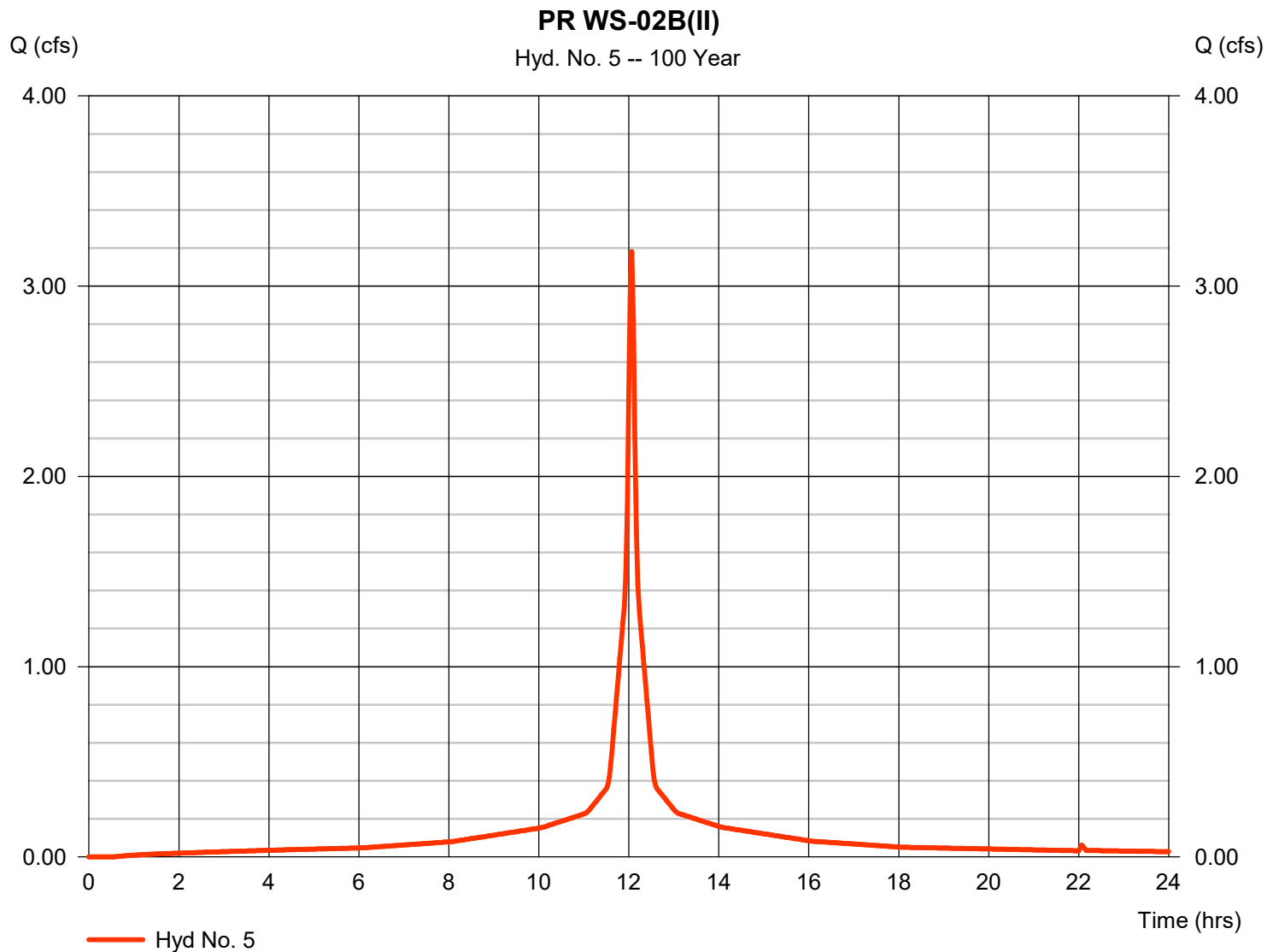
Tuesday, 12 / 5 / 2023

Hyd. No. 5

PR WS-02B(II)

Hydrograph type = SCS Runoff
 Storm frequency = 100 yrs
 Time interval = 2 min
 Drainage area = 0.403 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 8.34 in
 Storm duration = 24 hrs

Peak discharge = 3.181 cfs
 Time to peak = 12.07 hrs
 Hyd. volume = 11,109 cuft
 Curve number = 98
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 5.00 min
 Distribution = Type III
 Shape factor = 484



Hydrograph Report

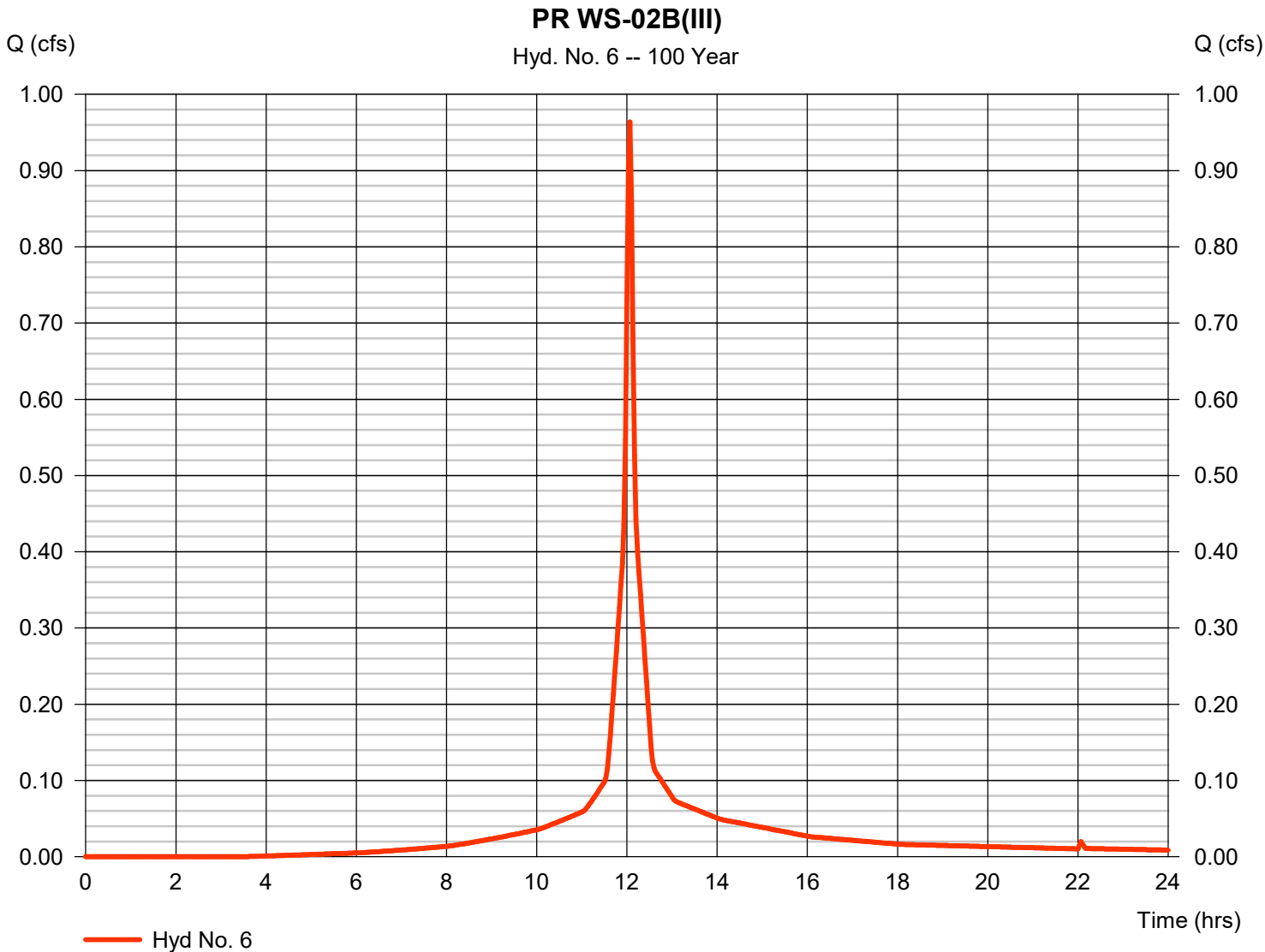
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 6

PR WS-02B(III)

Hydrograph type	= SCS Runoff	Peak discharge	= 0.964 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 3,046 cuft
Drainage area	= 0.132 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 8.34 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

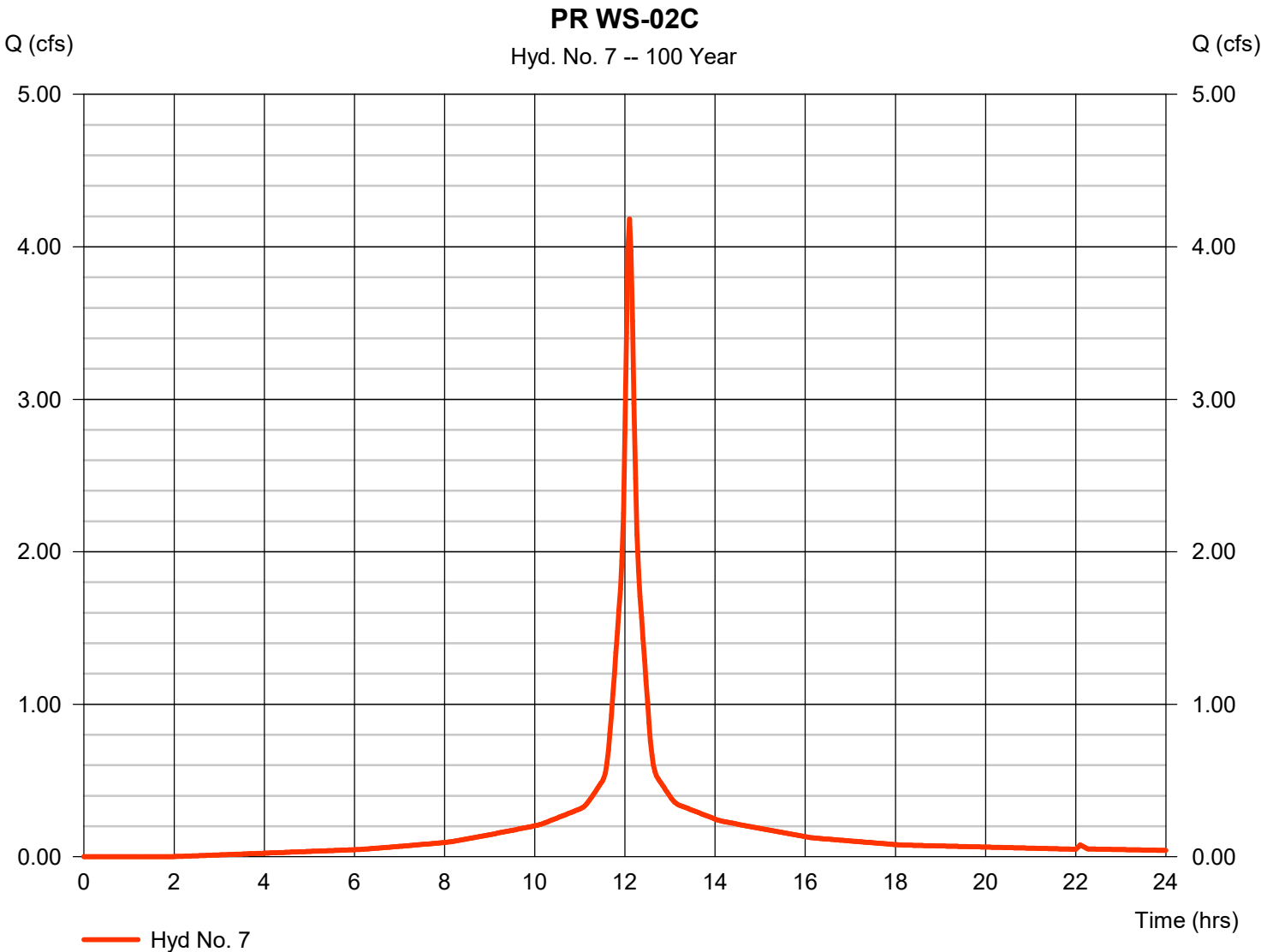
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 7

PR WS-02C

Hydrograph type	= SCS Runoff	Peak discharge	= 4.184 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.10 hrs
Time interval	= 2 min	Hyd. volume	= 15,682 cuft
Drainage area	= 0.576 ac	Curve number	= 93
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 9.40 min
Total precip.	= 8.34 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

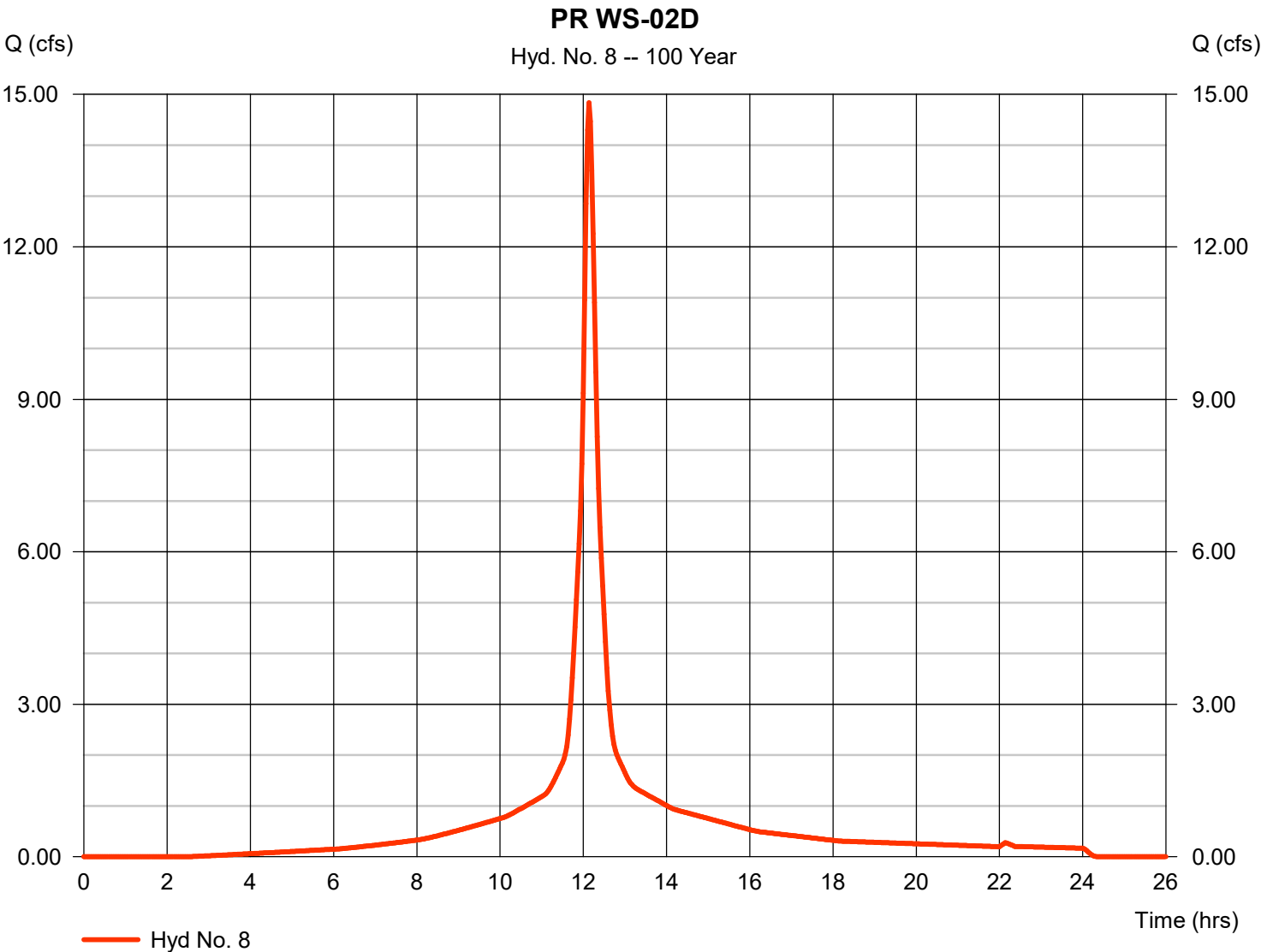
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 8

PR WS-02D

Hydrograph type	= SCS Runoff	Peak discharge	= 14.84 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 61,043 cuft
Drainage area	= 2.246 ac	Curve number	= 91
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 11.10 min
Total precip.	= 8.34 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

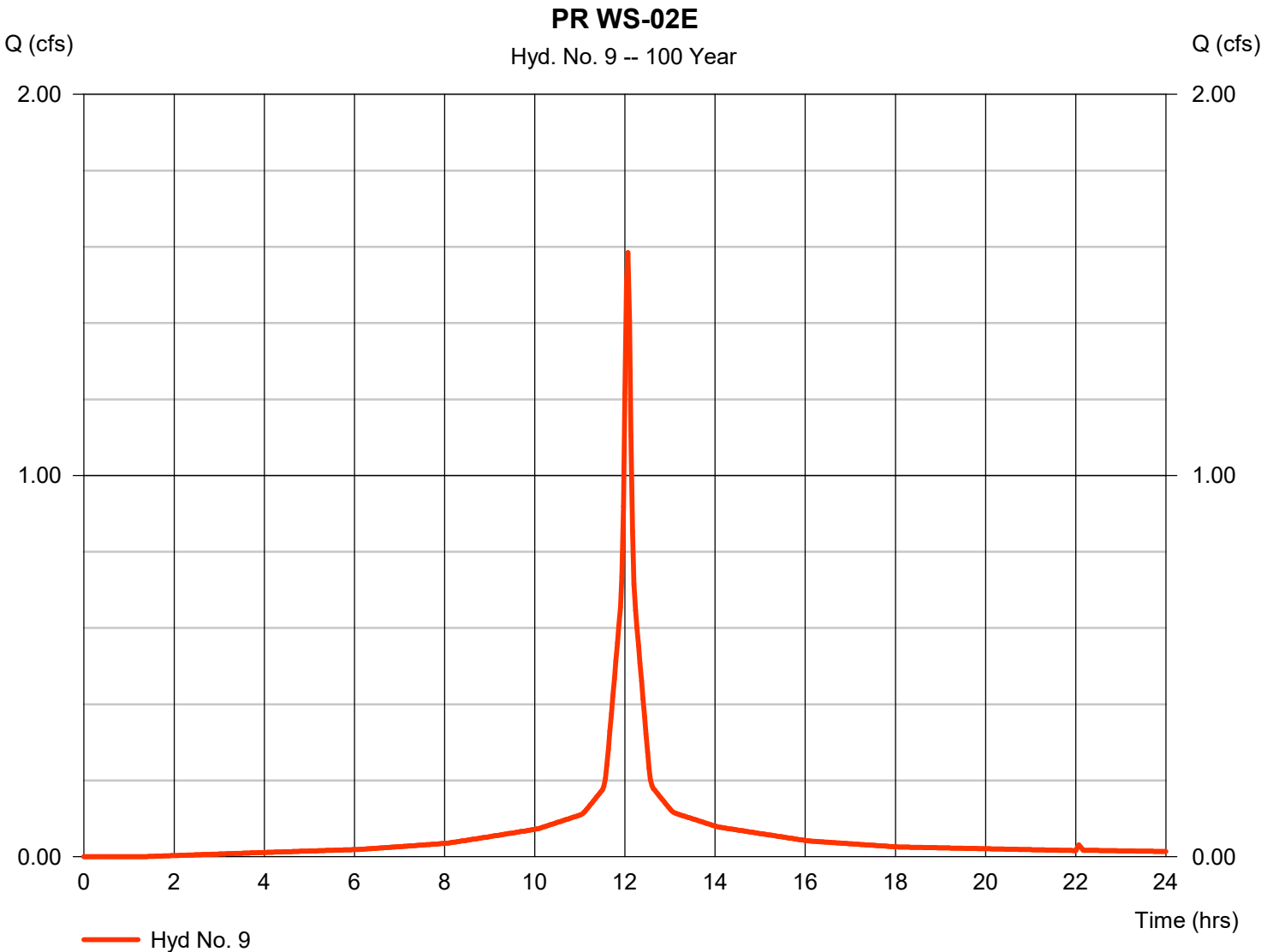
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 9

PR WS-02E

Hydrograph type	= SCS Runoff	Peak discharge	= 1.585 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 5,347 cuft
Drainage area	= 0.203 ac	Curve number	= 95
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 8.34 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

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

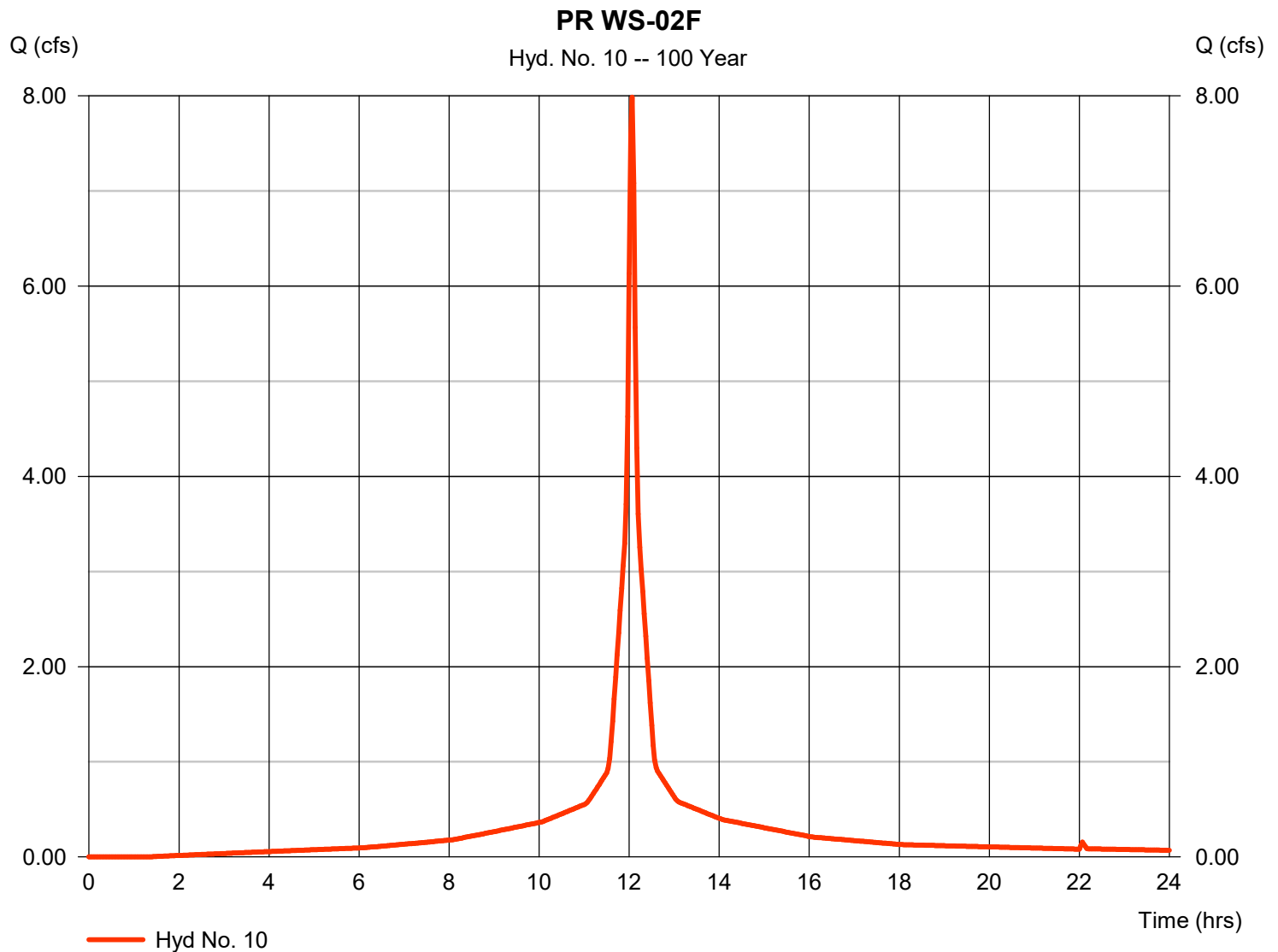
Tuesday, 12 / 5 / 2023

Hyd. No. 10

PR WS-02F

Hydrograph type = SCS Runoff
 Storm frequency = 100 yrs
 Time interval = 2 min
 Drainage area = 1.023 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 8.34 in
 Storm duration = 24 hrs

Peak discharge = 7.986 cfs
 Time to peak = 12.07 hrs
 Hyd. volume = 26,946 cuft
 Curve number = 95
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 5.00 min
 Distribution = Type III
 Shape factor = 484



Hydrograph Report

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

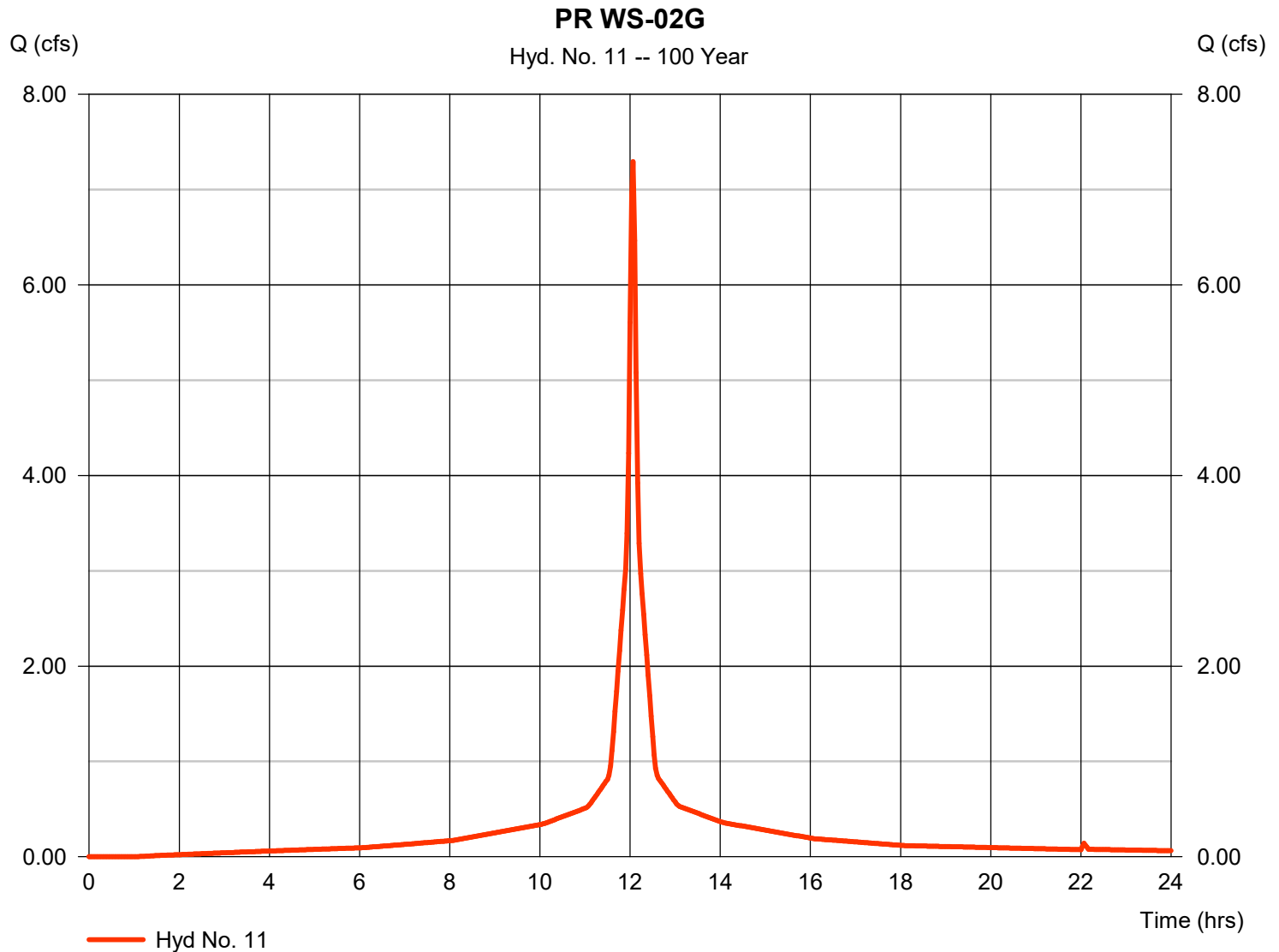
Tuesday, 12 / 5 / 2023

Hyd. No. 11

PR WS-02G

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 2 min
Drainage area = 0.930 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 8.34 in
Storm duration = 24 hrs

