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July 17, 2024

Re: Roberts Court Extension (CGS § 8-30g Affordable Housing Development)
430 Mohegan Ave. Parkway & 23B Old Norwich Rd. (Map 76 Lots 10164 & 5600)
Waterford, CT 06385

DRAINAGE REPORT

This project is for an affordable housing development, which includes construction of a new 20-foot wide and 797± linear foot long private looped road off the end of Roberts Court, construction of 20 residential buildings (16 single-family houses and 4 duplexes for a total of 24 dwelling units), installation of a storm sewer system, stormwater management areas, low impact development (LID) features, implementation of best management practices (BMP) and other associated improvements.

The existing site is a 5.22-acre parcel of land that fronts on Mohegan Avenue Parkway (CT Route 32) toward the east and the cul-de-sac of Roberts Court toward the north. There are remains of an old shed on the northwest corner of the site and there is a sanitary sewer system and easement along the northeast property line. Other than that, the site is currently undeveloped woodlands, more or less. The on-site topography generally drains toward the east where there is a depression and a low-point near the southeast corner of the property. At the low-point in the depression there is a culvert inlet with a small 0.06-acre pocket of isolated inland wetlands around it. The culvert extends under Mohegan Avenue Parkway (CT Route 32) and daylights to a ditch on the opposite side of the road.

The total existing and proposed watershed area is 16.5 acres and includes the entire site and approximately 11.3 acres of off-site area. The contributing off-site drainage area consists of undeveloped woodlands toward the south owned by Connecticut College, developed residential properties within the surrounding neighborhoods, and a portion of the Mohegan Avenue Parkway

right-of-way. The design points are the culvert inlet at the low-point as previously described (Design Point #1) and a point near the northwest corner of the property (Design Point #2).

Based on NRCS soil mapping, the underlying soils throughout the existing and proposed watershed consists of Canton & Charlton, Paxton & Montauk, and Sutton soils. All of these soils are classified as fine sandy loams or fine sandy loams that are very stony. The NRCS hydrologic soil group rating is B for Canton & Charlton soils, C for Paxton & Montauk soils, and B/D for Sutton soils. The B/D rating indicates that the Sutton soils are soil group B when they are drained and soil group D when they are undrained. Soil group D was used for the wetland pocket due to the undrained or saturated condition.

On-site soil testing was conducted in July 2023. Eight deep test pits were dug throughout the area of the proposed development, including three test holes within the vicinity of the stormwater management areas. The holes were dug between 7 to 9.5 feet deep and were observed by Robert Russo, C.P.S.S. The results showed that the underlying soils are a fine or very fine sandy loam or a silt loam with sand, gravel, cobbles, or stones near the bottom of the test holes, which is consistent with the NRCS soil mapping.

While soil testing, Mr. Russo obtained three soil samples within the vicinity of the stormwater management areas and CLA Engineers, Inc. conducted permeability tests and sieve analysis. The infiltration rates are 0.25 inches per hour within the area of the smaller stormwater quality basin (Basin #1B) and 0.58 and 0.29 inches per hour (0.44 average) within the area of the large stormwater quality basin (Basin #1C). The infiltration rates are consistent with NRCS soil mapping.

The NRCS TR-55 methodology was utilized to evaluate the existing and proposed stormwater runoff conditions using the embedded AutoCAD HydraFlow Hydrographs computer program. All times of concentration were computed using the TR-55 methodology as recommended by the ConnDOT Drainage Manual. The Town of Waterford recommends using the 24-hour NRCS Type III rainfall distribution for all storms. All rainfall amounts used in this analysis were taken from the Hydrometeorological Design Studies Center of the National Oceanic and Atmospheric Administration (NOAA) National Weather Service and published in NOAA Atlas 14 Volume 10:

Precipitation-Frequency Atlas of the United States, Northeastern States, last revised on September 30, 2015. Refer to the plans entitled “Watershed Mapping” enclosed within this report for all watershed information.

Included with this report are HydraFlow supporting computations and hydrographs for the existing and proposed conditions. Detailed summaries of the computational results for the 2, 10, 25, 50, and 100-year storm events. The results indicate that the proposed peak rate of runoff and the volume of runoff at the design points will decrease for the 2- through 100-year storms. See tables in the enclosed drainage report.

The stormwater basins will be wet bottom basins that will capture the majority of the development and will slowly infiltrate the water into the underlying soils over the course of several days. Additionally, the outlet control structures within the basins will slowly release runoff over time to reduce the peak rate of runoff. The basins will provide at least 1-foot of freeboard up to the top of the basin berms. Refer to the attached summary tables for tabulated results for peak rates of runoff, volume of runoff and water surface elevations for the pre- and post-development conditions.

Grassed swales are provided on the northeast, south and west sides of the property (Swale 1A, 1B and 1C, respectively) and were analyzed using the rational method and the FHWA “Hydraulic Toolbox”. The swales will have a 3-foot wide bottom with 2:1 (max.) side slopes. The swales will have permanent check dams at 75-foot (max.) intervals to slow velocity and will be seeded and stabilized with biodegradable erosion control blankets.

The proposed project includes several LID features and best management practices (BMP) to mitigate impacts of stormwater runoff and reduce the pollutant content of stormwater discharge. These methods include, but are not limited to: breaking up areas of impervious surfaces, draining roof gutter downspouts directly to the ground or splash blocks, avoiding concentrated point discharges, encouraging overland flow, using open swales, using pervious walkways and patios, inhibiting erosion by using pre-formed scour holes at pipe outfalls, minimizing the removal of existing trees to the extend possible, introducing new landscaping, and maintaining existing drainage patterns.

In summary, the proposal is for an affordable housing development that will include a storm sewer system, stormwater management areas, LID features, and BMP techniques that will mitigate and enhance the stormwater runoff generated from the proposed development. The post-development stormwater runoff reaching the design points will be less than the pre-development conditions.

PEAK RATE OF RUNOFF TO DESIGN POINT 1		
STORM	PEAK RATE OF RUNOFF (CFS)	
	EXISTING	PROPOSED
2-YEAR	5.1	5.0
10-YEAR	15.0	13.6
25-YEAR	22.3	20.0
50-YEAR	28.1	25.0
100-YEAR	34.7	30.5

PEAK RATE OF RUNOFF TO DESIGN POINT 2		
STORM	PEAK RATE OF RUNOFF (CFS)	
	EXISTING	PROPOSED
2-YEAR	0.3	0.1
10-YEAR	1.0	0.3
25-YEAR	1.6	0.5
50-YEAR	2.1	0.6
100-YEAR	2.6	0.7

VOLUME OF RUNOFF TO DESIGN POINT 1		
STORM	VOLUME OF RUNOFF (CF)	
	EXISTING	PROPOSED
2-YEAR	36,318	31,349
10-YEAR	90,620	82,930
25-YEAR	130,833	125,635
50-YEAR	162,822	159,847
100-YEAR	198,969	198,745

VOLUME OF RUNOFF TO DESIGN POINT 2		
STORM	VOLUME OF RUNOFF (CF)	
	EXISTING	PROPOSED
2-YEAR	1,833	480
10-YEAR	5,072	1,256
25-YEAR	7,559	1,841
50-YEAR	9,568	2,310
100-YEAR	11,861	2,843

DATE: 5/21/2024	REVISED: 7/15/2024
DRAWN BY: CO, MA, RM, RG	CHKD BY: JW
DWG. NO.: DRS-1	SHEET NO.: 1 of 3

DRAINAGE RUNOFF SUMMARY

PREPARED FOR 1721, LLC
430 MOHEGAN AVE. PARKWAY & 23B OLD NORWICH RD.
TAX MAP 76 LOTS 10164 & 5600
WATERFORD, CONNECTICUT

PLAN PREPARED BY:
INDIGO LAND DESIGN, LLC
JOSEPH WREN, P.E.
CT REG. NO. 21090
40 ELM STREET, 2ND FLOOR
OLD SAYBROOK, CT 06475
PHONE: (860) 388-9343
FAX: (860) 391-8854

WATER QUALITY BASIN #1B
WATER SURFACE ELEVATION

STORM	ELEVATION
2–YEAR	128.46
10–YEAR	128.97
25–YEAR	129.46
50–YEAR	129.90
100–YEAR	130.05

BASIN TOP OF BERM ELEV. = 131.50
WEIR/SPILLWAY ELEV. = 130.50
TOP OF GRATE ELEV. = 130.00
3" DIA. ORIFICE ELEV. = 128.50
BASIN BOTTOM ELEV. = 127.00

WATER QUALITY BASIN #1C
WATER SURFACE ELEVATION

STORM	ELEVATION
2–YEAR	125.22
10–YEAR	126.27
25–YEAR	126.75
50–YEAR	127.07
100–YEAR	127.29

BASIN TOP OF BERM ELEV. = 129.50
WEIR/SPILLWAY ELEV. = 128.50
TOP OF GRATE ELEV. = 128.00
4"x8" (HxL) HIGH–LEVEL ORIFICE ELEV. = 126.90
3" DIA. LOW–LEVEL ORIFICE ELEV. = 126.00
BASIN BOTTOM ELEV. = 124.00

DATE: MAY 21, 2024	SCALE: N/A
DRAWN BY: CO, MA, RM, RG	CHKD BY: JW
DWG. NO.: BES-1	SHEET NO.: 2 of 3

BASIN ELEVATION SUMMARY

PREPARED FOR 1721, LLC
430 MOHEGAN AVE. PARKWAY & 23B OLD NORWICH RD.
TAX MAP 76 LOTS 10164 & 5600
WATERFORD, CONNECTICUT

PLAN PREPARED BY:
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REFERENCE: "WATER QUALITY VOLUME (WQV)" OF THE
CONNECTICUT STORMWATER QUALITY MANUAL BY THE
CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION
PUBLISHED SEPTEMBER 30, 2023, LAST REVISED: MARCH 26, 2024

WATER QUALITY VOLUME:
$WQV = (P)(R)(A) / 12$

WHERE:
P = 1.3" (90TH PERCENTILE RAINFALL EVENT)
$R = 0.05 + 0.009 \times I$
I = POST-DEVELOPMENT % IMPERVIOUS AREA
A = POST-DEVELOPMENT TOTAL DRAINAGE AREA

WATER QUALITY VOLUME DATA FOR PROPOSED FOREBAY IN BASIN 1B								
DRAINAGE AREA (ACRES)	IMPERVIOUS AREA (ARCES)	PRECENT IMPERVIOUS AREA (%)	R (INCHES)	WQV (ACRE-FT)	100% MIN. WQV REQ'D IN BASIN (CU. FT.)	WQV PROVIDED IN BASIN (CU. FT.)	10% MIN. WQV REQ'D IN FOREBAY (CU. FT.)	WQV PROVIDED IN FOREBAY (CU. FT.)
1.16	0.34	29.18	0.313	0.039	1,706	3,800	171	520
						(223%)		(30%)

WATER QUALITY VOLUME DATA FOR PROPOSED FOREBAY IN BASIN 1C								
DRAINAGE AREA (ACRES)	IMPERVIOUS AREA (ARCES)	PRECENT IMPERVIOUS AREA (%)	R (INCHES)	WQV (ACRE-FT)	100% MIN. WQV REQ'D IN BASIN (CU. FT.)	WQV PROVIDED IN BASIN (CU. FT.)	10% MIN. WQV REQ'D IN FOREBAY (CU. FT.)	WQV PROVIDED IN FOREBAY (CU. FT.)
3.21	1.03	32.22	0.340	0.118	5,142	17,300	514	1,210
						(336%)		(24%)

PLAN PREPARED BY:
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PHONE: (860) 388-9343
FAX: (860) 391-8854

WATER QUALITY VOLUME SUMMARY

PREPARED FOR 1721, LLC
430 MOHEGAN AVE. PARKWAY & 23B OLD NORWICH RD.
TAX MAP 76 LOTS 10164 & 5600
WATERFORD, CONNECTICUT

DATE: MAY 21, 2024	SCALE: N/A	SHEET NO.: 3 of 3
DRAWN BY: CO, MA, RM, RG	CHKD BY: JW	
DWG. NO.: WQV-1		

EXISTING DRAINAGE COMPUTATIONS
5/21/2024

REVISED: 7/15/2024

PREPARED FOR 1721, LLC
430 MOHEGAN AVENUE PARKWAY & 23B OLD NORWICH ROAD
TAX MAP 76 LOTS 10164 & 5600
WATERFORD, CONNECTICUT

Hydraflow Table of Contents

EXIST-FINAL 5-21-24.gpw

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Tuesday, 05 / 21 / 2024

Watershed Model Schematic

Legend

Hyd.	Origin	Description
1	SCS Runoff	Area 1 / Design Pt 1
2	SCS Runoff	Area 2 / Design Pt 2

Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	2.639	5.075	-------	10.09	14.95	22.27	28.13	34.71	Area 1 / Design Pt 1
2	SCS Runoff	------	0.121	0.277	-------	0.637	1.010	1.589	2.052	2.577	Area 2 / Design Pt 2

Hydrograph Summary Report

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

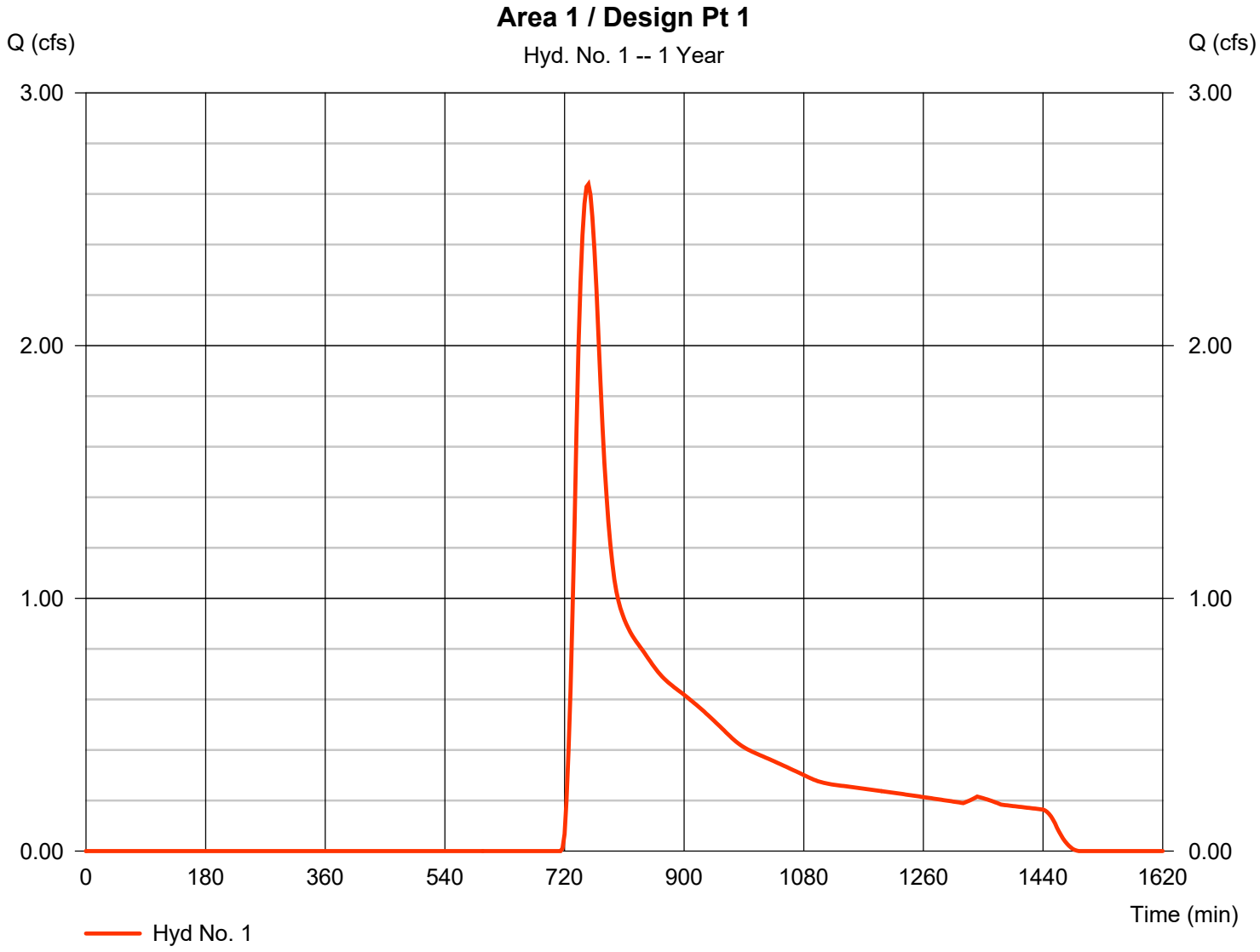
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	2.639	3	756	22,157	------	------	------	Area 1 / Design Pt 1
2	SCS Runoff	0.121	3	747	1,035	------	------	------	Area 2 / Design Pt 2

Hydrograph Report

Hyd. No. 1

Area 1 / Design Pt 1

Hydrograph type	= SCS Runoff	Peak discharge	= 2.639 cfs
Storm frequency	= 1 yrs	Time to peak	= 756 min
Time interval	= 3 min	Hyd. volume	= 22,157 cuft
Drainage area	= 15.470 ac	Curve number	= 63
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 30.20 min
Total precip.	= 2.89 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



TR55 Tc Worksheet

Hyd. No. 1

Area 1 / Design Pt 1

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.600		0.011		0.011		
Flow length (ft)	= 150.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.45		0.00		0.00		
Land slope (%)	= 5.30		0.00		0.00		
Travel Time (min)	**= 26.79**	**+**	**0.00**	**+**	**0.00**	**=**	**26.79**
Shallow Concentrated Flow							
Flow length (ft)	= 940.00		0.00		0.00		
Watercourse slope (%)	= 8.10		0.00		0.00		
Surface description	= Unpaved		Unpaved		Unpaved		
Average velocity (ft/s)	=4.59		0.00		0.00		
Travel Time (min)	**= 3.41**	**+**	**0.00**	**+**	**0.00**	**=**	**3.41**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... 30.20 min

Hydrograph Summary Report

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

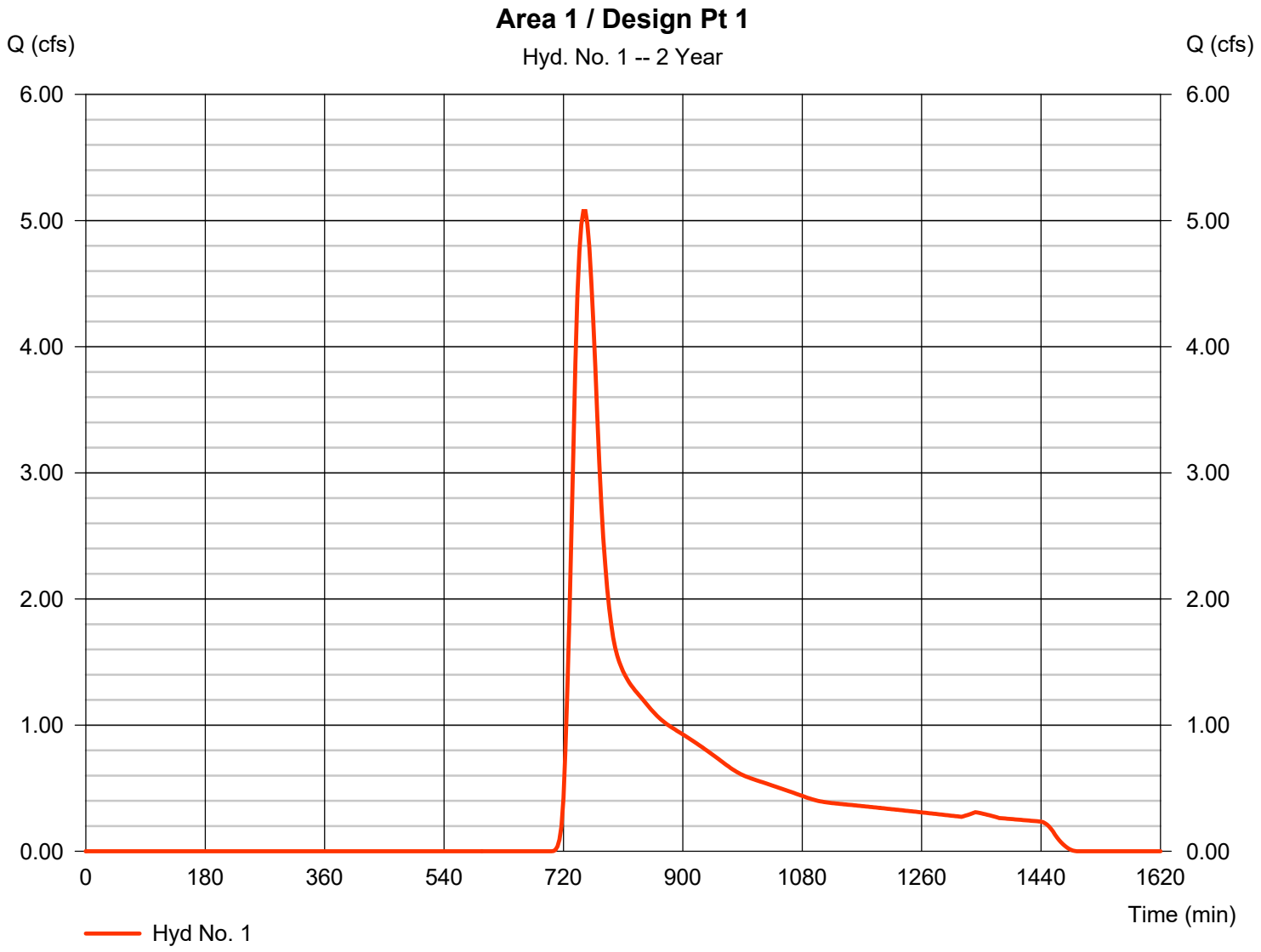
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	5.075	3	750	36,318	------	------	------	Area 1 / Design Pt 1
2	SCS Runoff	0.277	3	741	1,833	------	------	------	Area 2 / Design Pt 2

Hydrograph Report

Hyd. No. 1

Area 1 / Design Pt 1

Hydrograph type	=	SCS Runoff	Peak discharge	=	5.075 cfs
Storm frequency	=	2 yrs	Time to peak	=	750 min
Time interval	=	3 min	Hyd. volume	=	36,318 cuft
Drainage area	=	15.470 ac	Curve number	=	63
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	30.20 min
Total precip.	=	3.45 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Summary Report

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

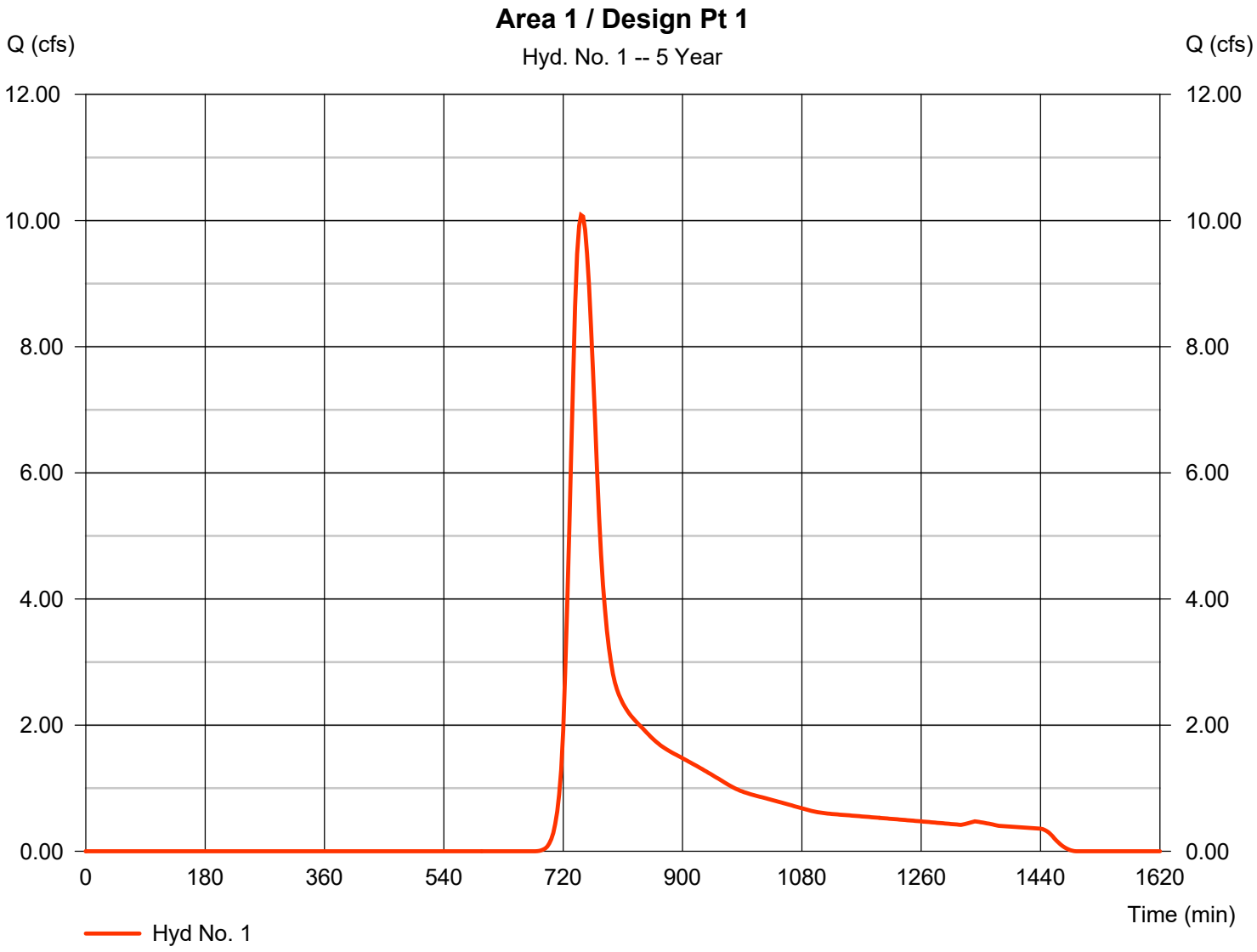
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	10.09	3	747	64,026	------	------	------	Area 1 / Design Pt 1
2	SCS Runoff	0.637	3	738	3,462	------	------	------	Area 2 / Design Pt 2

