

Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Tuesday, Jul 18, 2023

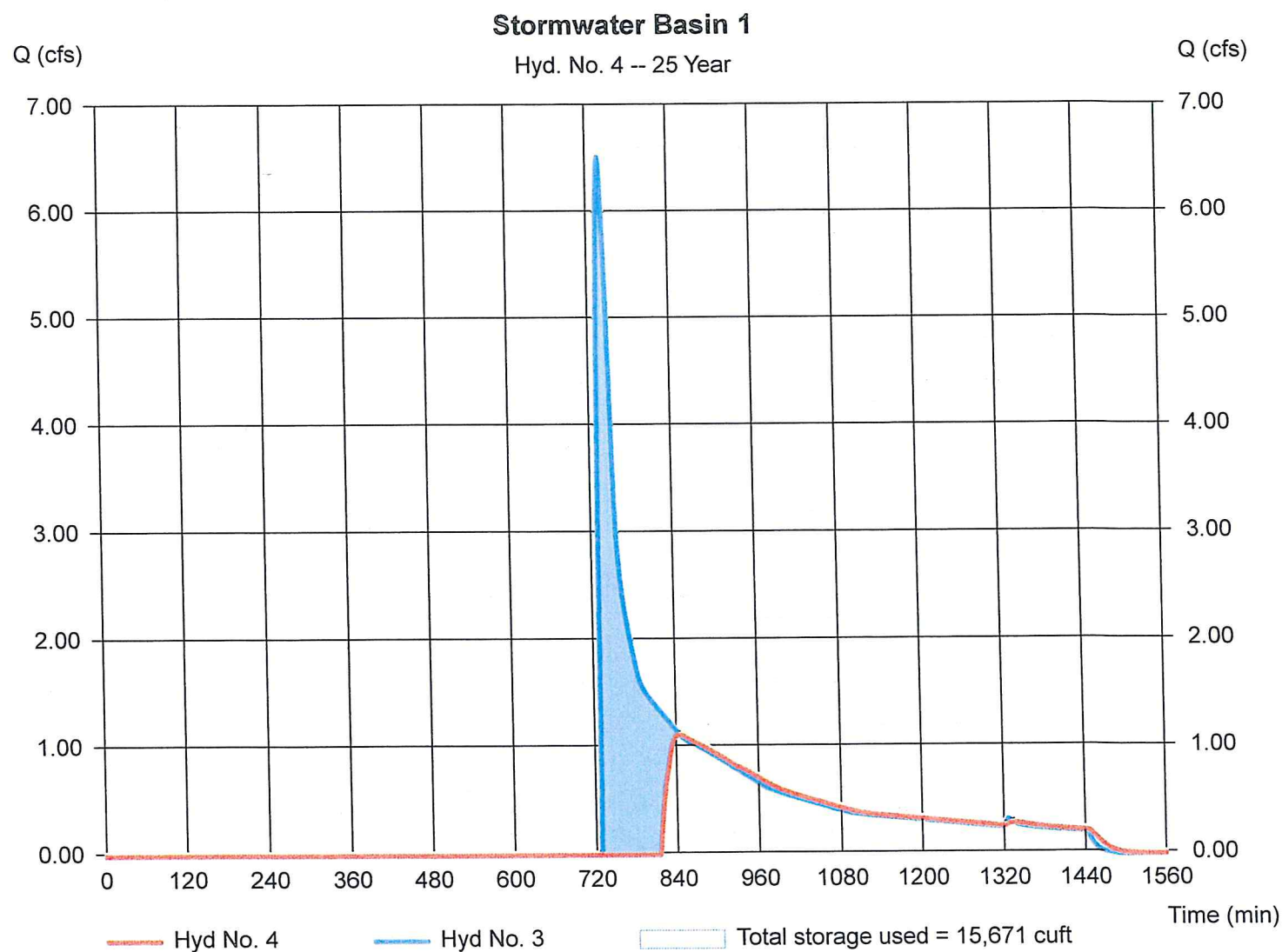
Hyd. No. 4

Stormwater Basin 1

Hydrograph type = Reservoir
 Storm frequency = 25 yrs
 Time interval = 1 min
 Inflow hyd. No. = 3 - Forebay 1
 Reservoir name = Stormwater Basin 1

Peak discharge = 1.120 cfs
 Time to peak = 845 min
 Hyd. volume = 18,737 cuft
 Max. Elevation = 38.62 ft
 Max. Storage = 15,671 cuft

Storage Indication method used.



Hydrograph Report

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Tuesday, Jul 18, 2023

Hyd. No. 5

Existing Conditions - Area 2

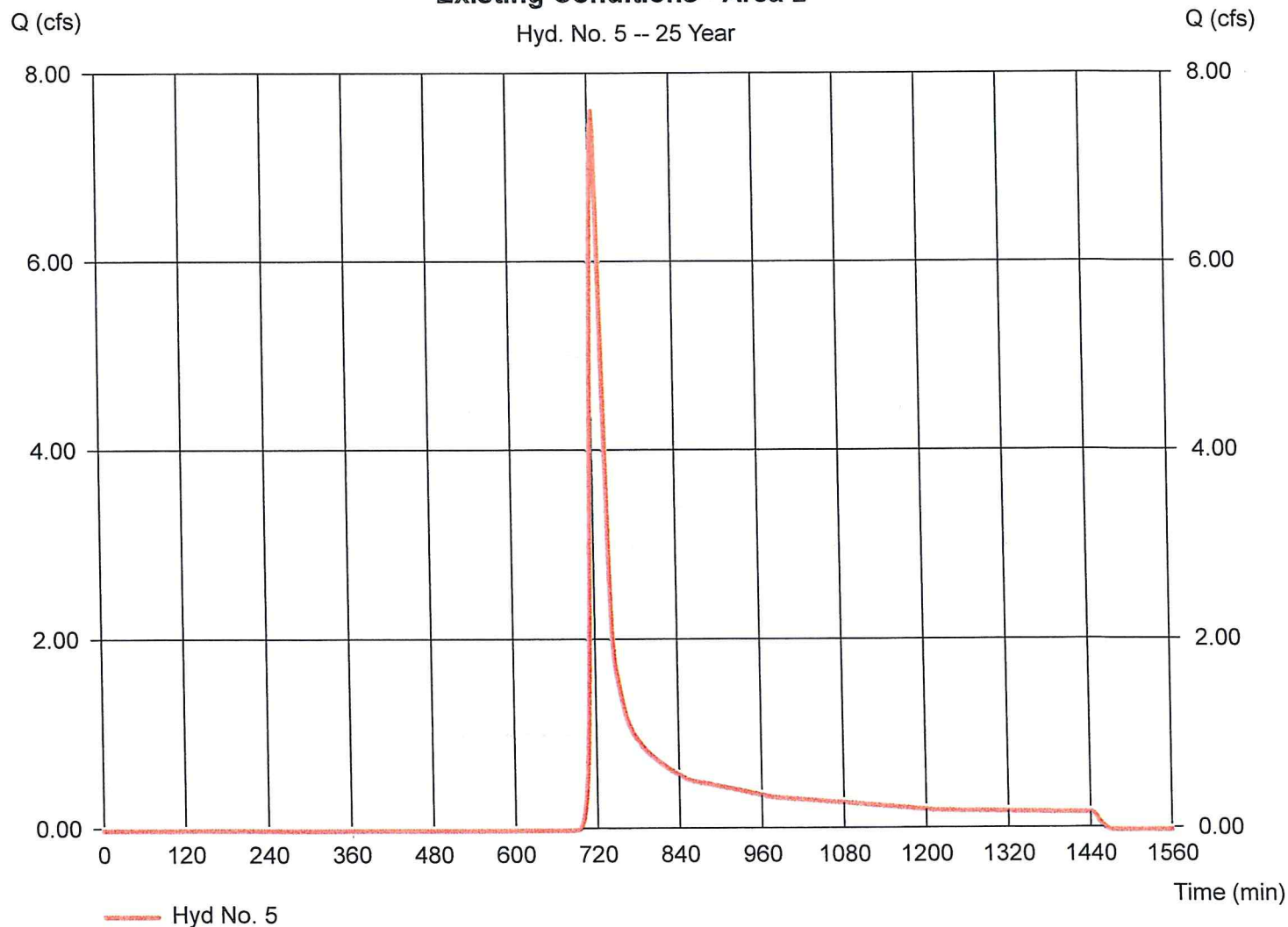
Hydrograph type = SCS Runoff
 Storm frequency = 25 yrs
 Time interval = 2 min
 Drainage area = 4.700 ac
 Basin Slope = 0.0 %
 Tc method = TR55
 Total precip. = 6.06 in
 Storm duration = 24 hrs

Peak discharge = 7.626 cfs
 Time to peak = 726 min
 Hyd. volume = 26,485 cuft
 Curve number = 55*
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 16.90 min
 Distribution = Type II
 Shape factor = 484

* Composite (Area/CN) = $[(4.700 \times 55)] / 4.700$

Existing Conditions - Area 2

Hyd. No. 5 -- 25 Year



Hydrograph Report

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Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Tuesday, Jul 18, 2023