Peak discharge = 7.294 cfs
Time to peak = 12.07 hrs
Hyd. volume = 24,876 cuft
Curve number = 96
Hydraulic length = 0 ft
Time of conc. (Tc) = 5.00 min
Distribution = Type III
Shape factor = 484



Hydrograph Report

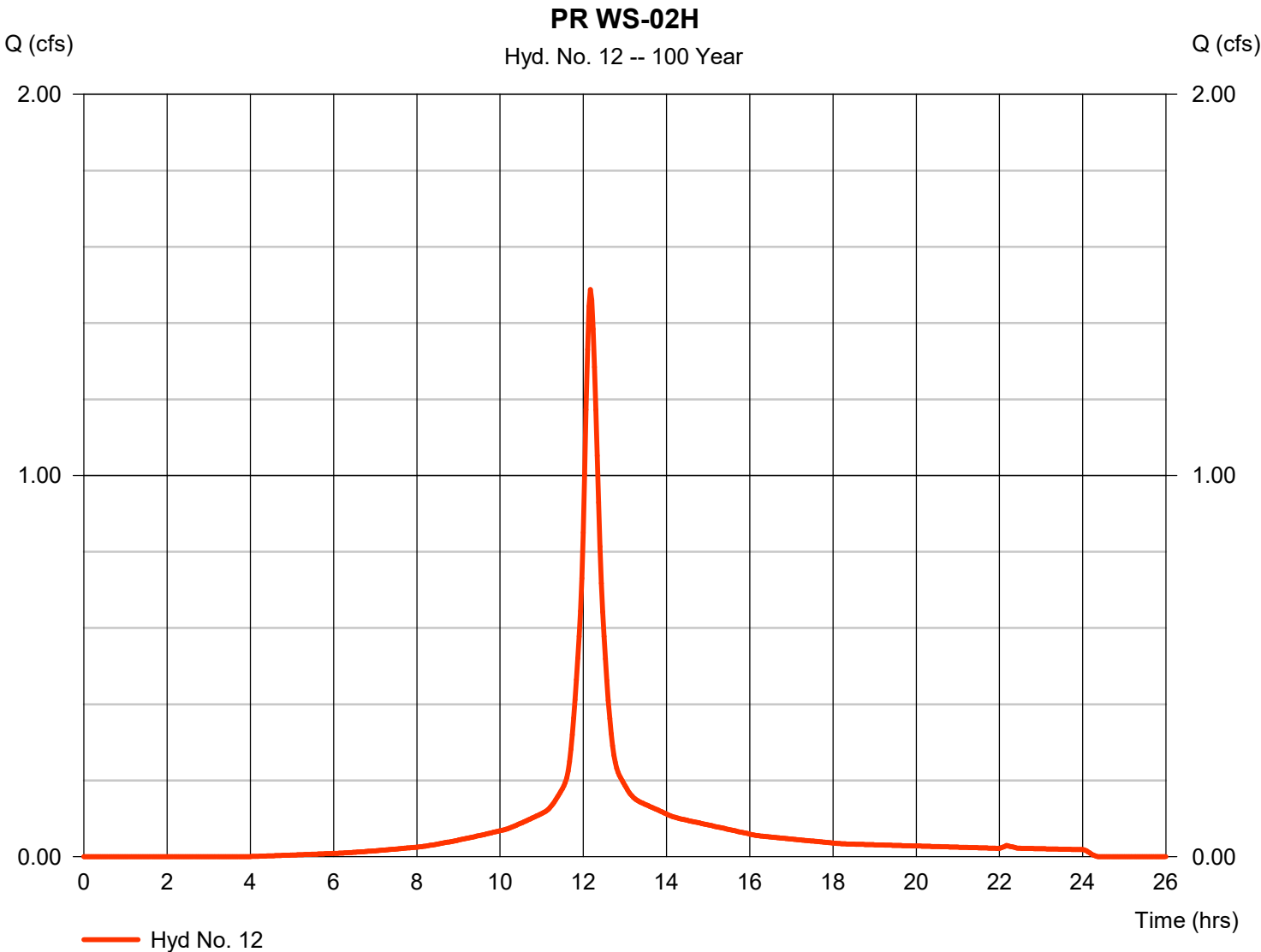
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Tuesday, 12 / 5 / 2023

Hyd. No. 12

PR WS-02H

Hydrograph type	= SCS Runoff	Peak discharge	= 1.488 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.17 hrs
Time interval	= 2 min	Hyd. volume	= 6,295 cuft
Drainage area	= 0.267 ac	Curve number	= 86
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 13.80 min
Total precip.	= 8.34 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

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

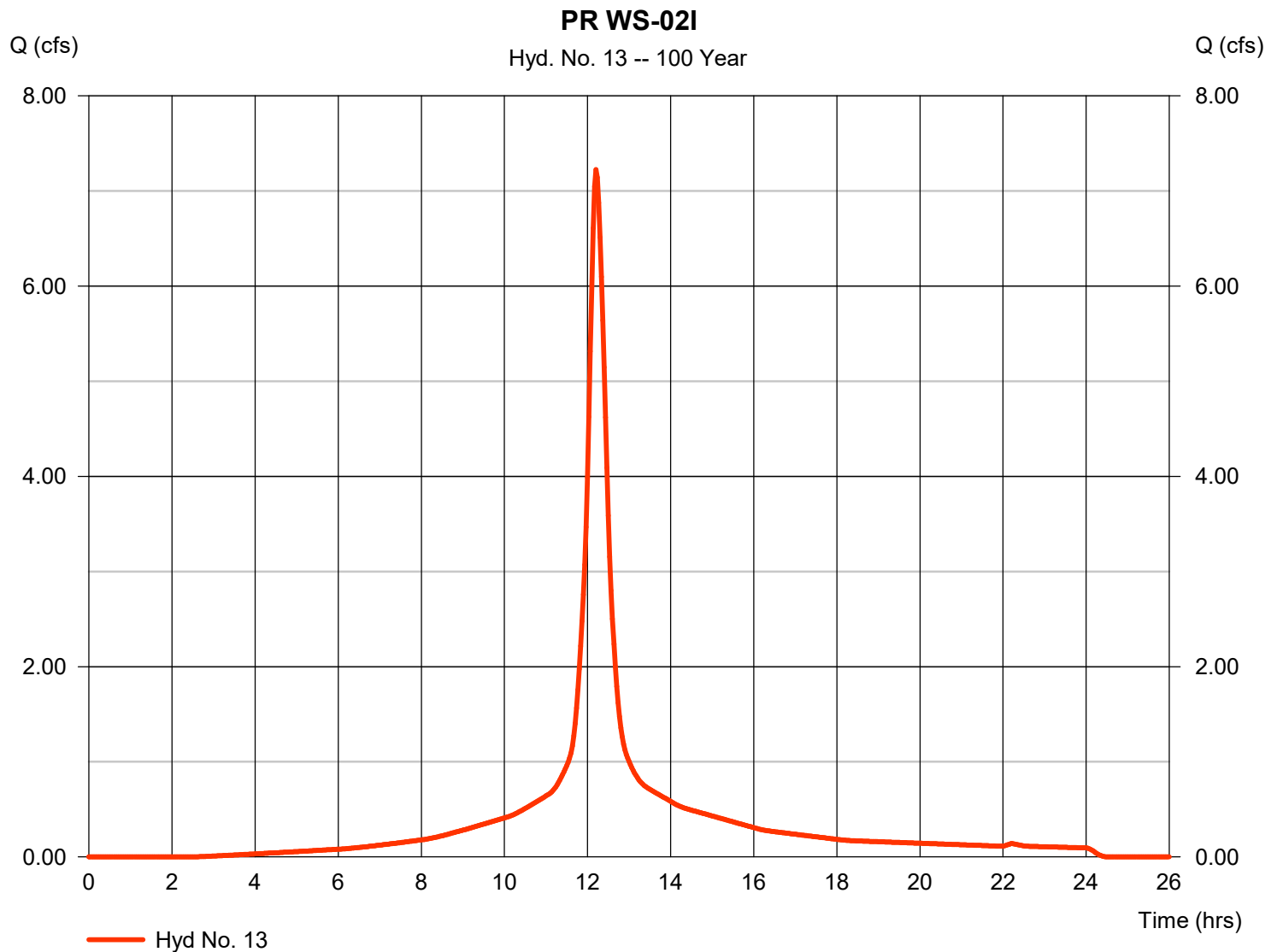
Tuesday, 12 / 5 / 2023

Hyd. No. 13

PR WS-02I

Hydrograph type = SCS Runoff
 Storm frequency = 100 yrs
 Time interval = 2 min
 Drainage area = 1.296 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 8.34 in
 Storm duration = 24 hrs

Peak discharge = 7.225 cfs
 Time to peak = 12.20 hrs
 Hyd. volume = 34,156 cuft
 Curve number = 91
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 18.60 min
 Distribution = Type III
 Shape factor = 484



Hydrograph Report

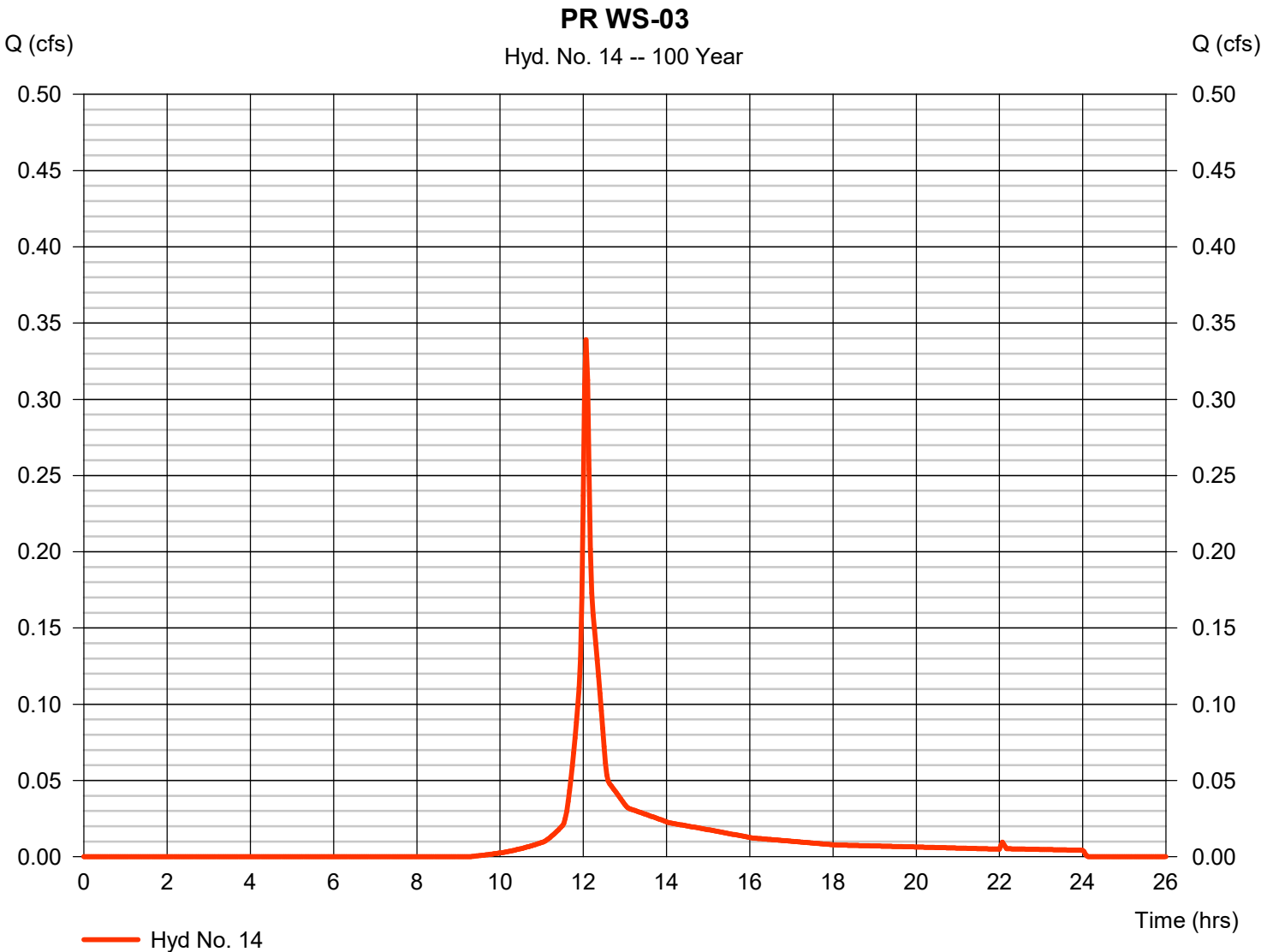
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 14

PR WS-03

Hydrograph type	= SCS Runoff	Peak discharge	= 0.339 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 1,022 cuft
Drainage area	= 0.081 ac	Curve number	= 61
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.10 min
Total precip.	= 8.34 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

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

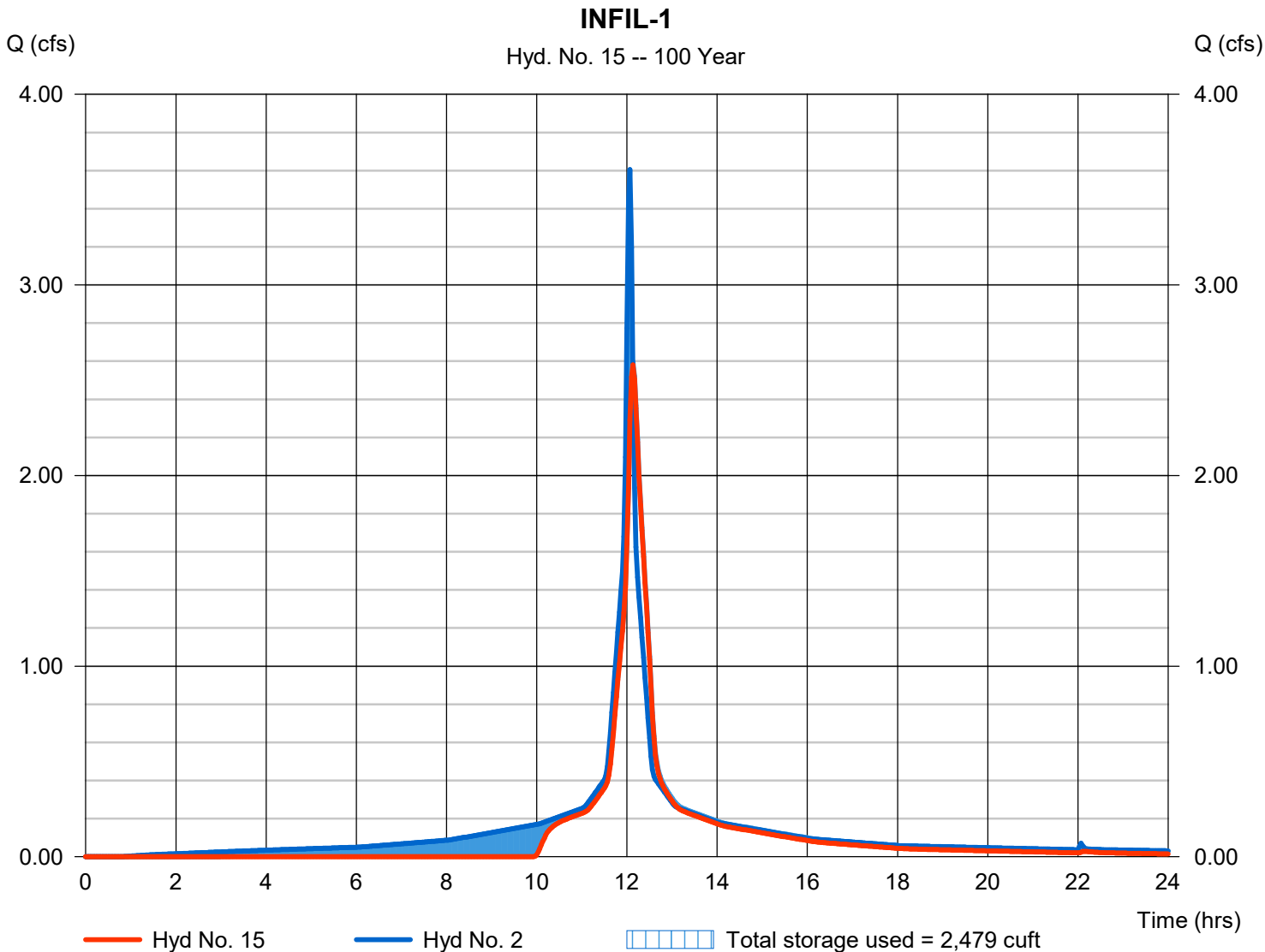
Tuesday, 12 / 5 / 2023

Hyd. No. 15

INFIL-1

Hydrograph type	= Reservoir	Peak discharge	= 2.580 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 9,629 cuft
Inflow hyd. No.	= 2 - PR WS-02A(I)	Max. Elevation	= 146.94 ft
Reservoir name	= INFIL-1	Max. Storage	= 2,479 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

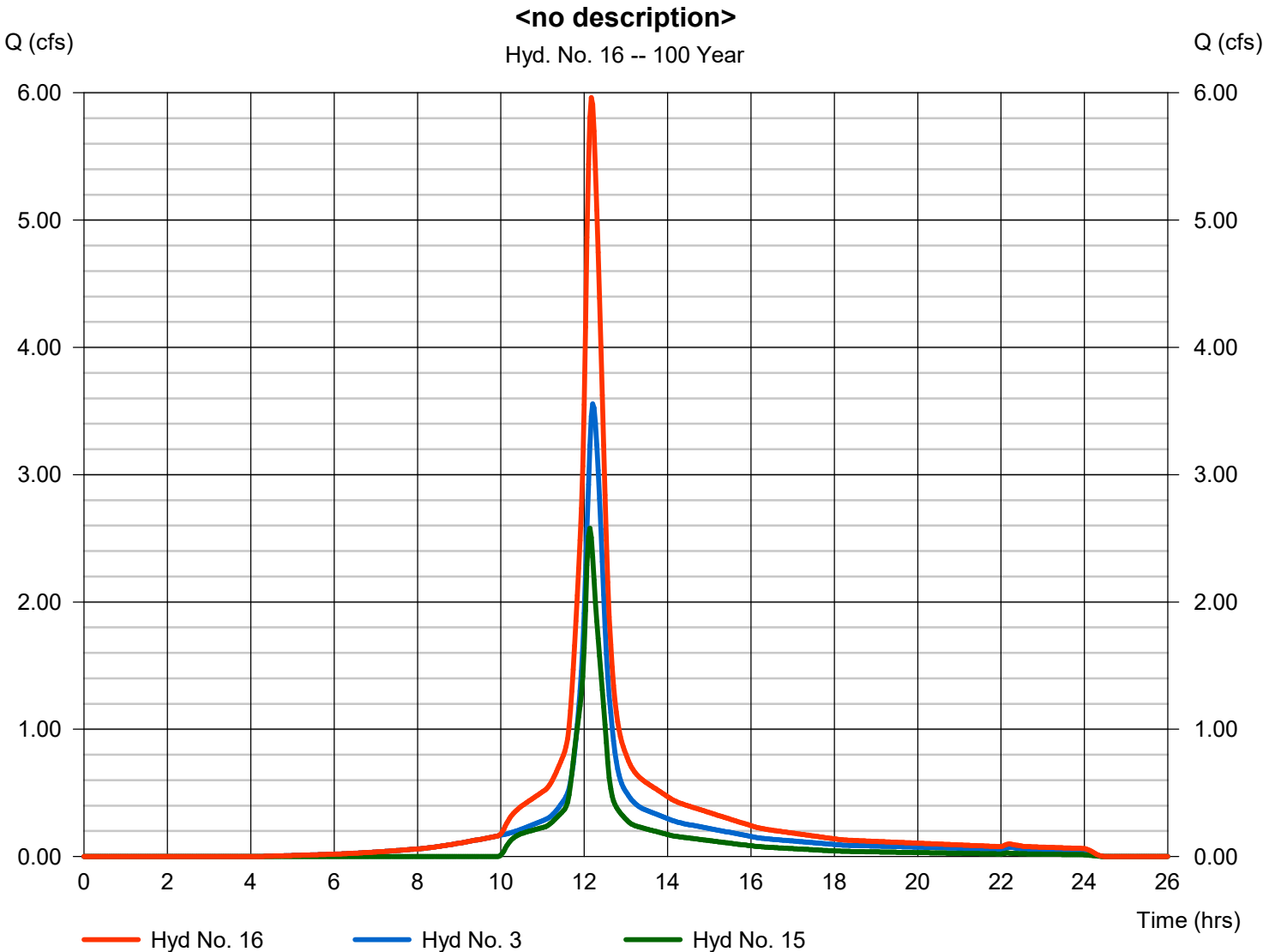
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 16

<no description>

Hydrograph type	= Combine	Peak discharge	= 5.963 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.17 hrs
Time interval	= 2 min	Hyd. volume	= 25,847 cuft
Inflow hyds.	= 3, 15	Contrib. drain. area	= 0.683 ac



Hydrograph Report

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

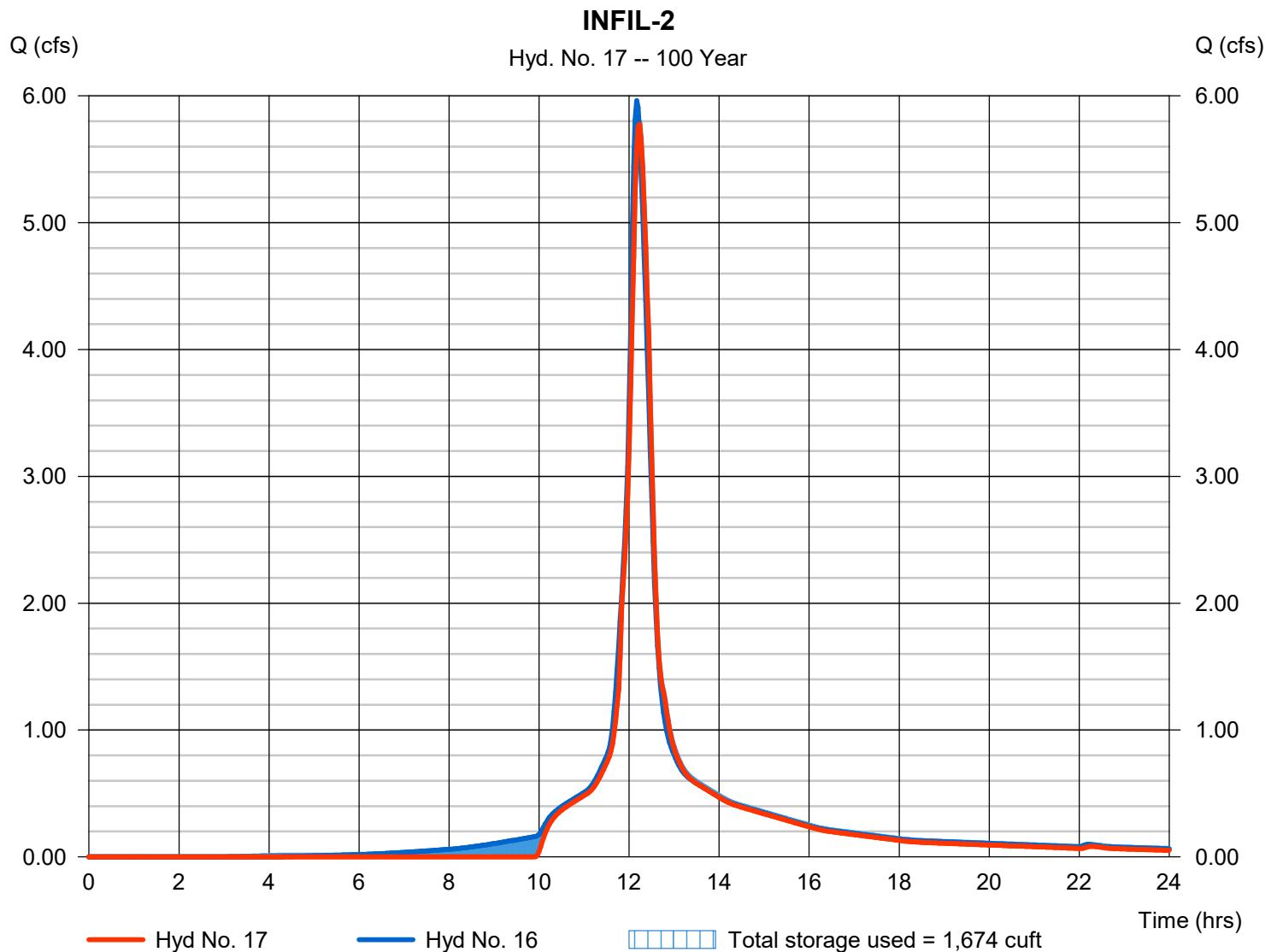
Tuesday, 12 / 5 / 2023

Hyd. No. 17

INFIL-2

Hydrograph type	= Reservoir	Peak discharge	= 5.776 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.23 hrs
Time interval	= 2 min	Hyd. volume	= 24,138 cuft
Inflow hyd. No.	= 16 - <no description>	Max. Elevation	= 138.33 ft
Reservoir name	= INFIL-2	Max. Storage	= 1,674 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

