

Hydrograph Report

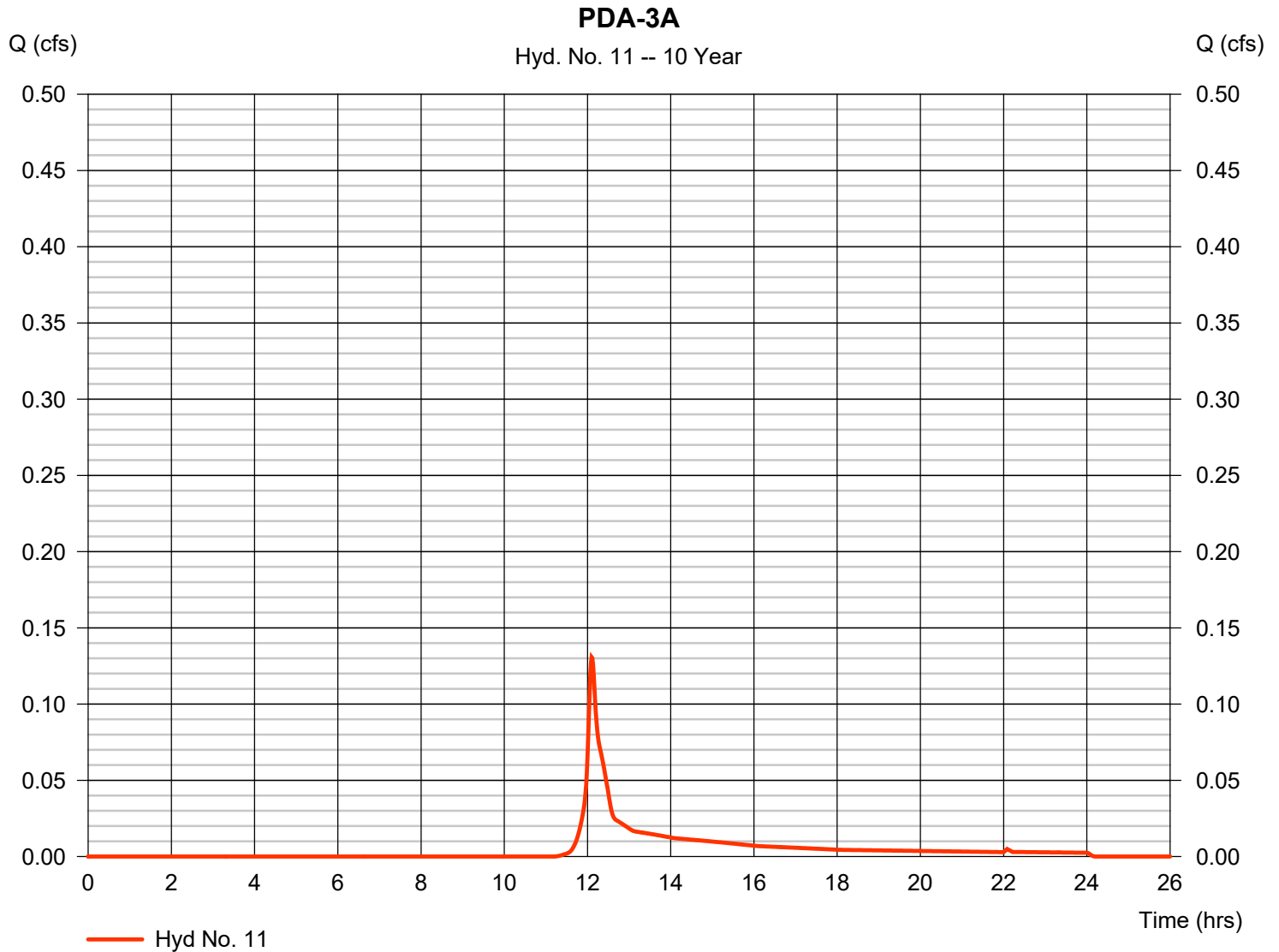
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Monday, 01 / 9 / 2023

Hyd. No. 11

PDA-3A

Hydrograph type	= SCS Runoff	Peak discharge	= 0.131 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.10 hrs
Time interval	= 1 min	Hyd. volume	= 465 cuft
Drainage area	= 0.090 ac	Curve number	= 58
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.90 min
Total precip.	= 5.51 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

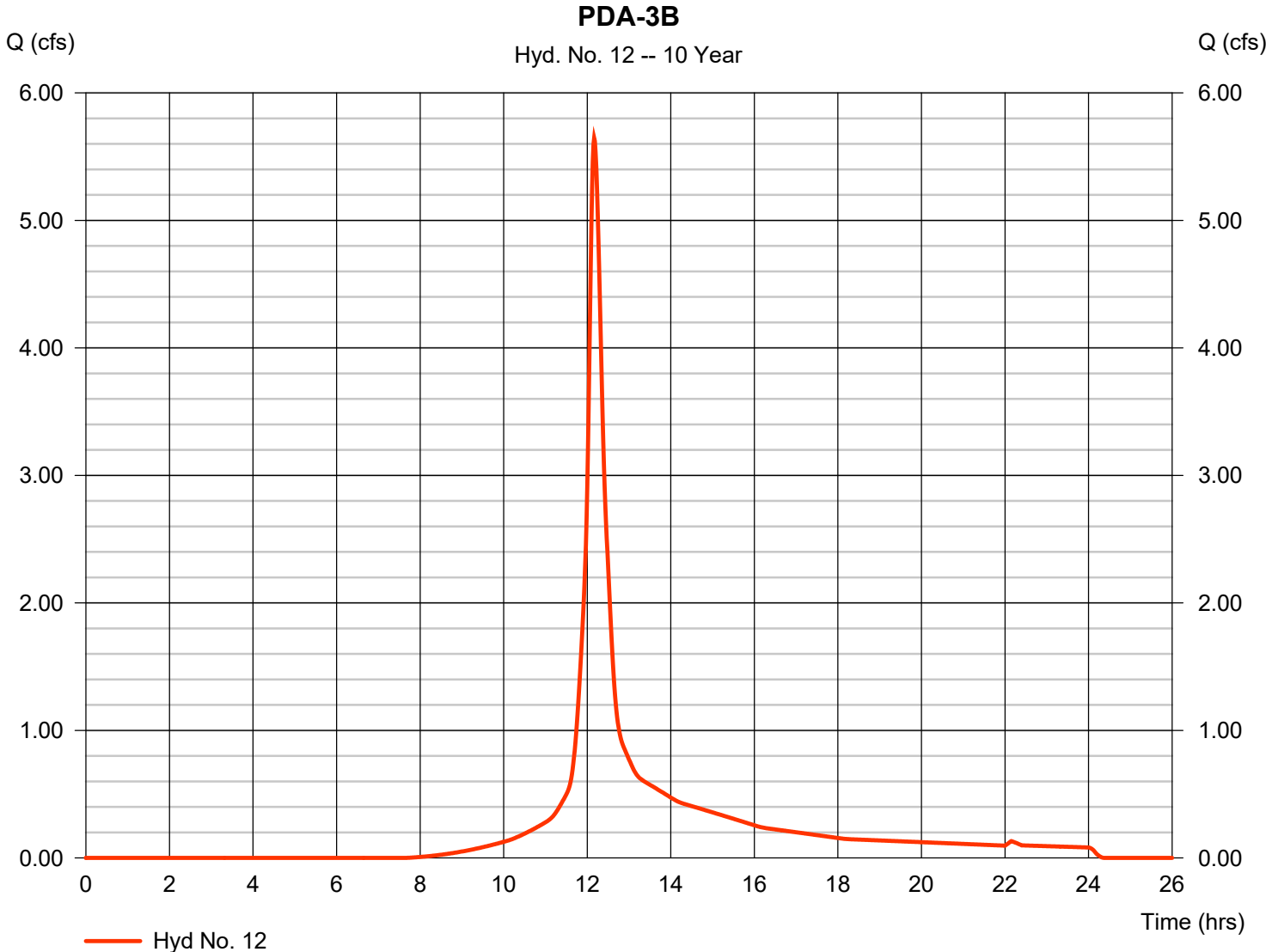


Hydrograph Report

Hyd. No. 12

PDA-3B

Hydrograph type	= SCS Runoff	Peak discharge	= 5.645 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.17 hrs
Time interval	= 1 min	Hyd. volume	= 22,295 cuft
Drainage area	= 1.950 ac	Curve number	= 78
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 14.70 min
Total precip.	= 5.51 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

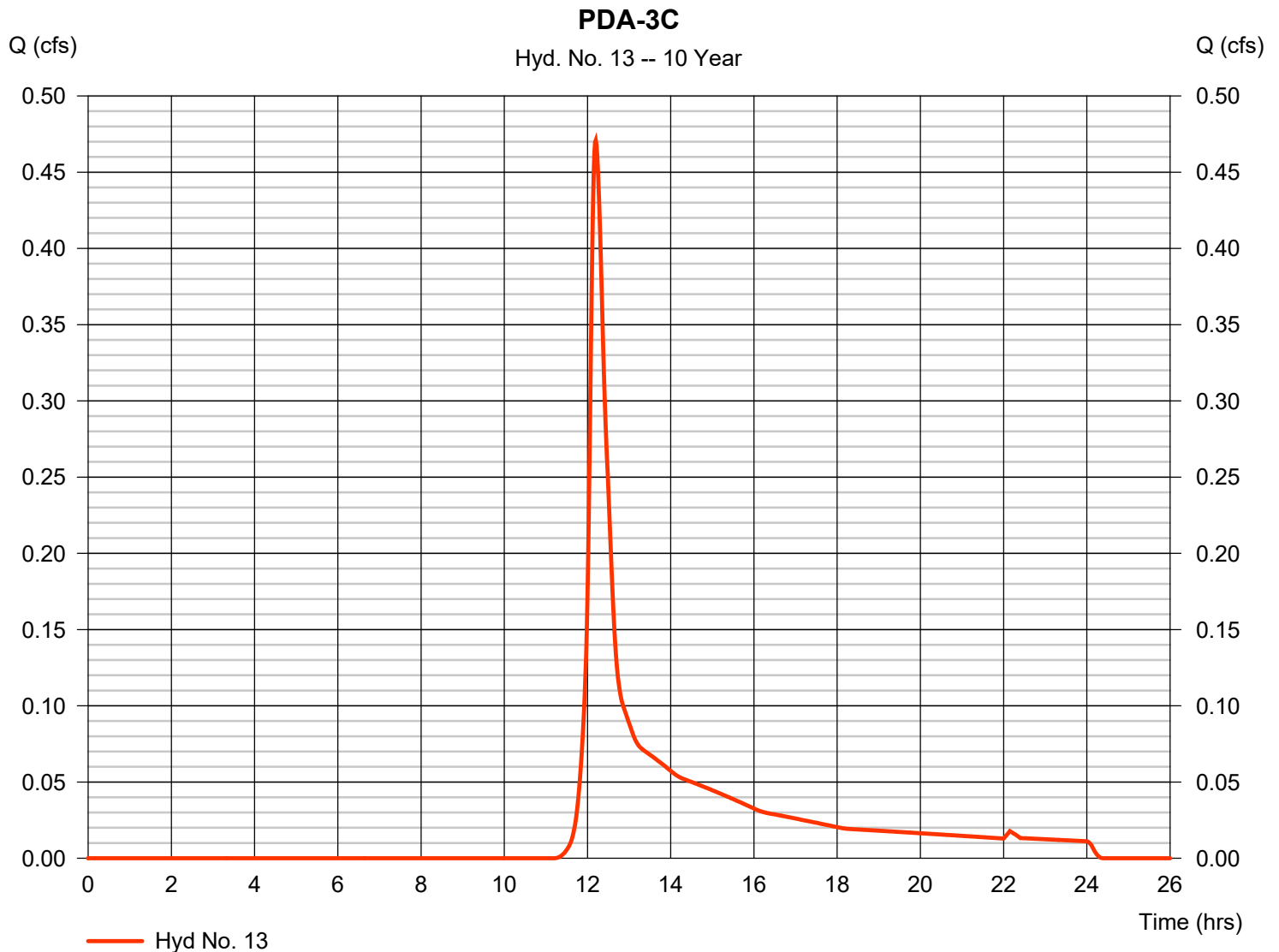
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Hyd. No. 13

PDA-3C

Hydrograph type	= SCS Runoff	Peak discharge	= 0.471 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.20 hrs
Time interval	= 1 min	Hyd. volume	= 2,066 cuft
Drainage area	= 0.390 ac	Curve number	= 58
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 13.80 min
Total precip.	= 5.51 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

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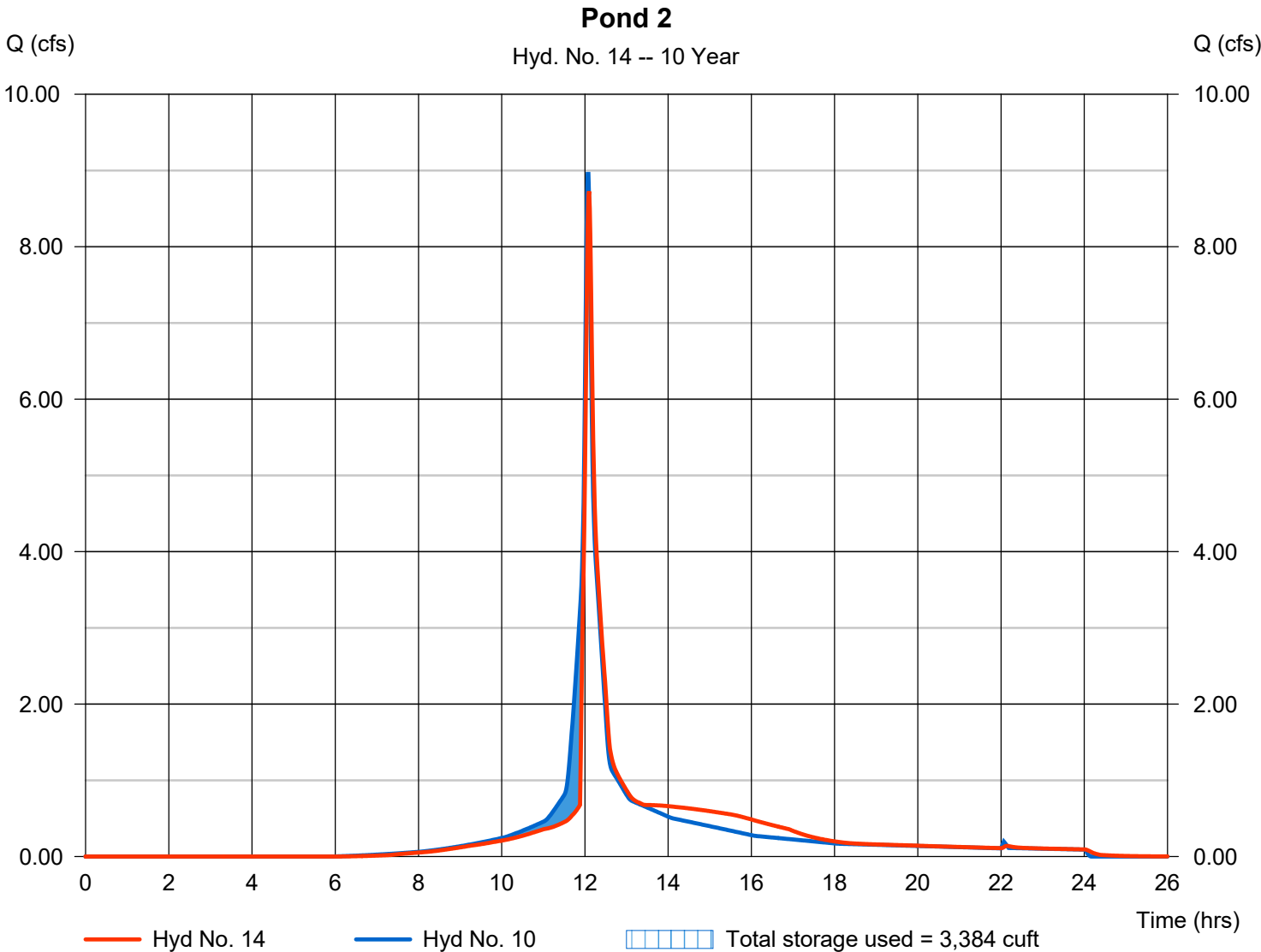
Monday, 01 / 9 / 2023

Hyd. No. 14

Pond 2

Hydrograph type	= Reservoir	Peak discharge	= 8.725 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.10 hrs
Time interval	= 1 min	Hyd. volume	= 27,999 cuft
Inflow hyd. No.	= 10 - PDA-2B	Max. Elevation	= 334.49 ft
Reservoir name	= Basin 2	Max. Storage	= 3,384 cuft

Storage Indication method used.



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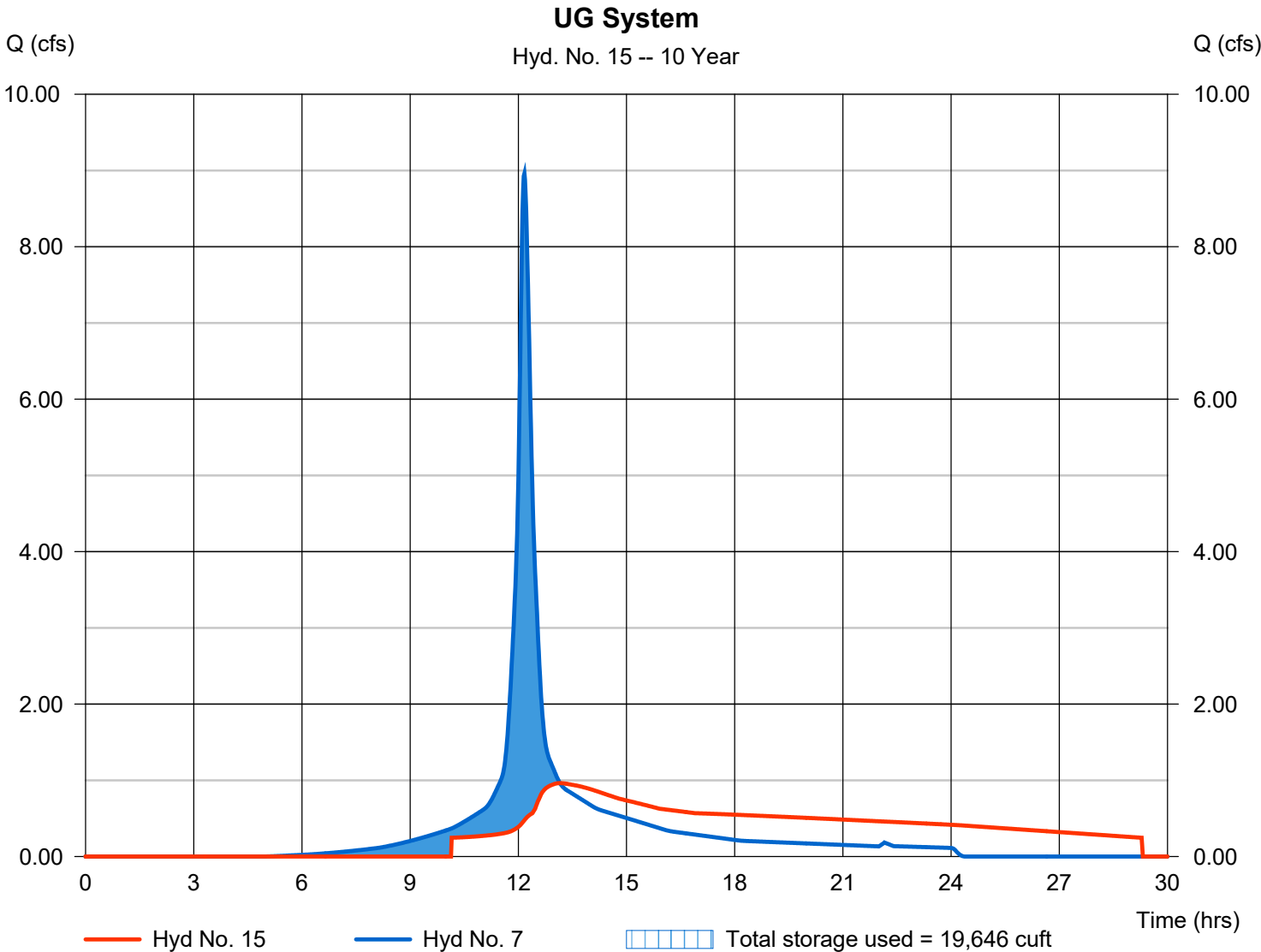
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Hyd. No. 15

UG System

Hydrograph type	= Reservoir	Peak discharge	= 0.963 cfs
Storm frequency	= 10 yrs	Time to peak	= 13.15 hrs
Time interval	= 1 min	Hyd. volume	= 34,018 cuft
Inflow hyd. No.	= 7 - PDA-1C	Max. Elevation	= 360.31 ft
Reservoir name	= Underground Detention	Max. Storage	= 19,646 cuft

Storage Indication method used.



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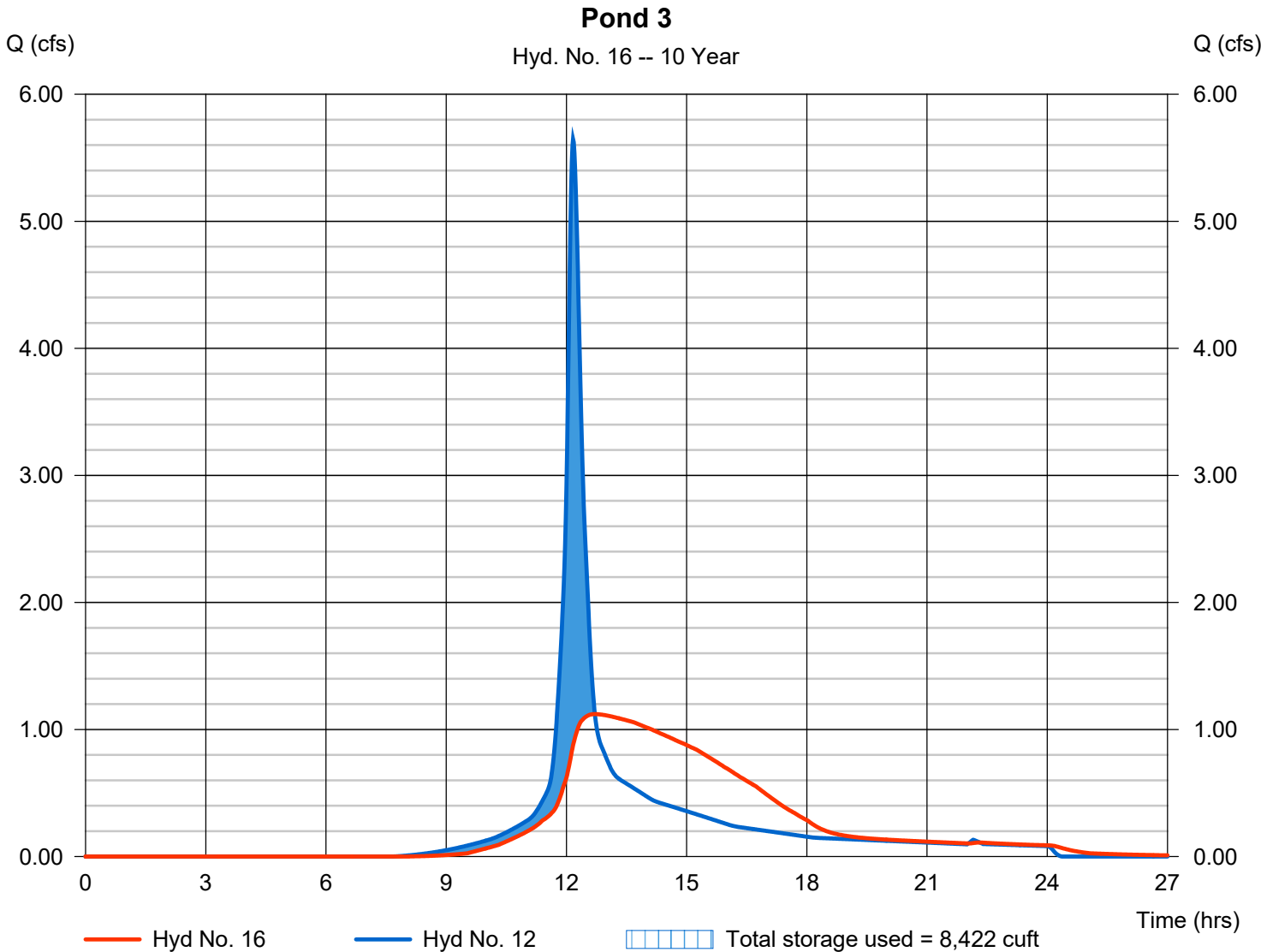
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Hyd. No. 16

Pond 3

Hydrograph type	= Reservoir	Peak discharge	= 1.121 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.72 hrs
Time interval	= 1 min	Hyd. volume	= 22,288 cuft
Inflow hyd. No.	= 12 - PDA-3B	Max. Elevation	= 365.34 ft
Reservoir name	= Basin 3	Max. Storage	= 8,422 cuft

Storage Indication method used.



Hydrograph Report

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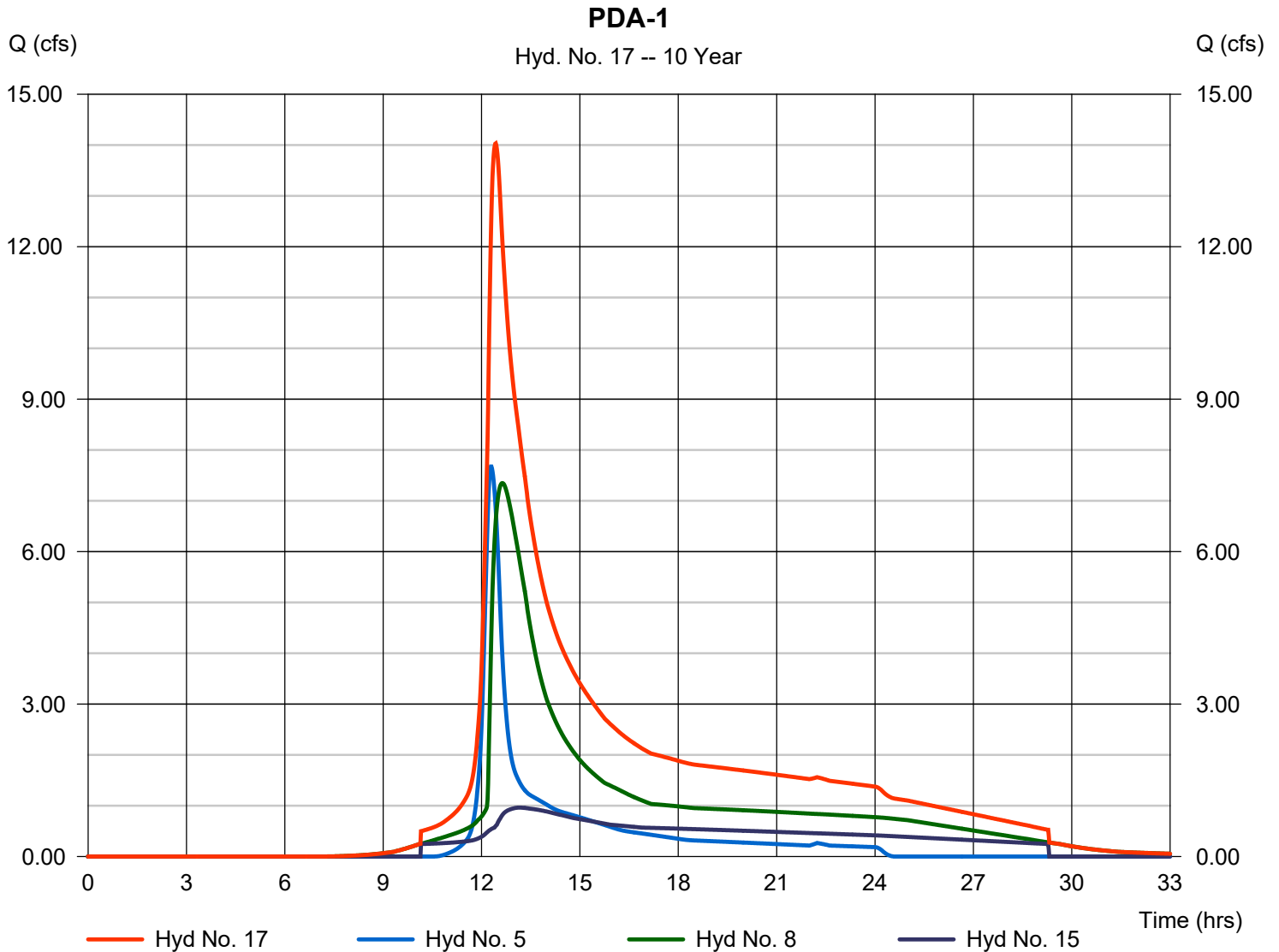
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Hyd. No. 17

PDA-1

Hydrograph type = Combine
Storm frequency = 10 yrs
Time interval = 1 min
Inflow hyds. = 5, 8, 15

Peak discharge = 14.03 cfs
Time to peak = 12.43 hrs
Hyd. volume = 164,920 cuft
Contrib. drain. area = 5.700 ac



Hydrograph Report

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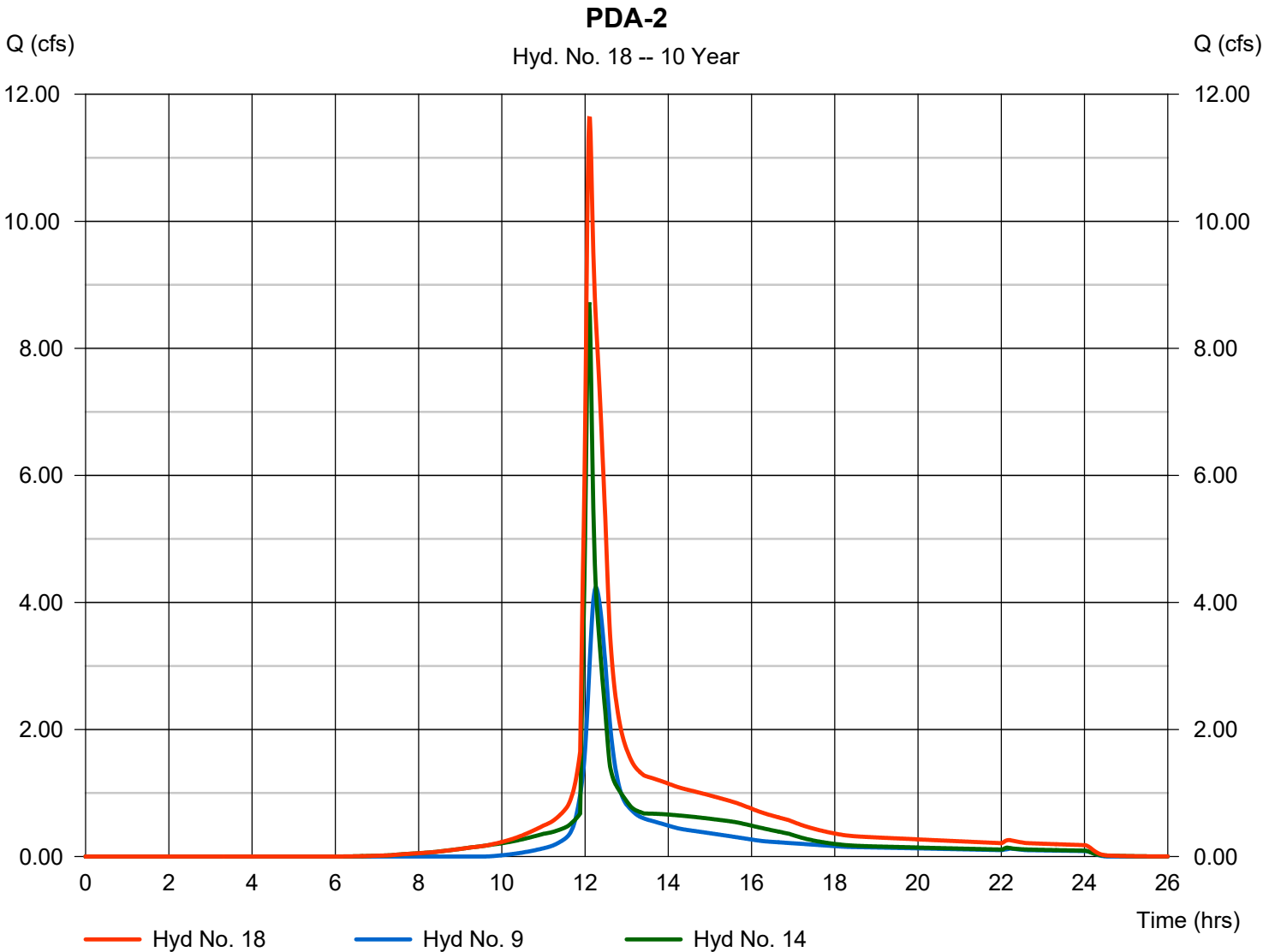
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Hyd. No. 18

PDA-2

Hydrograph type = Combine
Storm frequency = 10 yrs
Time interval = 1 min
Inflow hyds. = 9, 14

Peak discharge = 11.62 cfs
Time to peak = 12.10 hrs
Hyd. volume = 47,688 cuft
Contrib. drain. area = 2.300 ac



Hydrograph Report

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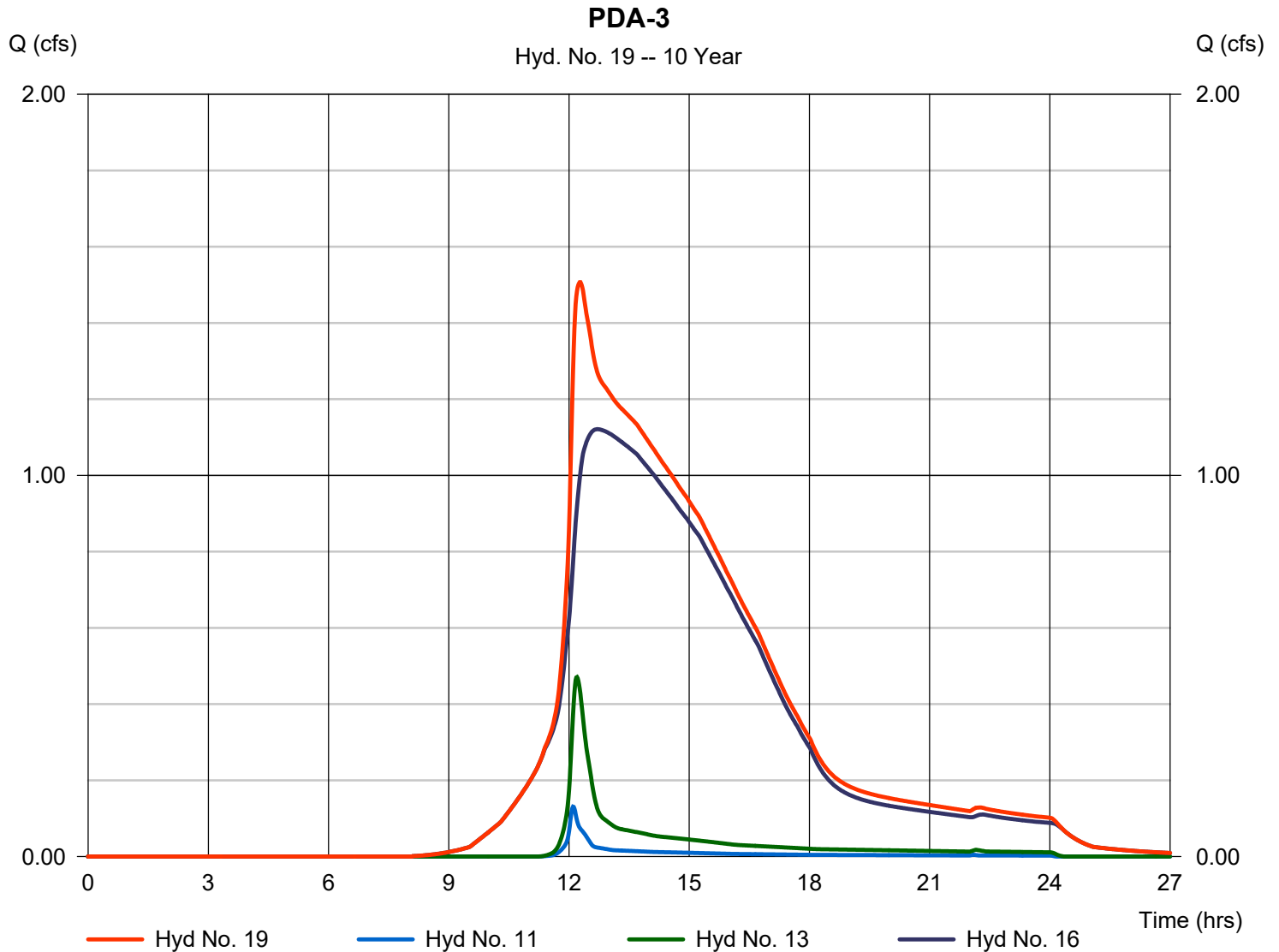
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Hyd. No. 19

PDA-3

Hydrograph type = Combine
Storm frequency = 10 yrs
Time interval = 1 min
Inflow hyds. = 11, 13, 16

Peak discharge = 1.507 cfs
Time to peak = 12.27 hrs
Hyd. volume = 24,820 cuft
Contrib. drain. area = 0.480 ac



Hydrograph Report

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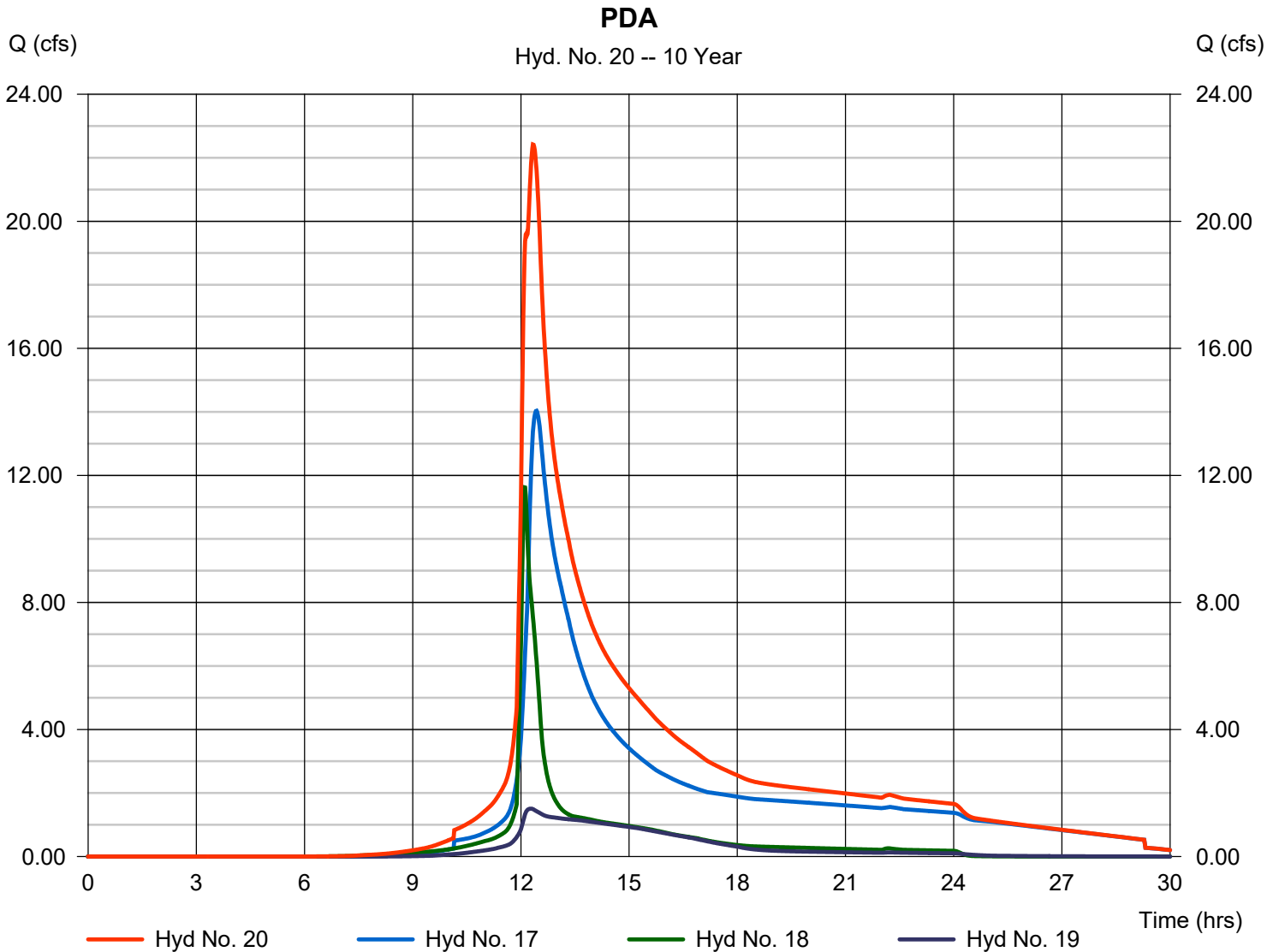
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Hyd. No. 20

PDA

Hydrograph type = Combine
Storm frequency = 10 yrs
Time interval = 1 min
Inflow hyds. = 17, 18, 19

Peak discharge = 22.42 cfs
Time to peak = 12.33 hrs
Hyd. volume = 237,428 cuft
Contrib. drain. area = 0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

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	24.28	1	735	112,039	----	----	----	EDA-1
2	SCS Runoff	18.97	1	728	68,874	----	----	----	EDA-2
3	SCS Runoff	6.792	1	734	30,367	----	----	----	EDA-3
4	Combine	47.13	1	732	211,281	1, 2, 3	----	----	EDA
5	SCS Runoff	11.55	1	737	55,226	----	----	----	PDA-1A
6	SCS Runoff	27.67	1	733	123,084	----	----	----	PDA-1B
7	SCS Runoff	11.39	1	730	46,515	----	----	----	PDA-1C
8	Reservoir	9.818	1	757	123,073	6	356.21	49,718	Pond 1
9	SCS Runoff	6.029	1	735	27,696	----	----	----	PDA-2A
10	SCS Runoff	11.56	1	724	36,494	----	----	----	PDA-2B
11	SCS Runoff	0.210	1	726	707	----	----	----	PDA-3A
12	SCS Runoff	7.543	1	730	29,883	----	----	----	PDA-3B
13	SCS Runoff	0.756	1	731	3,144	----	----	----	PDA-3C
14	Reservoir	10.13	1	727	36,492	10	334.74	3,816	Pond 2
15	Reservoir	2.106	1	762	44,368	7	360.72	23,599	UG System
16	Reservoir	3.725	1	745	29,876	12	365.72	9,954	Pond 3
17	Combine	21.15	1	744	222,667	5, 8, 15,	----	----	PDA-1
18	Combine	15.13	1	730	64,188	9, 14,	----	----	PDA-2
19	Combine	4.256	1	745	33,728	11, 13, 16,	----	----	PDA-3
20	Combine	34.48	1	742	320,582	17, 18, 19	----	----	PDA
Hydrology.gpw					Return Period: 25 Year			Monday, 01 / 9 / 2023	

Hydrograph Report

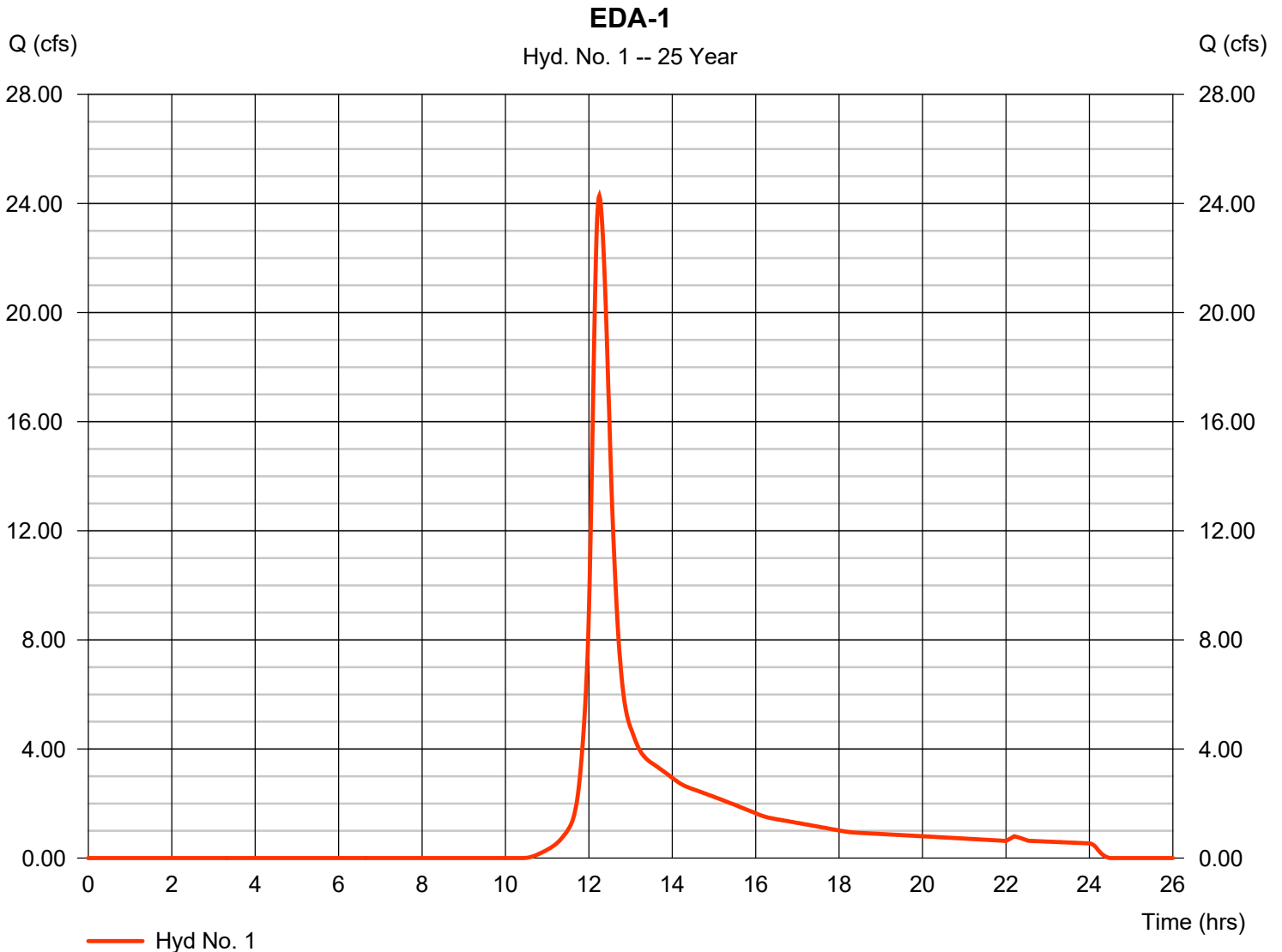
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Hyd. No. 1

EDA-1

Hydrograph type	= SCS Runoff	Peak discharge	= 24.28 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.25 hrs
Time interval	= 1 min	Hyd. volume	= 112,039 cuft
Drainage area	= 13.340 ac	Curve number	= 59
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.20 min
Total precip.	= 6.72 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

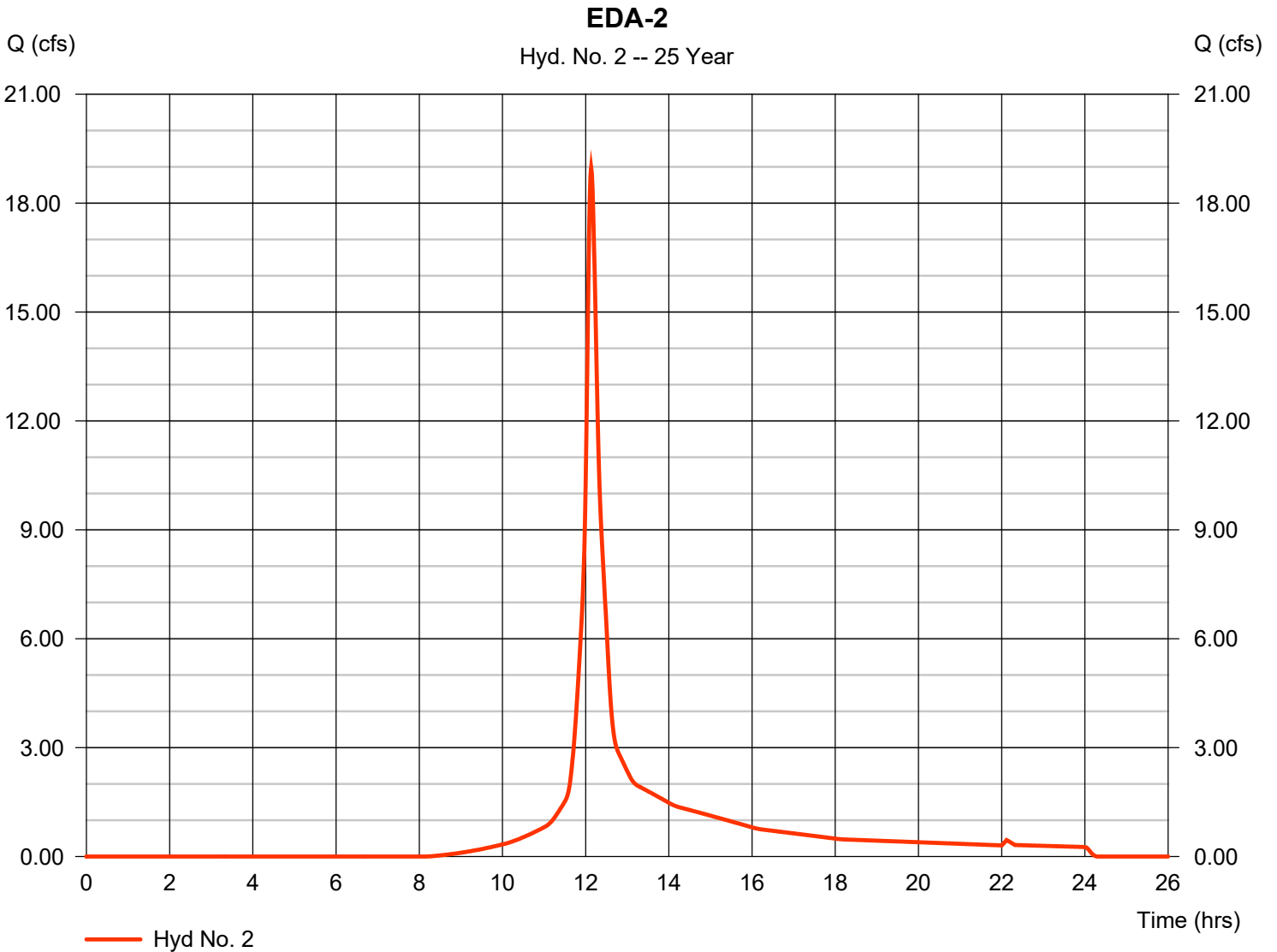
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Hyd. No. 2

EDA-2

Hydrograph type	= SCS Runoff	Peak discharge	= 18.97 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.13 hrs
Time interval	= 1 min	Hyd. volume	= 68,874 cuft
Drainage area	= 5.190 ac	Curve number	= 72
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.10 min
Total precip.	= 6.72 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

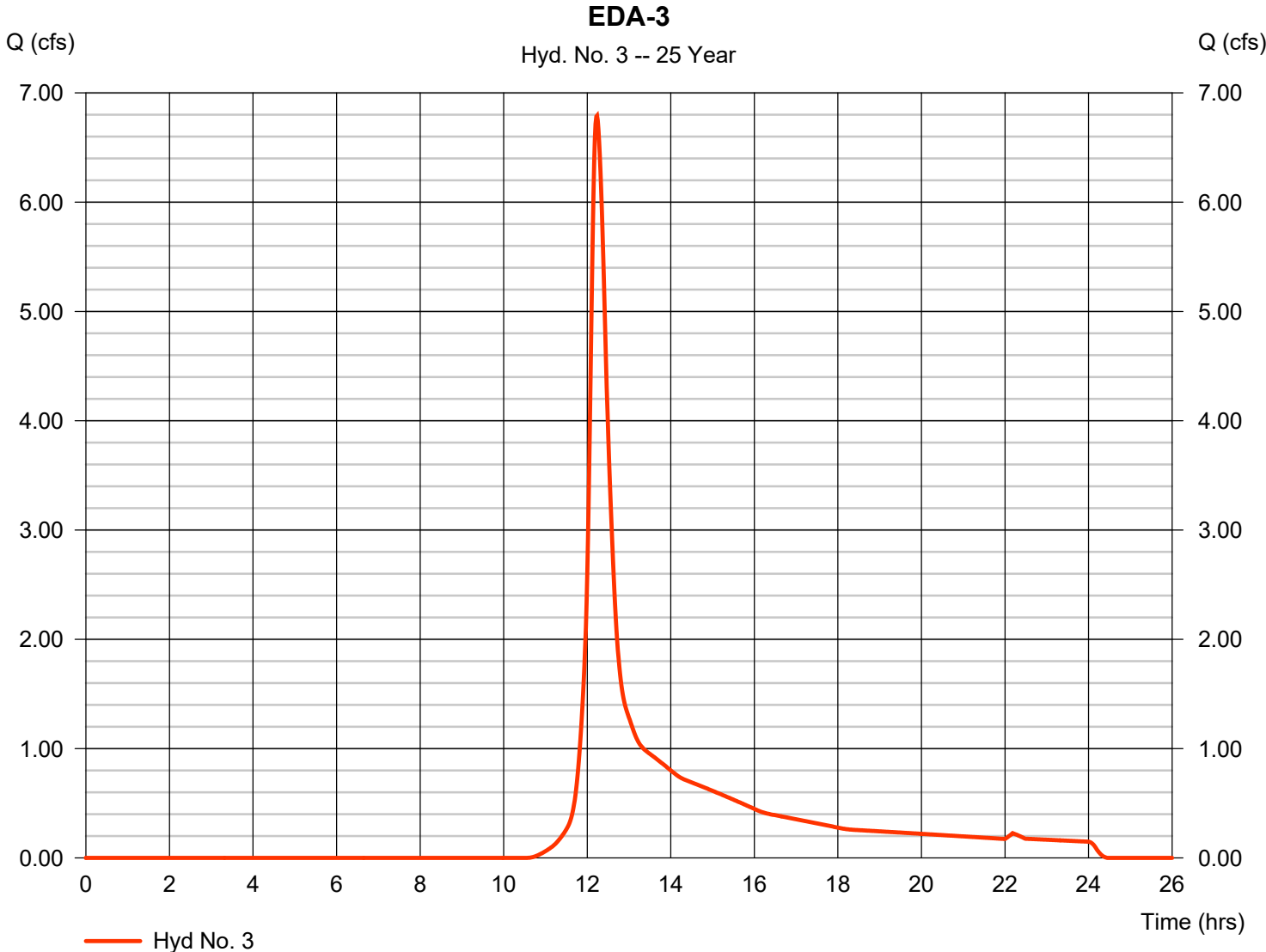
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Monday, 01 / 9 / 2023

Hyd. No. 3

EDA-3

Hydrograph type	= SCS Runoff	Peak discharge	= 6.792 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.23 hrs
Time interval	= 1 min	Hyd. volume	= 30,367 cuft
Drainage area	= 3.810 ac	Curve number	= 58
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 18.20 min
Total precip.	= 6.72 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

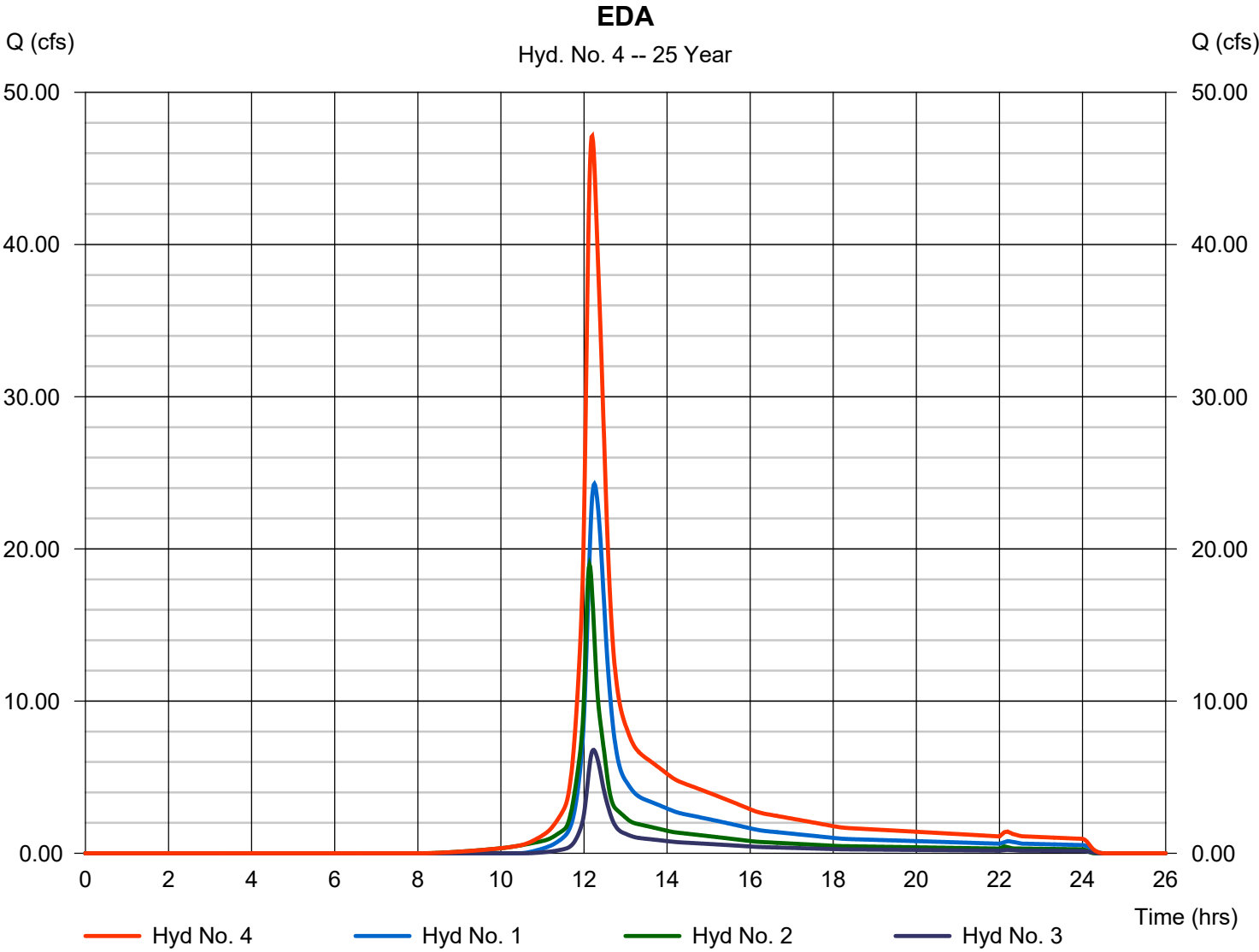
Monday, 01 / 9 / 2023

Hyd. No. 4

EDA

Hydrograph type = Combine
Storm frequency = 25 yrs
Time interval = 1 min
Inflow hyds. = 1, 2, 3

Peak discharge = 47.13 cfs
Time to peak = 12.20 hrs
Hyd. volume = 211,281 cuft
Contrib. drain. area = 22.340 ac