Hydrograph Report

Hyd. No. 1

Area 1 / Design Pt 1

Hydrograph type	= SCS Runoff	Peak discharge	= 10.09 cfs
Storm frequency	= 5 yrs	Time to peak	= 747 min
Time interval	= 3 min	Hyd. volume	= 64,026 cuft
Drainage area	= 15.470 ac	Curve number	= 63
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 30.20 min
Total precip.	= 4.36 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Summary Report

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

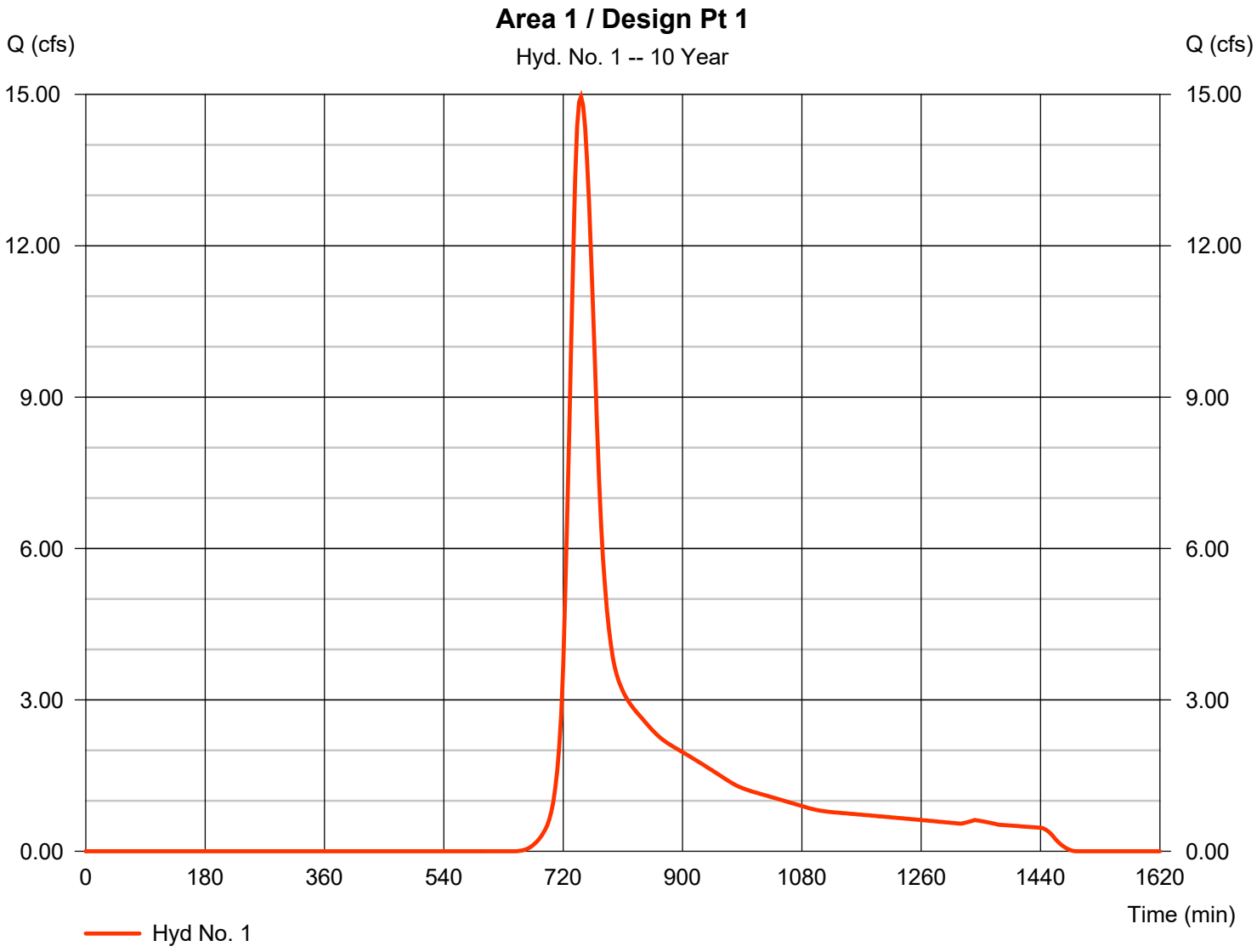
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	14.95	3	747	90,620	------	------	------	Area 1 / Design Pt 1
2	SCS Runoff	1.010	3	735	5,072	------	------	------	Area 2 / Design Pt 2

Hydrograph Report

Hyd. No. 1

Area 1 / Design Pt 1

Hydrograph type	= SCS Runoff	Peak discharge	= 14.95 cfs
Storm frequency	= 10 yrs	Time to peak	= 747 min
Time interval	= 3 min	Hyd. volume	= 90,620 cuft
Drainage area	= 15.470 ac	Curve number	= 63
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 30.20 min
Total precip.	= 5.12 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Summary Report

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

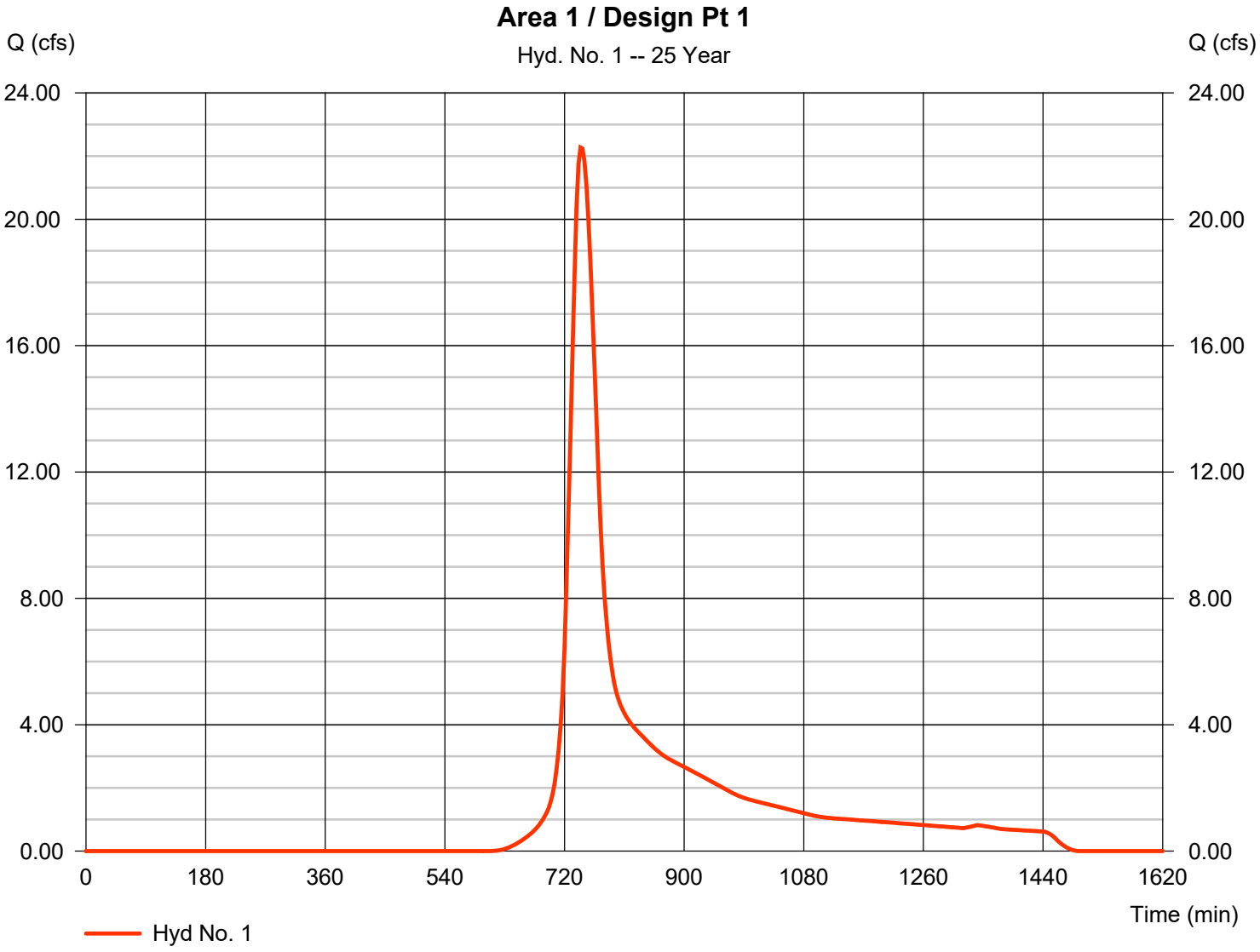
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	22.27	3	744	130,833	------	------	------	Area 1 / Design Pt 1
2	SCS Runoff	1.589	3	735	7,559	------	------	------	Area 2 / Design Pt 2

Hydrograph Report

Hyd. No. 1

Area 1 / Design Pt 1

Hydrograph type	= SCS Runoff	Peak discharge	= 22.27 cfs
Storm frequency	= 25 yrs	Time to peak	= 744 min
Time interval	= 3 min	Hyd. volume	= 130,833 cuft
Drainage area	= 15.470 ac	Curve number	= 63
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 30.20 min
Total precip.	= 6.16 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Summary Report

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

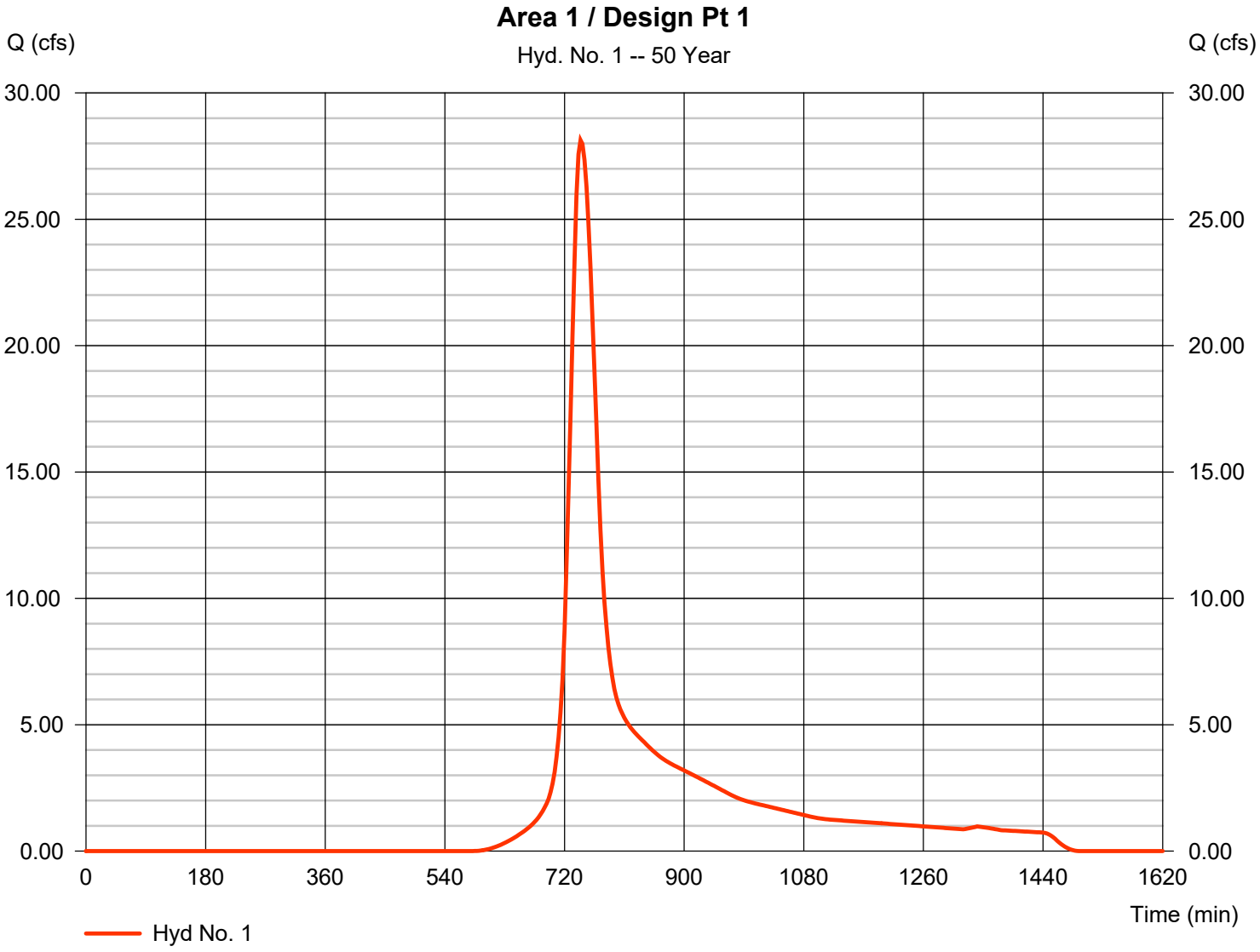
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	28.13	3	744	162,822	------	------	------	Area 1 / Design Pt 1
2	SCS Runoff	2.052	3	735	9,568	------	------	------	Area 2 / Design Pt 2