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

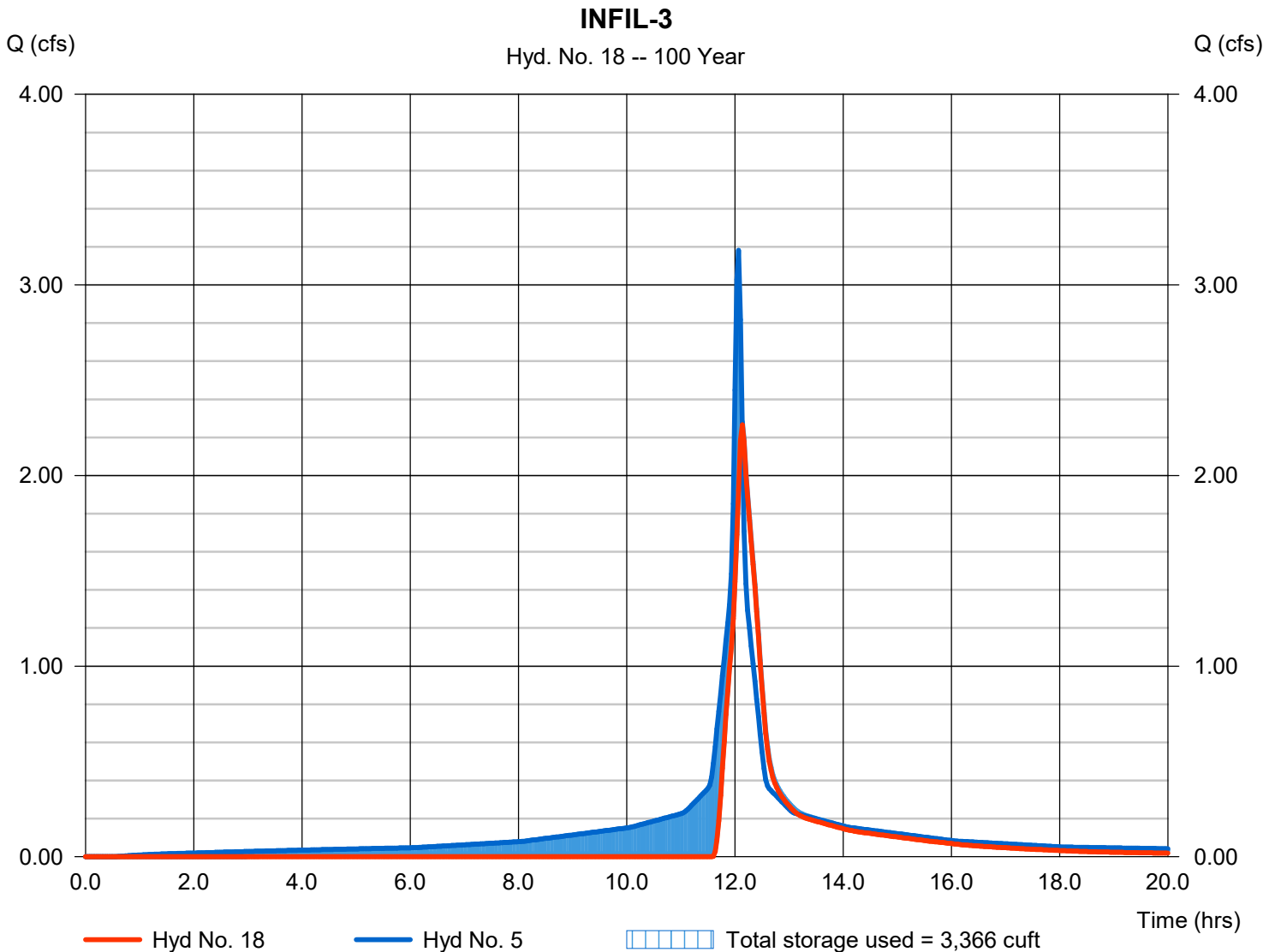
Tuesday, 12 / 5 / 2023

Hyd. No. 18

INFIL-3

Hydrograph type	= Reservoir	Peak discharge	= 2.266 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 6,804 cuft
Inflow hyd. No.	= 5 - PR WS-02B(II)	Max. Elevation	= 145.49 ft
Reservoir name	= INFIL-3	Max. Storage	= 3,366 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

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

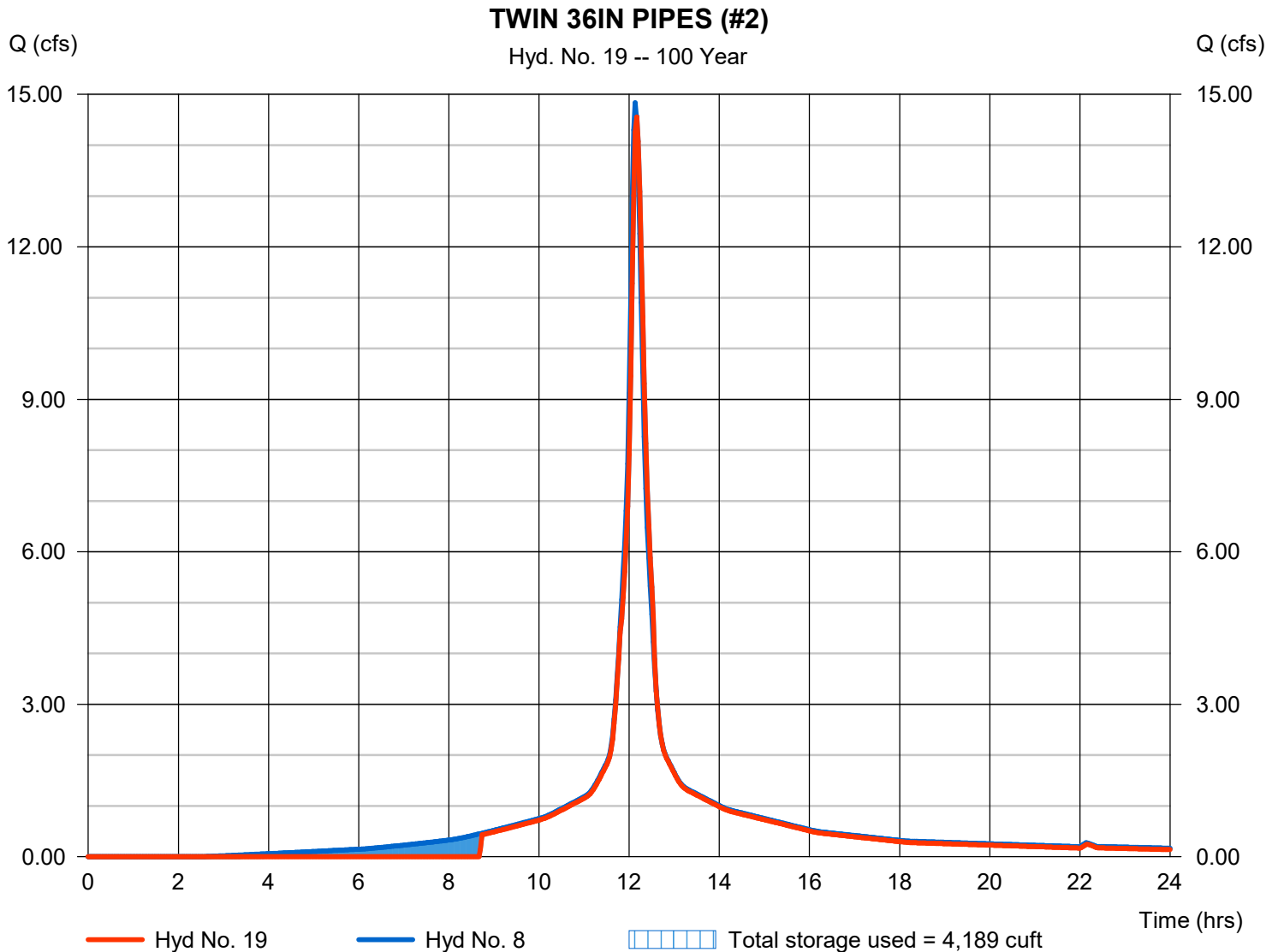
Tuesday, 12 / 5 / 2023

Hyd. No. 19

TWIN 36IN PIPES (#2)

Hydrograph type	= Reservoir	Peak discharge	= 14.56 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.17 hrs
Time interval	= 2 min	Hyd. volume	= 55,977 cuft
Inflow hyd. No.	= 8 - PR WS-02D	Max. Elevation	= 139.24 ft
Reservoir name	= Northern Twin 36IN	Max. Storage	= 4,189 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

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

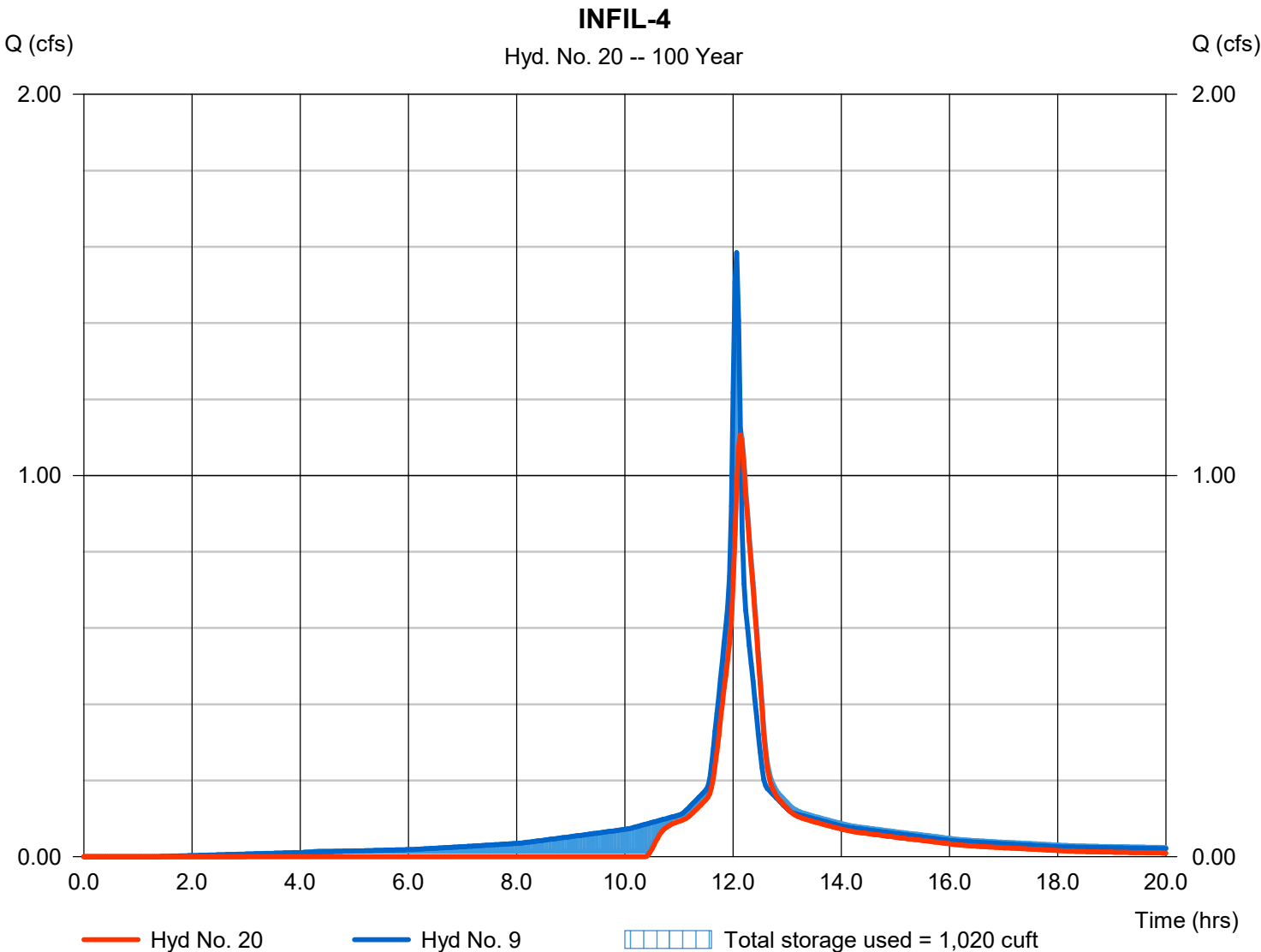
Tuesday, 12 / 5 / 2023

Hyd. No. 20

INFIL-4

Hydrograph type	= Reservoir	Peak discharge	= 1.107 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 3,919 cuft
Inflow hyd. No.	= 9 - PR WS-02E	Max. Elevation	= 138.62 ft
Reservoir name	= INFIL-4	Max. Storage	= 1,020 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

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

Tuesday, 12 / 5 / 2023

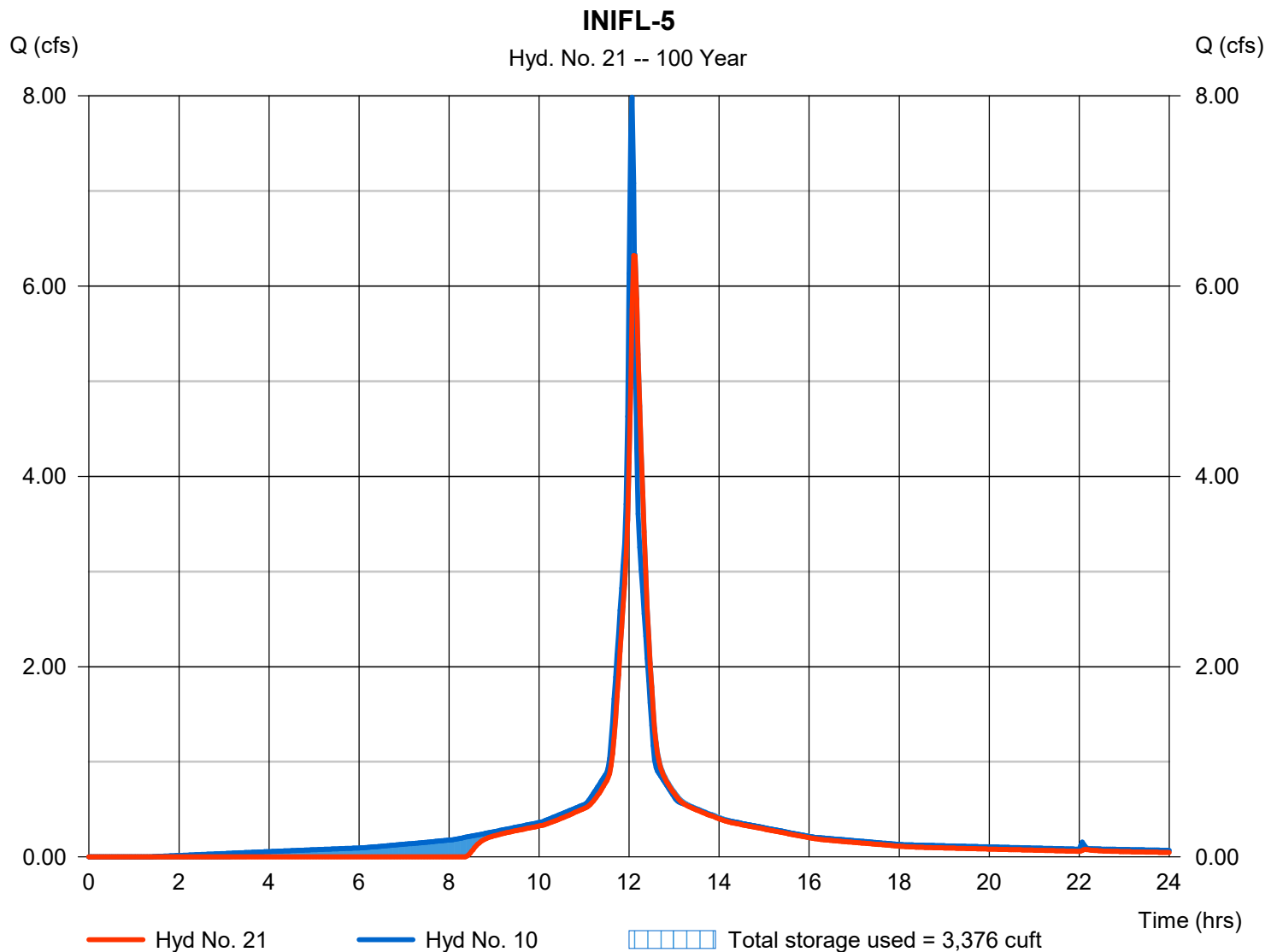
Hyd. No. 21

INIFL-5

Hydrograph type = Reservoir
 Storm frequency = 100 yrs
 Time interval = 2 min
 Inflow hyd. No. = 10 - PR WS-02F
 Reservoir name = INIFL-5

Peak discharge = 6.323 cfs
 Time to peak = 12.10 hrs
 Hyd. volume = 23,447 cuft
 Max. Elevation = 137.92 ft
 Max. Storage = 3,376 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

150

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

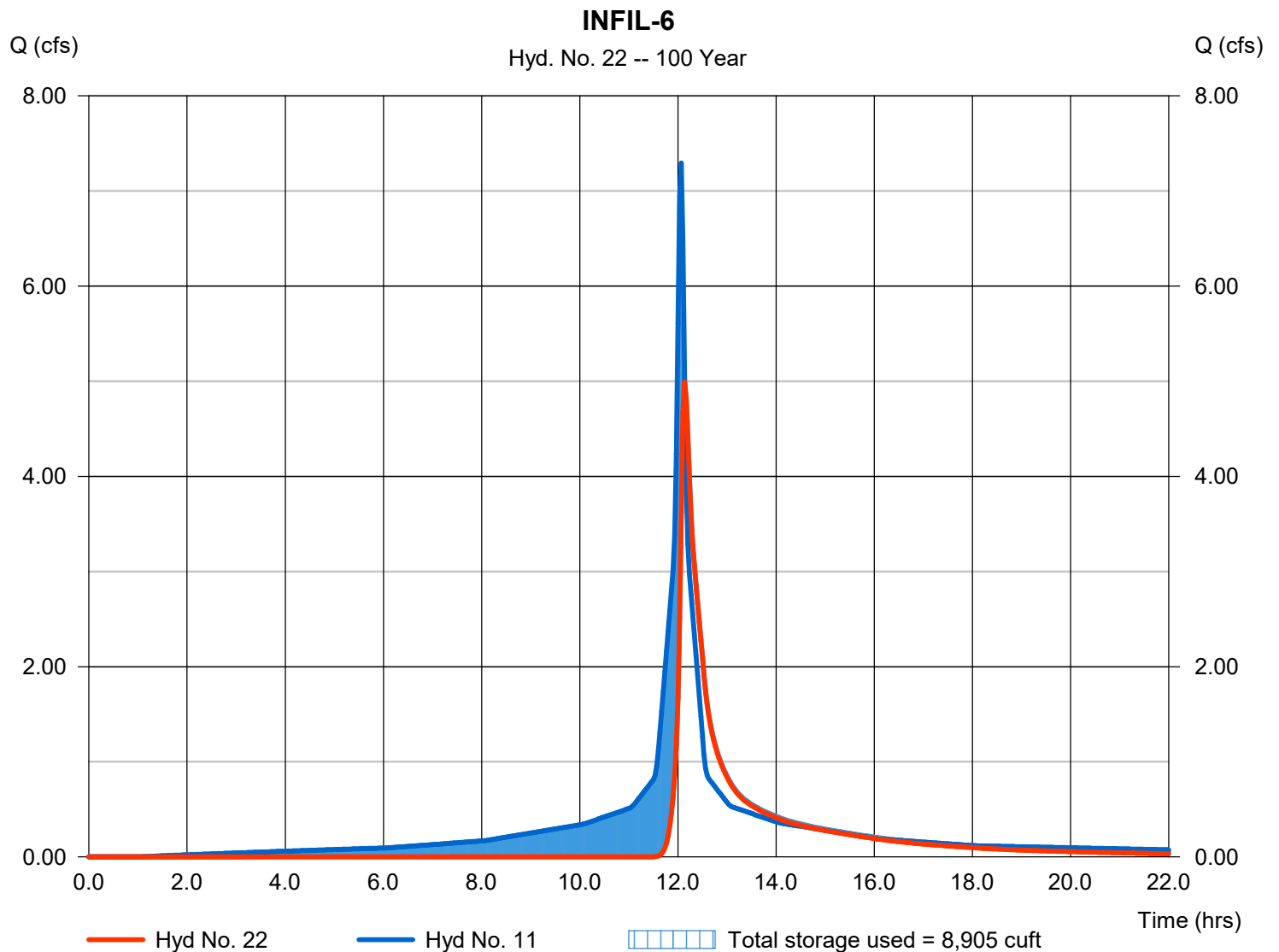
Tuesday, 12 / 5 / 2023

Hyd. No. 22

INFIL-6

Hydrograph type	= Reservoir	Peak discharge	= 4.990 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 15,158 cuft
Inflow hyd. No.	= 11 - PR WS-02G	Max. Elevation	= 136.84 ft
Reservoir name	= INFIL-6	Max. Storage	= 8,905 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

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

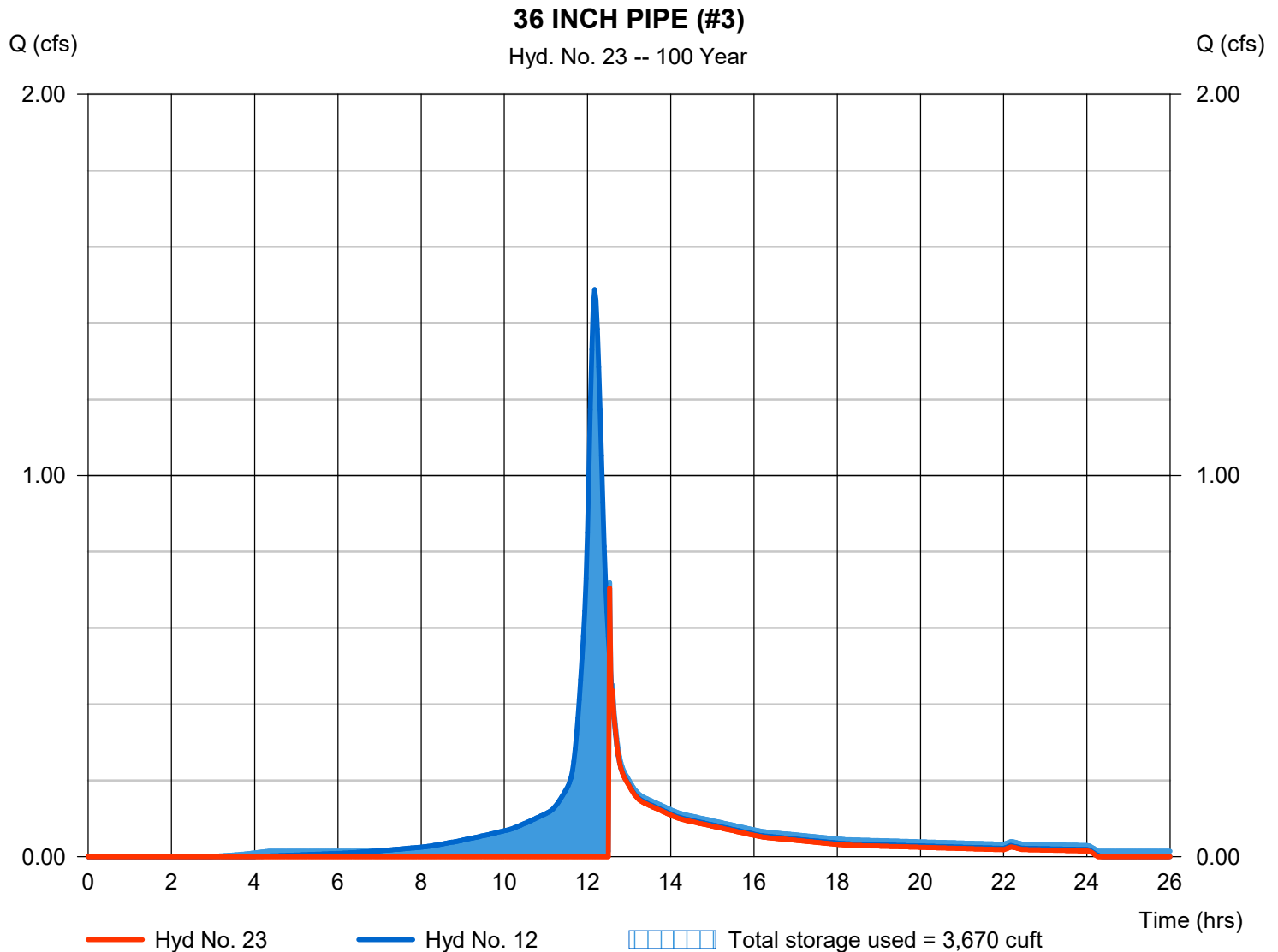
Tuesday, 12 / 5 / 2023

Hyd. No. 23

36 INCH PIPE (#3)

Hydrograph type	= Reservoir	Peak discharge	= 0.704 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.53 hrs
Time interval	= 2 min	Hyd. volume	= 2,409 cuft
Inflow hyd. No.	= 12 - PR WS-02H	Max. Elevation	= 137.47 ft
Reservoir name	= 36IN - 3	Max. Storage	= 3,670 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