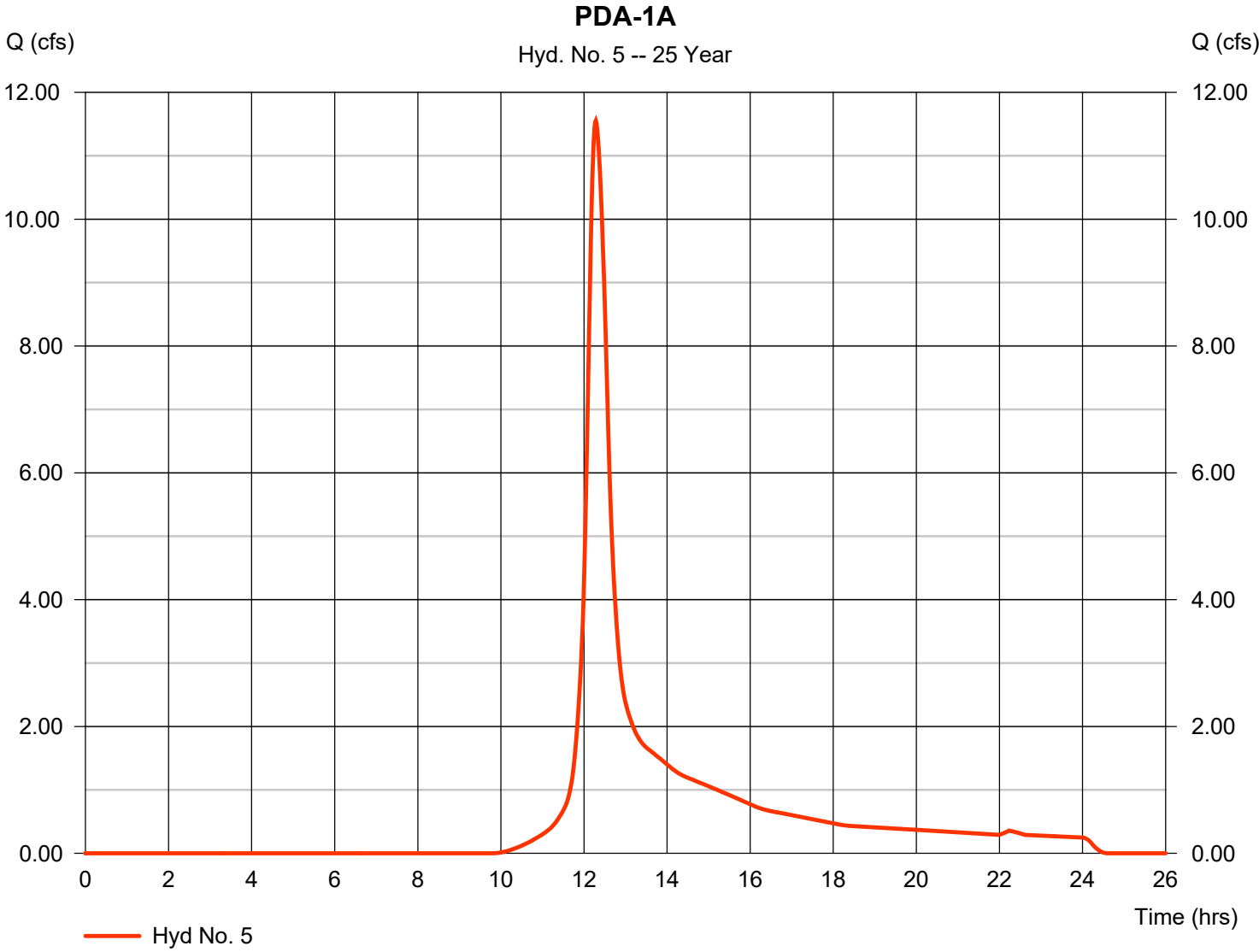


Hydrograph Report

Hyd. No. 5

PDA-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 11.55 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.28 hrs
Time interval	= 1 min	Hyd. volume	= 55,226 cuft
Drainage area	= 5.700 ac	Curve number	= 63
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 22.20 min
Total precip.	= 6.72 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

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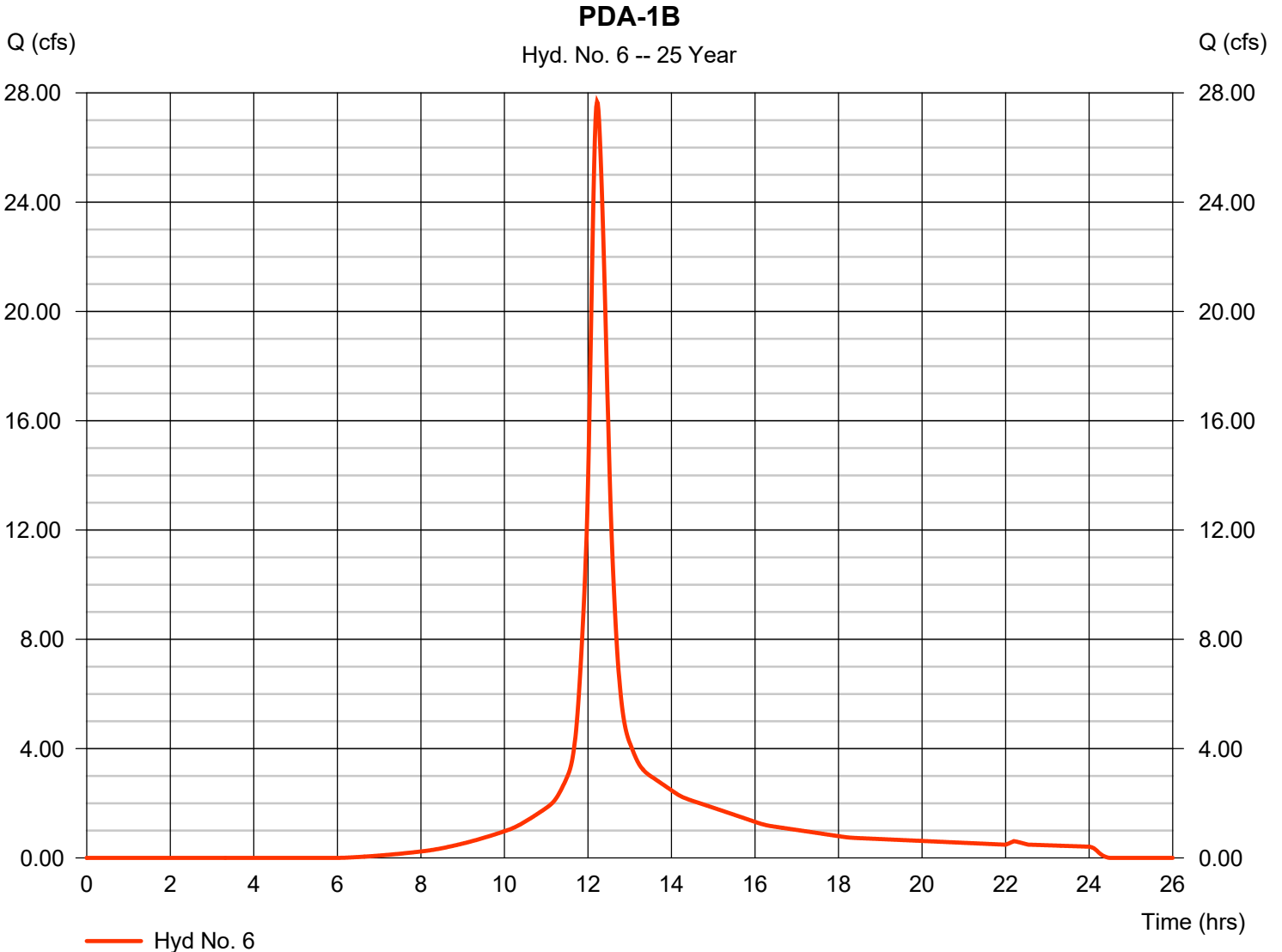
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Hyd. No. 6

PDA-1B

Hydrograph type = SCS Runoff
Storm frequency = 25 yrs
Time interval = 1 min
Drainage area = 7.460 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 6.72 in
Storm duration = 24 hrs

Peak discharge = 27.67 cfs
Time to peak = 12.22 hrs
Hyd. volume = 123,084 cuft
Curve number = 81
Hydraulic length = 0 ft
Time of conc. (Tc) = 19.10 min
Distribution = Type III
Shape factor = 484



Hydrograph Report

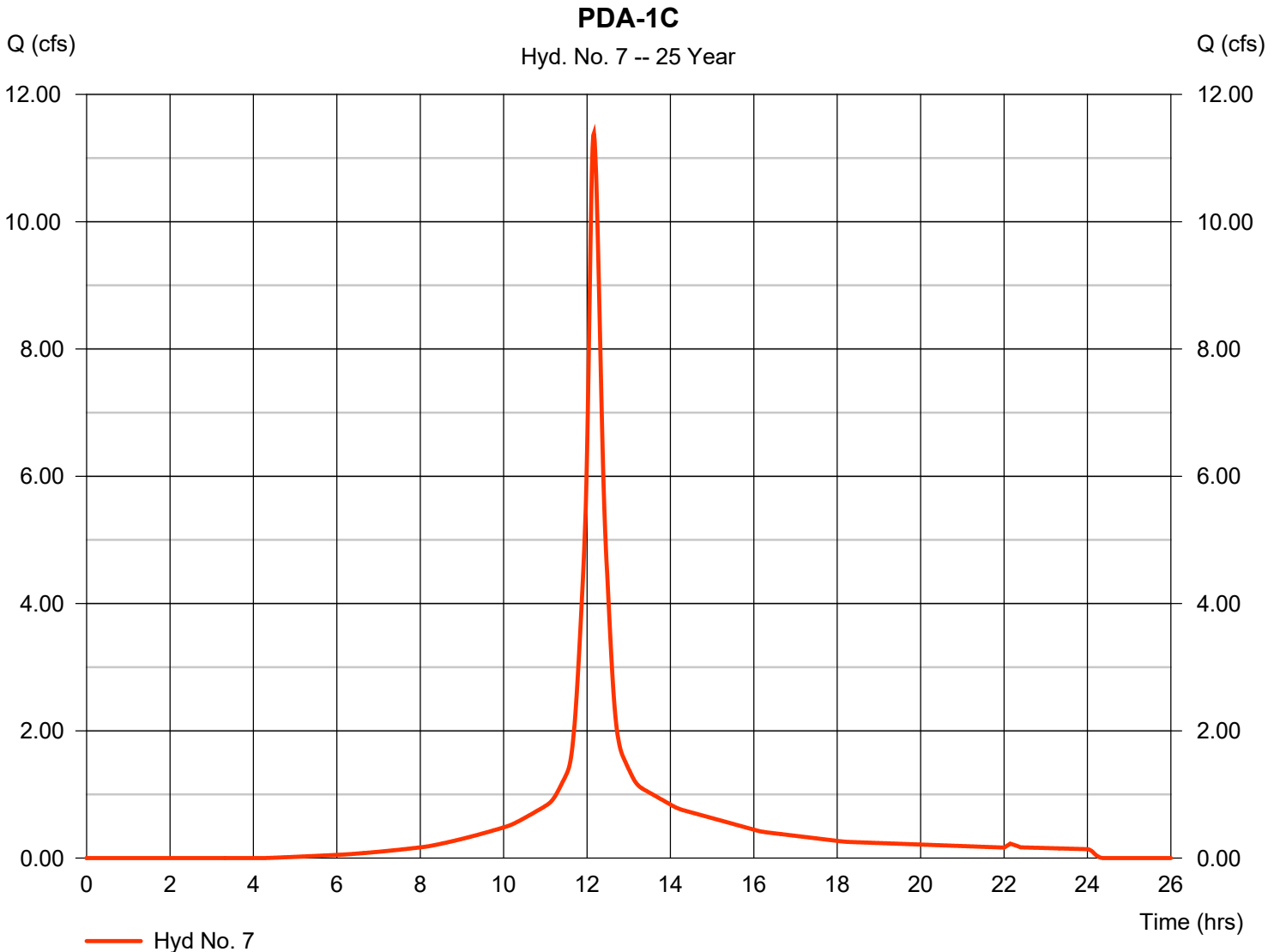
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Hyd. No. 7

PDA-1C

Hydrograph type	= SCS Runoff	Peak discharge	= 11.39 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.17 hrs
Time interval	= 1 min	Hyd. volume	= 46,515 cuft
Drainage area	= 2.460 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 14.90 min
Total precip.	= 6.72 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

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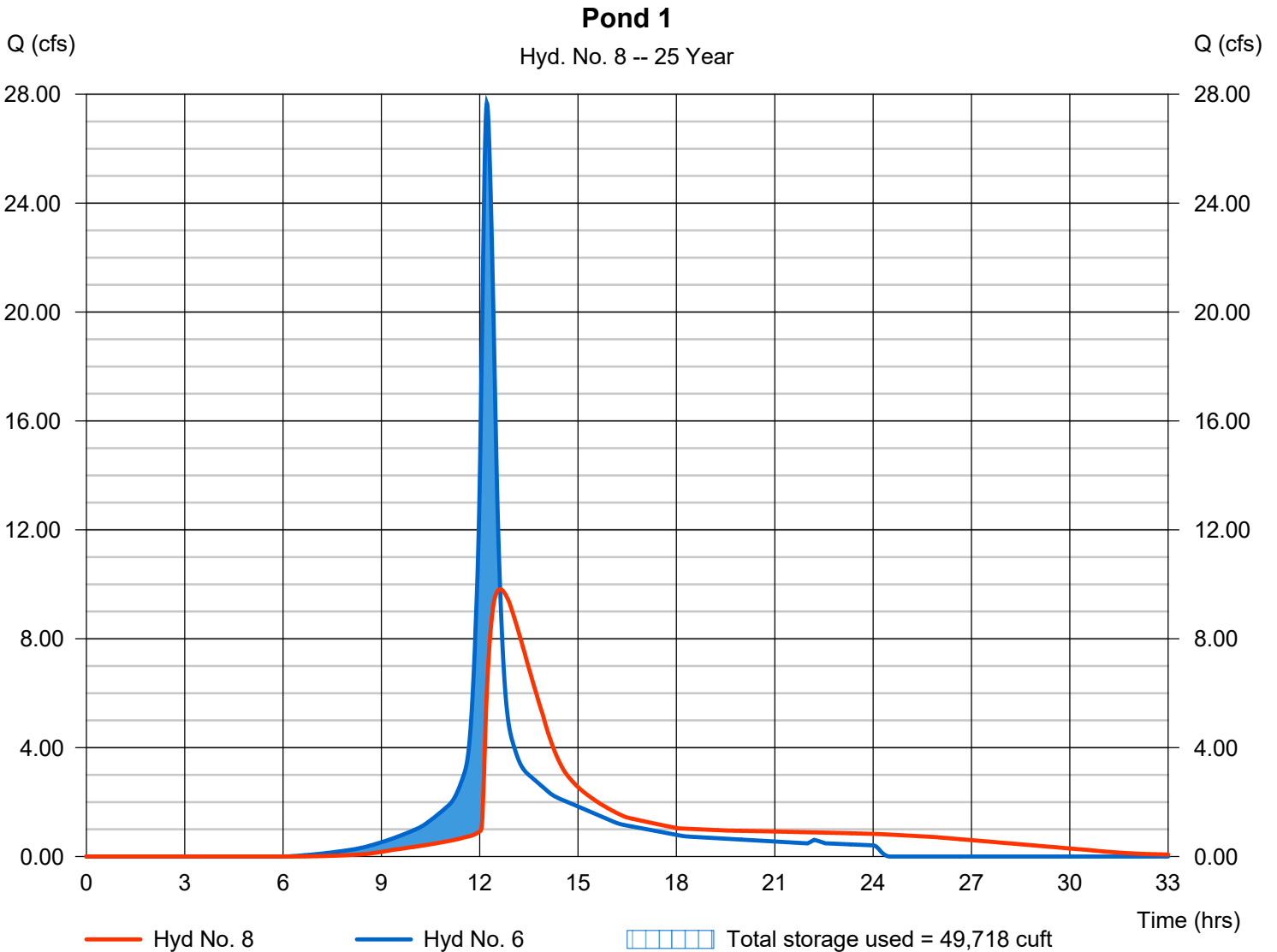
Monday, 01 / 9 / 2023

Hyd. No. 8

Pond 1

Hydrograph type	= Reservoir	Peak discharge	= 9.818 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.62 hrs
Time interval	= 1 min	Hyd. volume	= 123,073 cuft
Inflow hyd. No.	= 6 - PDA-1B	Max. Elevation	= 356.21 ft
Reservoir name	= Basin 1	Max. Storage	= 49,718 cuft

Storage Indication method used.



Hydrograph Report

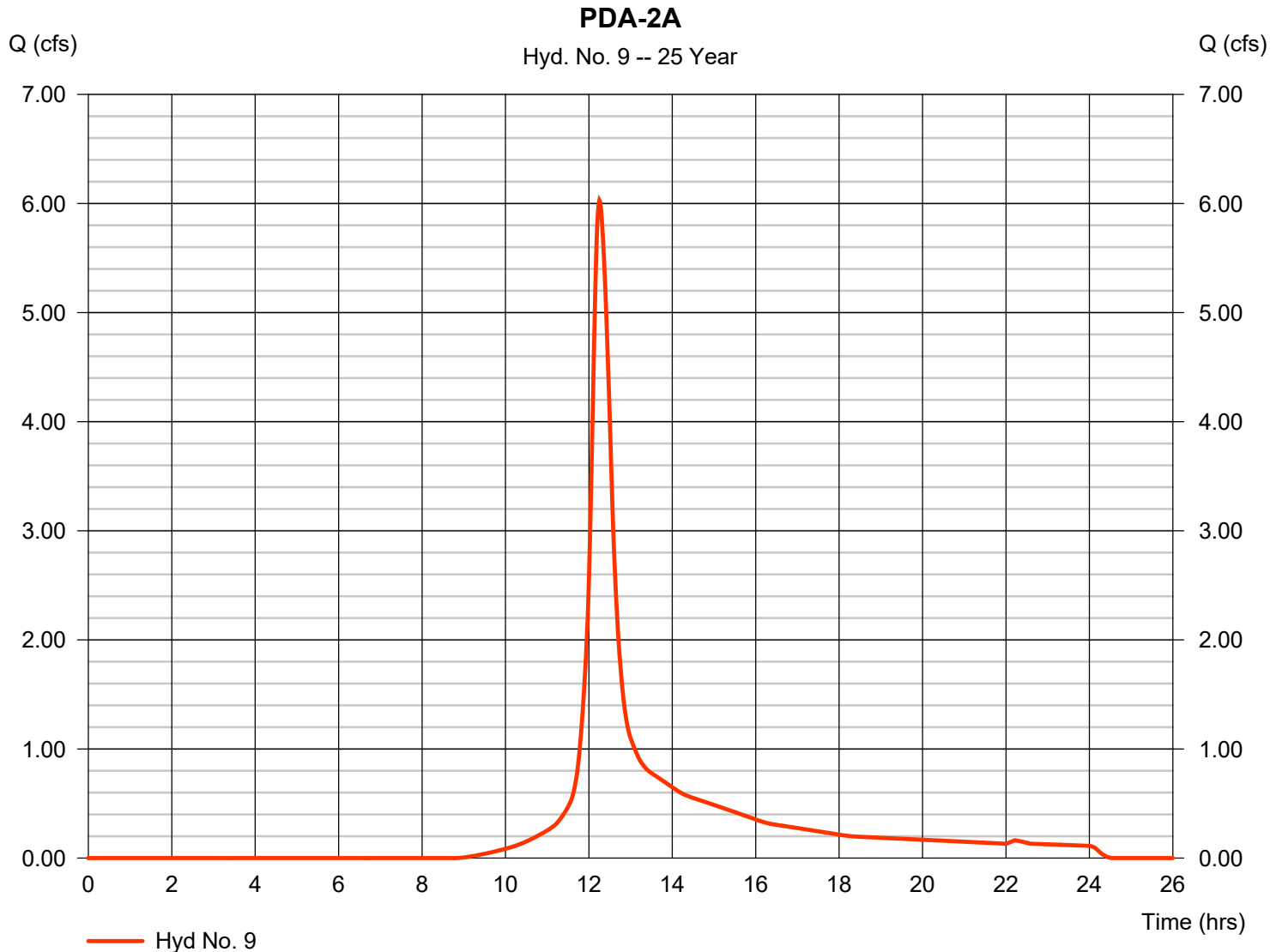
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Hyd. No. 9

PDA-2A

Hydrograph type	= SCS Runoff	Peak discharge	= 6.029 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.25 hrs
Time interval	= 1 min	Hyd. volume	= 27,696 cuft
Drainage area	= 2.300 ac	Curve number	= 69
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.70 min
Total precip.	= 6.72 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

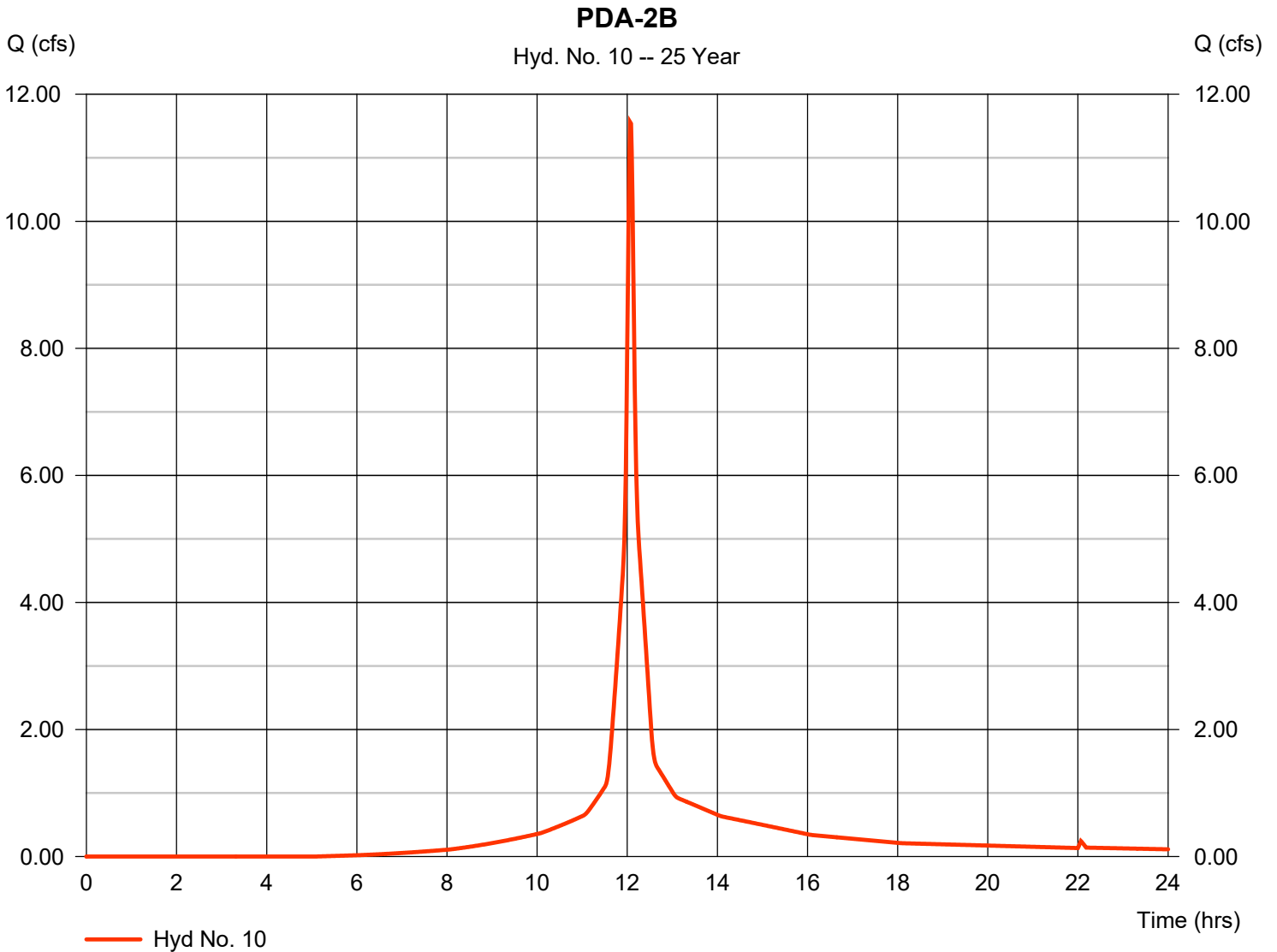
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Hyd. No. 10

PDA-2B

Hydrograph type	= SCS Runoff	Peak discharge	= 11.56 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 36,494 cuft
Drainage area	= 2.000 ac	Curve number	= 84
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 6.72 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

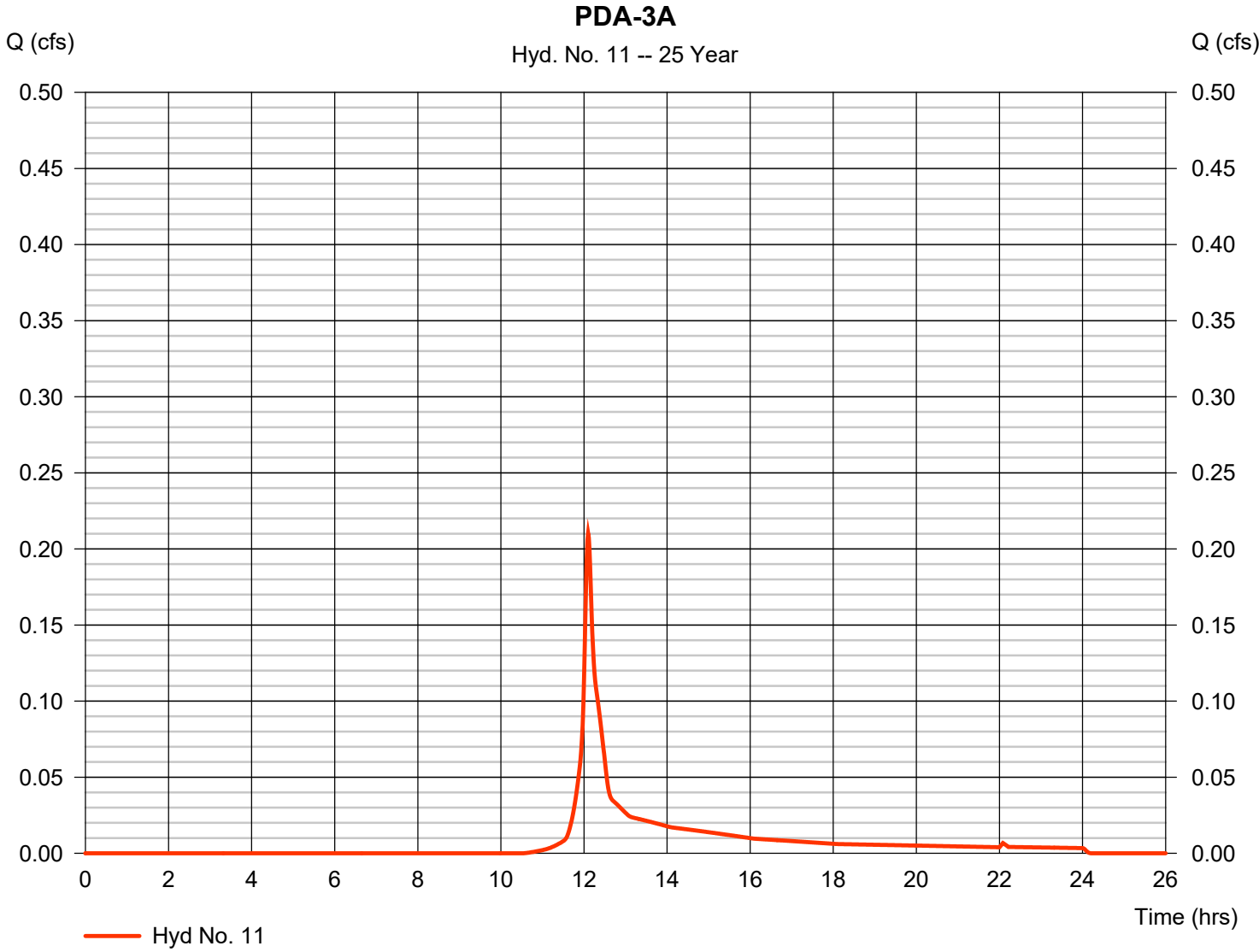


Hydrograph Report

Hyd. No. 11

PDA-3A

Hydrograph type	= SCS Runoff	Peak discharge	= 0.210 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.10 hrs
Time interval	= 1 min	Hyd. volume	= 707 cuft
Drainage area	= 0.090 ac	Curve number	= 58
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.90 min
Total precip.	= 6.72 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

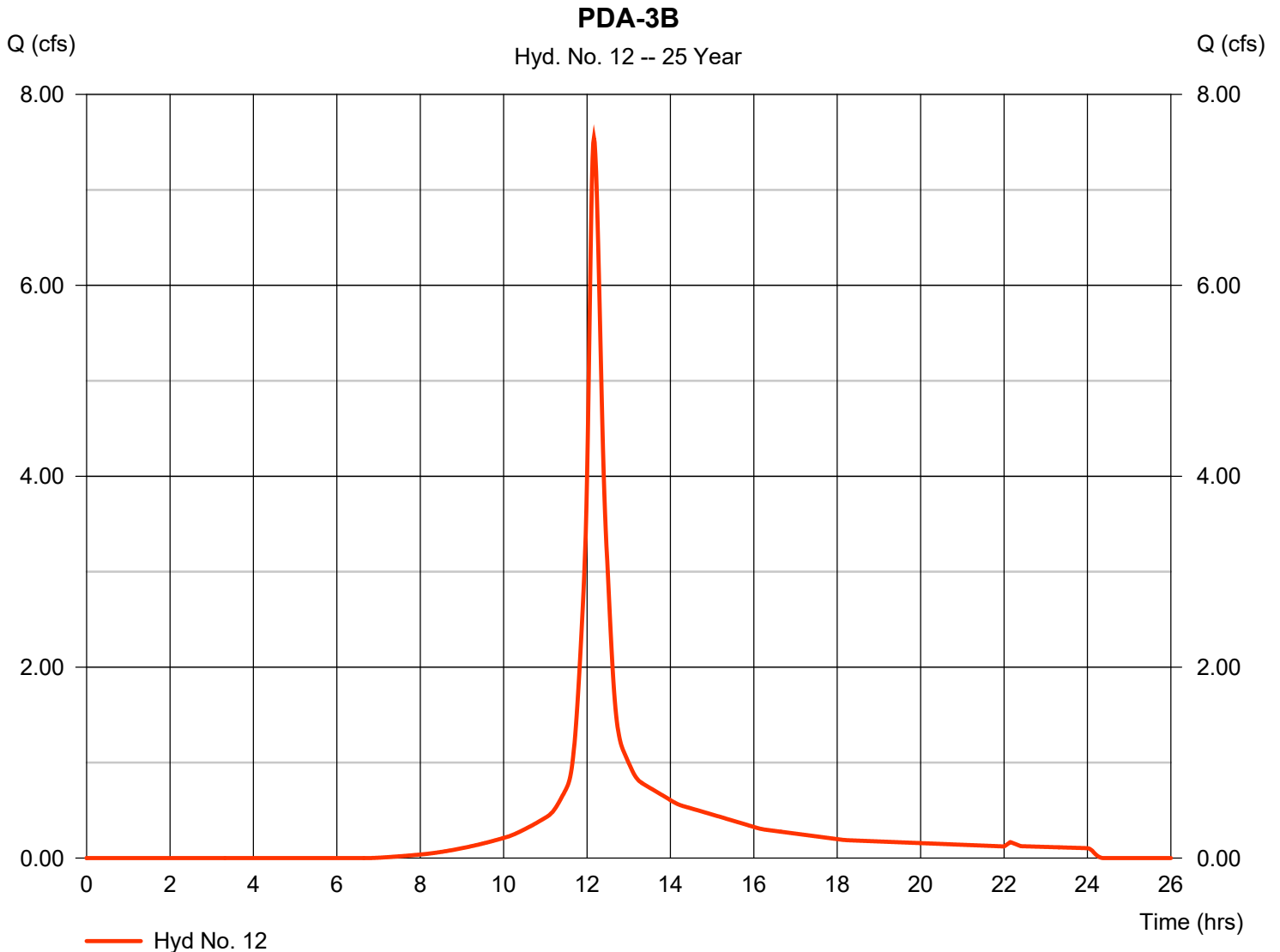
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Hyd. No. 12

PDA-3B

Hydrograph type	= SCS Runoff	Peak discharge	= 7.543 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.17 hrs
Time interval	= 1 min	Hyd. volume	= 29,883 cuft
Drainage area	= 1.950 ac	Curve number	= 78
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 14.70 min
Total precip.	= 6.72 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

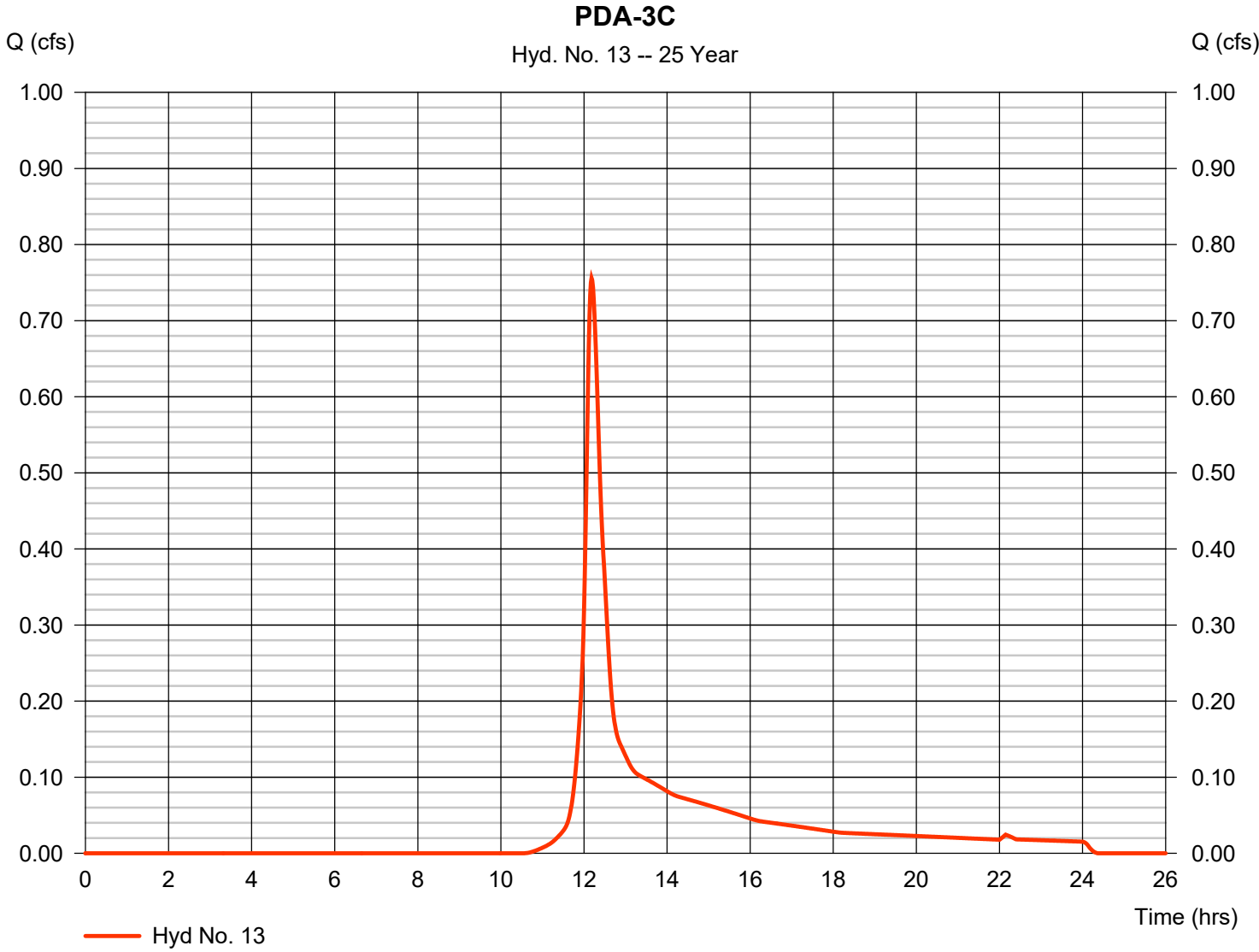


Hydrograph Report

Hyd. No. 13

PDA-3C

Hydrograph type	= SCS Runoff	Peak discharge	= 0.756 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.18 hrs
Time interval	= 1 min	Hyd. volume	= 3,144 cuft
Drainage area	= 0.390 ac	Curve number	= 58
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 13.80 min
Total precip.	= 6.72 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



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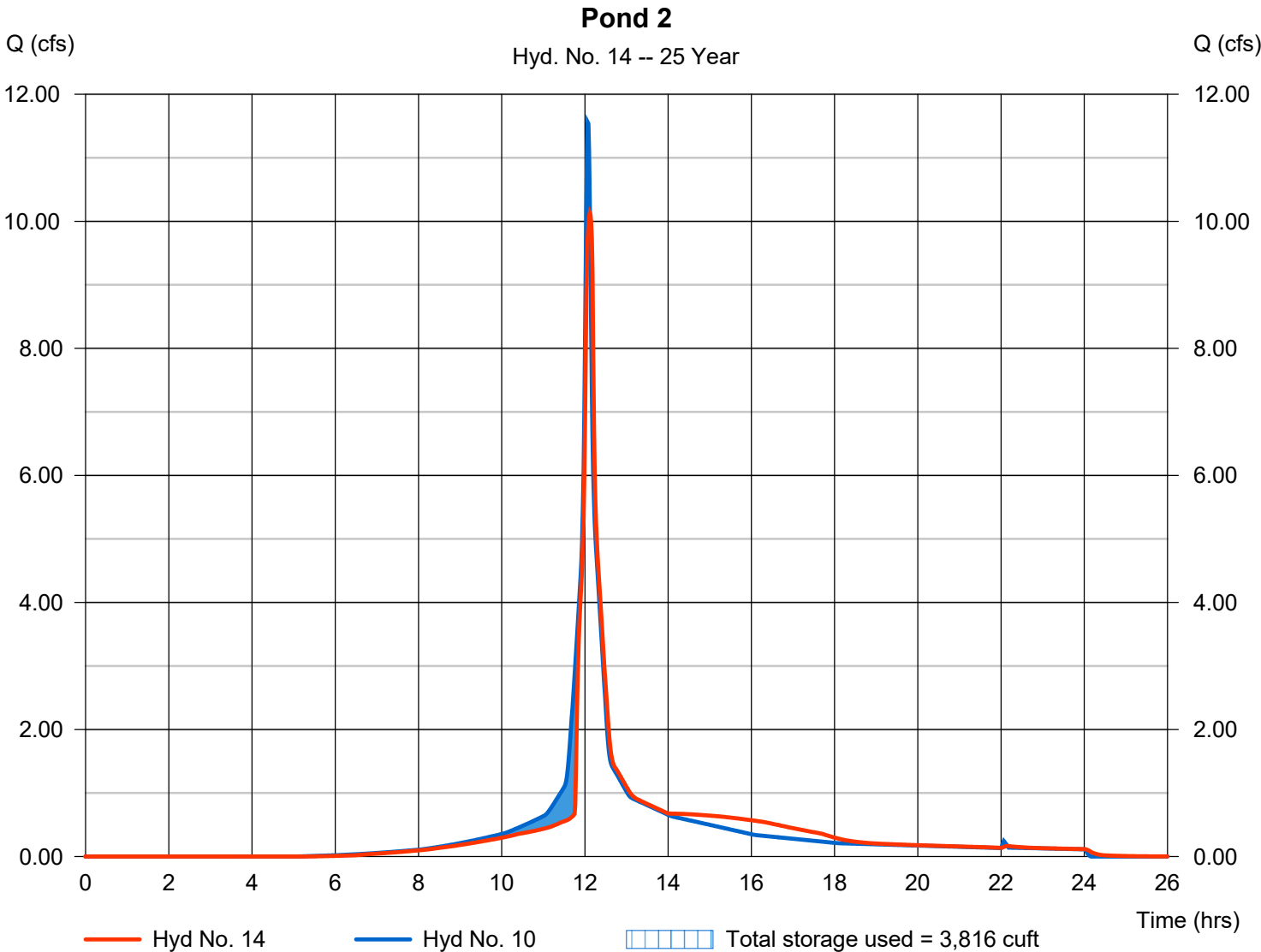
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Hyd. No. 14

Pond 2

Hydrograph type	= Reservoir	Peak discharge	= 10.13 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.12 hrs
Time interval	= 1 min	Hyd. volume	= 36,492 cuft
Inflow hyd. No.	= 10 - PDA-2B	Max. Elevation	= 334.74 ft
Reservoir name	= Basin 2	Max. Storage	= 3,816 cuft

Storage Indication method used.



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Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

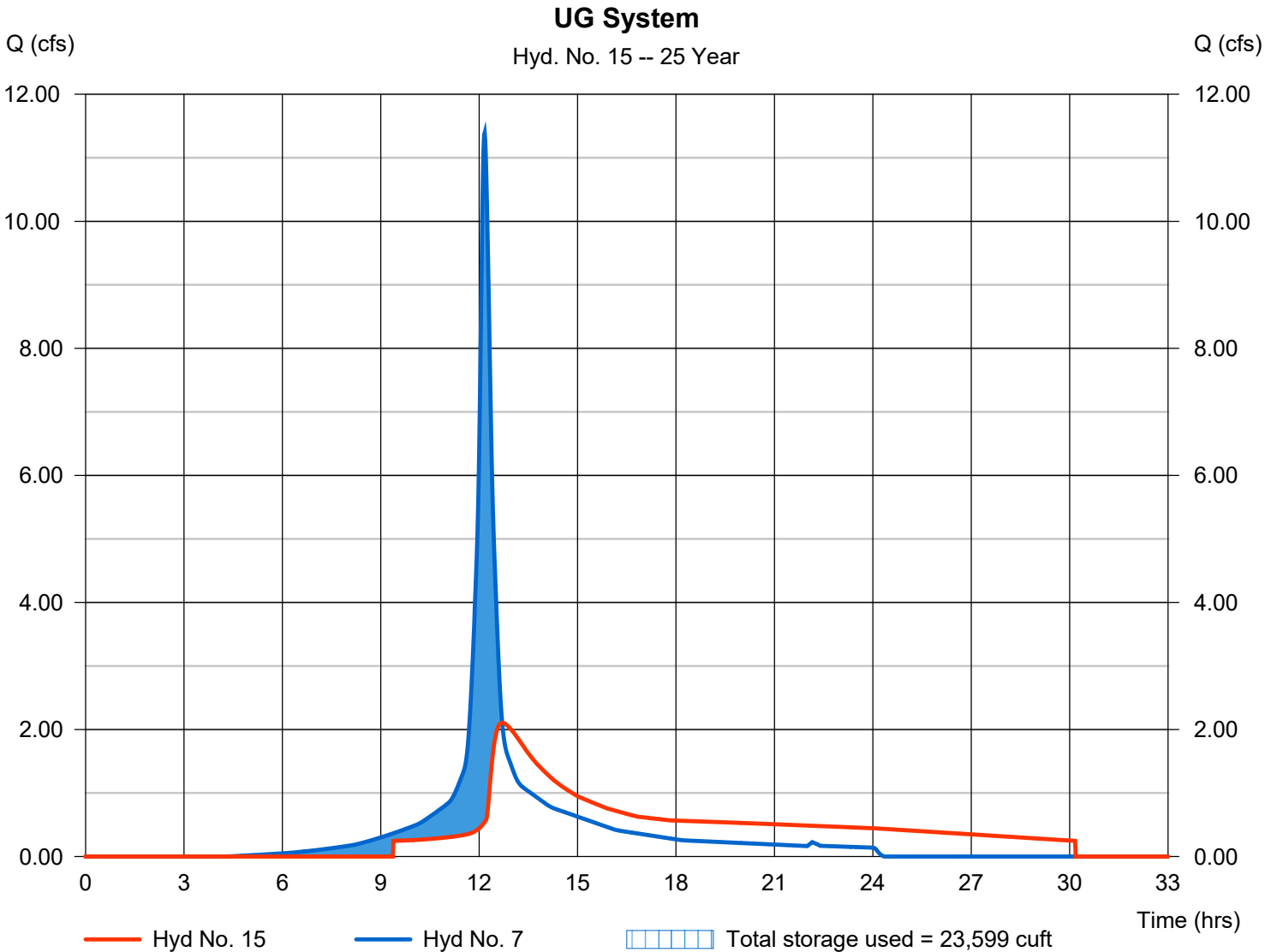
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Hyd. No. 15

UG System

Hydrograph type	= Reservoir	Peak discharge	= 2.106 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.70 hrs
Time interval	= 1 min	Hyd. volume	= 44,368 cuft
Inflow hyd. No.	= 7 - PDA-1C	Max. Elevation	= 360.72 ft
Reservoir name	= Underground Detention	Max. Storage	= 23,599 cuft

Storage Indication method used.



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Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

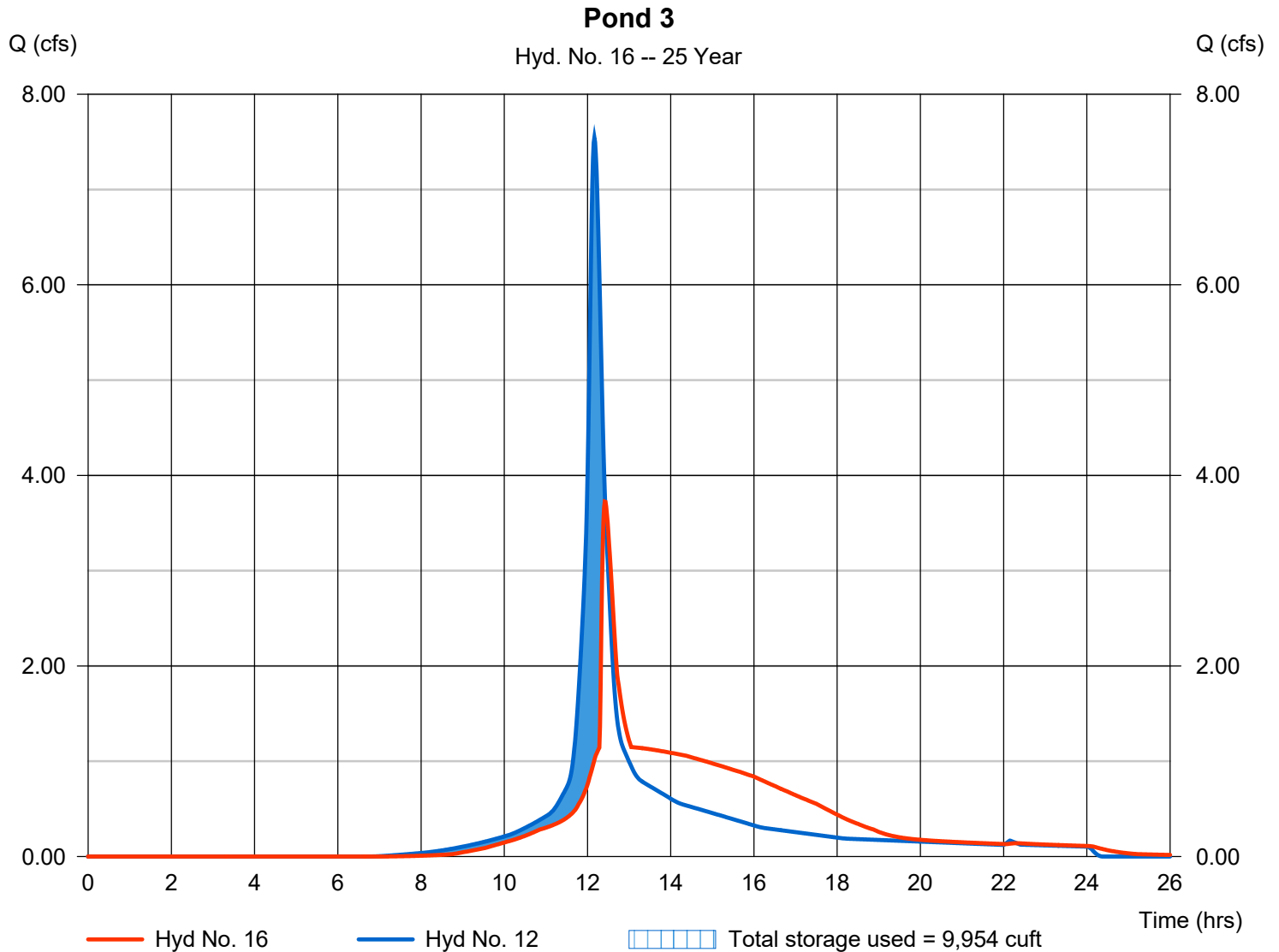
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Hyd. No. 16

Pond 3

Hydrograph type	= Reservoir	Peak discharge	= 3.725 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.42 hrs
Time interval	= 1 min	Hyd. volume	= 29,876 cuft
Inflow hyd. No.	= 12 - PDA-3B	Max. Elevation	= 365.72 ft
Reservoir name	= Basin 3	Max. Storage	= 9,954 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

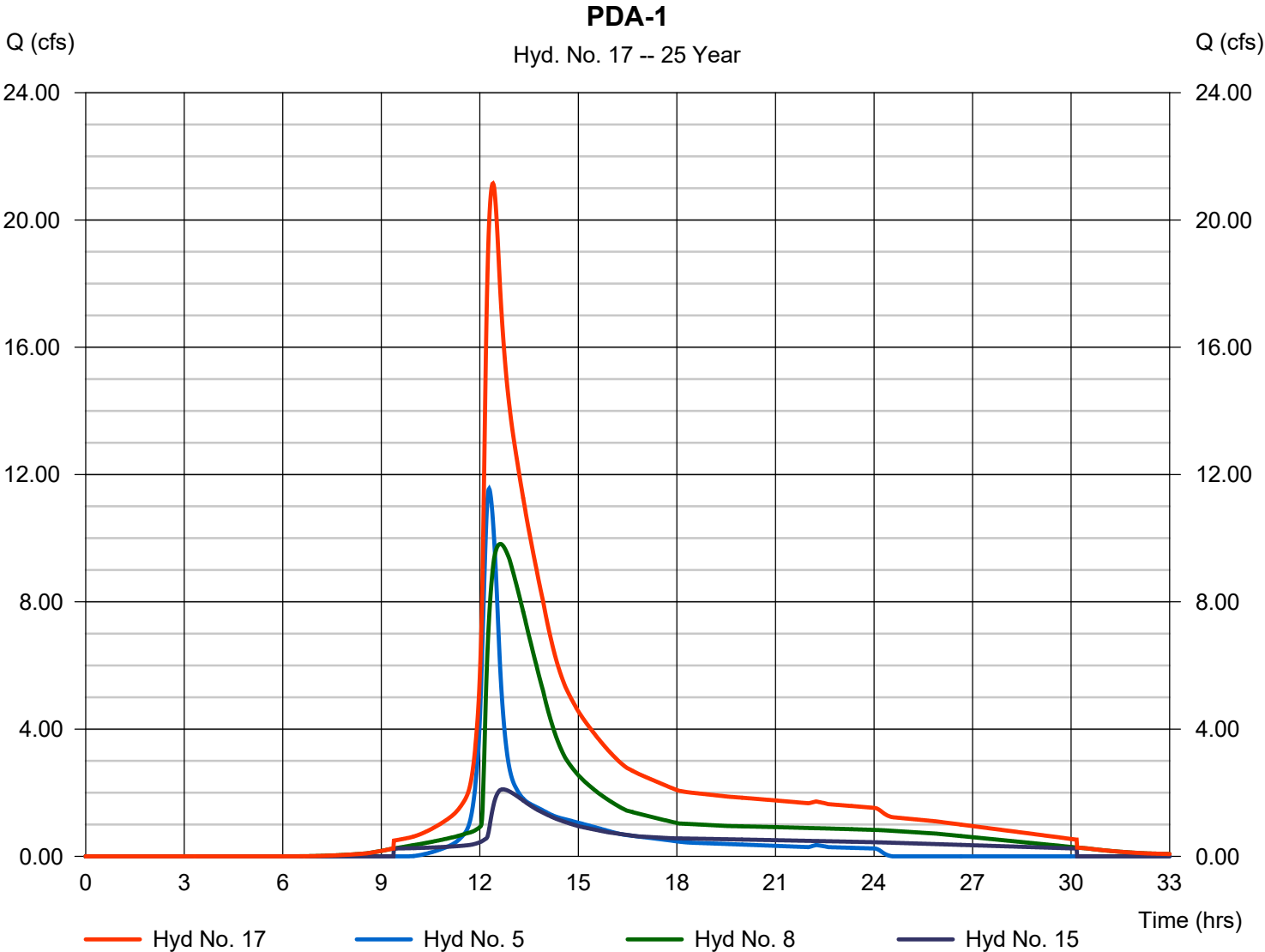
Monday, 01 / 9 / 2023

Hyd. No. 17

PDA-1

Hydrograph type = Combine
Storm frequency = 25 yrs
Time interval = 1 min
Inflow hyds. = 5, 8, 15

Peak discharge = 21.15 cfs
Time to peak = 12.40 hrs
Hyd. volume = 222,667 cuft
Contrib. drain. area = 5.700 ac



Hydrograph Report

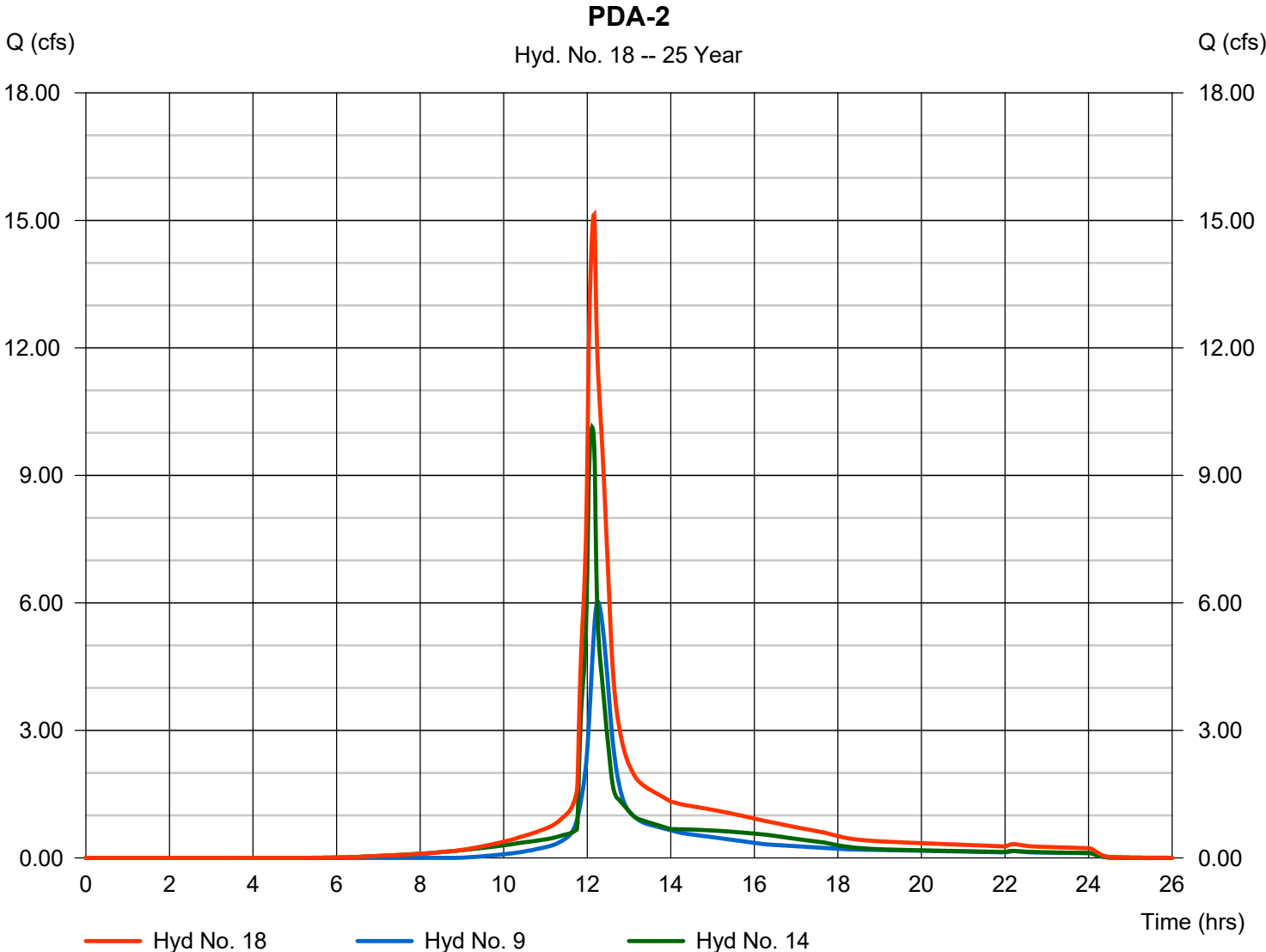
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Hyd. No. 18

PDA-2

Hydrograph type	= Combine	Peak discharge	= 15.13 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.17 hrs
Time interval	= 1 min	Hyd. volume	= 64,188 cuft
Inflow hyds.	= 9, 14	Contrib. drain. area	= 2.300 ac



Hydrograph Report

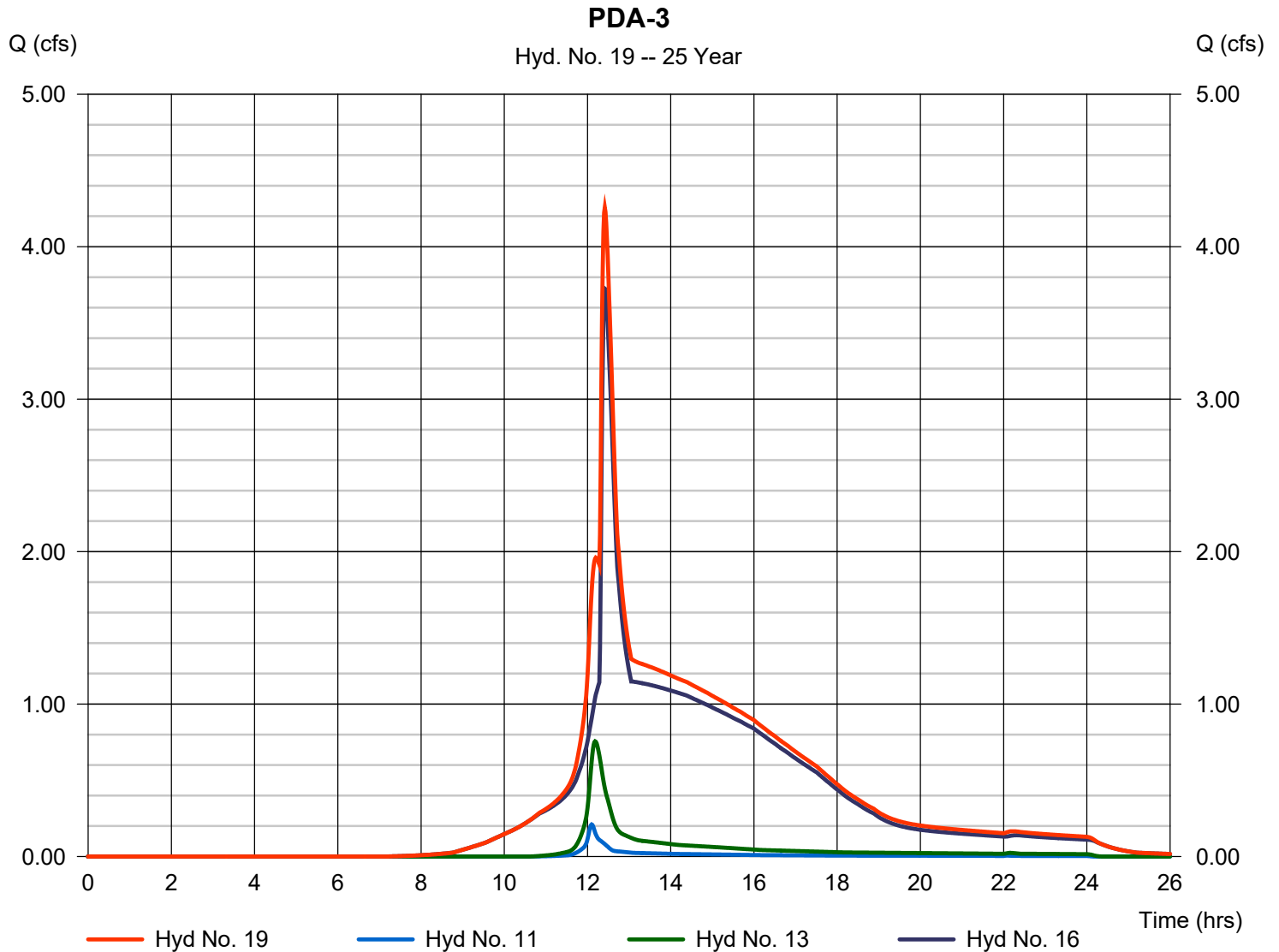
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Monday, 01 / 9 / 2023

Hyd. No. 19

PDA-3

Hydrograph type	= Combine	Peak discharge	= 4.256 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.42 hrs
Time interval	= 1 min	Hyd. volume	= 33,728 cuft
Inflow hyds.	= 11, 13, 16	Contrib. drain. area	= 0.480 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