Hydrograph Report

Hyd. No. 1

Area 1 / Design Pt 1

Hydrograph type	= SCS Runoff	Peak discharge	= 28.13 cfs
Storm frequency	= 50 yrs	Time to peak	= 744 min
Time interval	= 3 min	Hyd. volume	= 162,822 cuft
Drainage area	= 15.470 ac	Curve number	= 63
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 30.20 min
Total precip.	= 6.93 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Summary Report

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

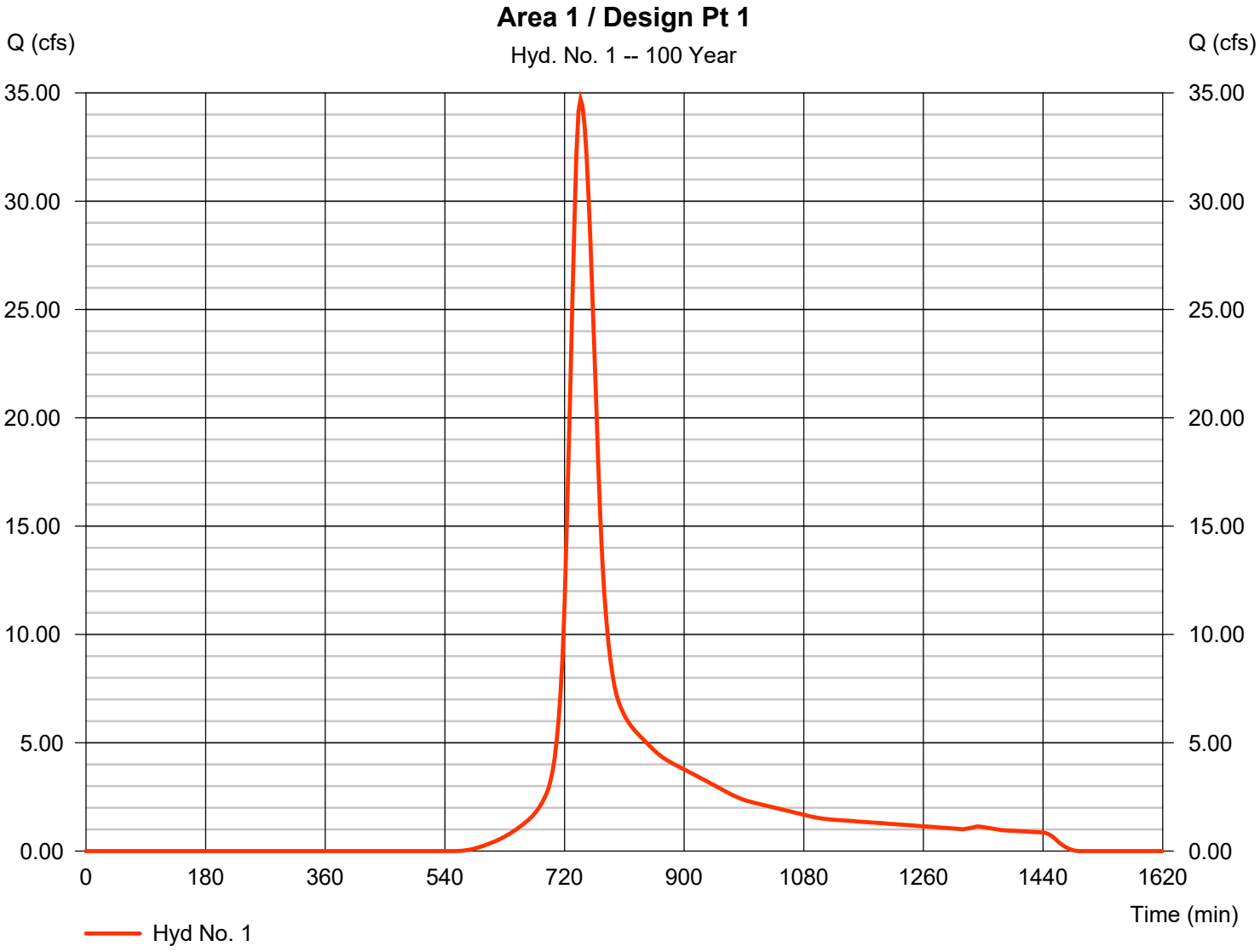
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	34.71	3	744	198,969	------	------	------	Area 1 / Design Pt 1
2	SCS Runoff	2.577	3	735	11,861	------	------	------	Area 2 / Design Pt 2

Hydrograph Report

Hyd. No. 1

Area 1 / Design Pt 1

Hydrograph type	=	SCS Runoff	Peak discharge	=	34.71 cfs
Storm frequency	=	100 yrs	Time to peak	=	744 min
Time interval	=	3 min	Hyd. volume	=	198,969 cuft
Drainage area	=	15.470 ac	Curve number	=	63
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	30.20 min
Total precip.	=	7.76 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484



Hydraflow Rainfall Report

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	0.0000	0.0000	0.0000	--------
2	69.8703	13.1000	0.8658	--------
3	0.0000	0.0000	0.0000	--------
5	79.2597	14.6000	0.8369	--------
10	88.2351	15.5000	0.8279	--------
25	102.6072	16.5000	0.8217	--------
50	114.8193	17.2000	0.8199	--------
100	127.1596	17.8000	0.8186	--------

File name: SampleFHA.idf

Intensity = B / (Tc + D)^E

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	5.69	4.61	3.89	3.38	2.99	2.69	2.44	2.24	2.07	1.93	1.81	1.70
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	6.57	5.43	4.65	4.08	3.65	3.30	3.02	2.79	2.59	2.42	2.27	2.15
10	7.24	6.04	5.21	4.59	4.12	3.74	3.43	3.17	2.95	2.77	2.60	2.46
25	8.25	6.95	6.03	5.34	4.80	4.38	4.02	3.73	3.48	3.26	3.07	2.91
50	9.04	7.65	6.66	5.92	5.34	4.87	4.49	4.16	3.88	3.65	3.44	3.25
100	9.83	8.36	7.30	6.50	5.87	5.36	4.94	4.59	4.29	4.03	3.80	3.60

Tc = time in minutes. Values may exceed 60.

OJECTS\2023\2023-922 Del Grosso - Roberts Court Waterford\DRAINAGE\DRAINAGE DEC 2023\PRECIP DATA.pcp

Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	2.89	3.45	0.00	4.36	5.12	6.16	6.93	7.76
SCS 6-Hr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-1st	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

PROPOSED DRAINAGE COMPUTATIONS
5/21/2024

REVISED: 7/15/2024

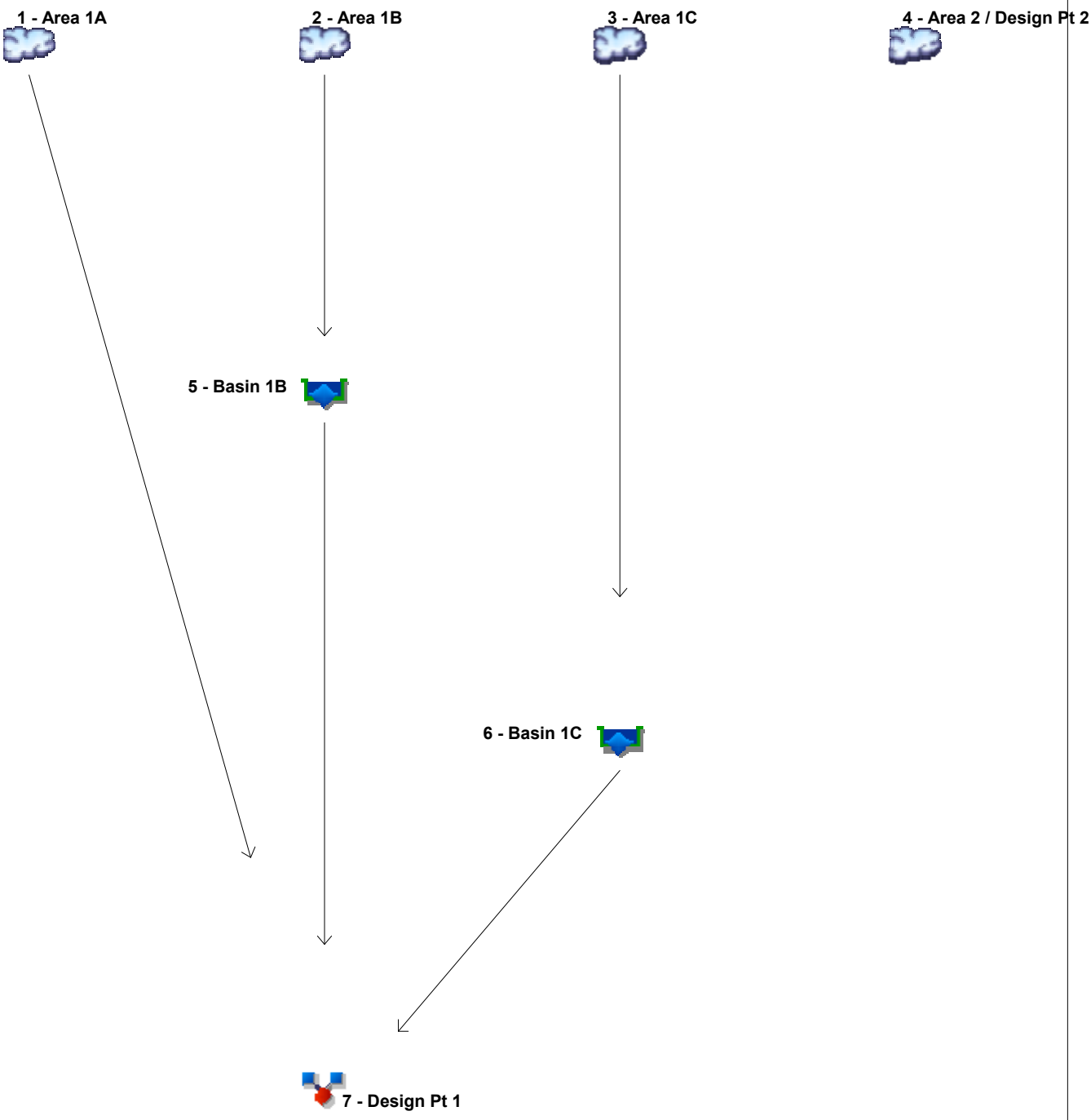
PREPARED FOR 1721, LLC
430 MOHEGAN AVENUE PARKWAY & 23B OLD NORWICH ROAD
TAX MAP 76 LOTS 10164 & 5600
WATERFORD, CONNECTICUT

Hydraflow Table of Contents

PROP-REV1 - FINAL 7-17-24.gpw

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 — Wednesday, 07 / 17 / 2024

Watershed Model Schematic



Legend

Hyd.	Origin	Description
1	SCS Runoff	Area 1A
2	SCS Runoff	Area 1B
3	SCS Runoff	Area 1C
4	SCS Runoff	Area 2 / Design Pt 2
5	Reservoir	Basin 1B
6	Reservoir	Basin 1C
7	Combine	Design Pt 1

Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	-------	5.017	-------	-------	13.61	19.89	24.80	30.29	Area 1A
2	SCS Runoff	------	-------	0.948	-------	-------	2.231	3.120	3.804	4.559	Area 1B
3	SCS Runoff	------	-------	2.316	-------	-------	5.232	7.251	8.815	10.54	Area 1C
4	SCS Runoff	------	-------	0.087	-------	-------	0.289	0.445	0.569	0.710	Area 2 / Design Pt 2
5	Reservoir	2	-------	0.006	-------	-------	0.137	0.215	0.267	0.854	Basin 1B
6	Reservoir	3	-------	0.000	-------	-------	0.085	0.186	0.402	0.741	Basin 1C
7	Combine	1, 5, 6	-------	5.017	-------	-------	13.61	19.99	24.98	30.54	Design Pt 1

Hydrograph Summary Report

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

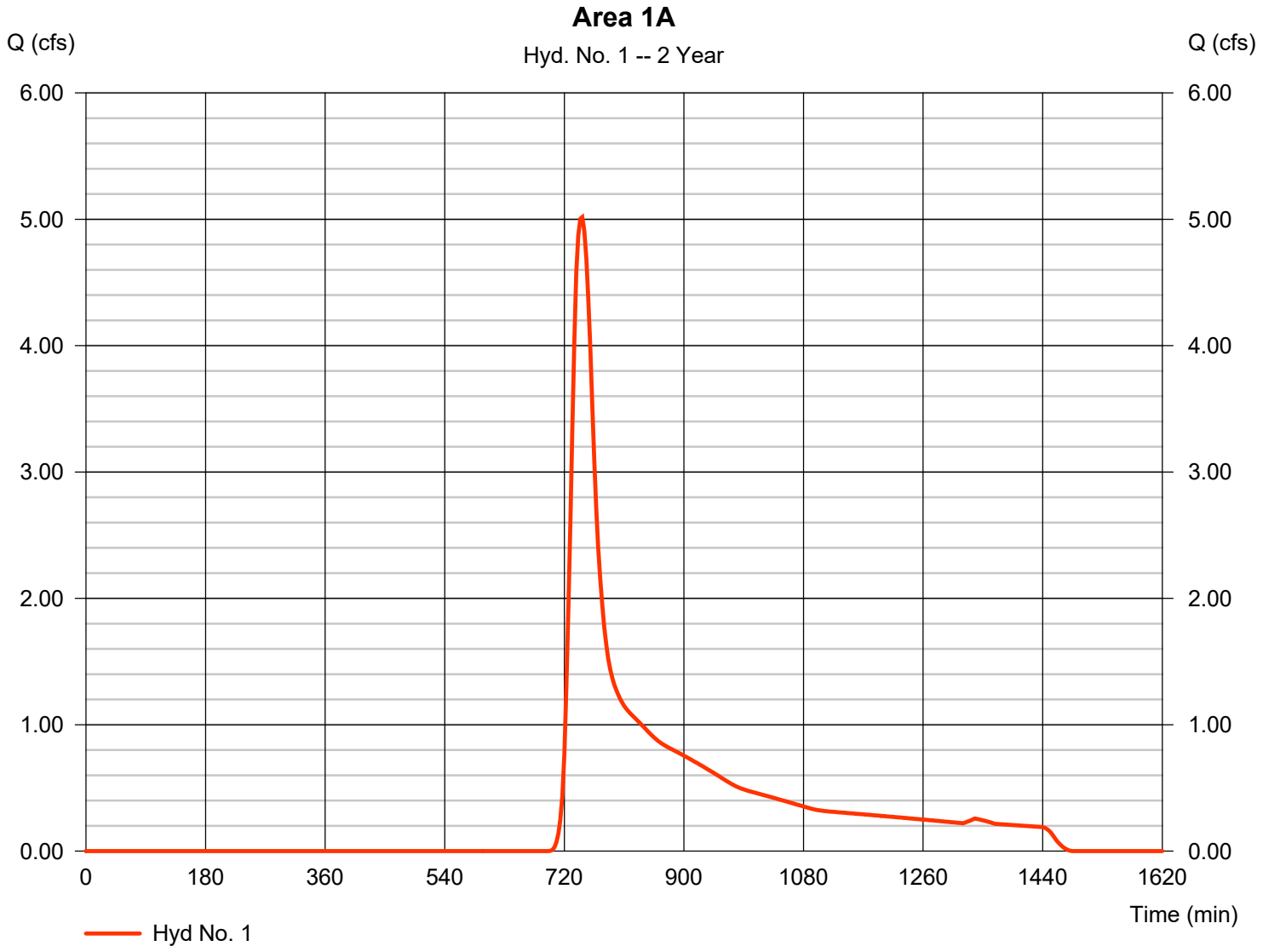
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	5.017	3	747	31,252	------	------	------	Area 1A
2	SCS Runoff	0.948	3	732	4,115	------	------	------	Area 1B
3	SCS Runoff	2.316	3	738	11,872	------	------	------	Area 1C
4	SCS Runoff	0.087	3	735	480	------	------	------	Area 2 / Design Pt 2
5	Reservoir	0.006	3	1446	97	2	128.46	3,731	Basin 1B
6	Reservoir	0.000	3	975	0	3	125.22	10,707	Basin 1C
7	Combine	5.017	3	747	31,349	1, 5, 6	------	------	Design Pt 1

Hydrograph Report

Hyd. No. 1

Area 1A

Hydrograph type	= SCS Runoff	Peak discharge	= 5.017 cfs
Storm frequency	= 2 yrs	Time to peak	= 747 min
Time interval	= 3 min	Hyd. volume	= 31,252 cuft
Drainage area	= 11.860 ac	Curve number	= 65
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 30.00 min
Total precip.	= 3.45 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



TR55 Tc Worksheet

Hyd. No. 1

Area 1A

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.600		0.011		0.011		
Flow length (ft)	= 150.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.45		0.00		0.00		
Land slope (%)	= 5.30		0.00		0.00		
Travel Time (min)	**= 26.79**	**+**	**0.00**	**+**	**0.00**	**=**	**26.79**
Shallow Concentrated Flow							
Flow length (ft)	= 908.00		0.00		0.00		
Watercourse slope (%)	= 8.40		0.00		0.00		
Surface description	= Unpaved		Unpaved		Unpaved		
Average velocity (ft/s)	=4.68		0.00		0.00		
Travel Time (min)	**= 3.24**	**+**	**0.00**	**+**	**0.00**	**=**	**3.24**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

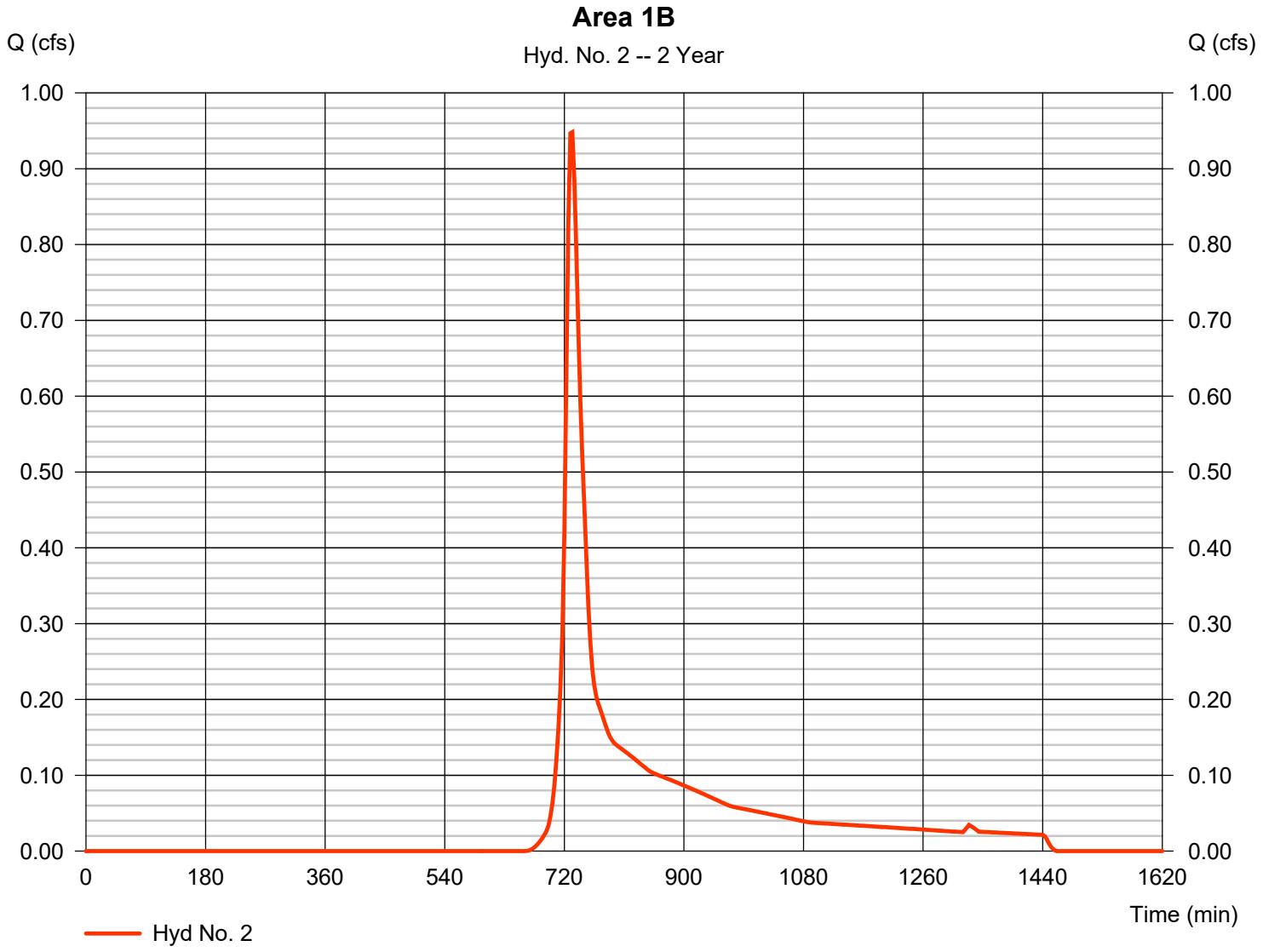
Total Travel Time, Tc ..... 30.00 min

Hydrograph Report

Hyd. No. 2

Area 1B

Hydrograph type	= SCS Runoff	Peak discharge	= 0.948 cfs
Storm frequency	= 2 yrs	Time to peak	= 732 min
Time interval	= 3 min	Hyd. volume	= 4,115 cuft
Drainage area	= 1.160 ac	Curve number	= 70
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 3.45 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