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

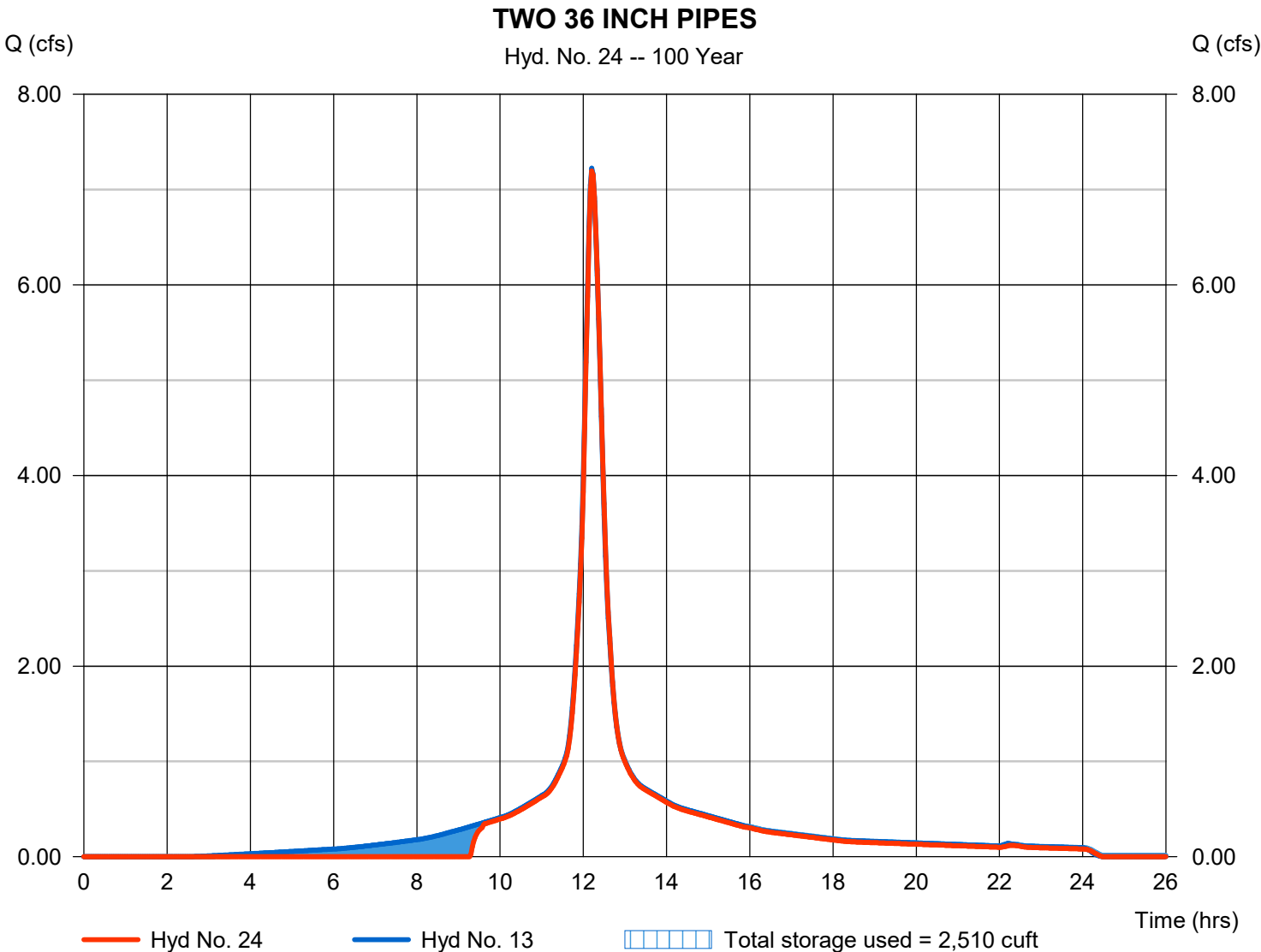
Tuesday, 12 / 5 / 2023

Hyd. No. 24

TWO 36 INCH PIPES

Hydrograph type	= Reservoir	Peak discharge	= 7.197 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.20 hrs
Time interval	= 2 min	Hyd. volume	= 30,870 cuft
Inflow hyd. No.	= 13 - PR WS-02I	Max. Elevation	= 135.76 ft
Reservoir name	= TWIN 36IN	Max. Storage	= 2,510 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Report

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

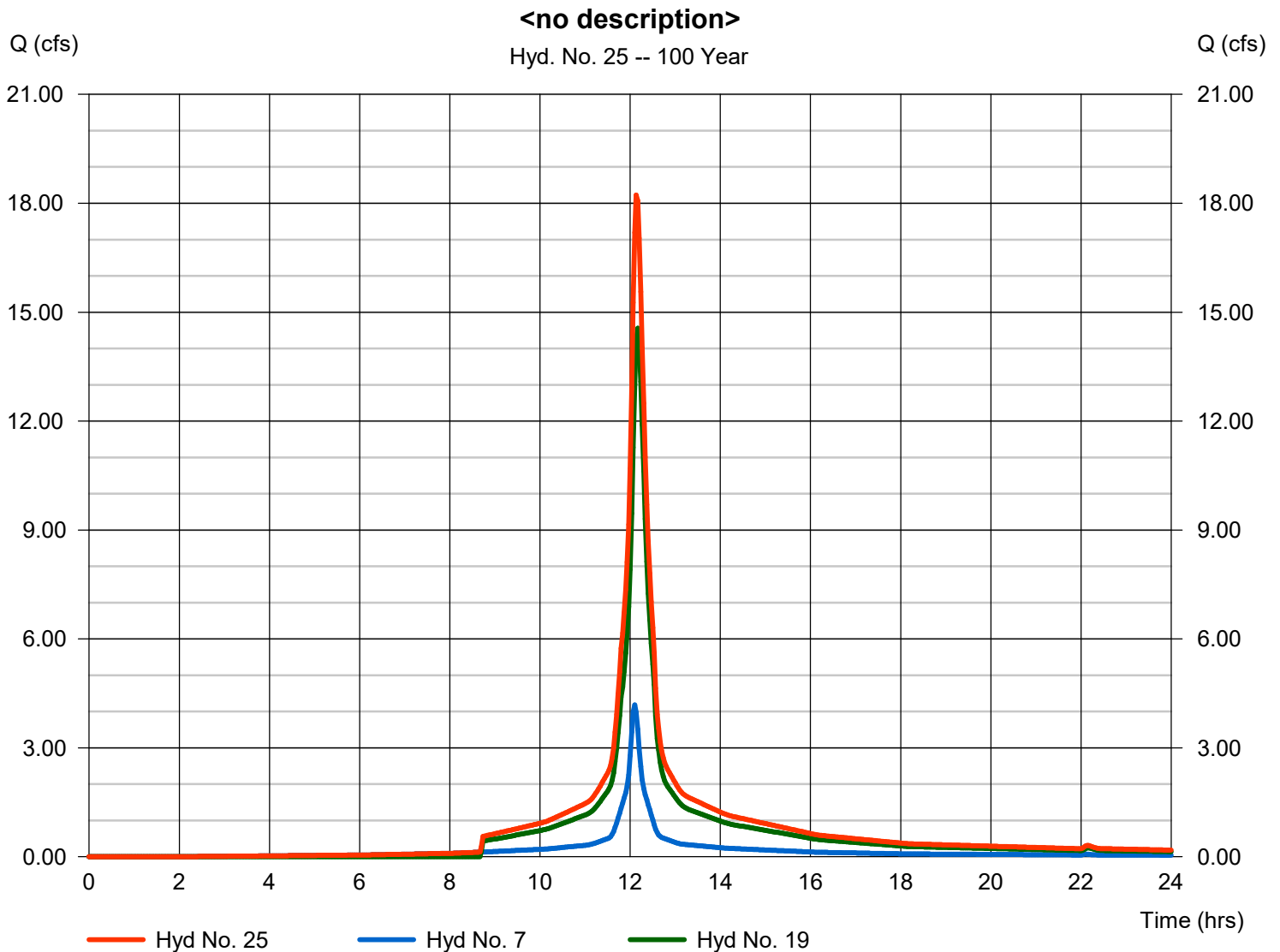
Tuesday, 12 / 5 / 2023

Hyd. No. 25

<no description>

Hydrograph type = Combine
Storm frequency = 100 yrs
Time interval = 2 min
Inflow hyds. = 7, 19

Peak discharge = 18.23 cfs
Time to peak = 12.13 hrs
Hyd. volume = 71,659 cuft
Contrib. drain. area = 0.576 ac



Hydrograph Report

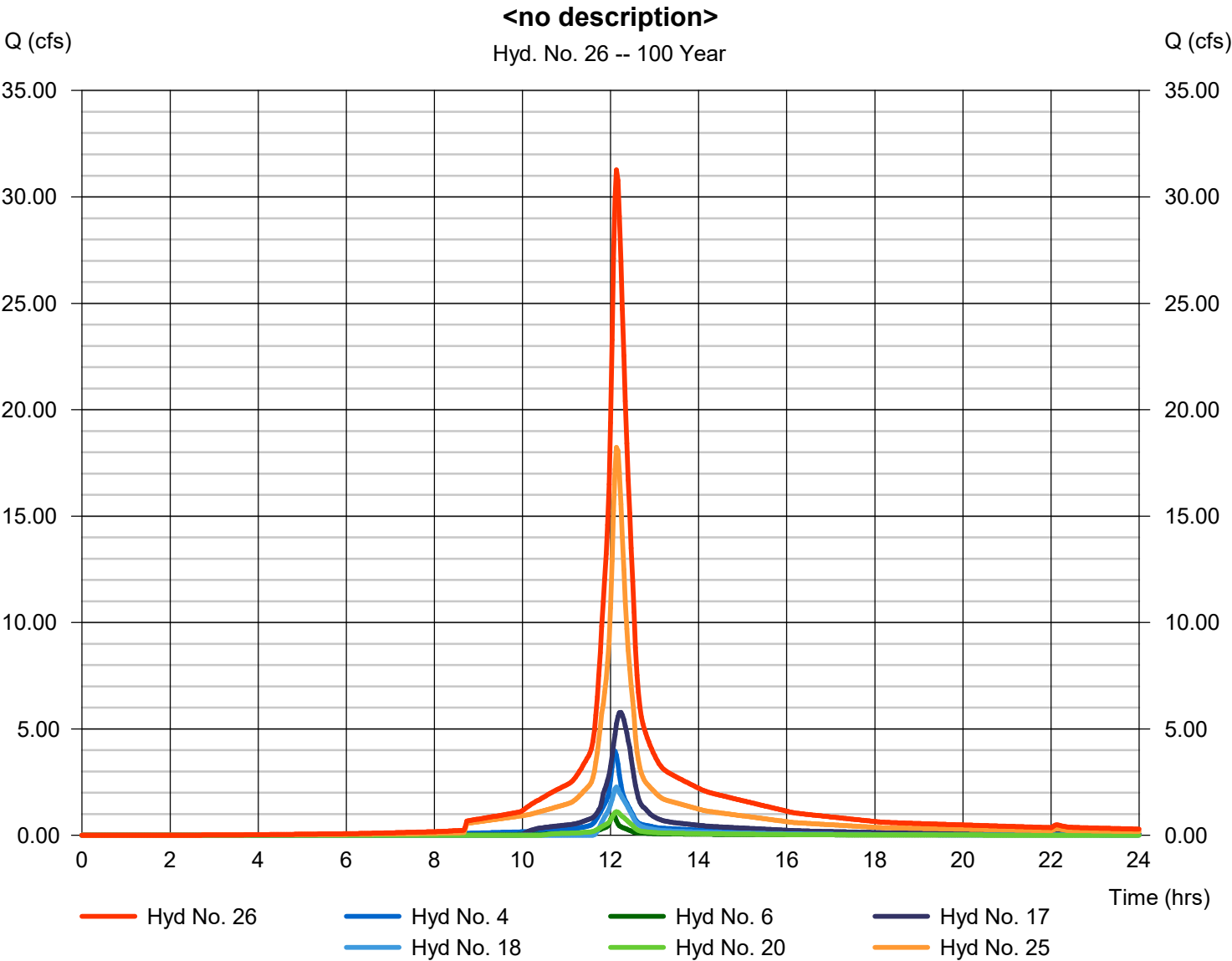
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 26

<no description>

Hydrograph type	= Combine	Peak discharge	= 31.28 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 123,737 cuft
Inflow hyds.	= 4, 6, 17, 18, 20, 25	Contrib. drain. area	= 0.708 ac



Hydrograph Report

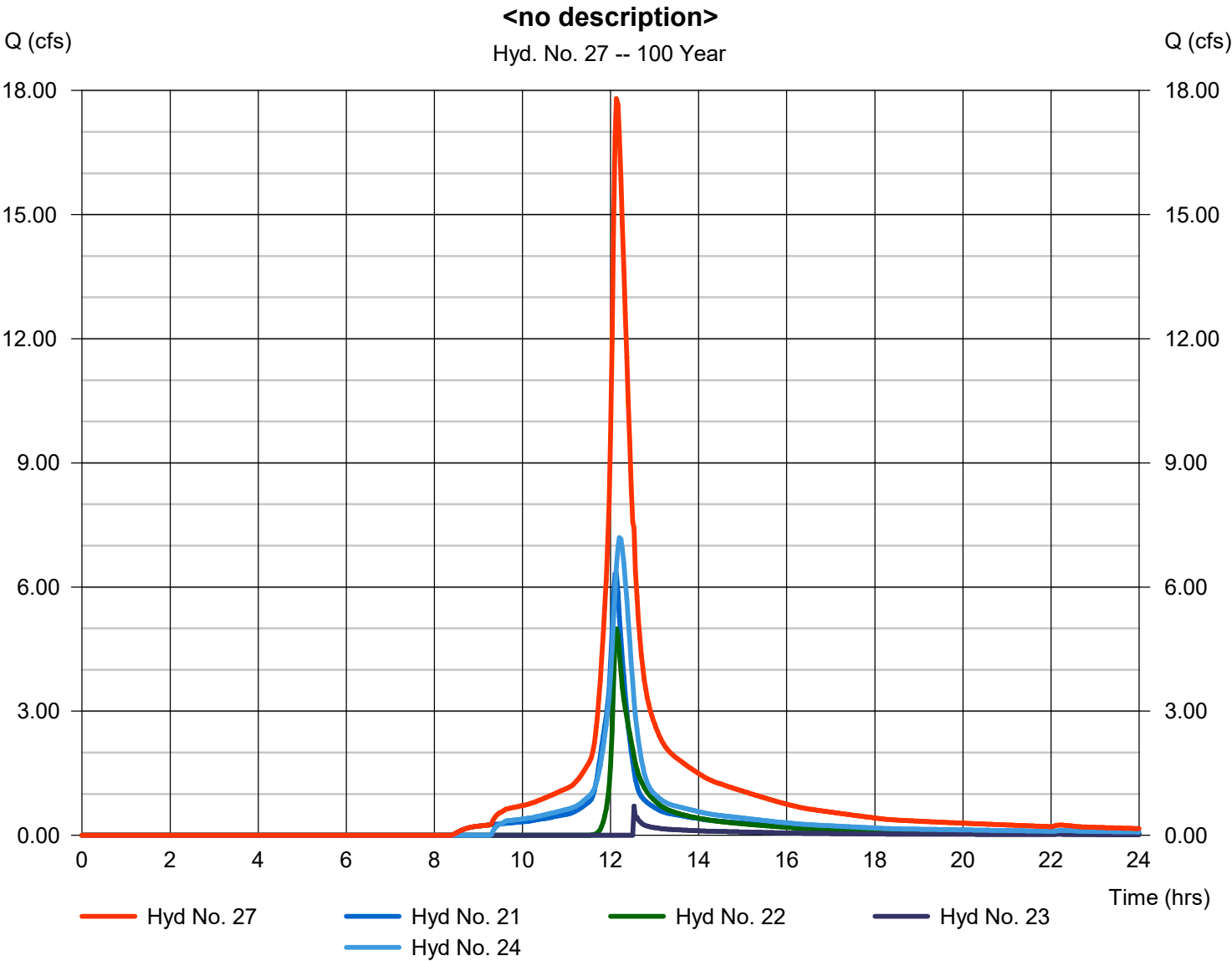
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Tuesday, 12 / 5 / 2023

Hyd. No. 27

<no description>

Hydrograph type	= Combine	Peak discharge	= 17.81 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.13 hrs
Time interval	= 2 min	Hyd. volume	= 71,885 cuft
Inflow hyds.	= 21, 22, 23, 24	Contrib. drain. area	= 0.000 ac



Hydrograph Report

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

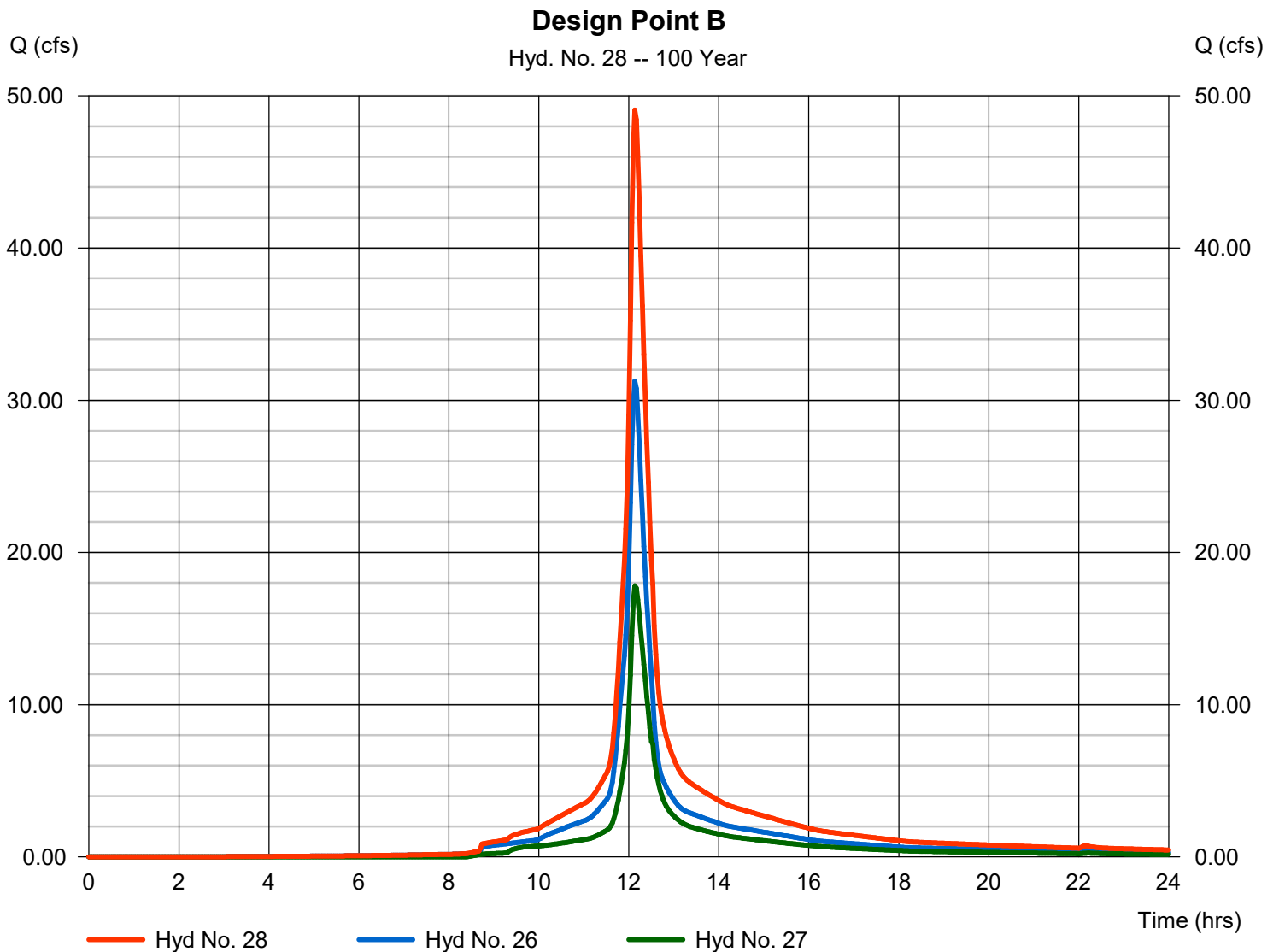
Tuesday, 12 / 5 / 2023

Hyd. No. 28

Design Point B

Hydrograph type = Combine
Storm frequency = 100 yrs
Time interval = 2 min
Inflow hyds. = 26, 27

Peak discharge = 49.08 cfs
Time to peak = 12.13 hrs
Hyd. volume = 195,622 cuft
Contrib. drain. area = 0.000 ac



Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	0.0000	0.0000	0.0000	-----
2	23.2694	3.7000	0.7019	-----
3	0.0000	0.0000	0.0000	-----
5	28.1517	3.6000	0.6982	-----
10	33.4115	3.8000	0.7042	-----
25	38.5092	3.6000	0.6982	-----
50	42.7840	3.6000	0.6957	-----
100	48.0560	3.6000	0.6997	-----

File name: WILTON.IDF

$$\text{Intensity} = B / (Tc + D)^E$$

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	5.10	3.71	2.98	2.52	2.21	1.97	1.79	1.64	1.52	1.42	1.33	1.26
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	6.27	4.55	3.66	3.10	2.71	2.42	2.20	2.02	1.87	1.75	1.64	1.55
10	7.22	5.26	4.23	3.58	3.13	2.80	2.54	2.33	2.16	2.02	1.90	1.79
25	8.57	6.22	5.00	4.24	3.70	3.31	3.00	2.76	2.56	2.39	2.24	2.12
50	9.57	6.96	5.60	4.74	4.15	3.71	3.37	3.09	2.87	2.68	2.52	2.38
100	10.66	7.74	6.22	5.26	4.60	4.11	3.73	3.43	3.17	2.96	2.79	2.63

Tc = time in minutes. Values may exceed 60.

Precip. file name: J:\T\T5000 Toll Brothers\012 Woodbridge Village\Calculations\Stormwater\WOODBIDGE.pcp

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Watershed Model Schematic.....	1
Hydrograph Return Period Recap.....	2
2 - Year	
Summary Report.....	3
Hydrograph Reports.....	4
Hydrograph No. 1, SCS Runoff, PR WS-01.....	4
Hydrograph No. 2, SCS Runoff, PR WS-02A(I).....	5
Hydrograph No. 3, SCS Runoff, PR WS-02A(II).....	6
Hydrograph No. 4, SCS Runoff, PR WS-02B(I).....	7
Hydrograph No. 5, SCS Runoff, PR WS-02B(II).....	8
Hydrograph No. 6, SCS Runoff, PR WS-02B(III).....	9
Hydrograph No. 7, SCS Runoff, PR WS-02C.....	10
Hydrograph No. 8, SCS Runoff, PR WS-02D.....	11
Hydrograph No. 9, SCS Runoff, PR WS-02E.....	12
Hydrograph No. 10, SCS Runoff, PR WS-02F.....	13
Hydrograph No. 11, SCS Runoff, PR WS-02G.....	14
Hydrograph No. 12, SCS Runoff, PR WS-02H.....	15
Hydrograph No. 13, SCS Runoff, PR WS-02I.....	16
Hydrograph No. 14, SCS Runoff, PR WS-03.....	17
Hydrograph No. 15, Reservoir, INFIL-1.....	18
Pond Report - INFIL-1.....	19
Hydrograph No. 16, Combine, <no description>.....	20
Hydrograph No. 17, Reservoir, INFIL-2.....	21
Pond Report - INFIL-2.....	22
Hydrograph No. 18, Reservoir, INFIL-3.....	23
Pond Report - INFIL-3.....	24
Hydrograph No. 19, Reservoir, TWIN 36IN PIPES (#2).....	25
Pond Report - Northern Twin 36IN.....	26
Hydrograph No. 20, Reservoir, INFIL-4.....	27
Pond Report - INFIL-4.....	28
Hydrograph No. 21, Reservoir, INFIL-5.....	29
Pond Report - INFIL-5.....	30
Hydrograph No. 22, Reservoir, INFIL-6.....	31
Pond Report - INFIL-6.....	32
Hydrograph No. 23, Reservoir, 36 INCH PIPE (#3).....	33
Pond Report - 36IN - 3.....	34
Hydrograph No. 24, Reservoir, TWO 36 INCH PIPES.....	35
Pond Report - TWIN 36IN.....	36
Hydrograph No. 25, Combine, <no description>.....	37
Hydrograph No. 26, Combine, <no description>.....	38
Hydrograph No. 27, Combine, <no description>.....	39
Hydrograph No. 28, Combine, Design Point B.....	40
10 - Year	
Summary Report.....	41
Hydrograph Reports.....	42

Hydrograph No. 1, SCS Runoff, PR WS-01.....	42
Hydrograph No. 2, SCS Runoff, PR WS-02A(I).....	43
Hydrograph No. 3, SCS Runoff, PR WS-02A(II).....	44
Hydrograph No. 4, SCS Runoff, PR WS-02B(I).....	45
Hydrograph No. 5, SCS Runoff, PR WS-02B(II).....	46
Hydrograph No. 6, SCS Runoff, PR WS-02B(III).....	47
Hydrograph No. 7, SCS Runoff, PR WS-02C.....	48
Hydrograph No. 8, SCS Runoff, PR WS-02D.....	49
Hydrograph No. 9, SCS Runoff, PR WS-02E.....	50
Hydrograph No. 10, SCS Runoff, PR WS-02F.....	51
Hydrograph No. 11, SCS Runoff, PR WS-02G.....	52
Hydrograph No. 12, SCS Runoff, PR WS-02H.....	53
Hydrograph No. 13, SCS Runoff, PR WS-02I.....	54
Hydrograph No. 14, SCS Runoff, PR WS-03.....	55
Hydrograph No. 15, Reservoir, INFIL-1.....	56
Hydrograph No. 16, Combine, <no description>.....	57
Hydrograph No. 17, Reservoir, INFIL-2.....	58
Hydrograph No. 18, Reservoir, INFIL-3.....	59
Hydrograph No. 19, Reservoir, TWIN 36IN PIPES (#2).....	60
Hydrograph No. 20, Reservoir, INFIL-4.....	61
Hydrograph No. 21, Reservoir, INFIL-5.....	62
Hydrograph No. 22, Reservoir, INFIL-6.....	63
Hydrograph No. 23, Reservoir, 36 INCH PIPE (#3).....	64
Hydrograph No. 24, Reservoir, TWO 36 INCH PIPES.....	65
Hydrograph No. 25, Combine, <no description>.....	66
Hydrograph No. 26, Combine, <no description>.....	67
Hydrograph No. 27, Combine, <no description>.....	68
Hydrograph No. 28, Combine, Design Point B.....	69

25 - Year

Summary Report.....	70
Hydrograph Reports.....	71
Hydrograph No. 1, SCS Runoff, PR WS-01.....	71
Hydrograph No. 2, SCS Runoff, PR WS-02A(I).....	72
Hydrograph No. 3, SCS Runoff, PR WS-02A(II).....	73
Hydrograph No. 4, SCS Runoff, PR WS-02B(I).....	74
Hydrograph No. 5, SCS Runoff, PR WS-02B(II).....	75
Hydrograph No. 6, SCS Runoff, PR WS-02B(III).....	76
Hydrograph No. 7, SCS Runoff, PR WS-02C.....	77
Hydrograph No. 8, SCS Runoff, PR WS-02D.....	78
Hydrograph No. 9, SCS Runoff, PR WS-02E.....	79
Hydrograph No. 10, SCS Runoff, PR WS-02F.....	80
Hydrograph No. 11, SCS Runoff, PR WS-02G.....	81
Hydrograph No. 12, SCS Runoff, PR WS-02H.....	82
Hydrograph No. 13, SCS Runoff, PR WS-02I.....	83
Hydrograph No. 14, SCS Runoff, PR WS-03.....	84
Hydrograph No. 15, Reservoir, INFIL-1.....	85
Hydrograph No. 16, Combine, <no description>.....	86
Hydrograph No. 17, Reservoir, INFIL-2.....	87
Hydrograph No. 18, Reservoir, INFIL-3.....	88
Hydrograph No. 19, Reservoir, TWIN 36IN PIPES (#2).....	89

Hydrograph No. 20, Reservoir, INFIL-4.....	90
Hydrograph No. 21, Reservoir, INIFL-5.....	91
Hydrograph No. 22, Reservoir, INFIL-6.....	92
Hydrograph No. 23, Reservoir, 36 INCH PIPE (#3).....	93
Hydrograph No. 24, Reservoir, TWO 36 INCH PIPES.....	94
Hydrograph No. 25, Combine, <no description>.....	95
Hydrograph No. 26, Combine, <no description>.....	96
Hydrograph No. 27, Combine, <no description>.....	97
Hydrograph No. 28, Combine, Design Point B.....	98