Hyd. No. 6

Proposed Conditions - Area 2

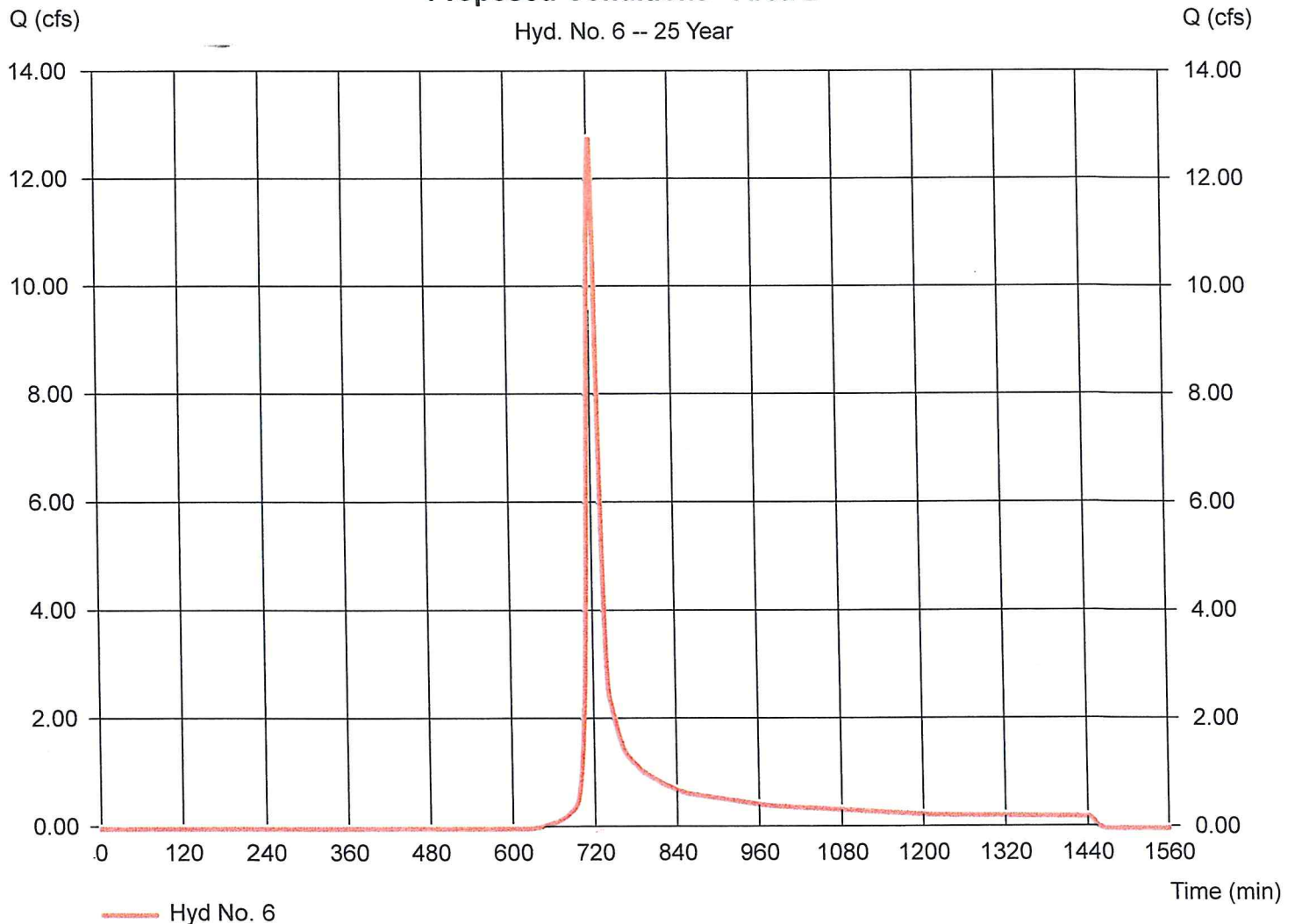
Hydrograph type = SCS Runoff
Storm frequency = 25 yrs
Time interval = 2 min
Drainage area = 4.700 ac
Basin Slope = 0.0 %
Tc method = TR55
Total precip. = 6.06 in
Storm duration = 24 hrs

Peak discharge = 12.78 cfs
Time to peak = 724 min
Hyd. volume = 36,903 cuft
Curve number = 63*
Hydraulic length = 0 ft
Time of conc. (Tc) = 16.50 min
Distribution = Type II
Shape factor = 484

* Composite (Area/CN) = $[(1.400 \times 83) + (3.300 \times 55)] / 4.700$

Proposed Conditions - Area 2

Hyd. No. 6 -- 25 Year



Hydrograph Report

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Tuesday, Jul 18, 2023

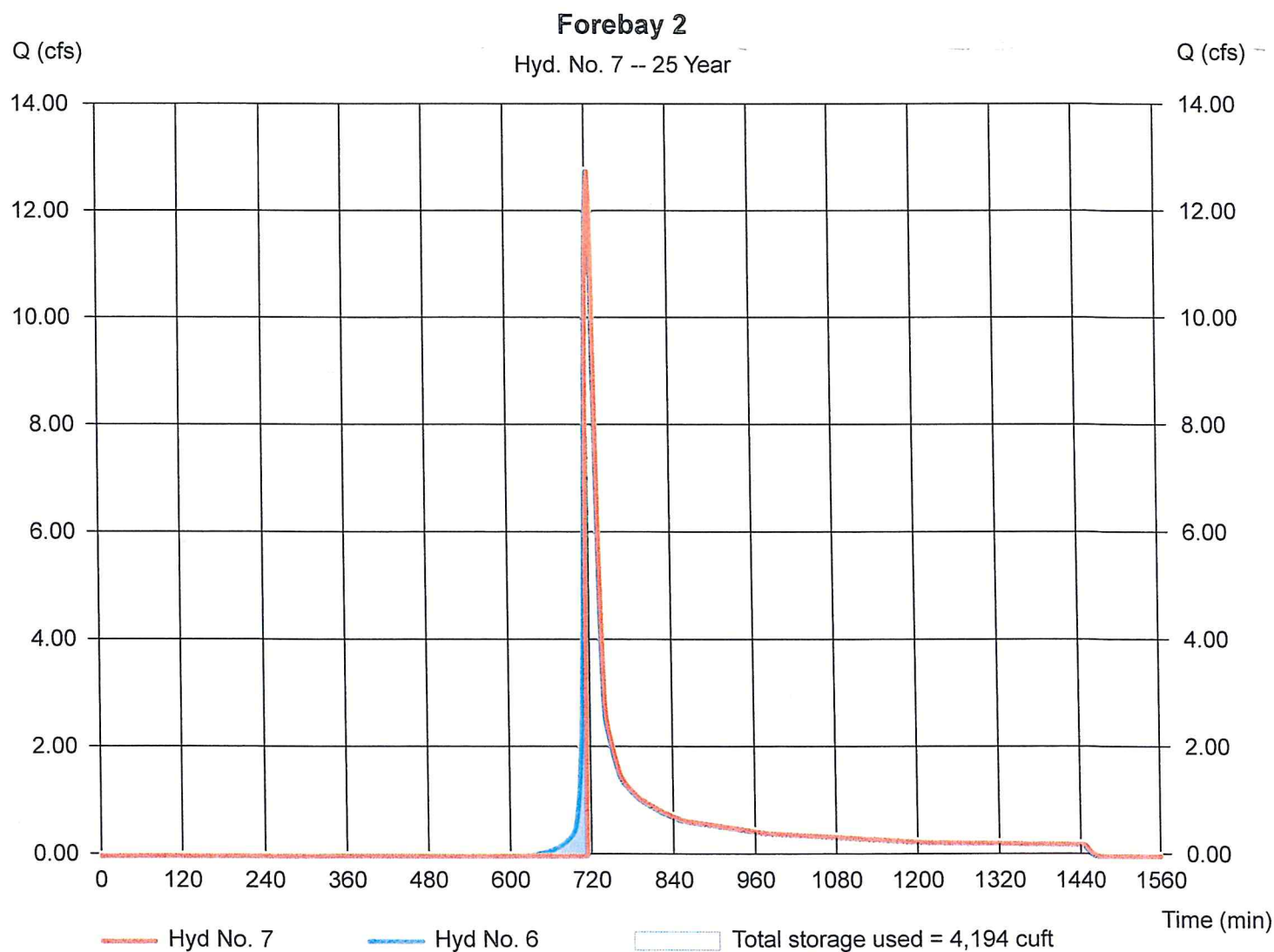
Hyd. No. 7

Forebay 2

Hydrograph type = Reservoir
 Storm frequency = 25 yrs
 Time interval = 2 min
 Inflow hyd. No. = 6 - Proposed Conditions - Area 2
 Reservoir name = Forebay #2

Peak discharge = 12.78 cfs
 Time to peak = 724 min
 Hyd. volume = 33,705 cuft
 Max. Elevation = 39.03 ft
 Max. Storage = 4,194 cuft

Storage Indication method used.