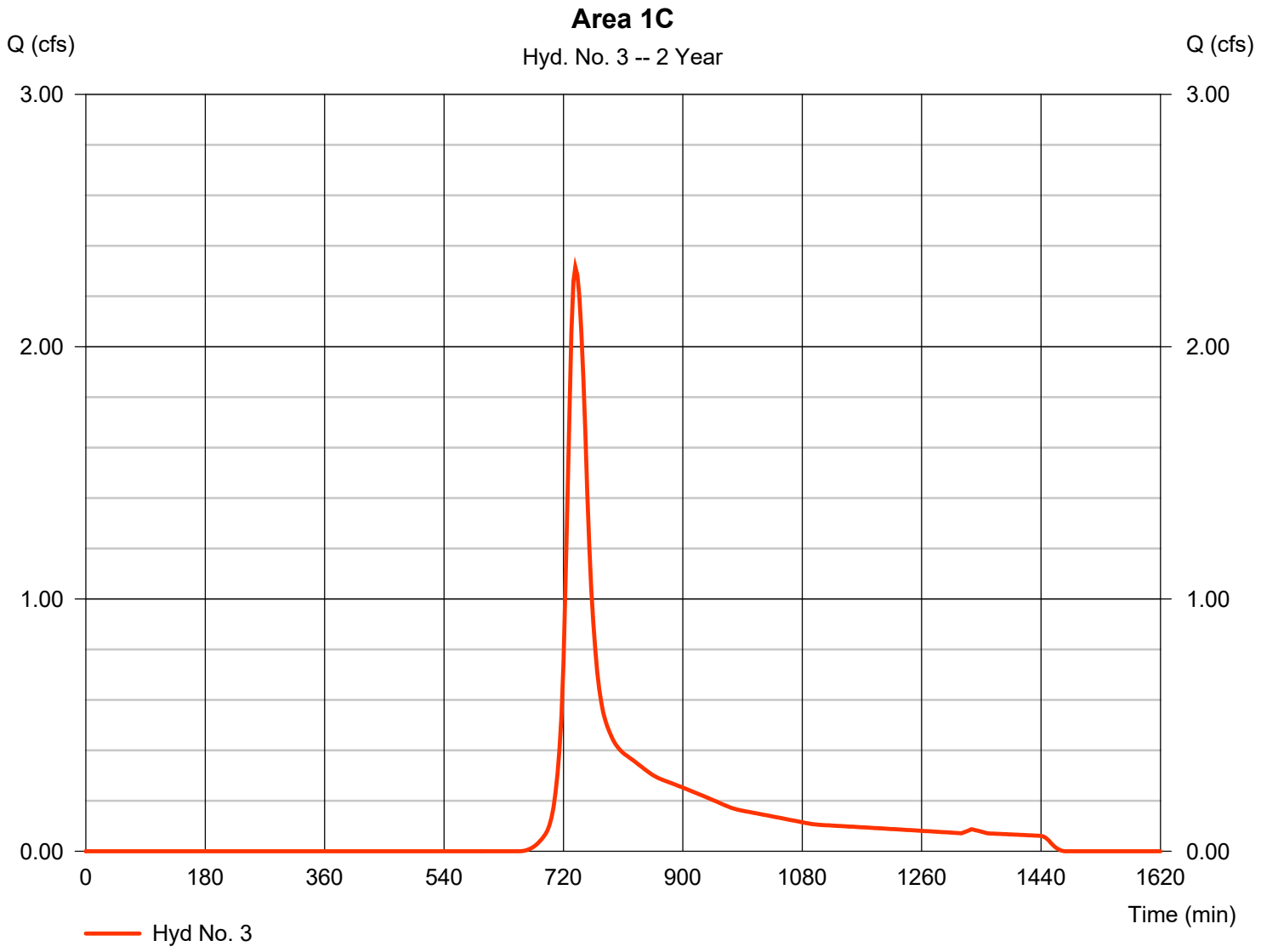


Hydrograph Report

Hyd. No. 3

Area 1C

Hydrograph type	= SCS Runoff	Peak discharge	= 2.316 cfs
Storm frequency	= 2 yrs	Time to peak	= 738 min
Time interval	= 3 min	Hyd. volume	= 11,872 cuft
Drainage area	= 3.250 ac	Curve number	= 71
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 22.02 min
Total precip.	= 3.45 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



TR55 Tc Worksheet

Hyd. No. 3

Area 1C

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.600		0.011		0.011		
Flow length (ft)	= 150.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.45		0.00		0.00		
Land slope (%)	= 9.40		0.00		0.00		
Travel Time (min)	**= 21.31**	**+**	**0.00**	**+**	**0.00**	**=**	**21.31**
Shallow Concentrated Flow							
Flow length (ft)	= 131.00		0.00		0.00		
Watercourse slope (%)	= 22.90		0.00		0.00		
Surface description	= Unpaved		Unpaved		Unpaved		
Average velocity (ft/s)	=7.72		0.00		0.00		
Travel Time (min)	**= 0.28**	**+**	**0.00**	**+**	**0.00**	**=**	**0.28**
Channel Flow							
X sectional flow area (sqft)	= 4.50		0.00		0.00		
Wetted perimeter (ft)	= 6.70		0.00		0.00		
Channel slope (%)	= 5.30		0.00		0.00		
Manning's n-value	= 0.030		0.015		0.015		
Velocity (ft/s)	=8.76						
			0.00				
					0.00		
Flow length (ft)	({0})226.0		0.0		0.0		
Travel Time (min)	**= 0.43**	**+**	**0.00**	**+**	**0.00**	**=**	**0.43**

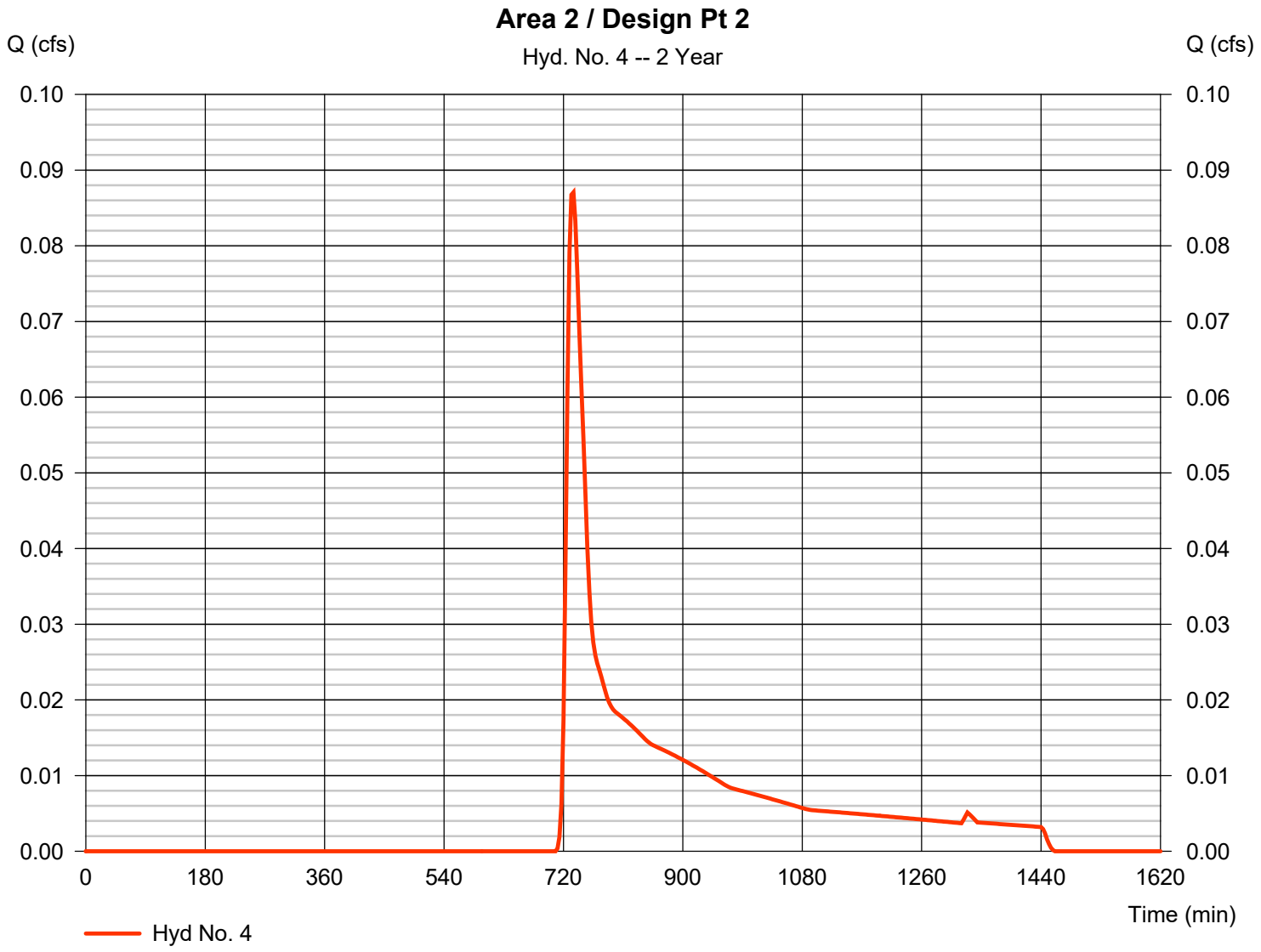
Total Travel Time, Tc ..... 22.02 min

Hydrograph Report

Hyd. No. 4

Area 2 / Design Pt 2

Hydrograph type	= SCS Runoff	Peak discharge	= 0.087 cfs
Storm frequency	= 2 yrs	Time to peak	= 735 min
Time interval	= 3 min	Hyd. volume	= 480 cuft
Drainage area	= 0.240 ac	Curve number	= 61
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 13.60 min
Total precip.	= 3.45 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



TR55 Tc Worksheet

Hyd. No. 4

Area 2 / Design Pt 2

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.240		0.011		0.011		
Flow length (ft)	= 150.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.45		0.00		0.00		
Land slope (%)	= 4.70		0.00		0.00		
Travel Time (min)	**= 13.51**	**+**	**0.00**	**+**	**0.00**	**=**	**13.51**
Shallow Concentrated Flow							
Flow length (ft)	= 14.00		0.00		0.00		
Watercourse slope (%)	= 3.60		0.00		0.00		
Surface description	= Unpaved		Unpaved		Unpaved		
Average velocity (ft/s)	=3.06		0.00		0.00		
Travel Time (min)	**= 0.08**	**+**	**0.00**	**+**	**0.00**	**=**	**0.08**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... 13.60 min

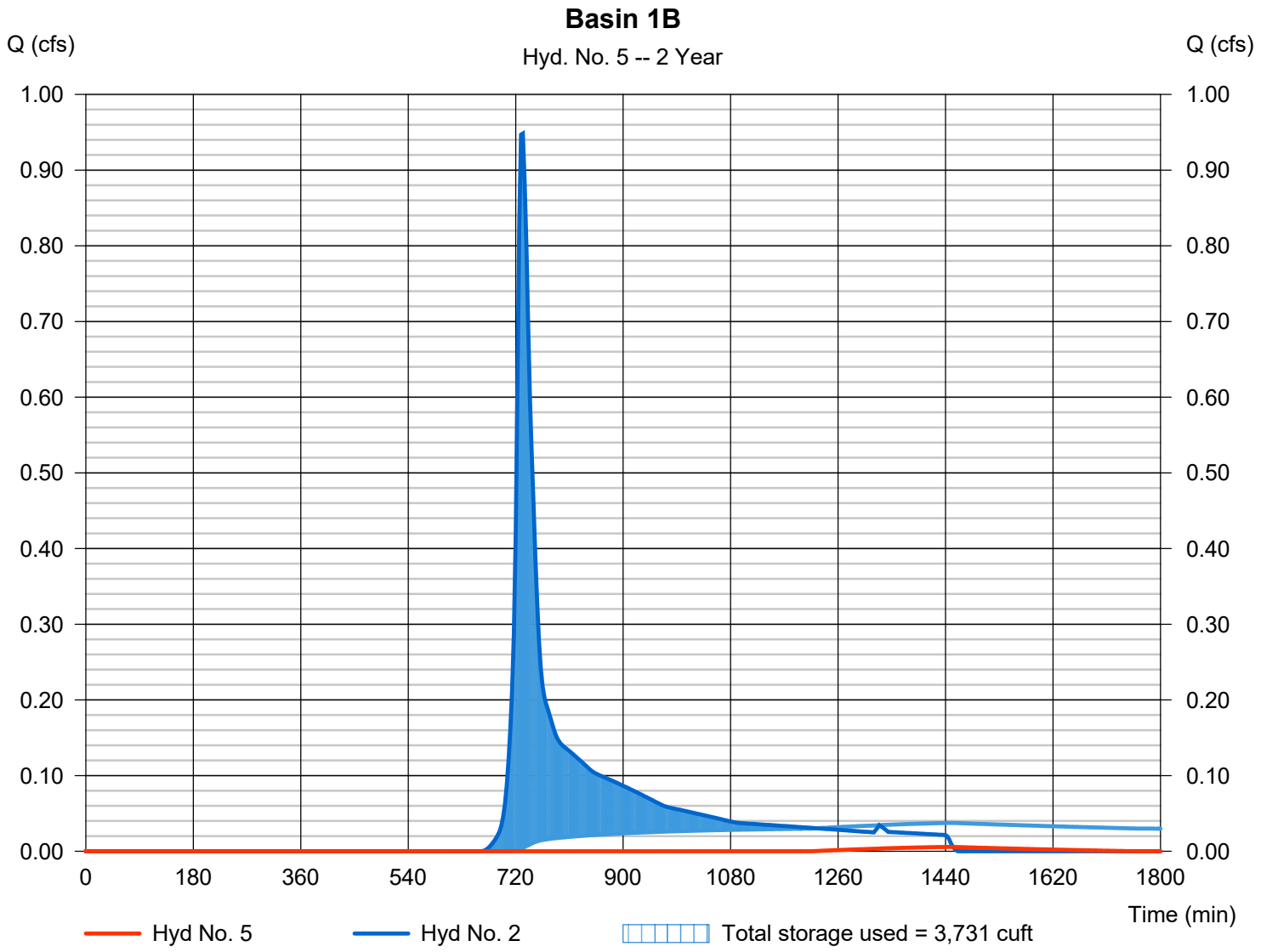
Hydrograph Report

Hyd. No. 5

Basin 1B

Hydrograph type	=	Reservoir	Peak discharge	=	0.006 cfs
Storm frequency	=	2 yrs	Time to peak	=	1446 min
Time interval	=	3 min	Hyd. volume	=	97 cuft
Inflow hyd. No.	=	2 - Area 1B	Max. Elevation	=	128.46 ft
Reservoir name	=	Basin 1B	Max. Storage	=	3,731 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Pond No. 1 - Basin 1B