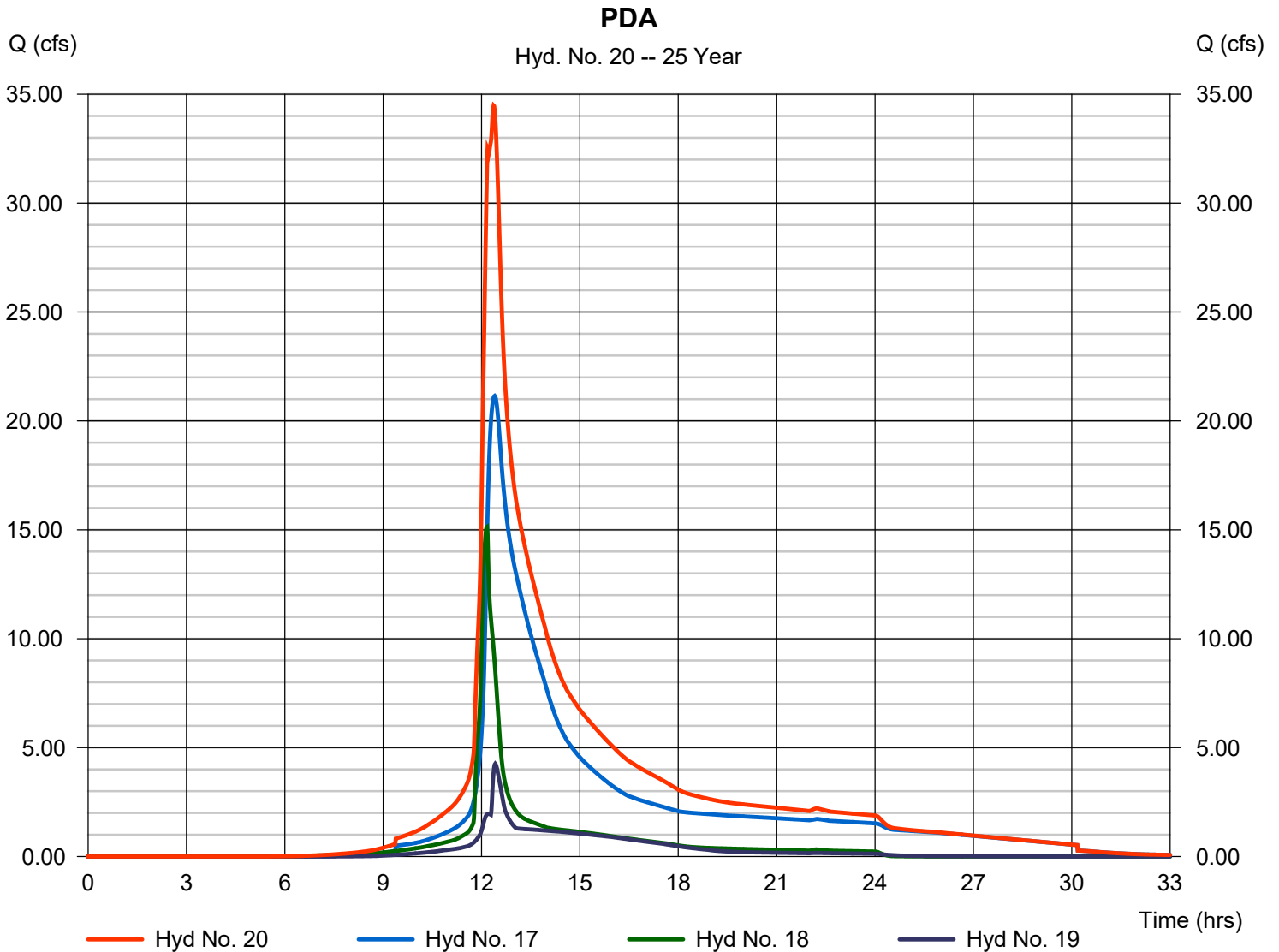
Monday, 01 / 9 / 2023

Hyd. No. 20

PDA

Hydrograph type = Combine
 Storm frequency = 25 yrs
 Time interval = 1 min
 Inflow hyds. = 17, 18, 19

Peak discharge = 34.48 cfs
 Time to peak = 12.37 hrs
 Hyd. volume = 320,582 cuft
 Contrib. drain. area = 0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

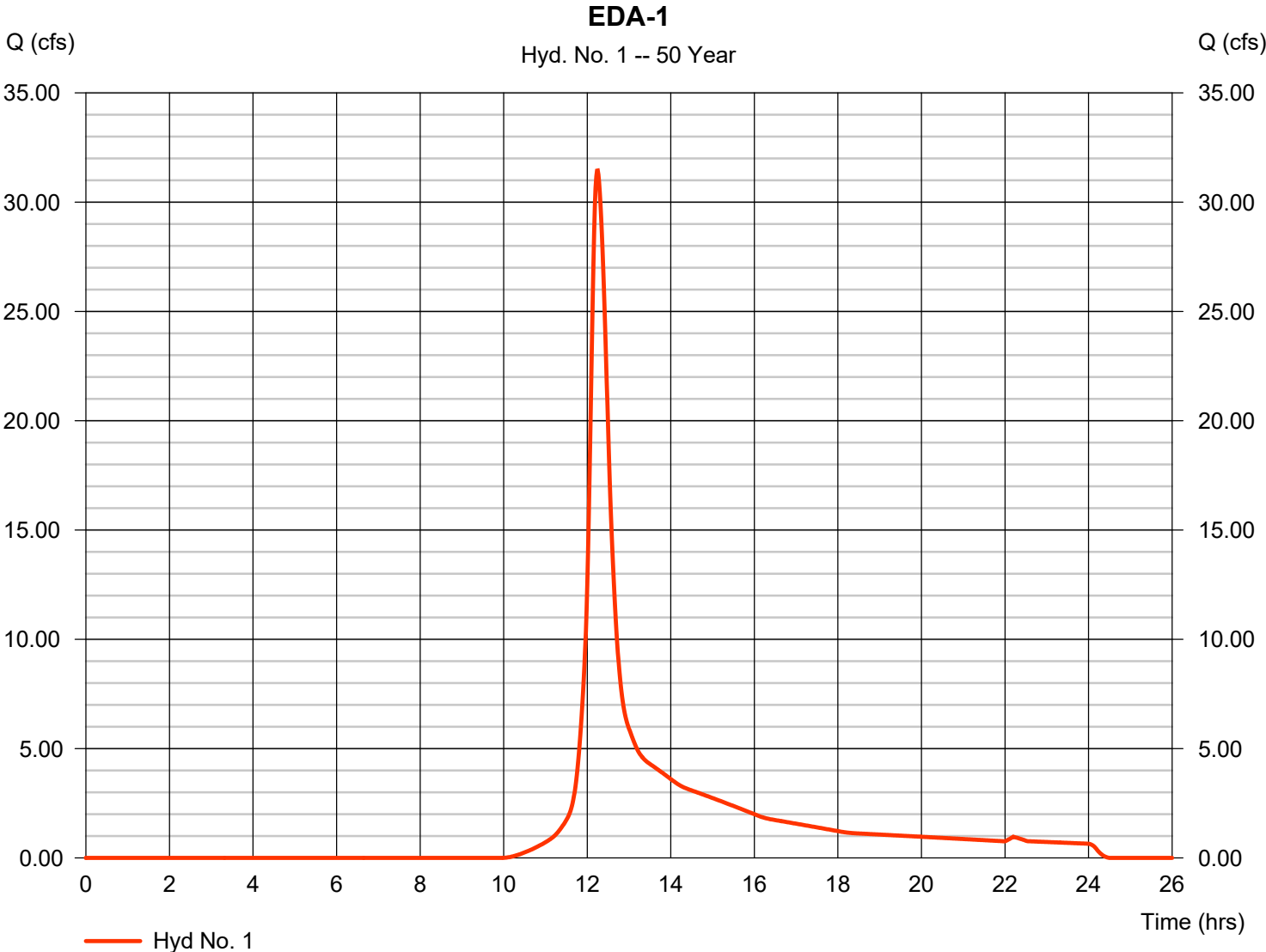
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	31.45	1	735	142,616	----	----	----	EDA-1
2	SCS Runoff	23.04	1	728	83,659	----	----	----	EDA-2
3	SCS Runoff	8.864	1	733	38,829	----	----	----	EDA-3
4	Combine	59.90	1	732	265,103	1, 2, 3	----	----	EDA
5	SCS Runoff	14.62	1	737	69,156	----	----	----	PDA-1A
6	SCS Runoff	32.61	1	733	145,813	----	----	----	PDA-1B
7	SCS Runoff	13.19	1	730	54,295	----	----	----	PDA-1C
8	Reservoir	12.26	1	756	145,802	6	356.86	58,601	Pond 1
9	SCS Runoff	7.420	1	735	33,958	----	----	----	PDA-2A
10	SCS Runoff	13.49	1	724	42,908	----	----	----	PDA-2B
11	SCS Runoff	0.274	1	726	905	----	----	----	PDA-3A
12	SCS Runoff	8.971	1	730	35,682	----	----	----	PDA-3B
13	SCS Runoff	0.986	1	731	4,020	----	----	----	PDA-3C
14	Reservoir	11.26	1	728	42,906	10	335.03	4,348	Pond 2
15	Reservoir	2.797	1	759	52,146	7	361.05	26,808	UG System
16	Reservoir	6.143	1	740	35,675	12	365.85	10,461	Pond 3
17	Combine	26.32	1	741	267,105	5, 8, 15,	----	----	PDA-1
18	Combine	17.41	1	731	76,864	9, 14,	----	----	PDA-2
19	Combine	7.011	1	740	40,600	11, 13, 16,	----	----	PDA-3
20	Combine	45.67	1	738	384,569	17, 18, 19	----	----	PDA
Hydrology.gpw					Return Period: 50 Year			Monday, 01 / 9 / 2023	

Hydrograph Report

Hyd. No. 1

EDA-1

Hydrograph type	= SCS Runoff	Peak discharge	= 31.45 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.25 hrs
Time interval	= 1 min	Hyd. volume	= 142,616 cuft
Drainage area	= 13.340 ac	Curve number	= 59
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.20 min
Total precip.	= 7.62 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

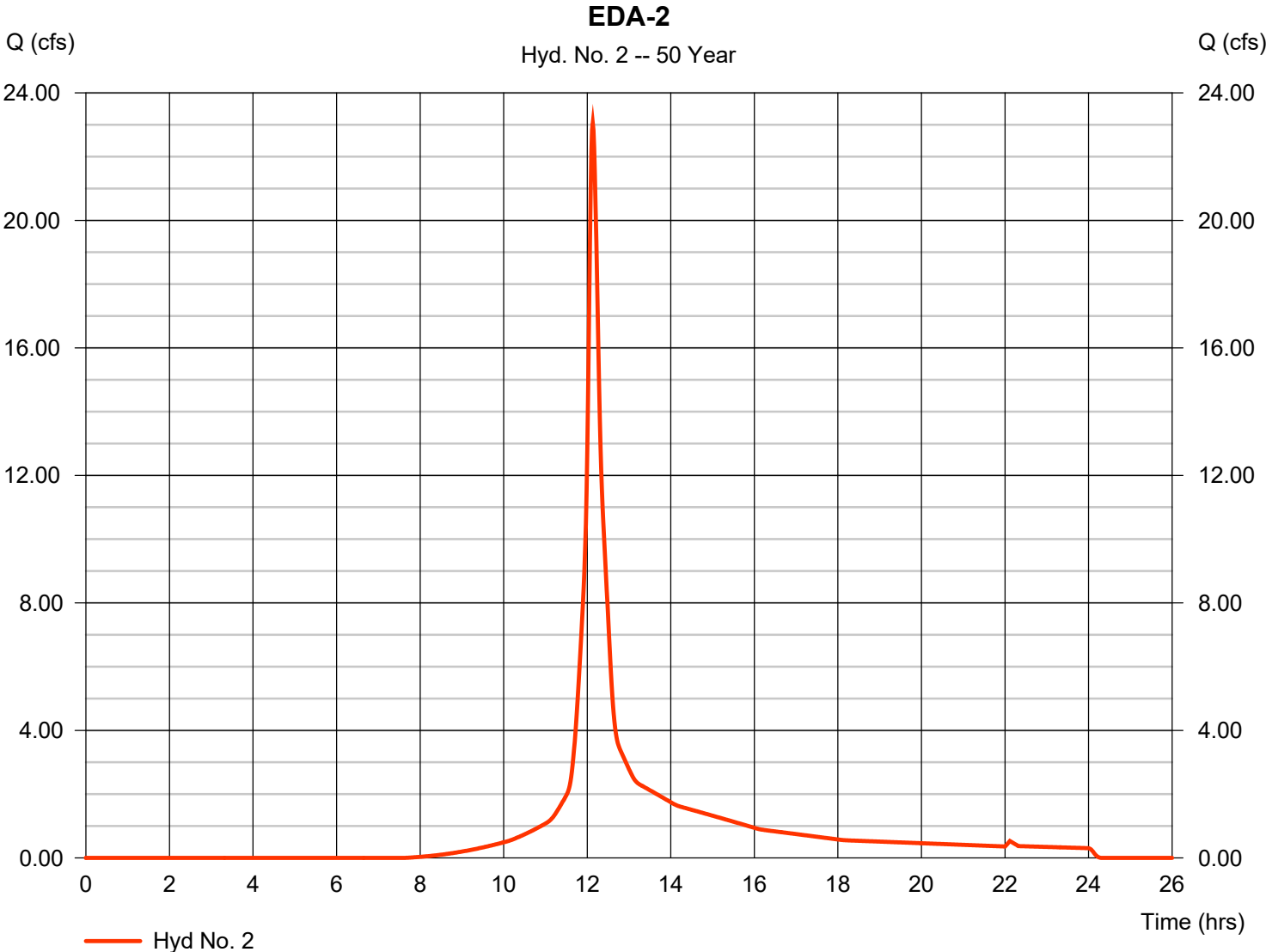


Hydrograph Report

Hyd. No. 2

EDA-2

Hydrograph type	= SCS Runoff	Peak discharge	= 23.04 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.13 hrs
Time interval	= 1 min	Hyd. volume	= 83,659 cuft
Drainage area	= 5.190 ac	Curve number	= 72
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.10 min
Total precip.	= 7.62 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

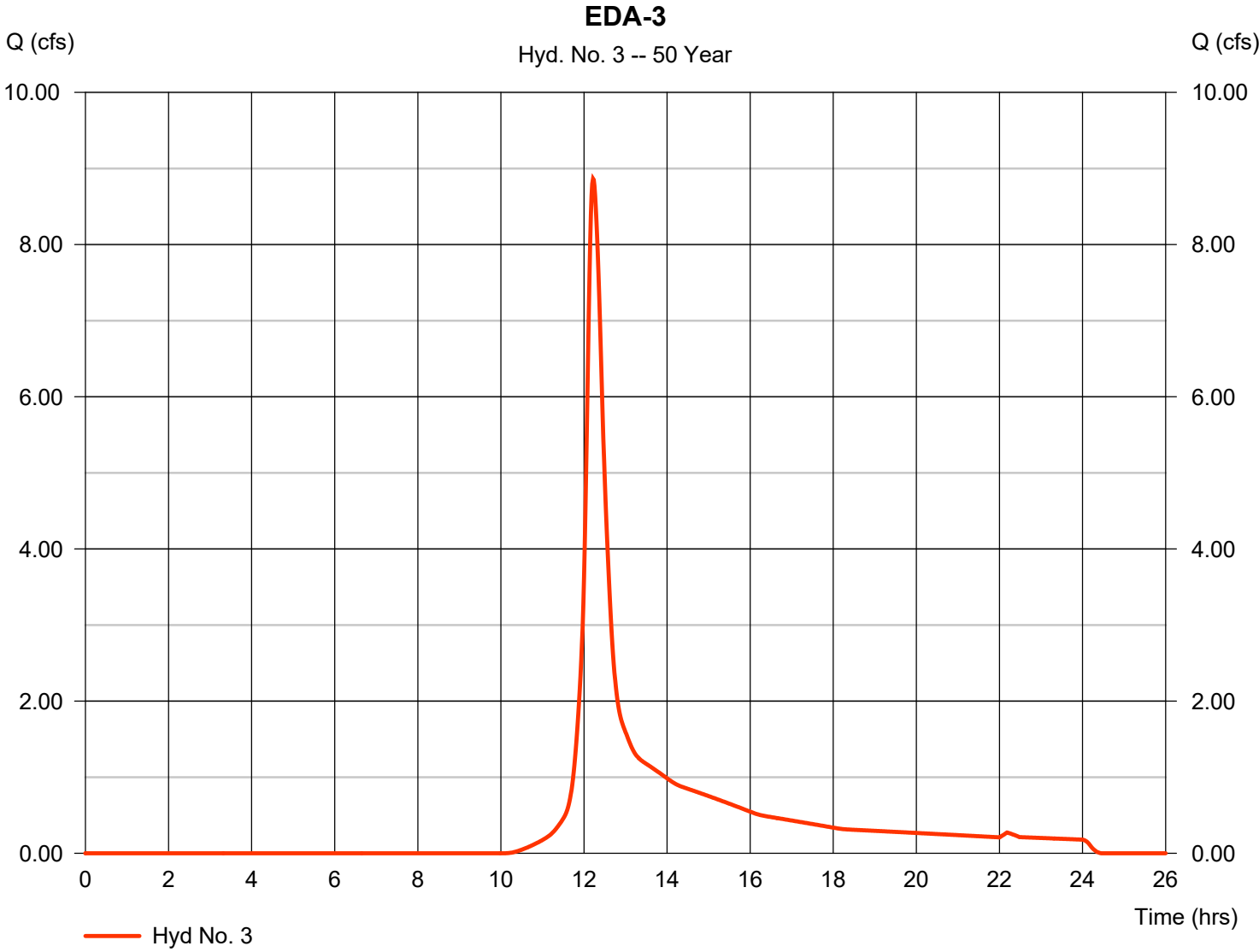


Hydrograph Report

Hyd. No. 3

EDA-3

Hydrograph type	= SCS Runoff	Peak discharge	= 8.864 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.22 hrs
Time interval	= 1 min	Hyd. volume	= 38,829 cuft
Drainage area	= 3.810 ac	Curve number	= 58
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 18.20 min
Total precip.	= 7.62 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

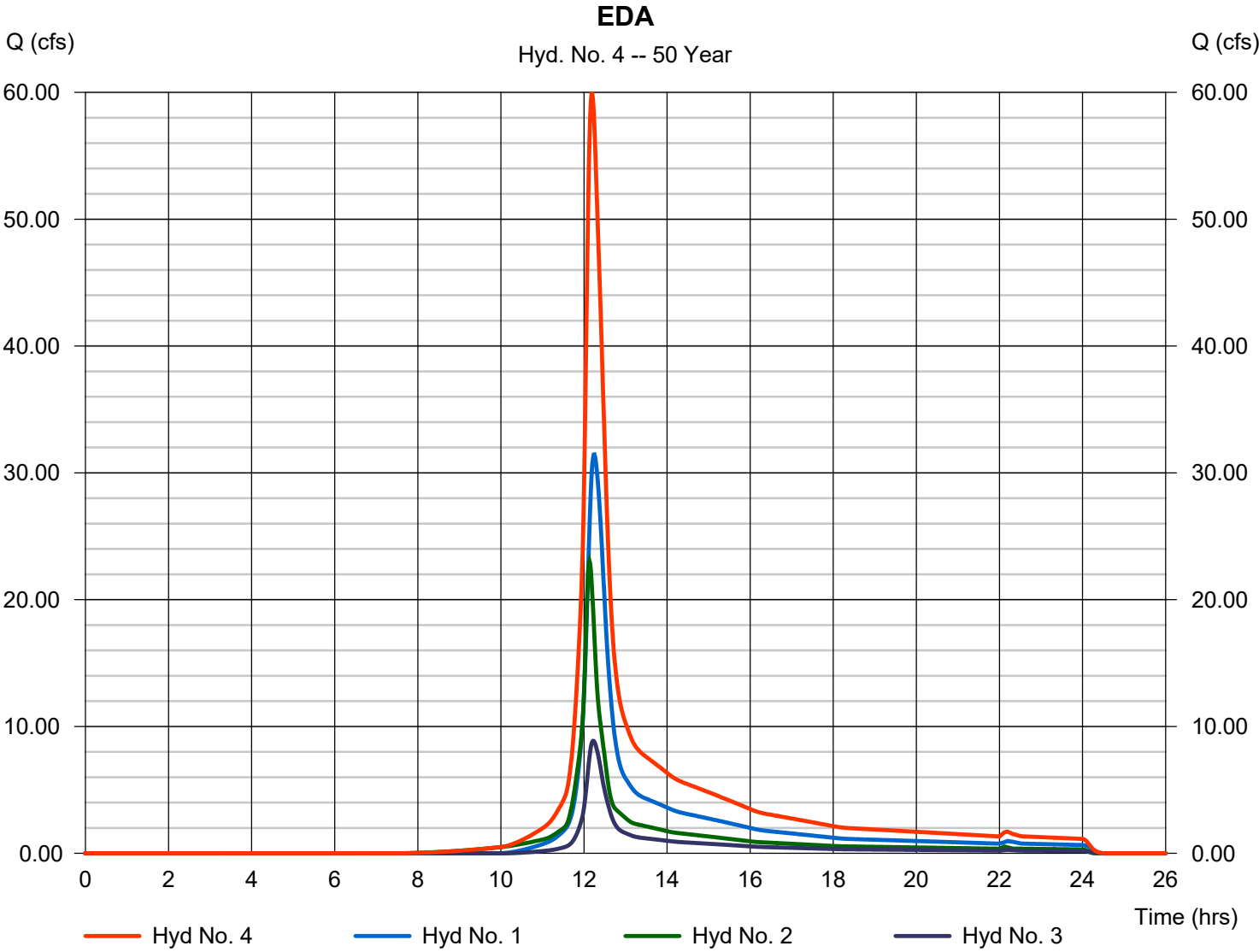
Monday, 01 / 9 / 2023

Hyd. No. 4

EDA

Hydrograph type = Combine
Storm frequency = 50 yrs
Time interval = 1 min
Inflow hyds. = 1, 2, 3

Peak discharge = 59.90 cfs
Time to peak = 12.20 hrs
Hyd. volume = 265,103 cuft
Contrib. drain. area = 22.340 ac



Hydrograph Report

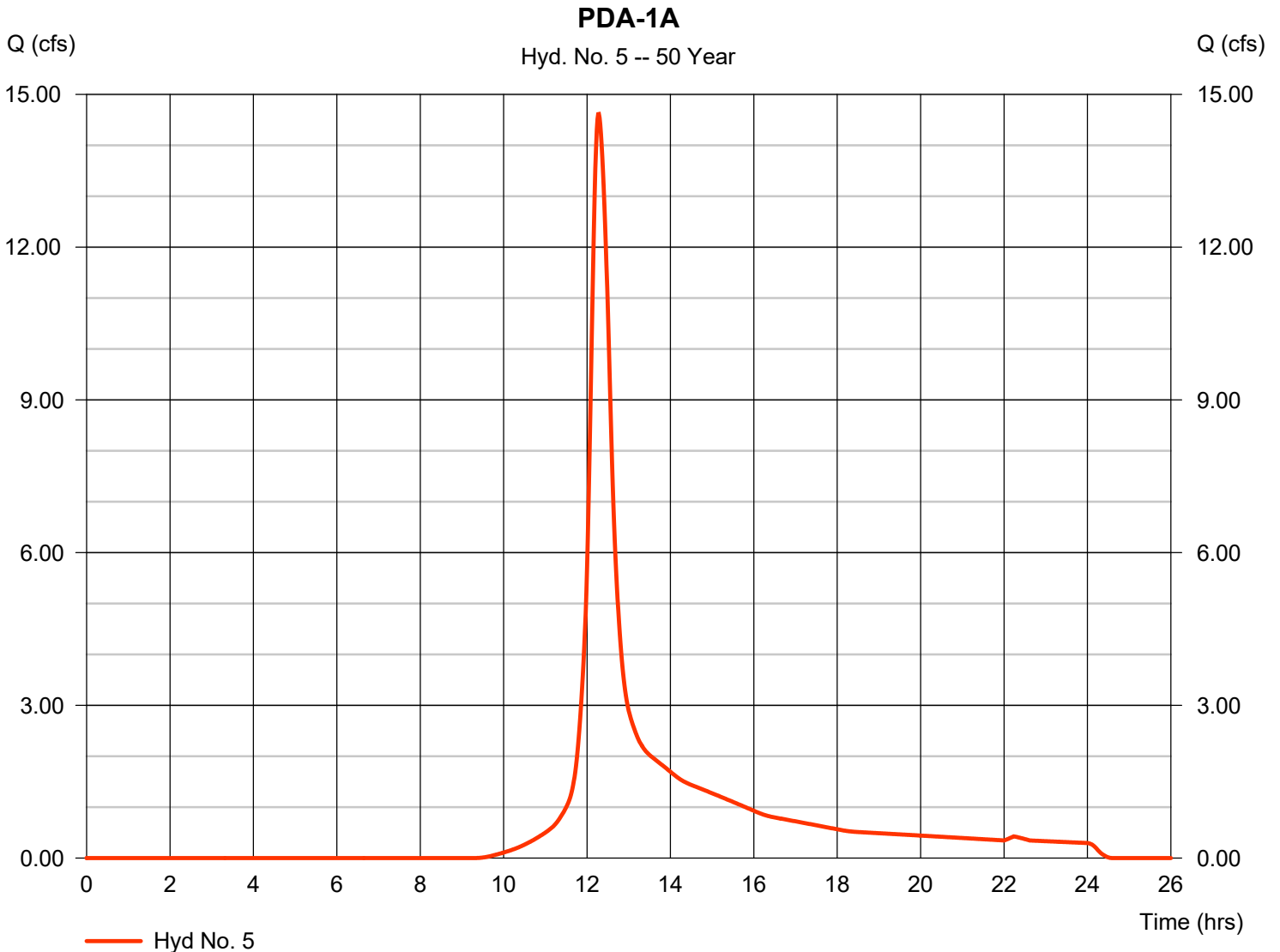
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Monday, 01 / 9 / 2023

Hyd. No. 5

PDA-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 14.62 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.28 hrs
Time interval	= 1 min	Hyd. volume	= 69,156 cuft
Drainage area	= 5.700 ac	Curve number	= 63
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 22.20 min
Total precip.	= 7.62 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

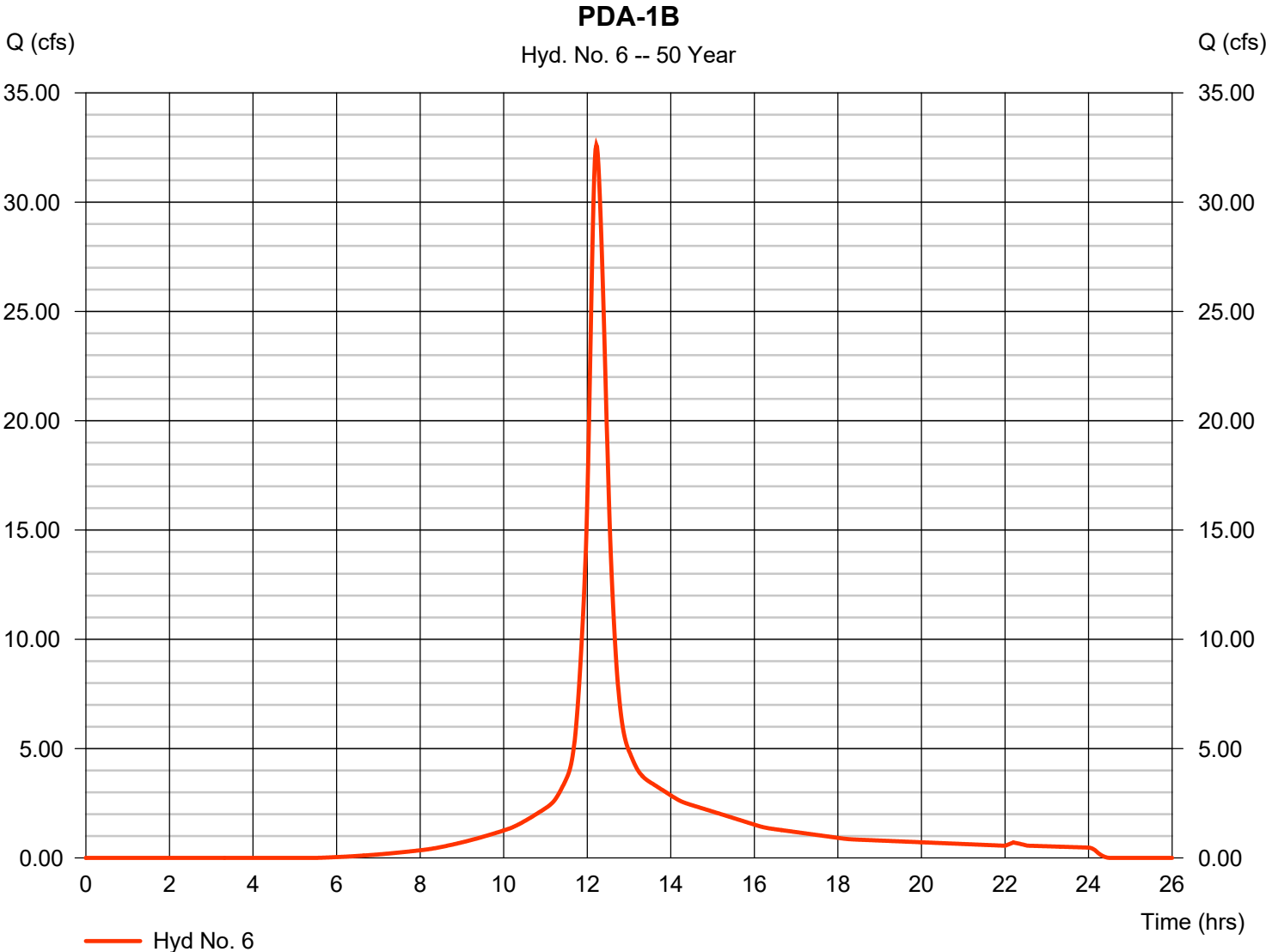


Hydrograph Report

Hyd. No. 6

PDA-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 32.61 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.22 hrs
Time interval	= 1 min	Hyd. volume	= 145,813 cuft
Drainage area	= 7.460 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 19.10 min
Total precip.	= 7.62 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

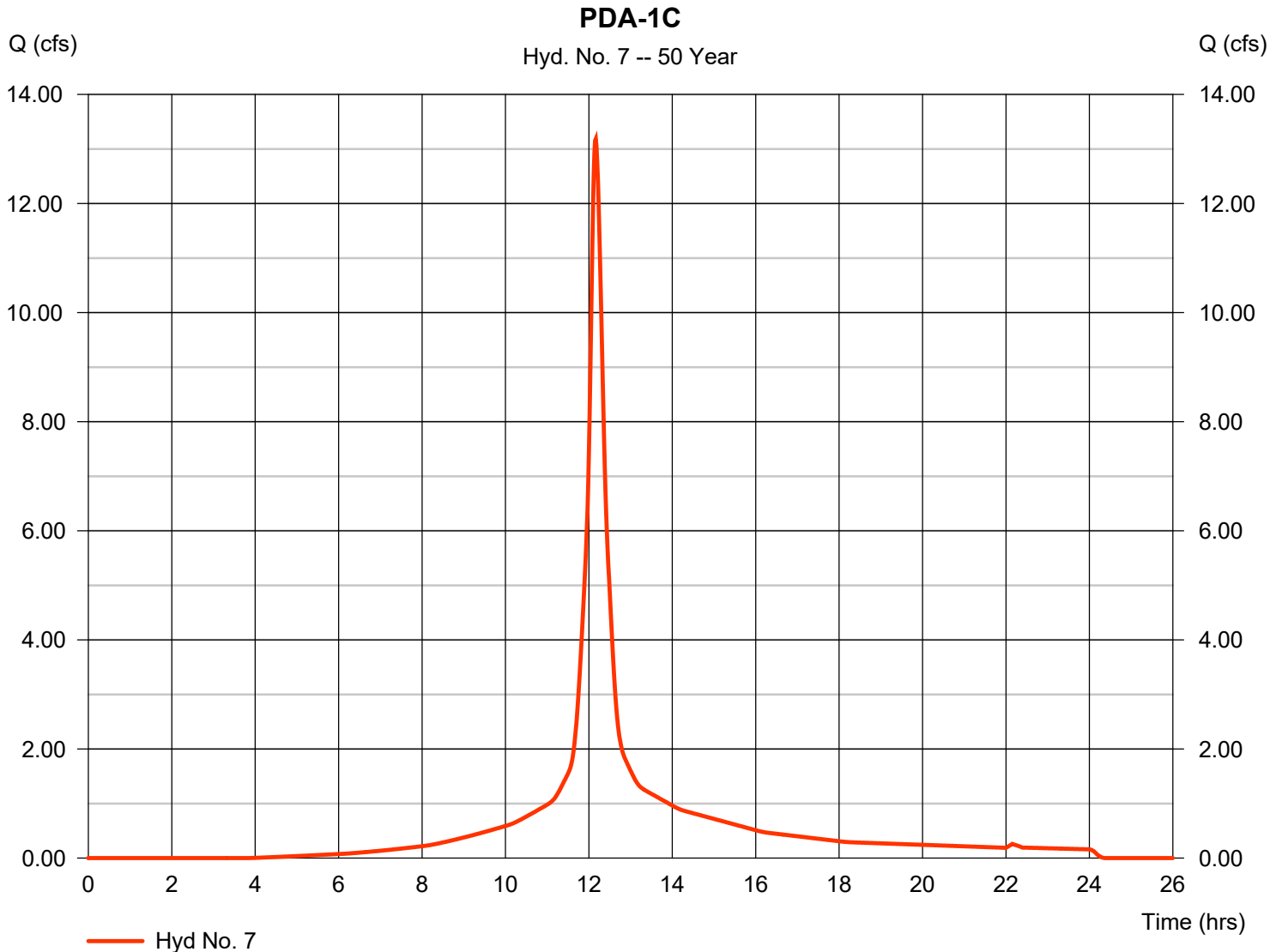
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Monday, 01 / 9 / 2023

Hyd. No. 7

PDA-1C

Hydrograph type	= SCS Runoff	Peak discharge	= 13.19 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.17 hrs
Time interval	= 1 min	Hyd. volume	= 54,295 cuft
Drainage area	= 2.460 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 14.90 min
Total precip.	= 7.62 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

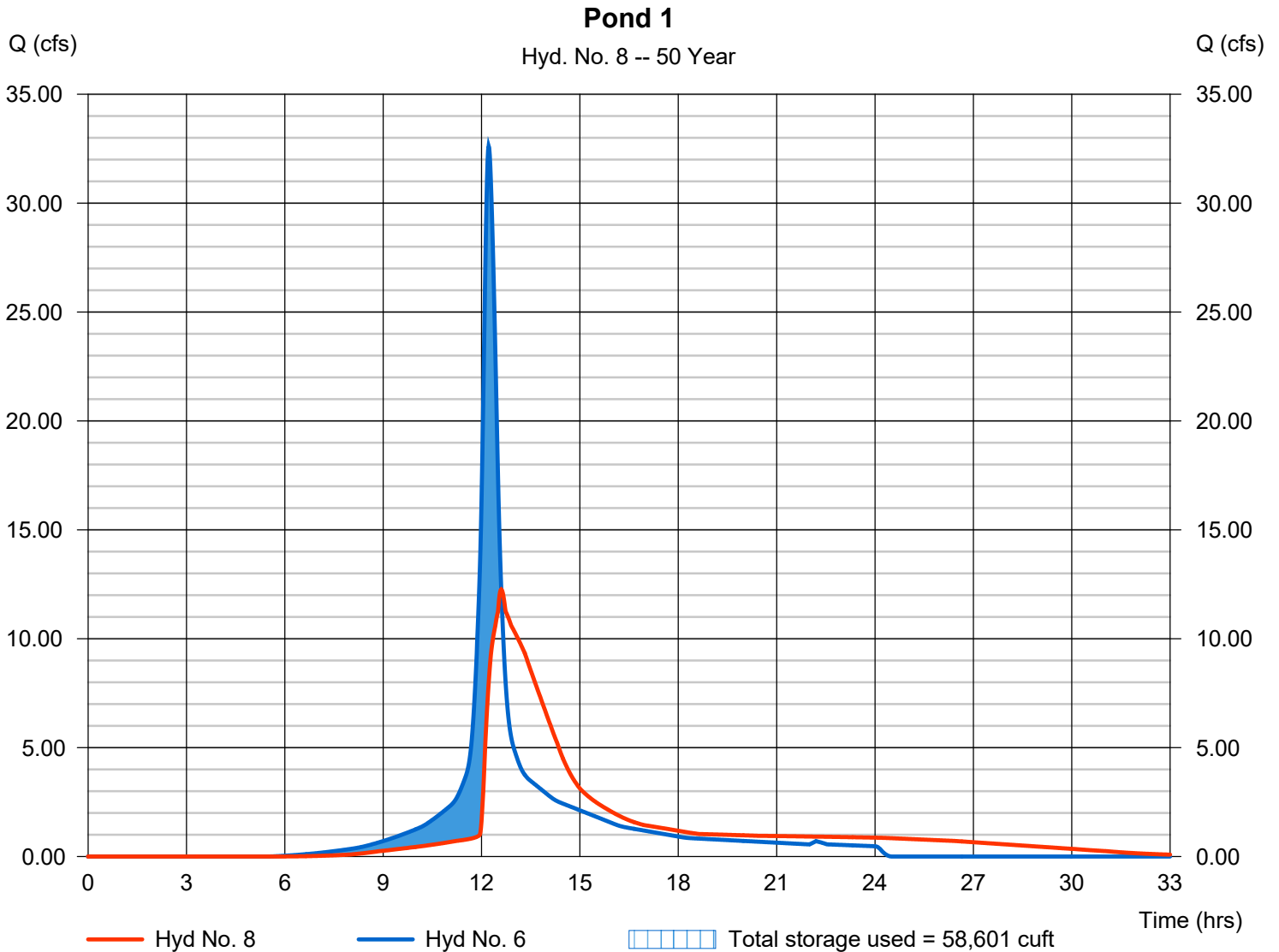
Monday, 01 / 9 / 2023

Hyd. No. 8

Pond 1

Hydrograph type	= Reservoir	Peak discharge	= 12.26 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.60 hrs
Time interval	= 1 min	Hyd. volume	= 145,802 cuft
Inflow hyd. No.	= 6 - PDA-1B	Max. Elevation	= 356.86 ft
Reservoir name	= Basin 1	Max. Storage	= 58,601 cuft

Storage Indication method used.



Hydrograph Report

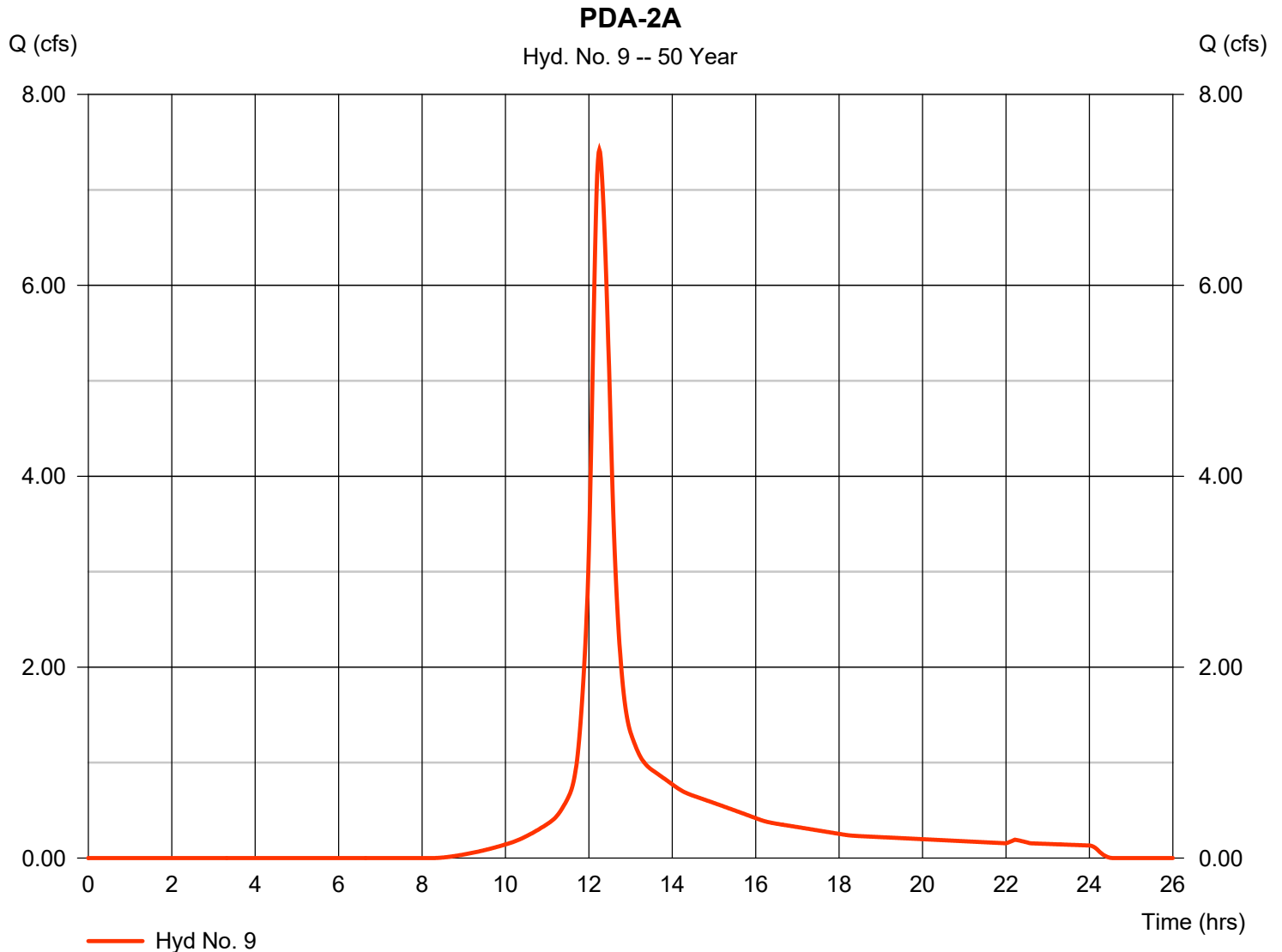
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Monday, 01 / 9 / 2023

Hyd. No. 9

PDA-2A

Hydrograph type	= SCS Runoff	Peak discharge	= 7.420 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.25 hrs
Time interval	= 1 min	Hyd. volume	= 33,958 cuft
Drainage area	= 2.300 ac	Curve number	= 69
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.70 min
Total precip.	= 7.62 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

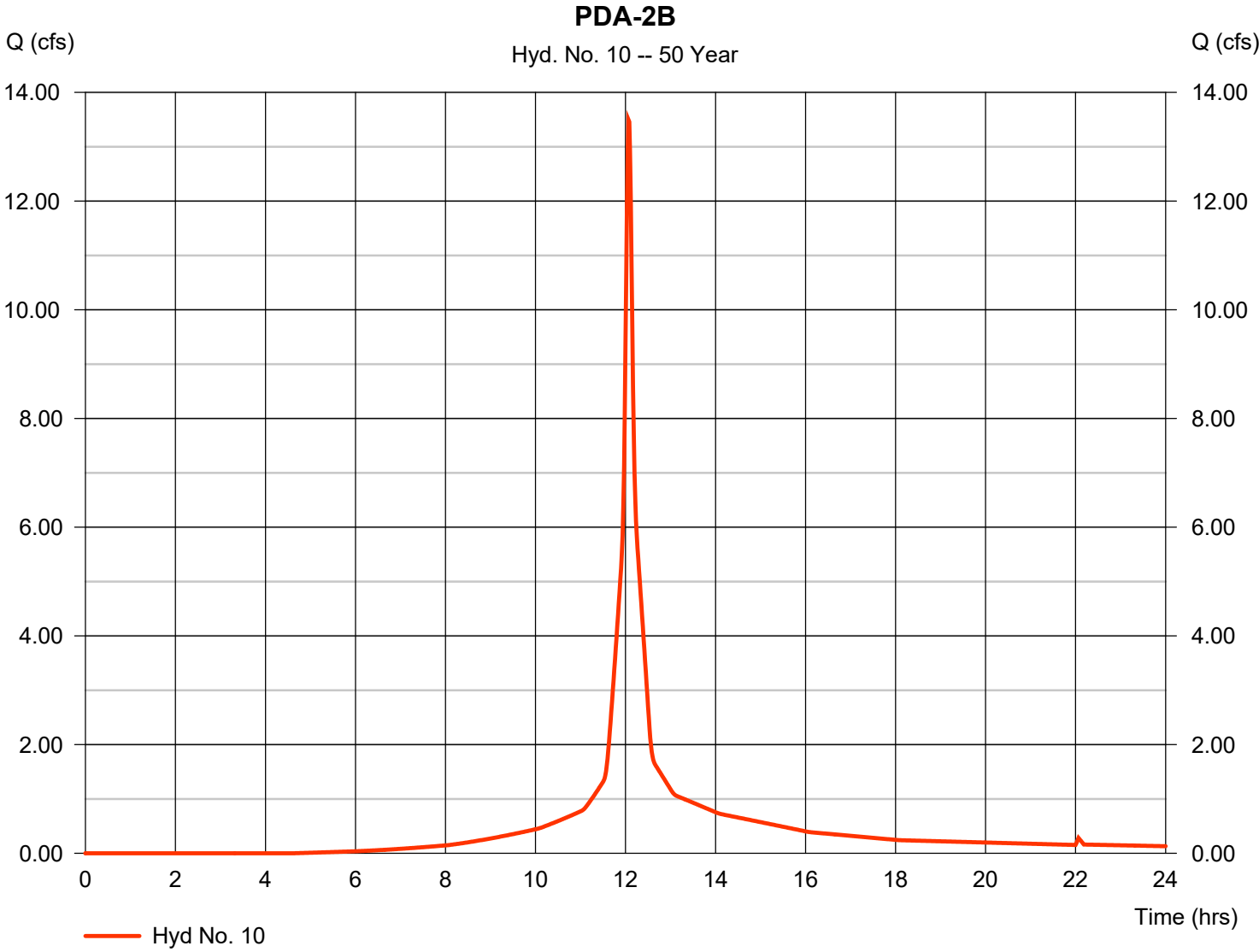


Hydrograph Report

Hyd. No. 10

PDA-2B

Hydrograph type	= SCS Runoff	Peak discharge	= 13.49 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 42,908 cuft
Drainage area	= 2.000 ac	Curve number	= 84
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 7.62 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

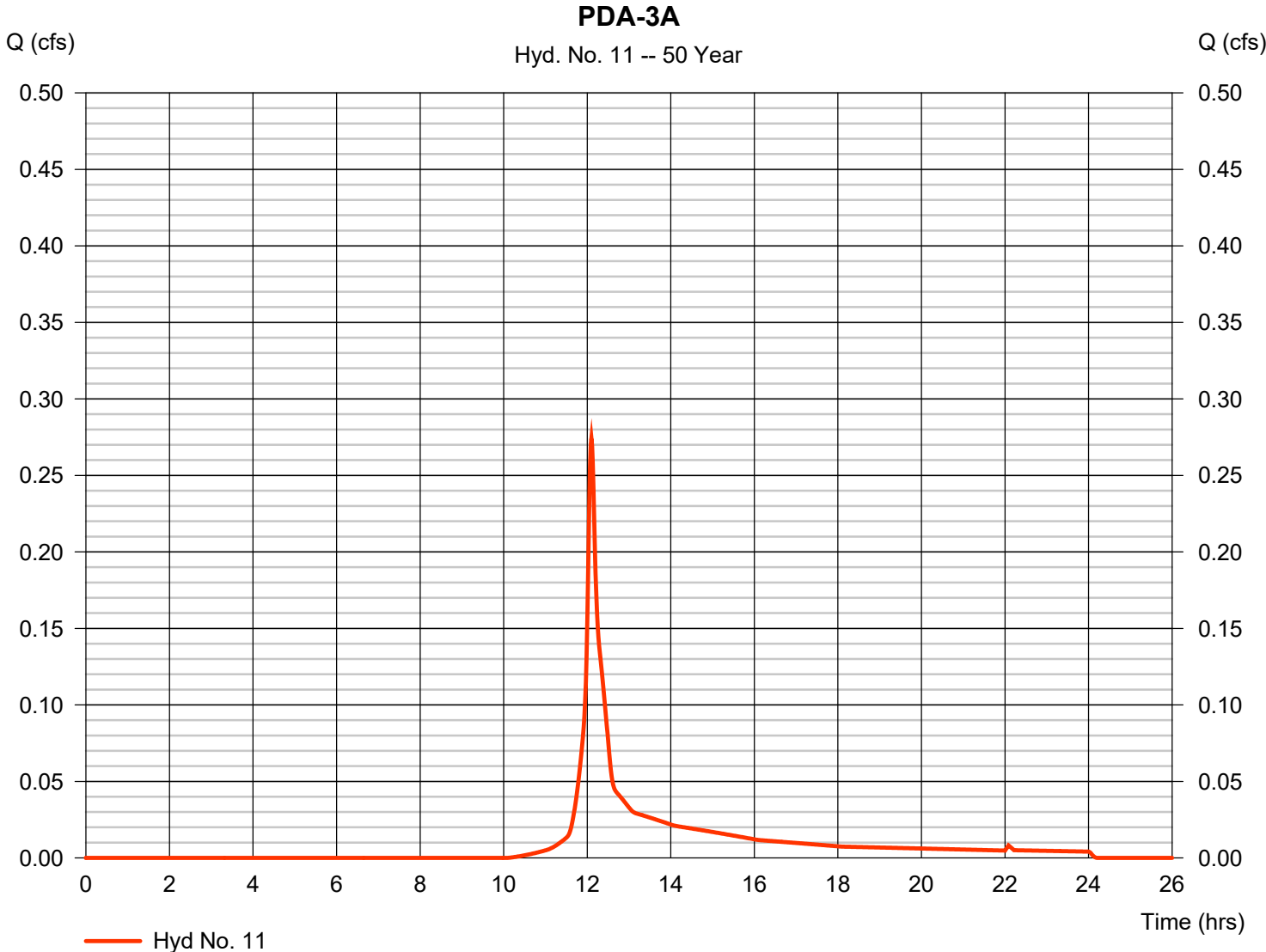


Hydrograph Report

Hyd. No. 11

PDA-3A

Hydrograph type	= SCS Runoff	Peak discharge	= 0.274 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.10 hrs
Time interval	= 1 min	Hyd. volume	= 905 cuft
Drainage area	= 0.090 ac	Curve number	= 58
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.90 min
Total precip.	= 7.62 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

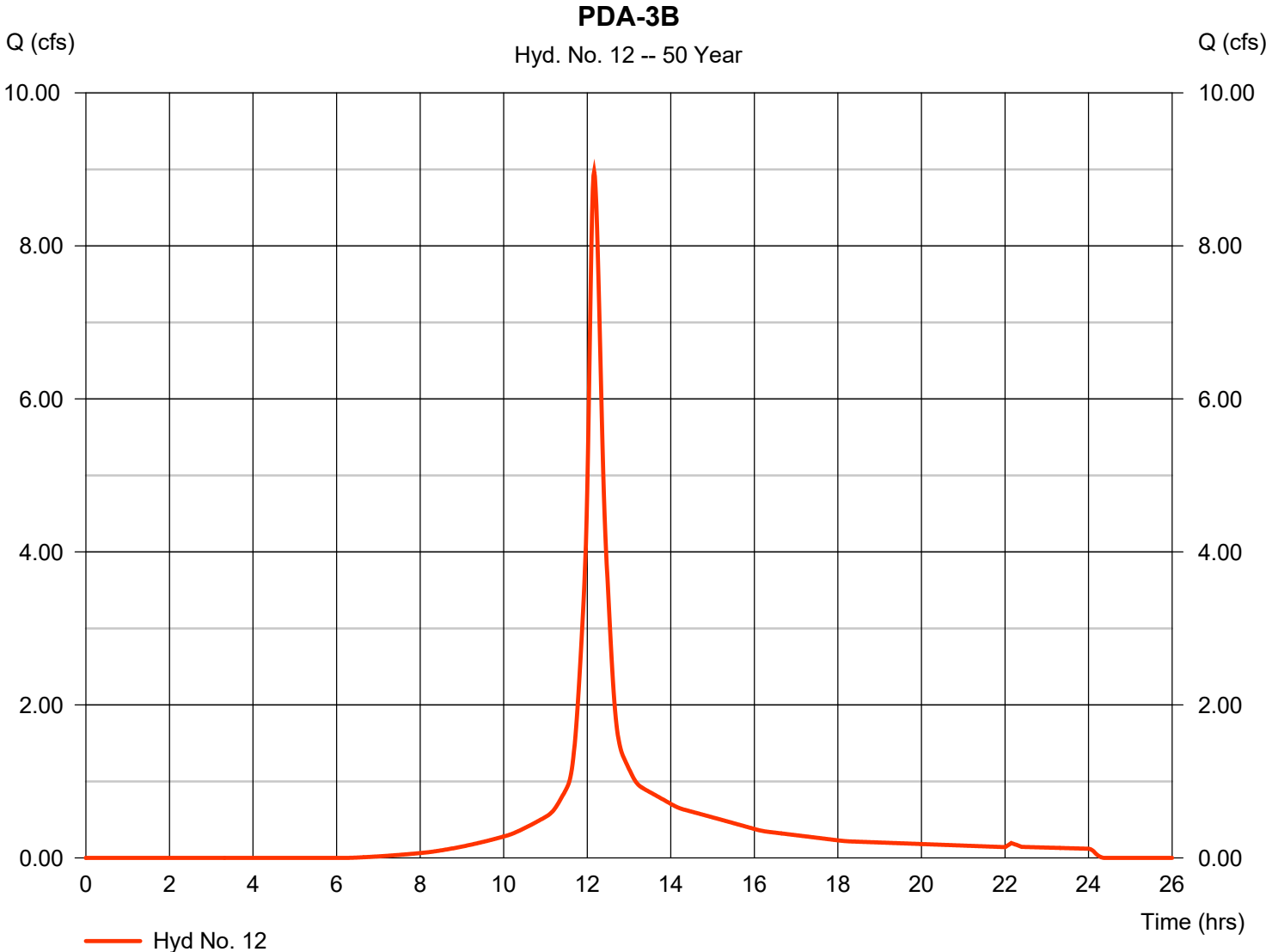


Hydrograph Report

Hyd. No. 12

PDA-3B

Hydrograph type	= SCS Runoff	Peak discharge	= 8.971 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.17 hrs
Time interval	= 1 min	Hyd. volume	= 35,682 cuft
Drainage area	= 1.950 ac	Curve number	= 78
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 14.70 min
Total precip.	= 7.62 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

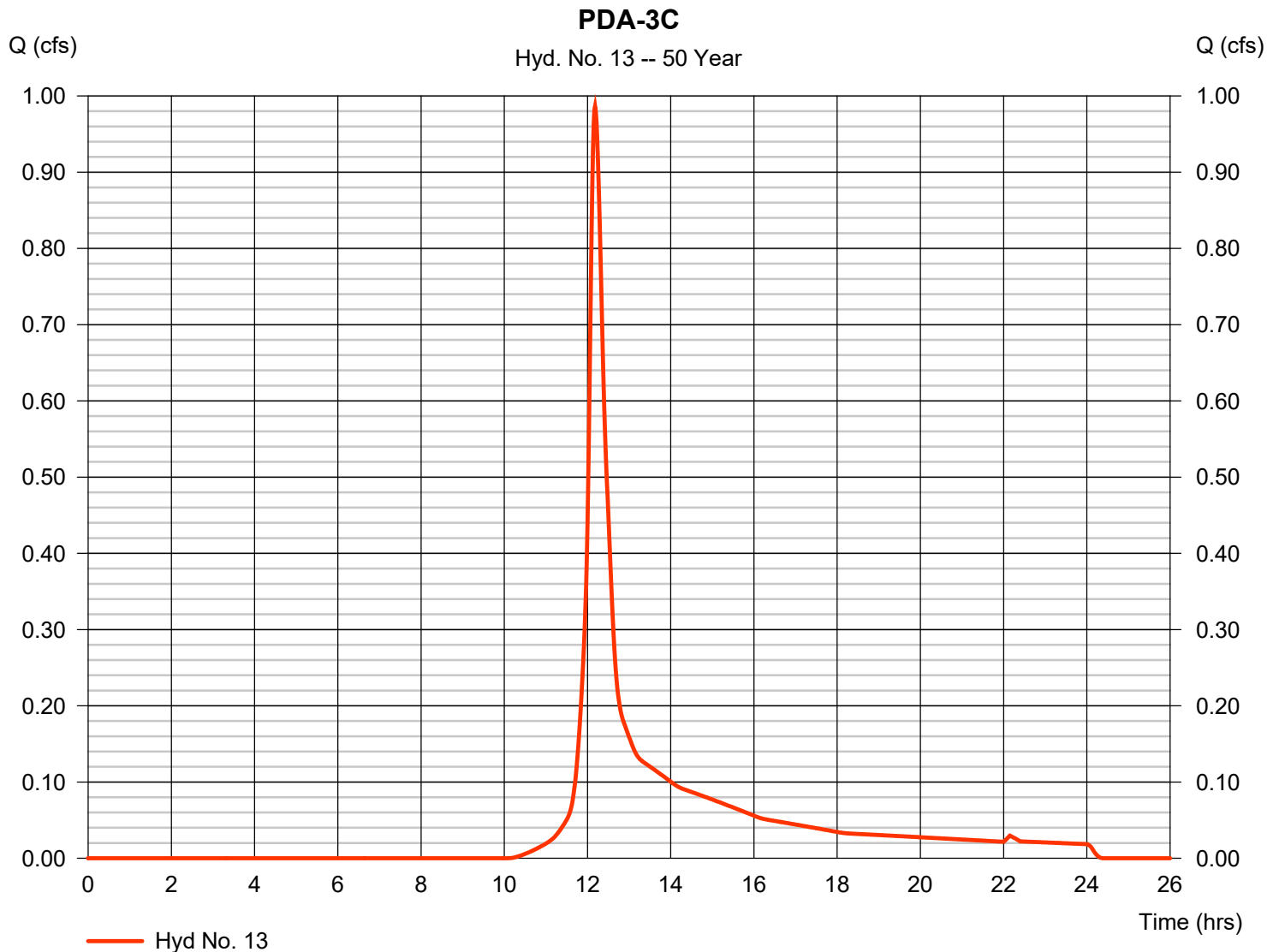
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

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Hyd. No. 13

PDA-3C

Hydrograph type	= SCS Runoff	Peak discharge	= 0.986 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.18 hrs
Time interval	= 1 min	Hyd. volume	= 4,020 cuft
Drainage area	= 0.390 ac	Curve number	= 58
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 13.80 min
Total precip.	= 7.62 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

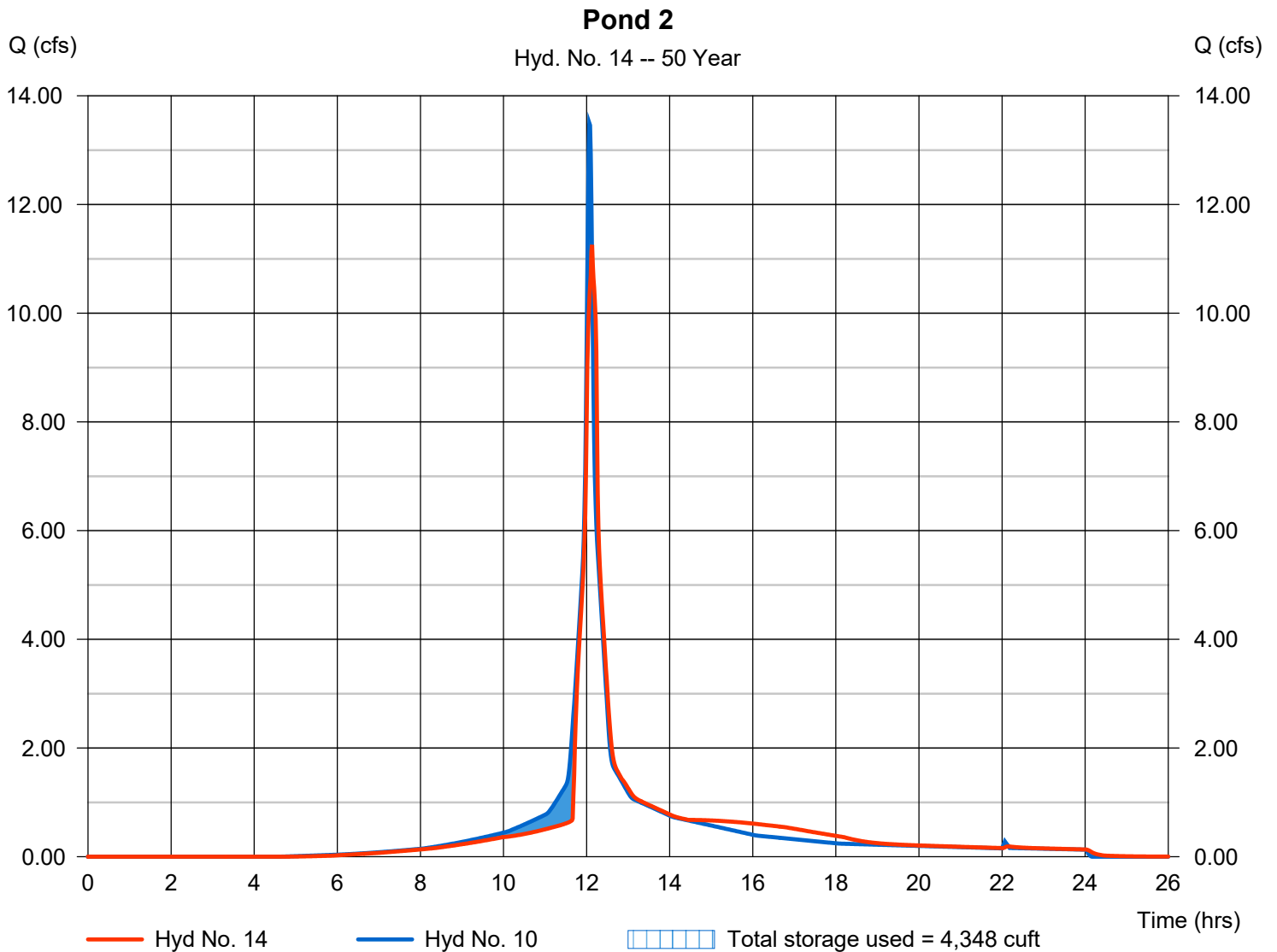
Monday, 01 / 9 / 2023

Hyd. No. 14

Pond 2

Hydrograph type	= Reservoir	Peak discharge	= 11.26 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.13 hrs
Time interval	= 1 min	Hyd. volume	= 42,906 cuft
Inflow hyd. No.	= 10 - PDA-2B	Max. Elevation	= 335.03 ft
Reservoir name	= Basin 2	Max. Storage	= 4,348 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