Hydrograph Report

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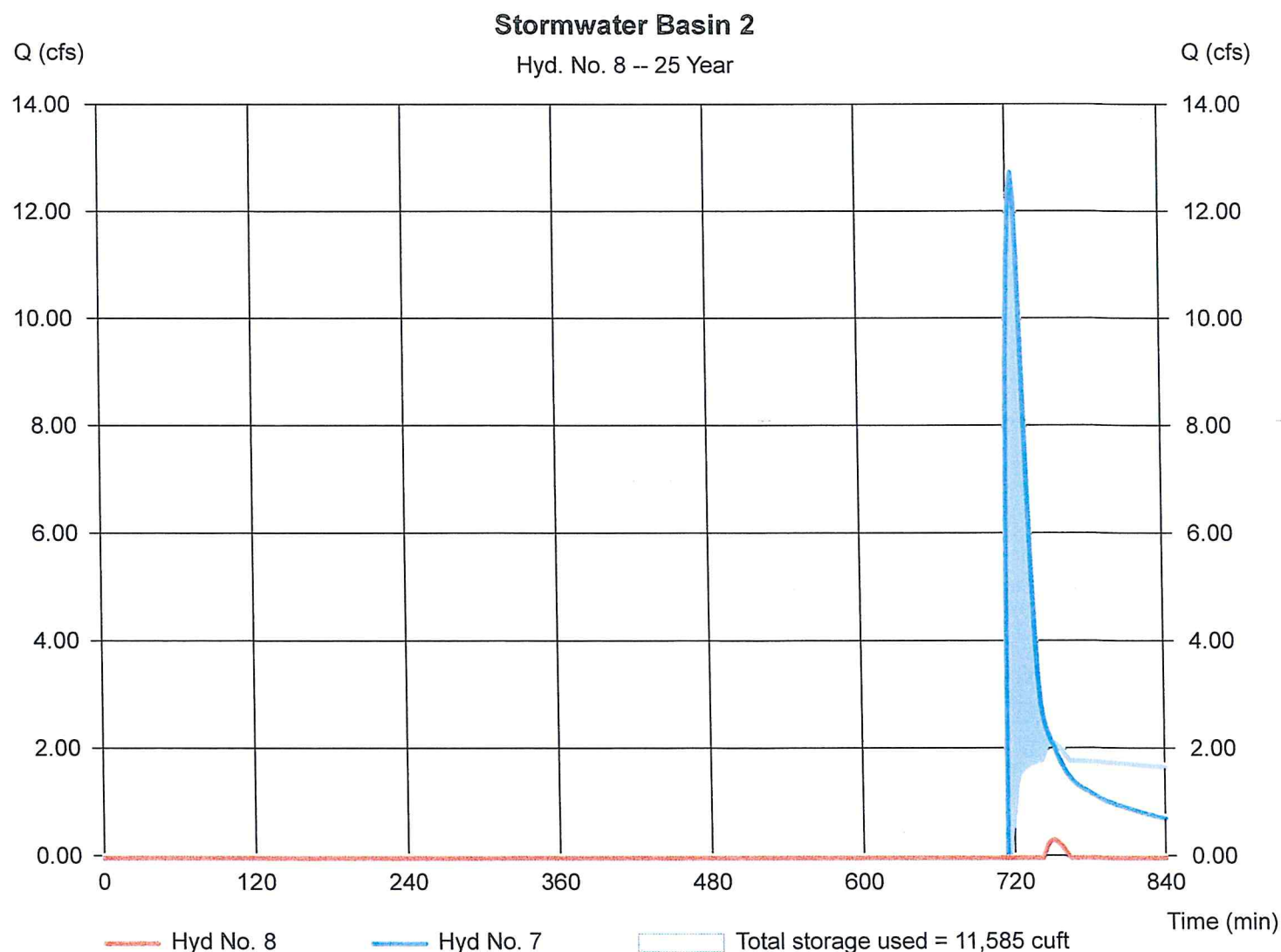
Tuesday, Jul 18, 2023

Hyd. No. 8

Stormwater Basin 2

Hydrograph type	= Reservoir	Peak discharge	= 0.329 cfs
Storm frequency	= 25 yrs	Time to peak	= 750 min
Time interval	= 2 min	Hyd. volume	= 265 cuft
Inflow hyd. No.	= 7 - Forebay 2	Max. Elevation	= 38.53 ft
Reservoir name	= Stormwater Basin 2	Max. Storage	= 11,585 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Hydrograph Summary Report

Hydrow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph description
1	SCS Runoff	16.38	1	725	52,727	-----	-----	-----	Existing Conditions - Areas 1
2	SCS Runoff	24.89	1	723	72,456	-----	-----	-----	Proposed Conditions - Area 1
3	Reservoir	18.96	1	727	58,229	2	39.19	19,164	Forebay 1
4	Reservoir	6.813	1	749	43,375	3	38.91	17,643	Stormwater Basin 1
5	SCS Runoff	13.34	2	726	43,692	-----	-----	-----	Existing Conditions - Area 2
6	SCS Runoff	20.09	2	722	56,742	-----	-----	-----	Proposed Conditions - Area 2
7	Reservoir	20.02	2	724	53,545	6	39.22	4,617	Forebay 2
8	Reservoir	12.92	2	730	11,974	7	39.03	14,203	Stormwater Basin 2
A&B Excavation TR55.gpw					Return Period: 100 Year			Tuesday, Jul 18, 2023	

Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Tuesday, Jul 18, 2023

Hyd. No. 1

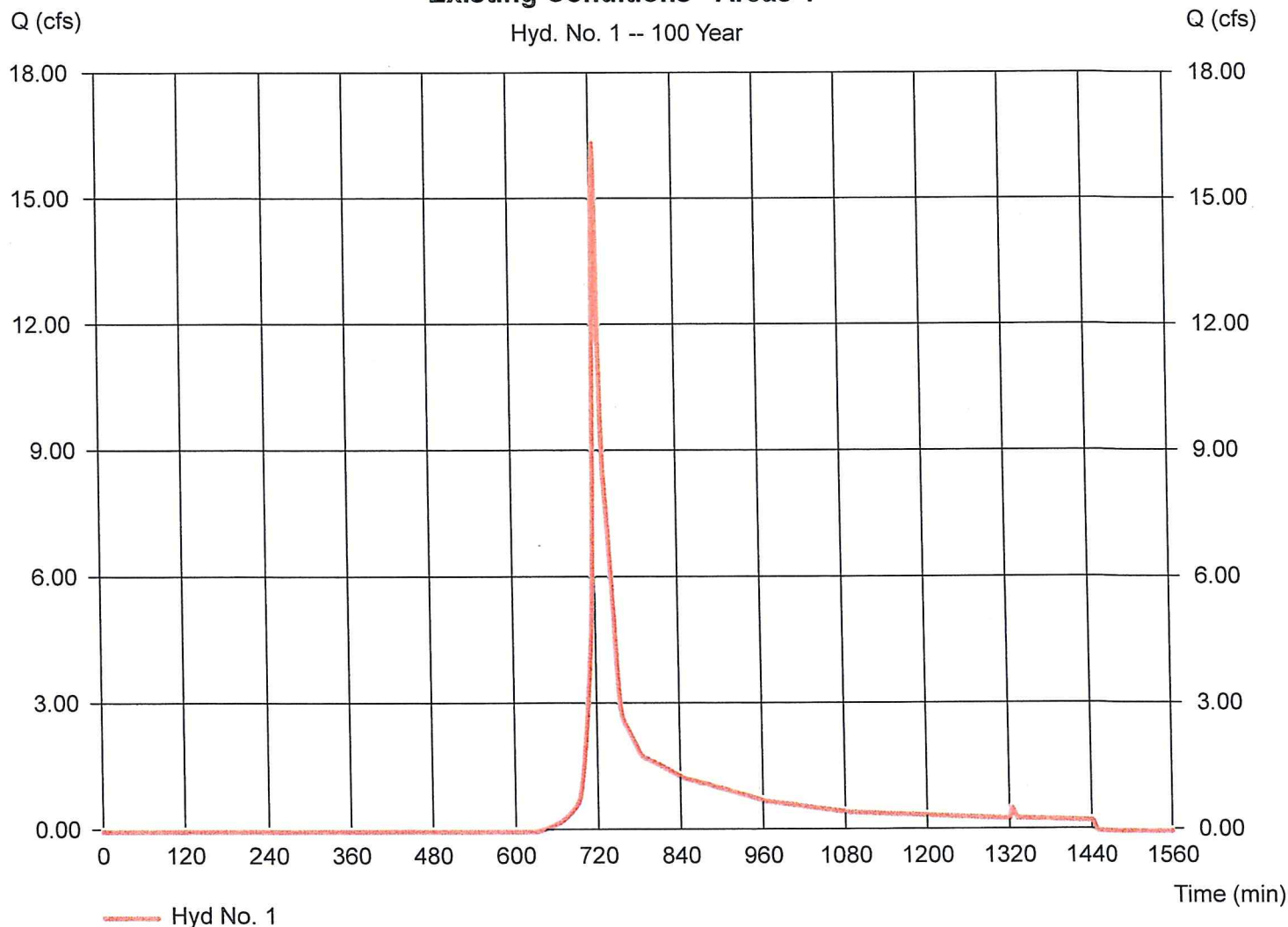
Existing Conditions - Areas 1

Hydrograph type = SCS Runoff
 Storm frequency = 100 yrs
 Time interval = 1 min
 Drainage area = 5.500 ac
 Basin Slope = 0.0 %
 Tc method = TR55
 Total precip. = 7.67 in
 Storm duration = 24 hrs

Peak discharge = 16.38 cfs
 Time to peak = 725 min
 Hyd. volume = 52,727 cuft
 Curve number = 55*
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 5.30 min
 Distribution = Type III
 Shape factor = 484

* Composite (Area/CN) = $[(5.300 \times 55)] / 5.500$

Existing Conditions - Areas 1



Hydrograph Report

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Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Tuesday, Jul 18, 2023