50 - Year

Summary Report.....	99
Hydrograph Reports.....	100
Hydrograph No. 1, SCS Runoff, PR WS-01.....	100
Hydrograph No. 2, SCS Runoff, PR WS-02A(I).....	101
Hydrograph No. 3, SCS Runoff, PR WS-02A(II).....	102
Hydrograph No. 4, SCS Runoff, PR WS-02B(I).....	103
Hydrograph No. 5, SCS Runoff, PR WS-02B(II).....	104
Hydrograph No. 6, SCS Runoff, PR WS-02B(III).....	105
Hydrograph No. 7, SCS Runoff, PR WS-02C.....	106
Hydrograph No. 8, SCS Runoff, PR WS-02D.....	107
Hydrograph No. 9, SCS Runoff, PR WS-02E.....	108
Hydrograph No. 10, SCS Runoff, PR WS-02F.....	109
Hydrograph No. 11, SCS Runoff, PR WS-02G.....	110
Hydrograph No. 12, SCS Runoff, PR WS-02H.....	111
Hydrograph No. 13, SCS Runoff, PR WS-02I.....	112
Hydrograph No. 14, SCS Runoff, PR WS-03.....	113
Hydrograph No. 15, Reservoir, INFIL-1.....	114
Hydrograph No. 16, Combine, <no description>.....	115
Hydrograph No. 17, Reservoir, INFIL-2.....	116
Hydrograph No. 18, Reservoir, INFIL-3.....	117
Hydrograph No. 19, Reservoir, TWIN 36IN PIPES (#2).....	118
Hydrograph No. 20, Reservoir, INFIL-4.....	119
Hydrograph No. 21, Reservoir, INIFL-5.....	120
Hydrograph No. 22, Reservoir, INFIL-6.....	121
Hydrograph No. 23, Reservoir, 36 INCH PIPE (#3).....	122
Hydrograph No. 24, Reservoir, TWO 36 INCH PIPES.....	123
Hydrograph No. 25, Combine, <no description>.....	124
Hydrograph No. 26, Combine, <no description>.....	125
Hydrograph No. 27, Combine, <no description>.....	126
Hydrograph No. 28, Combine, Design Point B.....	127

100 - Year

Summary Report.....	128
Hydrograph Reports.....	129
Hydrograph No. 1, SCS Runoff, PR WS-01.....	129
Hydrograph No. 2, SCS Runoff, PR WS-02A(I).....	130
Hydrograph No. 3, SCS Runoff, PR WS-02A(II).....	131
Hydrograph No. 4, SCS Runoff, PR WS-02B(I).....	132
Hydrograph No. 5, SCS Runoff, PR WS-02B(II).....	133

Hydrograph No. 6, SCS Runoff, PR WS-02B(III).....	134
Hydrograph No. 7, SCS Runoff, PR WS-02C.....	135
Hydrograph No. 8, SCS Runoff, PR WS-02D.....	136
Hydrograph No. 9, SCS Runoff, PR WS-02E.....	137
Hydrograph No. 10, SCS Runoff, PR WS-02F.....	138
Hydrograph No. 11, SCS Runoff, PR WS-02G.....	139
Hydrograph No. 12, SCS Runoff, PR WS-02H.....	140
Hydrograph No. 13, SCS Runoff, PR WS-02I.....	141
Hydrograph No. 14, SCS Runoff, PR WS-03.....	142
Hydrograph No. 15, Reservoir, INFIL-1.....	143
Hydrograph No. 16, Combine, <no description>.....	144
Hydrograph No. 17, Reservoir, INFIL-2.....	145
Hydrograph No. 18, Reservoir, INFIL-3.....	146
Hydrograph No. 19, Reservoir, TWIN 36IN PIPES (#2).....	147
Hydrograph No. 20, Reservoir, INFIL-4.....	148
Hydrograph No. 21, Reservoir, INFIL-5.....	149
Hydrograph No. 22, Reservoir, INFIL-6.....	150
Hydrograph No. 23, Reservoir, 36 INCH PIPE (#3).....	151
Hydrograph No. 24, Reservoir, TWO 36 INCH PIPES.....	152
Hydrograph No. 25, Combine, <no description>.....	153
Hydrograph No. 26, Combine, <no description>.....	154
Hydrograph No. 27, Combine, <no description>.....	155
Hydrograph No. 28, Combine, Design Point B.....	156
IDF Report.....	157

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Project Name: **64 Danbury Road**
Project Number: **F0173-001**
Project Location: **Wilton, CT**
Description: **Proposed C & Tc Calculations**
Prepared By: **AVC** Date: **December 4, 2023**

Designation: **CB-01**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.070	0.90	0.063
Landscaped / Lawns	0.003	0.30	0.001
	0.073		0.064

Weighted C: 0.87

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.015	75	0.020	1.2

Total Tc = 1.2
Minimum Tc = 5.0

Designation: **CB-02**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.274	0.90	0.247
Landscaped / Lawns	0.249	0.30	0.075
	0.524		0.322

Weighted C: 0.61

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.4	10	0.02	3.35
Segment B - C	0.24	84	0.02	12.22
Segment C - D	0.015	143	0.04	1.54

Total Tc = 17.1

Designation: **CB-03**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.133	0.90	0.120
Landscaped / Lawns	0.033	0.30	0.010
	0.166		0.130

Weighted C: 0.78

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.4	10	0.02	3.35
Segment B - C	0.24	10	0.02	2.23
Segment C - D	0.015	135	0.03	1.65

Total Tc = 7.2

Note: Overland time of concentration computed using "Kinematic Wave" equation
Gutter and pipe time of concentration computed using Manning's equation

Designation: **CB-04**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.113	0.90	0.102
Landscaped / Lawns	0.102	0.30	0.030
	0.214		0.132

Weighted C: 0.62

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.4	52	0.11	6.34
Segment B - C	0.24	3	0.11	0.43
Segment C - D	0.015	43	0.04	0.59

Total Tc = 7.4

Project Name: **64 Danbury Road**
Project Number: **F0173-001**
Project Location: **Wilton, CT**
Description: **Proposed C & Tc Calculations**
Prepared By: **AVC** Date: **December 4, 2023**

Designation: **CB-05**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.132	0.90	0.119
Landscaped / Lawns	0.001	0.30	0.000
	0.133		0.119

Weighted C: 0.90

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.015	35	0.045	0.5

Total Tc = 0.5

Minimum Tc = 5.0

Designation: **CB-06**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.346	0.90	0.312
Landscaped / Lawns	0.045	0.30	0.013
	0.391		0.325

Weighted C: 0.83

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.015	95	0.065	0.9
Segment B - C	0.015	35	0.020	0.7

Total Tc = 1.6

Minimum Tc = 5.0

Note: Overland time of concentration computed using "Kinematic Wave" equation
Gutter and pipe time of concentration computed using Manning's equation

Project Name: **64 Danbury Road**
Project Number: **F0173-001**
Project Location: **Wilton, CT**
Description: **Proposed C & Tc Calculations**
Prepared By: **AVC** Date: **December 4, 2023**

Designation: **CB-07**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.270	0.90	0.243
Landscaped / Lawns	0.001	0.30	0.000
	0.270		0.243

Weighted C: 0.90

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.015	35	0.020	0.7

Total Tc = 0.7

Minimum Tc = 5.0

Designation: **CB-08**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.342	0.90	0.308
Landscaped / Lawns	0.004	0.30	0.001
	0.346		0.309

Weighted C: 0.89

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.015	60	0.020	1.0

Total Tc = 1.0

Minimum Tc = 5.0

Project Name: **64 Danbury Road**
Project Number: **F0173-001**
Project Location: **Wilton, CT**
Description: **Proposed C & Tc Calculations**
Prepared By: **AVC** Date: **December 4, 2023**

Designation: **CB-09**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.101	0.90	0.091
Landscaped / Lawns	0.056	0.30	0.017
	0.158		0.108

Weighted C: 0.69

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.24	20	0.05	2.69
Segment B - C	0.015	32	0.04	0.47

Total Tc = 3.2

Minimum Tc = 5.0

Note: Overland time of concentration computed using "Kinematic Wave" equation
Gutter and pipe time of concentration computed using Manning's equation

Designation: **CB-10**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.132	0.90	0.119
Landscaped / Lawns	0.034	0.30	0.010
	0.165		0.129

Weighted C: 0.78

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.24	13	0.020	2.7
Segment B - C	0.015	55	0.020	0.9

Total Tc = 3.7

Minimum Tc = 5.0

Project Name: **64 Danbury Road**
Project Number: **F0173-001**
Project Location: **Wilton, CT**
Description: **Proposed C & Tc Calculations**
Prepared By: **AVC** Date: **December 4, 2023**

Designation: **WQS-01**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.088	0.90	0.079
Landscaped / Lawns	0.003	0.30	0.001
	0.092		0.080

Weighted C: 0.88

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.015	105	0.025	1.5

Total Tc = 1.5

Minimum Tc = 5.0

Designation: **WQS-02**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.120	0.90	0.108
Landscaped / Lawns	0.035	0.30	0.010
	0.155		0.118

Weighted C: 0.77

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.015	185	0.065	1.6

Total Tc = 1.6

Minimum Tc = 5.0

Note: Overland time of concentration computed using "Kinematic Wave" equation
Gutter and pipe time of concentration computed using Manning's equation

Project Name: **64 Danbury Road**
Project Number: **F0173-001**
Project Location: **Wilton, CT**
Description: **Proposed C & Tc Calculations**
Prepared By: **AVC** Date: **December 4, 2023**

Designation: **WQS-03**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.271	0.90	0.244
Landscaped / Lawns	0.000	0.30	0.000
	0.271		0.244

Weighted C: 0.90

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.015	35	0.045	0.5

Total Tc = 0.5

Minimum Tc = 5.0

Designation: **WQS-04**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.178	0.90	0.160
Landscaped / Lawns	0.024	0.30	0.007
	0.203		0.168

Weighted C: 0.83

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.24	22	0.02	4.18
Segment B - C	0.015	44	0.02	0.79

Total Tc = 5.0

Minimum Tc = 5.0

Project Name: **64 Danbury Road**
Project Number: **F0173-001**
Project Location: **Wilton, CT**
Description: **Proposed C & Tc Calculations**
Prepared By: **AVC** Date: **December 4, 2023**

Designation: **WQS-05**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.107	0.90	0.096
Landscaped / Lawns	0.042	0.30	0.012
	0.148		0.109

Weighted C: 0.73

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.24	7	0.020	1.7
Segment B - C	0.015	49	0.020	0.9

Total Tc = 2.5

Minimum Tc = 5.0

Note: Overland time of concentration computed using "Kinematic Wave" equation
Gutter and pipe time of concentration computed using Manning's equation

Designation: **AD-01**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.084	0.90	0.075
Landscaped / Lawns	0.005	0.30	0.002
	0.089		0.077

Weighted C: 0.87

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.24	13	7.600	0.3

Total Tc = 0.3

Minimum Tc = 5.0

Project Name: **64 Danbury Road**
Project Number: **F0173-001**
Project Location: **Wilton, CT**
Description: **Proposed C & Tc Calculations**
Prepared By: **AVC** Date: **December 4, 2023**

Designation: **AD-02**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.195	0.90	0.175
Landscaped / Lawns	0.008	0.30	0.002
	0.203		0.178

Weighted C: 0.88

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.24	10	0.020	2.1
Segment B - C	0.015	15	0.020	0.3
Segment C - D	0.24	6	0.020	1.5

Total Tc = 4.0

Minimum Tc = 5.0

Note: Overland time of concentration computed using "Kinematic Wave" equation
Gutter and pipe time of concentration computed using Manning's equation

Designation: **AD-03**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.005	0.90	0.004
Landscaped / Lawns	0.012	0.30	0.003
	0.016		0.008

Weighted C: 0.47

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.24	25	0.020	4.6

Total Tc = 4.6

Minimum Tc = 5.0

Project Name: **64 Danbury Road**
Project Number: **F0173-001**
Project Location: **Wilton, CT**
Description: **Proposed C & Tc Calculations**
Prepared By: **AVC** Date: **December 4, 2023**

Designation: **AD-04**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.005	0.90	0.004
Landscaped / Lawns	0.012	0.30	0.004
	0.017		0.008

Weighted C: 0.47

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.24	25	0.020	4.6

Total Tc = 4.6

Minimum Tc = 5.0

Designation: **AD-05**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.000	0.90	0.000
Landscaped / Lawns	0.006	0.30	0.002
	0.006		0.002

Weighted C: 0.30

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.24	20	0.050	2.7

Total Tc = 2.7

Minimum Tc = 5.0

Note: Overland time of concentration computed using "Kinematic Wave" equation
Gutter and pipe time of concentration computed using Manning's equation

Project Name: **64 Danbury Road**
Project Number: **F0173-001**
Project Location: **Wilton, CT**
Description: **Proposed C & Tc Calculations**
Prepared By: **AVC** Date: **December 4, 2023**

Designation: **AD-06**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.015	0.90	0.013
Landscaped / Lawns	0.042	0.30	0.013
	0.057		0.026

Weighted C: 0.46

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.24	25	0.075	2.7

Total Tc = 2.7

Minimum Tc = 5.0

Designation: **AD-07**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.015	0.90	0.014
Landscaped / Lawns	0.053	0.30	0.016
	0.068		0.029

Weighted C: 0.43

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.24	25	0.075	2.7

Total Tc = 2.7

Minimum Tc = 5.0

Project Name: **64 Danbury Road**
Project Number: **F0173-001**
Project Location: **Wilton, CT**
Description: **Proposed C & Tc Calculations**
Prepared By: **AVC** Date: **December 4, 2023**

Designation: **AD-08**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.003	0.90	0.002
Landscaped / Lawns	0.011	0.30	0.003
	0.013		0.006

Weighted C: 0.42

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.24	18	0.020	3.6

Total Tc = 3.6

Minimum Tc = 5.0

Note: Overland time of concentration computed using "Kinematic Wave" equation
Gutter and pipe time of concentration computed using Manning's equation

Designation: **AD-09**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.019	0.90	0.017
Landscaped / Lawns	0.006	0.30	0.002
	0.025		0.019

Weighted C: 0.76

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.24	10	0.020	2.2
Segment B - C	0.015	13	0.020	0.3

Total Tc = 2.5

Minimum Tc = 5.0

Project Name: **64 Danbury Road**
Project Number: **F0173-001**
Project Location: **Wilton, CT**
Description: **Proposed C & Tc Calculations**
Prepared By: **AVC** Date: **December 4, 2023**

Designation: **AD-10**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.011	0.90	0.010
Landscaped / Lawns	0.008	0.30	0.002
	0.019		0.012

Weighted C: 0.65

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.24	13	0.020	2.7
Segment B - C	0.015	6	0.020	0.2

Total Tc = 2.9

Minimum Tc = 5.0

Designation: **AD-11**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.025	0.90	0.022
Landscaped / Lawns	0.002	0.30	0.000
	0.026		0.023

Weighted C: 0.86

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.015	35	0.020	0.7

Total Tc = 0.7

Minimum Tc = 5.0

Note: Overland time of concentration computed using "Kinematic Wave" equation
Gutter and pipe time of concentration computed using Manning's equation

Project Name: **64 Danbury Road**
Project Number: **F0173-001**
Project Location: **Wilton, CT**
Description: **Proposed C & Tc Calculations**
Prepared By: **AVC** Date: **December 4, 2023**

Designation: **AD-12**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.014	0.90	0.013
Landscaped / Lawns	0.006	0.30	0.002
	0.020		0.014

Weighted C: 0.72

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.015	14	0.020	0.3

Total Tc = 0.3

Minimum Tc = 5.0

Designation: **AD-13**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.006	0.90	0.006
Landscaped / Lawns	0.024	0.30	0.007
	0.030		0.013

Weighted C: 0.43

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.24	34	0.020	5.9

Total Tc = 5.9

Project Name: **64 Danbury Road**
Project Number: **F0173-001**
Project Location: **Wilton, CT**
Description: **Proposed C & Tc Calculations**
Prepared By: **AVC** Date: **December 4, 2023**

Designation: **AD-14**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.008	0.90	0.007
Landscaped / Lawns	0.076	0.30	0.023
	0.084		0.030

Weighted C: 0.36

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.24	61	0.020	9.5

Total Tc = 9.5

Note: Overland time of concentration computed using "Kinematic Wave" equation
Gutter and pipe time of concentration computed using Manning's equation

Designation: **AD-15**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.004	0.90	0.004
Landscaped / Lawns	0.033	0.30	0.010
	0.037		0.013

Weighted C: 0.37

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.24	21	0.020	4.0

Total Tc = 4.0

Minimum Tc = 5.0

Project Name: **64 Danbury Road**
Project Number: **F0173-001**
Project Location: **Wilton, CT**
Description: **Proposed C & Tc Calculations**
Prepared By: **AVC** Date: **December 4, 2023**

Designation: **AD-16**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.007	0.90	0.006
Landscaped / Lawns	0.048	0.30	0.014
	0.055		0.021

Weighted C: 0.38

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.24	47	0.040	5.8

Total Tc = 5.8

Designation: **AD-17**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.010	0.90	0.009
Landscaped / Lawns	0.035	0.30	0.010
	0.045		0.019

Weighted C: 0.43

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.24	50	0.020	8.1

Total Tc = 8.1

Note: Overland time of concentration computed using "Kinematic Wave" equation
Gutter and pipe time of concentration computed using Manning's equation

Project Name: **64 Danbury Road**
Project Number: **F0173-001**
Project Location: **Wilton, CT**
Description: **Proposed C & Tc Calculations**
Prepared By: **AVC** Date: **December 4, 2023**

Designation: **EX-CB-01**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.052	0.90	0.047
Landscaped / Lawns	0.013	0.30	0.004
	0.064		0.050

Weighted C: 0.78

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.24	13	0.020	2.7
Segment B - C	0.015	35	0.020	0.7

Total Tc = 3.4

Minimum Tc = 5.0

Designation: **EX-CB-02**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.149	0.90	0.134
Landscaped / Lawns	0.087	0.30	0.026
	0.236		0.160

Weighted C: 0.68

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.24	31	0.025	5.04

Total Tc = 5.0

Designation: **EX-CB-03**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.010	0.90	0.009
Landscaped / Lawns	0.048	0.30	0.014
	0.058		0.023

Weighted C: 0.40

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.24	45	0.133	3.48

Total Tc = 3.5

Minimum Tc = 5.0

Designation: **EX-CB-04**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.013	0.90	0.012
Landscaped / Lawns	0.070	0.30	0.021
	0.084		0.033

Weighted C: 0.40

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.24	15	0.1	1.62

Shallow Concentrated Flow					
Segment		Slope (ft/ft)	V (ft/s)	Length (ft)	Time (min.)
Segment B - C	unpaved	0.045	3.42	125	0.6
Segment C - D	unpaved	0.150	6.25	125	0.3

Total Tc = 2.6

Minimum Tc = 5.0

Project Name: **64 Danbury Road**
Project Number: **F0173-001**
Project Location: **Wilton, CT**
Description: **Proposed C & Tc Calculations**
Prepared By: **AVC** Date: **December 4, 2023**

Designation: **EX-AD**

Cover Type	Area, ac	Coef.	A x C
Hardscape / Roof	0.009	0.90	0.009
Landscaped / Lawns	0.047	0.30	0.014
	0.057		0.023

Weighted C: 0.40

Time of Concentration

(computed in accordance with ConnDOT Drainage Manual, Sec. 6C)

Overland				
Segment	Surface "n"	Flow Length (ft.)	Slope (ft/ft)	Time (min.)
Segment A - B	0.24	40	0.020	6.8

Total Tc = 6.8

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (l)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Dn	Up	Dn	Up	Dn	Up	
		(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
1	End	29.111	0.05	0.26	0.43	0.02	0.10	8.1	10.7	6.0	0.60	13.05	2.74	12	11.44	146.00	149.33	146.32	149.65	147.00	153.44	Pipe - (58)
2	1	64.080	0.06	0.21	0.38	0.02	0.08	5.8	10.3	6.1	0.48	3.86	2.38	12	1.00	149.33	149.97	149.65	150.26	153.44	154.55	Pipe - (57)
3	2	64.196	0.04	0.15	0.37	0.01	0.06	5.0	9.8	6.3	0.36	5.47	2.15	12	2.01	149.97	151.26	150.26	151.51	154.55	155.20	Pipe - (56)
4	3	34.280	0.08	0.11	0.36	0.03	0.04	9.5	9.5	6.4	0.28	3.84	2.02	12	0.99	151.26	151.60	151.51	151.82	155.20	155.54	Pipe - (55)
5	4	20.718	0.00	0.03	0.00	0.00	0.01	0.0	6.5	7.7	0.10	3.88	1.24	12	1.01	151.60	151.81	151.82	151.94	155.54	156.00	Pipe - (115)
6	5	19.047	0.00	0.03	0.00	0.00	0.01	0.0	6.3	7.8	0.10	3.85	1.70	12	1.00	151.81	152.00	151.94	152.13	156.00	156.00	Pipe - (114)
7	6	40.198	0.03	0.03	0.43	0.01	0.01	5.9	5.9	8.0	0.10	3.85	1.72	12	1.00	152.00	152.40	152.13	152.53	156.00	155.90	Pipe - (113)
8	End	20.612	0.09	0.45	0.88	0.08	0.40	5.0	5.8	8.1	3.21	11.68	4.53	12	9.17	145.00	146.89	146.29	147.66	149.67	152.40	Pipe - (06)
9	8	61.889	0.00	0.20	0.00	0.00	0.18	0.0	5.1	8.5	1.50	6.69	5.25	12	3.01	148.78	150.64	149.10	151.16	152.40	154.67	Pipe - (71)
10	9	16.371	0.20	0.20	0.88	0.18	0.18	5.0	5.0	8.6	1.51	3.81	3.66	12	0.98	150.64	150.80	151.16	151.32	154.67	154.30	Pipe - (70)
11	8	60.997	0.07	0.16	0.87	0.06	0.14	5.0	5.4	8.3	1.18	3.86	2.60	12	1.00	146.89	147.50	147.66	147.96	152.40	151.00	Pipe - (05)
12	11	52.306	0.09	0.09	0.87	0.08	0.08	5.0	5.0	8.6	0.67	7.71	2.38	12	4.00	147.50	149.59	147.96	149.93	151.00	153.10	Pipe - (04)
13	End	87.828	0.00	0.69	0.00	0.00	0.39	0.0	21.4	4.1	147.2	150.8	9.52	54	0.50	127.96	128.40	132.24	132.55	135.80	138.10	Pipe - (121)
14	13	243.249	0.00	0.69	0.00	0.00	0.39	0.0	21.0	4.1	143.4	149.6	9.02	54	0.49	128.80	130.00	133.78	134.89	138.10	139.90	Pipe - (120)
15	14	109.653	0.00	0.69	0.00	0.00	0.39	0.0	20.8	4.1	137.5	128.7	8.65	54	0.36	130.20	130.60	136.02	136.48	139.90	142.00	Pipe - (119)
16	15	120.483	0.00	0.69	0.00	0.00	0.39	0.0	19.7	4.3	17.27	108.8	1.80	42	1.00	131.80	133.00	137.64	137.67	142.00	140.19	Pipe - (118)
17	16	43.869	0.00	0.55	0.00	0.00	0.33	0.0	19.2	4.3	17.05	83.91	1.77	42	0.59	133.00	133.26	137.72	137.73	140.19	142.33	Pipe - (117)
18	17	46.296	0.00	0.55	0.00	0.00	0.33	0.0	18.5	4.4	3.17	52.06	1.01	24	4.51	133.41	135.50	137.78	137.79	142.33	145.00	Pipe - (26)
19	18	38.468	0.00	0.41	0.00	0.00	0.28	0.0	8.4	6.8	3.57	51.96	2.54	24	4.50	135.50	137.23	137.80	137.89	145.00	147.80	Pipe - (25)
20	19	115.000	0.00	0.41	0.00	0.00	0.28	0.0	7.7	7.1	1.97	51.90	2.75	24	4.49	137.23	142.39	137.89	142.88	147.80	152.20	Pipe - (24)
21	20	13.578	0.21	0.41	0.62	0.13	0.28	7.4	7.6	7.1	1.98	51.93	3.34	24	4.49	142.39	143.00	142.88	143.49	152.20	152.00	Pipe - (23)
22	21	93.648	0.17	0.17	0.78	0.13	0.13	7.2	7.2	7.3	0.95	3.87	3.60	12	1.00	147.56	148.50	147.90	148.91	152.00	152.00	Pipe - (22)
Project File: F0173-001-Stormsewers.stm																Number of lines: 62				Run Date: 12/12/2023		
NOTES:Intensity = 38.51 / (Inlet time + 3.60) ^ 0.70; Return period =Yrs. 25 ; c = cir e = ellip b = box																						

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (l)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID	
Line	To Line		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Dn	Up	Dn	Up	Dn	Up		
		(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)		
23	21	19.814	0.02	0.03	0.47	0.01	0.02	5.0	5.7	8.1	0.13	3.88	2.03	12	1.01	144.80	145.00	144.92	145.14	152.00	149.00	Pipe - (28)	
24	23	49.936	0.02	0.02	0.47	0.01	0.01	5.0	5.0	8.6	0.06	3.86	1.21	12	1.00	145.00	145.50	145.14	145.60	149.00	149.00	Pipe - (27)	
25	19	19.145	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	1.69	3.84	4.27	12	0.99	143.48	143.67	143.94	144.22	147.80	148.50	Pipe - (30)	
26	16	11.297	0.07	0.13	0.43	0.03	0.06	5.0	8.3	6.8	0.39	3.98	0.50	12	1.06	136.25	136.37	137.72	137.72	140.19	139.90	Pipe - (106)	
27	26	58.106	0.06	0.06	0.46	0.03	0.03	5.0	6.4	7.7	0.22	4.96	0.50	12	1.65	136.37	137.33	137.73	137.73	139.90	140.90	Pipe - (59)	
28	27	26.816	0.00	0.01	0.00	0.00	0.00	0.0	5.5	8.2	0.01	5.11	0.54	12	1.75	137.33	137.80	137.74	137.85	140.90	142.00	Pipe - (72)	
29	28	2.804	0.00	0.01	0.00	0.00	0.00	0.0	5.5	8.2	0.01	3.99	1.04	12	1.07	137.80	137.83	137.85	137.88	142.00	142.00	Pipe - (73)	
30	29	27.512	0.01	0.01	0.30	0.00	0.00	5.0	5.0	8.6	0.02	3.89	0.93	12	1.02	137.82	138.10	137.88	138.15	142.00	141.60	Pipe - (62)	
31	14	27.900	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.88	3.86	3.53	12	1.00	136.17	136.45	136.49	136.84	139.90	140.39	Pipe - (46)	
32	14	24.525	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4.99	5.98	6.35	12	2.41	134.41	135.00	136.02	136.43	139.90	140.15	Pipe - (98)	
33	13	18.166	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	1.94	6.00	2.47	12	2.42	132.06	132.50	133.78	133.83	138.10	138.50	Pipe - (86)	
34	End	26.508	0.15	0.47	0.73	0.11	0.35	5.0	6.0	7.9	2.76	3.89	5.00	12	1.02	133.93	134.20	134.55	134.91	138.50	137.70	Pipe - (82)	
35	34	120.556	0.17	0.32	0.78	0.13	0.24	5.0	5.4	8.3	1.97	2.72	3.64	12	0.50	134.20	134.80	134.91	135.40	137.70	138.30	Pipe - (48)	
36	35	61.456	0.16	0.16	0.69	0.11	0.11	5.0	5.0	8.6	0.93	3.48	2.33	12	0.81	134.80	135.30	135.53	135.71	138.30	138.80	Pipe - (47)	
37	17	27.974	0.00	0.00	0.00	0.00	0.00	5.0	5.0	0.0	13.91	77.10	1.45	42	0.50	133.26	133.40	137.78	137.78	142.33	141.20	Pipe - (116)	
38	15	18.394	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	120.3	149.0	7.56	54	0.49	131.80	131.89	137.64	137.70	142.00	142.20	Pipe - (122)	
39	18	32.000	0.06	0.14	0.40	0.02	0.06	5.0	15.1	5.0	0.28	14.22	0.16	18	1.56	134.50	135.00	137.80	137.80	145.00	141.00	Pipe - (107)	
40	39	44.000	0.08	0.08	0.40	0.03	0.03	12.1	12.1	5.6	0.19	4.11	0.24	12	1.14	135.10	135.60	137.80	137.81	141.00	141.30		
41	End	11.015	0.16	0.68	0.77	0.12	0.44	5.0	17.5	4.6	4.05	19.38	5.69	12	25.24	136.62	139.40	137.47	140.25	143.00	142.90		
42	41	107.009	0.52	0.52	0.61	0.32	0.32	17.1	17.1	4.6	3.52	6.82	5.08	12	3.12	139.40	142.74	140.25	143.54	142.90	147.90	Pipe - (12)	
43	42	20.730	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.05	3.88	3.56	12	1.01	142.74	142.95	143.54	143.56	147.90	148.90	Pipe - (11)	
44	End	4.387	0.27	0.40	0.90	0.24	0.36	5.0	5.4	8.3	3.03	4.12	4.81	12	1.14	143.54	143.59	144.29	144.34	148.00	147.60	Pipe - (93)	
45	44	51.421	0.13	0.13	0.90	0.12	0.12	5.0	5.0	8.6	1.03	3.84	2.43	12	0.99	143.59	144.10	144.34	144.53	147.60	147.60	Pipe - (17)	
Project File: F0173-001-Stormsewers.stm																Number of lines: 62				Run Date: 12/12/2023			
NOTES:Intensity = 38.51 / (Inlet time + 3.60) ^ 0.70; Return period =Yrs. 25 ; c = cir e = ellip b = box																							