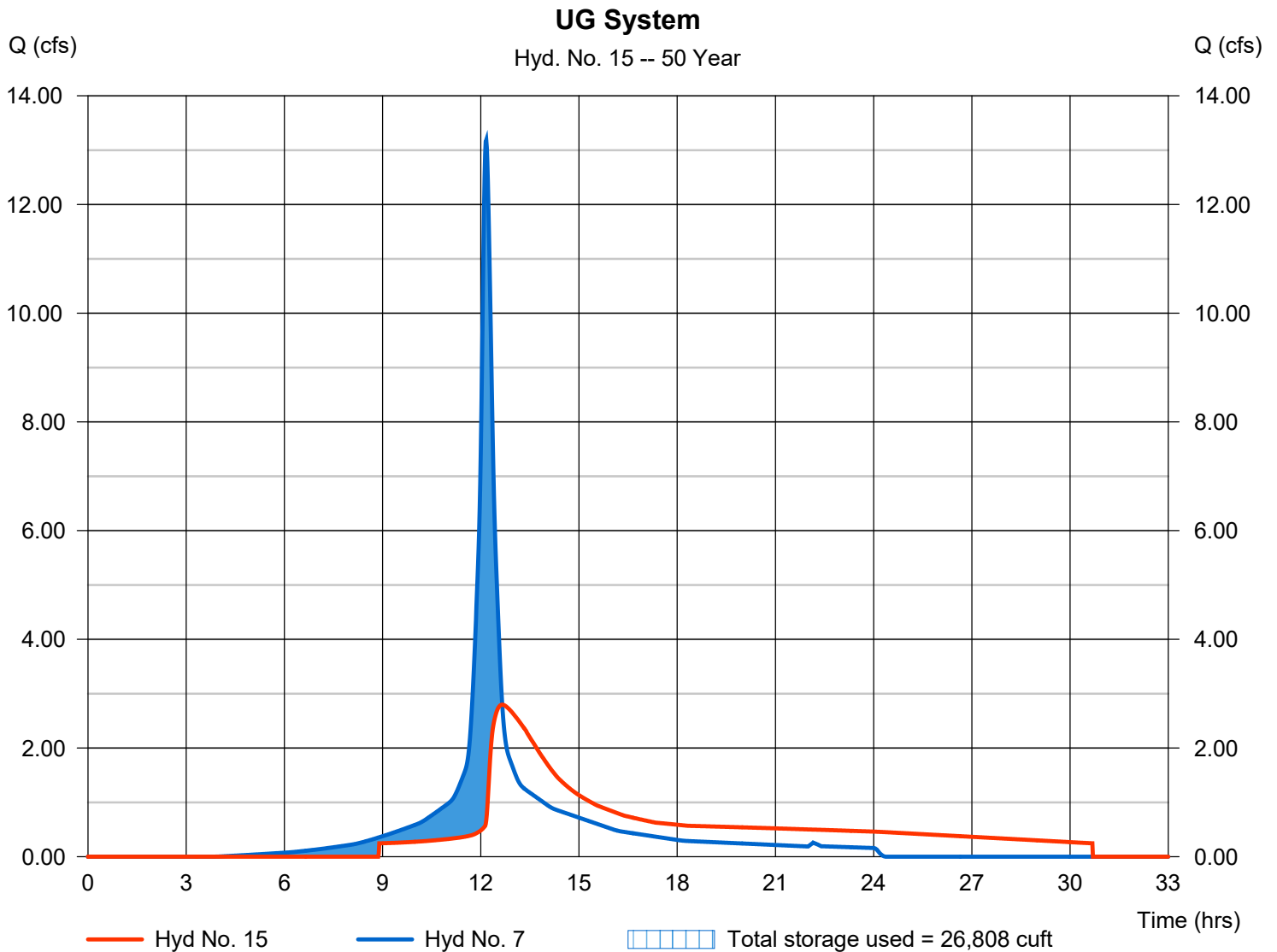
Monday, 01 / 9 / 2023

Hyd. No. 15

UG System

Hydrograph type	= Reservoir	Peak discharge	= 2.797 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.65 hrs
Time interval	= 1 min	Hyd. volume	= 52,146 cuft
Inflow hyd. No.	= 7 - PDA-1C	Max. Elevation	= 361.05 ft
Reservoir name	= Underground Detention	Max. Storage	= 26,808 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

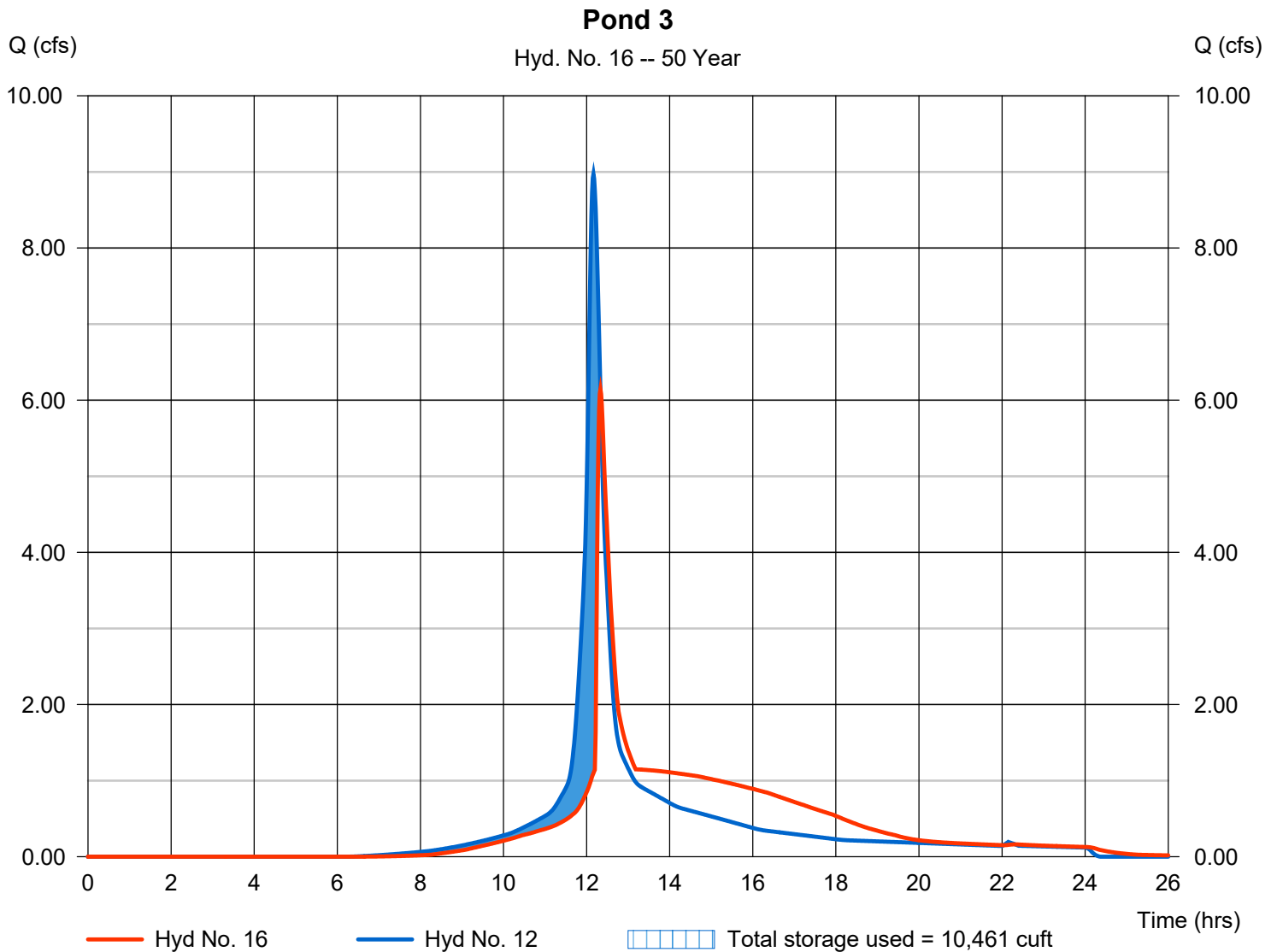
Monday, 01 / 9 / 2023

Hyd. No. 16

Pond 3

Hydrograph type	= Reservoir	Peak discharge	= 6.143 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.33 hrs
Time interval	= 1 min	Hyd. volume	= 35,675 cuft
Inflow hyd. No.	= 12 - PDA-3B	Max. Elevation	= 365.85 ft
Reservoir name	= Basin 3	Max. Storage	= 10,461 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

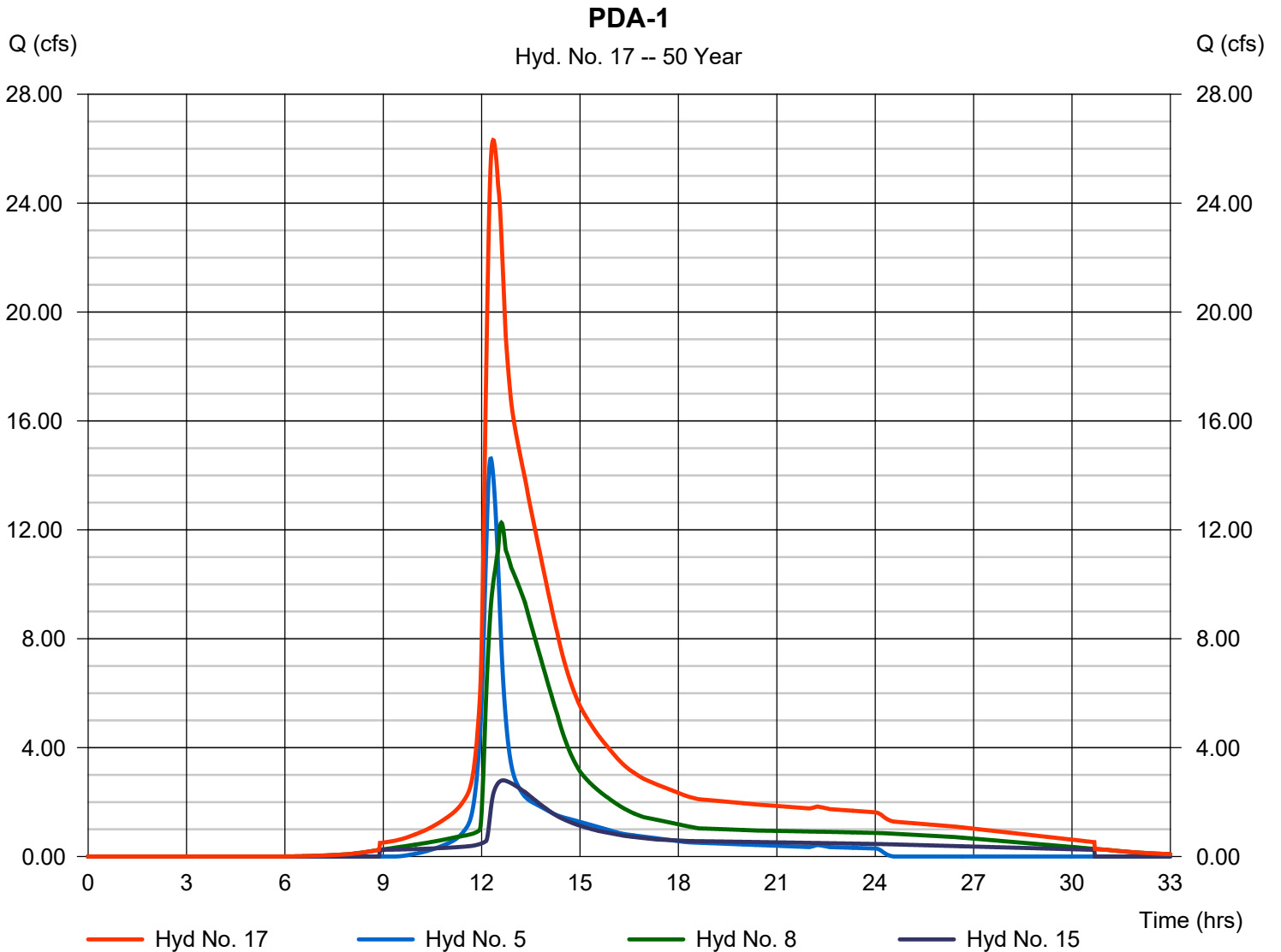
Monday, 01 / 9 / 2023

Hyd. No. 17

PDA-1

Hydrograph type = Combine
 Storm frequency = 50 yrs
 Time interval = 1 min
 Inflow hyds. = 5, 8, 15

Peak discharge = 26.32 cfs
 Time to peak = 12.35 hrs
 Hyd. volume = 267,105 cuft
 Contrib. drain. area = 5.700 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

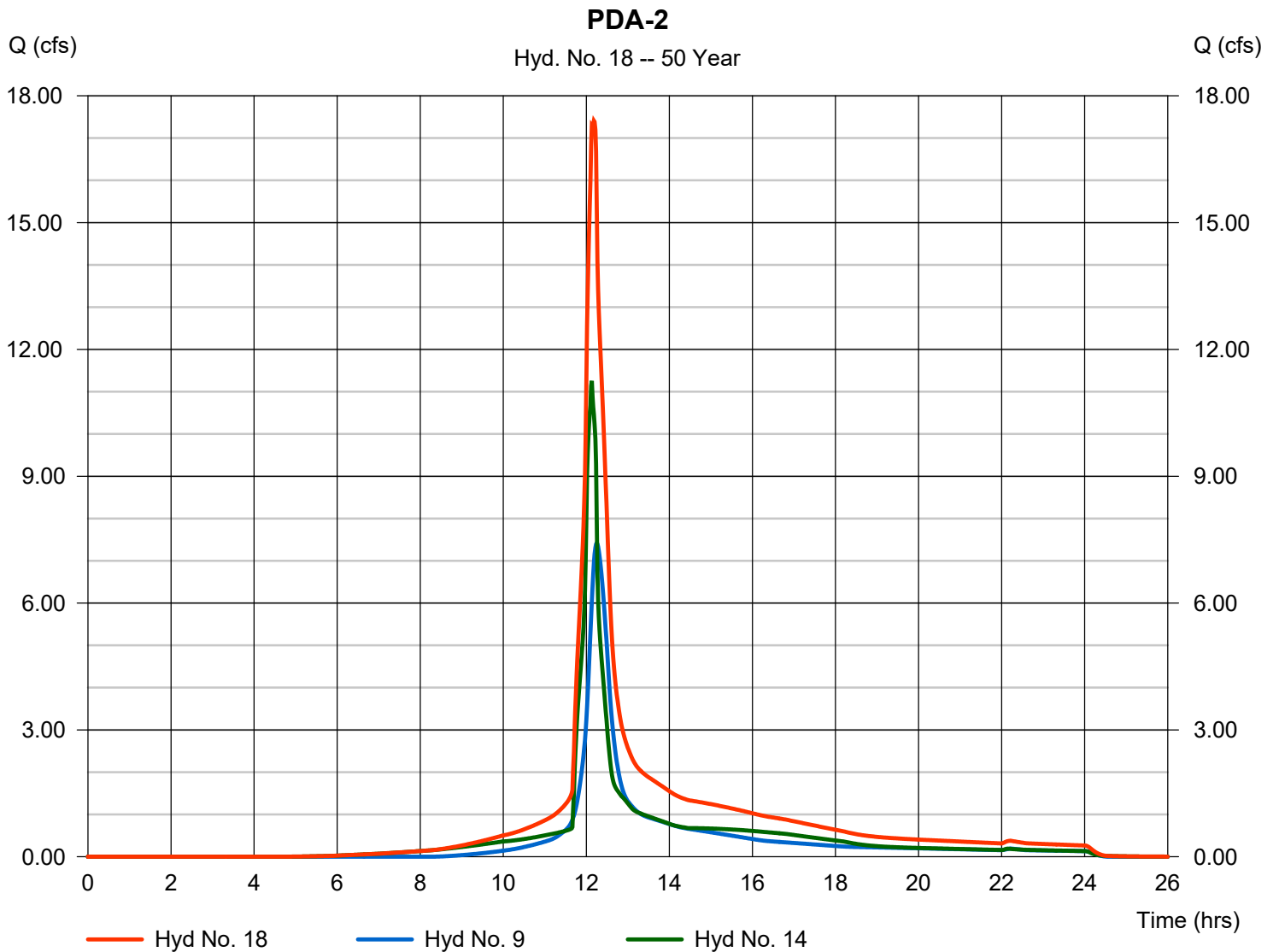
Monday, 01 / 9 / 2023

Hyd. No. 18

PDA-2

Hydrograph type = Combine
 Storm frequency = 50 yrs
 Time interval = 1 min
 Inflow hyds. = 9, 14

Peak discharge = 17.41 cfs
 Time to peak = 12.18 hrs
 Hyd. volume = 76,864 cuft
 Contrib. drain. area = 2.300 ac



Hydrograph Report

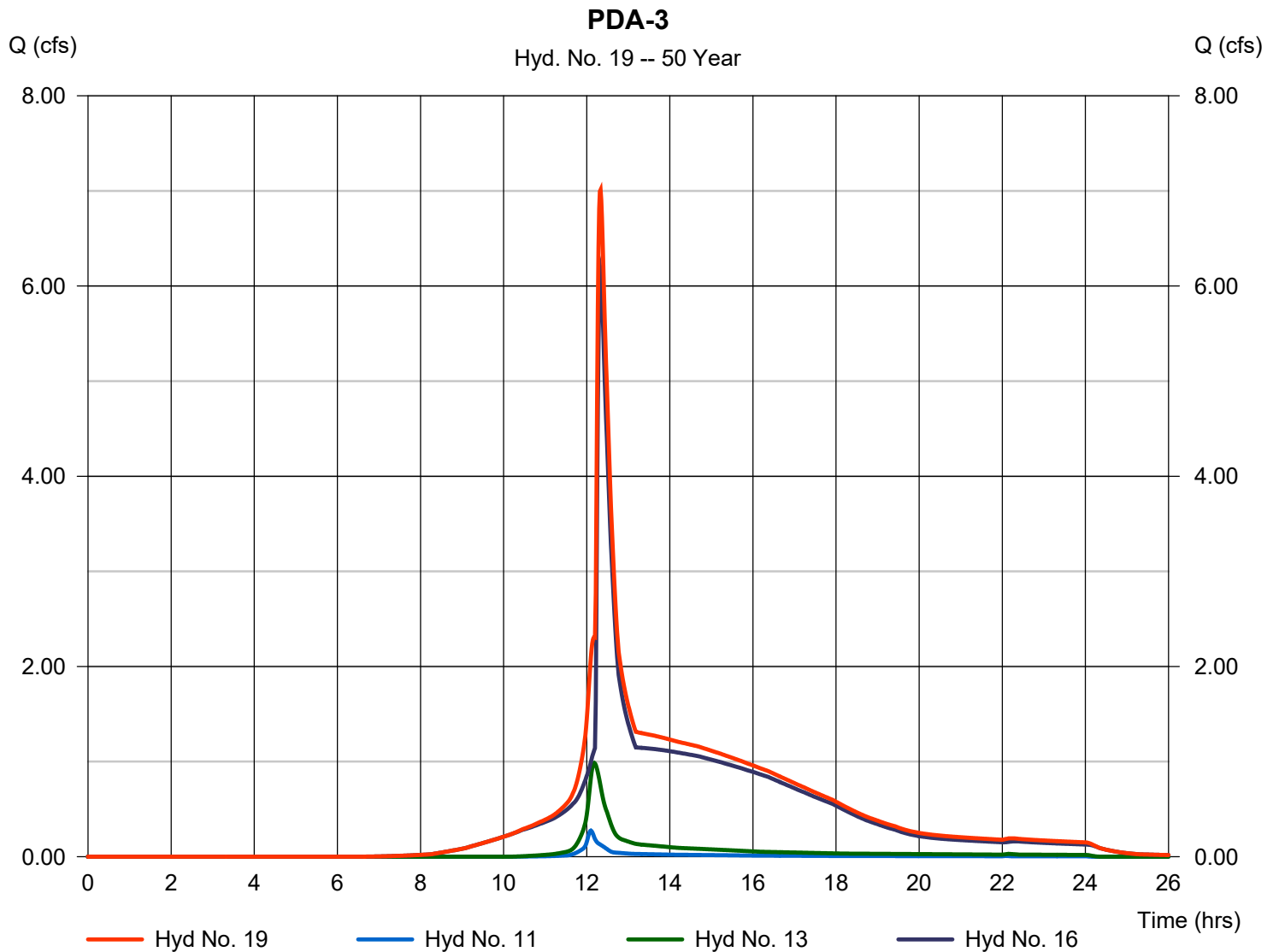
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

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Hyd. No. 19

PDA-3

Hydrograph type	= Combine	Peak discharge	= 7.011 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.33 hrs
Time interval	= 1 min	Hyd. volume	= 40,600 cuft
Inflow hyds.	= 11, 13, 16	Contrib. drain. area	= 0.480 ac



Hydrograph Report

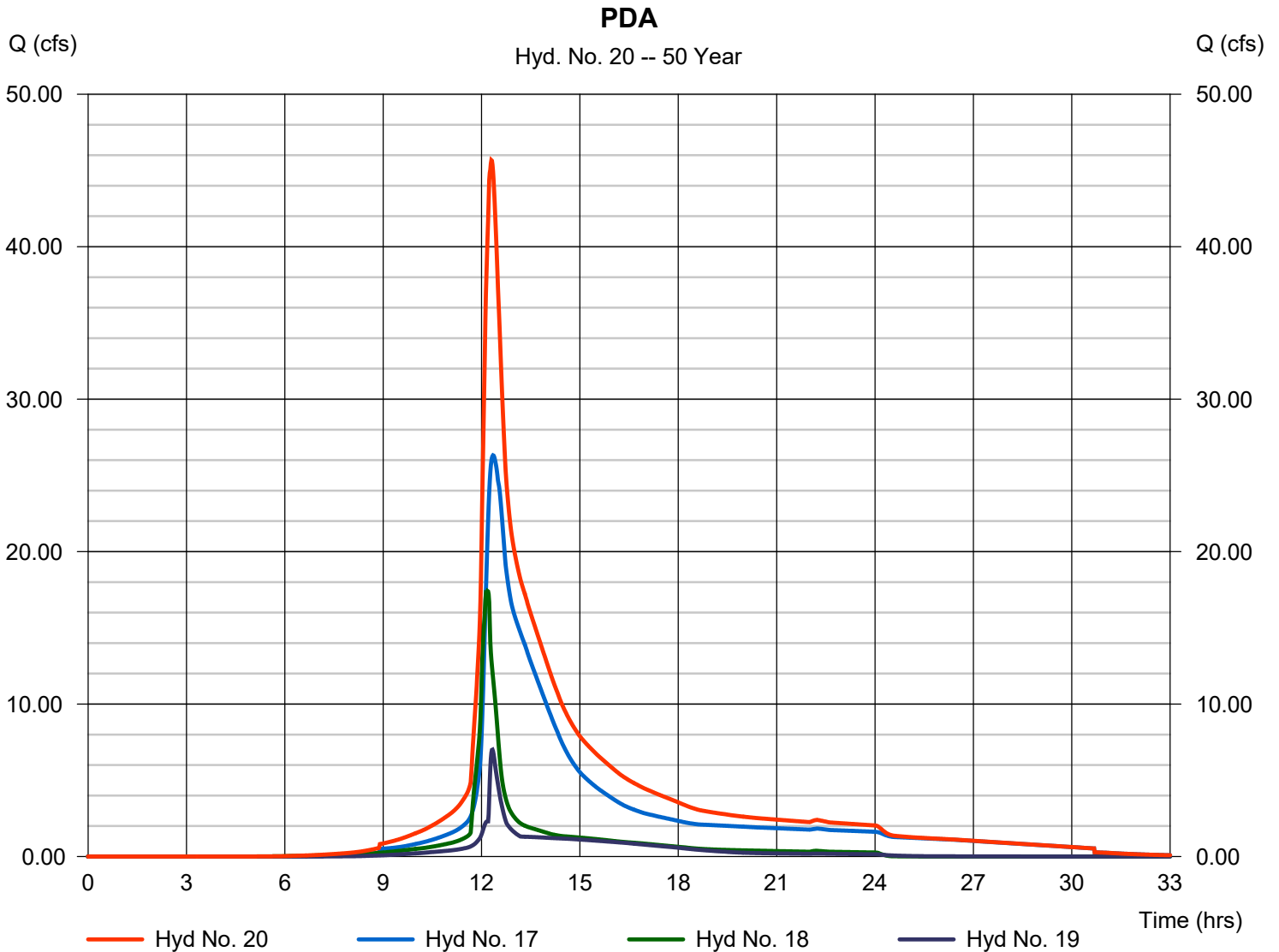
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

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Hyd. No. 20

PDA

Hydrograph type	= Combine	Peak discharge	= 45.67 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.30 hrs
Time interval	= 1 min	Hyd. volume	= 384,569 cuft
Inflow hyds.	= 17, 18, 19	Contrib. drain. area	= 0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

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	39.61	1	734	177,424	----	----	----	EDA-1
2	SCS Runoff	27.50	1	728	100,019	----	----	----	EDA-2
3	SCS Runoff	11.22	1	733	48,487	----	----	----	EDA-3
4	Combine	74.30	1	731	325,930	1, 2, 3	----	----	EDA
5	SCS Runoff	18.06	1	736	84,856	----	----	----	PDA-1A
6	SCS Runoff	37.94	1	733	170,627	----	----	----	PDA-1B
7	SCS Runoff	15.12	1	730	62,733	----	----	----	PDA-1C
8	Reservoir	20.64	1	750	170,616	6	357.26	63,992	Pond 1
9	SCS Runoff	8.951	1	735	40,927	----	----	----	PDA-2A
10	SCS Runoff	15.57	1	724	49,885	----	----	----	PDA-2B
11	SCS Runoff	0.347	1	726	1,130	----	----	----	PDA-3A
12	SCS Runoff	10.52	1	730	42,038	----	----	----	PDA-3B
13	SCS Runoff	1.248	1	731	5,020	----	----	----	PDA-3C
14	Reservoir	14.25	1	727	49,883	10	335.16	4,644	Pond 2
15	Reservoir	3.400	1	758	60,587	7	361.43	30,501	UG System
16	Reservoir	8.548	1	737	42,031	12	365.96	10,895	Pond 3
17	Combine	37.93	1	747	316,059	5, 8, 15,	----	----	PDA-1
18	Combine	21.18	1	727	90,810	9, 14,	----	----	PDA-2
19	Combine	9.791	1	736	48,181	11, 13, 16,	----	----	PDA-3
20	Combine	58.73	1	735	455,049	17, 18, 19	----	----	PDA
Hydrology.gpw					Return Period: 100 Year			Monday, 01 / 9 / 2023	

Hydrograph Report

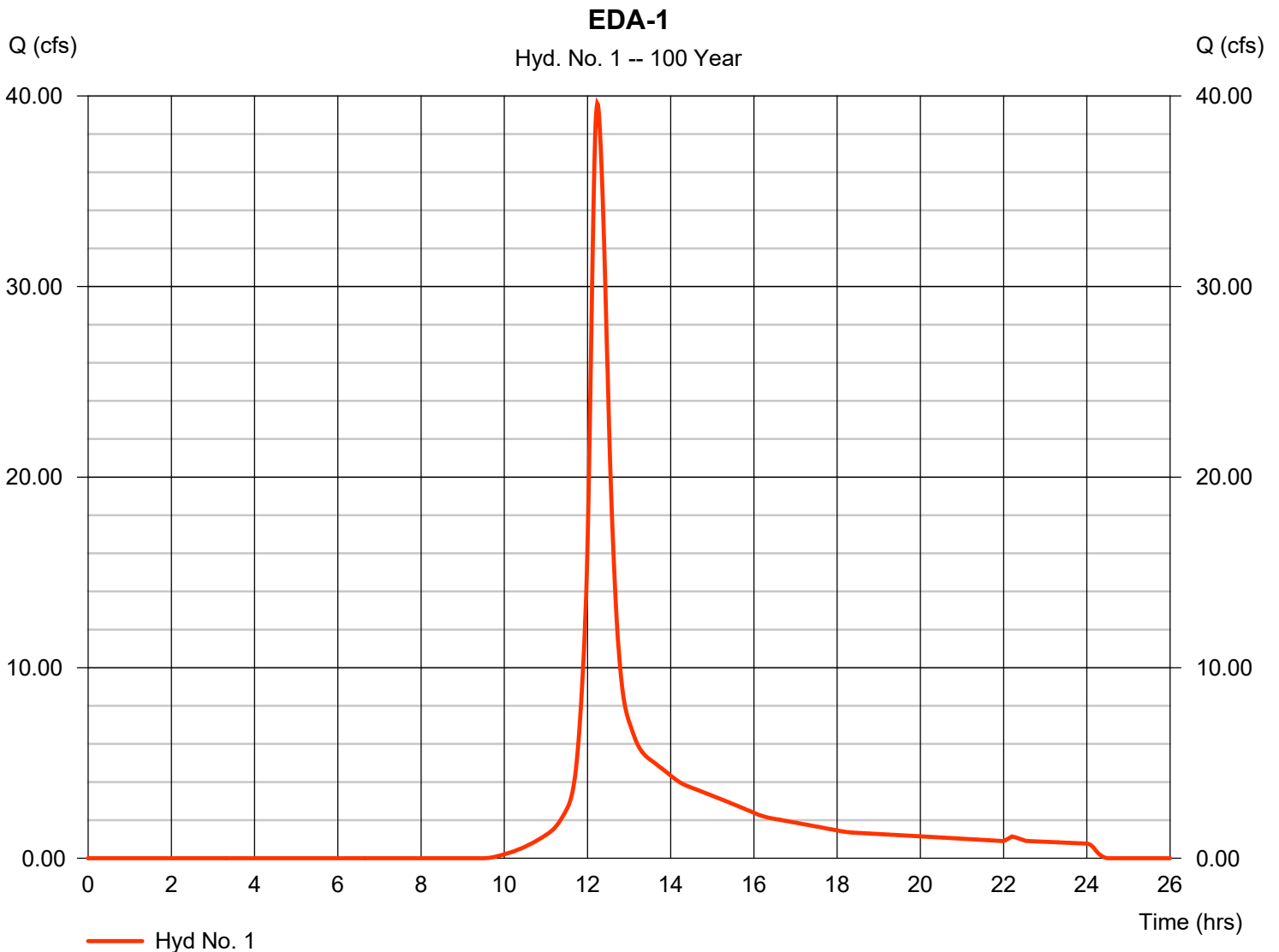
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Monday, 01 / 9 / 2023

Hyd. No. 1

EDA-1

Hydrograph type	= SCS Runoff	Peak discharge	= 39.61 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.23 hrs
Time interval	= 1 min	Hyd. volume	= 177,424 cuft
Drainage area	= 13.340 ac	Curve number	= 59
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.20 min
Total precip.	= 8.59 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

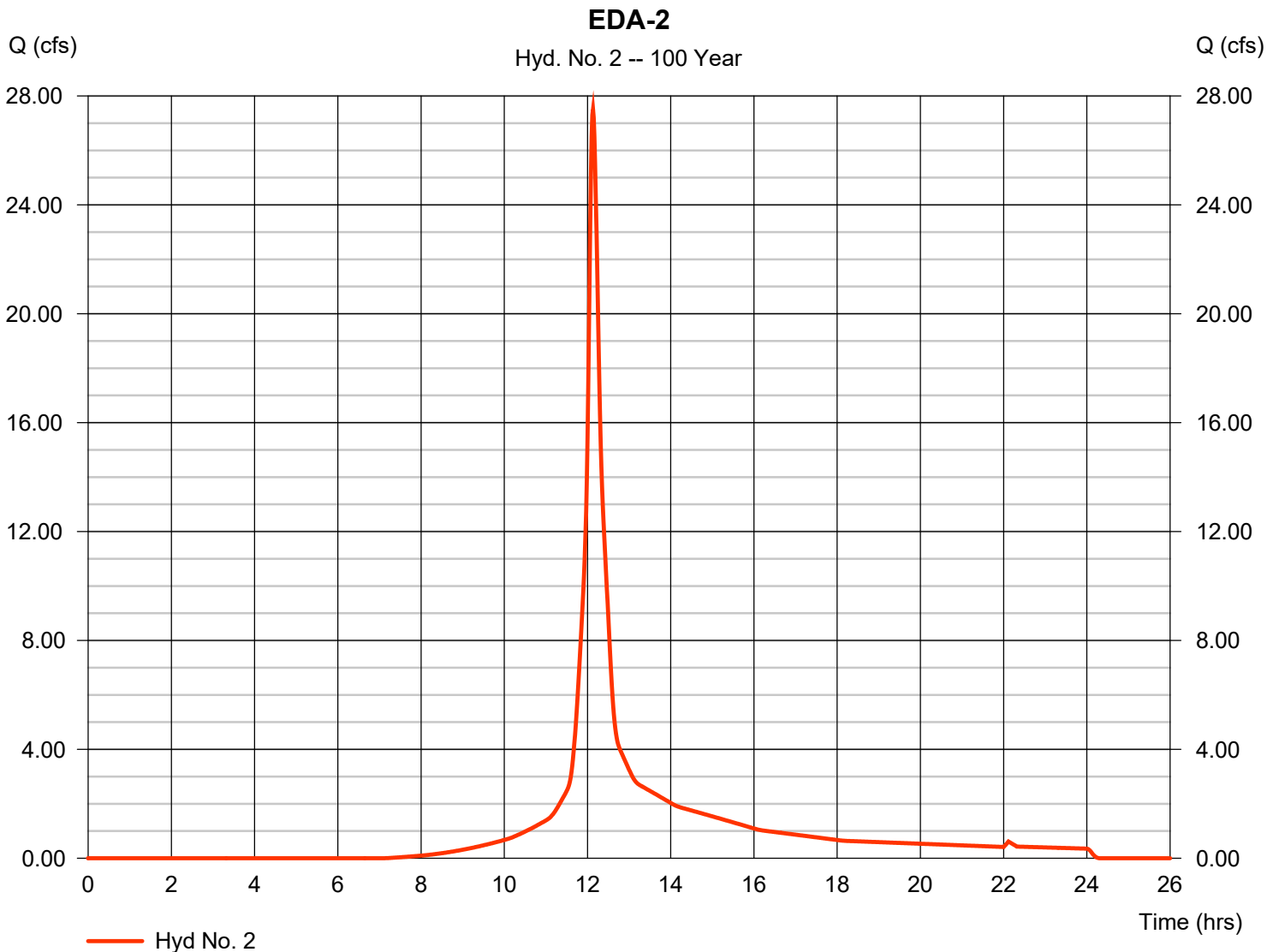
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Monday, 01 / 9 / 2023

Hyd. No. 2

EDA-2

Hydrograph type	= SCS Runoff	Peak discharge	= 27.50 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.13 hrs
Time interval	= 1 min	Hyd. volume	= 100,019 cuft
Drainage area	= 5.190 ac	Curve number	= 72
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.10 min
Total precip.	= 8.59 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

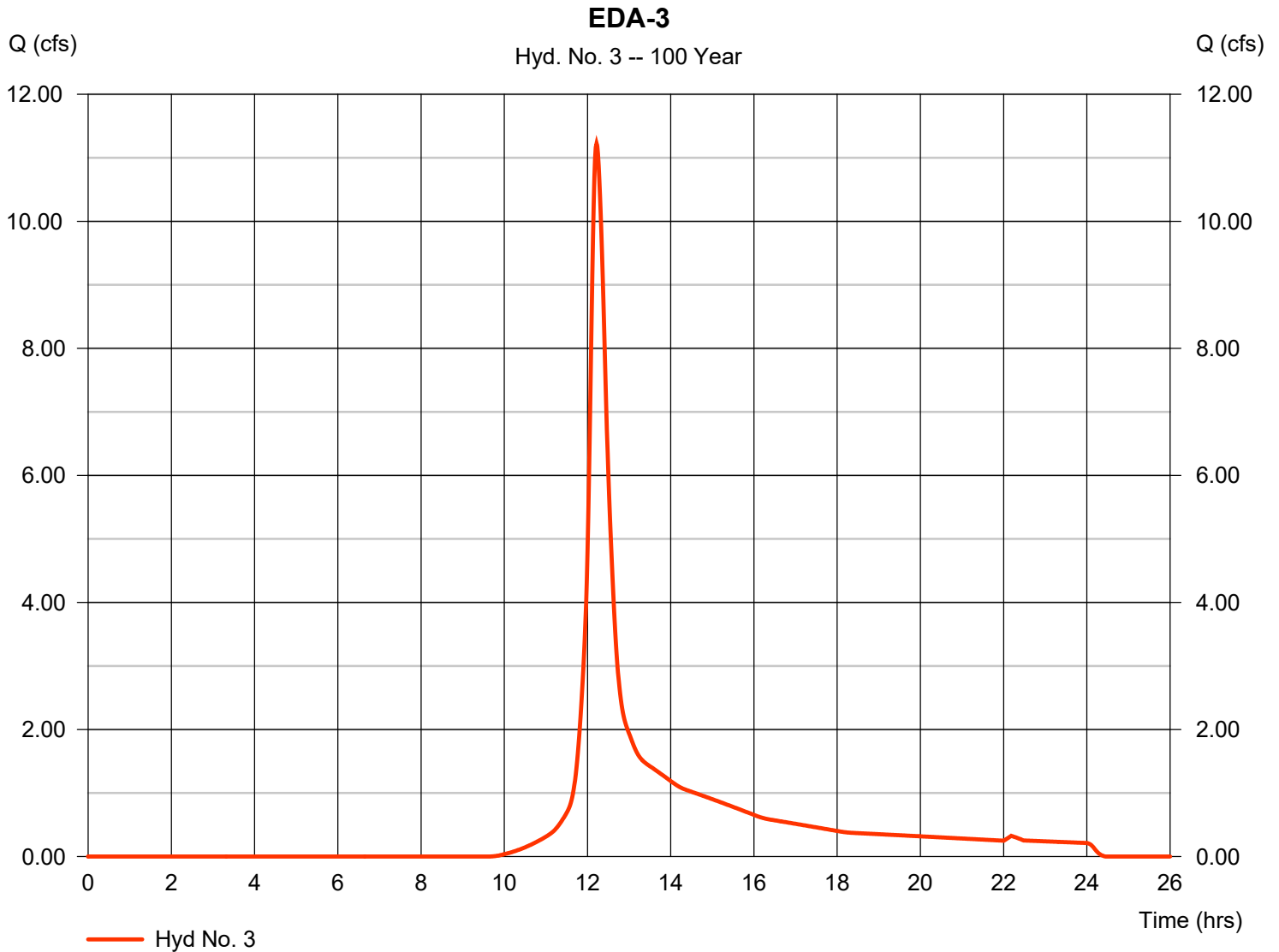
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

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Hyd. No. 3

EDA-3

Hydrograph type	= SCS Runoff	Peak discharge	= 11.22 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.22 hrs
Time interval	= 1 min	Hyd. volume	= 48,487 cuft
Drainage area	= 3.810 ac	Curve number	= 58
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 18.20 min
Total precip.	= 8.59 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

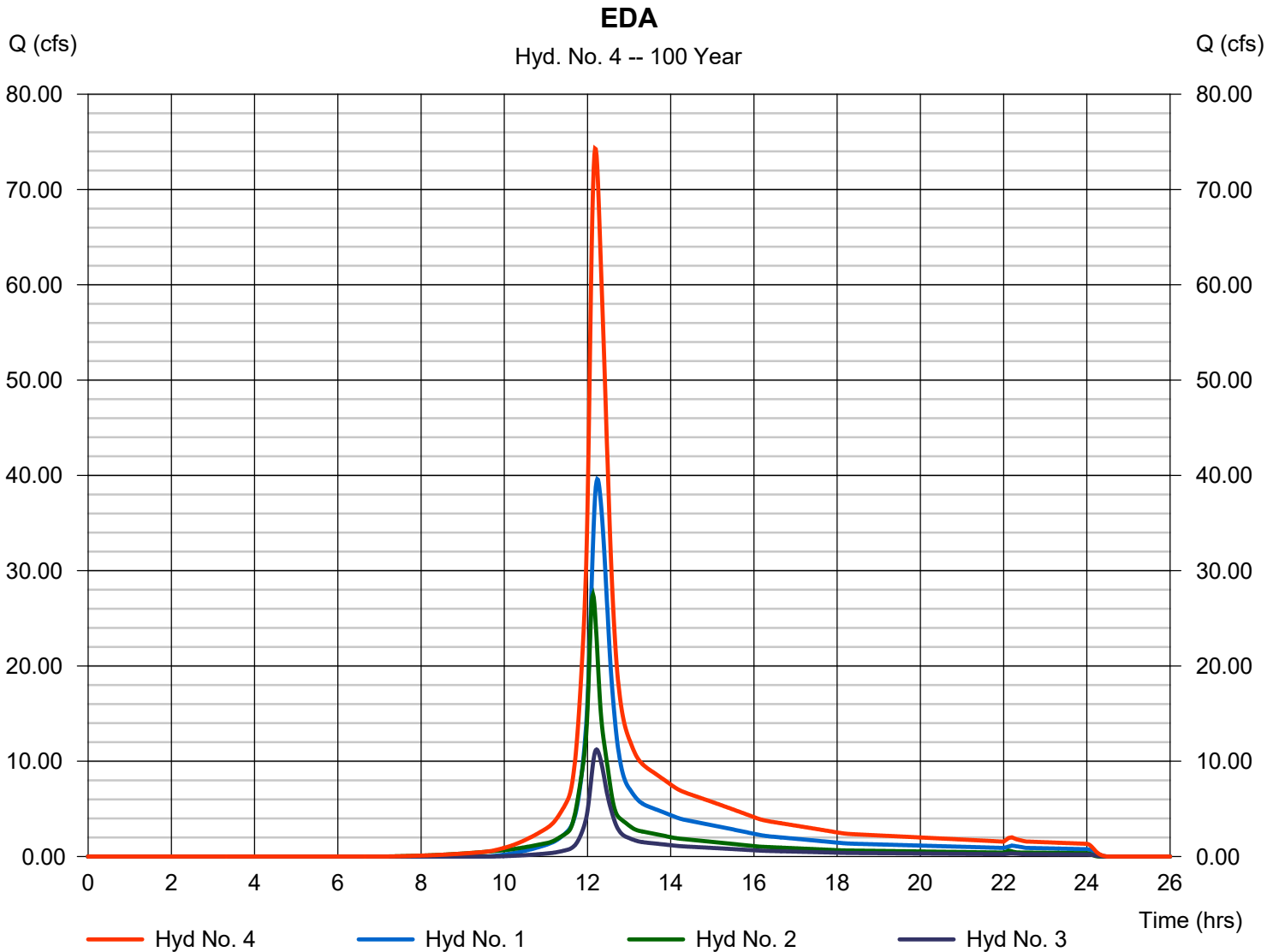
Monday, 01 / 9 / 2023

Hyd. No. 4

EDA

Hydrograph type = Combine
 Storm frequency = 100 yrs
 Time interval = 1 min
 Inflow hyds. = 1, 2, 3

Peak discharge = 74.30 cfs
 Time to peak = 12.18 hrs
 Hyd. volume = 325,930 cuft
 Contrib. drain. area = 22.340 ac



Hydrograph Report

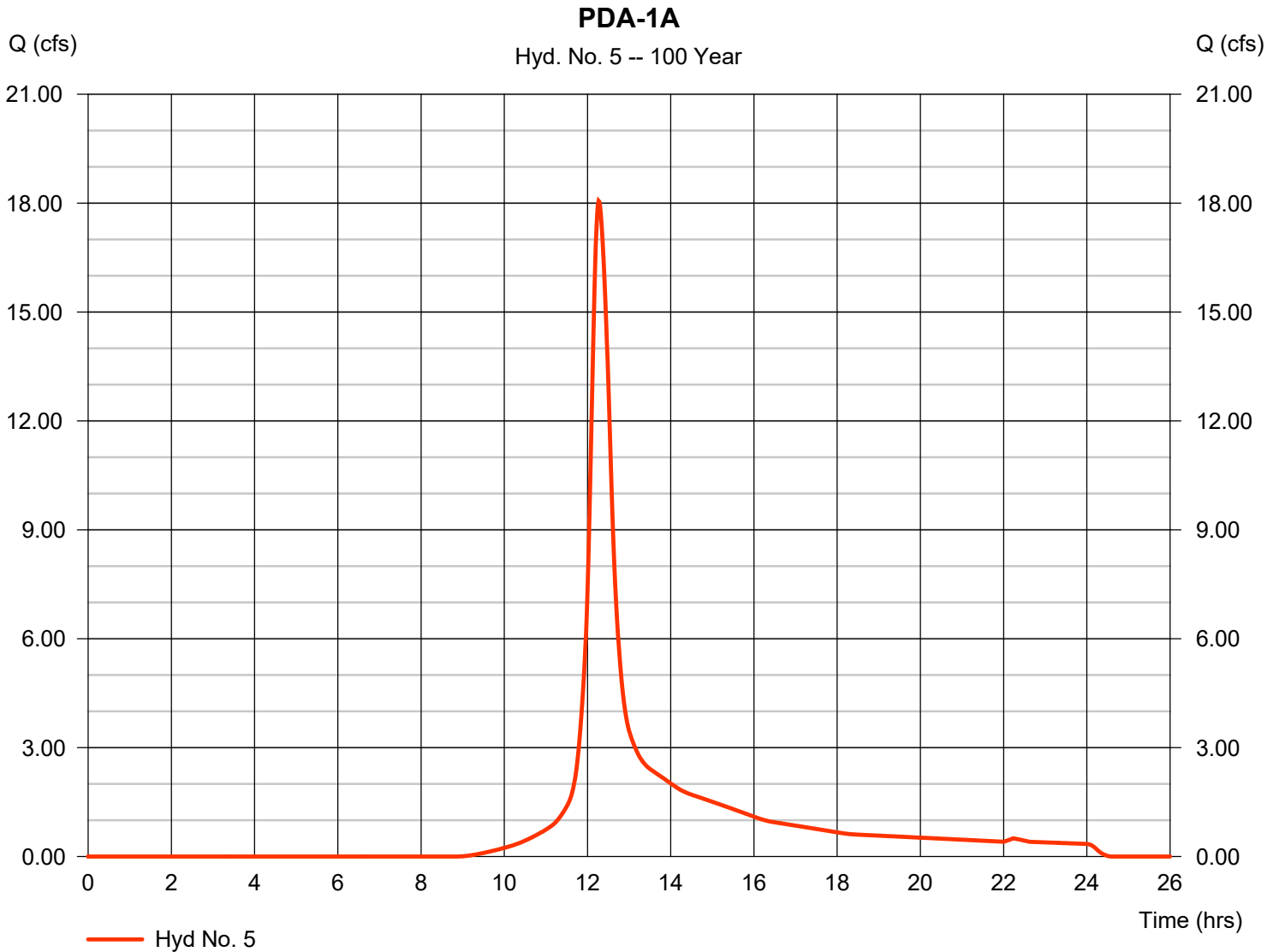
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Monday, 01 / 9 / 2023

Hyd. No. 5

PDA-1A

Hydrograph type	= SCS Runoff	Peak discharge	= 18.06 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.27 hrs
Time interval	= 1 min	Hyd. volume	= 84,856 cuft
Drainage area	= 5.700 ac	Curve number	= 63
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 22.20 min
Total precip.	= 8.59 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

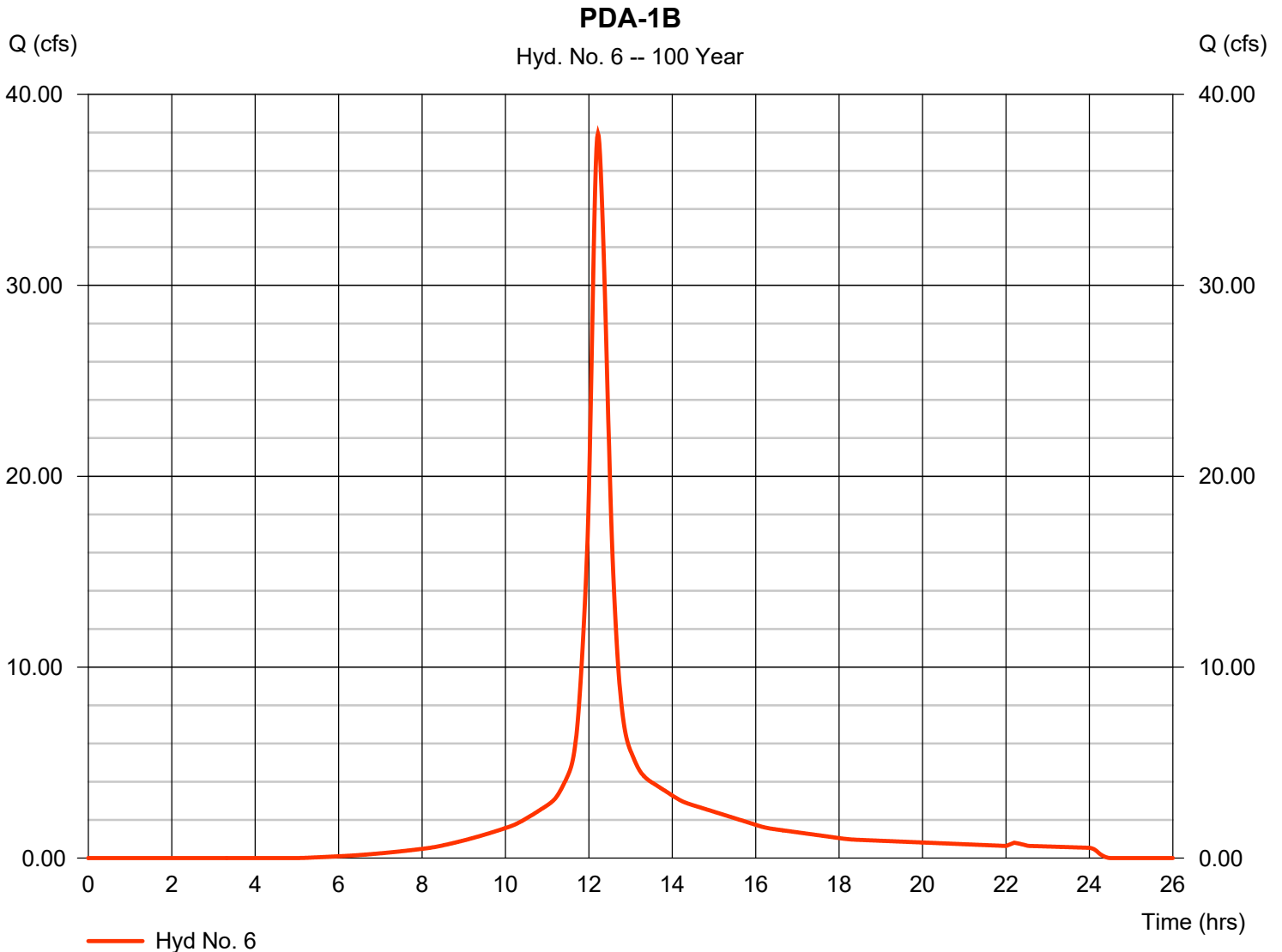
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Monday, 01 / 9 / 2023

Hyd. No. 6

PDA-1B

Hydrograph type	= SCS Runoff	Peak discharge	= 37.94 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.22 hrs
Time interval	= 1 min	Hyd. volume	= 170,627 cuft
Drainage area	= 7.460 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 19.10 min
Total precip.	= 8.59 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

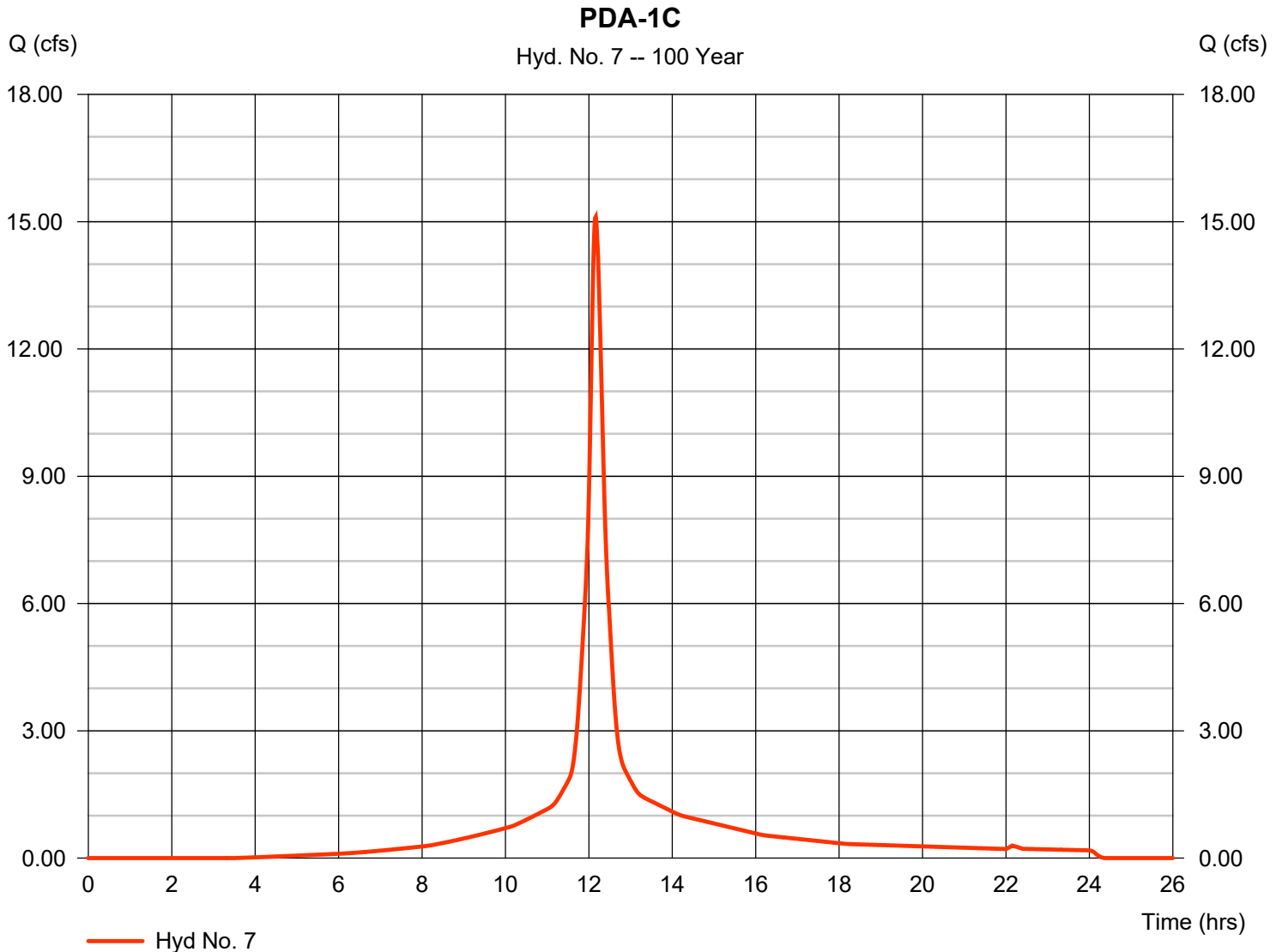
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Monday, 01 / 9 / 2023

Hyd. No. 7

PDA-1C

Hydrograph type	= SCS Runoff	Peak discharge	= 15.12 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.17 hrs
Time interval	= 1 min	Hyd. volume	= 62,733 cuft
Drainage area	= 2.460 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 14.90 min
Total precip.	= 8.59 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

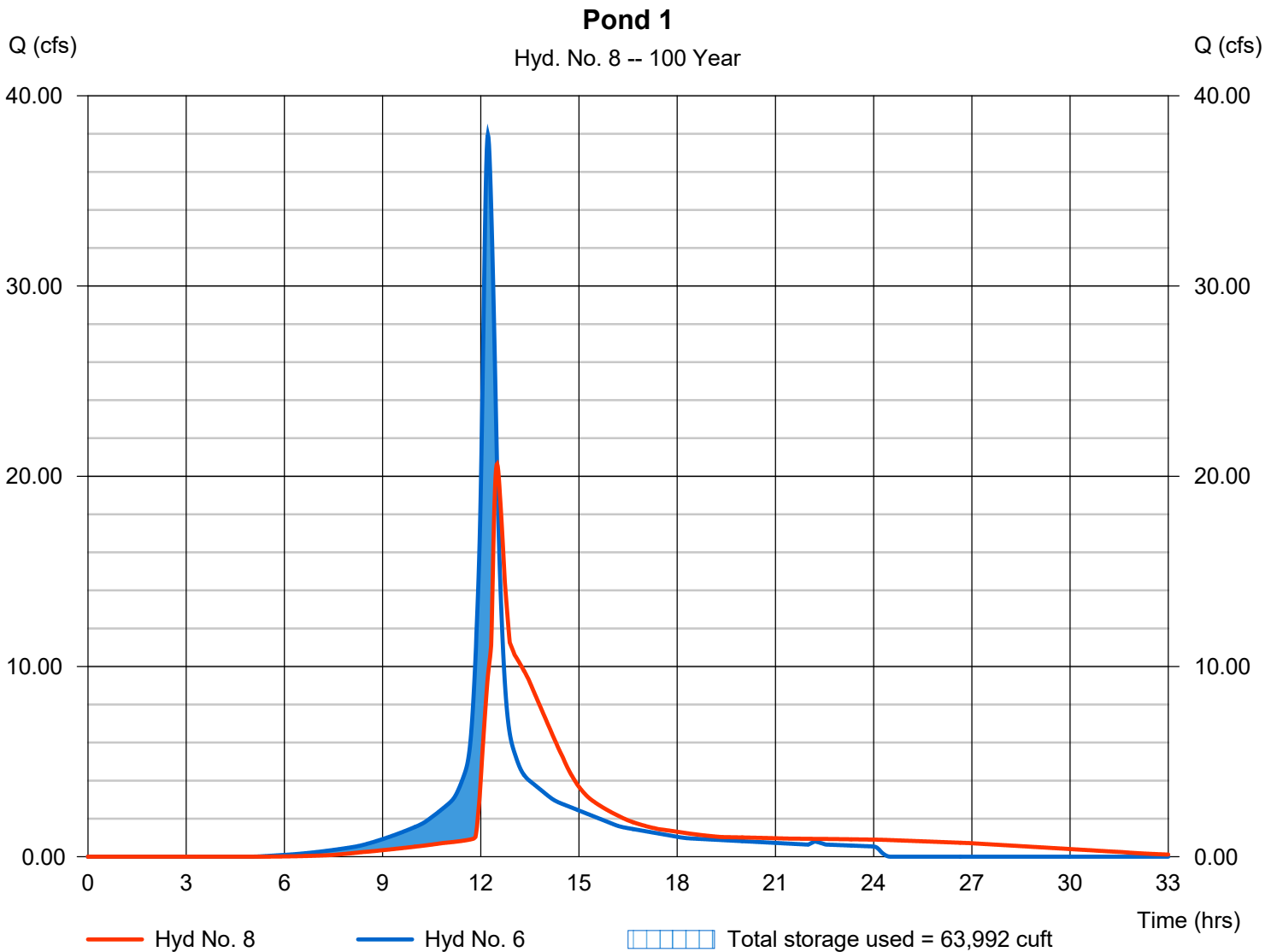
Monday, 01 / 9 / 2023

Hyd. No. 8

Pond 1

Hydrograph type	= Reservoir	Peak discharge	= 20.64 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.50 hrs
Time interval	= 1 min	Hyd. volume	= 170,616 cuft
Inflow hyd. No.	= 6 - PDA-1B	Max. Elevation	= 357.26 ft
Reservoir name	= Basin 1	Max. Storage	= 63,992 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Monday, 01 / 9 / 2023

Hyd. No. 8

Pond 1

Hydrograph type	= Reservoir	Peak discharge	= 20.64 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.50 hrs
Time interval	= 1 min	Hyd. volume	= 170,616 cuft
Inflow hyd. No.	= 6 - PDA-1B	Reservoir name	= Basin 1
Max. Elevation	= 357.26 ft	Max. Storage	= 63,992 cuft

Storage Indication method used.