Hyd. No. 2

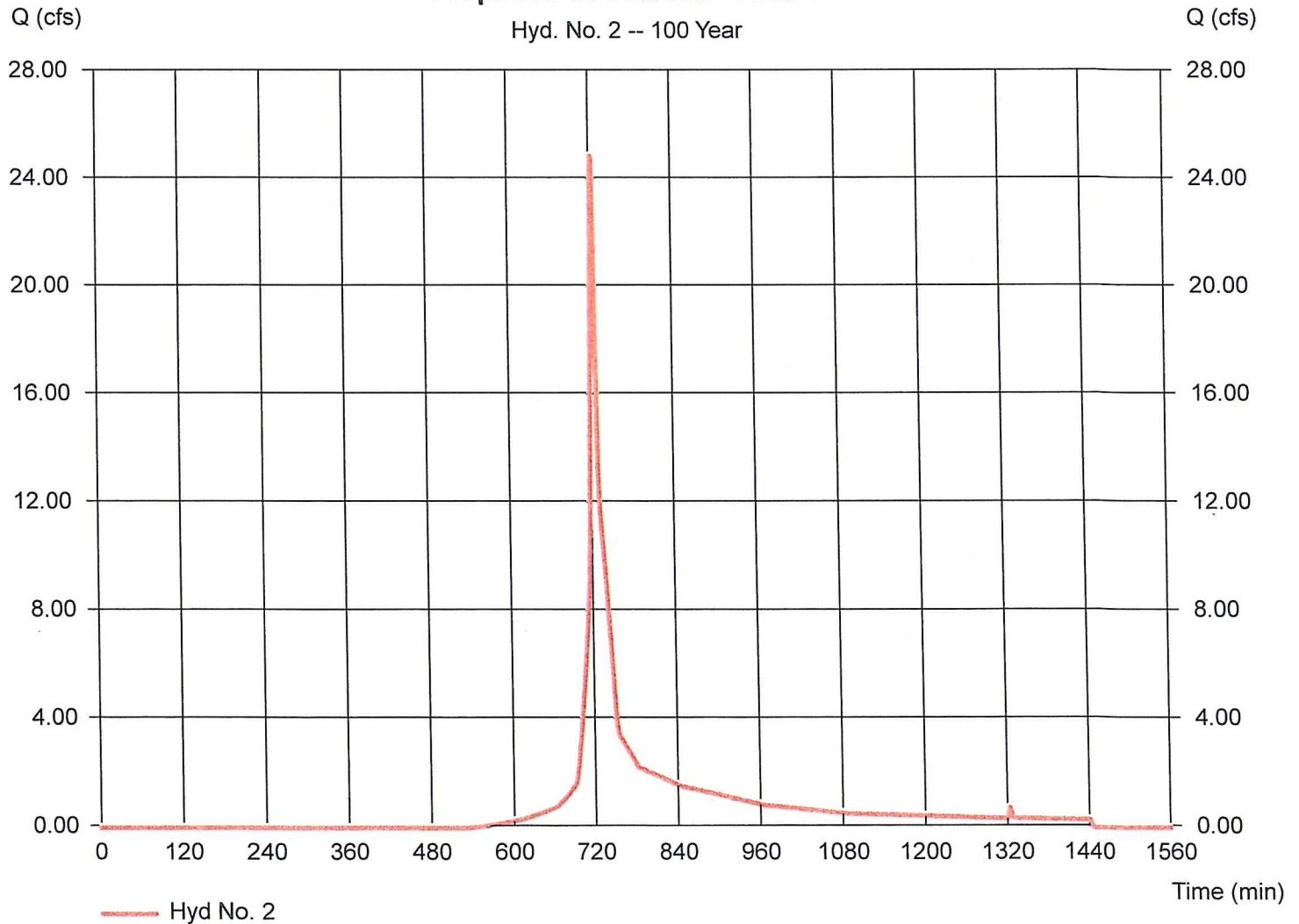
Proposed Conditions - Area 1

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 1 min
Drainage area = 5.500 ac
Basin Slope = 0.0 %
Tc method = TR55
Total precip. = 7.67 in
Storm duration = 24 hrs

Peak discharge = 24.89 cfs
Time to peak = 723 min
Hyd. volume = 72,456 cuft
Curve number = 65*
Hydraulic length = 0 ft
Time of conc. (Tc) = 4.50 min
Distribution = Type III
Shape factor = 484

* Composite (Area/CN) = [(1.900 x 83) + (3.600 x 55)] / 5.500

Proposed Conditions - Area 1



Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Tuesday, Jul 18, 2023

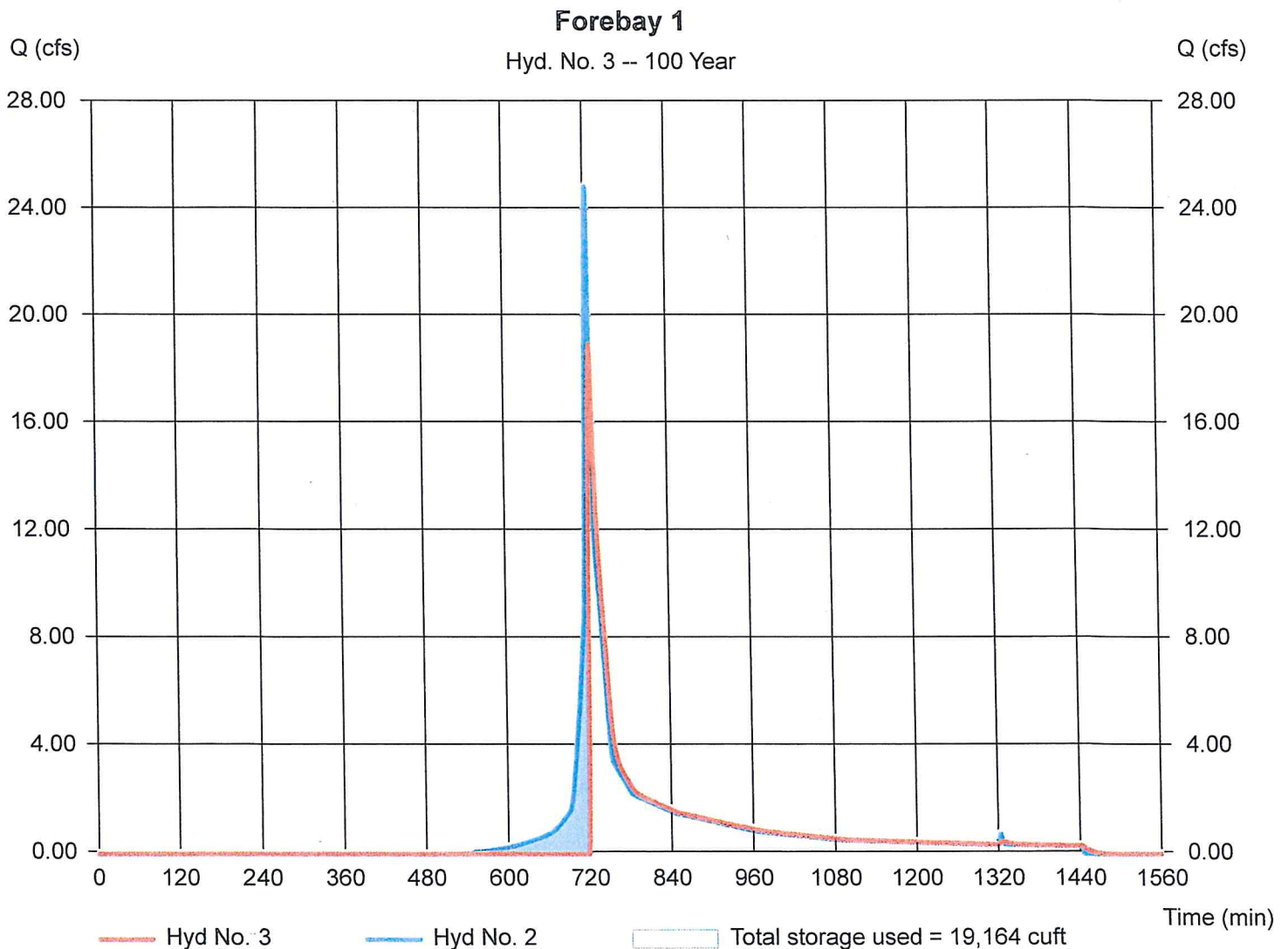
Hyd. No. 3

Forebay 1

Hydrograph type = Reservoir
 Storm frequency = 100 yrs
 Time interval = 1 min
 Inflow hyd. No. = 2 - Proposed Conditions - Area 1
 Reservoir name = Forebay #1

Peak discharge = 18.96 cfs
 Time to peak = 727 min
 Hyd. volume = 58,229 cuft
 Max. Elevation = 39.19 ft
 Max. Storage = 19,164 cuft

Storage Indication method used.