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (l)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Dn	Up	Dn	Up	Dn	Up	
		(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
46	End	5.195	0.20	0.20	0.83	0.17	0.17	5.0	5.0	8.6	1.44	3.78	3.59	12	0.96	136.45	136.50	136.96	137.01	140.50	140.00	Pipe - (76)
47	End	8.312	0.00	1.02	0.00	0.00	0.80	0.0	8.8	6.6	5.31	6.28	7.05	12	2.65	134.20	134.42	135.10	135.35	140.00	140.00	Pipe - (128)
48	47	13.266	0.00	1.02	0.00	0.00	0.80	0.0	8.8	6.6	5.32	6.18	7.09	12	2.56	134.46	134.80	135.35	135.73	140.00	140.20	Pipe - (127)
49	48	17.753	0.00	1.02	0.00	0.00	0.80	0.0	8.7	6.7	5.34	7.64	4.64	18	0.45	134.80	134.88	135.73	135.81	140.20	140.00	Pipe - (126)
50	49	21.322	0.27	0.66	0.90	0.24	0.57	5.0	5.2	8.4	4.79	6.89	6.25	12	3.19	134.90	135.58	136.14	136.48	140.00	139.60	Pipe - (32)
51	50	51.579	0.39	0.39	0.83	0.32	0.32	5.0	5.0	8.6	2.78	3.87	4.18	12	1.01	135.58	136.10	136.48	136.81	139.60	139.60	Pipe - (31)
52	49	49.833	0.24	0.36	0.68	0.16	0.23	5.0	8.3	6.8	1.59	2.56	2.03	12	0.44	134.88	135.10	136.14	136.23	140.00	138.60	Pipe - (125)
53	52	80.288	0.06	0.06	0.78	0.05	0.05	5.0	5.0	8.6	0.43	3.60	0.77	12	0.87	135.10	135.80	136.32	136.33	138.60	138.60	Pipe - (123)
54	52	52.042	0.06	0.06	0.40	0.02	0.02	6.8	6.8	7.5	0.17	5.07	0.49	12	1.73	135.10	136.00	136.32	136.33	138.60	139.10	Pipe - (124)
55	End	71.365	0.35	0.45	0.89	0.31	0.38	5.0	6.3	7.8	2.97	3.88	4.77	12	1.01	133.20	133.92	133.94	134.66	139.40	138.00	Pipe - (38)
56	55	22.641	0.03	0.10	0.86	0.02	0.07	5.0	6.1	7.9	0.58	3.89	1.82	12	1.02	133.91	134.14	134.66	134.46	138.00	138.74	Pipe - (37)
57	56	66.235	0.03	0.06	0.76	0.02	0.04	5.0	5.5	8.3	0.30	3.85	1.85	12	1.00	134.14	134.80	134.46	135.03	138.74	138.79	Pipe - (36)
58	57	6.823	0.00	0.01	0.00	0.00	0.01	0.0	5.3	8.3	0.05	3.91	0.93	12	1.03	134.85	134.92	135.03	135.01	138.79	138.80	Pipe - (92)
59	58	7.053	0.00	0.01	0.00	0.00	0.01	0.0	5.3	8.4	0.05	3.84	1.38	12	0.99	134.92	134.99	135.01	135.08	138.80	138.80	Pipe - (91)
60	59	21.252	0.01	0.01	0.42	0.01	0.01	5.0	5.0	8.6	0.05	3.83	1.40	12	0.99	134.99	135.20	135.08	135.29	138.80	138.70	Pipe - (90)
61	57	19.655	0.02	0.02	0.65	0.01	0.01	5.0	5.0	8.6	0.11	3.89	1.25	12	1.02	134.80	135.00	135.03	135.13	138.79	138.50	Pipe - (39)
62	56	19.655	0.02	0.02	0.72	0.01	0.01	5.0	5.0	8.6	0.12	3.89	2.02	12	1.02	134.80	135.00	134.92	135.14	138.74	138.50	Pipe - (40)
Project File: F0173-001-Stormsewers.stm																Number of lines: 62				Run Date: 12/12/2023		
NOTES:Intensity = 38.51 / (Inlet time + 3.60) ^ 0.70; Return period =Yrs. 25 ; c = cir e = ellip b = box																						

Riprap Apron

Invert Elevation = 146.00 ft
Tailwater Elevation = 146.33 ft
Tailwater Depth (TW) = 0.33 ft
Inside Pipe Diameter (S_p) = 1.00 ft
Pipe Discharge (Q) = 0.60 cfs (From Hydraflow Model)
Outlet Velocity (V) = 2.74 ft/s (From Hydraflow Model)

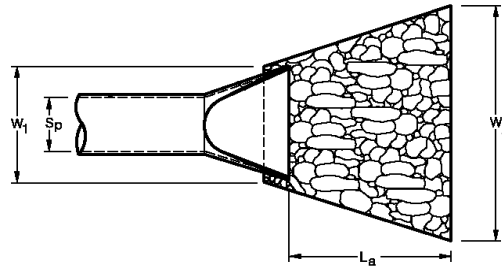
Apron Type

Type A Riprap Apron (Minimum Tailwater Condition) $TW < 0.5R_p$

Type B Riprap Apron (Maximum Tailwater Condition) $TW \geq 0.5R_p$

TW = 146.33 < $0.5R_p$

Use Type A Apron



Apron Length

Type A Riprap Apron (Minimum Tailwater Condition) $TW < 0.5R_p$

$$L_a = (1.8(Q-5.0)/S_p^{1.5}) + 10.0$$

$L_a = 2.08$ ft

Apron Width

Type A Riprap Apron (Minimum Tailwater Condition) $TW < 0.5R_p$

$$W_1 = 3 * S_p$$

$$W_2 = 3 * S_p + 0.7 L_a$$

$W_1 = 3.00$ ft

$W_2 = 4.46$ ft

Riprap Specification

Outlet Velocity (V) = 0-8 ft/s Modified
Outlet Velocity (V) = 8-10 ft/s Intermediate
Outlet Velocity (V) = 10-14 ft/s Standard

Outlet Velocity (V) = 2.740 ft/s Use Modified Riprap

Outlet protection has been designed in accordance with the Section 11.13 of the ConnDOT Drainage Manual



Consulting Engineers
Environmental Specialists

Project Name: **64 Danbury Road**
Project Number: **F0173-001**
Project Location: **Wilton, CT**
Description: **Level Spreader Calculation**
Prepared By: **AVC** Date: **December 4, 2023**

Level Spreader

Flow for 10 Yr Storm= 0.6 CFS

Depth= 0.33 FT

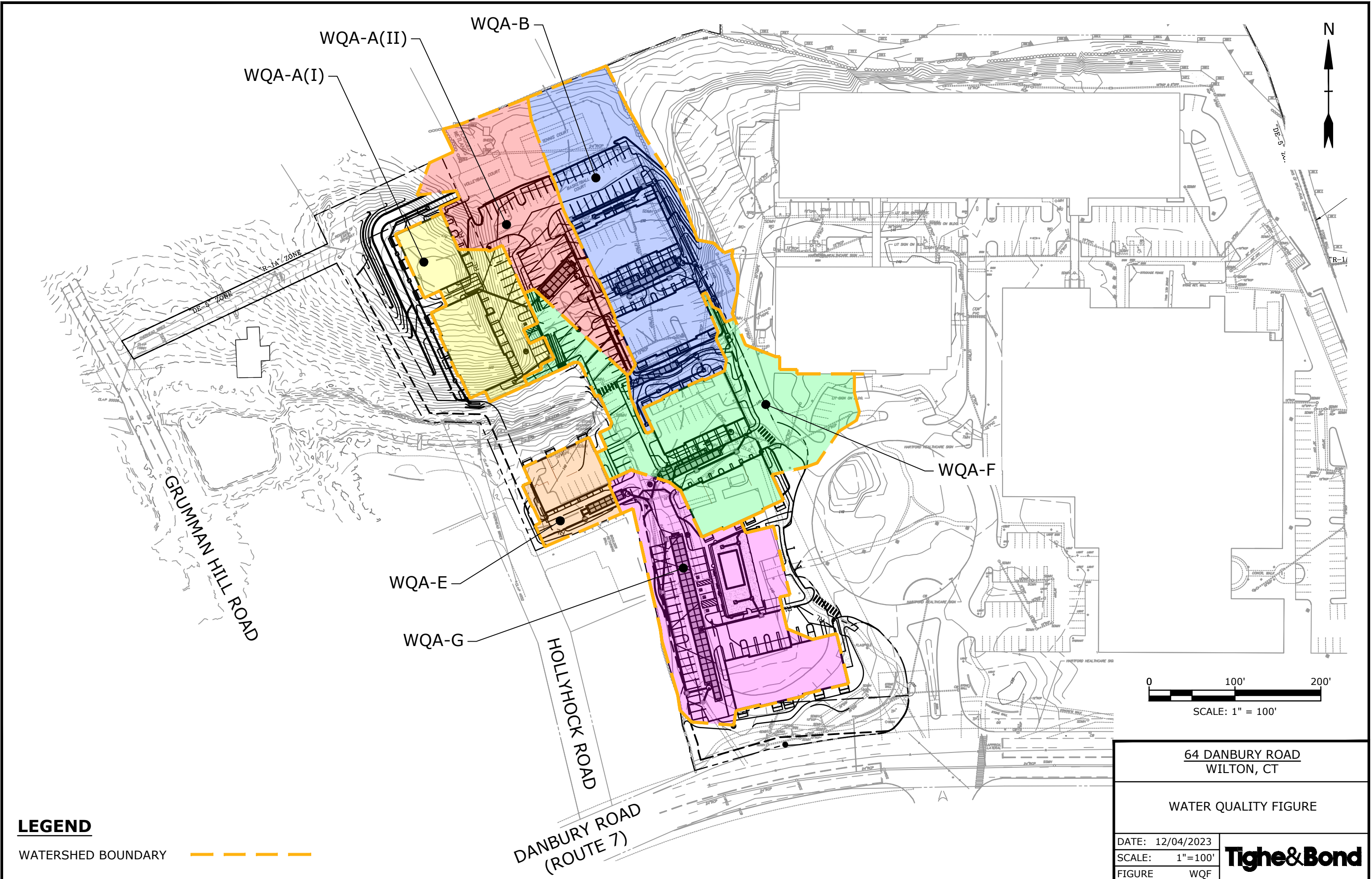
Max Allowable Velocity **0.5** FPS

Length= **3.636364** FT

Proposed Length	10 FT
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Calculated in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control Section 5-11

Tighe & Bond: J:\F0173 Fuller\001 64 Danbury Rd\Calculations\Stormwater\Figures\F0173-001-WQ-FIGURE.dwg



LEGEND

WATERSHED BOUNDARY — — — — —



WQA-A(I)**Required Water Quality Volume (WQv)**

Total Area in acres (A)	=	0.458
Impervious Area in acres	=	0.433
Pecent of Impervious Area (I)	=	95
Volumetric Runoff Coefficient (R)		

$$R = 0.05 + 0.009(I) = 0.901$$

$$WQv = \frac{(0.5'')(R)(A)}{12} = \frac{0.0172 \text{ ac*ft}}{1} = 0.0172 \text{ ac*ft}$$

749 cf
1,370 CF PROVIDED**Required Water Quality Flow (WQf)**

WQv (Ac*ft)	=	0.0172
Drainage Area (Ac)	=	0.458

$$Q = WQv * 12 / DA = 0.450 \text{ in}$$

Runoff Depth in inches (Q)	=	0.450 in
Design Precipitation in inches (P)	=	1 in

$$CN = 1000 / [10 + 5 * P + 10Q - 10 * (Q^2 + 1.25QP)^{1/2}] = 93 \text{ CN}$$

From table 4-1 in chapter 4, TR-55

$$I_a = 0.151 \text{ in}$$

$$I_a / P = 0.151$$

From Exhibit 4-11 in chapter 4, TR-55

$$q_u = 633 \text{ csm/in}$$

Unit peak discharge in csm/in (q_u)	=	633
Area in square miles (A)	=	0.001
Runoff Depth in inches (Q)	=	0.450

$$WQF = q_u * A * Q = 0.204 \text{ cfs}$$

CDS 2015-4-C Treatment Capacity = 1.2 cfs Provided

WQA-A(II)**Required Water Quality Volume (WQv)**

Total Area in acres (A)	=	0.683
Impervious Area in acres	=	0.393
Pecent of Impervious Area (I)	=	58
Volumetric Runoff Coefficient (R)		

$$R = 0.05 + 0.009(I) = 0.568$$

$$WQv = \frac{(0.5'')(R)(A)}{12} = \frac{0.0162 \text{ ac}\cdot\text{ft}}{1} = 704 \text{ cf}$$

1,022 CF PROVIDED**Required Water Quality Flow (WQf)**

WQv (Ac*ft)	=	0.0162
Drainage Area (Ac)	=	0.683

$$Q = WQv \cdot 12 / DA = 0.284 \text{ in}$$

Runoff Depth in inches (Q)	=	0.284 in
Design Precipitation in inches (P)	=	1 in

$$CN = 1000 / [10 + 5 \cdot P + 10Q - 10 \cdot (Q^2 + 1.25QP)^{1/2}] = 89 \text{ CN}$$

From table 4-1 in chapter 4, TR-55

$$\begin{aligned} I_a &= 0.247 \text{ in} \\ I_a / P &= 0.247 \end{aligned}$$

From Exhibit 4-11 in chapter 4, TR-55

$$q_u = 585 \text{ csm/in}$$

Unit peak discharge in csm/in (q_u)	=	585
Area in square miles (A)	=	0.001
Runoff Depth in inches (Q)	=	0.284

$$WQF = q_u \cdot A \cdot Q = 0.177 \text{ cfs}$$

CDS 2015-4-C Treatment Capacity = 1.2 cfs Provided

WQA-B (TOTAL)**Required Water Quality Volume (WQv)**

Total Area in acres (A)	=	1.092
Impervious Area in acres	=	0.714
Pecent of Impervious Area (I)	=	65
Volumetric Runoff Coefficient (R)		

$$R = 0.05 + 0.009(I) = 0.638$$

$$WQv = \frac{(0.5)(R)(A)}{12} = \frac{0.0291 \text{ ac*ft}}{12} = 1265 \text{ cf}$$

2,240 CF PROVIDED**Required Water Quality Flow (WQf)**

WQv (Ac*ft)	=	0.0291
Drainage Area (Ac)	=	1.092

$$Q = WQv * 12 / DA = 0.319 \text{ in}$$

Runoff Depth in inches (Q)	=	0.319 in
Design Precipitation in inches (P)	=	1 in

$$CN = 1000 / [10 + 5 * P + 10Q - 10 * (Q^2 + 1.25QP)^{1/2}] = 90 \text{ CN}$$

From table 4-1 in chapter 4, TR-55

$$I_a = 0.222 \text{ in}$$

$$I_a / P = 0.222$$

From Exhibit 4-11 in chapter 4, TR-55

$$q_u = 625 \text{ csm/in}$$

Unit peak discharge in csm/in (q_u)	=	625
Area in square miles (A)	=	0.002
Runoff Depth in inches (Q)	=	0.319

$$WQF = q_u * A * Q = 0.340 \text{ cfs}$$

$$\text{CDS 2015-4-C Treatment Capacity} = 1.2 \text{ cfs Provided}$$

WQA-E**Required Water Quality Volume (WQv)**

Total Area in acres (A)	=	0.203
Impervious Area in acres	=	0.177
Pecent of Impervious Area (I)	=	87
Volumetric Runoff Coefficient (R)		

$$R = 0.05 + 0.009(I) = 0.835$$

$$WQv = \frac{(0.5'')(R)(A)}{12} = 0.0071 \text{ ac*ft}$$

308 cf**520 CF PROVIDED****Required Water Quality Flow (WQf)**

WQv (Ac*ft)	=	0.0071
Drainage Area (Ac)	=	0.203

$$Q = WQv * 12 / DA = 0.417 \text{ in}$$

Runoff Depth in inches (Q)	=	0.417 in
Design Precipitation in inches (P)	=	1 in

$$CN = 1000 / [10 + 5 * P + 10Q - 10 * (Q^2 + 1.25QP)^{1/2}] = 92 \text{ CN}$$

From table 4-1 in chapter 4, TR-55

$$I_a = 0.174 \text{ in}$$

$$I_a / P = 0.174$$

From Exhibit 4-11 in chapter 4, TR-55

$$q_u = 630 \text{ csm/in}$$

Unit peak discharge in csm/in (q_u)	=	630
Area in square miles (A)	=	0.000
Runoff Depth in inches (Q)	=	0.417

$$WQF = q_u * A * Q = 0.083 \text{ cfs}$$

$$\text{CDS 2015-4-C Treatment Capacity} = 1.2 \text{ cfs Provided}$$

WQA-F**Required Water Quality Volume (WQv)**

Total Area in acres (A)	=	1.023
Impervious Area in acres	=	0.826
Pecent of Impervious Area (I)	=	81
Volumetric Runoff Coefficient (R)		

$$R = 0.05 + 0.009(I) = 0.777$$

$$WQv = \frac{(0.5'')(R)(A)}{12} = 0.0331 \text{ ac*ft}$$

$$= 1442 \text{ cf}$$

1,450 CF PROVIDED**Required Water Quality Flow (WQf)**

WQv (Ac*ft)	=	0.0331
Drainage Area (Ac)	=	1.023

$$Q = WQv * 12 / DA = 0.388 \text{ in}$$

Runoff Depth in inches (Q)	=	0.388 in
Design Precipitation in inches (P)	=	1 in

$$CN = 1000 / [10 + 5 * P + 10Q - 10 * (Q^2 + 1.25QP)^{1/2}] = 92 \text{ CN}$$

From table 4-1 in chapter 4, TR-55

$$I_a = 0.174 \text{ in}$$

$$I_a / P = 0.174$$

From Exhibit 4-11 in chapter 4, TR-55

$$q_u = 630 \text{ csm/in}$$

Unit peak discharge in csm/in (q_u)	=	630
Area in square miles (A)	=	0.002
Runoff Depth in inches (Q)	=	0.388

$$WQF = q_u * A * Q = 0.391 \text{ cfs}$$

$$\text{CDS 2015-4-C Treatment Capacity} = 1.2 \text{ cfs Provided}$$

WQA-G**Required Water Quality Volume (WQv)**

Total Area in acres (A)	=	0.930
Impervious Area in acres	=	0.774
Pecent of Impervious Area (I)	=	83
Volumetric Runoff Coefficient (R)		

$$R = 0.05 + 0.009(I) = 0.799$$

$$WQv = \frac{(0.5'')(R)(A)}{12} = 0.0310 \text{ ac*ft}$$

$$= 1349 \text{ cf}$$

4,069 CF PROVIDED**Required Water Quality Flow (WQf)**

WQv (Ac*ft)	=	0.0310
Drainage Area (Ac)	=	0.930

$$Q = WQv * 12 / DA = 0.400 \text{ in}$$

Runoff Depth in inches (Q)	=	0.400 in
Design Precipitation in inches (P)	=	1 in

$$CN = 1000 / [10 + 5 * P + 10Q - 10 * (Q^2 + 1.25QP)^{1/2}] = 92 \text{ CN}$$

From table 4-1 in chapter 4, TR-55

$$I_a = 0.174 \text{ in}$$

$$I_a / P = 0.174$$

From Exhibit 4-11 in chapter 4, TR-55

$$q_u = 630 \text{ csm/in}$$

Unit peak discharge in csm/in (q_u)	=	630
Area in square miles (A)	=	0.001
Runoff Depth in inches (Q)	=	0.400

$$WQF = q_u * A * Q = 0.366 \text{ cfs}$$

$$\text{CDS 2015-4-C Treatment Capacity} = 1.2 \text{ cfs Provided}$$

Water Quality Area A(I)

Item	Units	Pollutant					
		TKN	P	TSS	Pb	Cu	Zn
Proposed, Pre Treatment	lb/yr/1-in	0.170	0.034	9.041	0.013	0.003	0.012
Proposed, Post Treatment	lb/yr/1-in	0.101	0.008	0.429	0.005	0.001	0.001
Reduction, Pre to Post Treat	---	40%	78%	95%	64%	70%	90%

Water Quality Area A(II)

Item	Units	Pollutant					
		TKN	P	TSS	Pb	Cu	Zn
Proposed, Pre Treatment	lb/yr/1-in	0.155	0.031	8.253	0.012	0.003	0.011
Proposed, Post Treatment	lb/yr/1-in	0.093	0.007	0.392	0.004	0.001	0.001
Reduction, Pre to Post Treat	---	40%	78%	95%	64%	70%	90%

Water Quality Area B

Item	Units	Pollutant					
		TKN	P	TSS	Pb	Cu	Zn
Proposed, Pre Treatment	lb/yr/1-in	0.299	0.060	15.889	0.023	0.005	0.021
Proposed, Post Treatment	lb/yr/1-in	0.178	0.013	0.755	0.008	0.002	0.002
Reduction, Pre to Post Treat	---	40%	78%	95%	64%	70%	90%

Water Quality Area E

Item	Units	Pollutant					
		TKN	P	TSS	Pb	Cu	Zn
Proposed, Pre Treatment	lb/yr/1-in	0.070	0.014	3.728	0.005	0.001	0.005
Proposed, Post Treatment	lb/yr/1-in	0.042	0.003	0.177	0.002	0.000	0.000
Reduction, Pre to Post Treat	---	40%	78%	95%	64%	70%	90%

Water Quality Area F

Item	Units	Pollutant					
		TKN	P	TSS	Pb	Cu	Zn
Proposed, Pre Treatment	lb/yr/1-in	0.334	0.067	17.735	0.025	0.006	0.024
Proposed, Post Treatment	lb/yr/1-in	0.199	0.015	0.842	0.009	0.002	0.002
Reduction, Pre to Post Treat	---	40%	78%	95%	64%	70%	90%

Water Quality Area G

Item	Units	Pollutant					
		TKN	P	TSS	Pb	Cu	Zn
Proposed, Pre Treatment	lb/yr/1-in	0.310	0.062	16.474	0.023	0.005	0.022
Proposed, Post Treatment	lb/yr/1-in	0.185	0.014	0.783	0.009	0.002	0.002

Reduction, Pre to Post Treat	---	40%	78%	95%	64%	70%	90%
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Northeast Portion to Area Drains

Item	Units	Pollutant					
		TKN	P	TSS	Pb	Cu	Zn
Proposed, Pre Treatment	lb/yr/1-in	0.035	0.007	1.853	0.003	0.001	0.002
Proposed, Post Treatment	lb/yr/1-in	0.035	0.007	1.853	0.003	0.001	0.002

Reduction, Pre to Post Treat	---	0%	0%	0%	0%	0%	0%
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Areas to Existing Infiltration Systems

Item	Units	Pollutant					
		TKN	P	TSS	Pb	Cu	Zn
Proposed, Pre Treatment	lb/yr/1-in	1.161	0.234	61.720	0.088	0.020	0.082
Proposed, Post Treatment	lb/yr/1-in	0.848	0.157	6.172	0.060	0.014	0.056

Reduction, Pre to Post Treat	---	27%	33%	90%	32%	32%	32%
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Total Site

Item	Units	Pollutant					
		TKN	P	TSS	Pb	Cu	Zn
Proposed, Pre Treatment	lb/yr/1-in	2.534	0.511	134.694	0.192	0.044	0.180
Proposed, Post Treatment	lb/yr/1-in	1.680	0.224	11.403	0.099	0.021	0.068

Reduction, Pre to Post Treat	---	34%	56%	92%	48%	52%	62%
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Loading Calculation

Location: **Area A(I)** Condition: **Proposed**
 Rainfall: 1 inches
 Impervious Fraction: 0.95 Total Area = 0.458 acres

Pollutant	Residential		Weighted	
	A (acres)	EMC (mg/L)	EMC (mg/L)	L (lbs/yr)
Total Nitrogen (N)	0.458	1.900	1.900	0.170
Total Phosphorus (P)	0.458	0.383	0.383	0.034
Total Suspended Solids	0.458	101.0	101.0	9.0
Lead	0.458	0.144	0.144	0.013
Copper	0.458	0.033	0.033	0.003
Zinc	0.458	0.135	0.135	0.012
$L = 0.2266 * EMC * [0.15 + 0.75 * I] * P * A$				
L	Pollution Loading (lbs/year)			
EMC	Mean Event Mean Concentration (mg/L)			
I	Fraction of Impervious Acres (acres)			
P	Annual Rainfall (in)			
A	Watershed Area (acres)			

Notes:

1. Pollution loading calculated using *Municipal Stormwater Management* by Debo & Reese

Location: **Area A(I)** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.95 Total Area = 0.458 acres
BMP: **Deep Sump Catch Basins**