Hydrograph Discharge Table

(Printed values >= 1.00% of Qp. Print interval = 10)

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
8.33	0.591	350.38	5.348	0.233	----	----	----	----	----	----	----	0.233
8.50	0.665	350.43	5.348	0.260	----	----	----	----	----	----	----	0.260
8.67	0.746	350.48	5.348	0.285	----	----	----	----	----	----	----	0.285
8.83	0.832	350.54	5.348	0.313	----	----	----	----	----	----	----	0.313
9.00	0.924	350.61	5.348	0.344	----	----	----	----	----	----	----	0.344
9.17	1.020	350.68	5.348	0.371	----	----	----	----	----	----	----	0.371
9.33	1.122	350.76	5.348	0.402	----	----	----	----	----	----	----	0.402
9.50	1.228	350.85	5.348	0.433	----	----	----	----	----	----	----	0.433
9.67	1.338	350.95	5.348	0.464	----	----	----	----	----	----	----	0.464
9.83	1.452	351.06	5.348	0.496	----	----	----	----	----	----	----	0.496
10.00	1.571	351.18	5.348	0.530	----	----	----	----	----	----	----	0.530
10.17	1.701	351.31	5.348	0.563	----	----	----	----	----	----	----	0.563
10.33	1.870	351.45	5.348	0.598	----	----	----	----	----	----	----	0.598
10.50	2.075	351.62	5.348	0.636	----	----	----	----	----	----	----	0.636
10.67	2.295	351.80	5.348	0.675	----	----	----	----	----	----	----	0.675
10.83	2.525	352.00	5.348	0.716	----	----	----	----	----	----	----	0.716
11.00	2.764	352.15	5.348	0.745	----	----	----	----	----	----	----	0.745
11.17	3.060	352.32	5.348	0.776	----	----	----	----	----	----	----	0.776
11.33	3.600	352.51	5.348	0.810	----	----	----	----	----	----	----	0.810
11.50	4.351	352.75	5.348	0.852	----	----	----	----	----	----	----	0.852

Continues on next page...

Pond 1

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
11.67	5.817	353.07	5.348	0.902	----	----	----	----	----	----	----	0.902
11.83	10.39	353.60	5.348	0.982	0.051	----	----	----	----	----	----	1.033
12.00	19.25	354.38	5.348	1.088	2.971	----	----	----	----	----	----	4.059
12.17	36.23	355.60	8.447	1.225	7.183	----	----	----	----	----	----	8.409
12.33	33.15	356.85	12.13	1.324	9.759	----	1.022	----	----	----	----	12.11
12.50	20.23	357.26 <<	20.64	1.231	10.46	----	8.954	----	----	----	----	20.64
12.67	11.32	357.10	16.59	1.289	10.18	----	5.118	----	----	----	----	16.59
12.83	7.106	356.86	12.26	1.324	9.774	----	1.145	----	----	----	----	12.24
13.00	5.613	356.64	10.76	1.316	9.375	----	0.059	----	----	----	----	10.75
13.17	4.783	356.41	10.31	1.296	8.933	----	----	----	----	----	----	10.23
13.33	4.261	356.17	9.777	1.275	8.449	----	----	----	----	----	----	9.724
13.50	3.978	355.92	9.189	1.253	7.907	----	----	----	----	----	----	9.160
13.67	3.746	355.64	8.527	1.228	7.263	----	----	----	----	----	----	8.491
13.83	3.512	355.38	7.901	1.205	6.621	----	----	----	----	----	----	7.826
14.00	3.277	355.15	7.165	1.184	5.976	----	----	----	----	----	----	7.161
14.17	3.054	354.94	6.514	1.160	5.335	----	----	----	----	----	----	6.495
14.33	2.888	354.76	5.928	1.137	4.709	----	----	----	----	----	----	5.846
14.50	2.766	354.61	5.381	1.118	4.121	----	----	----	----	----	----	5.239
14.67	2.653	354.48	5.348	1.102	3.509	----	----	----	----	----	----	4.611
14.83	2.541	354.39	5.348	1.089	3.011	----	----	----	----	----	----	4.101
15.00	2.427	354.31	5.348	1.079	2.593	----	----	----	----	----	----	3.673
15.17	2.313	354.24	5.348	1.071	2.257	----	----	----	----	----	----	3.328
15.33	2.199	354.19	5.348	1.064	1.987	----	----	----	----	----	----	3.051
15.50	2.085	354.15	5.348	1.058	1.783	----	----	----	----	----	----	2.841
15.67	1.971	354.11	5.348	1.052	1.601	----	----	----	----	----	----	2.653
15.83	1.856	354.07	5.348	1.047	1.435	----	----	----	----	----	----	2.483
16.00	1.741	354.03	5.348	1.043	1.282	----	----	----	----	----	----	2.325

Continues on next page...

Pond 1

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
16.17	1.632	354.00	5.348	1.039	1.138	----	----	----	----	----	----	2.177
16.33	1.553	353.96	5.348	1.033	1.001	----	----	----	----	----	----	2.035
16.50	1.498	353.93	5.348	1.028	0.882	----	----	----	----	----	----	1.911
16.67	1.448	353.90	5.348	1.024	0.780	----	----	----	----	----	----	1.804
16.83	1.398	353.87	5.348	1.021	0.691	----	----	----	----	----	----	1.712
17.00	1.348	353.85	5.348	1.018	0.612	----	----	----	----	----	----	1.629
17.17	1.298	353.83	5.348	1.015	0.540	----	----	----	----	----	----	1.555
17.33	1.248	353.81	5.348	1.012	0.474	----	----	----	----	----	----	1.486
17.50	1.198	353.79	5.348	1.010	0.423	----	----	----	----	----	----	1.432
17.67	1.148	353.77	5.348	1.007	0.387	----	----	----	----	----	----	1.394
17.83	1.097	353.75	5.348	1.004	0.349	----	----	----	----	----	----	1.354
18.00	1.047	353.73	5.348	1.001	0.311	----	----	----	----	----	----	1.312
18.17	1.000	353.71	5.348	0.998	0.271	----	----	----	----	----	----	1.269
18.33	0.969	353.69	5.348	0.996	0.231	----	----	----	----	----	----	1.227
18.50	0.951	353.67	5.348	0.993	0.194	----	----	----	----	----	----	1.187
18.67	0.936	353.66	5.348	0.990	0.161	----	----	----	----	----	----	1.151
18.83	0.921	353.64	5.348	0.988	0.130	----	----	----	----	----	----	1.118
19.00	0.906	353.63	5.348	0.986	0.102	----	----	----	----	----	----	1.088
19.17	0.891	353.61	5.348	0.984	0.076	----	----	----	----	----	----	1.060
19.33	0.876	353.60	5.348	0.982	0.052	----	----	----	----	----	----	1.034
19.50	0.861	353.59	5.348	0.980	0.048	----	----	----	----	----	----	1.029
19.67	0.846	353.57	5.348	0.979	0.045	----	----	----	----	----	----	1.023
19.83	0.831	353.56	5.348	0.976	0.041	----	----	----	----	----	----	1.018
20.00	0.816	353.55	5.348	0.974	0.037	----	----	----	----	----	----	1.012
20.17	0.801	353.53	5.348	0.972	0.033	----	----	----	----	----	----	1.005
20.33	0.786	353.51	5.348	0.970	0.029	----	----	----	----	----	----	0.999
20.50	0.771	353.50	5.348	0.967	0.025	----	----	----	----	----	----	0.992
20.67	0.756	353.48	5.348	0.965	0.020	----	----	----	----	----	----	0.985

Continues on next page...

Pond 1

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
20.83	0.740	353.46	5.348	0.962	0.016	----	----	----	----	----	----	0.978
21.00	0.725	353.44	5.348	0.959	0.011	----	----	----	----	----	----	0.970
21.17	0.710	353.42	5.348	0.956	0.006	----	----	----	----	----	----	0.963
21.33	0.695	353.40	5.348	0.954	0.001	----	----	----	----	----	----	0.955
21.50	0.680	353.38	5.348	0.951	----	----	----	----	----	----	----	0.951
21.67	0.665	353.36	5.348	0.947	----	----	----	----	----	----	----	0.947
21.83	0.649	353.34	5.348	0.944	----	----	----	----	----	----	----	0.944
22.00	0.634	353.32	5.348	0.940	----	----	----	----	----	----	----	0.940
22.17	0.776	353.30	5.348	0.938	----	----	----	----	----	----	----	0.938
22.33	0.746	353.29	5.348	0.936	----	----	----	----	----	----	----	0.936
22.50	0.658	353.27	5.348	0.933	----	----	----	----	----	----	----	0.933
22.67	0.629	353.25	5.348	0.930	----	----	----	----	----	----	----	0.930
22.83	0.618	353.22	5.348	0.926	----	----	----	----	----	----	----	0.926
23.00	0.606	353.20	5.348	0.923	----	----	----	----	----	----	----	0.923
23.17	0.595	353.17	5.348	0.919	----	----	----	----	----	----	----	0.919
23.33	0.584	353.15	5.348	0.915	----	----	----	----	----	----	----	0.915
23.50	0.572	353.12	5.348	0.911	----	----	----	----	----	----	----	0.911
23.67	0.561	353.10	5.348	0.907	----	----	----	----	----	----	----	0.907
23.83	0.549	353.07	5.348	0.902	----	----	----	----	----	----	----	0.902
24.00	0.538	353.04	5.348	0.898	----	----	----	----	----	----	----	0.898
24.17	0.378	353.01	5.348	0.893	----	----	----	----	----	----	----	0.893
24.33	0.108	352.96	5.348	0.885	----	----	----	----	----	----	----	0.885
24.50	0.002	352.89	5.348	0.874	----	----	----	----	----	----	----	0.874
24.67	0.000	352.83	5.348	0.864	----	----	----	----	----	----	----	0.864
24.83	0.000	352.76	5.348	0.853	----	----	----	----	----	----	----	0.853
25.00	0.000	352.69	5.348	0.842	----	----	----	----	----	----	----	0.842
25.17	0.000	352.63	5.348	0.831	----	----	----	----	----	----	----	0.831
25.33	0.000	352.56	5.348	0.820	----	----	----	----	----	----	----	0.820

Continues on next page...

Pond 1

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
25.50	0.000	352.50	5.348	0.809	----	----	----	----	----	----	----	0.809
25.67	0.000	352.44	5.348	0.798	----	----	----	----	----	----	----	0.798
25.83	0.000	352.38	5.348	0.787	----	----	----	----	----	----	----	0.787
26.00	0.000	352.32	5.348	0.776	----	----	----	----	----	----	----	0.776
26.17	0.000	352.26	5.348	0.765	----	----	----	----	----	----	----	0.765
26.33	0.000	352.20	5.348	0.754	----	----	----	----	----	----	----	0.754
26.50	0.000	352.14	5.348	0.743	----	----	----	----	----	----	----	0.743
26.67	0.000	352.08	5.348	0.732	----	----	----	----	----	----	----	0.732
26.83	0.000	352.03	5.348	0.721	----	----	----	----	----	----	----	0.721
27.00	0.000	351.96	5.348	0.707	----	----	----	----	----	----	----	0.707
27.17	0.000	351.87	5.348	0.690	----	----	----	----	----	----	----	0.690
27.33	0.000	351.79	5.348	0.674	----	----	----	----	----	----	----	0.674
27.50	0.000	351.71	5.348	0.656	----	----	----	----	----	----	----	0.656
27.67	0.000	351.64	5.348	0.640	----	----	----	----	----	----	----	0.640
27.83	0.000	351.56	5.348	0.623	----	----	----	----	----	----	----	0.623
28.00	0.000	351.49	5.348	0.606	----	----	----	----	----	----	----	0.606
28.17	0.000	351.42	5.348	0.589	----	----	----	----	----	----	----	0.589
28.33	0.000	351.35	5.348	0.572	----	----	----	----	----	----	----	0.572
28.50	0.000	351.28	5.348	0.555	----	----	----	----	----	----	----	0.555
28.67	0.000	351.21	5.348	0.538	----	----	----	----	----	----	----	0.538
28.83	0.000	351.15	5.348	0.521	----	----	----	----	----	----	----	0.521
29.00	0.000	351.09	5.348	0.504	----	----	----	----	----	----	----	0.504
29.17	0.000	351.03	5.348	0.487	----	----	----	----	----	----	----	0.487
29.33	0.000	350.97	5.348	0.470	----	----	----	----	----	----	----	0.470
29.50	0.000	350.92	5.348	0.453	----	----	----	----	----	----	----	0.453
29.67	0.000	350.86	5.348	0.436	----	----	----	----	----	----	----	0.436
29.83	0.000	350.81	5.348	0.420	----	----	----	----	----	----	----	0.420
30.00	0.000	350.76	5.348	0.402	----	----	----	----	----	----	----	0.402

Continues on next page...

Pond 1

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
30.17	0.000	350.72	5.348	0.385	----	----	----	----	----	----	----	0.385
30.33	0.000	350.67	5.348	0.368	----	----	----	----	----	----	----	0.368
30.50	0.000	350.63	5.348	0.352	----	----	----	----	----	----	----	0.352
30.67	0.000	350.59	5.348	0.335	----	----	----	----	----	----	----	0.335
30.83	0.000	350.55	5.348	0.316	----	----	----	----	----	----	----	0.316
31.00	0.000	350.51	5.348	0.299	----	----	----	----	----	----	----	0.299
31.17	0.000	350.48	5.348	0.282	----	----	----	----	----	----	----	0.282
31.33	0.000	350.44	5.348	0.266	----	----	----	----	----	----	----	0.266
31.50	0.000	350.41	5.348	0.251	----	----	----	----	----	----	----	0.251
31.67	0.000	350.38	5.348	0.233	----	----	----	----	----	----	----	0.233
31.83	0.000	350.36	5.348	0.212	----	----	----	----	----	----	----	0.212

...End

Pond No. 1 - Basin 1

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 350.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	350.00	3,750	0	0
2.00	352.00	6,400	10,032	10,032
4.00	354.00	9,194	15,508	25,540
6.00	356.00	12,130	21,254	46,793
8.00	358.00	15,268	27,335	74,128

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 24.00	4.50	15.00	0.00
Span (in)	= 24.00	4.50	15.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 349.00	350.00	353.50	0.00
Length (ft)	= 55.00	0.66	0.66	0.00
Slope (%)	= 3.60	0.50	0.50	n/a
N-Value	= .012	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	Yes	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 7.33	30.00	0.00	0.00
Crest El. (ft)	= 356.75	357.50	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= 1	Ciplti	---	---
Multi-Stage	= Yes	No	No	No
Exfil.(in/hr)	= 0.000 (by Contour)			
TW Elev. (ft)	= 0.00			

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

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Civ A cfs	Civ B cfs	Civ C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	350.00	0.00	0.00	0.00	---	0.00	0.00	---	---	---	---	0.000
2.00	10,032	352.00	5.35 ic	0.72 ic	0.00	---	0.00	0.00	---	---	---	---	0.716
4.00	25,540	354.00	5.35 ic	1.04 ic	1.13 ic	---	0.00	0.00	---	---	---	---	2.165
6.00	46,793	356.00	9.38 ic	1.26 ic	8.09 ic	---	0.00	0.00	---	---	---	---	9.350
8.00	74,128	358.00	32.19 ic	0.99 ic	11.01 ic	---	20.19 ic	35.32	---	---	---	---	67.51

Hydrograph Report

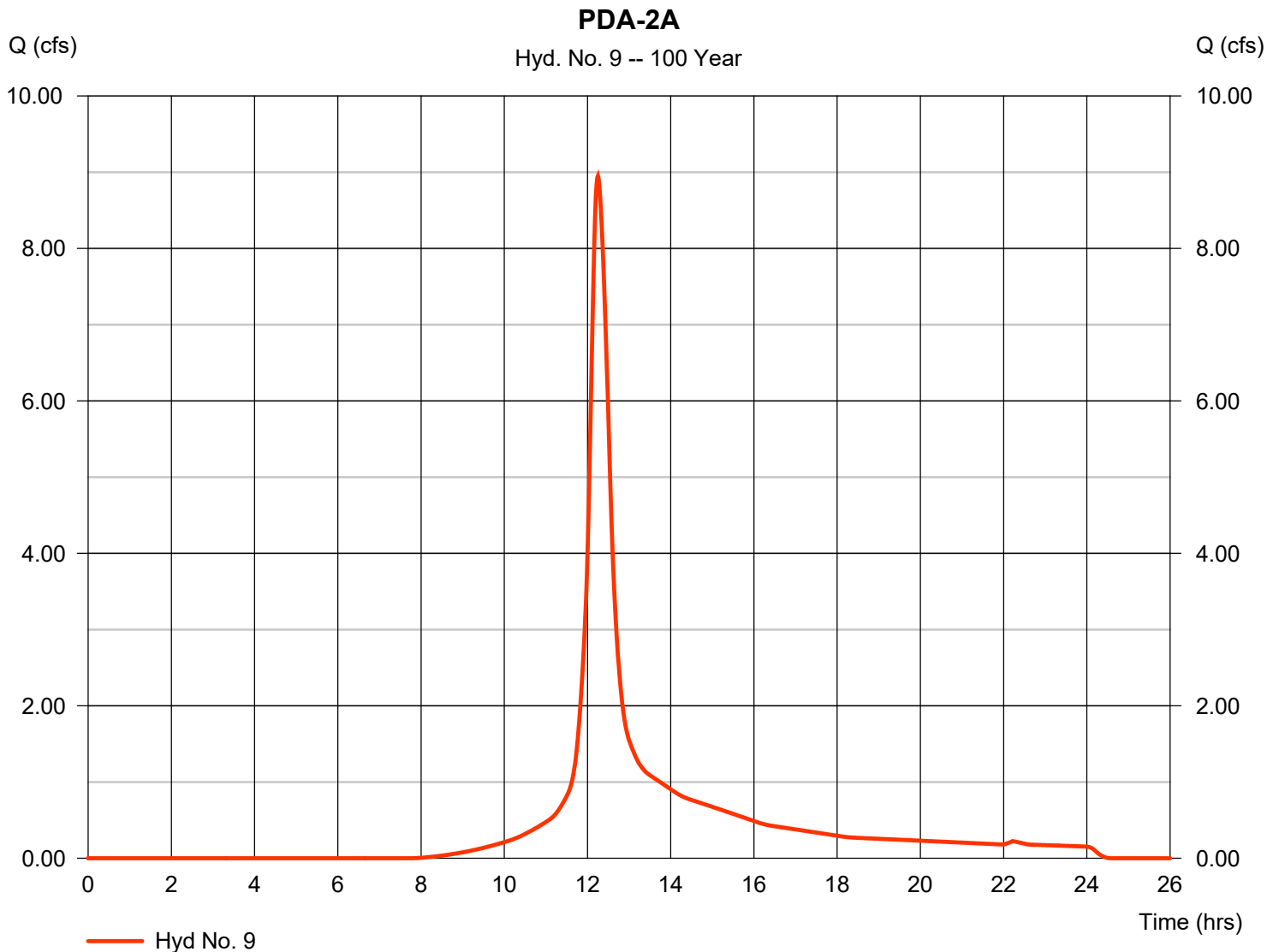
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Monday, 01 / 9 / 2023

Hyd. No. 9

PDA-2A

Hydrograph type	= SCS Runoff	Peak discharge	= 8.951 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.25 hrs
Time interval	= 1 min	Hyd. volume	= 40,927 cuft
Drainage area	= 2.300 ac	Curve number	= 69
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.70 min
Total precip.	= 8.59 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

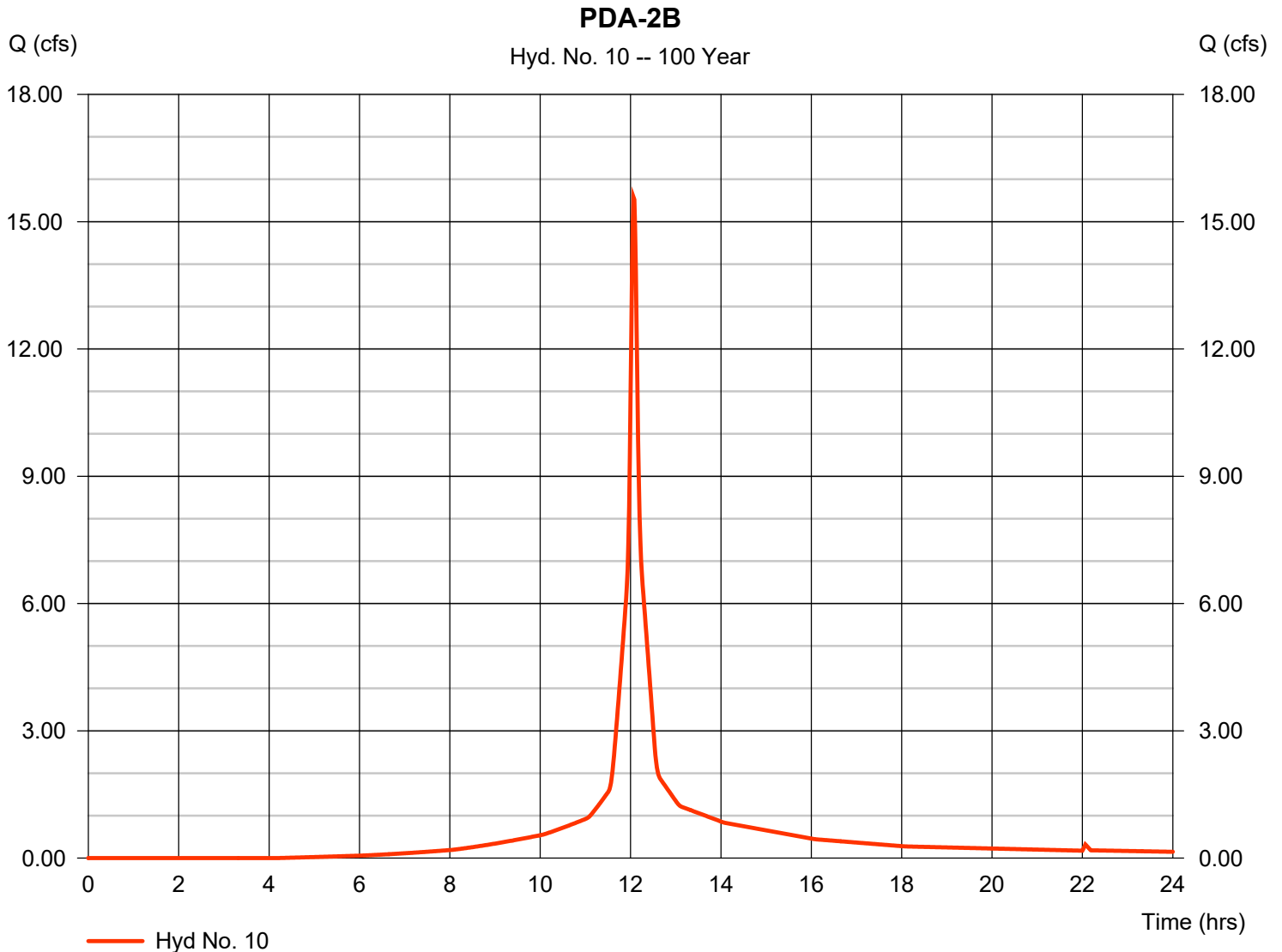
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Monday, 01 / 9 / 2023

Hyd. No. 10

PDA-2B

Hydrograph type	= SCS Runoff	Peak discharge	= 15.57 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 49,885 cuft
Drainage area	= 2.000 ac	Curve number	= 84
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 6.00 min
Total precip.	= 8.59 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

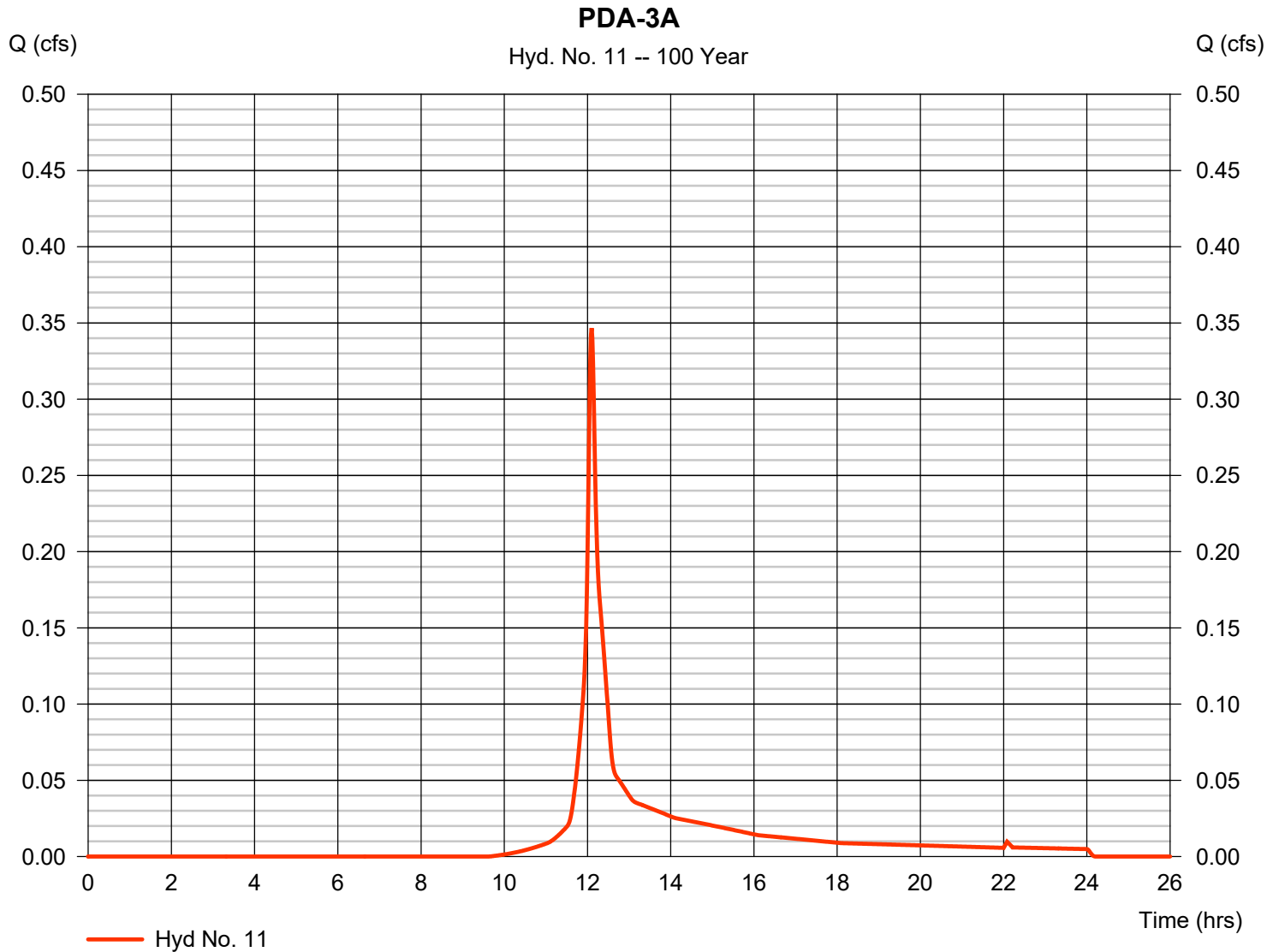
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Monday, 01 / 9 / 2023

Hyd. No. 11

PDA-3A

Hydrograph type	= SCS Runoff	Peak discharge	= 0.347 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.10 hrs
Time interval	= 1 min	Hyd. volume	= 1,130 cuft
Drainage area	= 0.090 ac	Curve number	= 58
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.90 min
Total precip.	= 8.59 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

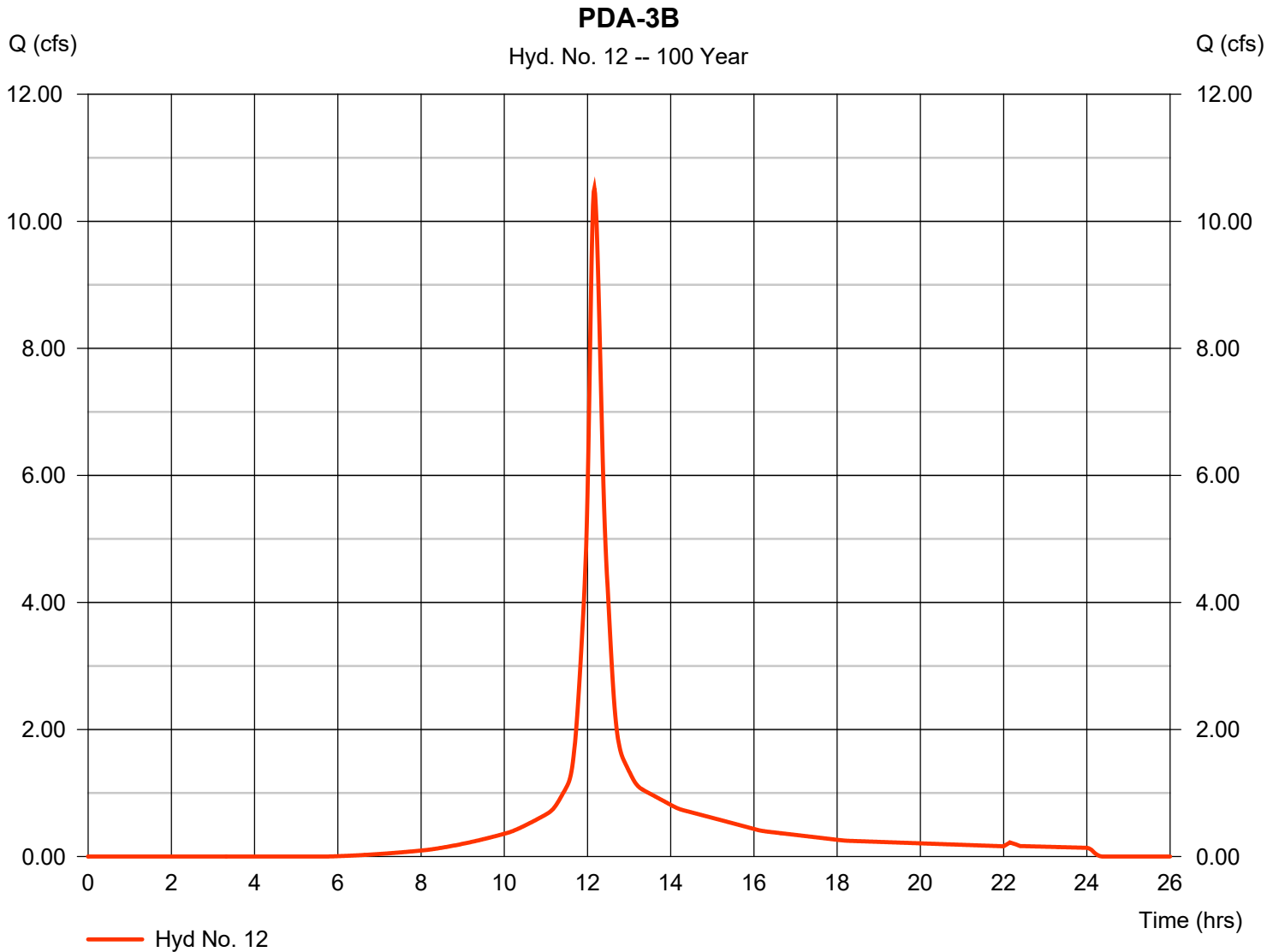
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Monday, 01 / 9 / 2023

Hyd. No. 12

PDA-3B

Hydrograph type	= SCS Runoff	Peak discharge	= 10.52 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.17 hrs
Time interval	= 1 min	Hyd. volume	= 42,038 cuft
Drainage area	= 1.950 ac	Curve number	= 78
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 14.70 min
Total precip.	= 8.59 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

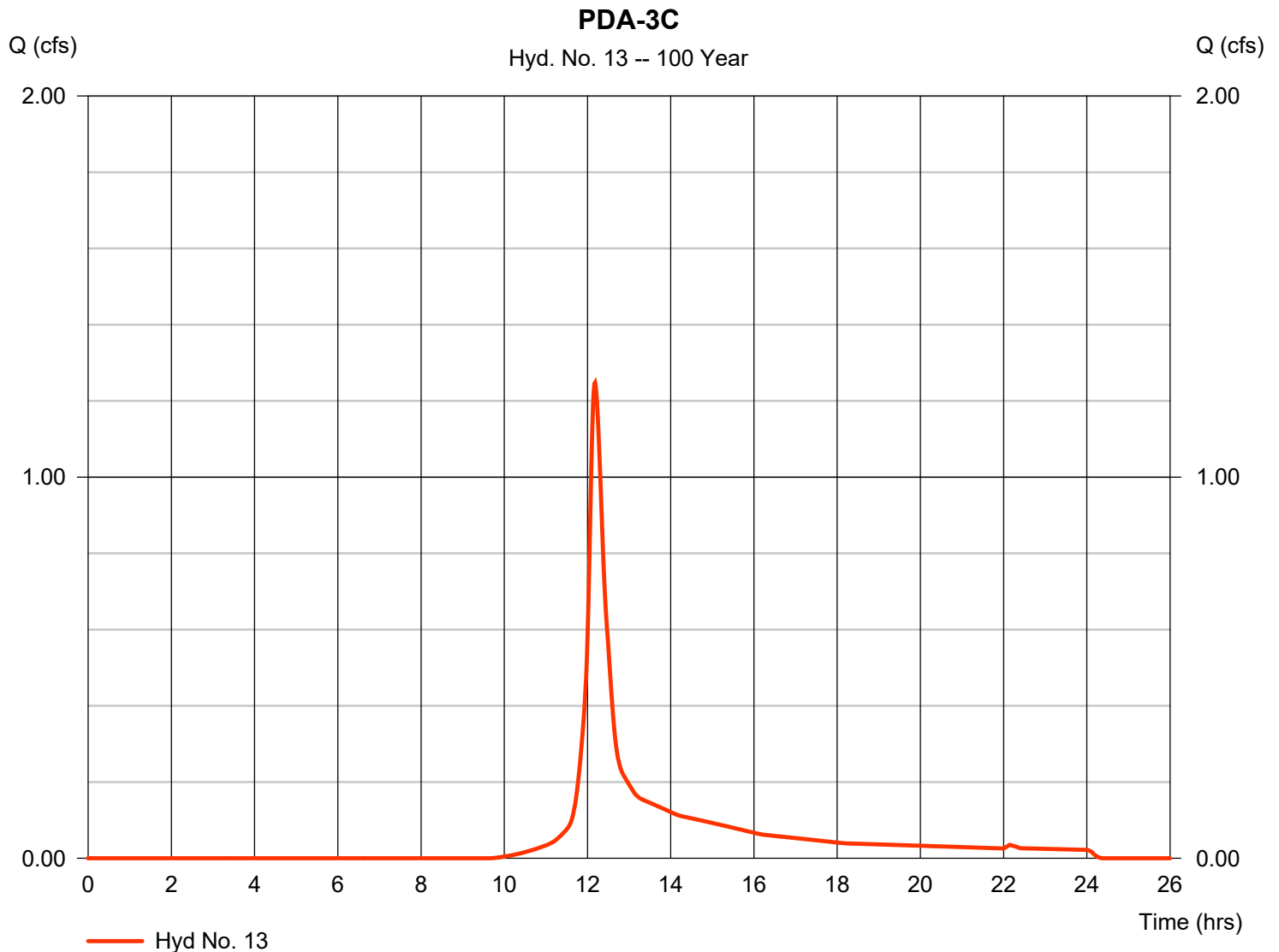
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Monday, 01 / 9 / 2023

Hyd. No. 13

PDA-3C

Hydrograph type	= SCS Runoff	Peak discharge	= 1.248 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.18 hrs
Time interval	= 1 min	Hyd. volume	= 5,020 cuft
Drainage area	= 0.390 ac	Curve number	= 58
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 13.80 min
Total precip.	= 8.59 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

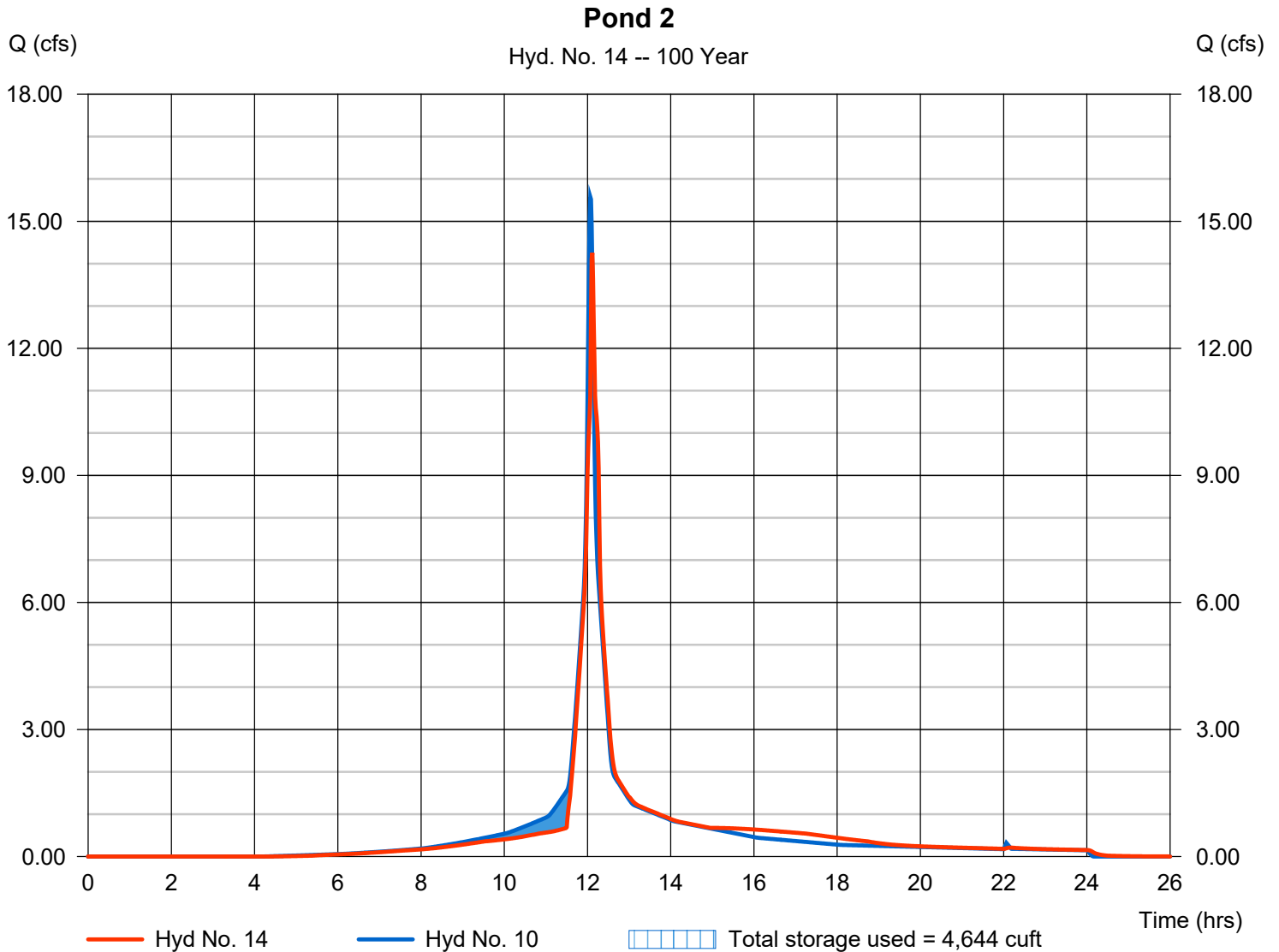
Monday, 01 / 9 / 2023

Hyd. No. 14

Pond 2

Hydrograph type	= Reservoir	Peak discharge	= 14.25 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.12 hrs
Time interval	= 1 min	Hyd. volume	= 49,883 cuft
Inflow hyd. No.	= 10 - PDA-2B	Max. Elevation	= 335.16 ft
Reservoir name	= Basin 2	Max. Storage	= 4,644 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Monday, 01 / 9 / 2023

Hyd. No. 14

Pond 2

Hydrograph type	= Reservoir	Peak discharge	= 14.25 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.12 hrs
Time interval	= 1 min	Hyd. volume	= 49,883 cuft
Inflow hyd. No.	= 10 - PDA-2B	Reservoir name	= Basin 2
Max. Elevation	= 335.16 ft	Max. Storage	= 4,644 cuft

Storage Indication method used.

Hydrograph Discharge Table

(Printed values >= 1.00% of Qp. Print interval = 10)

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
7.67	0.162	331.31	0.151	0.147	----	----	----	----	----	----	----	0.147
7.83	0.175	331.33	0.162	0.157	----	----	----	----	----	----	----	0.157
8.00	0.189	331.36	0.175	0.169	----	----	----	----	----	----	----	0.169
8.17	0.208	331.39	0.190	0.183	----	----	----	----	----	----	----	0.183
8.33	0.232	331.43	0.205	0.199	----	----	----	----	----	----	----	0.199
8.50	0.257	331.48	0.220	0.217	----	----	----	----	----	----	----	0.217
8.67	0.284	331.54	0.238	0.237	----	----	----	----	----	----	----	0.237
8.83	0.312	331.61	0.260	0.258	----	----	----	----	----	----	----	0.258
9.00	0.341	331.68	0.287	0.280	----	----	----	----	----	----	----	0.280
9.17	0.371	331.77	0.306	0.304	----	----	----	----	----	----	----	0.304
9.33	0.403	331.87	0.338	0.328	----	----	----	----	----	----	----	0.328
9.50	0.435	331.98	0.365	0.353	----	----	----	----	----	----	----	0.353
9.67	0.469	332.05	0.381	0.370	----	----	----	----	----	----	----	0.370
9.83	0.503	332.13	0.398	0.387	----	----	----	----	----	----	----	0.387
10.00	0.539	332.22	0.417	0.405	----	----	----	----	----	----	----	0.405
10.17	0.588	332.33	0.438	0.426	----	----	----	----	----	----	----	0.426
10.33	0.650	332.46	0.465	0.450	----	----	----	----	----	----	----	0.450
10.50	0.715	332.62	0.493	0.478	----	----	----	----	----	----	----	0.478
10.67	0.781	332.80	0.516	0.510	----	----	----	----	----	----	----	0.510
10.83	0.850	333.01	0.558	0.541	----	----	----	----	----	----	----	0.541

Continues on next page...

Pond 2

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
11.00	0.921	333.17	0.573	0.565	----	----	----	----	----	----	----	0.565
11.17	1.076	333.36	0.603	0.593	----	----	----	----	----	----	----	0.593
11.33	1.308	333.64	0.635	0.631	----	----	----	----	----	----	----	0.631
11.50	1.551	334.00	0.714	0.676	----	----	0.017	----	----	----	----	0.693
11.67	2.841	334.17	2.400	0.603	----	----	1.797	----	----	----	----	2.400
11.83	5.132	334.31	4.769	0.549	----	----	4.220	----	----	----	----	4.769
12.00	10.87	334.52	9.090	0.302	----	----	8.787	----	----	----	----	9.090
12.17	9.870	335.06	10.84	0.110	----	----	10.73	0.952	----	----	----	11.79
12.33	5.495	334.37	5.948	0.511	----	----	5.436	----	----	----	----	5.948
12.50	3.087	334.24	3.480	0.572	----	----	2.907	----	----	----	----	3.479
12.67	1.853	334.14	1.968	0.626	----	----	1.342	----	----	----	----	1.968
12.83	1.600	334.12	1.656	0.643	----	----	1.013	----	----	----	----	1.656
13.00	1.345	334.10	1.411	0.655	----	----	0.755	----	----	----	----	1.411
13.17	1.193	334.07	1.243	0.661	----	----	0.577	----	----	----	----	1.238
13.33	1.128	334.06	1.162	0.663	----	----	0.492	----	----	----	----	1.155
13.50	1.062	334.05	1.097	0.665	----	----	0.423	----	----	----	----	1.087
13.67	0.995	334.05	1.033	0.667	----	----	0.354	----	----	----	----	1.021
13.83	0.928	334.04	0.968	0.669	----	----	0.286	----	----	----	----	0.954
14.00	0.861	334.03	0.903	0.671	----	----	0.217	----	----	----	----	0.888
14.17	0.814	334.02	0.847	0.672	----	----	0.158	----	----	----	----	0.830
14.33	0.782	334.02	0.812	0.673	----	----	0.121	----	----	----	----	0.795
14.50	0.750	334.01	0.781	0.674	----	----	0.088	----	----	----	----	0.762
14.67	0.718	334.01	0.750	0.675	----	----	0.055	----	----	----	----	0.730
14.83	0.686	334.00	0.719	0.676	----	----	0.022	----	----	----	----	0.698
15.00	0.653	334.00	0.697	0.677	----	----	----	----	----	----	----	0.677
15.17	0.621	333.98	0.693	0.674	----	----	----	----	----	----	----	0.674
15.33	0.589	333.95	0.685	0.671	----	----	----	----	----	----	----	0.671
15.50	0.556	333.90	0.674	0.665	----	----	----	----	----	----	----	0.665

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Pond 2

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
15.67	0.524	333.84	0.674	0.657	----	----	----	----	----	----	----	0.657
15.83	0.491	333.78	0.668	0.648	----	----	----	----	----	----	----	0.648
16.00	0.459	333.70	0.649	0.639	----	----	----	----	----	----	----	0.639
16.17	0.437	333.61	0.628	0.627	----	----	----	----	----	----	----	0.627
16.33	0.422	333.52	0.627	0.614	----	----	----	----	----	----	----	0.614
16.50	0.408	333.42	0.609	0.602	----	----	----	----	----	----	----	0.602
16.67	0.394	333.33	0.603	0.589	----	----	----	----	----	----	----	0.589
16.83	0.380	333.24	0.590	0.576	----	----	----	----	----	----	----	0.576
17.00	0.366	333.15	0.569	0.562	----	----	----	----	----	----	----	0.562
17.17	0.352	333.05	0.558	0.548	----	----	----	----	----	----	----	0.548
17.33	0.338	332.94	0.545	0.530	----	----	----	----	----	----	----	0.530
17.50	0.323	332.80	0.515	0.509	----	----	----	----	----	----	----	0.509
17.67	0.309	332.67	0.493	0.487	----	----	----	----	----	----	----	0.487
17.83	0.295	332.54	0.481	0.465	----	----	----	----	----	----	----	0.465
18.00	0.281	332.42	0.456	0.443	----	----	----	----	----	----	----	0.443
18.17	0.272	332.31	0.434	0.422	----	----	----	----	----	----	----	0.422
18.33	0.268	332.20	0.413	0.402	----	----	----	----	----	----	----	0.402
18.50	0.264	332.11	0.393	0.383	----	----	----	----	----	----	----	0.383
18.67	0.259	332.03	0.376	0.365	----	----	----	----	----	----	----	0.365
18.83	0.255	331.92	0.354	0.340	----	----	----	----	----	----	----	0.340
19.00	0.251	331.82	0.319	0.316	----	----	----	----	----	----	----	0.316
19.17	0.247	331.74	0.300	0.296	----	----	----	----	----	----	----	0.296
19.33	0.242	331.68	0.286	0.280	----	----	----	----	----	----	----	0.280
19.50	0.238	331.64	0.271	0.267	----	----	----	----	----	----	----	0.267
19.67	0.234	331.60	0.259	0.257	----	----	----	----	----	----	----	0.257
19.83	0.230	331.57	0.249	0.248	----	----	----	----	----	----	----	0.248
20.00	0.225	331.55	0.242	0.241	----	----	----	----	----	----	----	0.241
20.17	0.221	331.53	0.236	0.235	----	----	----	----	----	----	----	0.235

Continues on next page...

Pond 2

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
20.33	0.217	331.51	0.230	0.229	----	----	----	----	----	----	----	0.229
20.50	0.212	331.50	0.225	0.224	----	----	----	----	----	----	----	0.224
20.67	0.208	331.48	0.221	0.218	----	----	----	----	----	----	----	0.218
20.83	0.204	331.47	0.217	0.213	----	----	----	----	----	----	----	0.213
21.00	0.200	331.45	0.213	0.209	----	----	----	----	----	----	----	0.209
21.17	0.195	331.44	0.210	0.204	----	----	----	----	----	----	----	0.204
21.33	0.191	331.43	0.206	0.200	----	----	----	----	----	----	----	0.200
21.50	0.187	331.42	0.203	0.196	----	----	----	----	----	----	----	0.196
21.67	0.183	331.41	0.199	0.191	----	----	----	----	----	----	----	0.191
21.83	0.178	331.39	0.195	0.186	----	----	----	----	----	----	----	0.186
22.00	0.174	331.38	0.189	0.182	----	----	----	----	----	----	----	0.182
22.17	0.203	331.46	0.215	0.212	----	----	----	----	----	----	----	0.212
22.33	0.180	331.43	0.206	0.200	----	----	----	----	----	----	----	0.200
22.50	0.177	331.41	0.199	0.192	----	----	----	----	----	----	----	0.192
22.67	0.174	331.39	0.192	0.184	----	----	----	----	----	----	----	0.184
22.83	0.170	331.38	0.186	0.179	----	----	----	----	----	----	----	0.179
23.00	0.167	331.37	0.181	0.174	----	----	----	----	----	----	----	0.174
23.17	0.164	331.36	0.176	0.170	----	----	----	----	----	----	----	0.170
23.33	0.161	331.35	0.172	0.166	----	----	----	----	----	----	----	0.166
23.50	0.158	331.34	0.168	0.163	----	----	----	----	----	----	----	0.163
23.67	0.154	331.33	0.165	0.160	----	----	----	----	----	----	----	0.160
23.83	0.151	331.33	0.161	0.156	----	----	----	----	----	----	----	0.156
24.00	0.148	331.32	0.158	0.153	----	----	----	----	----	----	----	0.153

...End

Pond No. 3 - Basin 2

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 331.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	331.00	266	0	0
1.00	332.00	631	435	435
2.00	333.00	1,035	824	1,260
3.00	334.00	1,509	1,264	2,524
4.00	335.00	2,012	1,754	4,278
5.00	336.00	2,648	2,323	6,601

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 15.00	4.00	0.00	0.00
Span (in)	= 15.00	4.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 331.00	331.00	0.00	0.00
Length (ft)	= 28.00	0.66	0.00	0.00
Slope (%)	= 0.50	0.50	0.00	n/a
N-Value	= .012	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 7.33	15.00	0.00	0.00
Crest El. (ft)	= 334.00	335.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= 1	Ciplti	---	---
Multi-Stage	= Yes	No	No	No
Exfil.(in/hr)	= 0.000	(by Contour)		
TW Elev. (ft)	= 0.00			

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

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	331.00	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.00	435	332.00	0.37 ic	0.36 ic	---	---	0.00	0.00	---	---	---	---	0.358
2.00	1,260	333.00	0.56 oc	0.54 ic	---	---	0.00	0.00	---	---	---	---	0.540
3.00	2,524	334.00	0.70 oc	0.68 ic	---	---	0.00	0.00	---	---	---	---	0.677
4.00	4,278	335.00	10.73 ic	0.12 ic	---	---	10.61 s	0.00	---	---	---	---	10.73
5.00	6,601	336.00	12.34 ic	0.05 ic	---	---	12.26 s	49.95	---	---	---	---	62.26

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

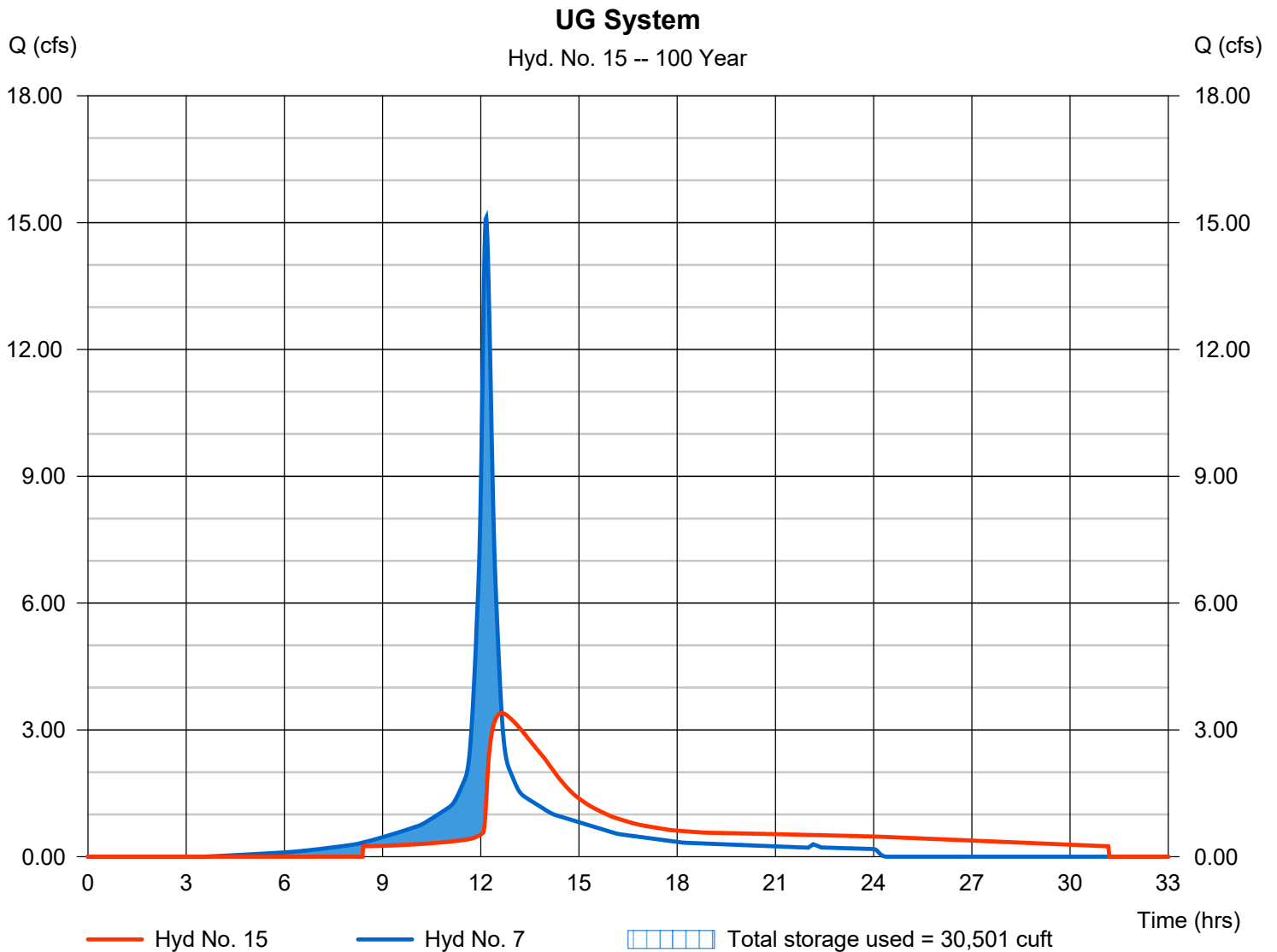
Monday, 01 / 9 / 2023

Hyd. No. 15

UG System

Hydrograph type	= Reservoir	Peak discharge	= 3.400 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.63 hrs
Time interval	= 1 min	Hyd. volume	= 60,587 cuft
Inflow hyd. No.	= 7 - PDA-1C	Max. Elevation	= 361.43 ft
Reservoir name	= Underground Detention	Max. Storage	= 30,501 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Monday, 01 / 9 / 2023

Hyd. No. 15

UG System

Hydrograph type	= Reservoir	Peak discharge	= 3.400 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.63 hrs
Time interval	= 1 min	Hyd. volume	= 60,587 cuft
Inflow hyd. No.	= 7 - PDA-1C	Reservoir name	= Underground Detent
Max. Elevation	= 361.43 ft	Max. Storage	= 30,501 cuft

Storage Indication method used.