Hydrograph Report

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Tuesday, Jul 18, 2023

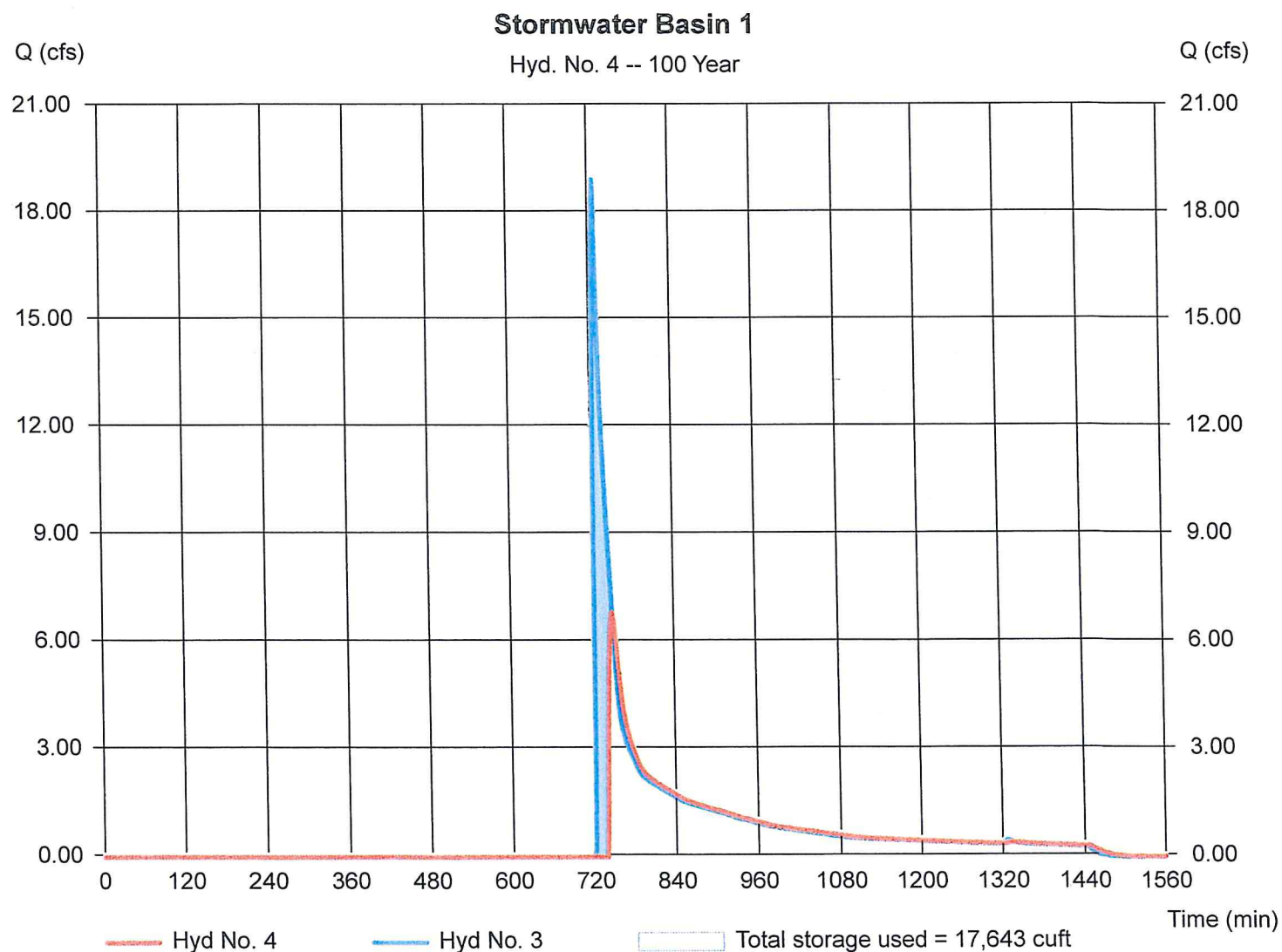
Hyd. No. 4

Stormwater Basin 1

Hydrograph type = Reservoir
Storm frequency = 100 yrs
Time interval = 1 min
Inflow hyd. No. = 3 - Forebay 1
Reservoir name = Stormwater Basin 1

Peak discharge = 6.813 cfs
Time to peak = 749 min
Hyd. volume = 43,375 cuft
Max. Elevation = 38.91 ft
Max. Storage = 17,643 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Tuesday, Jul 18, 2023

Hyd. No. 5

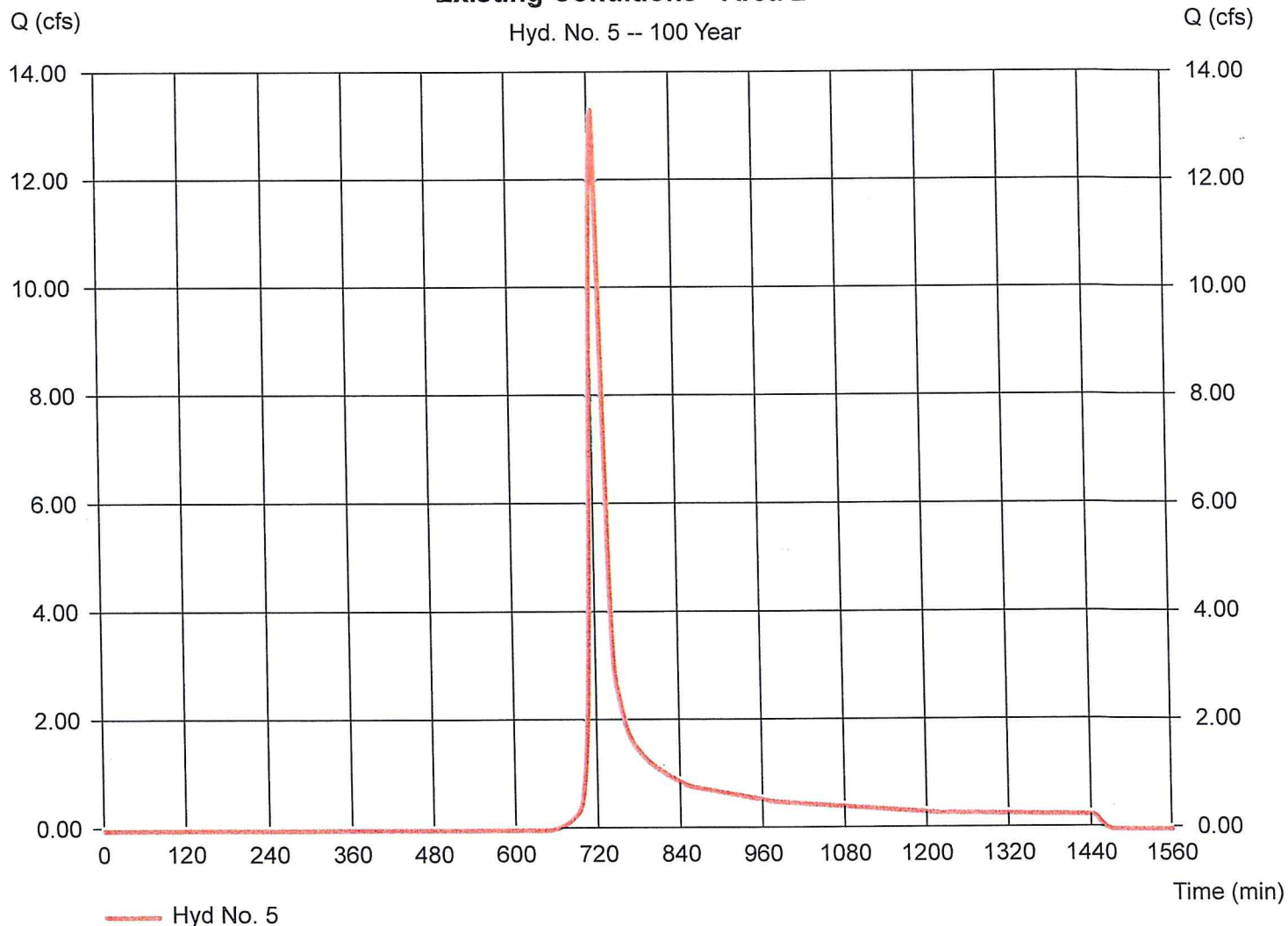
Existing Conditions - Area 2

Hydrograph type = SCS Runoff
 Storm frequency = 100 yrs
 Time interval = 2 min
 Drainage area = 4.700 ac
 Basin Slope = 0.0 %
 Tc method = TR55
 Total precip. = 7.67 in
 Storm duration = 24 hrs

Peak discharge = 13.34 cfs
 Time to peak = 726 min
 Hyd. volume = 43,692 cuft
 Curve number = 55*
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 16.90 min
 Distribution = Type II
 Shape factor = 484

* Composite (Area/CN) = [(4.700 x 55)] / 4.700

Existing Conditions - Area 2



Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Tuesday, Jul 18, 2023

Hyd. No. 6

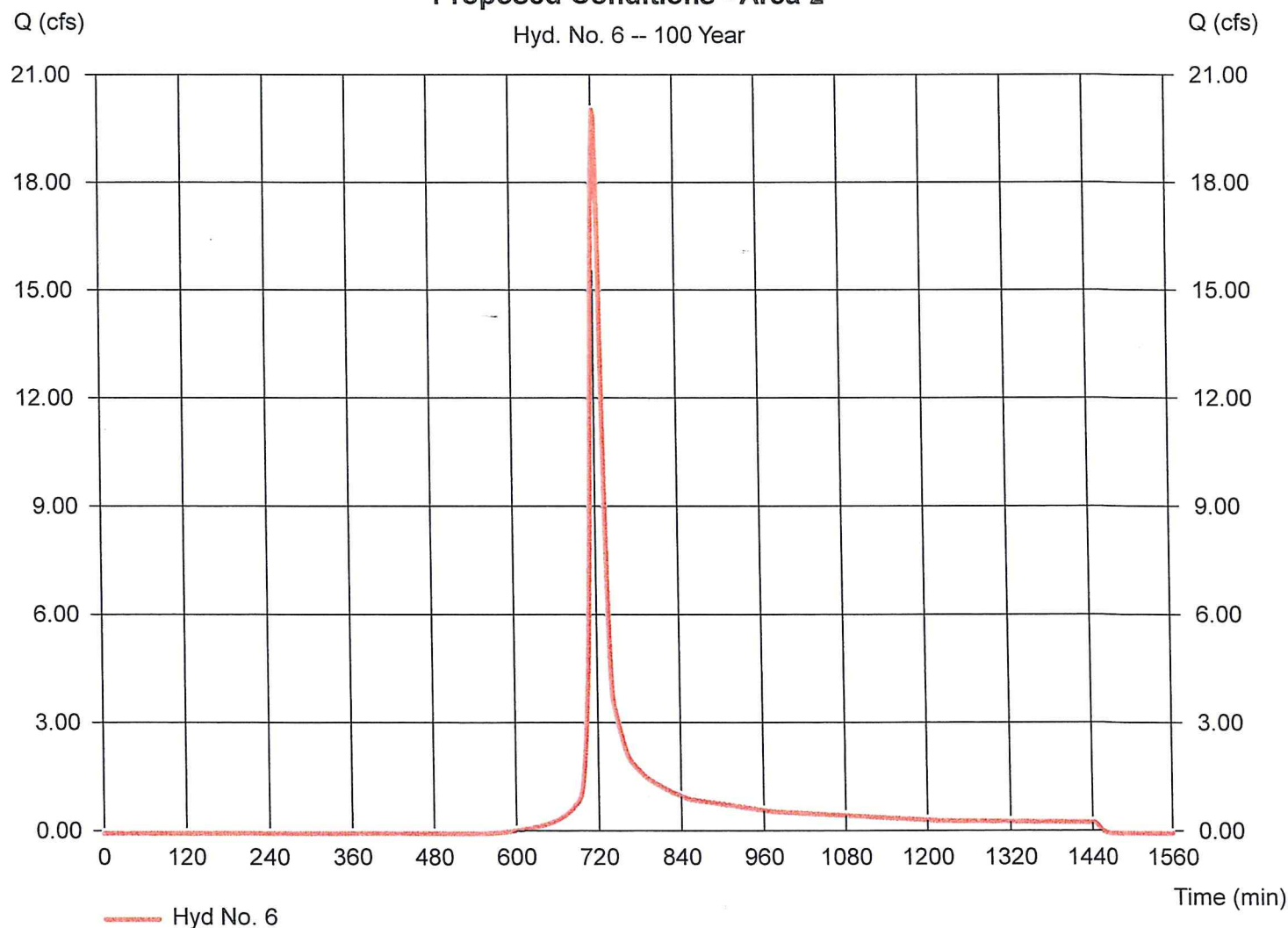
Proposed Conditions - Area 2

Hydrograph type = SCS Runoff
 Storm frequency = 100 yrs
 Time interval = 2 min
 Drainage area = 4.700 ac
 Basin Slope = 0.0 %
 Tc method = TR55
 Total precip. = 7.67 in
 Storm duration = 24 hrs