Pond Data

Contours -User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 127.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	127.00	1,711	0	0
1.00	128.00	2,557	2,134	2,134
3.00	130.00	4,433	6,990	9,124
4.00	131.00	5,456	4,945	14,069
4.50	131.50	6,908	3,091	17,160

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 12.00	3.00	Inactive	Inactive
Span (in)	= 12.00	3.00	0.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 127.00	128.50	0.00	0.00
Length (ft)	= 27.00	1.00	0.00	0.00
Slope (%)	= 3.70	1.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	Yes	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 15.00	10.00	Inactive	Inactive
Crest El. (ft)	= 130.00	130.50	0.00	0.00
Weir Coeff.	= 2.60	2.60	3.33	3.33
Weir Type	= Broad	Broad	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.120 (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	127.00	0.00	0.00	---	---	0.00	0.00	---	---	0.000	---	0.000
0.10	213	127.10	0.00	0.00	---	---	0.00	0.00	---	---	0.001	---	0.001
0.20	427	127.20	0.00	0.00	---	---	0.00	0.00	---	---	0.001	---	0.001
0.30	640	127.30	0.00	0.00	---	---	0.00	0.00	---	---	0.002	---	0.002
0.40	854	127.40	0.00	0.00	---	---	0.00	0.00	---	---	0.003	---	0.003
0.50	1,067	127.50	0.00	0.00	---	---	0.00	0.00	---	---	0.004	---	0.004
0.60	1,280	127.60	0.00	0.00	---	---	0.00	0.00	---	---	0.004	---	0.004
0.70	1,494	127.70	0.00	0.00	---	---	0.00	0.00	---	---	0.005	---	0.005
0.80	1,707	127.80	0.00	0.00	---	---	0.00	0.00	---	---	0.006	---	0.006
0.90	1,921	127.90	0.00	0.00	---	---	0.00	0.00	---	---	0.006	---	0.006
1.00	2,134	128.00	0.00	0.00	---	---	0.00	0.00	---	---	0.007	---	0.007
1.20	2,833	128.20	0.00	0.00	---	---	0.00	0.00	---	---	0.008	---	0.008
1.40	3,532	128.40	0.00	0.00	---	---	0.00	0.00	---	---	0.008	---	0.008
1.60	4,231	128.60	0.02 ic	0.02 ic	---	---	0.00	0.00	---	---	0.009	---	0.029
1.80	4,930	128.80	0.10 ic	0.10 ic	---	---	0.00	0.00	---	---	0.009	---	0.108
2.00	5,629	129.00	0.15 ic	0.14 ic	---	---	0.00	0.00	---	---	0.010	---	0.154
2.20	6,328	129.20	0.18 ic	0.18 ic	---	---	0.00	0.00	---	---	0.010	---	0.189
2.40	7,027	129.40	0.21 ic	0.21 ic	---	---	0.00	0.00	---	---	0.011	---	0.219
2.60	7,726	129.60	0.24 ic	0.23 ic	---	---	0.00	0.00	---	---	0.011	---	0.245
2.80	8,425	129.80	0.26 ic	0.26 ic	---	---	0.00	0.00	---	---	0.012	---	0.268
3.00	9,124	130.00	0.28 ic	0.28 ic	---	---	0.00	0.00	---	---	0.012	---	0.289
3.10	9,618	130.10	1.52 ic	0.29 ic	---	---	1.23	0.00	---	---	0.013	---	1.533
3.20	10,113	130.20	3.78 ic	0.30 ic	---	---	3.49	0.00	---	---	0.013	---	3.798
3.30	10,607	130.30	6.09 ic	0.11 ic	---	---	5.98 s	0.00	---	---	0.013	---	6.099
3.40	11,102	130.40	6.34 ic	0.07 ic	---	---	6.27 s	0.00	---	---	0.013	---	6.354
3.50	11,596	130.50	6.50 ic	0.05 ic	---	---	6.44 s	0.00	---	---	0.014	---	6.507
3.60	12,091	130.60	6.63 ic	0.04 ic	---	---	6.58 s	0.82	---	---	0.014	---	7.455
3.70	12,585	130.70	6.74 ic	0.03 ic	---	---	6.71 s	2.33	---	---	0.014	---	9.082
3.80	13,080	130.80	6.85 ic	0.03 ic	---	---	6.82 s	4.27	---	---	0.015	---	11.14
3.90	13,574	130.90	6.96 ic	0.02 ic	---	---	6.93 s	6.58	---	---	0.015	---	13.55
4.00	14,069	131.00	7.07 ic	0.02 ic	---	---	7.02 s	9.19	---	---	0.015	---	16.25
4.05	14,378	131.05	7.12 ic	0.02 ic	---	---	7.07 s	10.61	---	---	0.016	---	17.71
4.10	14,687	131.10	7.17 ic	0.02 ic	---	---	7.15 s	12.08	---	---	0.016	---	19.27
4.15	14,996	131.15	7.22 ic	0.02 ic	---	---	7.16 s	13.63	---	---	0.016	---	20.82
4.20	15,305	131.20	7.27 ic	0.02 ic	---	---	7.23 s	15.23	---	---	0.017	---	22.50
4.25	15,614	131.25	7.32 ic	0.02 ic	---	---	7.26 s	16.89	---	---	0.017	---	24.18
4.30	15,923	131.30	7.37 ic	0.02 ic	---	---	7.32 s	18.60	---	---	0.018	---	25.95
4.35	16,232	131.35	7.42 ic	0.01 ic	---	---	7.33 s	20.38	---	---	0.018	---	27.73

Continues on next page...

Basin 1B

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
4.40	16,541	131.40	7.46 ic	0.01 ic	---	---	7.37 s	22.20	---	---	0.018	---	29.60
4.45	16,850	131.45	7.51 ic	0.01 ic	---	---	7.48 s	24.07	---	---	0.019	---	31.59
4.50	17,160	131.50	7.56 ic	0.01 ic	---	---	7.47 s	26.00	---	---	0.019	---	33.50

...End

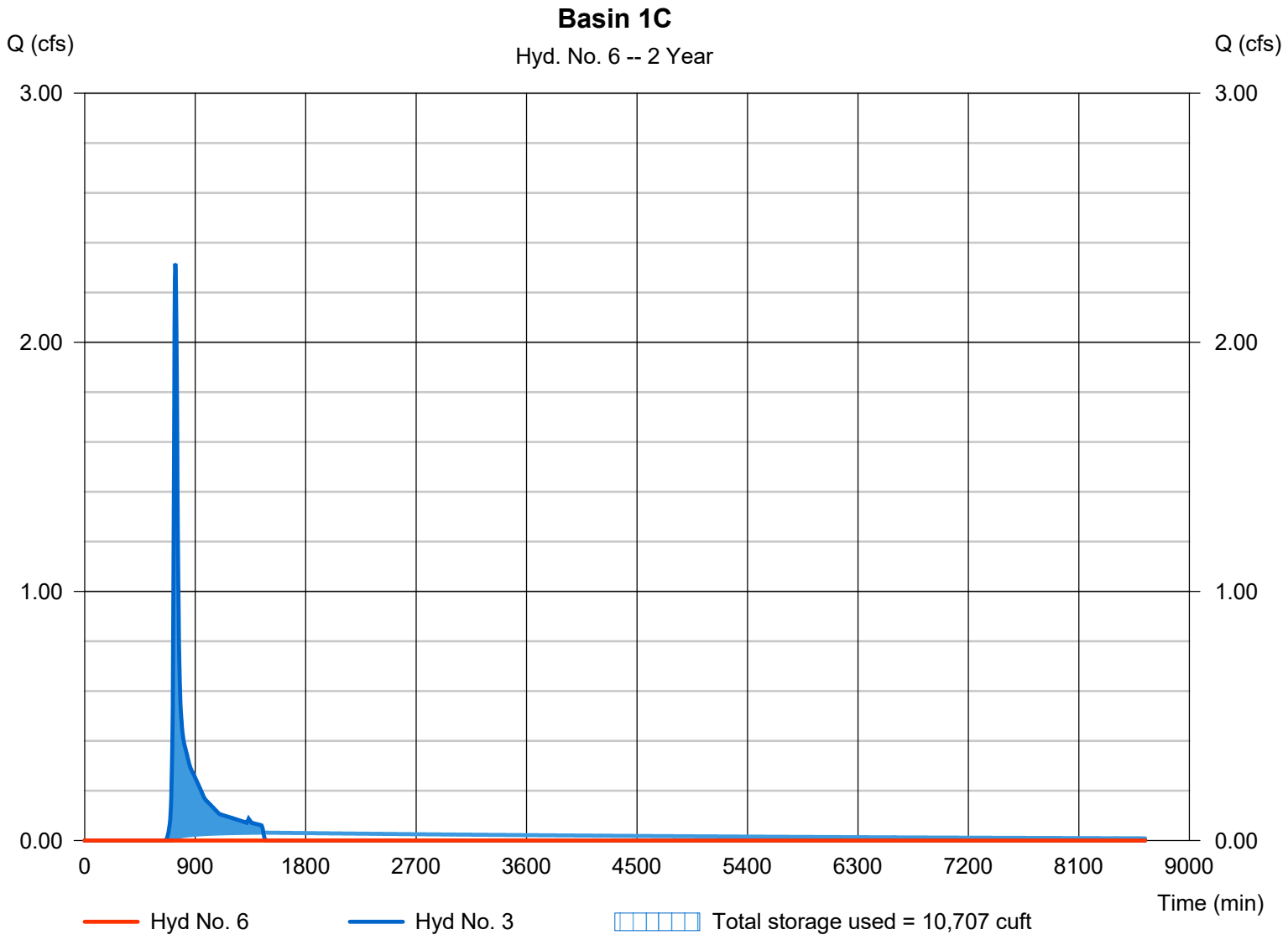
Hydrograph Report

Hyd. No. 6

Basin 1C

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 2 yrs	Time to peak	= 975 min
Time interval	= 3 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 3 - Area 1C	Max. Elevation	= 125.22 ft
Reservoir name	= Basin 1C	Max. Storage	= 10,707 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Pond Report

Pond No. 2 - Basin 1C

Pond Data

Contours -User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 124.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	124.00	7,368	0	0
2.00	126.00	10,238	17,606	17,606
4.00	128.00	13,440	23,678	41,284
5.00	129.00	15,135	14,288	55,572
5.50	129.50	16,983	8,030	63,601