Hydrograph Discharge Table

(Printed values >= 1.00% of Qp. Print interval = 10)

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
8.50	0.355	358.51	12.87	0.247	----	----	----	----	----	----	----	0.247
8.67	0.389	358.52	12.87	0.250	----	----	----	----	----	----	----	0.250
8.83	0.425	358.53	12.87	0.253	----	----	----	----	----	----	----	0.253
9.00	0.461	358.54	12.87	0.257	----	----	----	----	----	----	----	0.257
9.17	0.499	358.56	12.87	0.262	----	----	----	----	----	----	----	0.262
9.33	0.539	358.57	12.87	0.267	----	----	----	----	----	----	----	0.267
9.50	0.579	358.59	12.87	0.273	----	----	----	----	----	----	----	0.273
9.67	0.620	358.61	12.87	0.279	----	----	----	----	----	----	----	0.279
9.83	0.662	358.63	12.87	0.286	----	----	----	----	----	----	----	0.286
10.00	0.705	358.66	12.87	0.293	----	----	----	----	----	----	----	0.293
10.17	0.754	358.68	12.87	0.301	----	----	----	----	----	----	----	0.301
10.33	0.824	358.71	12.87	0.310	----	----	----	----	----	----	----	0.310
10.50	0.903	358.74	12.87	0.319	----	----	----	----	----	----	----	0.319
10.67	0.985	358.78	12.87	0.330	----	----	----	----	----	----	----	0.330
10.83	1.068	358.83	12.87	0.341	----	----	----	----	----	----	----	0.341
11.00	1.154	358.87	12.87	0.353	----	----	----	----	----	----	----	0.353
11.17	1.275	358.92	12.87	0.366	----	----	----	----	----	----	----	0.366
11.33	1.518	358.99	12.87	0.380	----	----	----	----	----	----	----	0.380
11.50	1.814	359.06	12.87	0.398	----	----	----	----	----	----	----	0.398
11.67	2.544	359.17	12.87	0.420	----	----	----	----	----	----	----	0.420

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UG System

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
11.83	4.774	359.36	12.87	0.459	----	----	----	----	----	----	----	0.459
12.00	8.589	359.72	12.87	0.524	----	----	----	----	----	----	----	0.524
12.17	15.12 <<	360.46	12.87	0.636	0.708	----	----	----	----	----	----	1.343
12.33	9.948	361.12	12.87	0.721	2.194	----	----	----	----	----	----	2.915
12.50	5.540	361.38	12.87	0.753	2.573	----	----	----	----	----	----	3.326
12.67	3.049	361.43	12.87	0.759	2.639	----	----	----	----	----	----	3.397
12.83	2.144	361.37	12.87	0.752	2.567	----	----	----	----	----	----	3.319
13.00	1.823	361.29	12.87	0.743	2.459	----	----	----	----	----	----	3.201
13.17	1.553	361.20	12.87	0.732	2.329	----	----	----	----	----	----	3.061
13.33	1.420	361.11	12.87	0.721	2.186	----	----	----	----	----	----	2.907
13.50	1.339	361.02	12.87	0.710	2.039	----	----	----	----	----	----	2.749
13.67	1.258	360.94	12.87	0.699	1.889	----	----	----	----	----	----	2.588
13.83	1.176	360.86	12.87	0.689	1.742	----	----	----	----	----	----	2.431
14.00	1.095	360.78	12.87	0.679	1.590	----	----	----	----	----	----	2.270
14.17	1.021	360.71	12.87	0.670	1.421	----	----	----	----	----	----	2.091
14.33	0.972	360.65	12.87	0.662	1.252	----	----	----	----	----	----	1.913
14.50	0.933	360.59	12.87	0.654	1.100	----	----	----	----	----	----	1.754
14.67	0.894	360.55	12.87	0.648	0.959	----	----	----	----	----	----	1.607
14.83	0.855	360.50	12.87	0.642	0.837	----	----	----	----	----	----	1.480
15.00	0.816	360.47	12.87	0.637	0.740	----	----	----	----	----	----	1.377
15.17	0.776	360.43	12.87	0.633	0.654	----	----	----	----	----	----	1.286
15.33	0.737	360.40	12.87	0.628	0.575	----	----	----	----	----	----	1.203
15.50	0.698	360.38	12.87	0.624	0.508	----	----	----	----	----	----	1.133
15.67	0.658	360.35	12.87	0.621	0.447	----	----	----	----	----	----	1.068
15.83	0.619	360.33	12.87	0.617	0.390	----	----	----	----	----	----	1.007
16.00	0.580	360.30	12.87	0.614	0.335	----	----	----	----	----	----	0.949
16.17	0.544	360.28	12.87	0.611	0.295	----	----	----	----	----	----	0.905
16.33	0.522	360.26	12.87	0.607	0.257	----	----	----	----	----	----	0.865

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UG System

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
16.50	0.505	360.24	12.87	0.604	0.222	----	----	----	----	----	----	0.826
16.67	0.488	360.22	12.87	0.602	0.188	----	----	----	----	----	----	0.790
16.83	0.470	360.20	12.87	0.599	0.157	----	----	----	----	----	----	0.756
17.00	0.453	360.18	12.87	0.596	0.137	----	----	----	----	----	----	0.733
17.17	0.436	360.16	12.87	0.594	0.117	----	----	----	----	----	----	0.711
17.33	0.419	360.15	12.87	0.591	0.098	----	----	----	----	----	----	0.689
17.50	0.402	360.13	12.87	0.589	0.078	----	----	----	----	----	----	0.667
17.67	0.384	360.11	12.87	0.586	0.059	----	----	----	----	----	----	0.646
17.83	0.367	360.10	12.87	0.584	0.042	----	----	----	----	----	----	0.626
18.00	0.350	360.08	12.87	0.581	0.035	----	----	----	----	----	----	0.616
18.17	0.335	360.07	12.87	0.579	0.028	----	----	----	----	----	----	0.607
18.33	0.327	360.05	12.87	0.576	0.021	----	----	----	----	----	----	0.597
18.50	0.322	360.03	12.87	0.574	0.014	----	----	----	----	----	----	0.587
18.67	0.317	360.02	12.87	0.571	0.007	----	----	----	----	----	----	0.578
18.83	0.312	360.00	12.87	0.569	0.000	----	----	----	----	----	----	0.569
19.00	0.306	359.98	12.87	0.566	0.000	----	----	----	----	----	----	0.566
19.17	0.301	359.97	12.87	0.564	0.000	----	----	----	----	----	----	0.564
19.33	0.296	359.95	12.87	0.561	0.000	----	----	----	----	----	----	0.561
19.50	0.291	359.93	12.87	0.559	0.000	----	----	----	----	----	----	0.559
19.67	0.286	359.92	12.87	0.556	0.000	----	----	----	----	----	----	0.556
19.83	0.281	359.90	12.87	0.553	0.000	----	----	----	----	----	----	0.553
20.00	0.275	359.88	12.87	0.551	----	----	----	----	----	----	----	0.551
20.17	0.270	359.87	12.87	0.548	----	----	----	----	----	----	----	0.548
20.33	0.265	359.85	12.87	0.545	----	----	----	----	----	----	----	0.545
20.50	0.260	359.83	12.87	0.542	----	----	----	----	----	----	----	0.542
20.67	0.255	359.81	12.87	0.539	----	----	----	----	----	----	----	0.539
20.83	0.250	359.80	12.87	0.536	----	----	----	----	----	----	----	0.536
21.00	0.244	359.78	12.87	0.533	----	----	----	----	----	----	----	0.533

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UG System

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
21.17	0.239	359.76	12.87	0.530	----	----	----	----	----	----	----	0.530
21.33	0.234	359.74	12.87	0.527	----	----	----	----	----	----	----	0.527
21.50	0.229	359.72	12.87	0.524	----	----	----	----	----	----	----	0.524
21.67	0.224	359.71	12.87	0.521	----	----	----	----	----	----	----	0.521
21.83	0.219	359.69	12.87	0.518	----	----	----	----	----	----	----	0.518
22.00	0.213	359.67	12.87	0.515	----	----	----	----	----	----	----	0.515
22.17	0.289	359.65	12.87	0.512	----	----	----	----	----	----	----	0.512
22.33	0.240	359.64	12.87	0.510	----	----	----	----	----	----	----	0.510
22.50	0.216	359.62	12.87	0.507	----	----	----	----	----	----	----	0.507
22.67	0.212	359.60	12.87	0.503	----	----	----	----	----	----	----	0.503
22.83	0.208	359.58	12.87	0.500	----	----	----	----	----	----	----	0.500
23.00	0.204	359.57	12.87	0.497	----	----	----	----	----	----	----	0.497
23.17	0.200	359.55	12.87	0.494	----	----	----	----	----	----	----	0.494
23.33	0.197	359.53	12.87	0.490	----	----	----	----	----	----	----	0.490
23.50	0.193	359.51	12.87	0.487	----	----	----	----	----	----	----	0.487
23.67	0.189	359.49	12.87	0.484	----	----	----	----	----	----	----	0.484
23.83	0.185	359.48	12.87	0.481	----	----	----	----	----	----	----	0.481
24.00	0.181	359.46	12.87	0.477	----	----	----	----	----	----	----	0.477
24.17	0.090	359.44	12.87	0.473	----	----	----	----	----	----	----	0.473
24.33	0.006	359.41	12.87	0.469	----	----	----	----	----	----	----	0.469
24.50	0.000	359.38	12.87	0.463	----	----	----	----	----	----	----	0.463
24.67	0.000	359.35	12.87	0.458	----	----	----	----	----	----	----	0.458
24.83	0.000	359.33	12.87	0.452	----	----	----	----	----	----	----	0.452
25.00	0.000	359.30	12.87	0.447	----	----	----	----	----	----	----	0.447
25.17	0.000	359.27	12.87	0.441	----	----	----	----	----	----	----	0.441
25.33	0.000	359.24	12.87	0.436	----	----	----	----	----	----	----	0.436
25.50	0.000	359.22	12.87	0.431	----	----	----	----	----	----	----	0.431
25.67	0.000	359.19	12.87	0.425	----	----	----	----	----	----	----	0.425

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UG System

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
25.83	0.000	359.17	12.87	0.420	----	----	----	----	----	----	----	0.420
26.00	0.000	359.14	12.87	0.414	----	----	----	----	----	----	----	0.414
26.17	0.000	359.11	12.87	0.409	----	----	----	----	----	----	----	0.409
26.33	0.000	359.09	12.87	0.404	----	----	----	----	----	----	----	0.404
26.50	0.000	359.06	12.87	0.398	----	----	----	----	----	----	----	0.398
26.67	0.000	359.04	12.87	0.393	----	----	----	----	----	----	----	0.393
26.83	0.000	359.02	12.87	0.387	----	----	----	----	----	----	----	0.387
27.00	0.000	358.99	12.87	0.382	----	----	----	----	----	----	----	0.382
27.17	0.000	358.97	12.87	0.376	----	----	----	----	----	----	----	0.376
27.33	0.000	358.95	12.87	0.371	----	----	----	----	----	----	----	0.371
27.50	0.000	358.92	12.87	0.366	----	----	----	----	----	----	----	0.366
27.67	0.000	358.90	12.87	0.360	----	----	----	----	----	----	----	0.360
27.83	0.000	358.88	12.87	0.355	----	----	----	----	----	----	----	0.355
28.00	0.000	358.86	12.87	0.349	----	----	----	----	----	----	----	0.349
28.17	0.000	358.84	12.87	0.344	----	----	----	----	----	----	----	0.344
28.33	0.000	358.82	12.87	0.339	----	----	----	----	----	----	----	0.339
28.50	0.000	358.80	12.87	0.333	----	----	----	----	----	----	----	0.333
28.67	0.000	358.78	12.87	0.328	----	----	----	----	----	----	----	0.328
28.83	0.000	358.76	12.87	0.322	----	----	----	----	----	----	----	0.322
29.00	0.000	358.74	12.87	0.317	----	----	----	----	----	----	----	0.317
29.17	0.000	358.72	12.87	0.311	----	----	----	----	----	----	----	0.311
29.33	0.000	358.70	12.87	0.306	----	----	----	----	----	----	----	0.306
29.50	0.000	358.68	12.87	0.300	----	----	----	----	----	----	----	0.300
29.67	0.000	358.66	12.87	0.295	----	----	----	----	----	----	----	0.295
29.83	0.000	358.64	12.87	0.290	----	----	----	----	----	----	----	0.290
30.00	0.000	358.63	12.87	0.284	----	----	----	----	----	----	----	0.284
30.17	0.000	358.61	12.87	0.279	----	----	----	----	----	----	----	0.279
30.33	0.000	358.59	12.87	0.273	----	----	----	----	----	----	----	0.273

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UG System

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
30.50	0.000	358.57	12.87	0.268	----	----	----	----	----	----	----	0.268
30.67	0.000	358.56	12.87	0.262	----	----	----	----	----	----	----	0.262
30.83	0.000	358.54	12.87	0.257	----	----	----	----	----	----	----	0.257
31.00	0.000	358.53	12.87	0.252	----	----	----	----	----	----	----	0.252
31.17	0.000	358.51	12.87	0.247	----	----	----	----	----	----	----	0.247

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Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

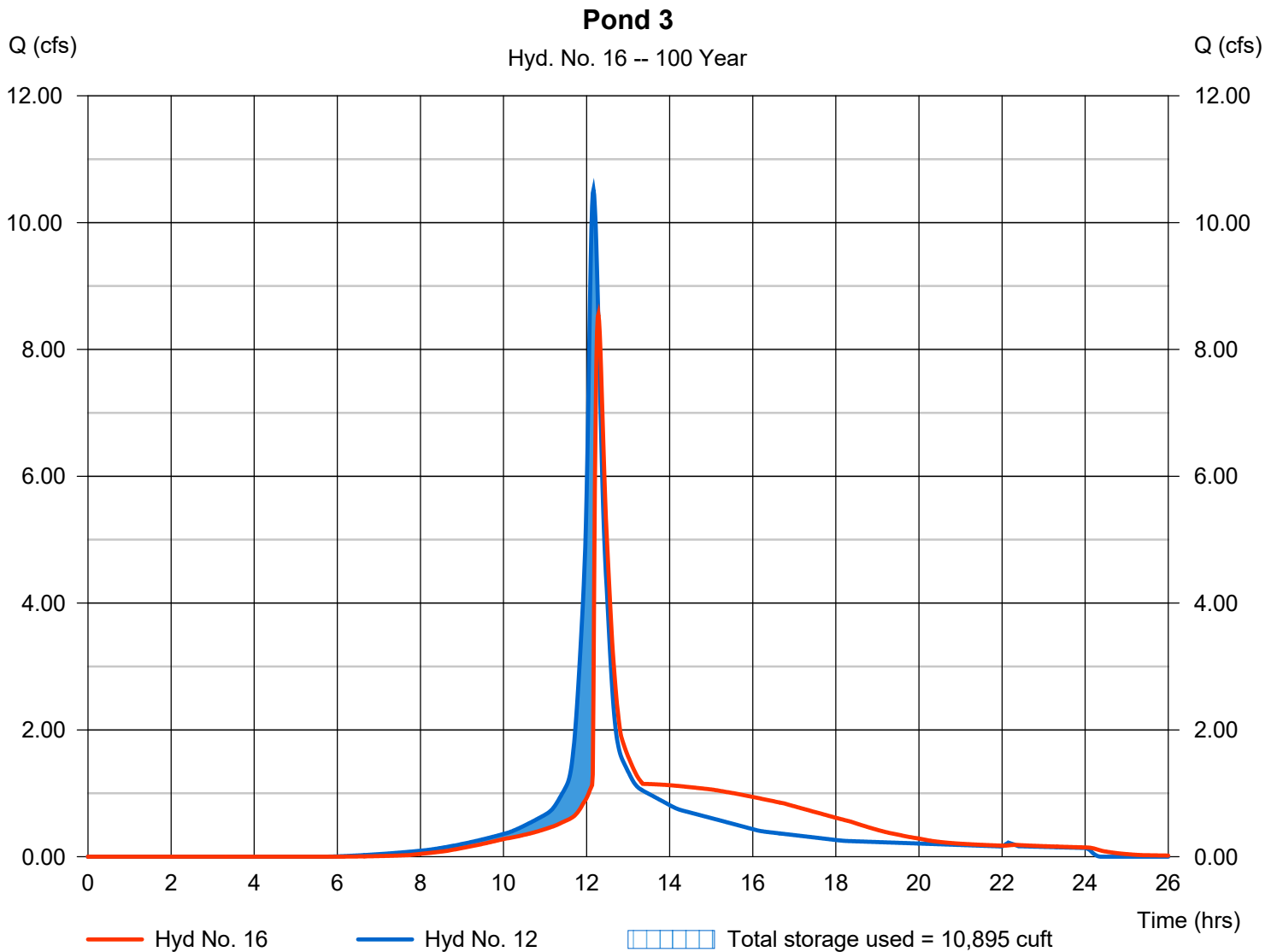
Monday, 01 / 9 / 2023

Hyd. No. 16

Pond 3

Hydrograph type	= Reservoir	Peak discharge	= 8.548 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.28 hrs
Time interval	= 1 min	Hyd. volume	= 42,031 cuft
Inflow hyd. No.	= 12 - PDA-3B	Max. Elevation	= 365.96 ft
Reservoir name	= Basin 3	Max. Storage	= 10,895 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Monday, 01 / 9 / 2023

Hyd. No. 16

Pond 3

Hydrograph type	= Reservoir	Peak discharge	= 8.548 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.28 hrs
Time interval	= 1 min	Hyd. volume	= 42,031 cuft
Inflow hyd. No.	= 12 - PDA-3B	Reservoir name	= Basin 3
Max. Elevation	= 365.96 ft	Max. Storage	= 10,895 cuft

Storage Indication method used.

Hydrograph Discharge Table

(Printed values >= 1.00% of Qp. Print interval = 10)

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
8.67	0.157	362.20	0.097	0.095	----	----	----	----	----	----	----	0.095
8.83	0.178	362.23	0.117	0.115	----	----	----	----	----	----	----	0.115
9.00	0.200	362.25	0.137	0.136	----	----	----	----	----	----	----	0.136
9.17	0.223	362.27	0.158	0.157	----	----	----	----	----	----	----	0.157
9.33	0.248	362.29	0.179	0.179	----	----	----	----	----	----	----	0.179
9.50	0.273	362.32	0.204	0.202	----	----	----	----	----	----	----	0.202
9.67	0.301	362.34	0.231	0.227	----	----	----	----	----	----	----	0.227
9.83	0.329	362.37	0.259	0.252	----	----	----	----	----	----	----	0.252
10.00	0.358	362.40	0.288	0.279	----	----	----	----	----	----	----	0.279
10.17	0.392	362.43	0.306	0.298	----	----	----	----	----	----	----	0.298
10.33	0.437	362.46	0.327	0.319	----	----	----	----	----	----	----	0.319
10.50	0.489	362.51	0.352	0.345	----	----	----	----	----	----	----	0.345
10.67	0.544	362.56	0.386	0.371	----	----	----	----	----	----	----	0.371
10.83	0.602	362.63	0.418	0.401	----	----	----	----	----	----	----	0.401
11.00	0.662	362.70	0.443	0.436	----	----	----	----	----	----	----	0.436
11.17	0.745	362.79	0.473	0.471	----	----	----	----	----	----	----	0.471
11.33	0.903	362.90	0.515	0.515	----	----	----	----	----	----	----	0.515
11.50	1.100	363.04	0.573	0.567	----	----	----	----	----	----	----	0.567
11.67	1.579	363.22	0.642	0.624	----	----	----	----	----	----	----	0.624
11.83	3.054	363.63	0.752	0.745	----	----	----	----	----	----	----	0.745

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Pond 3

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
12.00	5.724	364.38	0.946	0.927	----	----	----	----	----	----	----	0.927
12.17	10.52 <<	365.65	2.593	1.133	----	----	1.432	----	----	----	----	2.565
12.33	7.107	365.93	8.018	1.002	----	----	6.979	----	----	----	----	7.980
12.50	4.024	365.79	4.930	1.091	----	----	3.753	----	----	----	----	4.845
12.67	2.230	365.67	2.965	1.127	----	----	1.794	----	----	----	----	2.922
12.83	1.574	365.60	1.895	1.143	----	----	0.751	----	----	----	----	1.894
13.00	1.342	365.56	1.601	1.145	----	----	0.435	----	----	----	----	1.581
13.17	1.145	365.52	1.370	1.147	----	----	0.187	----	----	----	----	1.334
13.33	1.049	365.50	1.209	1.149	----	----	0.014	----	----	----	----	1.162
13.50	0.990	365.48	1.185	1.146	----	----	----	----	----	----	----	1.146
13.67	0.932	365.46	1.167	1.141	----	----	----	----	----	----	----	1.141
13.83	0.873	365.42	1.145	1.135	----	----	----	----	----	----	----	1.135
14.00	0.813	365.38	1.131	1.128	----	----	----	----	----	----	----	1.128
14.17	0.759	365.33	1.130	1.118	----	----	----	----	----	----	----	1.118
14.33	0.723	365.27	1.130	1.107	----	----	----	----	----	----	----	1.107
14.50	0.695	365.21	1.130	1.096	----	----	----	----	----	----	----	1.096
14.67	0.666	365.15	1.103	1.085	----	----	----	----	----	----	----	1.085
14.83	0.638	365.09	1.074	1.073	----	----	----	----	----	----	----	1.073
15.00	0.609	365.02	1.068	1.060	----	----	----	----	----	----	----	1.060
15.17	0.580	364.94	1.066	1.043	----	----	----	----	----	----	----	1.043
15.33	0.551	364.85	1.038	1.024	----	----	----	----	----	----	----	1.024
15.50	0.522	364.75	1.010	1.006	----	----	----	----	----	----	----	1.006
15.67	0.493	364.65	1.005	0.985	----	----	----	----	----	----	----	0.985
15.83	0.464	364.55	0.981	0.964	----	----	----	----	----	----	----	0.964
16.00	0.434	364.45	0.950	0.943	----	----	----	----	----	----	----	0.943
16.17	0.408	364.35	0.946	0.920	----	----	----	----	----	----	----	0.920
16.33	0.391	364.25	0.918	0.898	----	----	----	----	----	----	----	0.898
16.50	0.379	364.15	0.890	0.875	----	----	----	----	----	----	----	0.875

Continues on next page...

Pond 3

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
16.67	0.366	364.05	0.866	0.852	----	----	----	----	----	----	----	0.852
16.83	0.353	363.94	0.837	0.825	----	----	----	----	----	----	----	0.825
17.00	0.340	363.82	0.800	0.795	----	----	----	----	----	----	----	0.795
17.17	0.327	363.71	0.784	0.764	----	----	----	----	----	----	----	0.764
17.33	0.315	363.59	0.736	0.735	----	----	----	----	----	----	----	0.735
17.50	0.302	363.49	0.727	0.704	----	----	----	----	----	----	----	0.704
17.67	0.289	363.38	0.679	0.675	----	----	----	----	----	----	----	0.675
17.83	0.276	363.28	0.647	0.644	----	----	----	----	----	----	----	0.644
18.00	0.263	363.19	0.636	0.614	----	----	----	----	----	----	----	0.614
18.17	0.252	363.10	0.597	0.586	----	----	----	----	----	----	----	0.586
18.33	0.246	363.02	0.562	0.557	----	----	----	----	----	----	----	0.557
18.50	0.242	362.92	0.523	0.523	----	----	----	----	----	----	----	0.522
18.67	0.238	362.83	0.488	0.488	----	----	----	----	----	----	----	0.488
18.83	0.235	362.75	0.459	0.454	----	----	----	----	----	----	----	0.454
19.00	0.231	362.67	0.434	0.423	----	----	----	----	----	----	----	0.423
19.17	0.227	362.61	0.413	0.394	----	----	----	----	----	----	----	0.394
19.33	0.223	362.56	0.383	0.369	----	----	----	----	----	----	----	0.369
19.50	0.219	362.51	0.354	0.347	----	----	----	----	----	----	----	0.347
19.67	0.215	362.47	0.331	0.324	----	----	----	----	----	----	----	0.324
19.83	0.212	362.44	0.312	0.304	----	----	----	----	----	----	----	0.304
20.00	0.208	362.41	0.296	0.286	----	----	----	----	----	----	----	0.286
20.17	0.204	362.38	0.273	0.265	----	----	----	----	----	----	----	0.265
20.33	0.200	362.36	0.253	0.247	----	----	----	----	----	----	----	0.247
20.50	0.196	362.35	0.238	0.233	----	----	----	----	----	----	----	0.233
20.67	0.192	362.34	0.225	0.222	----	----	----	----	----	----	----	0.222
20.83	0.188	362.33	0.215	0.213	----	----	----	----	----	----	----	0.213
21.00	0.185	362.32	0.207	0.205	----	----	----	----	----	----	----	0.205
21.17	0.181	362.31	0.200	0.199	----	----	----	----	----	----	----	0.199

Continues on next page...

Pond 3

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
21.33	0.177	362.31	0.194	0.193	----	----	----	----	----	----	----	0.193
21.50	0.173	362.30	0.188	0.188	----	----	----	----	----	----	----	0.188
21.67	0.169	362.30	0.183	0.183	----	----	----	----	----	----	----	0.183
21.83	0.165	362.29	0.179	0.178	----	----	----	----	----	----	----	0.178
22.00	0.161	362.29	0.174	0.174	----	----	----	----	----	----	----	0.174
22.17	0.218	362.29	0.180	0.180	----	----	----	----	----	----	----	0.180
22.33	0.181	362.30	0.186	0.185	----	----	----	----	----	----	----	0.185
22.50	0.163	362.30	0.181	0.180	----	----	----	----	----	----	----	0.180
22.67	0.160	362.29	0.176	0.175	----	----	----	----	----	----	----	0.175
22.83	0.157	362.28	0.171	0.171	----	----	----	----	----	----	----	0.171
23.00	0.154	362.28	0.167	0.167	----	----	----	----	----	----	----	0.167
23.17	0.152	362.28	0.163	0.163	----	----	----	----	----	----	----	0.163
23.33	0.149	362.27	0.160	0.159	----	----	----	----	----	----	----	0.159
23.50	0.146	362.27	0.157	0.156	----	----	----	----	----	----	----	0.156
23.67	0.143	362.27	0.153	0.153	----	----	----	----	----	----	----	0.153
23.83	0.140	362.26	0.150	0.150	----	----	----	----	----	----	----	0.150
24.00	0.137	362.26	0.147	0.146	----	----	----	----	----	----	----	0.146
24.17	0.068	362.25	0.138	0.136	----	----	----	----	----	----	----	0.136
24.33	0.004	362.22	0.108	0.106	----	----	----	----	----	----	----	0.106

...End

Pond No. 4 - Basin 3

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 362.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	362.00	1,496	0	0
1.00	363.00	1,988	1,736	1,736
2.00	364.00	2,600	2,287	4,022
3.00	365.00	3,458	3,018	7,041
4.00	366.00	4,626	4,027	11,068
5.00	367.00	5,794	5,199	16,266

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 24.00	5.00	0.00	0.00
Span (in)	= 24.00	5.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 362.00	362.00	0.00	0.00
Length (ft)	= 58.00	0.66	0.00	0.00
Slope (%)	= 0.50	0.50	0.00	n/a
N-Value	= .012	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 7.33	12.00	0.00	0.00
Crest El. (ft)	= 365.50	366.50	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= 1	Ciplti	---	---
Multi-Stage	= Yes	No	No	No
Exfil.(in/hr)	= 0.000	(by Contour)		
TW Elev. (ft)	= 0.00			

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

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	362.00	0.00	0.00	---	---	0.00	0.00	---	---	---	---	0.000
1.00	1,736	363.00	0.56 ic	0.55 ic	---	---	0.00	0.00	---	---	---	---	0.552
2.00	4,022	364.00	0.84 ic	0.84 ic	---	---	0.00	0.00	---	---	---	---	0.839
3.00	7,041	365.00	1.07 ic	1.06 ic	---	---	0.00	0.00	---	---	---	---	1.056
4.00	11,068	366.00	9.56 oc	0.93 ic	---	---	8.63	0.00	---	---	---	---	9.555
5.00	16,266	367.00	22.93 oc	0.82 ic	---	---	22.11 ic	14.13	---	---	---	---	37.06

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

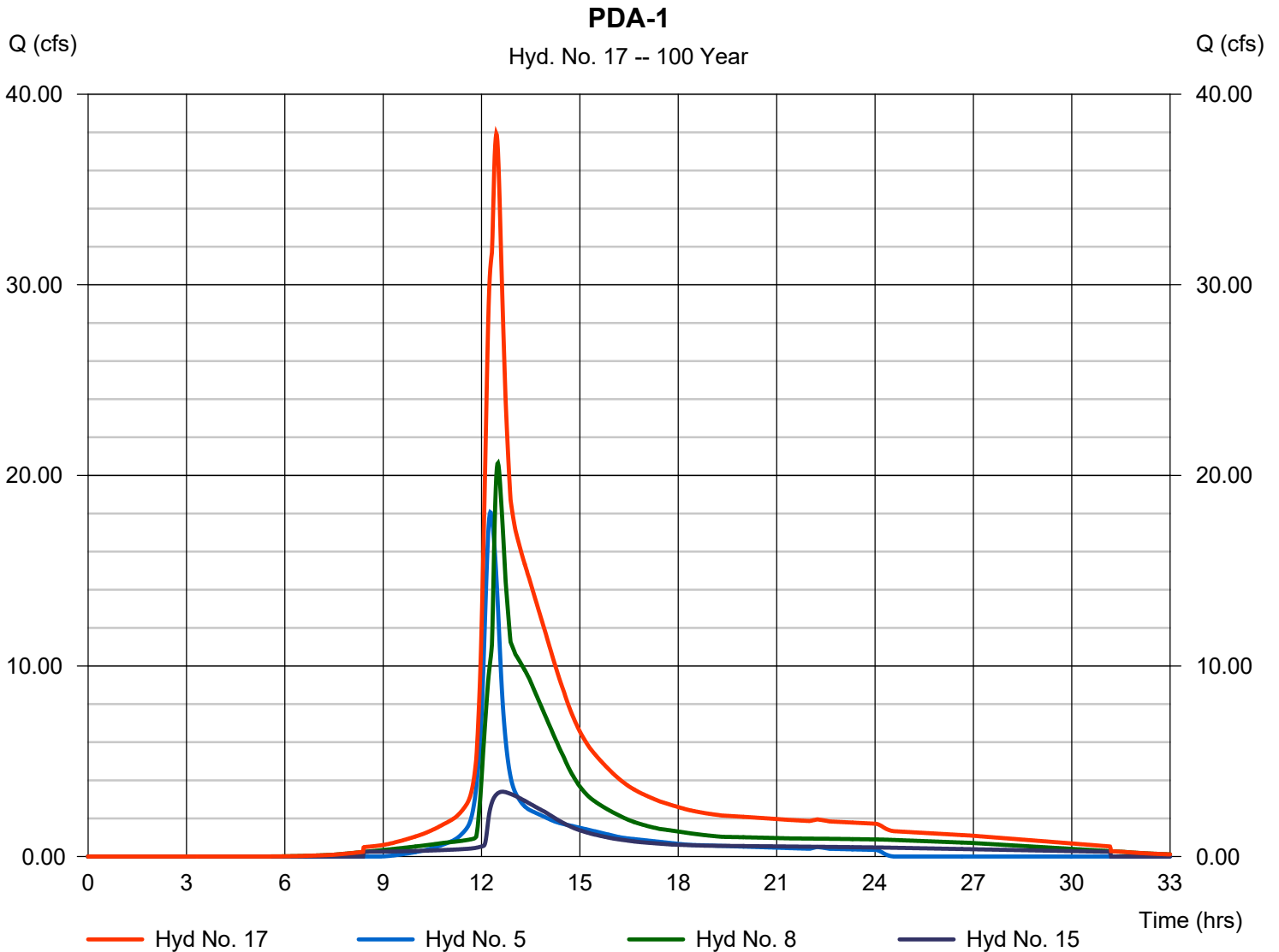
Monday, 01 / 9 / 2023

Hyd. No. 17

PDA-1

Hydrograph type = Combine
 Storm frequency = 100 yrs
 Time interval = 1 min
 Inflow hyds. = 5, 8, 15

Peak discharge = 37.93 cfs
 Time to peak = 12.45 hrs
 Hyd. volume = 316,059 cuft
 Contrib. drain. area = 5.700 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

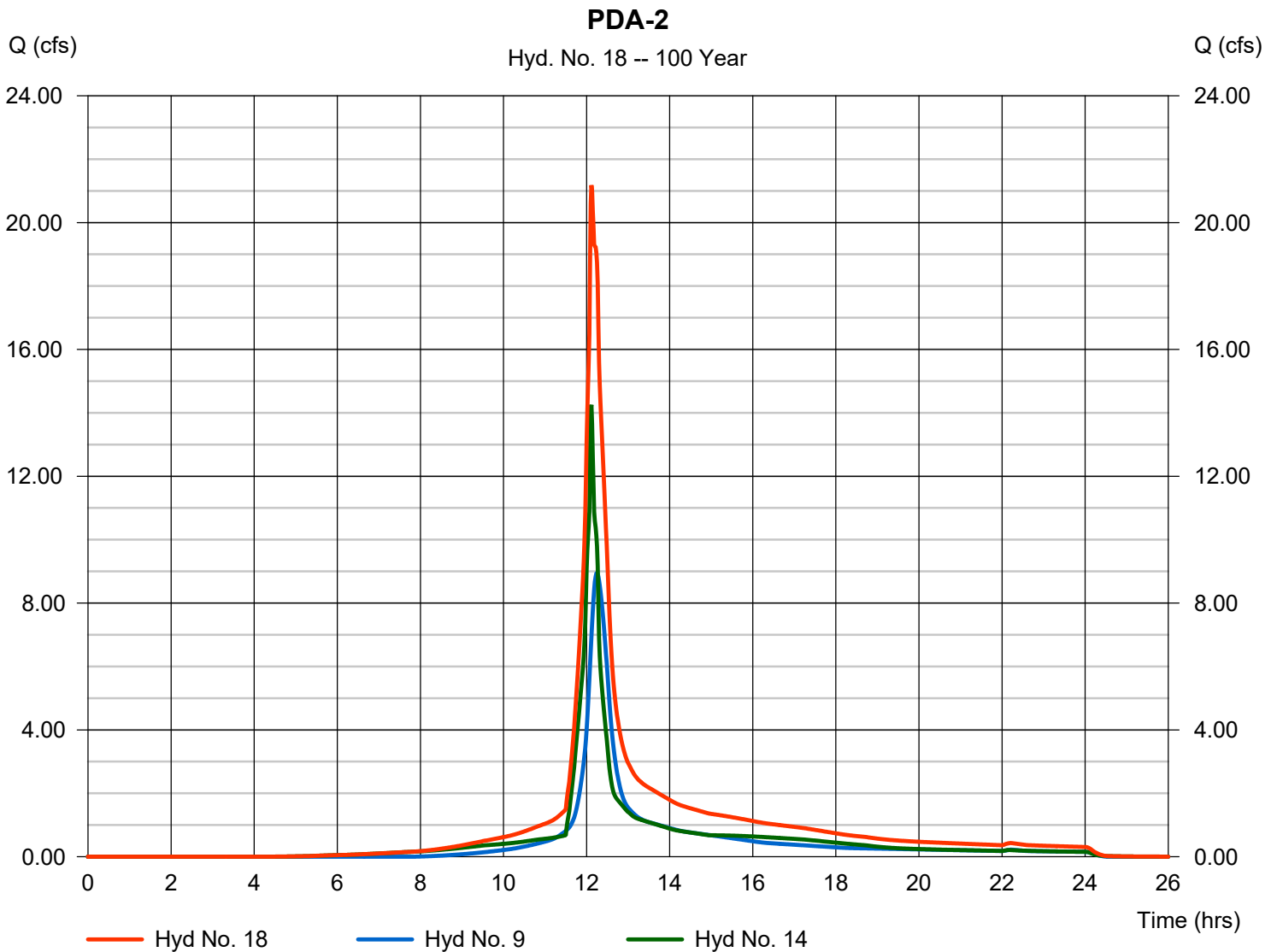
Monday, 01 / 9 / 2023

Hyd. No. 18

PDA-2

Hydrograph type = Combine
 Storm frequency = 100 yrs
 Time interval = 1 min
 Inflow hyds. = 9, 14

Peak discharge = 21.18 cfs
 Time to peak = 12.12 hrs
 Hyd. volume = 90,810 cuft
 Contrib. drain. area = 2.300 ac



Hydrograph Report

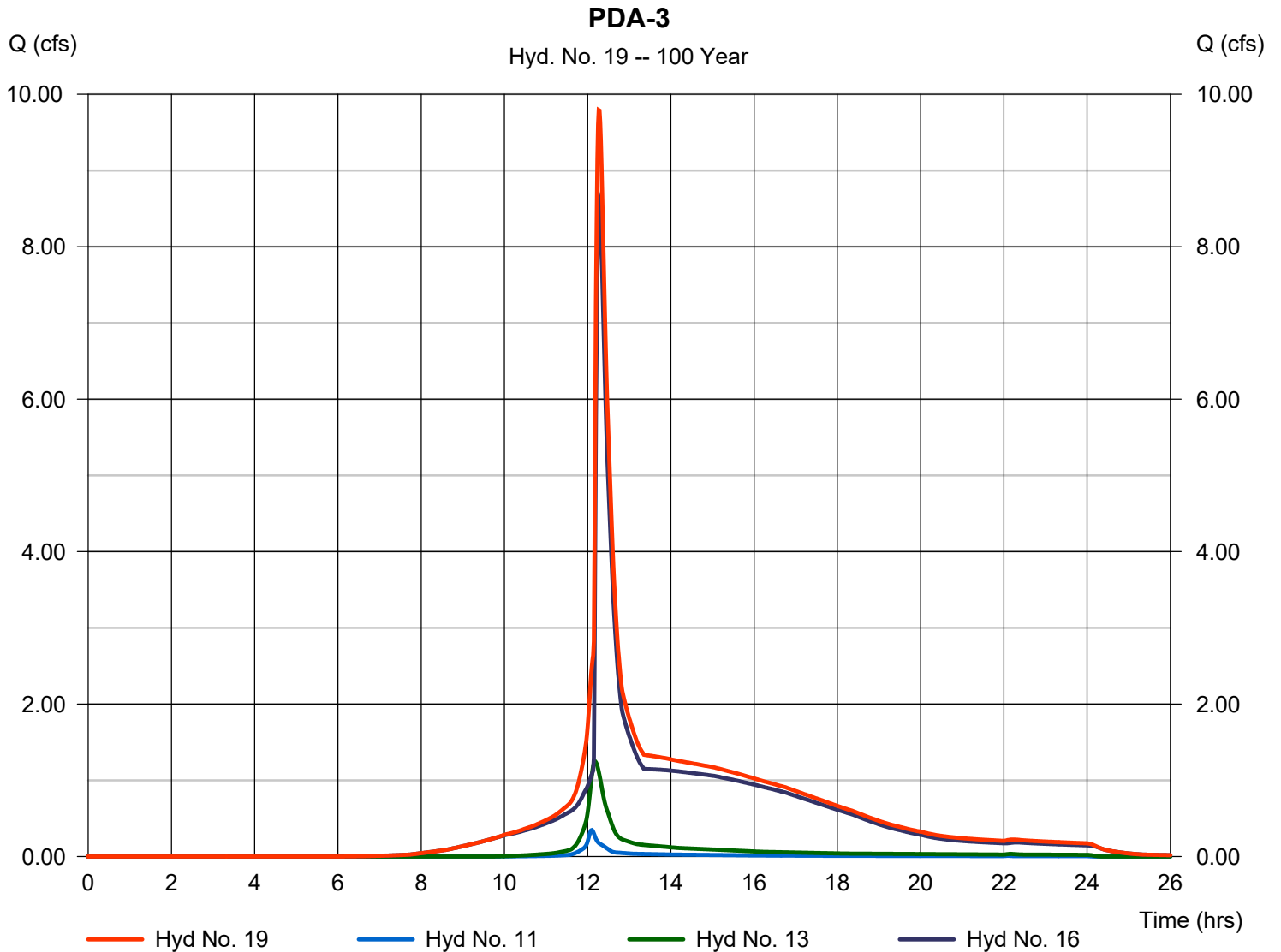
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Monday, 01 / 9 / 2023

Hyd. No. 19

PDA-3

Hydrograph type	= Combine	Peak discharge	= 9.791 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.27 hrs
Time interval	= 1 min	Hyd. volume	= 48,181 cuft
Inflow hyds.	= 11, 13, 16	Contrib. drain. area	= 0.480 ac



Hydrograph Report

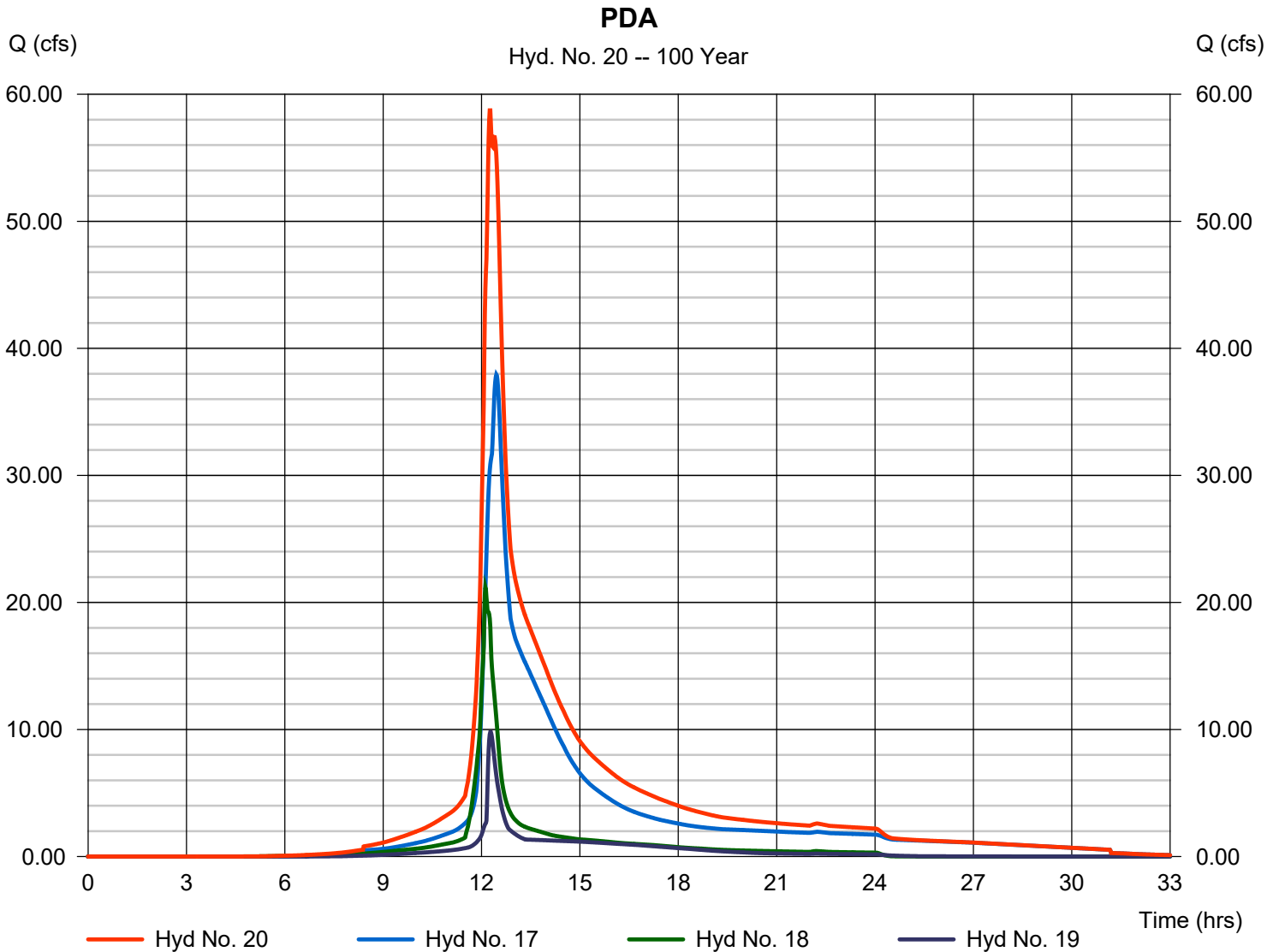
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Monday, 01 / 9 / 2023

Hyd. No. 20

PDA

Hydrograph type	= Combine	Peak discharge	= 58.73 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.25 hrs
Time interval	= 1 min	Hyd. volume	= 455,049 cuft
Inflow hyds.	= 17, 18, 19	Contrib. drain. area	= 0.000 ac



Project Pondview

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: **Existing** Proposed

Existing Drainage Area 1 (EDA-1)

1. Runoff Curve Number (CN)

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of CN x area
		Table 2-2	Fig. 2-3	Fig. 2-4		
B	Meadow - Good	58			4.22	244.76
D	Meadow - Good	78			0.77	60.06
B	Woods - Good	58			8.16	473.28
D	Woods - Good	79			0.19	15.01
						0.00
						0.00
						0.00
						0.00
Totals =					13.34	793.11

¹ Use only one CN source per line

CN (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{793.11}{13.34} = 59.45$ Use CN = **59**

Project Pondview

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: **Existing** Proposed

Existing Drainage Area 2 (EDA-2)

1. Runoff Curve Number (CN)

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of CN x area
		Table 2-2	Fig. 2-3	Fig. 2-4		
B/D	Impervious	98			1.16	113.68
B	Open Space - Good	61			0.16	9.76
B	Woods - Good	58			2.53	146.74
D	Woods - Good	79			1.34	105.86
						0.00
						0.00
						0.00
						0.00
Totals =					5.19	376.04

¹ Use only one CN source per line

CN (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{376.04}{5.19} = 72.45$ Use CN = **72**

Project Pondview

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: **Existing** Proposed

Existing Drainage Area 3 (EDA-3)

1. Runoff Curve Number (CN)

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of CN x area
		Table 2-2	Fig. 2-3	Fig. 2-4		
B	Woods - Good	58			3.81	220.98
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					3.81	220.98

¹ Use only one CN source per line

CN (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{220.98}{3.81} = 58.00$ Use CN = **58**

Project Pond View

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Existing **Proposed**

Proposed Drainage Area 1A (PDA-1A)

1. Runoff Curve Number (CN)

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of CN x area
		Table 2-2	Fig. 2-3	Fig. 2-4		
B	Impervious Area	98			0.00	0.00
B	Open Space - Good	61			2.11	128.71
D	Open Space - Good	80			0.43	34.40
B	Woods - Good	58			2.48	143.84
D	Woods - Good	77			0.68	52.36
						0.00
						0.00
						0.00
Totals =					5.70	359.31

¹ Use only one CN source per line

CN (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{359.31}{5.70} = 63.04$ Use CN = **63**

Project Pond View

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Existing **Proposed**

Proposed Drainage Area 1B (PDA-1B)

1. Runoff Curve Number (CN)

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of CN x area
		Table 2-2	Fig. 2-3	Fig. 2-4		
B	Impervious Area	98			4.05	396.90
B	Open Space - Good	61			2.36	143.96
D	Open Space - Good	80			0.21	16.80
B	Woods - Good	58			0.83	48.14
						0.00
						0.00
						0.00
						0.00
Totals =					7.45	605.80

¹ Use only one CN source per line

CN (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{605.80}{7.45} = 81.32$ Use CN = **81**

Project Pond View

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Existing **Proposed**

Proposed Drainage Area 1C (PDA-1C)

1. Runoff Curve Number (CN)

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of CN x area
		Table 2-2	Fig. 2-3	Fig. 2-4		
B	Impervious Area	98			1.72	168.56
B	Open Space - Good	61			0.74	45.14
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					2.46	213.70

¹ Use only one CN source per line

CN (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{213.70}{2.46} = 86.87$ Use CN = **87**

Project Pond View

By CMH

Date 01/09/23

Location 127 Main Street, Monroe, CT

Checked CJB

Date 01/09/23

Bold one: Existing **Proposed**

Proposed Drainage Area 2A (PDA-2A)

1. Runoff Curve Number (CN)

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of CN x area
		Table 2-2	Fig. 2-3	Fig. 2-4		
B	Impervious Area	98			0.03	2.94
B	Open Space - Good	61			1.14	69.54
D	Open Space - Good	80			0.11	8.80
B	Woods - Good	58			0.02	1.16
D	Woods - Good	77			1.00	77.00
						0.00
						0.00
						0.00
Totals =					2.30	159.44

¹ Use only one CN source per line

CN (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{159.44}{2.30} = 69.32$ Use CN = **69**

Project Pond View

By CMH

Date 01/09/23

Location 127 Main Street, Monroe, CT

Checked CJB

Date 01/09/23

Bold one: Existing **Proposed**

Proposed Drainage Area 2B (PDA-2B)

1. Runoff Curve Number (CN)

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of CN x area
		Table 2-2	Fig. 2-3	Fig. 2-4		
B	Impervious Area	98			1.27	124.46
B	Open Space - Good	61			0.34	20.74
B	Woods - Good	58			0.39	22.62
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					2.00	167.82

¹ Use only one CN source per line

CN (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{167.82}{2.00} = 83.91$ Use CN = **84**

Project Pond View

By CMH

Date 01/09/23

Location 127 Main Street, Monroe, CT

Checked CJB

Date 01/09/23

Bold one: Existing **Proposed**

Proposed Drainage Area 3A (PDA-3A)

1. Runoff Curve Number (CN)

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of CN x area
		Table 2-2	Fig. 2-3	Fig. 2-4		
B	Woods - Good	58			0.09	5.22
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.09	5.22

1 Use only one CN source per line

CN (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{5.22}{0.09} = 58.00$ Use CN = **58**

Project Pond View

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Existing **Proposed**

Proposed Drainage Area 3B (PDA-3B)

1. Runoff Curve Number (CN)

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of CN x area
		Table 2-2	Fig. 2-3	Fig. 2-4		
B	Impervious Area	98			0.87	85.26
B	Open Space - Good	61			1.08	65.88
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					1.95	151.14

¹ Use only one CN source per line

CN (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{151.14}{1.95} = 77.51$ Use CN = **78**

Project Pond View

By CMH

Date 01/09/23

Location 127 Main Street, Monroe, CT

Checked CJB

Date 01/09/23

Bold one: Existing **Proposed**

Proposed Drainage Area 3C (PDA-3C)

1. Runoff Curve Number (CN)

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of CN x area
		Table 2-2	Fig. 2-3	Fig. 2-4		
B	Woods - Good	58			0.39	22.62
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.39	22.62

1 Use only one CN source per line

CN (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{22.62}{0.39} = 58.00$ Use CN = **58**

Project Pondview By CMH Date 01/09/23
 Location 127 Main Street, Monroe, CT Checked CJB Date 01/09/23

Bold One: **Present** Developed
 Bold One: **T_c** **T_t** through subarea Existing Drainage Area 3 (EDA-3)

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)

Segment ID	AB		
1. Surface description (table 3-1)	Woods		
2. Manning's roughness coeff., n (table 3-1)	0.400		
3. Flow Length, L (total L ≤ 300 ft)	100	ft	
4. Two-yr 24-hr rainfall, P ₂	3.56	in	
5. Land slope, s	0.030	ft/ft	
6. $T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5}S^{0.4}}$	0.289	hr	0.289

Compute T_t

Shallow concentrated flow

Segment ID	BC	CD	
7. Surface description (paved or unpaved)	unpaved	unpaved	
8. Flow length, L	194.5	127.35	ft
9. Watercourse slope, s	0.10	0.20	ft/ft
10. Average velocity, V (Conn DOT Equations 6.C.4 & C.C.5)	5.17	7.29	ft/s
11. $T_t = \frac{L}{3600 V}$	0.010	0.005	0.015

Compute T_t

Channel flow

Segment ID			
12. Cross sectional flow area, a			ft ²
13. Wetted perimeter, p _w			ft
14. Hydraulic radius, r $r = \frac{a}{p_w}$			ft
15. Channel slope, s			ft/ft
16. Manning's roughness coeff., n			
17. $V = \frac{1.49 r^{2/3} s^{1/2}}{n}$			ft/s
18. Flow length, L			ft
19. $T_t = \frac{L}{3600 V}$			0.000
20. Watershed or subarea T _c or T _t (add T _t in steps 6, 11, 19)		Hours	0.304
		Minutes	18.2

Compute r

Compute V

Compute T_t

Project Pond View By CMH Date 01/09/23

Location 127 Main Street, Monroe, CT Checked CJB Date 01/09/23

Site One: Present Developed

Site One: T_c T_t through subarea: Prop Drainage Area 1A (PDA-1A)

Notes: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only) Segment ID **AB**

Surface description (table 3-1)	Dense Grasses
Manning's roughness coeff., n (table 3-1)	0.240
Flow Length, L (total L ≤ 300 ft)	100 ft
Two-yr 24-hr rainfall, P_2	3.56 in
Land slope, s	0.01 ft/ft
$T_t = \frac{0.007 (nL)^{0.8}}{P_2^{0.5} S^{0.4}}$	Comp T_t 0.298 hr

+ [] = **0.298**

Low concentrated flow Segment ID **BC CD DE EF FG**

Surface description (paved or unpaved)	unpaved	unpaved	unpaved	unpaved	unpaved
Flow length, L	246.3 ft	104.88 ft	16 ft	38 ft	67.3 ft
Watercourse slope, s	0.01 ft/ft	0.04 ft/ft	0.25 ft/ft	0.26 ft/ft	0.03 ft/ft
Avg velocity, V (ConnDOT Equ. 6.C.4 & C.C.5)	1.25 ft/s	3.15 ft/s	8.07 ft/s	8.27 ft/s	2.78 ft/s
$T_t = \frac{L}{3600 V}$	Comp T_t 0.055 hr	0.009 hr	0.001 hr	0.001 hr	0.01 hr

+ [] + [] + [] = **0.073**

Channel flow Segment ID

Cross sectional flow area, a	ft ²
Wetted perimeter, p_w	ft
Hydraulic radius, r	ft
Channel slope, s	ft/ft
Manning's roughness coeff., n	
$V = \frac{1.49 r^{2/3} s^{1/2}}{n}$	Comp V ft/s
Flow length, L	ft
$T_t = \frac{L}{3600 V}$	Comp T_t hr

+ [] = **0.000**

Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19) **Hours** = **0.370**

Min. = **22.2**

Project Pond View By CMH Date 01/09/23
 Location 127 Main Street, Monroe, CT Checked CJB Date 01/09/23
 Bold One: Present **Developed**
 Bold One: **T_c** **T_t** through subarea **Proposed Drainage Area 1B (PDA-1B)**

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)

1. Surface description (table 3-1)
2. Manning's roughness coeff., n (table 3-1)
3. Flow Length, L (total L ≤ 300 ft)
4. Two-yr 24-hr rainfall, P₂
5. Land slope, s

$$6. T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5} s^{0.4}}$$

Compute T_t

Segment ID	AB	
	Dense Grasses	
	0.240	
	100	
	3.56	
	0.02	
	0.253	+
		= 0.253

Shallow concentrated flow

7. Surface description (paved or unpaved)
8. Flow length, L
9. Watercourse slope, s
10. Average velocity, V (Conn DOT Equations 6.C.4 & C.C.5)

$$11. T_t = \frac{L}{3600 V}$$

Compute T_t

Segment ID	BC	
	unpaved	
	97.75	
	0.02	
	2.28	
	0.012	+
		= 0.012

Channel flow

12. Cross sectional flow area, a
13. Wetted perimeter, p_w
14. Hydraulic radius, r
15. Channel slope, s
16. Manning's roughness coeff., n

$$r = \frac{a}{p_w}$$

Compute r

$$17. V = \frac{1.49 r^{2/3} s^{1/2}}{n}$$

Compute V

18. Flow length, L

$$19. T_t = \frac{L}{3600 V}$$

Compute T_t

Segment ID	CD	
	5.00	
	974.32	
	0.054	+
		= 0.054

20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)

Hours = **0.319**
Minutes = **19.1**

Project Pond View By CMH Date 01/09/23
 Location 127 Main Street, Monroe, CT Checked CJB Date 01/09/23

Bold One: Present **Developed**

Bold One: T_c T_t through subarea **Proposed Drainage Area 1C (PDA-1C)**

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)

1. Surface description (table 3-1)
2. Manning's roughness coeff., n (table 3-1)
3. Flow Length, L (total L \leq 300 ft)
4. Two-yr 24-hr rainfall, P_2
5. Land slope, s

$$6. T_t = \frac{0.007 (nL)^{0.8}}{P_2^{0.5} S^{0.4}}$$

Compute T_t

Segment ID	AB	
	Dense Grasses	
	0.240	
ft	71	
in	3.56	
ft/ft	0.01	
hr	0.226	+
		=
		0.226

Shallow concentrated flow

7. Surface description (paved or unpaved)
8. Flow length, L
9. Watercourse slope, s
10. Average velocity, V (Conn DOT Equations 6.C.4 & C.C.5)

$$11. T_t = \frac{L}{3600 V}$$

Compute T_t

Segment ID		
ft		
ft/ft		
ft/s		
hr		+
		=
		0.000

Channel flow

12. Cross sectional flow area, a
13. Wetted perimeter, p_w
14. Hydraulic radius, r
15. Channel slope, s
16. Manning's roughness coeff., n

$$r = \frac{a}{p_w}$$

Compute r

$$17. V = \frac{1.49 r^{2/3} s^{1/2}}{n}$$

Compute V

$$19. T_t = \frac{L}{3600 V}$$

Compute T_t

Segment ID	CD	
ft ²		
ft		
ft		
ft/ft		
ft/s	5.00	
ft	397.5	
hr	0.022	+
		=
		0.022

20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)

Hours	=	0.248
Minutes	=	14.9

Project Pond View By CMH Date 01/09/23
 Location 127 Main Street, Monroe, CT Checked CJB Date 01/09/23

Bold One: Present **Developed**

Bold One: T_c T_t through subarea **Proposed Drainage Area 2A (PDA-2A)**

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)

1. Surface description (table 3-1)
2. Manning's roughness coeff., n (table 3-1)
3. Flow Length, L (total $L \leq 300$ ft)
4. Two-yr 24-hr rainfall, P_2
5. Land slope, s

$$6. T_t = \frac{0.007 (nL)^{0.8}}{P_2^{0.5} S^{0.4}}$$

Compute T_t

Segment ID	AB		
	Dense Grasses		
	0.240		
ft	100		
in	3.56		
ft/ft	0.02		
hr	0.225	+	0.225

Shallow concentrated flow

7. Surface description (paved or unpaved)
8. Flow length, L
9. Watercourse slope, s
10. Average velocity, V (Conn DOT Equations 6.C.4 & C.C.5)

$$11. T_t = \frac{L}{3600 V}$$

Compute T_t

Segment ID	BC	CD	DE	
	unpaved	unpaved	unpaved	
ft	17	32	92	
ft/ft	0.12	0.06	0.34	
ft/s	5.53	4.03	9.44	
hr	0.001	+	0.002	+
				0.003
				=
				0.006

Channel flow

12. Cross sectional flow area, a
13. Wetted perimeter, p_w
14. Hydraulic radius, r $r = \frac{a}{p_w}$
15. Channel slope, s
16. Manning's roughness coeff., n

$$17. V = \frac{1.49 r^{2/3} s^{1/2}}{n}$$

Compute V

$$19. T_t = \frac{L}{3600 V}$$

Compute T_t

Segment ID			
ft ²			
ft			
ft			
ft/ft			
ft/s			
hr			
			=
			0.000

20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)

Hours	=	0.231
Minutes	=	13.9

Project Pond View By CMH Date 01/09/23
 Location 127 Main Street, Monroe, CT Checked CJB Date 01/09/23

Bold One: Present **Developed**

Bold One: T_c T_t through subarea **Proposed Drainage Area 2B (PDA-2B)**

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)

1. Surface description (table 3-1)
2. Manning's roughness coeff., n (table 3-1)
3. Flow Length, L (total $L \leq 300$ ft)
4. Two-yr 24-hr rainfall, P_2
5. Land slope, s
6. $T_t = \frac{0.007 (nL)^{0.8}}{P_2^{0.5} s^{0.4}}$

Compute T_t

Segment ID	AB		
	Asphalt		
	0.011		
	100	ft	
	3.56	in	
	0.08	ft/ft	
	0.011	hr	+
			=
			0.011

Shallow concentrated flow

7. Surface description (paved or unpaved)
8. Flow length, L
9. Watercourse slope, s
10. Average velocity, V (Conn DOT Equations 6.C.4 & C.C.5)
11. $T_t = \frac{L}{3600 V}$

Compute T_t

Segment ID	BC		
	paved		
	145	ft	
	0.08	ft/ft	
	5.79	ft/s	
	0.007	hr	+
			+
			=
			0.007

Channel flow

12. Cross sectional flow area, a
13. Wetted perimeter, p_w
14. Hydraulic radius, r $r = \frac{a}{p_w}$
15. Channel slope, s
16. Manning's roughness coeff., n
17. $V = \frac{1.49 r^{2/3} s^{1/2}}{n}$
18. Flow length, L
19. $T_t = \frac{L}{3600 V}$

Compute r

Compute V

Compute T_t

Segment ID	CD		
		ft ²	
		ft	
		ft	
		ft/ft	
	5.00	ft/s	
	225	ft	
	0.013	hr	+
			=
			0.013

20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)

Hours = **0.030**

Minute: = **1.8**

Project Pond View By CMH Date 01/09/23
 Location 127 Main Street, Monroe, CT Checked CJB Date 01/09/23

Bold One: Present **Developed**

Bold One: T_c T_t through subarea **Proposed Drainage Area 3A (PDA-3A)**

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)

1. Surface description (table 3-1)
2. Manning's roughness coeff., n (table 3-1)
3. Flow Length, L (total $L \leq 300$ ft)
4. Two-yr 24-hr rainfall, P_2
5. Land slope, s
6. $T_t = \frac{0.007 (nL)^{0.8}}{P_2^{0.5} S^{0.4}}$

Segment ID	AB		
	Woods		
	0.400		
ft	276.1		
in	3.56		
ft/ft	0.06		
hr	0.488	+	0.488

Shallow concentrated flow

7. Surface description (paved or unpaved)
8. Flow length, L
9. Watercourse slope, s
10. Average velocity, V (Conn DOT Equations 6.C.4 & C.C.5)
11. $T_t = \frac{L}{3600 V}$

Segment ID	BC	CD	
	unpaved	unpaved	
ft	49.5	160.5	
ft/ft	0.08	0.19	
ft/s	4.59	6.98	
hr	0.003	+	0.006

= **0.009**

Channel flow

12. Cross sectional flow area, a
13. Wetted perimeter, p_w
14. Hydraulic radius, r $r = \frac{a}{p_w}$ Compute r
15. Channel slope, s
16. Manning's roughness coeff., n
17. $V = \frac{1.49 r^{2/3} s^{1/2}}{n}$ Compute V
18. Flow length, L
19. $T_t = \frac{L}{3600 V}$ Compute T_t
20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)

Segment ID			
ft ²			
ft			
ft			
ft/ft			
ft/s			
hr			
			0.000
		Hours	0.497
		Minutes	29.8

Project Pond View By CMH Date 01/09/23
 Location 127 Main Street, Monroe, CT Checked CJB Date 01/09/23

Bold One: Present **Developed**

Bold One: T_c T_t through subarea **Proposed Drainage Area 3B (PDA-3B)**

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)

1. Surface description (table 3-1)
2. Manning's roughness coeff., n (table 3-1)
3. Flow Length, L (total $L \leq 300$ ft)
4. Two-yr 24-hr rainfall, P_2
5. Land slope, s

$$6. T_t = \frac{0.007 (nL)^{0.8}}{P_2^{0.5} S^{0.4}}$$

Compute T_t

Segment ID	AB		
	Dense Grasses		
	0.240		
ft	100		
in	3.56		
ft/ft	0.02		
hr	0.225	+	0.225

Shallow concentrated flow

7. Surface description (paved or unpaved)
8. Flow length, L
9. Watercourse slope, s
10. Average velocity, V (Conn DOT Equations 6.C.4 & C.C.5)

$$11. T_t = \frac{L}{3600 V}$$

Compute T_t

Segment ID	BC		
	unpaved		
ft	37		
ft/ft	0.09		
ft/s	4.84		
hr	0.002	+	0.002

Channel flow

12. Cross sectional flow area, a
13. Wetted perimeter, p_w
14. Hydraulic radius, r $r = \frac{a}{p_w}$
15. Channel slope, s
16. Manning's roughness coeff., n

$$17. V = \frac{1.49 r^{2/3} s^{1/2}}{n}$$

Compute V

$$19. T_t = \frac{L}{3600 V}$$

Compute T_t

Segment ID	CD		
ft ²			
ft			
ft			
ft/ft			
ft/s	5.00		
ft	301		
hr	0.017	+	0.017

20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)

Hours = **0.244**
Minutes = **14.7**

Project Pond View By CMH Date 01/09/23
 Location 127 Main Street, Monroe, CT Checked CJB Date 01/09/23

Bold One: Present **Developed**

Bold One: T_c T_t through subarea Proposed Drainage Area 3B (PDA-3B)

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)

- Surface description (table 3-1)
- Manning's roughness coeff., n (table 3-1)
- Flow Length, L (total $L \leq 300$ ft)
- Two-yr 24-hr rainfall, P_2
- Land slope, s

$$T_t = \frac{0.007 (nL)^{0.8}}{P_2^{0.5} S^{0.4}}$$

Compute T_t

Segment ID	AB	BC
	Dense Grasses	Dense Grasses
	0.240	0.240
	45.5	35.5
	3.56	3.56
	0.11	0.03
	0.061	0.086
	+ = 0.147	

Shallow concentrated flow

- Surface description (paved or unpaved)
- Flow length, L
- Watercourse slope, s
- Average velocity, V (Conn DOT Equations 6.C.4 & C.C.5)

$$T_t = \frac{L}{3600 V}$$

Compute T_t

Segment ID	CD	
	unpaved	
	140.4	
	0.09	
	4.70	
	0.008	
	+ = 0.008	

Channel flow

- Cross sectional flow area, a
- Wetted perimeter, p_w
- Hydraulic radius, r $r = \frac{a}{p_w}$
- Channel slope, s
- Manning's roughness coeff., n

$$V = \frac{1.49 r^{2/3} s^{1/2}}{n}$$

Compute V

$$T_t = \frac{L}{3600 V}$$

Compute T_t

Segment ID		
	ft ²	
	ft	
	ft	
	ft/ft	
	ft/s	
	ft	
	hr	
	= 0.000	
	Hours	= 0.155
	Minutes	= 9.3

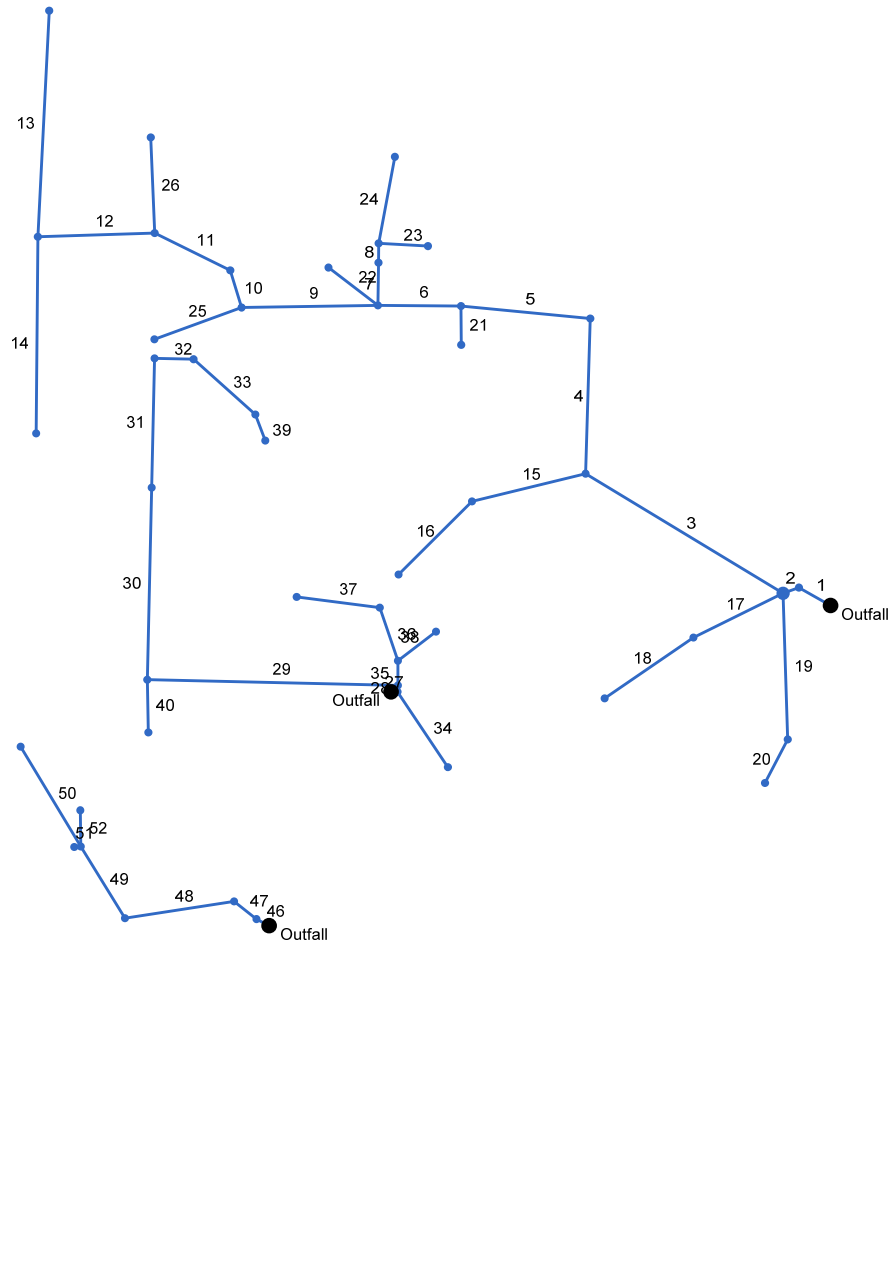
20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)

Stormwater Calculations (100-year storm event)

Existing & Proposed Storm Sewer System – Schematic, DOT Reporting, Profiles

Runoff Coefficient & ToC Calculations – Existing & Proposed Conditions

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



Project File: Storm Sewers.stm

Number of lines: 52

Date: 1/9/2023

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	Out-1A	24.97	36	Cir	28.000	352.00	355.60	12.857	357.26	357.21	n/a	357.21	End	Manhole
2	1A-1B	25.02	36	Cir	13.000	355.60	356.00	3.077	357.21	357.61	n/a	357.61	1	Combination
3	1B-1C	21.15	30	Cir	178.000	356.00	358.67	1.500	357.61	360.23	n/a	360.23 j	2	Grate
4	1C-1D	18.56	24	Cir	120.000	359.00	360.80	1.500	360.23	362.35	n/a	362.35	3	Grate
5	1D-1E	15.88	24	Cir	100.000	360.85	362.85	2.000	362.35	364.29	n/a	364.29 j	4	Grate
6	1E-1F	14.21	24	Cir	64.000	363.00	363.64	1.000	364.29	365.00	n/a	365.00	5	Manhole
7	1F-1G	7.33	18	Cir	33.000	363.75	364.75	3.030	365.00	365.80	n/a	365.80 j	6	Combination
8	1G-1H	5.81	12	Cir	15.000	365.00	365.15	1.000	366.00*	366.34*	1.37	367.71	7	Combination
9	1F-1I	9.77	18	Cir	105.000	363.75	364.80	1.000	365.00	366.00	n/a	366.00 j	6	Manhole
10	1I-1J	8.26	18	Cir	30.000	365.00	365.30	1.000	366.00	366.41	n/a	366.41	9	Combination
11	1J-1K	7.70	18	Cir	65.000	365.50	365.83	0.508	366.67	367.00	0.57	367.57	10	Grate
12	1K-1L	4.12	18	Cir	90.000	366.00	366.45	0.500	367.57	367.66	0.11	367.77	11	Manhole
13	1L-1M	3.14	12	Cir	175.000	366.50	367.40	0.514	367.77*	368.93*	0.25	369.18	12	Grate
14	1L-1N	1.40	12	Cir	152.000	366.50	367.26	0.500	367.77	367.97	0.08	368.06	12	Grate
15	1C-1O	4.29	12	Cir	90.000	359.00	362.60	4.000	360.23	363.47	n/a	363.47 j	3	Grate
16	1O-1P	2.14	12	Cir	80.000	362.75	363.15	0.500	363.47	363.80	0.24	364.04	15	Grate
17	1B-1Q	0.72	12	Cir	77.000	357.50	361.00	4.545	357.70	361.36	0.07	361.36	2	Grate
18	1Q-1R	0.49	6	Cir	83.000	361.00	362.00	1.205	361.36	362.36	0.17	362.36	17	Grate
19	1B-1S	4.26	18	Cir	113.000	357.09	357.65	0.496	357.87	358.44	0.26	358.44	2	Combination
20	1S-1T	3.14	12	Cir	38.000	357.80	358.00	0.526	358.80	359.00	0.25	359.25	19	Combination
21	1E-R	2.65	6	Cir	30.000	363.00	363.15	0.500	364.29*	370.01*	2.84	372.84	5	Grate
22	1F-R	0.57	4	Cir	48.000	364.00	364.24	0.500	365.00*	368.65*	0.66	369.31	6	Grate
23	1H-R1	0.57	4	Cir	38.000	365.25	365.44	0.500	367.71*	370.60*	0.66	371.26	8	Grate
24	1H-R2	2.65	6	Cir	68.000	365.25	365.59	0.500	367.71*	380.68*	2.84	383.52	8	Grate

Project File: Storm Sewers.stm

Number of lines: 52

Run Date: 1/9/2023

NOTES: Return period = 100 Yrs. ; *Surcharged (HGL above crown). ; j - Line contains hyd. jump.