Pollutant	Lin 1 (lbs)	Sum L (lbs)	RR (%)	Lremoved (lbs)	Lout (lbs)
Total Nitrogen (N)	0.170	0.170	0	0.00	0.170
Total Phosphorus (P)	0.034	0.034	0	0.00	0.034
Total Suspended Solids	9.041	9.0	5	0.45	8.6
Lead	0.013	0.013	0	0.00	0.013
Copper	0.003	0.003	0	0.00	0.003
Zinc	0.012	0.012	0	0.00	0.012
Lin 1	Pollutant Load In				
Sum L	Sum of Pollutant Load to this BMP				
RR	Removal rate in percentage				
Lout	Pollutant Load out of BMP				

Notes:

1. Pollution loading calculated using *Municipal Stormwater Management* by Debo & Reese
2. Pollutant removal rates for Infiltration Practices taken from *Municipal Stormwater Management* by Debo & Reese, Table 13-13
3. Pollutant removal rates for Contechs CDS Unit water quality structure taken from NJCAT TSS Approval letter, January 9, 2015
4. Pollutant removal rates for Deep Sump Catch Basins taken from MassDEP Stormwater Handbook Volume 2 - Structural BMP Specifications

Location: **Area A(I)** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.95 Total Area = 0.458 acres
BMP: **Water Quality Structure**

Pollutant	Lin 1 (lbs)	Sum L (lbs)	RR (%)	Lremoved (lbs)	Lout (lbs)
Total Nitrogen (N)	0.170	0.170	18.3	0.03	0.139
Total Phosphorus (P)	0.034	0.034	66.9	0.02	0.011
Total Suspended Solids	8.589	8.6	50	4.29	4.3
Lead	0.013	0.013	46.5	0.01	0.007
Copper	0.003	0.003	56.2	0.00	0.001
Zinc	0.012	0.012	85.3	0.01	0.002
Lin 1	Pollutant Load In				
Sum L	Sum of Pollutant Load to this BMP				
RR	Removal rate in percentage				
Lout	Pollutant Load out of BMP				

Notes:

1. Pollution loading calculated using *Municipal Stormwater Management* by Debo & Reese
2. Pollutant removal rates for Infiltration Practices taken from *Municipal Stormwater Management* by Debo & Reese, Table 13-13
3. Pollutant removal rates for Contechs CDS Unit water quality structure taken from NJCAT TSS Approval letter, January 9, 2015
4. Pollutant removal rates for Deep Sump Catch Basins taken from MassDEP Stormwater Handbook Volume 2 - Structural BMP Specifications

Location: **Area A(I)** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.95 Total Area = 0.458 acres
BMP: **Infiltration System**

Pollutant	Lin 1 (lbs)	Sum L (lbs)	RR (-)	Lremoved (lbs)	Lout (lbs)
Total Nitrogen (N)	0.139	0.139	27	0.04	0.101
Total Phosphorus (P)	0.011	0.011	33	0.00	0.008
Total Suspended Solids	4.294	4.3	90	3.86	0.429
Lead	0.007	0.007	32	0.00	0.005
Copper	0.001	0.001	32	0.00	0.001
Zinc	0.002	0.002	32	0.00	0.001
Lin 1	Pollutant Load In				
Sum L	Sum of Pollutant Load to this BMP				
RR	Removal rate in percentage				
Lout	Pollutant Load out of BMP				

Notes:

1. Pollution loading calculated using *Municipal Stormwater Management* by Debo & Reese
2. Pollutant removal rates for Infiltration Practices taken from *Municipal Stormwater Management* by Debo & Reese, Table 13-13
3. Pollutant removal rates for Contechs CDS Unit water quality structure taken from NJCAT TSS Approval letter, January 9, 2015
4. Pollutant removal rates for Deep Sump Catch Basins taken from MassDEP Stormwater Handbook Volume 2 - Structural BMP Specifications

Loading Calculation

Location: **Area A(II)** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.50 Total Area = 0.683 acres

Pollutant	Residential		Weighted	
	A (acres)	EMC (mg/L)	EMC (mg/L)	L (lbs/yr)
Total Nitrogen (N)	0.683	1.900	1.900	0.155
Total Phosphorus (P)	0.683	0.383	0.383	0.031
Total Suspended Solids	0.683	101.0	101.0	8.3
Lead	0.683	0.144	0.144	0.012
Copper	0.683	0.033	0.033	0.003
Zinc	0.683	0.135	0.135	0.011
$L = 0.2266 * EMC * [0.15 + 0.75 * I] * P * A$				
L	Pollution Loading (lbs/year)			
EMC	Mean Event Mean Concentration (mg/L)			
I	Fraction of Impervious Acres (acres)			
P	Annual Rainfall (in)			
A	Watershed Area (acres)			

Notes:

1. Pollution loading calculated using *Municipal Stormwater Management* by Debo & Reese

Location: **Area A(II)** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.50 Total Area = 0.683 acres
BMP: **Deep Sump Catch Basins**

Pollutant	Lin 1 (lbs)	Sum L (lbs)	RR (%)	Lremoved (lbs)	Lout (lbs)
Total Nitrogen (N)	0.155	0.155	0	0.00	0.155
Total Phosphorus (P)	0.031	0.031	0	0.00	0.031
Total Suspended Solids	8.253	8.3	5	0.41	7.8
Lead	0.012	0.012	0	0.00	0.012
Copper	0.003	0.003	0	0.00	0.003
Zinc	0.011	0.011	0	0.00	0.011
Lin 1	Pollutant Load In				
Sum L	Sum of Pollutant Load to this BMP				
RR	Removal rate in percentage				
Lout	Pollutant Load out of BMP				

Notes:

1. Pollution loading calculated using *Municipal Stormwater Management* by Debo & Reese
2. Pollutant removal rates for Infiltration Practices taken from *Municipal Stormwater Management* by Debo & Reese, Table 13-13
3. Pollutant removal rates for Contechs CDS Unit water quality structure taken from NJCAT TSS Approval letter, January 9, 2015
4. Pollutant removal rates for Deep Sump Catch Basins taken from MassDEP Stormwater Handbook Volume 2 - Structural BMP Specifications

Location: **Area A(II)** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.50 Total Area = 0.683 acres
BMP: **Water Quality Structure**

Pollutant	Lin 1 (lbs)	Sum L (lbs)	RR (%)	Lremoved (lbs)	Lout (lbs)
Total Nitrogen (N)	0.155	0.155	18.3	0.03	0.127
Total Phosphorus (P)	0.031	0.031	66.9	0.02	0.010
Total Suspended Solids	7.841	7.8	50	3.92	3.9
Lead	0.012	0.012	46.5	0.01	0.006
Copper	0.003	0.003	56.2	0.00	0.001
Zinc	0.011	0.011	85.3	0.01	0.002
Lin 1	Pollutant Load In				
Sum L	Sum of Pollutant Load to this BMP				
RR	Removal rate in percentage				
Lout	Pollutant Load out of BMP				

Notes:

1. Pollution loading calculated using *Municipal Stormwater Management* by Debo & Reese
2. Pollutant removal rates for Infiltration Practices taken from *Municipal Stormwater Management* by Debo & Reese, Table 13-13
3. Pollutant removal rates for Contechs CDS Unit water quality structure taken from NJCAT TSS Approval letter, January 9, 2015
4. Pollutant removal rates for Deep Sump Catch Basins taken from MassDEP Stormwater Handbook Volume 2 - Structural BMP Specifications

Location: **Area A(II)** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.50 Total Area = 0.683 acres
BMP: **Infiltration System**

Pollutant	Lin 1 (lbs)	Sum L (lbs)	RR (-)	Lremoved (lbs)	Lout (lbs)
Total Nitrogen (N)	0.127	0.127	27	0.03	0.093
Total Phosphorus (P)	0.010	0.010	33	0.00	0.007
Total Suspended Solids	3.920	3.9	90	3.53	0.4
Lead	0.006	0.006	32	0.00	0.004
Copper	0.001	0.001	32	0.00	0.001
Zinc	0.002	0.002	32	0.00	0.001
Lin 1	Pollutant Load In				
Sum L	Sum of Pollutant Load to this BMP				
RR	Removal rate in percentage				
Lout	Pollutant Load out of BMP				

Notes:

1. Pollution loading calculated using *Municipal Stormwater Management* by Debo & Reese
2. Pollutant removal rates for Infiltration Practices taken from *Municipal Stormwater Management* by Debo & Reese, Table 13-13
3. Pollutant removal rates for Contechs CDS Unit water quality structure taken from NJCAT TSS Approval letter, January 9, 2015
4. Pollutant removal rates for Deep Sump Catch Basins taken from MassDEP Stormwater Handbook Volume 2 - Structural BMP Specifications

Loading Calculation

Location: **Area B** Condition: **Proposed**
 Rainfall: 1 inches
 Impervious Fraction: 0.65 Total Area = 1.089 acres

Pollutant	Residential		Weighted	
	A (acres)	EMC (mg/L)	EMC (mg/L)	L (lbs/yr)
Total Nitrogen (N)	1.089	1.900	1.900	0.299
Total Phosphorus (P)	1.089	0.383	0.383	0.060
Total Suspended Solids	1.089	101.0	101.0	15.9
Lead	1.089	0.144	0.144	0.023
Copper	1.089	0.033	0.033	0.005
Zinc	1.089	0.135	0.135	0.021
$L = 0.2266 * EMC * [0.15 + 0.75 * I] * P * A$				
L	Pollution Loading (lbs/year)			
EMC	Mean Event Mean Concentration (mg/L)			
I	Fraction of Impervious Acres (acres)			
P	Annual Rainfall (in)			
A	Watershed Area (acres)			

Notes:

1. Pollution loading calculated using *Municipal Stormwater Management* by Debo & Reese

Location: **Area B** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.65 Total Area = 1.089 acres
BMP: **Deep Sump Catch Basins**

Pollutant	Lin 1 (lbs)	Sum L (lbs)	RR (%)	Lremoved (lbs)	Lout (lbs)
Total Nitrogen (N)	0.299	0.299	0	0.00	0.299
Total Phosphorus (P)	0.060	0.060	0	0.00	0.060
Total Suspended Solids	15.889	15.9	5	0.79	15.1
Lead	0.023	0.023	0	0.00	0.023
Copper	0.005	0.005	0	0.00	0.005
Zinc	0.021	0.021	0	0.00	0.021
Lin 1	Pollutant Load In				
Sum L	Sum of Pollutant Load to this BMP				
RR	Removal rate in percentage				
Lout	Pollutant Load out of BMP				

Notes:

1. Pollution loading calculated using *Municipal Stormwater Management* by Debo & Reese
2. Pollutant removal rates for Infiltration Practices taken from *Municipal Stormwater Management* by Debo & Reese, Table 13-13
3. Pollutant removal rates for Contechs CDS Unit water quality structure taken from NJCAT TSS Approval letter, January 9, 2015
4. Pollutant removal rates for Deep Sump Catch Basins taken from MassDEP Stormwater Handbook Volume 2 - Structural BMP Specifications

Location: **Area B** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.65 Total Area = 1.089 acres
BMP: **Water Quality Structure**

Pollutant	Lin 1 (lbs)	Sum L (lbs)	RR (%)	Lremoved (lbs)	Lout (lbs)
Total Nitrogen (N)	0.299	0.299	18.3	0.05	0.244
Total Phosphorus (P)	0.060	0.060	66.9	0.04	0.020
Total Suspended Solids	15.094	15.1	50	7.55	7.5
Lead	0.023	0.023	46.5	0.01	0.012
Copper	0.005	0.005	56.2	0.00	0.002
Zinc	0.021	0.021	85.3	0.02	0.003
Lin 1	Pollutant Load In				
Sum L	Sum of Pollutant Load to this BMP				
RR	Removal rate in percentage				
Lout	Pollutant Load out of BMP				

Notes:

1. Pollution loading calculated using *Municipal Stormwater Management* by Debo & Reese
2. Pollutant removal rates for Infiltration Practices taken from *Municipal Stormwater Management* by Debo & Reese, Table 13-13
3. Pollutant removal rates for Contechs CDS Unit water quality structure taken from NJCAT TSS Approval letter, January 9, 2015
4. Pollutant removal rates for Deep Sump Catch Basins taken from MassDEP Stormwater Handbook Volume 2 - Structural BMP Specifications

Location: **Area B** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.65 Total Area = 1.089 acres
BMP: **Infiltration System**

Pollutant	Lin 1 (lbs)	Sum L (lbs)	RR (-)	Lremoved (lbs)	Lout (lbs)
Total Nitrogen (N)	0.244	0.244	27	0.07	0.178
Total Phosphorus (P)	0.020	0.020	33	0.01	0.013
Total Suspended Solids	7.547	7.5	90	6.79	0.8
Lead	0.012	0.012	32	0.00	0.008
Copper	0.002	0.002	32	0.00	0.002
Zinc	0.003	0.003	32	0.00	0.002
Lin 1	Pollutant Load In				
Sum L	Sum of Pollutant Load to this BMP				
RR	Removal rate in percentage				
Lout	Pollutant Load out of BMP				

Notes:

1. Pollution loading calculated using *Municipal Stormwater Management* by Debo & Reese
2. Pollutant removal rates for Infiltration Practices taken from *Municipal Stormwater Management* by Debo & Reese, Table 13-13
3. Pollutant removal rates for Contechs CDS Unit water quality structure taken from NJCAT TSS Approval letter, January 9, 2015
4. Pollutant removal rates for Deep Sump Catch Basins taken from MassDEP Stormwater Handbook Volume 2 - Structural BMP Specifications

Loading Calculation

Location: **Area E** Condition: **Proposed**
 Rainfall: 1 inches
 Impervious Fraction: 0.87 Total Area = 0.203 acres

Pollutant	Residential		Weighted	
	A (acres)	EMC (mg/L)	EMC (mg/L)	L (lbs/yr)
Total Nitrogen (N)	0.203	1.900	1.900	0.070
Total Phosphorus (P)	0.203	0.383	0.383	0.014
Total Suspended Solids	0.203	101.0	101.0	3.7
Lead	0.203	0.144	0.144	0.005
Copper	0.203	0.033	0.033	0.001
Zinc	0.203	0.135	0.135	0.005
$L = 0.2266 * EMC * [0.15 + 0.75 * I] * P * A$				
L	Pollution Loading (lbs/year)			
EMC	Mean Event Mean Concentration (mg/L)			
I	Fraction of Impervious Acres (acres)			
P	Annual Rainfall (in)			
A	Watershed Area (acres)			

Notes:

1. Pollution loading calculated using *Municipal Stormwater Management* by Debo & Reese

Location: **Area E** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.87 Total Area = 0.203 acres
BMP: **Deep Sump Catch Basins**

Pollutant	Lin 1 (lbs)	Sum L (lbs)	RR (%)	Lremoved (lbs)	Lout (lbs)
Total Nitrogen (N)	0.070	0.070	0	0.00	0.070
Total Phosphorus (P)	0.014	0.014	0	0.00	0.014
Total Suspended Solids	3.728	3.7	5	0.19	3.5
Lead	0.005	0.005	0	0.00	0.005
Copper	0.001	0.001	0	0.00	0.001
Zinc	0.005	0.005	0	0.00	0.005
Lin 1	Pollutant Load In				
Sum L	Sum of Pollutant Load to this BMP				
RR	Removal rate in percentage				
Lout	Pollutant Load out of BMP				

Notes:

1. Pollution loading calculated using *Municipal Stormwater Management* by Debo & Reese
2. Pollutant removal rates for Infiltration Practices taken from *Municipal Stormwater Management* by Debo & Reese, Table 13-13
3. Pollutant removal rates for Contechs CDS Unit water quality structure taken from NJCAT TSS Approval letter, January 9, 2015
4. Pollutant removal rates for Deep Sump Catch Basins taken from MassDEP Stormwater Handbook Volume 2 - Structural BMP Specifications

Location: **Area E** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.87 Total Area = 0.203 acres
BMP: **Water Quality Structure**

Pollutant	Lin 1 (lbs)	Sum L (lbs)	RR (%)	Lremoved (lbs)	Lout (lbs)
Total Nitrogen (N)	0.070	0.070	18.3	0.01	0.057
Total Phosphorus (P)	0.014	0.014	66.9	0.01	0.005
Total Suspended Solids	3.542	3.5	50	1.77	1.8
Lead	0.005	0.005	46.5	0.00	0.003
Copper	0.001	0.001	56.2	0.00	0.001
Zinc	0.005	0.005	85.3	0.00	0.001
Lin 1	Pollutant Load In				
Sum L	Sum of Pollutant Load to this BMP				
RR	Removal rate in percentage				
Lout	Pollutant Load out of BMP				

Notes:

1. Pollution loading calculated using *Municipal Stormwater Management* by Debo & Reese
2. Pollutant removal rates for Infiltration Practices taken from *Municipal Stormwater Management* by Debo & Reese, Table 13-13
3. Pollutant removal rates for Contechs CDS Unit water quality structure taken from NJCAT TSS Approval letter, January 9, 2015
4. Pollutant removal rates for Deep Sump Catch Basins taken from MassDEP Stormwater Handbook Volume 2 - Structural BMP Specifications

Location: **Area E** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.87 Total Area = 0.203 acres
BMP: **Infiltration System**

Pollutant	Lin 1 (lbs)	Sum L (lbs)	RR (-)	Lremoved (lbs)	Lout (lbs)
Total Nitrogen (N)	0.057	0.057	27	0.02	0.042
Total Phosphorus (P)	0.005	0.005	33	0.00	0.003
Total Suspended Solids	1.771	1.8	90	1.59	0.2
Lead	0.003	0.003	32	0.00	0.002
Copper	0.001	0.001	32	0.00	0.000
Zinc	0.001	0.001	32	0.00	0.000
Lin 1	Pollutant Load In				
Sum L	Sum of Pollutant Load to this BMP				
RR	Removal rate in percentage				
Lout	Pollutant Load out of BMP				

Notes:

1. Pollution loading calculated using *Municipal Stormwater Management* by Debo & Reese
2. Pollutant removal rates for Infiltration Practices taken from *Municipal Stormwater Management* by Debo & Reese, Table 13-13
3. Pollutant removal rates for Contechs CDS Unit water quality structure taken from NJCAT TSS Approval letter, January 9, 2015
4. Pollutant removal rates for Deep Sump Catch Basins taken from MassDEP Stormwater Handbook Volume 2 - Structural BMP Specifications

Loading Calculation

Location: **Area F** Condition: **Proposed**
 Rainfall: 1 inches
 Impervious Fraction: 0.81 Total Area = 1.023 acres

Pollutant	Residential		Weighted	
	A (acres)	EMC (mg/L)	EMC (mg/L)	L (lbs/yr)
Total Nitrogen (N)	1.023	1.900	1.900	0.334
Total Phosphorus (P)	1.023	0.383	0.383	0.067
Total Suspended Solids	1.023	101.0	101.0	17.7
Lead	1.023	0.144	0.144	0.025
Copper	1.023	0.033	0.033	0.006
Zinc	1.023	0.135	0.135	0.024
$L = 0.2266 * EMC * [0.15 + 0.75 * I] * P * A$				
L	Pollution Loading (lbs/year)			
EMC	Mean Event Mean Concentration (mg/L)			
I	Fraction of Impervious Acres (acres)			
P	Annual Rainfall (in)			
A	Watershed Area (acres)			

Notes:

1. Pollution loading calculated using *Municipal Stormwater Management* by Debo & Reese

Location: **Area F** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.81 Total Area = 1.023 acres
BMP: **Deep Sump Catch Basins**

Pollutant	Lin 1 (lbs)	Sum L (lbs)	RR (%)	Lremoved (lbs)	Lout (lbs)
Total Nitrogen (N)	0.334	0.334	0	0.00	0.334
Total Phosphorus (P)	0.067	0.067	0	0.00	0.067
Total Suspended Solids	17.735	17.7	5	0.89	16.8
Lead	0.025	0.025	0	0.00	0.025
Copper	0.006	0.006	0	0.00	0.006
Zinc	0.024	0.024	0	0.00	0.024
Lin 1	Pollutant Load In				
Sum L	Sum of Pollutant Load to this BMP				
RR	Removal rate in percentage				
Lout	Pollutant Load out of BMP				

Notes:

1. Pollution loading calculated using *Municipal Stormwater Management* by Debo & Reese
2. Pollutant removal rates for Infiltration Practices taken from *Municipal Stormwater Management* by Debo & Reese, Table 13-13
3. Pollutant removal rates for Contechs CDS Unit water quality structure taken from NJCAT TSS Approval letter, January 9, 2015
4. Pollutant removal rates for Deep Sump Catch Basins taken from MassDEP Stormwater Handbook Volume 2 - Structural BMP Specifications

Location: **Area F** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.81 Total Area = 1.023 acres
BMP: **Water Quality Structure**

Pollutant	Lin 1 (lbs)	Sum L (lbs)	RR (%)	Lremoved (lbs)	Lout (lbs)
Total Nitrogen (N)	0.334	0.334	18.3	0.06	0.273
Total Phosphorus (P)	0.067	0.067	66.9	0.04	0.022
Total Suspended Solids	16.849	16.8	50	8.42	8.4
Lead	0.025	0.025	46.5	0.01	0.014
Copper	0.006	0.006	56.2	0.00	0.003
Zinc	0.024	0.024	85.3	0.02	0.003
Lin 1	Pollutant Load In				
Sum L	Sum of Pollutant Load to this BMP				
RR	Removal rate in percentage				
Lout	Pollutant Load out of BMP				

Notes:

1. Pollution loading calculated using *Municipal Stormwater Management* by Debo & Reese
2. Pollutant removal rates for Infiltration Practices taken from *Municipal Stormwater Management* by Debo & Reese, Table 13-13
3. Pollutant removal rates for Contechs CDS Unit water quality structure taken from NJCAT TSS Approval letter, January 9, 2015
4. Pollutant removal rates for Deep Sump Catch Basins taken from MassDEP Stormwater Handbook Volume 2 - Structural BMP Specifications

Location: **Area F** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.81 Total Area = 1.023 acres
BMP: **Infiltration System**

Pollutant	Lin 1 (lbs)	Sum L (lbs)	RR (-)	Lremoved (lbs)	Lout (lbs)
Total Nitrogen (N)	0.273	0.273	27	0.07	0.199
Total Phosphorus (P)	0.022	0.022	33	0.01	0.015
Total Suspended Solids	8.424	8.4	90	7.58	0.8
Lead	0.014	0.014	32	0.00	0.009
Copper	0.003	0.003	32	0.00	0.002
Zinc	0.003	0.003	32	0.00	0.002
Lin 1	Pollutant Load In				
Sum L	Sum of Pollutant Load to this BMP				
RR	Removal rate in percentage				
Lout	Pollutant Load out of BMP				

Notes:

1. Pollution loading calculated using *Municipal Stormwater Management* by Debo & Reese
2. Pollutant removal rates for Infiltration Practices taken from *Municipal Stormwater Management* by Debo & Reese, Table 13-13
3. Pollutant removal rates for Contechs CDS Unit water quality structure taken from NJCAT TSS Approval letter, January 9, 2015
4. Pollutant removal rates for Deep Sump Catch Basins taken from MassDEP Stormwater Handbook Volume 2 - Structural BMP Specifications

Loading Calculation

Location: **Area G** Condition: **Proposed**
 Rainfall: 1 inches
 Impervious Fraction: 0.83 Total Area = 0.930 acres

Pollutant	Residential		Weighted	
	A (acres)	EMC (mg/L)	EMC (mg/L)	L (lbs/yr)
Total Nitrogen (N)	0.930	1.900	1.900	0.310
Total Phosphorus (P)	0.930	0.383	0.383	0.062
Total Suspended Solids	0.930	101.0	101.0	16.5
Lead	0.930	0.144	0.144	0.023
Copper	0.930	0.033	0.033	0.005
Zinc	0.930	0.135	0.135	0.022
$L = 0.2266 * EMC * [0.15 + 0.75 * I] * P * A$				
L	Pollution Loading (lbs/year)			
EMC	Mean Event Mean Concentration (mg/L)			
I	Fraction of Impervious Acres (acres)			
P	Annual Rainfall (in)			
A	Watershed Area (acres)			

Notes:

1. Pollution loading calculated using *Municipal Stormwater Management* by Debo & Reese

Location: **Area G** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.83 Total Area = 0.930 acres
BMP: **Deep Sump Catch Basins**

Pollutant	Lin 1 (lbs)	Sum L (lbs)	RR (%)	Lremoved (lbs)	Lout (lbs)
Total Nitrogen (N)	0.310	0.310	0	0.00	0.310
Total Phosphorus (P)	0.062	0.062	0	0.00	0.062
Total Suspended Solids	16.474	16.5	5	0.82	15.7
Lead	0.023	0.023	0	0.00	0.023
Copper	0.005	0.005	0	0.00	0.005
Zinc	0.022	0.022	0	0.00	0.022
Lin 1	Pollutant Load In				
Sum L	Sum of Pollutant Load to this BMP				
RR	Removal rate in percentage				
Lout	Pollutant Load out of BMP				

Notes:

1. Pollution loading calculated using *Municipal Stormwater Management* by Debo & Reese
2. Pollutant removal rates for Infiltration Practices taken from *Municipal Stormwater Management* by Debo & Reese, Table 13-13
3. Pollutant removal rates for Contechs CDS Unit water quality structure taken from NJCAT TSS Approval letter, January 9, 2015
4. Pollutant removal rates for Deep Sump Catch Basins taken from MassDEP Stormwater Handbook Volume 2 - Structural BMP Specifications

Location: **Area G** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.83 Total Area = 0.930 acres
BMP: **Water Quality Structure**

Pollutant	Lin 1 (lbs)	Sum L (lbs)	RR (%)	Lremoved (lbs)	Lout (lbs)
Total Nitrogen (N)	0.310	0.310	18.3	0.06	0.253
Total Phosphorus (P)	0.062	0.062	66.9	0.04	0.021
Total Suspended Solids	15.651	15.7	50	7.83	7.8
Lead	0.023	0.023	46.5	0.01	0.013
Copper	0.005	0.005	56.2	0.00	0.002
Zinc	0.022	0.022	85.3	0.02	0.003
Lin 1	Pollutant Load In				
Sum L	Sum of Pollutant Load to this BMP				
RR	Removal rate in percentage				
Lout	Pollutant Load out of BMP				

Notes:

1. Pollution loading calculated using *Municipal Stormwater Management* by Debo & Reese
2. Pollutant removal rates for Infiltration Practices taken from *Municipal Stormwater Management* by Debo & Reese, Table 13-13
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4. Pollutant removal rates for Deep Sump Catch Basins taken from MassDEP Stormwater Handbook Volume 2 - Structural BMP Specifications

Location: **Area G** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.83 Total Area = 0.930 acres
BMP: **Infiltration System**

Pollutant	Lin 1 (lbs)	Sum L (lbs)	RR (-)	Lremoved (lbs)	Lout (lbs)
Total Nitrogen (N)	0.253	0.253	27	0.07	0.185
Total Phosphorus (P)	0.021	0.021	33	0.01	0.014
Total Suspended Solids	7.825	7.8	90	7.04	0.8
Lead	0.013	0.013	32	0.00	0.009
Copper	0.002	0.002	32	0.00	0.002
Zinc	0.003	0.003	32	0.00	0.002
Lin 1	Pollutant Load In				
Sum L	Sum of Pollutant Load to this BMP				
RR	Removal rate in percentage				
Lout	Pollutant Load out of BMP				