Peak discharge = 20.09 cfs
 Time to peak = 722 min
 Hyd. volume = 56,742 cuft
 Curve number = 63*
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 16.50 min
 Distribution = Type II
 Shape factor = 484

* Composite (Area/CN) = $[(1.400 \times 83) + (3.300 \times 55)] / 4.700$

Proposed Conditions - Area 2



Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Tuesday, Jul 18, 2023

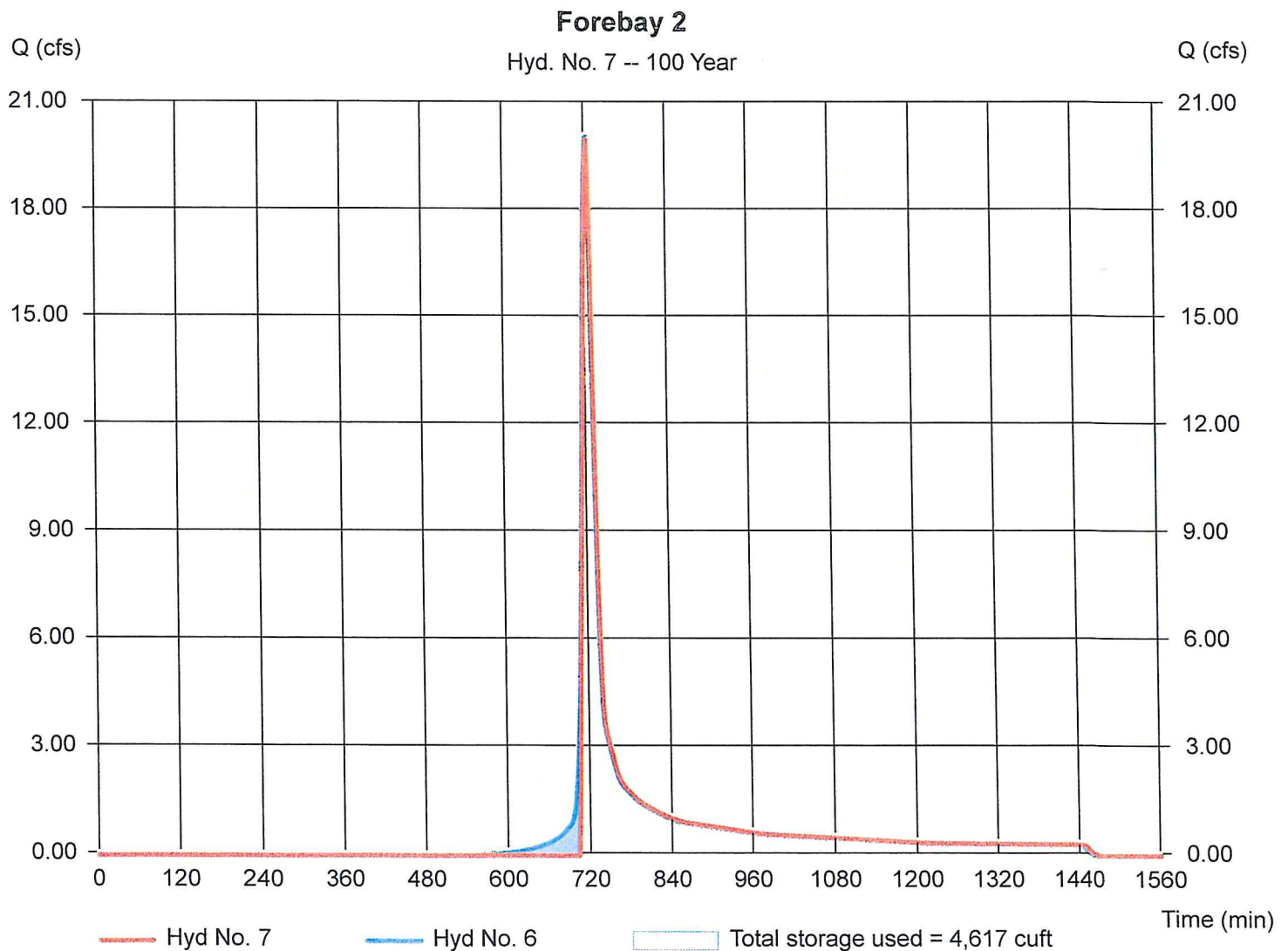
Hyd. No. 7

Forebay 2

Hydrograph type = Reservoir
 Storm frequency = 100 yrs
 Time interval = 2 min
 Inflow hyd. No. = 6 - Proposed Conditions - Area 2
 Reservoir name = Forebay #2

Peak discharge = 20.02 cfs
 Time to peak = 724 min
 Hyd. volume = 53,545 cuft
 Max. Elevation = 39.22 ft
 Max. Storage = 4,617 cuft

Storage Indication method used.



Hydrograph Report

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Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Tuesday, Jul 18, 2023

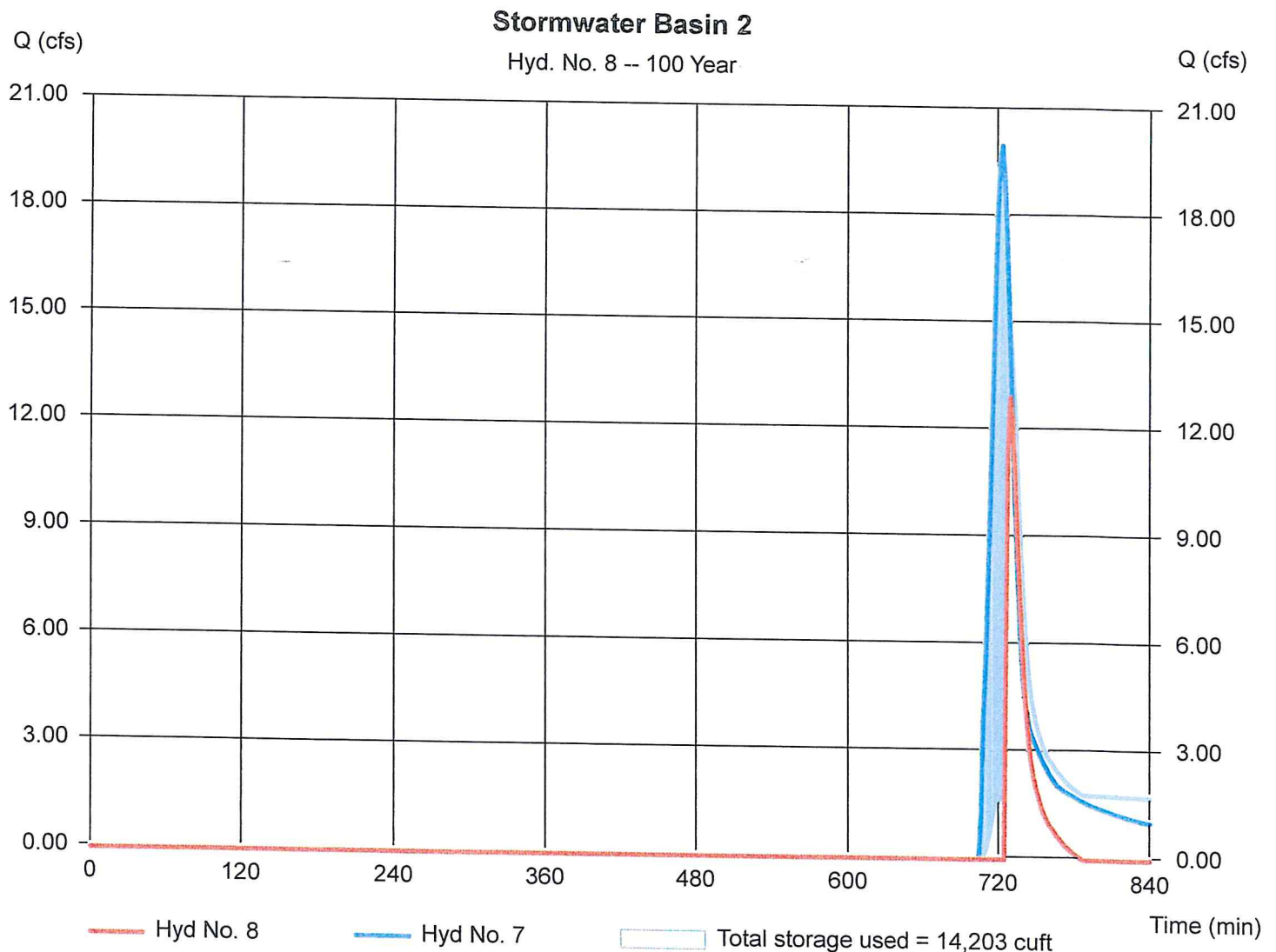
Hyd. No. 8

Stormwater Basin 2

Hydrograph type = Reservoir
Storm frequency = 100 yrs
Time interval = 2 min
Inflow hyd. No. = 7 - Forebay 2
Reservoir name = Stormwater Basin 2

Peak discharge = 12.92 cfs
Time to peak = 730 min
Hyd. volume = 11,974 cuft
Max. Elevation = 39.03 ft
Max. Storage = 14,203 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Pond Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Thursday, May 25, 2023

Pond No. 4 - Forebay #1

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Beginning Elevation = 36.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	36.00	4,365	0	0
1.00	37.00	5,392	4,869	4,869
2.00	38.00	6,420	5,898	10,767
3.00	39.00	7,430	6,918	17,685
4.00	40.00	8,440	7,920	25,614