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
25	1I-R	2.65	6	Cir	71.500	365.00	365.36	0.503	366.00*	379.64*	2.84	382.48	9	Grate
26	1K-R	2.65	6	Cir	74.000	366.00	366.37	0.500	367.57*	381.68*	2.84	384.52	11	Grate
27	Out-1U	12.04	30	Cir	5.000	361.00	361.05	1.000	361.89	362.21	n/a	362.21	End	Manhole
28	1U-1V	9.96	30	Cir	5.000	361.05	361.10	1.000	362.21	362.15	0.76	362.15	27	Combination
29	1V-1W	6.52	24	Cir	193.000	361.10	362.10	0.518	362.15	363.00	n/a	363.00 j	28	Combination
30	1W-1X	4.85	18	Cir	148.500	362.15	363.65	1.010	363.00	364.50	n/a	364.50 j	29	Combination
31	1X-1Y	3.91	18	Cir	100.000	363.75	364.25	0.500	364.50	365.01	n/a	365.01	30	Combination
32	1Y-1Z	2.51	12	Cir	30.000	364.25	364.40	0.500	365.01	365.16	0.25	365.41	31	Grate
33	1Z-1AA	2.99	12	Cir	64.000	364.40	364.75	0.547	365.41	365.74	0.17	365.92	32	Grate
34	1U-1BB	3.60	12	Cir	70.000	361.05	362.50	2.071	362.21	363.31	n/a	363.31 j	27	Combination
35	1V-1CC	2.87	18	Cir	19.000	361.10	361.20	0.526	362.15	361.84	n/a	361.84	28	Grate
36	1CC-1DD	1.19	12	Cir	43.400	361.50	361.75	0.576	361.94	362.21	n/a	362.21	35	Grate
37	1DD-1EE	0.50	12	Cir	64.500	362.00	362.33	0.512	362.29	362.62	0.11	362.62	36	Grate
38	1CC-R	1.71	6	Cir	37.000	361.20	361.39	0.514	361.84*	364.76*	1.17	365.93	35	Grate
39	1BB-R	2.65	6	Cir	21.500	364.75	364.86	0.512	365.92*	370.02*	2.84	372.86	33	Grate
40	1W-R	0.66	4	Cir	40.750	362.15	362.35	0.491	363.00*	367.23*	0.90	368.13	29	Grate
41	Out-2A	3.84	18	Cir	36.000	332.20	333.50	3.611	335.16*	335.20*	0.04	335.24	End	Manhole
42	2A-2B	3.93	18	Cir	50.000	333.50	333.75	0.500	335.24*	335.30*	0.14	335.45	41	Combination
43	2B-2C	0.95	12	Cir	23.000	334.00	334.12	0.522	335.45*	335.46*	0.02	335.48	42	Combination
44	2B-2D	2.02	12	Cir	112.000	333.86	336.10	2.000	335.45	336.71	n/a	336.71 j	42	Combination
45	2D-2E	1.20	12	Cir	24.000	336.10	336.25	0.625	336.71	336.71	n/a	336.71 j	44	Combination
46	Out-3A	8.09	24	Cir	11.000	365.00	365.50	4.545	365.96	366.51	0.09	366.51	End	Manhole
47	3A-3B	8.16	24	Cir	22.000	365.50	365.61	0.500	366.51	366.63	n/a	366.63	46	Combination
48	3B-3C	7.33	18	Cir	85.000	365.75	366.18	0.506	366.87	367.30	0.59	367.88	47	Combination

Project File: Storm Sewers.stm

Number of lines: 52

Run Date: 1/9/2023

NOTES: Return period = 100 Yrs. ; *Surcharged (HGL above crown). ; j - Line contains hyd. jump.

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
49	3C-3D	5.06	18	Cir	65.000	366.25	366.58	0.508	367.88	368.00	0.12	368.12	48	Manhole
50	3D-3E	2.30	12	Cir	90.000	366.75	367.20	0.500	368.12*	368.44*	0.13	368.57	49	Grate
51	3D-R1	0.28	4	Cir	5.000	366.75	366.78	0.600	368.12*	368.21*	0.16	368.38	49	Grate
52	3D-R2	2.65	6	Cir	28.000	366.75	366.89	0.500	368.12*	373.46*	2.84	376.30	49	Grate

Project File: Storm Sewers.stm

Number of lines: 52

Run Date: 1/9/2023

NOTES: Return period = 100 Yrs. ; *Surcharged (HGL above crown). ; j - Line contains hyd. jump.

Storm Sewer Tabulation

Station		Len (ft)	Drng Area		Rnoff coeff (C)	Area x C		Tc		Rain (l) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr (ac)	Total (ac)		Incr	Total	Inlet (min)	Syst (min)					Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	28.000	0.00	6.61	0.00	0.00	4.62	0.0	19.7	5.4	24.97	259.1	5.00	36	12.86	352.00	355.60	357.26	357.21	0.00	360.00	Out-1A
2	1	13.000	0.33	6.61	0.88	0.29	4.62	6.0	19.6	5.4	25.02	126.7	6.47	36	3.08	355.60	356.00	357.21	357.61	360.00	362.90	1A-1B
3	2	178.000	0.12	5.67	0.50	0.06	3.83	6.0	18.9	5.5	21.15	54.41	6.44	30	1.50	356.00	358.67	357.61	360.23	362.90	366.70	1B-1C
4	3	120.000	0.58	4.88	0.88	0.51	3.32	6.0	18.5	5.6	18.56	30.01	8.12	24	1.50	359.00	360.80	360.23	362.35	366.70	368.70	1C-1D
5	4	100.000	0.05	4.30	0.95	0.05	2.81	6.0	18.2	5.6	15.88	34.65	6.43	24	2.00	360.85	362.85	362.35	364.29	368.70	370.90	1D-1E
6	5	64.000	0.00	3.97	0.00	0.00	2.50	0.0	18.0	5.7	14.21	24.50	6.46	24	1.00	363.00	363.64	364.29	365.00	370.90	371.10	1E-1F
7	6	33.000	0.19	0.84	0.82	0.16	0.74	6.0	6.1	9.9	7.33	19.80	5.12	18	3.03	363.75	364.75	365.00	365.80	371.10	370.00	1F-1G
8	7	15.000	0.31	0.65	0.85	0.26	0.59	6.0	6.1	9.9	5.81	3.86	7.40	12	1.00	365.00	365.15	366.00	366.34	370.00	370.60	1G-1H
9	6	105.000	0.00	3.07	0.00	0.00	1.70	0.0	17.6	5.8	9.77	11.38	6.32	18	1.00	363.75	364.80	365.00	366.00	371.10	371.75	1F-1I
10	9	30.000	0.12	2.79	0.90	0.11	1.43	6.0	17.5	5.8	8.26	11.38	6.22	18	1.00	365.00	365.30	366.00	366.41	371.75	371.20	1I-1J
11	10	65.000	0.41	2.67	0.89	0.36	1.32	6.0	17.3	5.8	7.70	8.11	5.22	18	0.51	365.50	365.83	366.67	367.00	371.20	370.80	1J-1K
12	11	90.000	0.00	1.98	0.00	0.00	0.69	0.0	16.6	5.9	4.12	8.04	2.52	18	0.50	366.00	366.45	367.57	367.66	370.80	374.00	1K-1L
13	12	175.000	1.47	1.47	0.35	0.51	0.51	15.9	15.9	6.1	3.14	2.77	4.00	12	0.51	366.50	367.40	367.77	368.93	374.00	369.50	1L-1M
14	12	152.000	0.51	0.51	0.35	0.18	0.18	10.0	10.0	7.8	1.40	2.73	2.06	12	0.50	366.50	367.26	367.77	367.97	374.00	371.50	1L-1N
15	3	90.000	0.35	0.67	0.66	0.23	0.45	6.0	6.5	9.6	4.29	7.72	5.69	12	4.00	359.00	362.60	360.23	363.47	366.70	365.10	1C-1O
16	15	80.000	0.32	0.32	0.67	0.21	0.21	6.0	6.0	10.0	2.14	2.73	3.75	12	0.50	362.75	363.15	363.47	363.80	365.10	365.40	1O-1P
17	2	77.000	0.04	0.13	0.65	0.03	0.08	6.0	6.6	9.6	0.72	8.23	4.67	12	4.55	357.50	361.00	357.70	361.36	362.90	364.00	1B-1Q
18	17	83.000	0.09	0.09	0.55	0.05	0.05	6.0	6.0	10.0	0.49	0.67	3.30	6	1.20	361.00	362.00	361.36	362.36	364.00	364.00	1Q-1R
19	2	113.000	0.13	0.48	0.90	0.12	0.43	6.0	6.2	9.9	4.26	8.01	4.56	18	0.50	357.09	357.65	357.87	358.44	362.90	361.70	1B-1S
20	19	38.000	0.35	0.35	0.90	0.32	0.32	6.0	6.0	10.0	3.14	2.80	4.00	12	0.53	357.80	358.00	358.80	359.00	361.70	361.00	1S-1T
21	5	30.000	0.28	0.28	0.95	0.27	0.27	6.0	6.0	10.0	2.65	0.43	13.51	6	0.50	363.00	363.15	364.29	370.01	370.90	372.00	1E-R
22	6	48.000	0.06	0.06	0.95	0.06	0.06	6.0	6.0	10.0	0.57	0.15	6.51	4	0.50	364.00	364.24	365.00	368.65	371.10	372.00	1F-R

Project File: Storm Sewers.stm

Number of lines: 52

Run Date: 1/9/2023

NOTES: Intensity = 48.72 / (Inlet time + 3.70) ^ 0.70; Return period = Yrs. 100 ; c = cir e = ellip b = box

Storm Sewer Tabulation

Station		Len (ft)	Drng Area		Rnoff coeff (C)	Area x C		Tc		Rain (l) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr (ac)	Total (ac)		Incr	Total	Inlet (min)	Syst (min)					Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
23	8	38.000	0.06	0.06	0.95	0.06	0.06	6.0	6.0	10.0	0.57	0.15	6.51	4	0.50	365.25	365.44	367.71	370.60	370.60	371.60	1H-R1
24	8	68.000	0.28	0.28	0.95	0.27	0.27	6.0	6.0	10.0	2.65	0.43	13.51	6	0.50	365.25	365.59	367.71	380.68	370.60	373.00	1H-R2
25	9	71.500	0.28	0.28	0.95	0.27	0.27	6.0	6.0	10.0	2.65	0.43	13.51	6	0.50	365.00	365.36	366.00	379.64	371.75	373.50	1I-R
26	11	74.000	0.28	0.28	0.95	0.27	0.27	6.0	6.0	10.0	2.65	0.43	13.51	6	0.50	366.00	366.37	367.57	381.68	370.80	373.00	1K-R
27	End	5.000	0.00	2.61	0.00	0.00	2.07	0.0	17.3	5.8	12.04	44.42	6.53	30	1.00	361.00	361.05	361.89	362.21	0.00	366.20	Out-1U
28	27	5.000	0.36	2.19	0.88	0.32	1.71	6.0	17.2	5.8	9.96	44.44	4.76	30	1.00	361.05	361.10	362.21	362.15	366.20	365.80	1U-1V
29	28	193.000	0.27	1.35	0.86	0.23	1.06	6.0	15.7	6.1	6.52	17.64	4.31	24	0.52	361.10	362.10	362.15	363.00	365.80	369.50	1V-1W
30	29	148.500	0.23	1.01	0.72	0.17	0.76	6.0	14.8	6.4	4.85	11.43	4.69	18	1.01	362.15	363.65	363.00	364.50	369.50	370.00	1W-1X
31	30	100.000	0.24	0.78	0.90	0.22	0.60	6.0	14.1	6.5	3.91	8.04	4.42	18	0.50	363.75	364.25	364.50	365.01	370.00	369.90	1X-1Y
32	31	30.000	0.18	0.54	0.45	0.08	0.38	13.9	13.9	6.6	2.51	2.73	3.94	12	0.50	364.25	364.40	365.01	365.16	369.90	370.00	1Y-1Z
33	32	64.000	0.08	0.36	0.43	0.03	0.30	6.0	6.0	10.0	2.99	2.85	3.81	12	0.55	364.40	364.75	365.41	365.74	370.00	368.00	1Z-1AA
34	27	70.000	0.42	0.42	0.86	0.36	0.36	6.0	6.0	10.0	3.60	5.55	4.94	12	2.07	361.05	362.50	362.21	363.31	366.20	365.50	1U-1BB
35	28	19.000	0.04	0.48	0.65	0.03	0.33	6.0	8.1	8.7	2.87	8.25	3.06	18	0.53	361.10	361.20	362.15	361.84	365.80	365.75	1V-1CC
36	35	43.400	0.15	0.26	0.55	0.08	0.13	6.0	7.7	8.9	1.19	2.93	3.45	12	0.58	361.50	361.75	361.94	362.21	365.75	365.00	1CC-1DD
37	36	64.500	0.11	0.11	0.46	0.05	0.05	6.0	6.0	10.0	0.50	2.76	2.64	12	0.51	362.00	362.33	362.29	362.62	365.00	365.80	1DD-1EE
38	35	37.000	0.18	0.18	0.95	0.17	0.17	6.0	6.0	10.0	1.71	0.44	8.69	6	0.51	361.20	361.39	361.84	364.76	365.75	365.50	1CC-R
39	33	21.500	0.28	0.28	0.95	0.27	0.27	6.0	6.0	10.0	2.65	0.43	13.51	6	0.51	364.75	364.86	365.92	370.02	368.00	371.00	1BB-R
40	29	40.750	0.07	0.07	0.95	0.07	0.07	6.0	6.0	10.0	0.66	0.14	7.60	4	0.49	362.15	362.35	363.00	367.23	369.50	370.00	1W-R
41	End	36.000	0.00	0.47	0.00	0.00	0.42	0.0	7.4	9.1	3.84	21.62	2.17	18	3.61	332.20	333.50	335.16	335.20	0.00	337.50	Out-2A
42	41	50.000	0.14	0.47	0.86	0.12	0.42	6.0	7.0	9.3	3.93	8.04	2.22	18	0.50	333.50	333.75	335.24	335.30	337.50	336.80	2A-2B
43	42	23.000	0.10	0.10	0.95	0.10	0.10	6.0	6.0	10.0	0.95	2.79	1.21	12	0.52	334.00	334.12	335.45	335.46	336.80	337.40	2B-2C
44	42	112.000	0.09	0.23	0.95	0.09	0.21	6.0	6.3	9.8	2.02	5.46	3.31	12	2.00	333.86	336.10	335.45	336.71	336.80	341.10	2B-2D

Project File: Storm Sewers.stm

Number of lines: 52

Run Date: 1/9/2023

NOTES: Intensity = 48.72 / (Inlet time + 3.70) ^ 0.70; Return period = Yrs. 100 ; c = cir e = ellip b = box

Storm Sewer Tabulation

Station		Len (ft)	Drng Area		Rnoff coeff (C)	Area x C		Tc		Rain (l) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr (ac)	Total (ac)		Incr	Total	Inlet (min)	Syst (min)					Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
45	44	24.000	0.14	0.14	0.86	0.12	0.12	6.0	6.0	10.0	1.20	3.05	2.90	12	0.62	336.10	336.25	336.71	336.71	341.10	341.00	2D-2E
46	End	11.000	0.00	1.41	0.00	0.00	0.89	0.0	7.4	9.1	8.09	52.24	5.25	24	4.55	365.00	365.50	365.96	366.51	0.00	370.00	Out-3A
47	46	22.000	0.12	1.41	0.90	0.11	0.89	6.0	7.2	9.2	8.16	17.32	5.10	24	0.50	365.50	365.61	366.51	366.63	370.00	370.25	3A-3B
48	47	85.000	0.32	1.29	0.80	0.26	0.78	6.0	6.9	9.4	7.33	8.09	5.19	18	0.51	365.75	366.18	366.87	367.30	370.25	370.50	3B-3C
49	48	65.000	0.00	0.97	0.00	0.00	0.53	0.0	6.5	9.6	5.06	8.11	2.89	18	0.51	366.25	366.58	367.88	368.00	370.50	371.50	3C-3D
50	49	90.000	0.66	0.66	0.35	0.23	0.23	6.0	6.0	10.0	2.30	2.73	2.93	12	0.50	366.75	367.20	368.12	368.44	371.50	370.00	3D-3E
51	49	5.000	0.03	0.03	0.95	0.03	0.03	6.0	6.0	10.0	0.28	0.16	3.26	4	0.60	366.75	366.78	368.12	368.21	371.50	371.50	3D-R1
52	49	28.000	0.28	0.28	0.95	0.27	0.27	6.0	6.0	10.0	2.65	0.43	13.51	6	0.50	366.75	366.89	368.12	373.46	371.50	372.00	3D-R2

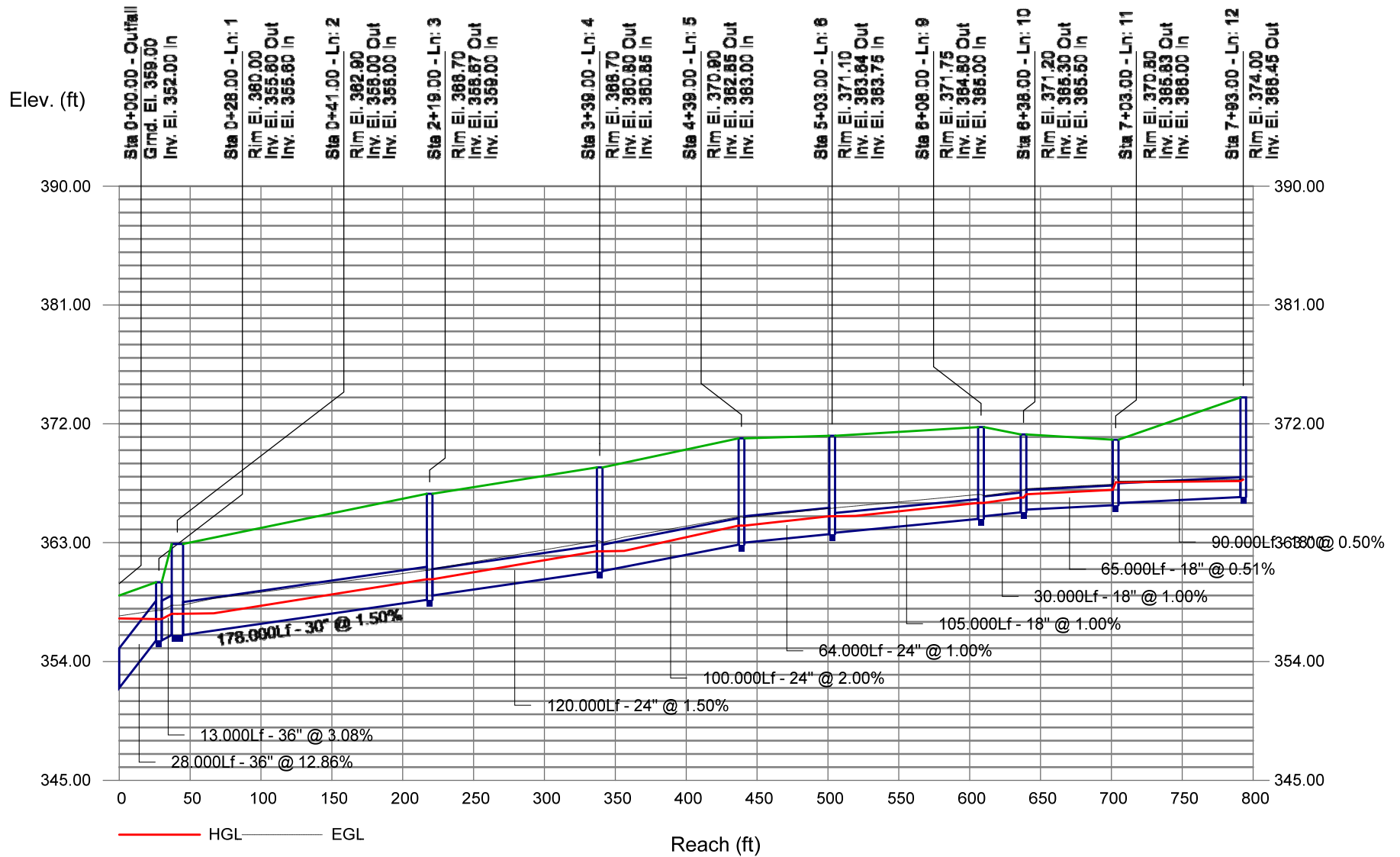
Project File: Storm Sewers.stm

Number of lines: 52

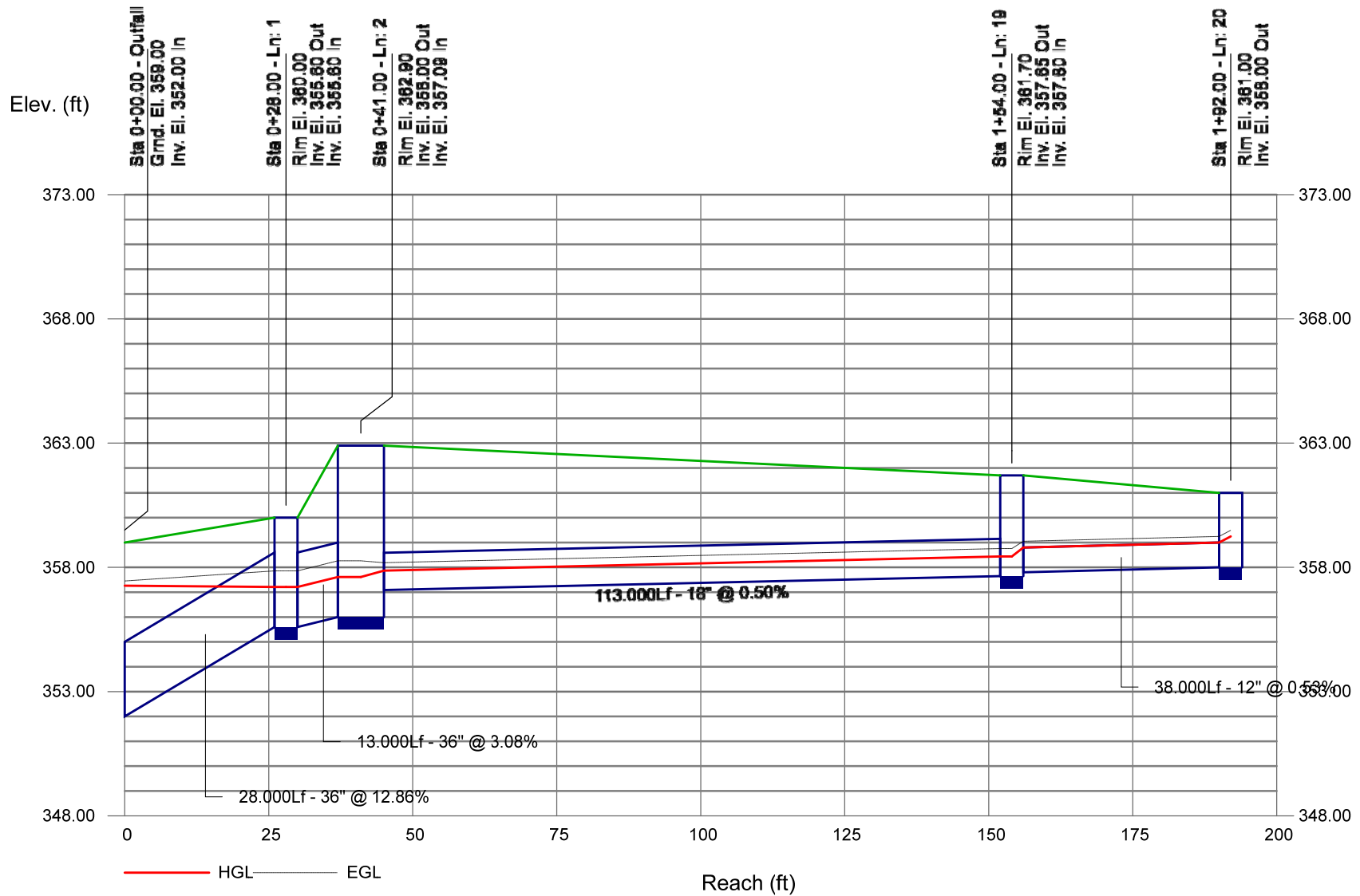
Run Date: 1/9/2023

NOTES: Intensity = 48.72 / (Inlet time + 3.70) ^ 0.70; Return period = Yrs. 100 ; c = cir e = ellip b = box

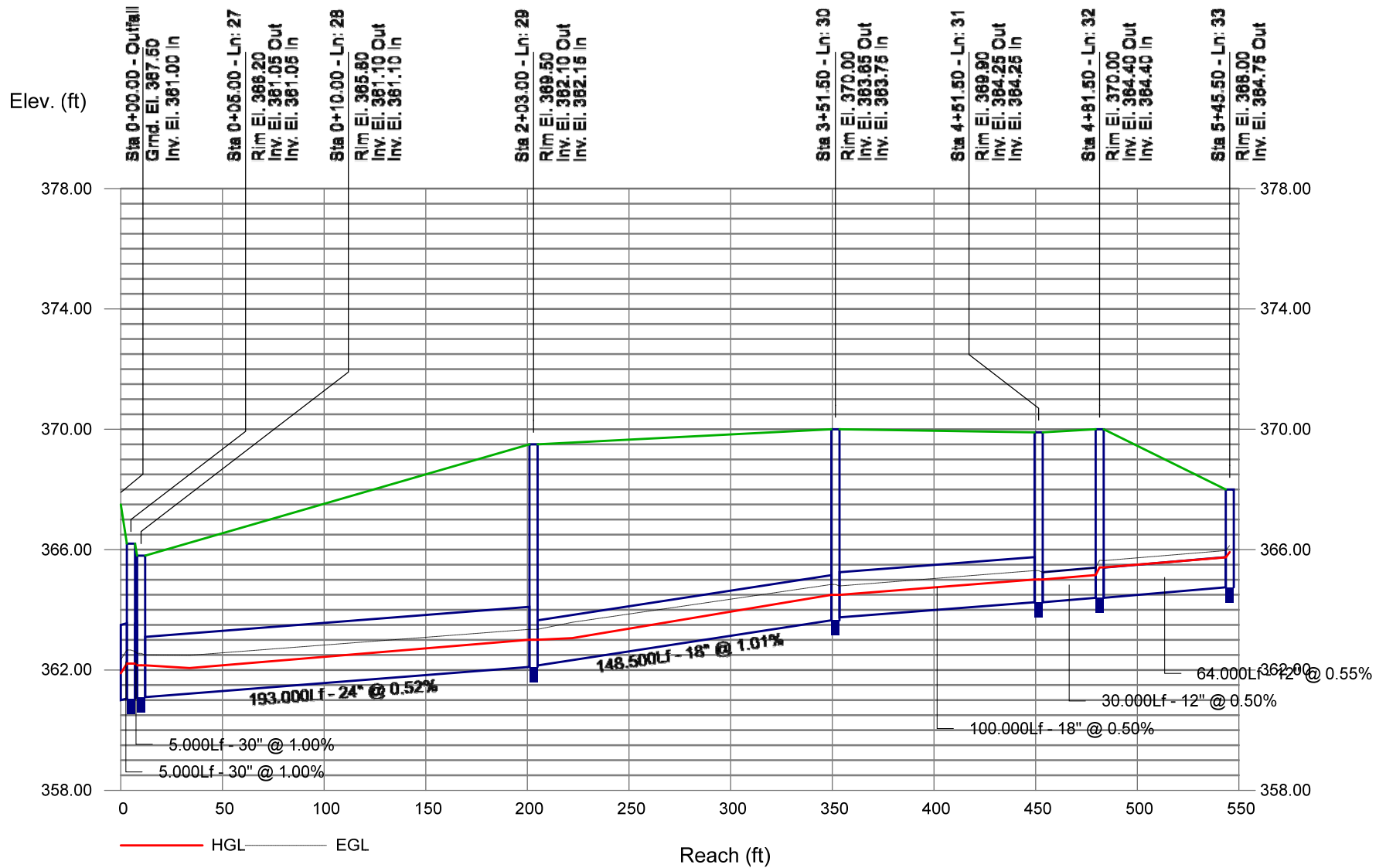
Storm Sewer Profile



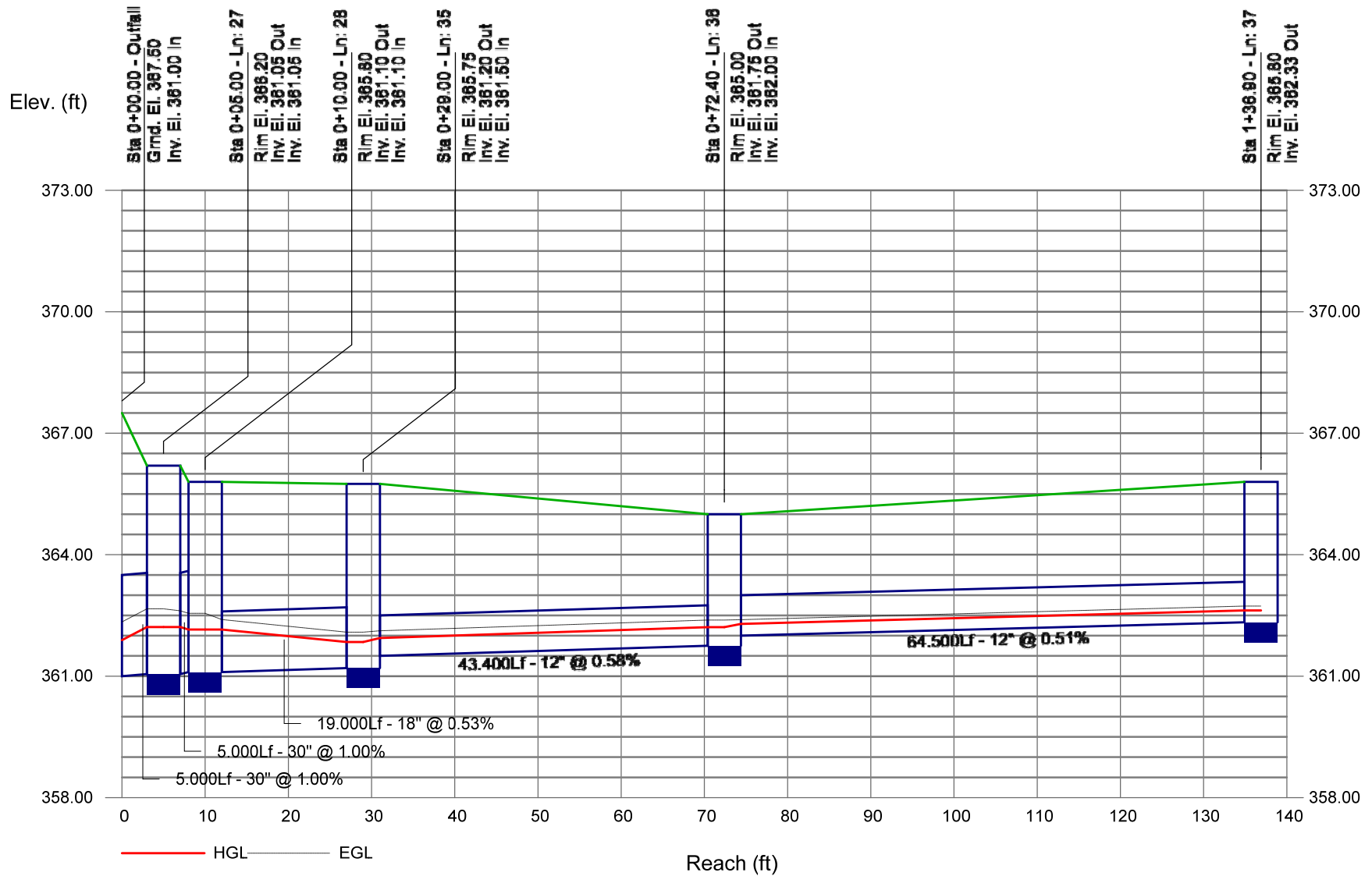
Storm Sewer Profile



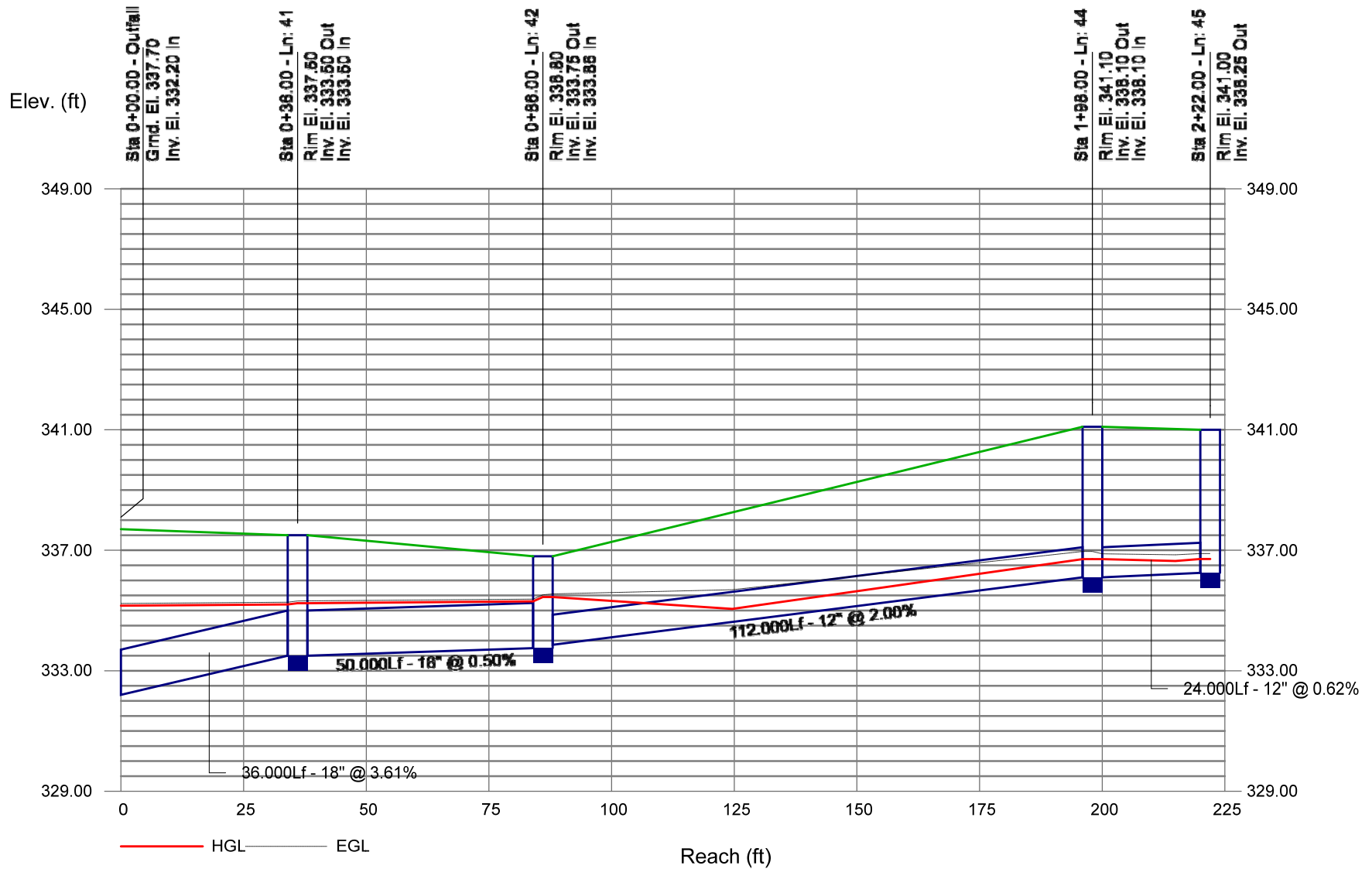
Storm Sewer Profile



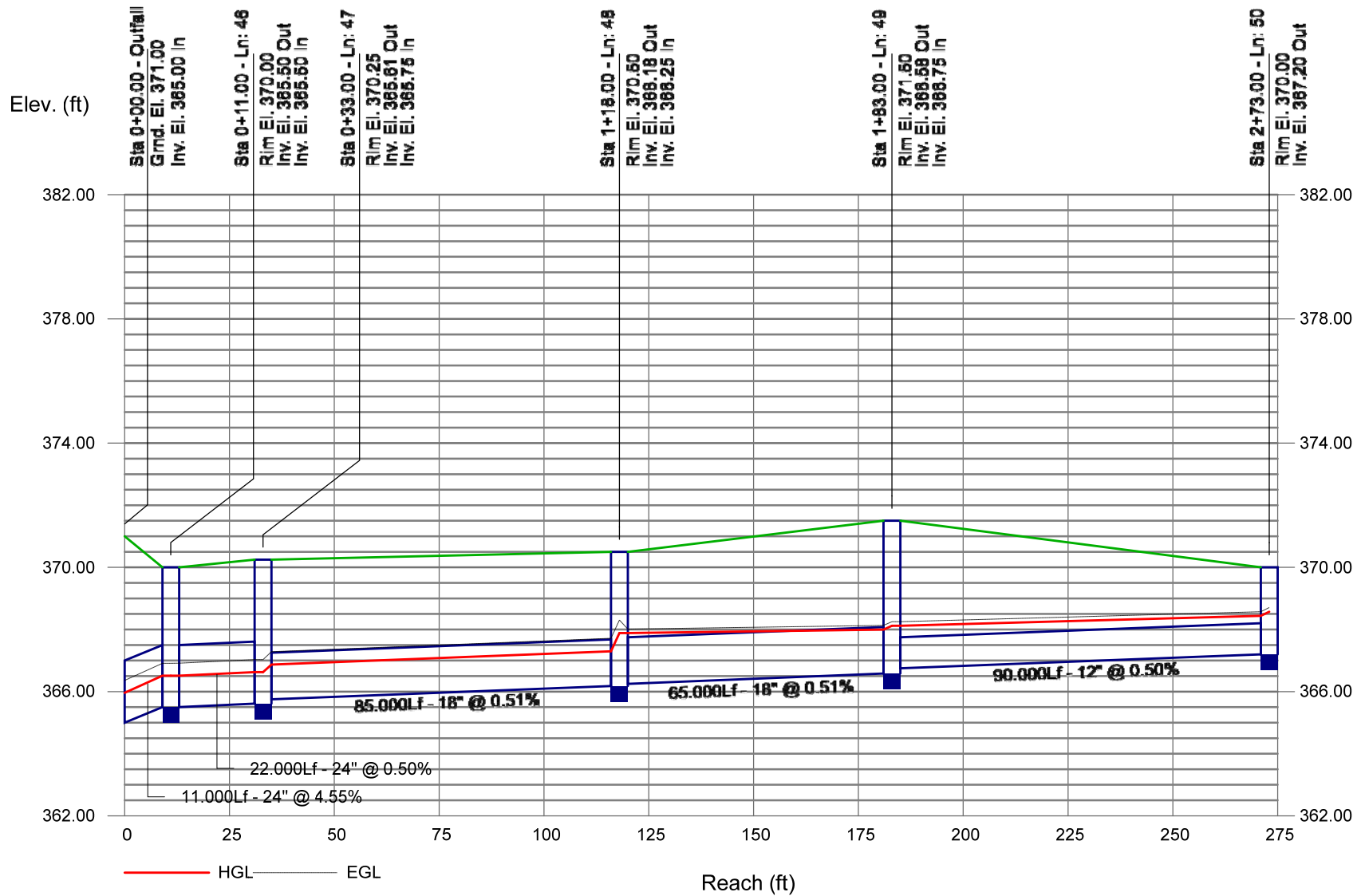
Storm Sewer Profile



Storm Sewer Profile



Storm Sewer Profile



Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-1A

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.29	0.28
	Landscaped Area	0.35			0.04	0.01
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.33	0.29

¹ Use only one C source per line

$$C \text{ (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{0.29}{0.33} = 0.88 \quad \text{Use } C = \boxed{0.88}$$

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-1B

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.03	0.03
	Landscaped Area	0.35			0.09	0.03
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.12	0.06

¹ Use only one C source per line

C (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{0.06}{0.12} = 0.50$ Use C = 0.50

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-1C

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.51	0.48
	Landscaped Area	0.35			0.07	0.02
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.58	0.51

¹ Use only one C source per line

$$C \text{ (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{0.51}{0.58} = 0.88 \quad \text{Use } C = \boxed{0.88}$$

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-1D

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.05	0.05
	Landscaped Area	0.35			0.00	0.00
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.05	0.05

¹ Use only one C source per line

$$C \text{ (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{0.05}{0.05} = 0.95 \quad \text{Use } C = \boxed{0.95}$$

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-1E

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.15	0.14
	Landscaped Area	0.35			0.04	0.01
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.19	0.16

¹ Use only one C source per line

$$C \text{ (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{0.16}{0.19} = 0.82 \quad \text{Use } C = \boxed{0.82}$$

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-1F

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.26	0.25
	Landscaped Area	0.35			0.05	0.02
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.31	0.26

¹ Use only one C source per line

$$C \text{ (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{0.26}{0.31} = 0.85 \quad \text{Use } C = \boxed{0.85}$$

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

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Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-1G

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.11	0.10
	Landscaped Area	0.35			0.01	0.00
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.12	0.11

¹ Use only one C source per line

$$C \text{ (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{0.11}{0.12} = 0.90 \quad \text{Use } C = \boxed{0.90}$$

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-1H

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.37	0.35
	Landscaped Area	0.35			0.04	0.01
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.41	0.37

¹ Use only one C source per line

$$C \text{ (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{0.37}{0.41} = 0.89 \quad \text{Use } C = \boxed{0.89}$$

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-1I

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.00	0.00
	Landscaped Area	0.35			1.47	0.51
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					1.47	0.51

¹ Use only one C source per line

$$C \text{ (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{0.51}{1.47} = 0.35 \quad \text{Use } C = \boxed{0.35}$$

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-1J

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.00	0.00
	Landscaped Area	0.35			0.51	0.18
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.51	0.18

¹ Use only one C source per line

$$C \text{ (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{0.18}{0.51} = 0.35 \quad \text{Use } C = \boxed{0.35}$$

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

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Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-1K

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.18	0.17
	Landscaped Area	0.35			0.17	0.06
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.35	0.23

¹ Use only one C source per line

$$C \text{ (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{0.23}{0.35} = 0.66 \quad \text{Use } C = \boxed{0.66}$$

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-1L

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.17	0.16
	Landscaped Area	0.35			0.15	0.05
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.32	0.21

¹ Use only one C source per line

$$C \text{ (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{0.21}{0.32} = 0.67 \quad \text{Use } C = \boxed{0.67}$$

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

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Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-1M

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.02	0.02
	Landscaped Area	0.35			0.02	0.01
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.04	0.03

¹ Use only one C source per line

$$C \text{ (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{0.03}{0.04} = 0.65 \quad \text{Use } C = \boxed{0.65}$$

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-1N

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.03	0.03
	Landscaped Area	0.35			0.06	0.02
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.09	0.05

¹ Use only one C source per line

C (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{0.05}{0.09} = 0.55$ Use C = 0.55

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

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Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-10

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.12	0.11
	Landscaped Area	0.35			0.01	0.00
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.13	0.12

¹ Use only one C source per line

C (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{0.12}{0.13} = 0.90$ Use C = 0.90

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

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Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-1P

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.32	0.30
	Landscaped Area	0.35			0.03	0.01
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.35	0.31

¹ Use only one C source per line

$$C \text{ (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{0.31}{0.35} = 0.90 \quad \text{Use } C = \boxed{0.90}$$

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-1Q

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.32	0.30
	Landscaped Area	0.35			0.04	0.01
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.36	0.32

¹ Use only one C source per line

$$C \text{ (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{0.32}{0.36} = 0.88 \quad \text{Use } C = \boxed{0.88}$$

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-1R

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.23	0.22
	Landscaped Area	0.35			0.04	0.01
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.27	0.23

¹ Use only one C source per line

$$C \text{ (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{0.23}{0.27} = 0.86 \quad \text{Use } C = \boxed{0.86}$$

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-1S

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.14	0.13
	Landscaped Area	0.35			0.09	0.03
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.23	0.16

¹ Use only one C source per line

$$C \text{ (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{0.16}{0.23} = 0.72 \quad \text{Use } C = \boxed{0.72}$$

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-1T

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.22	0.21
	Landscaped Area	0.35			0.02	0.01
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.24	0.22

¹ Use only one C source per line

$$C \text{ (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{0.22}{0.24} = 0.90 \quad \text{Use } C = \boxed{0.90}$$

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-1U

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.03	0.03
	Landscaped Area	0.35			0.15	0.05
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.18	0.08

¹ Use only one C source per line

$$C \text{ (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{0.08}{0.18} = 0.45 \quad \text{Use } C = \boxed{0.45}$$

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-1V

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.01	0.01
	Landscaped Area	0.35			0.07	0.02
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.08	0.03

¹ Use only one C source per line

$$C \text{ (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{0.03}{0.08} = 0.43 \quad \text{Use } C = \boxed{0.43}$$

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-1W

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.36	0.34
	Landscaped Area	0.35			0.06	0.02
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.42	0.36

¹ Use only one C source per line

C (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{0.36}{0.42} = 0.86$ Use C = 0.86

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

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Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-1X

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.02	0.02
	Landscaped Area	0.35			0.02	0.01
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.04	0.03

¹ Use only one C source per line

$$C \text{ (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{0.03}{0.04} = 0.65 \quad \text{Use } C = \boxed{0.65}$$

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-1Y

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.05	0.05
	Landscaped Area	0.35			0.10	0.04
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.15	0.08

¹ Use only one C source per line

$$C \text{ (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{0.08}{0.15} = 0.55 \quad \text{Use } C = \boxed{0.55}$$

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-1Z

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.02	0.02
	Landscaped Area	0.35			0.09	0.03
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.11	0.05

¹ Use only one C source per line

$$C \text{ (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{0.05}{0.11} = 0.46 \quad \text{Use } C = \boxed{0.46}$$

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-2A

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.12	0.11
	Landscaped Area	0.35			0.02	0.01
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.14	0.12

¹ Use only one C source per line

$$C \text{ (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{0.12}{0.14} = 0.86 \quad \text{Use } C = \boxed{0.86}$$

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-2B

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.10	0.10
	Landscaped Area	0.35			0.00	0.00
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.10	0.10

¹ Use only one C source per line

C (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{0.10}{0.10} = 0.95$ Use C = 0.95

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-2C

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.09	0.09
	Landscaped Area	0.35			0.00	0.00
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.09	0.09

1 Use only one C source per line

$$C \text{ (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{0.09}{0.09} = 0.95 \quad \text{Use } C = \boxed{0.95}$$

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-2D

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.12	0.11
	Landscaped Area	0.35			0.02	0.01
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.14	0.12

¹ Use only one C source per line

C (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{0.12}{0.14} = 0.86$ Use C = 0.86

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-3A

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.11	0.10
	Landscaped Area	0.35			0.01	0.00
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.12	0.11

¹ Use only one C source per line

$$C \text{ (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{0.11}{0.12} = 0.90 \quad \text{Use } C = \boxed{0.90}$$

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-3B

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.24	0.23
	Landscaped Area	0.35			0.08	0.03
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.32	0.26

¹ Use only one C source per line

$$C \text{ (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{0.26}{0.32} = 0.80 \quad \text{Use } C = \boxed{0.80}$$

Project Proposed Development

By CMH

Date 01/09/23

Location 127 Main Street, Monroe CT

Checked CJB

Date 01/09/23

Bold one: Present Developed

Subcatchment Area CBDA-3C

1. Runoff Coefficient @

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C ¹			Area <input checked="" type="checkbox"/> acres <input type="checkbox"/> mi ² <input type="checkbox"/> %	Product of C x area
	Impervious Area	0.95			0.00	0.00
	Landscaped Area	0.35			0.66	0.23
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00
Totals =					0.66	0.23

¹ Use only one C source per line

$$C \text{ (weighted)} = \frac{\text{total product}}{\text{total area}} = \frac{0.23}{0.66} = 0.35 \quad \text{Use } C = \boxed{0.35}$$

Project Pond View By CMH Date 01/09/23
 Location 127 Main Street, Monroe, CT Checked CJB Date 01/09/23

Bold One: Present **Developed**

Bold One: T_c T_t through subarea **Subcatchment Area 1T (PDA-1T)**

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)

1. Surface description (table 3-1)
2. Manning's roughness coeff., n (table 3-1)
3. Flow Length, L (total $L \leq 300$ ft)
4. Two-yr 24-hr rainfall, P_2
5. Land slope, s

$$6. T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5} s^{0.4}}$$

Compute T_t

Segment ID	AB	
	Dense Grasses	
	0.240	
ft	71	
in	3.56	
ft/ft	0.01	
hr	0.226	+ <input type="text"/> = 0.226

Shallow concentrated flow

7. Surface description (paved or unpaved)
8. Flow length, L
9. Watercourse slope, s
10. Average velocity, V (Conn DOT Equations 6.C.4 & C.C.5)

$$11. T_t = \frac{L}{3600 V}$$

Compute T_t

Segment ID		
ft		
ft/ft		
ft/s		
hr		+ <input type="text"/> = 0.000

Channel flow

12. Cross sectional flow area, a
13. Wetted perimeter, p_w
14. Hydraulic radius, r $r = \frac{a}{p_w}$
15. Channel slope, s
16. Manning's roughness coeff., n

$$17. V = \frac{1.49 r^{2/3} s^{1/2}}{n}$$

Compute V

18. Flow length, L

$$19. T_t = \frac{L}{3600 V}$$

Compute T_t

Segment ID		
ft ²		
ft		
ft		
ft/ft		
ft/s		
ft		
hr		+ <input type="text"/> = 0.000

20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)

Hours = **0.226**
Minutes = **13.6**

Project Pond View By CMH Date 01/09/23
 Location 127 Main Street, Monroe, CT Checked CJB Date 01/09/23

Bold One: Present **Developed**

Bold One: T_c T_t through subarea Proposed Drainage Area 3B (PDA-3B)

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)

1. Surface description (table 3-1)
2. Manning's roughness coeff., n (table 3-1)
3. Flow Length, L (total $L \leq 300$ ft)
4. Two-yr 24-hr rainfall, P_2
5. Land slope, s

$$6. T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5} S^{0.4}}$$

Compute T_t

Segment ID	AB	
	Dense Grasses	
	0.240	
ft	100	
in	3.56	
ft/ft	0.02	
hr	0.225	+
		=
		0.225

Shallow concentrated flow

7. Surface description (paved or unpaved)
8. Flow length, L
9. Watercourse slope, s
10. Average velocity, V (Conn DOT Equations 6.C.4 & C.C.5)

$$11. T_t = \frac{L}{3600 V}$$

Compute T_t

Segment ID	BC		
	unpaved		
ft	37		
ft/ft	0.09		
ft/s	4.84		
hr	0.002	+	
		+	
		=	0.002

Channel flow

12. Cross sectional flow area, a
13. Wetted perimeter, p_w
14. Hydraulic radius, r
15. Channel slope, s
16. Manning's roughness coeff., n

$$r = \frac{a}{p_w}$$

Compute r

$$17. V = \frac{1.49 r^{2/3} s^{1/2}}{n}$$

Compute V

$$18. T_t = \frac{L}{3600 V}$$

Compute T_t

Segment ID		
ft ²		
ft		
ft		
ft		
ft/ft		
ft/ft		
ft/s		
ft		
hr		=
		0.000

20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)

Hours = **0.228**
Minutes = **13.7**

Best Management Practices
WQS TSS Removal Calculations
Water Quality Flow Calculations

WATER QUALITY VOLUME (WQV) COMPUTATIONS FOR PDA-1B

Project: Pond View Development
Location: 127 Main Street, Monroe, CT
Date: 01/10/23

Water Quality Volume Calculations:

$$WQV = \frac{(1'')(R)(A)}{12}$$

Where:
 WQV = water quality volume (ac-ft)
 R = volumetric runoff coefficient = 0.05+0.009(I)
 I = percent impervious cover (see below)
 A = site area in acres

$$I = \frac{A_{IMP}}{A_{TOT}} \times 100$$

Where:
 I = percent impervious cover
 A_{IMP} = area of impervious cover
 A_{TOT} = total area of watershed

Watershed Description:	<u>PDA-1B</u>	
Area of impervious coverage, A _{IMP}	<input type="text" value="4.05"/>	Acres
Total area of watershed, A _{TOT}	<input type="text" value="7.45"/>	Acres
Percent impervious cover, I	<input type="text" value="54.36"/>	%
Volumetric runoff coefficient, R	<input type="text" value="0.54"/>	
Water Quality Volume, WQV	<input type="text" value="0.335"/>	ac-ft <input type="text" value="14,584"/> cf