Notes:

1. Pollution loading calculated using *Municipal Stormwater Management* by Debo & Reese
2. Pollutant removal rates for Infiltration Practices taken from *Municipal Stormwater Management* by Debo & Reese, Table 13-13
3. Pollutant removal rates for Contechs CDS Unit water quality structure taken from NJCAT TSS Approval letter, January 9, 2015
4. Pollutant removal rates for Deep Sump Catch Basins taken from MassDEP Stormwater Handbook Volume 2 - Structural BMP Specifications

Loading Calculation

Location: **Northwest Portion to Area Drains** Condition: **Proposed**
 Rainfall: 1 inches
 Impervious Fraction: 0.23 Total Area = 0.251 acres

Pollutant	Residential		Weighted	
	A (acres)	EMC (mg/L)	EMC (mg/L)	L (lbs/yr)
Total Nitrogen (N)	0.251	1.900	1.900	0.035
Total Phosphorus (P)	0.251	0.383	0.383	0.007
Total Suspended Solids	0.251	101.0	101.0	1.9
Lead	0.251	0.144	0.144	0.003
Copper	0.251	0.033	0.033	0.001
Zinc	0.251	0.135	0.135	0.002
$L = 0.2266 * EMC * [0.15 + 0.75 * I] * P * A$				
L	Pollution Loading (lbs/year)			
EMC	Mean Event Mean Concentration (mg/L)			
I	Fraction of Impervious Acres (acres)			
P	Annual Rainfall (in)			
A	Watershed Area (acres)			

Notes:

1. Pollution loading calculated using *Municipal Stormwater Management* by Debo & Reese

Loading Calculation

Location: **Areas to Existing Infiltration Systems** Condition: **Proposed**
 Rainfall: 1 inches
 Impervious Fraction: 0.62 Total Area = 4.385 acres

Pollutant	Residential		Weighted	
	A (acres)	EMC (mg/L)	EMC (mg/L)	L (lbs/yr)
Total Nitrogen (N)	4.385	1.900	1.900	1.161
Total Phosphorus (P)	4.385	0.383	0.383	0.234
Total Suspended Solids	4.385	101.0	101.0	61.7
Lead	4.385	0.144	0.144	0.088
Copper	4.385	0.033	0.033	0.020
Zinc	4.385	0.135	0.135	0.082
$L = 0.2266 * EMC * [0.15 + 0.75 * I] * P * A$				
L	Pollution Loading (lbs/year)			
EMC	Mean Event Mean Concentration (mg/L)			
I	Fraction of Impervious Acres (acres)			
P	Annual Rainfall (in)			
A	Watershed Area (acres)			

Notes:

1. Pollution loading calculated using *Municipal Stormwater Management* by Debo & Reese

Location: **Areas to Existing Infiltration Systems** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.62 Total Area = 4.385 acres
BMP: **Infiltration System**

Pollutant	Lin 1 (lbs)	Sum L (lbs)	RR (-)	Lremoved (lbs)	Lout (lbs)
Total Nitrogen (N)	1.161	1.161	27	0.31	0.848
Total Phosphorus (P)	0.234	0.234	33	0.08	0.157
Total Suspended Solids	61.720	61.7	90	55.55	6.2
Lead	0.088	0.088	32	0.03	0.060
Copper	0.020	0.020	32	0.01	0.014
Zinc	0.082	0.082	32	0.03	0.056
Lin 1	Pollutant Load In				
Sum L	Sum of Pollutant Load to this BMP				
RR	Removal rate in percentage				
Lout	Pollutant Load out of BMP				

Notes:

1. Pollution loading calculated using *Municipal Stormwater Management* by Debo & Reese
2. Pollutant removal rates for Infiltration Practices taken from *Municipal Stormwater Management* by Debo & Reese, Table 13-13
3. Pollutant removal rates for Contechs CDS Unit water quality structure taken from NJCAT TSS Approval letter, January 9, 2015
4. Pollutant removal rates for Deep Sump Catch Basins taken from MassDEP Stormwater Handbook Volume 2 - Structural BMP Specifications

Available Models

CDS Model	Treatment Capacity ³ (cfs)	Maximum Sediment Storage Capacity (CF)
1515	1.0	26
w/ 1' added sump	1.0	33
w/ 2' added sump	1.0	40
w/ 3' added sump	1.0	47
2015_4	1.4	50
w/ 1' added sump	1.4	63
w/ 2' added sump	1.4	75
w/ 3' added sump	1.4	88
2015	1.4	79
w/ 1' added sump	1.4	98
w/ 2' added sump	1.4	118
2020	2.2	90
w/ 1' added sump	2.2	110
w/ 2' added sump	2.2	129
2025	3.2	97
w/ 1' added sump	3.2	117
w/ 2' added sump	3.2	136
3020	3.9	134
w/ 1' added sump	3.9	163
w/ 2' added sump	3.9	191
3030	6.1	157
w/ 1' added sump	6.1	185
w/ 2' added sump	6.1	213
4030	7.9	329
w/ 1' added sump	7.9	379
w/ 2' added sump	7.9	429
4040	12.4	381
w/ 1' added sump	12.4	431
w/ 2' added sump	12.4	482

1. Structure diameter represents the typical inside dimension of the concrete structure. Offline systems will require additional concrete diversion components
2. Depth below pipe can vary to accommodate site specific design. Depth below pipe invert represents the depth from the pipe invert to the inside bottom of concrete structure.
3. Treatment Capacity is based on laboratory testing using OK-110 (average d50 particle size of approximately 100 microns) and a 2400 micron screen.

Sediment Depths Indicating Required Servicing*			
CDS Model	Standard Sediment Depth (in.)	w/ 1' added Sump Sediment Depth (in.)	w/ 2' added Sump Sediment Depth (in.)
1515	18	27	36
2015_4	18	30	42
2015	18	30	42
2020	18	30	42
2025	18	30	42
3020	18	30	42
3030	18	39	42
4030	27	39	51
4040	27	39	51

* Based on 75% capacity of isolated sump.

**64 Danbury Road
Wilton, Connecticut**

Maintenance and Inspection Plan

December 2023

The initial inspection will be made during an intense rainfall to check the adequacy of the yard drains, catch basins, roof leaders, piping, hydrodynamic separator, infiltration systems, and system outlet.

The following is a checklist of items that will be checked and maintained during scheduled maintenance operations.

Drainage Structures: The Owner will be responsible for cleaning the catch basins, yard drains, manholes, piping, and outlet protection on their property. A Connecticut licensed hauler shall clean the sumps, and legally dispose of removed sand at an off-site location. The road sand may not be reused or stored on-site. As part of the hauling contract, the hauler shall notify the Owner in writing where the material is being disposed.

Each catch basin and yard drain shall be inspected every four months, with one inspection occurring during the month of April. Any debris occurring within one foot from the bottom of each sump shall be removed by Vacuum "Vactor" type of maintenance equipment. Maintain a log of inspections. Remove organic matter, sand and debris from catch basins as necessary and dispose of legally.

Hydrodynamic Separator: The Contech CDS units (hydrodynamic separator) will be skimmed and oil and scum removed. In a separate operation, silt, sand and sediment will be removed. Once the structure is cleaned of debris, the chamber will be refilled with clean water to prevent wash through of debris and oil during next storm event.

Underground Infiltration: The underground infiltration systems will be cleaned of all silt, debris and sediment from the inlet structure, outlet structure and the chamber lengths. The outlet control structure will be inspected and cleaned to make sure nothing is clogging the discharge pipe.

Level Spreader: The level spreader shall be inspected two times annually. Regular maintenance includes removing accumulated debris and sediment, checking for erosion, vegetative bare spots, and removing invasive plant species or tree saplings.

Stormwater System Outfalls: The stormwater system outfalls shall be inspected two times annually as well as after every major storm, for slope integrity, soil moisture, vegetated health, soil stability, soil compaction, soil erosion, ponding and sediment accumulation. If the rip rap has been displaced, undermined or damaged, it should be replaced immediately. The channel immediately below the outlet should be checked to see that erosion is not occurring. The downstream channel will be kept clear of obstructions, such as fallen trees, debris, leaves and sediment that could change flow patterns and/or tail water depths in pipes. Repairs must be carried out immediately to avoid additional damage to the outlet protection apron.

Drainage Structures Inspection

Each catch basin and yard drain shall be inspected every four months, with one inspection occurring during the month of April. Any debris occurring within one foot from the bottom of each sump shall be removed by Vacuum "Vactor" type of maintenance equipment. Maintain a log of inspections. Remove organic matter, sand and debris from catch basins as necessary and dispose of legally.

Date (MM/DD/YY)	Company/Person	Supervising Team Member	Comments

Hydrodynamic Separator

The Contech CDS units (hydrodynamic separator) will be skimmed and oil and scum removed. In a separate operation, silt, sand and sediment will be removed. Once the structure is cleaned of debris, the chamber will be refilled with clean water to prevent wash through of debris and oil during next storm event.

Date (MM/DD/YY)	Company/Person	Supervising Team Member	Comments

Underground Infiltration

The underground infiltration system shall be inspected annually and will be cleaned of all silt, debris and sediment from the inlet structure, outlet structure and the chamber lengths. The outlet control structure will be inspected and cleaned to make sure nothing is clogging the discharge pipe.

Date (MM/DD/YY)	Company/Person	Supervising Team Member	Comments

Level Spreader

The level spreader shall be inspected two times annually. Regular maintenance includes removing accumulated debris and sediment, checking for erosion, vegetative bare spots, and removing invasive plant species or tree saplings.

Date (MM/DD/YY)	Company/Person	Supervising Team Member	Comments

Stormwater System Outfalls

The stormwater system outfalls shall be inspected two times annually as well as after every major storm, for slope integrity, soil moisture, vegetated health, soil stability, soil compaction, soil erosion, ponding and sediment accumulation. If the rip rap has been displaced, undermined or damaged, it should be replaced immediately. The channel immediately below the outlet should be checked to see that erosion is not occurring. The downstream channel will be kept clear of obstructions, such as fallen trees, debris, leaves and sediment that could change flow patterns and/or tail water depths in pipes. Repairs must be carried out immediately to avoid additional damage to the outlet protection apron.

Date (MM/DD/YY)	Company/Person	Supervising Team Member	Comments



Engineers | Environmental Specialists

64 Danbury Road

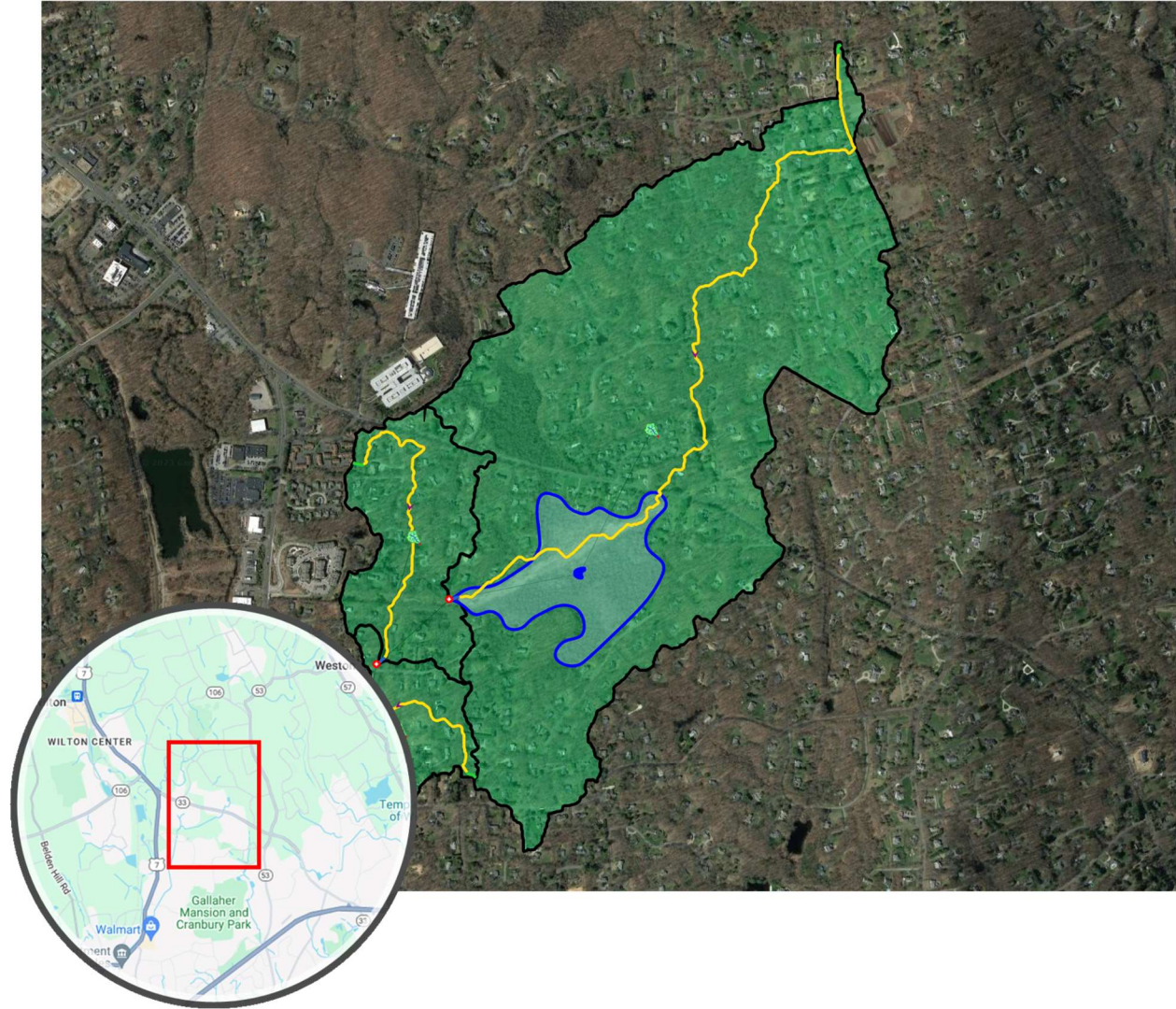
December 22, 2023

Contents

Project Description.....	1
Purpose	1
Methodology Used.....	1
Default Scenario.....	2
Default Scenario.....	3
Watershed Routing Diagram.....	3

Project Description

The project is located at **14 Wilton Hunt Rd, Wilton, CT 06897**. The site is 435.005 acres in size.



Purpose

The purpose of this hydrology study is to determine the peak runoff rates for pre-development and post-development conditions.

Methodology Used

The HEC-HMS version 4.5 computer software was used in this hydrology study. The **SCS Curve Number** infiltration (loss) method and **SCS Unit Hydrograph** runoff (transform) method was used for determining the stormwater runoff. Multiple routing method were used for routing the stormwater.

The following scenarios were analyzed in this hydrology study:

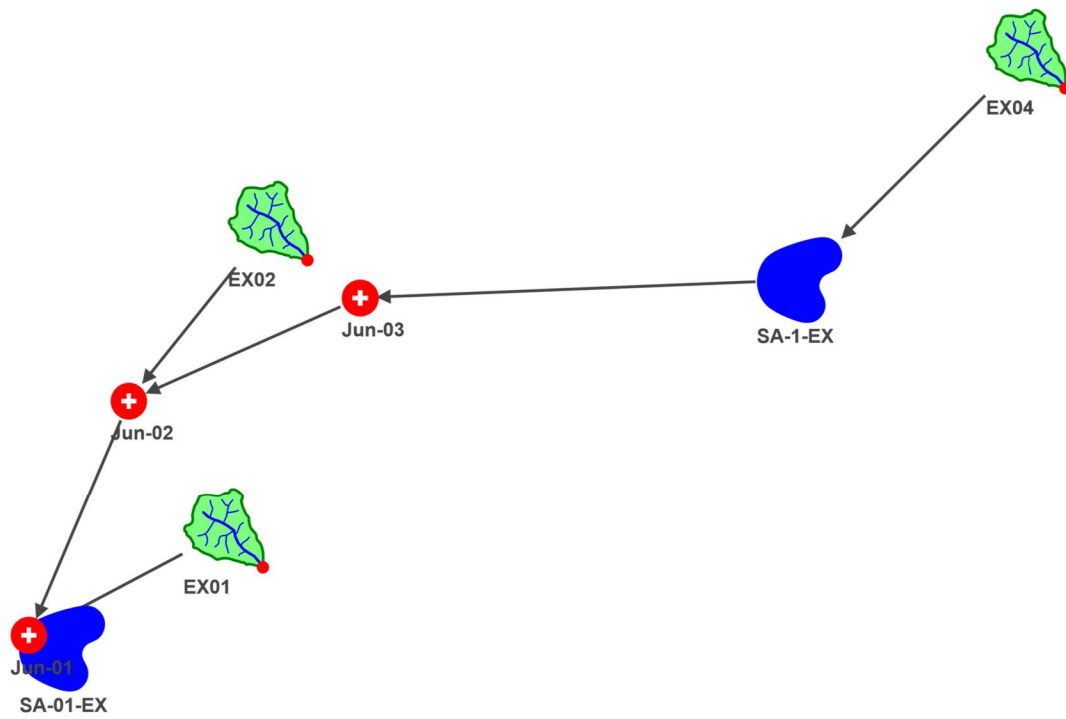
Default Scenario

This scenario contains:

- 3 delineated subbasin areas and corresponding lag time flow paths.
- 3 connecting junctions.
- 2 storage areas.

Default Scenario

Watershed Routing Diagram

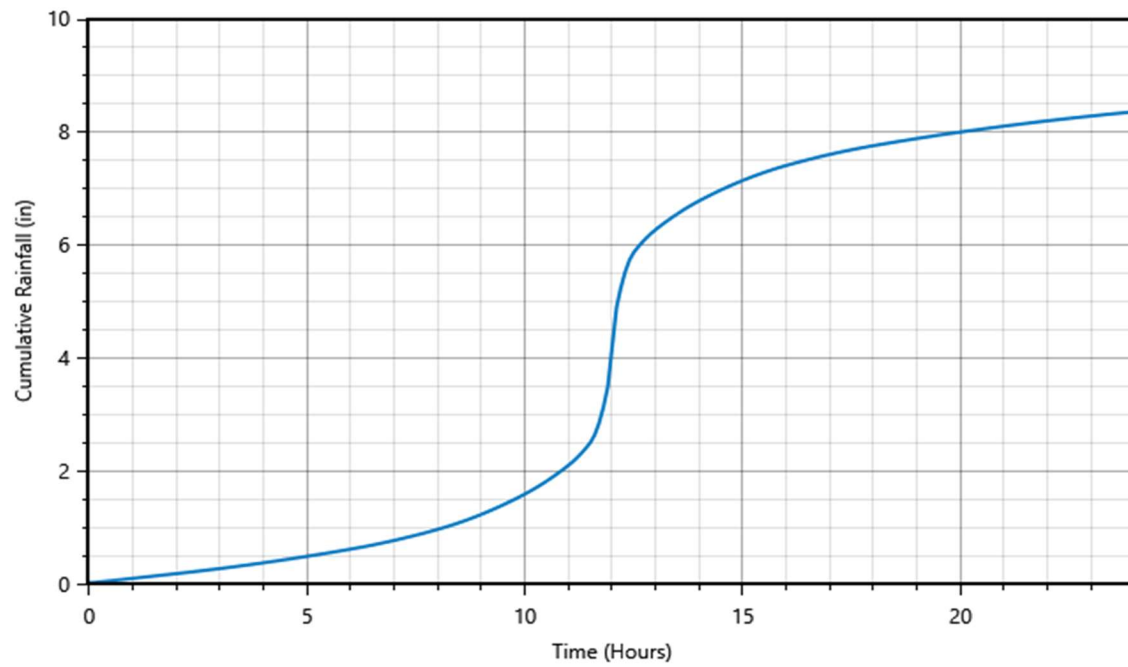


Design Storm

Precipitation type: SCS Storm

SCS storm distribution: Type III

Rainfall depth: 8.35 in



Watershed Summary

Subbasin ID	Drainage Area (acres)	Initial Abstraction (in)	Curve Number	Impervious Surface (%)	Lag Time (minutes)	Peak Discharge (cfs)
EX01	32.493	0.65	75.53	18.32	19.01	123.43
EX02	51.222	0.74	73.10	9.77	38.76	126.93
EX04	351.290	0.68	74.63	9.77	46.12	810.02

Subbasins

Subbasin ID:	EX01		
Scenario:	Default Scenario	Depth	Volume
Peak discharge:	97.2 cfs	Time of peak:	31 Oct 2023, 12:16
Drainage area:	32.493 acres	Total rainfall:	8.35 in
Initial abstraction:	0.65 in	Losses:	4.18 in
Curve Number:	75.53	Precip excess:	4.17 in
Impervious surface:	18.32%	Direct runoff:	4.17 in
Peaking factor:	484	Baseflow:	0.00 in
Lag time:	19.01 minutes	Total runoff:	4.17 in
Weighted Curve Number Calculations			
Area (acres)	Area (%)	CN	Description
1.082	3.33	55.00	Undeveloped, Deciduous Forest
3.723	11.46	85.83	Developed, Medium Density
4.817	14.82	79.26	Developed, Low Density
0.333	1.03	55.00	Undeveloped, Mixed Forest
22.539	69.36	74.32	Developed, Open Space
32.493	100.00	75.53	Weighted Average
Time of Concentration (TOC) / Lag time Calculations			
TOC (min)	Length (ft)	Slope (ft/ft)	Velocity (ft/s)
18.49	100.00	0.02572	0.5958
12.65	2,326.81	0.03610	6.2743
0.54	100.00	0.00854	3.0524
31.68	2,526.81	Total	Lag Time = 19.01 minutes

Subbasin ID:		EX02				
Scenario:		Default Scenario		Depth	Volume	
Peak discharge:		57.7 cfs	Time of peak:		31 Oct 2023, 13:20	
Drainage area:		51.222 acres	Total rainfall:		8.35 in	35.62667 ac-ft
Initial abstraction:		0.74 in	Losses:		3.63 in	12.39812 ac-ft
Curve Number:		73.10	Precip excess:		4.72 in	23.22855 ac-ft
Impervious surface:		9.77%	Direct runoff:		4.72 in	22.98 ac-ft
Peaking factor:		484	Baseflow:		0.00 in	0.00 ac-ft
Lag time:		38.76 minutes	Total runoff:		4.72 in	22.98 ac-ft
Weighted Curve Number Calculations						
Area (acres)	Area (%)	CN	Description			
5.369	10.48	100.00	Wetlands, Forested			
4.067	7.94	56.83	Undeveloped, Deciduous Forest			
0.201	0.39	85.00	Developed, Medium Density			
7.076	13.82	76.28	Developed, Low Density			
0.024	0.05	92.00	Developed, High Density			
7.278	14.21	59.16	Undeveloped, Mixed Forest			
27.207	53.12	73.02	Developed, Open Space			
51.222	100.00	73.10	Weighted Average			
Time of Concentration (TOC) / Lag time Calculations						
TOC (min)	Length (ft)	Slope (ft/ft)	Velocity (ft/s)	Description		
13.98	100.00	0.05172	0.8448	Sheet Flow		
34.69	3,047.55	0.00824	2.9982	Shallow Concentrated Flow		
15.92	100.00	0.00001	0.1044	Channel Flow		
64.59	3,247.55	Total	Lag Time = 38.76 minutes			

Subbasin ID:		EX04	
Scenario:		Default Scenario	
		Depth	Volume
Peak discharge:	349.6 cfs	Time of peak:	31 Oct 2023, 13:40
Drainage area:	351.290 acres	Total rainfall:	8.35 in
Initial abstraction:	0.68 in	Losses:	3.75 in
Curve Number:	74.63	Precip excess:	4.60 in
Impervious surface:	9.77%	Direct runoff:	4.54 in
Peaking factor:	484	Baseflow:	0.00 in
Lag time:	46.12 minutes	Total runoff:	4.54 in
Weighted Curve Number Calculations			
Area (acres)	Area (%)	CN	Description
54.559	15.53	100.00	Wetlands, Forested
67.639	19.25	57.74	Undeveloped, Deciduous Forest
8.570	2.44	87.94	Developed, Medium Density
0.537	0.15	74.00	Agricultural, Pasture/Hay
0.241	0.07	100.00	Wetlands, Non-Forested
55.533	15.81	79.00	Developed, Low Density
30.628	8.72	58.95	Undeveloped, Mixed Forest
133.584	38.03	73.70	Developed, Open Space
351.290	100.00	74.63	Weighted Average
Time of Concentration (TOC) / Lag time Calculations			
TOC (min)	Length (ft)	Slope (ft/ft)	Velocity (ft/s)
19.54	100.00	0.02239	0.5559
56.39	8,099.02	0.02202	4.9003
0.93	100.00	0.00292	1.7833
76.86	8,299.02	Total	Lag Time = 46.12 minutes

Global Summary Results for Run "25-year"				
Project: 64danburyrd Simulation Run: 25-year				
Start of Run: 31Oct2023, 00:00		Basin Model: Default Basin		
End of Run: 01Nov2023, 00:00		Meteorologic Model: 25-year		
Compute Time: 19Dec2023, 21:43:56		Control Specifications: Default Control		
Show Elements: All Elements		Volume Units: ☒ IN ☐ ACRE-FT		Sorting: Hydrologic
Hydrologic Element	Drainage Area (MI ²)	Peak Discharge (CFS)	Time of Peak	Volume (IN)
EX04	0.5489	349.6	31Oct2023, 13:40	3.75
SA-1-EX	0.5489	37.8	31Oct2023, 19:36	1.23
Jun-03	0.5489	37.8	31Oct2023, 19:36	1.23
Jun-02	0.6289	80.3	31Oct2023, 13:30	1.53
Jun-01	0.6797	124.4	31Oct2023, 12:18	1.73
SA-2-EX	0.6797	120.2	31Oct2023, 12:22	1.73
EX02	0.0800	57.7	31Oct2023, 13:20	3.63
EX01	0.0508	97.2	31Oct2023, 12:16	4.17

Summary Results for Reservoir "SA-2-EX"	
Project: 64danburyrd Simulation Run: 25-year	
Reservoir: SA-2-EX	
Start of Run: 31Oct2023, 00:00 Basin Model: Default Basin	
End of Run: 01Nov2023, 00:00 Meteorologic Model: 25-year	
Compute Time: 19Dec2023, 21:43:56 Control Specifications: Default Control	
Volume Units: ☒ IN ☐ ACRE-FT	
Computed Results	
Peak Inflow: 124.4 (CFS)	Date/Time of Peak Inflow: 31Oct2023, 12:18
Peak Discharge: 120.2 (CFS)	Date/Time of Peak Discharge: 31Oct2023, 12:22
Inflow Volume: 1.73 (IN)	Peak Storage: 0.4 (ACRE-FT)
Discharge Volume: 1.73 (IN)	Peak Elevation: 137.9 (FT)