Culvert / Orifice Structures

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

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 10.00	0.00	0.00	0.00
Crest El. (ft)	= 38.50	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 0.000 (by Wet area)			
TW Elev. (ft)	= 0.00			

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

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	36.00	---	---	---	---	0.00	---	---	---	---	---	0.000
1.00	4,869	37.00	---	---	---	---	0.00	---	---	---	---	---	0.000
2.00	10,767	38.00	---	---	---	---	0.00	---	---	---	---	---	0.000
3.00	17,685	39.00	---	---	---	---	11.77	---	---	---	---	---	11.77
4.00	25,614	40.00	---	---	---	---	61.18	---	---	---	---	---	61.18

Pond Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Thursday, May 25, 2023

Pond No. 1 - Stormwater Basin 1

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Beginning Elevation = 36.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storages (cuft)	Total storages (cuft)
0.00	36.00	5,072	0	0
1.00	37.00	5,725	5,395	5,395
2.00	38.00	6,377	6,047	11,442
3.00	39.00	7,278	6,822	18,264
4.00	40.00	8,180	7,724	25,988

Culvert / Orifice Structures

	[A]	[B]	[C]	[PriRsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 10.00	0.00	0.00	0.00
Crest El. (ft)	= 38.50	0.00	0.00	0.00
Weir Coeff.	= 2.60	3.33	3.33	3.33
Weir Type	= Broad	---	---	---
Multi-Stage	= No	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	PriRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	36.00	---	---	---	---	0.00	---	---	---	---	---	0.000
1.00	5,395	37.00	---	---	---	---	0.00	---	---	---	---	---	0.000
2.00	11,442	38.00	---	---	---	---	0.00	---	---	---	---	---	0.000
3.00	18,264	39.00	---	---	---	---	9.19	---	---	---	---	---	9.192
4.00	25,988	40.00	---	---	---	---	47.77	---	---	---	---	---	47.77

Pond Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Thursday, May 25, 2023

Pond No. 5 - Forbay #2

Pond Data

Contours - User-defined contour areas, Conic method used for volume calculation. Beginning Elevation = 36.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	36.00	622	0	0
1.00	37.00	1,142	869	869
2.00	38.00	1,663	1,394	2,263
3.00	39.00	2,083	1,869	4,132
4.00	40.00	2,504	2,290	6,422

Culvert / Orifice Structures

	[A]	[B]	[C]	[PriRsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 10.00	0.00	0.00	0.00
Crest El. (ft)	= 38.50	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect			
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 0.000 (by Wet area)			
TW Elev. (ft)	= 0.00			

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

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PriRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	36.00	---	---	---	---	0.00	---	---	---	---	---	0.000
1.00	869	37.00	---	---	---	---	0.00	---	---	---	---	---	0.000
2.00	2,263	38.00	---	---	---	---	0.00	---	---	---	---	---	0.000
3.00	4,132	39.00	---	---	---	---	11.77	---	---	---	---	---	11.77
4.00	6,422	40.00	---	---	---	---	61.18	---	---	---	---	---	61.18

Pond Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2009 by Autodesk, Inc. v6.066

Thursday, May 25, 2023

Pond No. 2 - Stormwater Basin 2

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Beginning Elevation = 36.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	36.00	3,890	0	0
1.00	37.00	4,410	4,147	4,147
2.00	38.00	4,940	4,672	8,819
3.00	39.00	5,478	5,206	14,025
4.00	40.00	6,024	5,748	19,773

Culvert / Orifice Structures

	[A]	[B]	[C]	[Prf/Rsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 10.00	0.00	0.00	0.00
Crest El. (ft)	= 38.50	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Broad	---	---	---
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 15.000 (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	Prf/Rsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	36.00	---	---	---	---	0.00	---	---	---	0.000	---	0.000
1.00	4,147	37.00	---	---	---	---	0.00	---	---	---	1.531	---	1,531
2.00	8,819	38.00	---	---	---	---	0.00	---	---	---	1.715	---	1,715
3.00	14,025	39.00	---	---	---	---	11.77	---	---	---	1.902	---	13.68
4.00	19,773	40.00	---	---	---	---	61.18	---	---	---	2.092	---	63.27

GREEN SITE DESIGN LLC

Civil • Structural • Survey

317 Main Street
NORWICH, CONNECTICUT 06360
(860) 892-1380

PROJECT NAME: _____

PROJECT NO: _____ SHEET NO. _____ OF _____

BY: _____ DATE _____

SCALE: _____

SWALE ABOVE RETAINING WALL:

DEPTH = 2.0 ACROSS

C = 0.2 (GOLF COURSE)

T_c = 10 MINUTES

I₂₅ = 6.15

Q₂₅ = 2.5 CFS



$$S = 4\% = 0.04$$

$$N = 0.04$$

WHEN THE SWALE IS HALF FULL:

$$A = 1 \text{ SF} \quad P = 3.2 \text{ FT}$$

MANITUAS:

$$Q = A \left(\frac{1.486}{n} \right) R^{2/3} S^{1/2}$$

$$Q = 1 \left(\frac{1.486}{0.04} \right) \left(\frac{1}{3.2} \right)^{2/3} (0.04)^{1/2}$$

$$Q = 3.4 \text{ CFS}$$

∴ SWALE HAS CAPACITY TO
HANDLE THE 25 YEAR STORM



Location name: Uncasville, Connecticut, USA*
Latitude: 41.496°, Longitude: -72.1077°
Elevation: 85 ft**
* source: ESRI Maps
** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aerials](#)

PF tabular

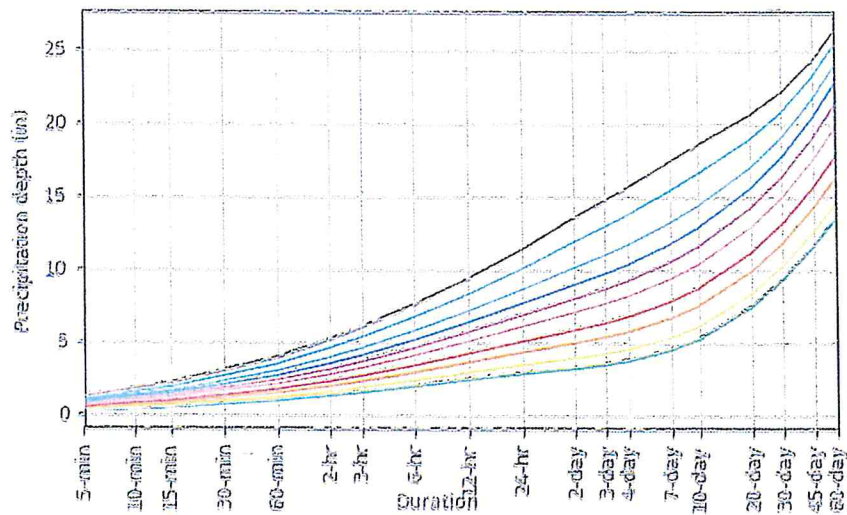
PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.341 (0.266-0.430)	0.407 (0.317-0.514)	0.515 (0.399-0.692)	0.605 (0.460-0.769)	0.728 (0.544-0.958)	0.821 (0.600-1.10)	0.918 (0.652-1.26)	1.03 (0.691-1.43)	1.18 (0.767-1.70)	1.31 (0.830-1.91)
10-min	0.483 (0.376-0.610)	0.577 (0.449-0.728)	0.730 (0.566-0.924)	0.857 (0.660-1.09)	1.03 (0.770-1.36)	1.16 (0.851-1.56)	1.30 (0.924-1.79)	1.46 (0.980-2.03)	1.66 (1.09-2.40)	1.86 (1.18-2.71)
15-min	0.569 (0.443-0.717)	0.679 (0.528-0.857)	0.850 (0.666-1.09)	1.01 (0.777-1.28)	1.21 (0.906-1.60)	1.37 (1.00-1.83)	1.53 (1.09-2.11)	1.71 (1.15-2.39)	1.97 (1.28-2.83)	2.18 (1.38-3.18)
30-min	0.798 (0.521-1.01)	0.952 (0.740-1.20)	1.20 (0.932-1.52)	1.41 (1.09-1.80)	1.70 (1.27-2.24)	1.92 (1.40-2.56)	2.15 (1.52-2.95)	2.40 (1.62-3.35)	2.76 (1.79-3.97)	3.06 (1.94-4.46)
60-min	1.03 (0.799-1.30)	1.23 (0.993-1.55)	1.55 (1.20-1.96)	1.82 (1.40-2.31)	2.19 (1.64-2.88)	2.47 (1.80-3.30)	2.76 (1.96-3.80)	3.09 (2.08-4.31)	3.56 (2.30-5.10)	3.94 (2.49-5.74)
2-hr	1.36 (1.06-1.69)	1.60 (1.26-2.01)	2.02 (1.58-2.54)	2.37 (1.84-3.00)	2.85 (2.14-3.73)	3.21 (2.36-4.27)	3.59 (2.57-4.92)	4.03 (2.72-5.58)	4.66 (3.03-6.64)	5.15 (3.30-7.50)
3-hr	1.56 (1.23-1.95)	1.86 (1.46-2.32)	2.34 (1.84-2.94)	2.74 (2.14-3.45)	3.30 (2.49-4.29)	3.71 (2.74-4.91)	4.15 (2.98-5.67)	4.65 (3.16-6.42)	5.40 (3.52-7.65)	6.02 (3.83-8.56)
6-hr	1.99 (1.58-2.47)	2.36 (1.87-2.93)	2.97 (2.34-3.69)	3.47 (2.72-4.33)	4.16 (3.15-5.38)	4.67 (3.47-6.15)	5.22 (3.77-7.08)	5.86 (3.99-8.03)	6.80 (4.45-9.56)	7.58 (4.84-10.8)
12-hr	2.47 (1.97-3.04)	2.92 (2.33-3.60)	3.67 (2.91-4.53)	4.25 (3.39-5.32)	5.14 (3.92-6.59)	5.77 (4.31-7.53)	6.44 (4.68-8.67)	7.22 (4.94-9.82)	8.37 (5.50-11.7)	9.32 (5.98-13.2)
24-hr	2.90 (2.33-3.55)	3.46 (2.77-4.23)	4.36 (3.48-5.35)	5.11 (4.06-6.30)	6.15 (4.72-7.84)	6.92 (5.20-8.98)	7.74 (5.66-10.4)	8.70 (5.98-11.7)	10.1 (6.68-14.0)	11.3 (7.28-15.9)
2-day	3.25 (2.63-3.96)	3.92 (3.16-4.77)	5.00 (4.02-6.10)	5.90 (4.71-7.22)	7.14 (5.52-9.06)	8.06 (6.10-10.4)	9.05 (6.66-12.1)	10.2 (7.06-13.7)	12.0 (7.95-16.5)	13.5 (8.73-19.8)
3-day	3.54 (2.87-4.28)	4.29 (3.45-5.16)	5.44 (4.38-6.60)	6.41 (5.14-7.81)	7.76 (6.02-9.80)	8.75 (6.65-11.3)	9.83 (7.26-13.0)	11.1 (7.69-14.8)	13.1 (8.67-17.9)	14.7 (9.53-20.4)
4-day	3.80 (3.09-4.59)	4.56 (3.70-5.51)	5.80 (4.69-7.02)	6.83 (5.40-8.30)	8.25 (6.42-10.4)	9.30 (7.08-11.9)	10.4 (7.73-13.8)	11.8 (8.17-15.7)	13.6 (9.20-18.8)	15.6 (10.1-21.5)
7-day	4.54 (3.71-5.45)	5.38 (4.39-6.46)	6.75 (5.48-8.12)	7.88 (6.37-9.52)	9.44 (7.38-11.8)	10.6 (8.11-13.5)	11.8 (8.79-15.5)	13.3 (9.27-17.6)	15.5 (10.4-21.0)	17.4 (11.3-23.8)
10-day	5.27 (4.32-6.30)	6.15 (5.04-7.36)	7.59 (6.19-9.10)	8.78 (7.11-10.6)	10.4 (8.16-13.0)	11.6 (8.92-14.7)	12.9 (9.61-16.8)	14.5 (10.1-19.0)	16.7 (11.1-22.4)	18.5 (12.1-25.3)
20-day	7.51 (6.19-8.91)	8.44 (6.96-10.0)	9.97 (8.18-11.9)	11.2 (9.16-13.4)	13.0 (10.2-15.9)	14.3 (11.0-17.8)	15.7 (11.6-20.0)	17.1 (12.0-22.2)	19.0 (12.8-25.4)	20.6 (13.5-27.9)
30-day	9.36 (7.76-11.1)	10.3 (8.54-12.2)	11.9 (9.81-14.1)	13.2 (10.8-15.7)	15.0 (11.8-18.3)	16.4 (12.6-20.2)	17.8 (13.1-22.4)	19.1 (13.5-24.8)	20.8 (14.1-27.7)	22.1 (14.5-29.8)
45-day	11.6 (9.69-13.7)	12.7 (10.5-14.9)	14.3 (11.8-16.9)	15.7 (12.9-18.6)	17.6 (13.9-21.2)	19.1 (14.6-23.3)	20.5 (15.1-25.5)	21.7 (15.4-27.9)	23.2 (15.7-30.6)	24.2 (15.9-32.5)
60-day	13.5 (11.3-15.9)	14.6 (12.2-17.1)	16.3 (13.5-19.2)	17.8 (14.6-21.0)	19.7 (15.6-23.8)	21.3 (16.4-25.9)	22.7 (16.8-28.2)	24.0 (17.0-30.7)	25.4 (17.2-33.4)	26.2 (17.3-35.1)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