Water Quality Flow Calculations:

WQf = (qu)(A)(Q)
 WQf = Peak Discharge for water quality event (cfs)
 qu = unit peak discharge (cfs/mi²/in)
 A = drainage area (square miles)
 Q = runoff volume (WQv/A) (watershed inches)

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

Chapter 7 of 2004 Connecticut Stormwater Quality Manual

P= 1 inches
 Q= 0.539 inches
 WQv = 0.335 acre-ft
 Total Drainage Area = 7.45 acre
 CN =

$$Ia = 200/CN - 2$$

Ia = 0.469

Compute Ia/P

P= 1 inches
 Ia / P = 0.47

Tc= 19.1 min
 0.318 hr

Exhibit 4-III

Tc= 0.318
 Ia / P = 0.47
 qu =

$$WQf = (qu)(A)(Q)$$

qu = 250 csm/in
 A = 0.012 mi² (acre/640)
 Q = 0.539 inches
 WQf = 1.57 cfs

WATER QUALITY VOLUME (WQV) COMPUTATIONS FOR PDA-1C

Project: Pond View Development
Location: 127 Main Street, Monroe, CT
Date: 01/10/23

Water Quality Volume Calculations:

$$WQV = \frac{(1'')(R)(A)}{12}$$

Where:
 WQV = water quality volume (ac-ft)
 R = volumetric runoff coefficient = 0.05+0.009(I)
 I = percent impervious cover (see below)
 A = site area in acres

$$I = \frac{A_{IMP}}{A_{TOT}} \times 100$$

Where:
 I = percent impervious cover
 A_{IMP} = area of impervious cover
 A_{TOT} = total area of watershed

Watershed Description:	<u>PDA-1C</u>	
Area of impervious coverage, A _{IMP}	<input type="text" value="1.72"/>	Acres
Total area of watershed, A _{TOT}	<input type="text" value="2.46"/>	Acres
Percent impervious cover, I	<input type="text" value="69.92"/>	%
Volumetric runoff coefficient, R	<input type="text" value="0.68"/>	
Water Quality Volume, WQV	<input type="text" value="0.139"/>	ac-ft <input type="text" value="6,066"/> cf

Water Quality Flow Calculations:

WQf = (qu)(A)(Q)
 WQf = Peak Discharge for water quality event (cfs)
 qu = unit peak discharge (cfs/mi²/in)
 A = drainage area (square miles)
 Q = runoff volume (WQv/A) (watershed inches)

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

Chapter 7 of 2004 Connecticut Stormwater Quality Manual

P= 1 inches
 Q= 0.679 inches
 WQv = 0.139 acre-ft
 Total Drainage Area = 2.46 acre
 CN =

$$Ia = 200/CN - 2$$

Ia = 0.299

Compute Ia/P

P= 1 inches
 Ia / P = 0.30

Tc= 14.9 min
 0.248 hr

Exhibit 4-III

Tc= 0.248
 Ia / P = 0.30
 qu =

$$WQf = (qu)(A)(Q)$$

qu = 450 csm/in
 A = 0.004 mi² (acre/640)
 Q = 0.679 inches
 cfs

WATER QUALITY VOLUME (WQV) COMPUTATIONS FOR PDA-2B

Project: Pond View Development
Location: 127 Main Street, Monroe, CT
Date: 01/10/23

Water Quality Volume Calculations:

$$WQV = \frac{(I)(R)(A)}{12}$$

Where:
 WQV = water quality volume (ac-ft)
 R = volumetric runoff coefficient = 0.05+0.009(I)
 I = percent impervious cover (see below)
 A = site area in acres

$$I = \frac{A_{IMP}}{A_{TOT}} \times 100$$

Where:
 I = percent impervious cover
 A_{IMP} = area of impervious cover
 A_{TOT} = total area of watershed

Watershed Description:	<u>PDA-2B</u>	
Area of impervious coverage, A _{IMP}	<input type="text" value="1.27"/>	Acres
Total area of watershed, A _{TOT}	<input type="text" value="2.00"/>	Acres
Percent impervious cover, I	<input type="text" value="63.50"/>	%
Volumetric runoff coefficient, R	<input type="text" value="0.62"/>	
Water Quality Volume, WQV	<input type="text" value="0.104"/>	ac-ft <input type="text" value="4,512"/> cf

Water Quality Flow Calculations:

WQf = (qu)(A)(Q)
 WQf = Peak Discharge for water quality event (cfs)
 qu = unit peak discharge (cfs/mi²/in)
 A = drainage area (square miles)
 Q = runoff volume (WQv/A) (watershed inches)

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

Chapter 7 of 2004 Connecticut Stormwater Quality Manual

P= 1 inches
 Q= 0.622 inches
 WQv = 0.104 acre-ft
 Total Drainage Area = 2.00 acre
 CN =

$$Ia = 200/CN - 2$$

Ia = 0.381

Compute Ia/P

P= 1 inches
 Ia / P = 0.38

Tc= 6 min
 0.100 hr

Exhibit 4-III

Tc= 0.100
 Ia / P = 0.38
 qu =

$$WQf = (qu)(A)(Q)$$

qu = 475 csm/in
 A = 0.003 mi² (acre/640)
 Q = 0.622 inches
 WQf = 0.92 cfs

WATER QUALITY VOLUME (WQV) COMPUTATIONS FOR PDA-3B

Project: Pond View Development
Location: 127 Main Street, Monroe, CT
Date: 01/10/23

Water Quality Volume Calculations:

$$WQV = \frac{(1'')(R)(A)}{12}$$

Where:
 WQV = water quality volume (ac-ft)
 R = volumetric runoff coefficient = 0.05+0.009(I)
 I = percent impervious cover (see below)
 A = site area in acres

$$I = \frac{A_{IMP}}{A_{TOT}} \times 100$$

Where:
 I = percent impervious cover
 A_{IMP} = area of impervious cover
 A_{TOT} = total area of watershed

Watershed Description:	<u>PDA-3B</u>	
Area of impervious coverage, A _{IMP}	<input type="text" value="0.87"/>	Acres
Total area of watershed, A _{TOT}	<input type="text" value="1.95"/>	Acres
Percent impervious cover, I	<input type="text" value="44.62"/>	%
Volumetric runoff coefficient, R	<input type="text" value="0.45"/>	
Water Quality Volume, WQV	<input type="text" value="0.073"/>	ac-ft <input type="text" value="3,196"/> cf

Water Quality Flow Calculations:

WQf = (qu)(A)(Q)
 WQf = Peak Discharge for water quality event (cfs)
 qu = unit peak discharge (cfs/mi²/in)
 A = drainage area (square miles)
 Q = runoff volume (WQv/A) (watershed inches)

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

Chapter 7 of 2004 Connecticut Stormwater Quality Manual

P= 1 inches
 Q= 0.452 inches
 WQv = 0.073 acre-ft
 Total Drainage Area = 1.95 acre
 CN =

$$la = 200/CN - 2$$

la = 0.564

Compute la/P

P= 1 inches
 la / P = 0.56

Tc= 14.7 min
 0.245 hr

Exhibit 4-III

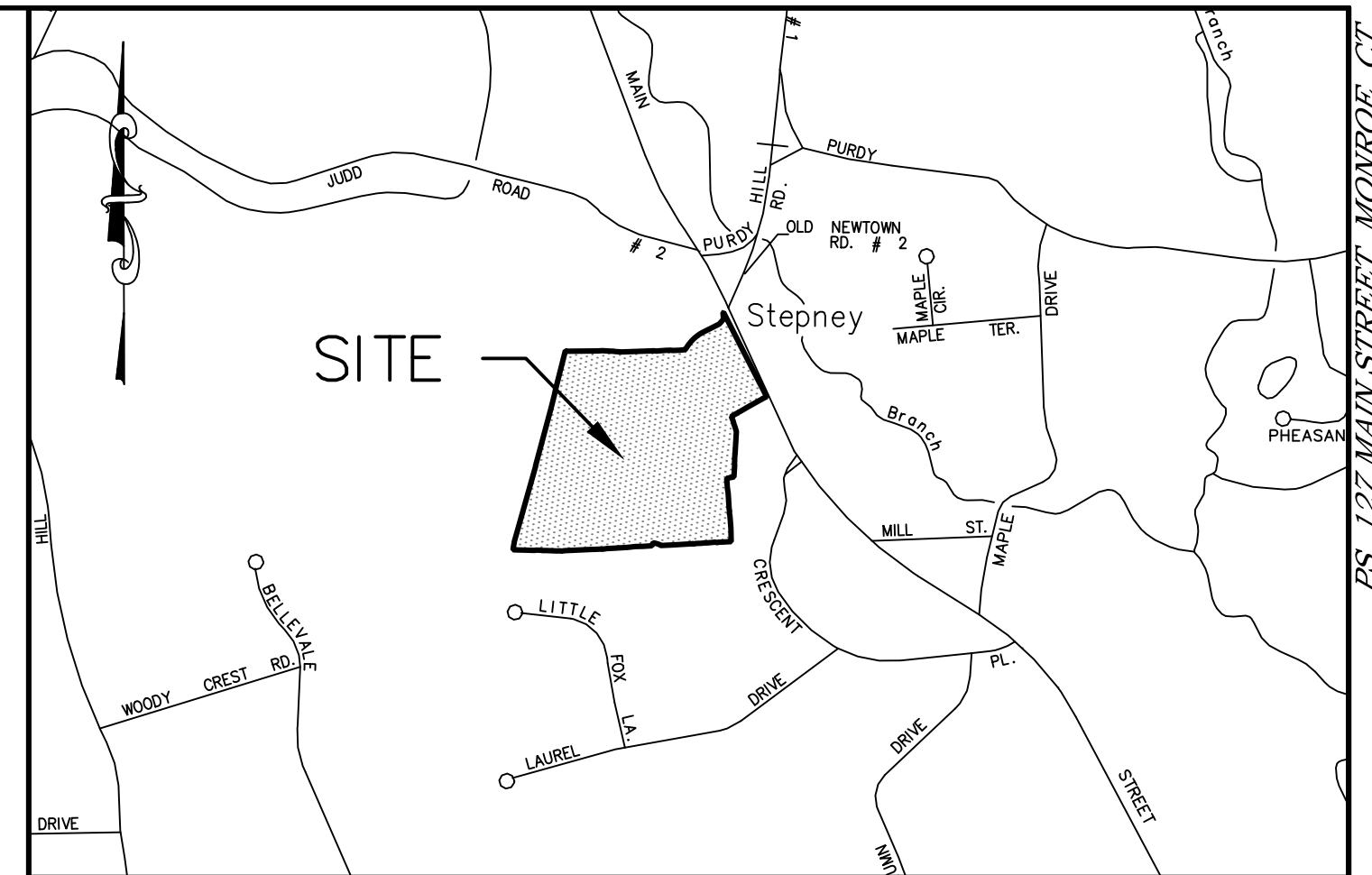
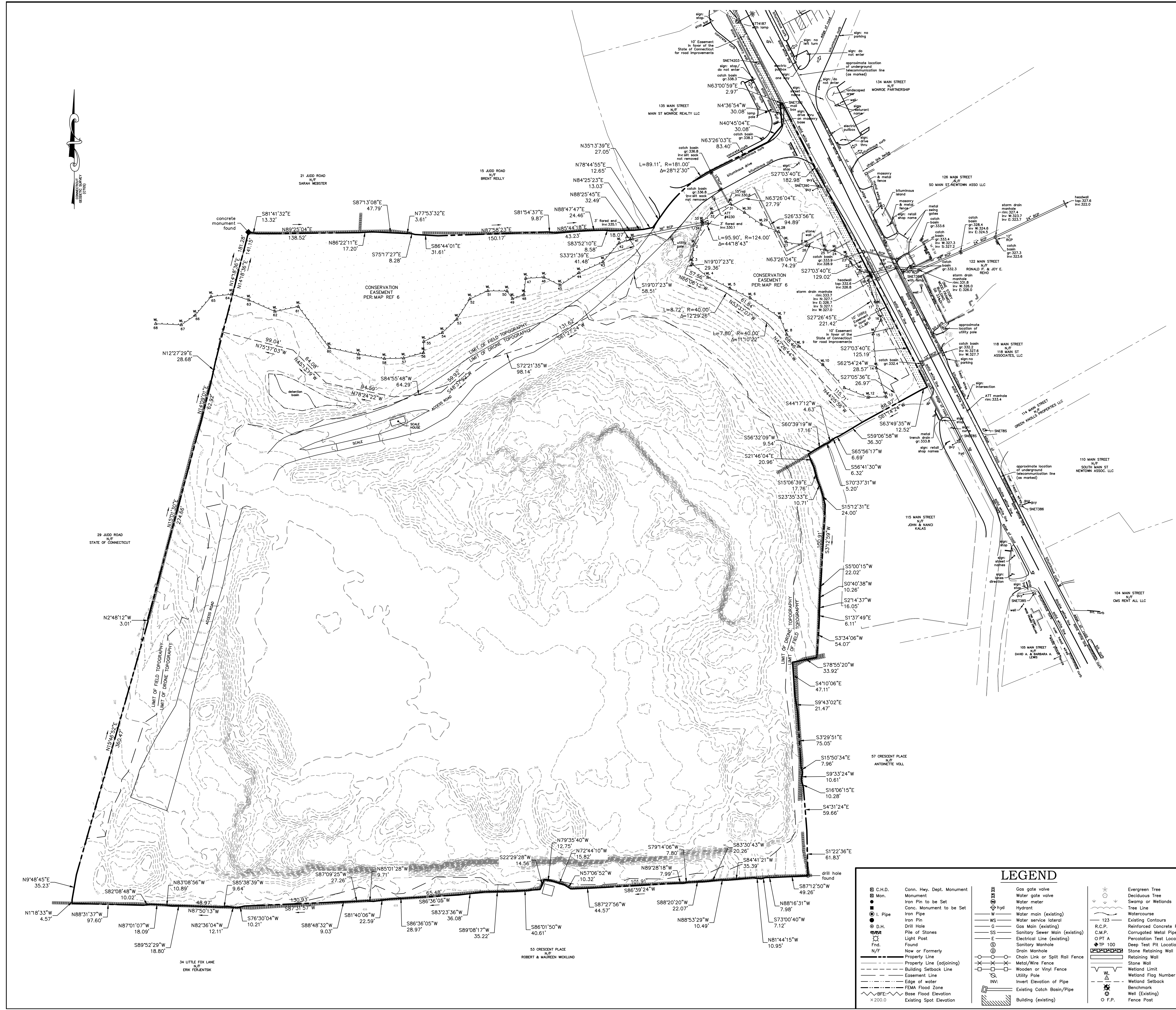
Tc= 0.245
 la / P = 0.56
 qu =

$$WQf = (qu)(A)(Q)$$

qu = 250 csm/in
 A = 0.003 mi² (acre/640)
 Q = 0.452 inches

APPENDIX D
DETAILED DESIGN PLANS

Property Survey
Existing Drainage Area Map (EDA-1)
Proposed Drainage Area Map (PDA-1)
Subcatchment Drainage Area Map (CBDA-1)

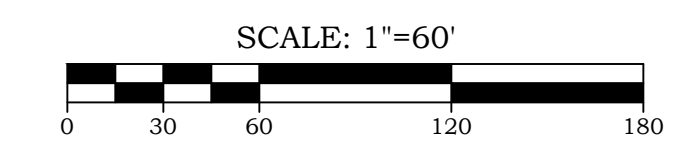


LOCATION MAP
SCALE: 1"=800'

- GENERAL SURVEY NOTES**
- THIS SURVEY AND MAP HAS BEEN PREPARED IN ACCORDANCE WITH THE REGULATION OF CONNECTICUT STATE AGENCIES, SECTION 20-300b-1 THROUGH 20-300b-20, EFFECTIVE OCTOBER 26, 2018, AND THE "MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC.
 - THE BOUNDARY DETERMINATION SHOWN HEREON IS CONSIDERED A RESURVEY.
 - THE SURVEY CONFORMS TO HORIZONTAL CLASS A-2 ACCURACY STANDARDS. TOPOGRAPHIC DATA CONFORMS TO CLASS T-D STANDARDS. CONTOURS AND ELEVATIONS REFER TO NAVD 88 DATUM.
 - BEARINGS, COORDINATES AND ELEVATIONS ARE DERIVED FROM THE CONNECTICUT GEODETIC SURVEY (CTS) VIA GPS TECHNOLOGY AND CONVENTIONAL SURVEY METHODS.
 - THIS IS A PROPERTY SURVEY. THE PURPOSE OF WHICH IS TO SHOW EXISTING CONDITIONS.
 - PROPERTY IS ALSO KNOWN AS TOWN OF MONROE TAX LOT 9 08 ON ASSESSORS MAP 12.
 - TOTAL AREA = 856,719.3 SQ.FT. OR 19.667 ACRES
 - PROPERTY LIES IN ZONING DISTRICT "B1".
 - PROPERTY DOES NOT LIE WITHIN A FLOOD HAZARD ZONE AS DETERMINED BY FEMA.
 - WELANDS DELINEATED BY WILLIAM KENNY ASSOCIATES, SEPTEMBER 22, 2001. FLAGS WERE LOCATED VIA CONVENTIONAL SURVEY METHODS.
 - THE LOCATION OF UNDERGROUND UTILITIES SHOULD BE CONSIDERED APPROXIMATE AND OTHER THAN DEPICTED HEREON, IF ANY, IS UNKNOWN.
 - FIELD TOPOGRAPHY SHOWN HEREON REFLECTS SITE CONDITIONS AS OF 9/20/21 THRU 10/1/21. DRONE TOPOGRAPHY AS OF 12/27/22

- MAP REFERENCES**
- PLAN ENTITLED "MAP OF PROPERTY OF CHARLES BOND, ET AL.", SCALE: 1"=60', DATED: SEPTEMBER 11, 1975, BY J & D KASPER & ASSOC. ON FILE IN THE TOWN OF MONROE CLERK'S OFFICE AS MAP 1244.
 - PLAN ENTITLED "SUBDIVISION PLAN WOODLAND COMMONS PRESENT PLACE - MONROE, CONNECTICUT", SCALE: 1"=100', DATED: DECEMBER 1, 1977, BY J & D KASPER & ASSOC. ON FILE IN THE TOWN OF MONROE CLERK'S OFFICE AS MAP 1370.
 - PLAN ENTITLED "PLOT PLAN OF PROPERTY ON PRESENT PLACE MONROE, CONNECTICUT PREPARED FOR ANTHONY H. JEWIS", SCALE: 1"=30', DATED: OCTOBER 19, 1978, BY J & D KASPER & ASSOC. ON FILE IN THE TOWN OF MONROE CLERK'S OFFICE AS MAP 1398.
 - PLAN ENTITLED "MAP SHOWING EASEMENT AREA TO BE GRANTED TO THE CONNECTICUT LIGHT AND POWER COMPANY ACROSS THE PROPERTY OF POND VIEW LLC", SCALE: 1"=60', DATED: MAY 3, 2002, BY LAND ENGINEERING ASSOCIATES INC. ON FILE IN THE TOWN OF MONROE CLERK'S OFFICE AS MAP 2764.
 - PLAN ENTITLED "FIRST DIVISION OF PROPERTY MAP FOR 133 MAIN STREET MONROE, CONNECTICUT PREPARED FOR POND VIEW LLC", SCALE: 1"=60', DATED: MAY 5, 2003, BY LAND ENGINEERING ASSOCIATES INC. ON FILE IN THE TOWN OF MONROE CLERK'S OFFICE AS MAP 2804.
 - PLAN ENTITLED "CONSERVATION EASEMENT MAP FOR 127 MAIN STREET MONROE, CONNECTICUT PREPARED FOR POND VIEW LLC", SCALE: 1"=60', DATED: JULY 24, 2004, BY LAND ENGINEERING ASSOCIATES INC. ON FILE IN THE TOWN OF MONROE CLERK'S OFFICE AS MAP 1023-242.

No.	Date	REVISION DESCRIPTION
3.	1/4/2023	UPDATED DRONE TOPOGRAPHY
2.	4/21/2022	UPDATED DRONE TOPOGRAPHY
1.	4/11/2022	UPDATED TOPOGRAPHY ALONG MAIN STREET NEAR WELANDS



PROPERTY SURVEY
OF
127 MAIN STREET
MONROE, CONNECTICUT

PREPARED FOR
POND VIEW LLC

TO THE BEST OF MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.	Date	10/27/2021
	Scale	1"=60'
	Job No.	652
	Drawing No.	1 of 1
BRYAN P. NESTERAK, PE, LS 23556		

LEGEND


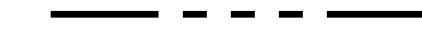
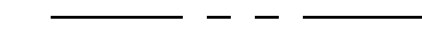



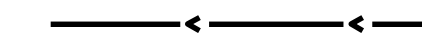


<ul style="list-style-type: none"> □ C.H.D. Monument ● Mon. Monument ○ Iron Pin to be Set ● Conc. Monument to be Set ● I. Pipe ○ D.H. Drill Hole □ File of Stones □ Light Post □ Found N/F Now or Formerly — Property Line - - - Property Line (adjoining) - - - Building Setback Line - - - Easement Line - - - Edge of water - - - FEMA Flood Zone - - - Base Flood Elevation × 200.0 Existing Spot Elevation 	<ul style="list-style-type: none"> — Conn. Hwy. Dept. Monument — Iron Pin to be Set — Conc. Monument to be Set — Iron Pipe — D.H. Drill Hole — File of Stones — Light Post — Found — Now or Formerly — Property Line — Building Setback Line — Easement Line — Edge of water — FEMA Flood Zone — Base Flood Elevation — Existing Spot Elevation 	<ul style="list-style-type: none"> — Gas gate valve — Water gate valve — Water meter — Hydrant — W Water main (existing) — WS Water service lateral — G Gas Main (existing) — SS Sanitary Sewer Main (existing) — E Electrical Line (existing) — Sanitary Manhole — Drain Manhole — Chain Link or Split Rail Fence — Metal/Wire Fence — Utility Pole — Invert Elevation of Pipe — Existing Catch Basin/Pipe — Building (existing) 	<ul style="list-style-type: none"> ★ Evergreen Tree ○ Deciduous Tree ○ Swamp or Wetlands ○ Tree Line ○ Watercourse ○ Existing Contours ○ Reinforced Concrete Pipe ○ Corrugated Metal Pipe ○ Percolation Test Location ○ Deep Test Pit Location ○ Stone Retaining Wall ○ Welland Setback ○ Welland Limit ○ Welland Flag Number ○ Benchmark ○ Well (Existing) ○ F.P. Fence Post
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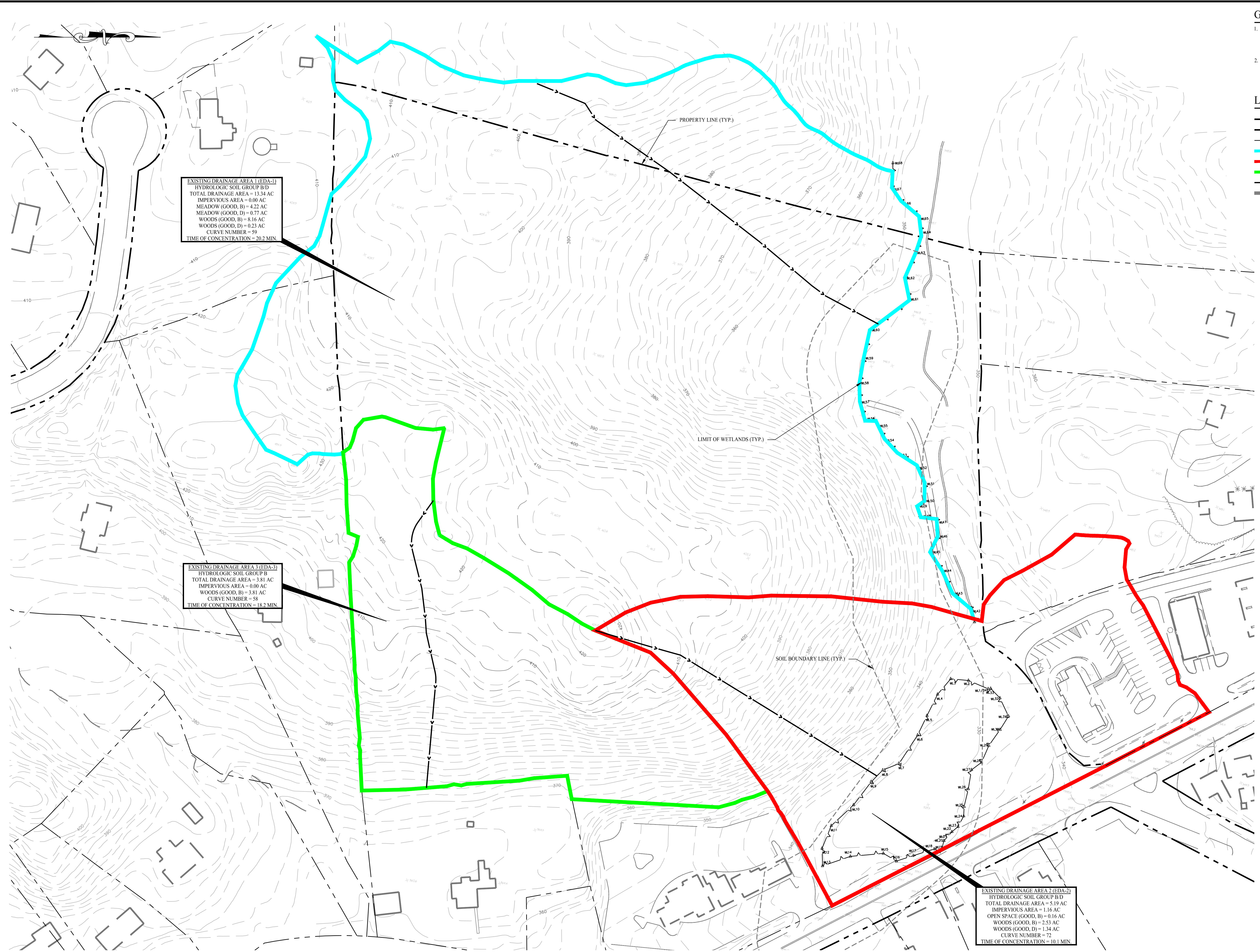
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GENERAL NOTES

1. THE STORMWATER MANAGEMENT PLAN AND DESIGN IS INTENDED TO BE IN COMPLIANCE WITH THE 2000 CONNECTICUT DEPARTMENT OF TRANSPORTATION (CTDOT) DRAINAGE MANUAL AND THE 2004 CONNECTICUT STORMWATER QUALITY MANUAL.
2. STORMWATER RUNOFF ANALYSIS WAS CALCULATED USING THE SCS TR-55 METHODOLOGY.

LEGEND

-  PROPERTY LINE
-  RIGHT-OF-WAY LINE
-  ADJOINING LOT LINE
-  LIMIT OF DRAINAGE AREA 1
-  LIMIT OF DRAINAGE AREA 2
-  LIMIT OF DRAINAGE AREA 3
-  FLOW PATH
-  SOIL TYPE BOUNDARY
-  SOIL TYPE

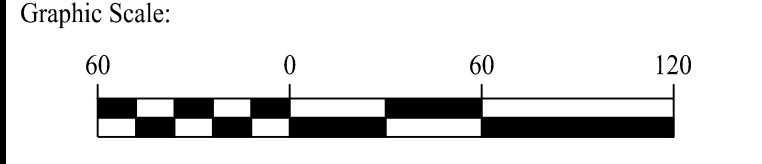


EXISTING DRAINAGE AREA 1 (EDA-1)
 HYDROLOGIC SOIL GROUP B/D
 TOTAL DRAINAGE AREA = 13.34 AC
 IMPERVIOUS AREA = 0.00 AC
 MEADOW (GOOD, B) = 4.22 AC
 MEADOW (GOOD, D) = 0.77 AC
 WOODS (GOOD, B) = 8.16 AC
 WOODS (GOOD, D) = 0.23 AC
 CURVE NUMBER = 59
 TIME OF CONCENTRATION = 20.2 MIN

EXISTING DRAINAGE AREA 3 (EDA-3)
 HYDROLOGIC SOIL GROUP B
 TOTAL DRAINAGE AREA = 3.81 AC
 IMPERVIOUS AREA = 0.00 AC
 WOODS (GOOD, B) = 3.81 AC
 CURVE NUMBER = 58
 TIME OF CONCENTRATION = 18.2 MIN

EXISTING DRAINAGE AREA 2 (EDA-2)
 HYDROLOGIC SOIL GROUP B/D
 TOTAL DRAINAGE AREA = 5.19 AC
 IMPERVIOUS AREA = 1.16 AC
 OPEN SPACE (GOOD, B) = 0.16 AC
 WOODS (GOOD, B) = 2.53 AC
 WOODS (GOOD, D) = 1.34 AC
 CURVE NUMBER = 72
 TIME OF CONCENTRATION = 10.1 MIN

Rev. #:	Date	Description



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Drawn By: CMH
 Checked By: CJB
 Approved By: KMS
 Project #: 1910801
 Plan Date: 01/09/23
 Scale: 1" = 60'



POND VIEW DEVELOPMENT
 127 MAIN STREET
 MONROE, CONNECTICUT

Sheet Title: **EXISTING DRAINAGE AREA MAP** Sheet #: **EDA-1**

GENERAL NOTES

1. THE STORMWATER MANAGEMENT PLAN AND DESIGN IS INTENDED TO BE IN COMPLIANCE WITH THE 2000 CONNECTICUT DEPARTMENT OF TRANSPORTATION (CTDOT) DRAINAGE MANUAL AND THE 2004 CONNECTICUT STORMWATER QUALITY MANUAL.
2. STORMWATER RUNOFF ANALYSIS WAS CALCULATED USING THE SCS TR-55 METHODOLOGY.

LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJOINING LOT LINE
- LIMIT OF DRAINAGE AREA 1
- LIMIT OF DRAINAGE AREA 2
- LIMIT OF DRAINAGE AREA 3
- FLOW PATH
- SOIL TYPE BOUNDARY
- SOIL TYPE

PROPOSED DRAINAGE AREA 1B (PDA-1B)
 HYDROLOGIC SOIL GROUP B
 TOTAL DRAINAGE AREA = 7.45 AC
 IMPERVIOUS AREA = 4.05 AC
 OPEN SPACE (GOOD, B) = 2.36 AC
 OPEN SPACE (GOOD, D) = 0.21 AC
 WOODS (GOOD, B) = 0.83 AC
 CURVE NUMBER = 81
 TIME OF CONCENTRATION = 19.1 MIN.

PROPOSED APARTMENT BLDG. #2
 12,390± SF
 28 UNITS
 FFE = 373.00

PROPOSED APARTMENT BLDG. #1
 12,390± SF
 28 UNITS
 FFE = 373.00

(12) GARAGE BAYS
 FFE = 372.0

(12) GARAGE BAYS
 FFE = 371.60

PROPOSED APARTMENT BLDG. #3
 12,390± SF
 28 UNITS
 FFE = 373.30

PROPOSED APARTMENT BLDG. #4
 12,390± SF
 28 UNITS
 FFE = 372.00

PROPOSED DRAINAGE AREA 1C (PDA-1C)
 HYDROLOGIC SOIL GROUP B
 TOTAL DRAINAGE AREA = 2.46 AC
 IMPERVIOUS AREA = 1.72 AC
 OPEN SPACE (GOOD, B) = 0.74 AC
 CURVE NUMBER = 87
 TIME OF CONCENTRATION = 14.9 MIN.

PROPOSED APARTMENT BLDG. #6
 12,390± SF
 28 UNITS
 FFE = 371.00

PROPOSED CLUBHOUSE
 8,050± SF
 FFE = 365.30

PROPOSED DRAINAGE AREA 2B (PDA-2B)
 HYDROLOGIC SOIL GROUP B
 TOTAL DRAINAGE AREA = 2.00 AC
 IMPERVIOUS AREA = 1.27 AC
 OPEN SPACE (GOOD, B) = 0.34 AC
 WOODS (GOOD, B) = 0.39 AC
 CURVE NUMBER = 84
 TIME OF CONCENTRATION = 6.0 MIN.

PROPOSED DRAINAGE AREA 3A (PDA-3A)
 HYDROLOGIC SOIL GROUP B
 TOTAL DRAINAGE AREA = 0.09 AC
 IMPERVIOUS AREA = 0.00 AC
 WOODS (GOOD, B) = 0.09 AC
 CURVE NUMBER = 58
 TIME OF CONCENTRATION = 7.9 MIN.

PROPOSED APARTMENT BLDG. #5
 12,390± SF
 28 UNITS
 FFE = 372.00

(12) GARAGE BAYS
 FFE = 370.0

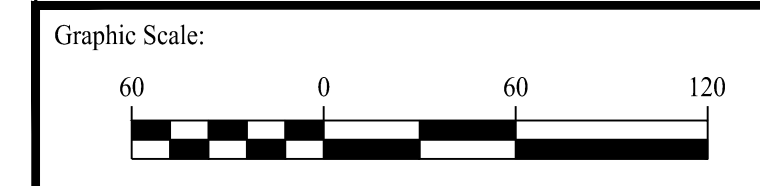
PROPOSED APARTMENT BLDG. #7
 12,390± SF
 28 UNITS
 FFE = 368.00

PROPOSED DRAINAGE AREA 3B (PDA-3B)
 HYDROLOGIC SOIL GROUP B
 TOTAL DRAINAGE AREA = 1.95 AC
 IMPERVIOUS AREA = 0.87 AC
 OPEN SPACE (GOOD, B) = 1.08 AC
 CURVE NUMBER = 78
 TIME OF CONCENTRATION = 14.7 MIN.

PROPOSED DRAINAGE AREA 3C (PDA-3C)
 HYDROLOGIC SOIL GROUP B
 TOTAL DRAINAGE AREA = 0.39 AC
 IMPERVIOUS AREA = 0.00 AC
 WOODS (GOOD, B) = 0.39 AC
 CURVE NUMBER = 58
 TIME OF CONCENTRATION = 13.8 MIN.

PROPOSED DRAINAGE AREA 2A (PDA-2A)
 HYDROLOGIC SOIL GROUP B
 TOTAL DRAINAGE AREA = 2.30 AC
 IMPERVIOUS AREA = 0.03 AC
 OPEN SPACE (GOOD, B) = 1.14 AC
 OPEN SPACE (GOOD, D) = 0.11 AC
 WOODS (GOOD, B) = 0.02 AC
 WOODS (GOOD, D) = 1.00 AC
 CURVE NUMBER = 69
 TIME OF CONCENTRATION = 20.7 MIN.

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Drawn By:	CMH
Checked By:	CJB
Approved By:	KMS
Project #:	1910801
Plan Date:	01/09/23
Scale:	1" = 60'



POND VIEW DEVELOPMENT
 127 MAIN STREET
 MONROE, CONNECTICUT

Sheet Title:	PROPOSED DRAINAGE AREA MAP
Sheet #:	PDA-1

Jan 09, 2023 - 1:47pm chertford
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GENERAL NOTES

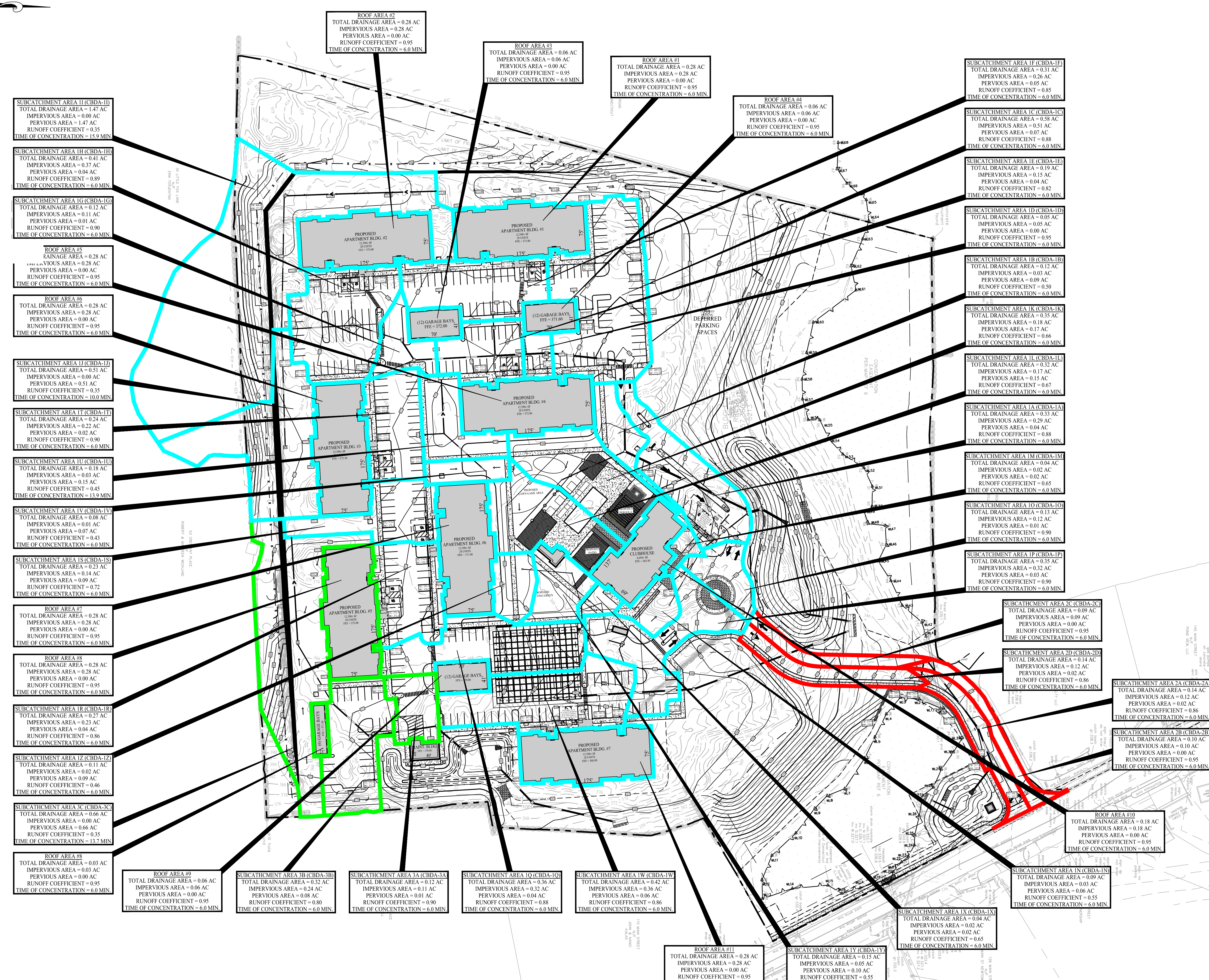
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2. STORMWATER RUNOFF ANALYSIS WAS CALCULATED USING THE SCS TR-55 METHODOLOGY.

LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJOINING LOT LINE
- LIMIT OF DRAINAGE AREA 1
- LIMIT OF DRAINAGE AREA 2
- LIMIT OF DRAINAGE AREA 3
- FLOW PATH
- SOIL TYPE BOUNDARY

(51B)

SOIL TYPE



SUBCATCHMENT AREA 1I (CBDA-1I)
 TOTAL DRAINAGE AREA = 1.47 AC
 IMPERVIOUS AREA = 0.00 AC
 PERVIOUS AREA = 1.47 AC
 RUNOFF COEFFICIENT = 0.35
 TIME OF CONCENTRATION = 15.9 MIN

SUBCATCHMENT AREA 1H (CBDA-1H)
 TOTAL DRAINAGE AREA = 0.41 AC
 IMPERVIOUS AREA = 0.37 AC
 PERVIOUS AREA = 0.04 AC
 RUNOFF COEFFICIENT = 0.89
 TIME OF CONCENTRATION = 6.0 MIN

SUBCATCHMENT AREA 1G (CBDA-1G)
 TOTAL DRAINAGE AREA = 0.12 AC
 IMPERVIOUS AREA = 0.11 AC
 PERVIOUS AREA = 0.01 AC
 RUNOFF COEFFICIENT = 0.90
 TIME OF CONCENTRATION = 6.0 MIN

ROOF AREA #5
 RAINAGE AREA = 0.28 AC
 IMPERVIOUS AREA = 0.28 AC
 PERVIOUS AREA = 0.00 AC
 RUNOFF COEFFICIENT = 0.95
 TIME OF CONCENTRATION = 6.0 MIN

ROOF AREA #6
 TOTAL DRAINAGE AREA = 0.28 AC
 IMPERVIOUS AREA = 0.28 AC
 PERVIOUS AREA = 0.00 AC
 RUNOFF COEFFICIENT = 0.95
 TIME OF CONCENTRATION = 6.0 MIN

SUBCATCHMENT AREA 1J (CBDA-1J)
 TOTAL DRAINAGE AREA = 0.51 AC
 IMPERVIOUS AREA = 0.00 AC
 PERVIOUS AREA = 0.51 AC
 RUNOFF COEFFICIENT = 0.35
 TIME OF CONCENTRATION = 10.0 MIN

SUBCATCHMENT AREA 1T (CBDA-1T)
 TOTAL DRAINAGE AREA = 0.24 AC
 IMPERVIOUS AREA = 0.22 AC
 PERVIOUS AREA = 0.02 AC
 RUNOFF COEFFICIENT = 0.99
 TIME OF CONCENTRATION = 6.0 MIN

SUBCATCHMENT AREA 1U (CBDA-1U)
 TOTAL DRAINAGE AREA = 0.18 AC
 IMPERVIOUS AREA = 0.03 AC
 PERVIOUS AREA = 0.15 AC
 RUNOFF COEFFICIENT = 0.45
 TIME OF CONCENTRATION = 13.9 MIN

SUBCATCHMENT AREA 1V (CBDA-1V)
 TOTAL DRAINAGE AREA = 0.08 AC
 IMPERVIOUS AREA = 0.01 AC
 PERVIOUS AREA = 0.07 AC
 RUNOFF COEFFICIENT = 0.43
 TIME OF CONCENTRATION = 6.0 MIN

SUBCATCHMENT AREA 1S (CBDA-1S)
 TOTAL DRAINAGE AREA = 0.23 AC
 IMPERVIOUS AREA = 0.14 AC
 PERVIOUS AREA = 0.09 AC
 RUNOFF COEFFICIENT = 0.72
 TIME OF CONCENTRATION = 6.0 MIN

ROOF AREA #7
 TOTAL DRAINAGE AREA = 0.28 AC
 IMPERVIOUS AREA = 0.28 AC
 PERVIOUS AREA = 0.00 AC
 RUNOFF COEFFICIENT = 0.95
 TIME OF CONCENTRATION = 6.0 MIN

ROOF AREA #8
 TOTAL DRAINAGE AREA = 0.28 AC
 IMPERVIOUS AREA = 0.28 AC
 PERVIOUS AREA = 0.00 AC
 RUNOFF COEFFICIENT = 0.95
 TIME OF CONCENTRATION = 6.0 MIN

SUBCATCHMENT AREA 1R (CBDA-1R)
 TOTAL DRAINAGE AREA = 0.27 AC
 IMPERVIOUS AREA = 0.23 AC
 PERVIOUS AREA = 0.04 AC
 RUNOFF COEFFICIENT = 0.86
 TIME OF CONCENTRATION = 6.0 MIN

SUBCATCHMENT AREA 1Z (CBDA-1Z)
 TOTAL DRAINAGE AREA = 0.11 AC
 IMPERVIOUS AREA = 0.02 AC
 PERVIOUS AREA = 0.09 AC
 RUNOFF COEFFICIENT = 0.46
 TIME OF CONCENTRATION = 6.0 MIN

SUBCATCHMENT AREA 2C (CBDA-2C)
 TOTAL DRAINAGE AREA = 0.66 AC
 IMPERVIOUS AREA = 0.00 AC
 PERVIOUS AREA = 0.66 AC
 RUNOFF COEFFICIENT = 0.35
 TIME OF CONCENTRATION = 13.7 MIN

ROOF AREA #8
 TOTAL DRAINAGE AREA = 0.03 AC
 IMPERVIOUS AREA = 0.03 AC
 PERVIOUS AREA = 0.00 AC
 RUNOFF COEFFICIENT = 0.95
 TIME OF CONCENTRATION = 6.0 MIN

ROOF AREA #9
 TOTAL DRAINAGE AREA = 0.06 AC
 IMPERVIOUS AREA = 0.06 AC
 PERVIOUS AREA = 0.00 AC
 RUNOFF COEFFICIENT = 0.95
 TIME OF CONCENTRATION = 6.0 MIN

SUBCATCHMENT AREA 3B (CBDA-3B)
 TOTAL DRAINAGE AREA = 0.32 AC
 IMPERVIOUS AREA = 0.24 AC
 PERVIOUS AREA = 0.08 AC
 RUNOFF COEFFICIENT = 0.80
 TIME OF CONCENTRATION = 6.0 MIN

SUBCATCHMENT AREA 3A (CBDA-3A)
 TOTAL DRAINAGE AREA = 0.12 AC
 IMPERVIOUS AREA = 0.11 AC
 PERVIOUS AREA = 0.01 AC
 RUNOFF COEFFICIENT = 0.90
 TIME OF CONCENTRATION = 6.0 MIN

SUBCATCHMENT AREA 1Q (CBDA-1Q)
 TOTAL DRAINAGE AREA = 0.36 AC
 IMPERVIOUS AREA = 0.32 AC
 PERVIOUS AREA = 0.04 AC
 RUNOFF COEFFICIENT = 0.88
 TIME OF CONCENTRATION = 6.0 MIN

SUBCATCHMENT AREA 1W (CBDA-1W)
 TOTAL DRAINAGE AREA = 0.42 AC
 IMPERVIOUS AREA = 0.36 AC
 PERVIOUS AREA = 0.06 AC
 RUNOFF COEFFICIENT = 0.86
 TIME OF CONCENTRATION = 6.0 MIN

ROOF AREA #11
 TOTAL DRAINAGE AREA = 0.28 AC
 IMPERVIOUS AREA = 0.28 AC
 PERVIOUS AREA = 0.00 AC
 RUNOFF COEFFICIENT = 0.95
 TIME OF CONCENTRATION = 6.0 MIN

SUBCATCHMENT AREA 1Y (CBDA-1Y)
 TOTAL DRAINAGE AREA = 0.15 AC
 IMPERVIOUS AREA = 0.10 AC
 PERVIOUS AREA = 0.05 AC
 RUNOFF COEFFICIENT = 0.55
 TIME OF CONCENTRATION = 6.0 MIN

SUBCATCHMENT AREA 1X (CBDA-1X)
 TOTAL DRAINAGE AREA = 0.04 AC
 IMPERVIOUS AREA = 0.02 AC
 PERVIOUS AREA = 0.02 AC
 RUNOFF COEFFICIENT = 0.65
 TIME OF CONCENTRATION = 6.0 MIN

ROOF AREA #10
 TOTAL DRAINAGE AREA = 0.18 AC
 IMPERVIOUS AREA = 0.18 AC
 PERVIOUS AREA = 0.00 AC
 RUNOFF COEFFICIENT = 0.95
 TIME OF CONCENTRATION = 6.0 MIN

SUBCATCHMENT AREA 1N (CBDA-1N)
 TOTAL DRAINAGE AREA = 0.10 AC
 IMPERVIOUS AREA = 0.03 AC
 PERVIOUS AREA = 0.07 AC
 RUNOFF COEFFICIENT = 0.55
 TIME OF CONCENTRATION = 6.0 MIN

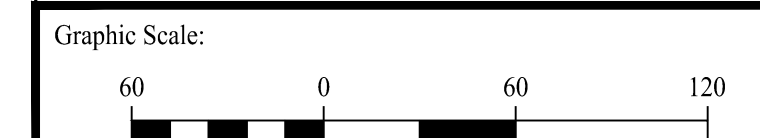
SUBCATCHMENT AREA 2C (CBDA-2C)
 TOTAL DRAINAGE AREA = 0.09 AC
 IMPERVIOUS AREA = 0.09 AC
 PERVIOUS AREA = 0.00 AC
 RUNOFF COEFFICIENT = 0.95
 TIME OF CONCENTRATION = 6.0 MIN

SUBCATCHMENT AREA 2D (CBDA-2D)
 TOTAL DRAINAGE AREA = 0.14 AC
 IMPERVIOUS AREA = 0.12 AC
 PERVIOUS AREA = 0.02 AC
 RUNOFF COEFFICIENT = 0.86
 TIME OF CONCENTRATION = 6.0 MIN

SUBCATCHMENT AREA 2A (CBDA-2A)
 TOTAL DRAINAGE AREA = 0.14 AC
 IMPERVIOUS AREA = 0.12 AC
 PERVIOUS AREA = 0.02 AC
 RUNOFF COEFFICIENT = 0.86
 TIME OF CONCENTRATION = 6.0 MIN

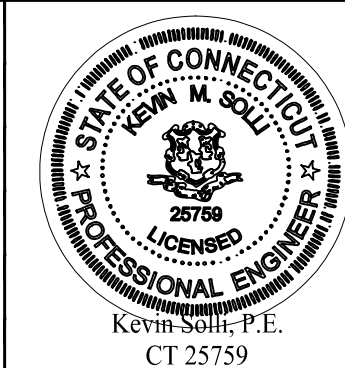
SUBCATCHMENT AREA 2B (CBDA-2B)
 TOTAL DRAINAGE AREA = 0.10 AC
 IMPERVIOUS AREA = 0.10 AC
 PERVIOUS AREA = 0.00 AC
 RUNOFF COEFFICIENT = 0.95
 TIME OF CONCENTRATION = 6.0 MIN

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 Plan Date: 01/09/23
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POND VIEW DEVELOPMENT
 127 MAIN STREET
 MONROE, CONNECTICUT

Sheet Title: SUBCATCHMENT DRAINAGE AREA MAP
 Sheet #: CBDA-1

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APPENDIX E
LONG-TERM OPERATION & MAINTENANCE

Operation & Maintenance Manual

LONG-TERM OPERATION & MAINTENANCE MANUAL

For the Proposed:

POND VIEW DEVELOPMENT AND RESTORATION

Located At:
127 Main Street
Monroe, Connecticut

Prepared On:
January 10th, 2023

Prepared By:



11 Vanderbilt Avenue, Suite 240
Norwood, Massachusetts 02062
T: (781) 352-8491

Prepared For:

Pond View, LLC

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INTRODUCTION

Solli Engineering (Solli) has prepared this Operations and Maintenance (O&M), to be filed with the City of Norwich, Connecticut for the proposed Pond View Development at 127 Main Street in Monroe, Connecticut. The O&M Manual has been prepared to ensure that the stormwater management functions as designed. The owner possesses the primary responsibility for overseeing and implementing the O&M plan and assigning a Property Manager who will be responsible for the proper operation and maintenance of the stormwater structures. In case of transfer of property ownership, future property owners shall be notified of the presence of the stormwater management system and the requirements for proper implementation of the O&M plan. Included in the O&M plan identifying key components of the stormwater system as well as a log for tracking inspections & maintenance.

The stormwater management system protects and enhances the stormwater runoff water quality through the removal of sediment and pollutants, and source control significantly reduces the number of pollutants entering the system. Preventive maintenance of the system will include a comprehensive source reduction program of regular vacuuming and litter removal, prohibitions on the use of pesticides and maintenance of designated waste and recycling.

RESPONSIBILITY

The purpose of the Long-Term Operation and Maintenance (O&M) Manual is to ensure inspection of the system, removal of accumulated sediments, oils, and debris and implementation of corrective action and record keeping activities. The below O&M activities associated with the site will be performed by a Contract Operator for the scope of maintenance. The Contract Operator will be a professional engineer or other technical professional with expertise and experience with stormwater management facilities operation and maintenance.

The ongoing responsibility is the Owner, its successors, and assigns. Adequate maintenance is defined in this document as good working condition.

Responsibility for O&M (to be transferred upon sale of property / development):

Contact: General Manager of Operations for Pondview, LLC
Address: 127 Main Street
City, State: Hartford, CT 06486

DOCUMENTATION

An inspection and maintenance record log and schedule will be kept by the Owner or Property Manager summarizing inspections, maintenance, repairs and any corrective actions taken. The log will include the date on which each inspection or maintenance task was performed, a description of the inspection findings or maintenance completed, and the name of the inspector or maintenance personnel performing the task. If a maintenance task requires the clean-out of any sediments or debris, the location where the sediment and debris was disposed after removal will be indicated. Inspection & Maintenance Logs will be kept on file at the on-site Property Management office.

MAINTENANCE PROGRAM

The Owner, Property Manager and maintenance staff will conduct the Operation and Maintenance program set forth in this document. The Owner or Property Manager will ensure that inspections and record keeping are timely and accurate, and that cleaning and maintenance are performed in accordance with the recommended frequency for each stormwater component. Inspection & Maintenance Log Forms shall include the date and the amount of the last significant storm event in excess of 1-inch of rain in a 24-hour period, physical conditions of the structures, depth of sediment in structures, evidence of overtopping or debris blockage and maintenance required of each structure. The following areas, facilities and measures will be inspected by the Owner or Property Manager and maintained as specified below. Identified deficiencies will be corrected. Accumulated sediments and debris will be properly handled and disposed of off-site, in accordance with local, state, and federal guidelines and regulations.

WATER QUALITY UNIT

Water quality units protect the environment by removing a wide range of pollutants from stormwater runoff. Periodic removal of these captures pollutants is essential to the continuous, long-term functioning of the separator. The unit will capture and retain sediment and oil until the sediment and oil storage volumes are full to capacity. When sediment and oil storage capacities are reached, the structure will no longer be able to store removed sediment and oil.

The stormwater management system proposes to incorporate a water quality unit. Inspections shall take place at regular intervals to ensure optimum performance. At a minimum, inspections shall be performed twice a year (Ex.: spring & fall) however more frequent inspections may be required depending on several things one being severity of winter (excessive sanding/salting). The frequency of cleanout is determined in the field after installation. During the first year of operation, the units should be inspected regularly and then after, every six months (twice a year) to determine the rate of sediment and floatables accumulation. A simple probe can be used to determine the level of accumulated solids stored in the sump. This information should be recorded in the inspection logs. On the log it is important to note the date, location of structure (or identification), estimated volume of floatables, and depth of sediment. Securely replace the top of the structure and take down any safety equipment. Then notify the engineer of record for any irregularities in the structure's performance if any. The system should be cleaned when the level of sediment has reached 75% of capacity in the isolated sump or when an appreciable level of hydrocarbons and trash has accumulated. Sediment and debris removal can be done manually or with approved sumpvac (or equal).

CATCH BASIN

Catch basins are underground concrete structures which are designed to retain removed trash, debris, and coarse sediment from stormwater runoff and serve as temporary spill containment devices for floatables such as oil and greases prior to discharge into a storm sewer pipe. The functions of a catch basin include:

- A grate and/or vertical notch found in the curbing that allow stormwater to enter the structure while filtering out larger objects such as trash and leaves.
- A two-foot (minimum) sump below the invert of the storm sewer pipe provides an area for detention time which allows sands and other sediments to settle out of the runoff prior discharge.
- An attached hooded outlet, that prevents floatables and sediment from entering the storm sewer pipes.

At a minimum, catch basins and drain manholes shall be inspected quarterly (four times per year). Ideally, inspections should be conducted in the fall, at the end of the leaf-drop, in the spring following snowmelt and following heavy rain falls, defined as a storm event exceeding 1-inch of rain fall within a twenty-four-hour period to verify that inlet openings are not clogged by debris. Each structure should be cleaned whenever the depth of sediment deposits is greater than or equal to one half the depth of the sump from the bottom of the structure to the bottom of the lowest pipe invert. Structures shall be inspected for a buildup of sediments, oils, debris, cracks, breaks, or deformations. Any function of the catch basin and drain manhole that is not in working order will be replaced with similar materials, as per detail, to prevent the storm sewer system from failing.

If floating hydrocarbons are observed during an inspection, the material should be removed immediately by skimming, absorbent materials, or other method and disposed in conformance with applicable state and federal regulations.

The catch basins shall be cleaned by means of handheld shovels, scallop shovel and/or vacuum truck. Vacuum truck may be required instead of shovels to avoid damage to structure. The grate opening shall be clear of any foreign or lodged object. If floating hydrocarbons are observed during an inspection, the material should be removed immediately by skimming, absorbent materials or other methods and salts used in the winter will be removed from the catch basin sumps in the early spring. Leaves, pine needles and branches brought down by autumn winds, rain, and cold weather will be removed from the catch basin sumps in the late fall. Collected sediment, debris and hydrocarbons will be properly disposed of per local, state and federal requirements.

Damaged Hoods should be replaced when noted by inspection.

STREET MAINTENANCE

Street maintenance is a non-structural source control performed by mechanical means to limit sediment and particulates from impervious surfaces as an effort to control or limit the sediment migration to other stormwater BMP's during storm events. There are three typical types of sweeping methods, including mechanical, regenerative air and vacuum filter. Mechanical sweepers are the most common and use brooms or brushes to scour the pavement. Regenerative air sweepers blow air onto the impervious surface causing sediment and other fine particles to be blown from the surface so they can be vacuumed. Vacuum filter sweepers are available in wet and dry types. Dry types use brooms to agitate the sediment prior to vacuuming. Wet types work in a similar fashion but use water to suppress dust during the collection activity. Because of street maintenance, sediment and other fine particulates are limited on the impervious surfaces and be further controlled from entering other BMP's. They also allow for the removal and prevention of accumulation of sediment along parking or road edges.

This should be done periodically during dry weather to remove excess sediments to reduce the amount of sediments that the drainage system shall have to remove from runoff. Sweeping should mostly be conducted between the months of March and November, with special attention to sweeping during the wetter (earlier) months. Salt used for de-icing should be limited as much as possible as this will reduce the need for the removal and treatment. However, sand containing the minimum amount of calcium chloride (or approved equal) needed for handling may be applied as part of the routine winter maintenance activities.

PESTICIDES, HERBICIDES AND FERTILIZERS

Pesticides and herbicides shall be used sparingly. Fertilizers should be restricted to the use of organic fertilizers only. Exterior storage of fertilizers, herbicides, pesticides or other toxic or hazardous materials should be prohibited.

EMERGENCY SPILL CONTAINMENT

The Owner, along with the on-site Property Manager is responsible for educating staff and informing tenants on the environmental benefits associated with the use of pavement at the site. Staff must be trained, and tenants informed via the community website as to the proper spill prevention control and response procedures should a spill occur on the pavement surface. Proper spill control products, such as a granular dry absorbent, must be kept on-site at the property management office in a clean, dry chemical and corrosion resistant container.

A spill of greater than 10 gallons of oil or a spill of any quantity that has reached a surface water, into a sewer, storm drain, ditch, or culvert leading to a surface water, is immediately reported to one or more municipal, state, or federal authority. In the event of a hazardous waste spill on-site, the following protocol should be followed.

- If it is safe to do so, maintenance staff or tenants detecting an oil spill should immediately stop the release and use available materials to prevent the spread of oil.
- If there is a potentially flammable, toxic, or explosive condition, evacuate the vicinity of the spill.
- If it's believed that a reportable or dangerous condition exists, immediately call your local Fire Department to notify them of the release.
- If it is believed that a reportable condition exists, immediately call the Connecticut Department of Energy & Environmental Protection (DEEP) to notify them of the release.
- Call the DEEP Emergency Response Section toll free statewide number, 1-866-337-7745. Be prepared to provide the following information to the DEEP and the Fire Department:
 - Identity of the caller
 - Contact phone number Location of the spill
 - Type of product spilled
 - Approximate quantity or product spilled Extent of actual and/or potential water pollution
 - Date and time of spill
 - Cause of spill
 - Contact a Licensed Site Professional (LSP) to assist in further handling of the material(s) and DEEP.

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Title:
Location:

Inspection #:
Project #:
Field Date:

INSPECTION & MAINTENANCE LOG

Name(s) & Title(s) of Individual(s) performing inspection: _____

Week of Inspection: _____

Type of Inspection:
 Monthly Quarterly Biannually Annually Emergency

Weather (during inspection)

Clear Cloudy Rain Snow Sunny Windy Fog

Other: _____

Time of Inspection:	Temp. during inspection:	°F
Start Time: a.m. End Time: a.m.	Precip. since last inspection:	"

Site Specific BMP's

#	BMP	Maintenance Required		Corrective Action Needed & Notes
1		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
2		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
3		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
4		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
5		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
6		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
7		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
8		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
9		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
10		<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Overall Site Maintenance Concerns

BMP/Activity	Maintenance Required		Corrective Action Needed & Notes
Are discharge points & receiving waters free of any sediment deposits?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Are storm drain inlets properly working?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Is trash/litter from site areas collected & placed in covered dumpsters?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
What is the level of sediment within infiltration basin?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
What is the level of sediment within the hydrodynamic separators?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
What is the levels of oil/grit/trash within the infiltration basin or hydrodynamic separators?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
(Other)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Inspector(s) Signature(s): _____