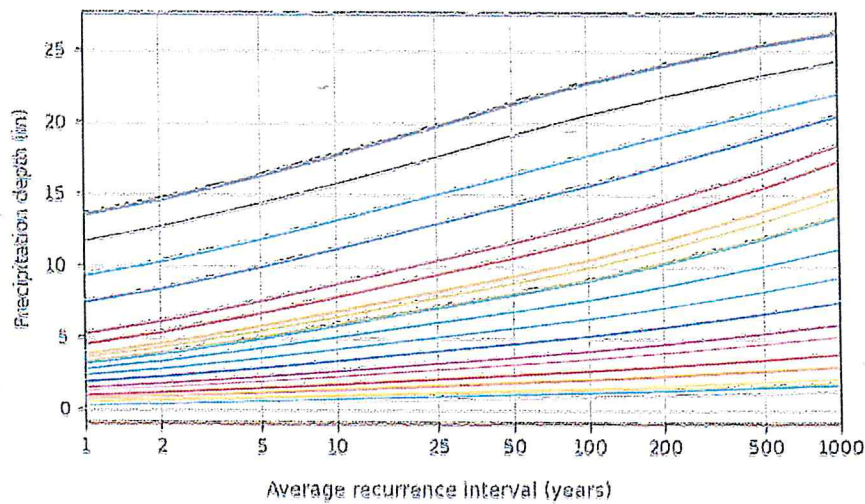
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PF graphical

PDS-based depth-duration-frequency (DDF) curves
Latitude: 41.4960°, Longitude: -72.1977°



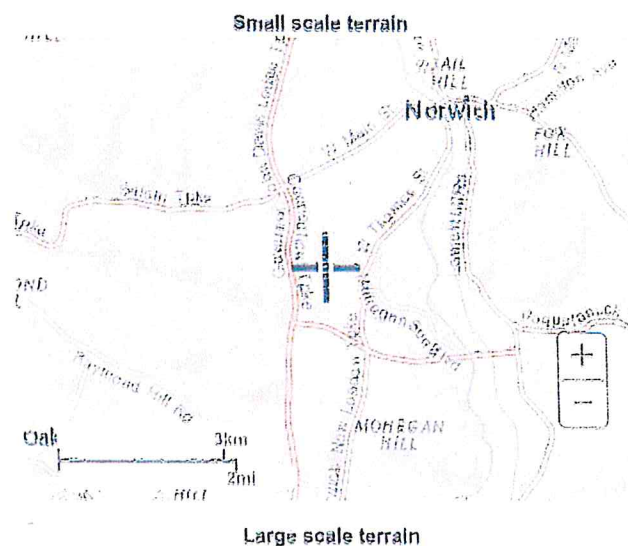
Average recurrence interval (years)
1
2
5
10
25
60
100
200
500
1000

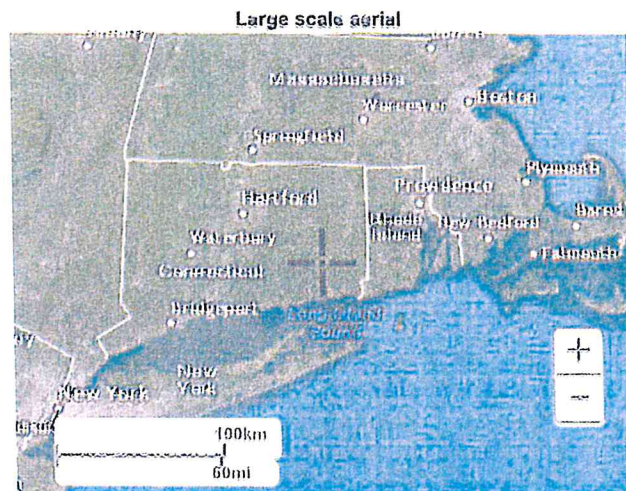
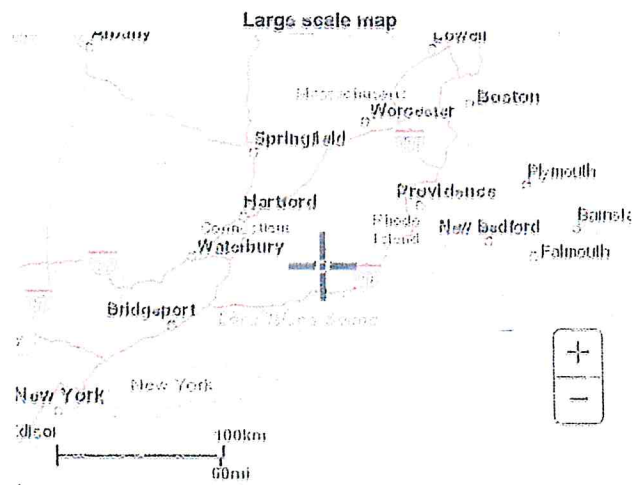
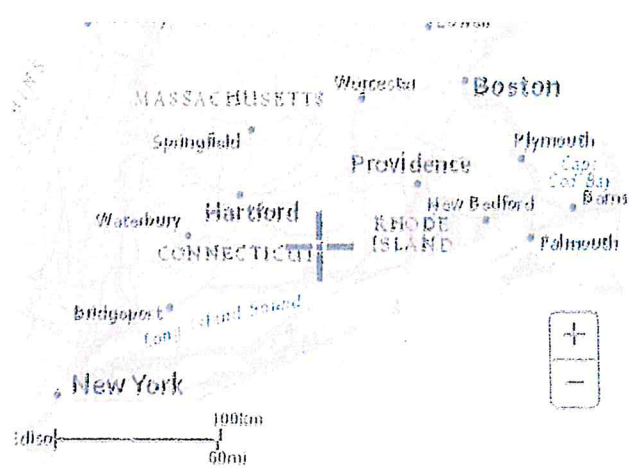


Duration	
5-min	2-day
10-min	3-day
15-min	4-day
30-min	7-day
60-min	10-day
2-hr	20-day
3-hr	30-day
6-hr	45-day
12-hr	60-day
24-hr	

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