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 12.00	3.00	4.00	Inactive
Span (in)	= 12.00	3.00	8.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 124.00	126.00	126.90	0.00
Length (ft)	= 45.00	1.00	1.00	0.00
Slope (%)	= 1.10	1.00	1.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	Yes	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 15.00	20.00	Inactive	Inactive
Crest El. (ft)	= 128.00	128.50	0.00	0.00
Weir Coeff.	= 2.60	2.60	3.33	3.33
Weir Type	= Broad	Broad	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.220 (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	124.00	0.00	0.00	0.00	---	0.00	0.00	---	---	0.000	---	0.000
0.20	1,761	124.20	0.00	0.00	0.00	---	0.00	0.00	---	---	0.005	---	0.005
0.40	3,521	124.40	0.00	0.00	0.00	---	0.00	0.00	---	---	0.010	---	0.010
0.60	5,282	124.60	0.00	0.00	0.00	---	0.00	0.00	---	---	0.016	---	0.016
0.80	7,042	124.80	0.00	0.00	0.00	---	0.00	0.00	---	---	0.021	---	0.021
1.00	8,803	125.00	0.00	0.00	0.00	---	0.00	0.00	---	---	0.026	---	0.026
1.20	10,564	125.20	0.00	0.00	0.00	---	0.00	0.00	---	---	0.031	---	0.031
1.40	12,324	125.40	0.00	0.00	0.00	---	0.00	0.00	---	---	0.036	---	0.036
1.60	14,085	125.60	0.00	0.00	0.00	---	0.00	0.00	---	---	0.042	---	0.042
1.80	15,845	125.80	0.00	0.00	0.00	---	0.00	0.00	---	---	0.047	---	0.047
2.00	17,606	126.00	0.00	0.00	0.00	---	0.00	0.00	---	---	0.052	---	0.052
2.20	19,974	126.20	0.07 ic	0.06 ic	0.00	---	0.00	0.00	---	---	0.054	---	0.118
2.40	22,342	126.40	0.13 ic	0.12 ic	0.00	---	0.00	0.00	---	---	0.055	---	0.179
2.60	24,709	126.60	0.17 ic	0.16 ic	0.00	---	0.00	0.00	---	---	0.057	---	0.220
2.80	27,077	126.80	0.20 ic	0.19 ic	0.00	---	0.00	0.00	---	---	0.059	---	0.253
3.00	29,445	127.00	0.29 ic	0.22 ic	0.07 ic	---	0.00	0.00	---	---	0.060	---	0.353
3.20	31,813	127.20	0.62 ic	0.25 ic	0.37 ic	---	0.00	0.00	---	---	0.062	---	0.680
3.40	34,181	127.40	0.89 ic	0.27 ic	0.62 ic	---	0.00	0.00	---	---	0.064	---	0.948
3.60	36,548	127.60	1.07 ic	0.29 ic	0.78 ic	---	0.00	0.00	---	---	0.065	---	1.134
3.80	38,916	127.80	1.24 ic	0.31 ic	0.92 ic	---	0.00	0.00	---	---	0.067	---	1.289
4.00	41,284	128.00	1.36 ic	0.32 ic	1.03 ic	---	0.00	0.00	---	---	0.068	---	1.426
4.10	42,713	128.10	2.65 oc	0.33 ic	1.09 ic	---	1.23	0.00	---	---	0.069	---	2.723
4.20	44,142	128.20	4.95 oc	0.33 ic	1.14 ic	---	3.49	0.00	---	---	0.070	---	5.024
4.30	45,570	128.30	6.96 oc	0.12 ic	0.55 ic	---	6.29 s	0.00	---	---	0.071	---	7.034
4.40	46,999	128.40	7.21 oc	0.08 ic	0.35 ic	---	6.78 s	0.00	---	---	0.072	---	7.280
4.50	48,428	128.50	7.35 oc	0.06 ic	0.26 ic	---	7.03 s	0.00	---	---	0.073	---	7.418
4.60	49,857	128.60	7.46 oc	0.05 ic	0.21 ic	---	7.20 s	1.64	---	---	0.074	---	9.174
4.70	51,285	128.70	7.56 oc	0.04 ic	0.17 ic	---	7.35 s	4.65	---	---	0.074	---	12.28
4.80	52,714	128.80	7.66 oc	0.03 ic	0.14 ic	---	7.48 s	8.54	---	---	0.075	---	16.28
4.90	54,143	128.90	7.75 oc	0.03 ic	0.12 ic	---	7.60 s	13.16	---	---	0.076	---	20.98
5.00	55,572	129.00	7.85 oc	0.02 ic	0.11 ic	---	7.69 s	18.38	---	---	0.077	---	26.28
5.05	56,374	129.05	7.89 oc	0.02 ic	0.10 ic	---	7.76 s	21.21	---	---	0.078	---	29.17
5.10	57,177	129.10	7.93 oc	0.02 ic	0.09 ic	---	7.79 s	24.17	---	---	0.079	---	32.16
5.15	57,980	129.15	7.98 oc	0.02 ic	0.09 ic	---	7.85 s	27.25	---	---	0.080	---	35.29
5.20	58,783	129.20	8.02 oc	0.02 ic	0.08 ic	---	7.89 s	30.45	---	---	0.081	---	38.53
5.25	59,586	129.25	8.06 oc	0.02 ic	0.08 ic	---	7.94 s	33.77	---	---	0.082	---	41.90
5.30	60,389	129.30	8.11 oc	0.02 ic	0.08 ic	---	8.00 s	37.21	---	---	0.083	---	45.39
5.35	61,192	129.35	8.15 oc	0.02 ic	0.07 ic	---	8.02 s	40.75	---	---	0.084	---	48.94

Continues on next page...

Basin 1C

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
5.40	61,995	129.40	8.19 oc	0.02 ic	0.07 ic	---	8.05 s	44.40	---	---	0.085	---	52.62
5.45	62,798	129.45	8.23 oc	0.01 ic	0.07 ic	---	8.14 s	48.15	---	---	0.086	---	56.45
5.50	63,601	129.50	8.28 oc	0.01 ic	0.06 ic	---	8.19 s	52.00	---	---	0.086	---	60.35

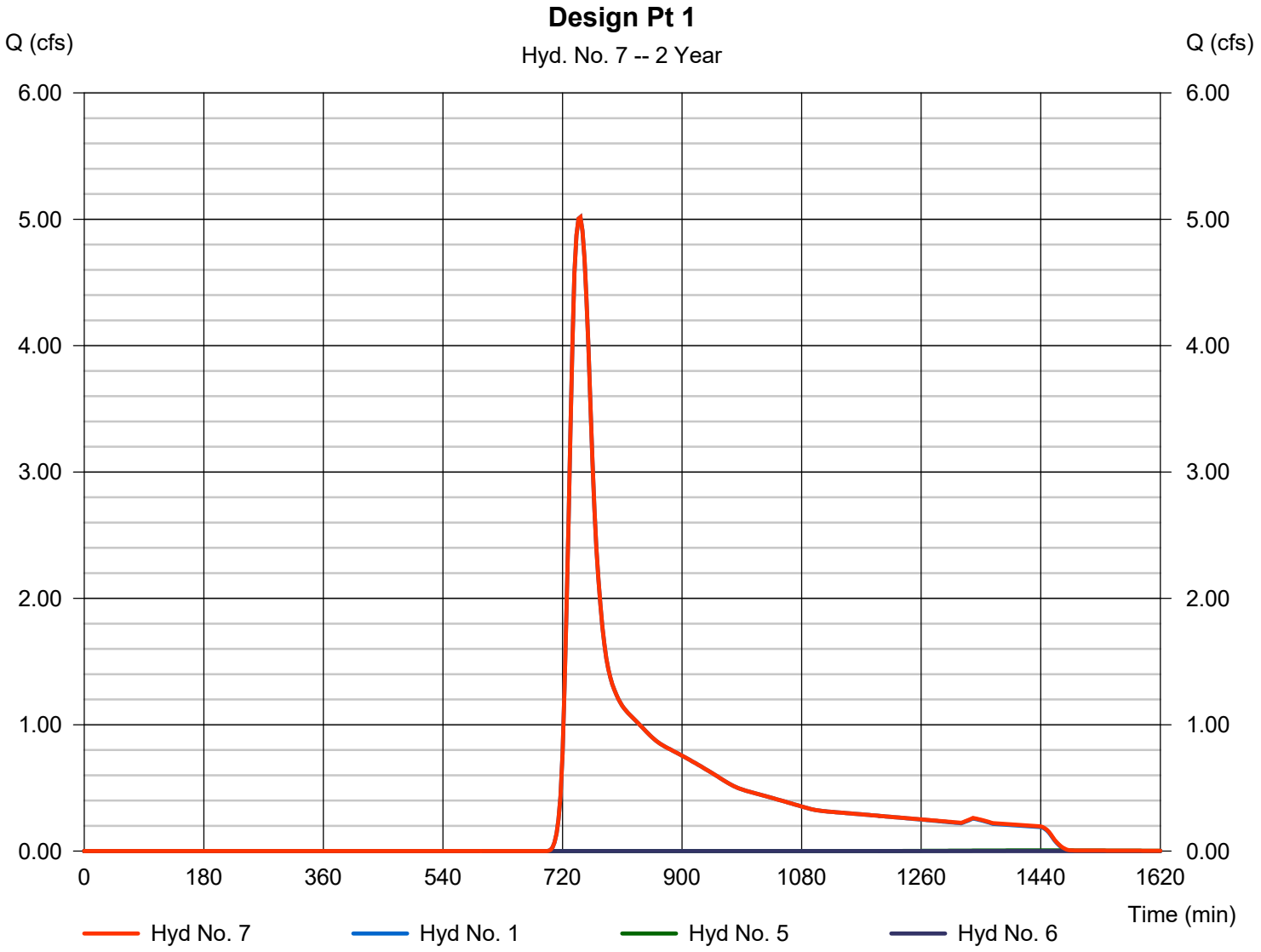
...End

Hydrograph Report

Hyd. No. 7

Design Pt 1

Hydrograph type	= Combine	Peak discharge	= 5.017 cfs
Storm frequency	= 2 yrs	Time to peak	= 747 min
Time interval	= 3 min	Hyd. volume	= 31,349 cuft
Inflow hyds.	= 1, 5, 6	Contrib. drain. area	= 11.860 ac



Hydrograph Summary Report

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

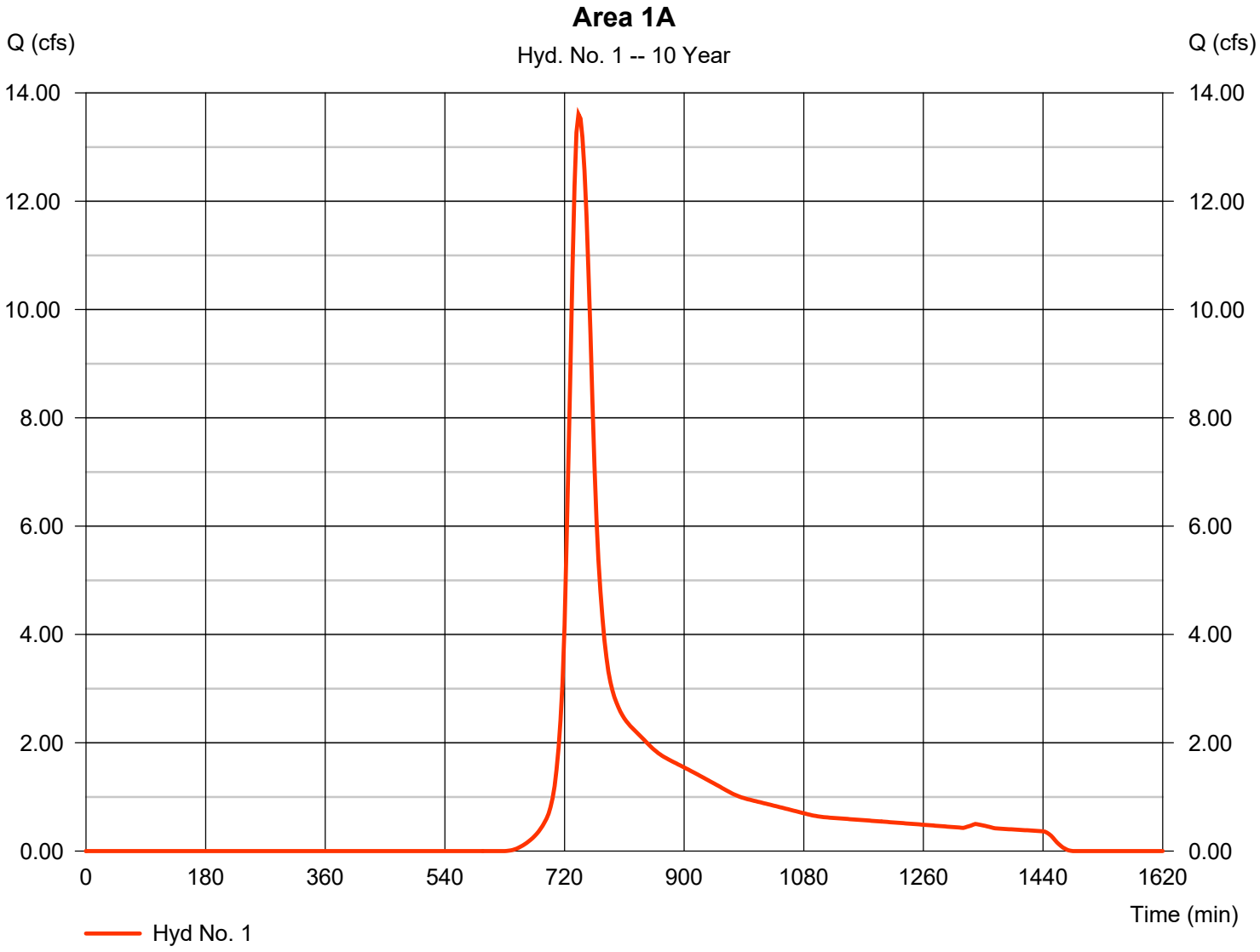
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	13.61	3	741	74,647	------	------	------	Area 1A
2	SCS Runoff	2.231	3	729	8,951	------	------	------	Area 1B
3	SCS Runoff	5.232	3	738	25,393	------	------	------	Area 1C
4	SCS Runoff	0.289	3	732	1,256	------	------	------	Area 2 / Design Pt 2
5	Reservoir	0.137	3	924	4,609	2	128.97	5,513	Basin 1B
6	Reservoir	0.085	3	1350	3,675	3	126.27	20,811	Basin 1C
7	Combine	13.61	3	741	82,930	1, 5, 6	------	------	Design Pt 1

Hydrograph Report

Hyd. No. 1

Area 1A

Hydrograph type	= SCS Runoff	Peak discharge	= 13.61 cfs
Storm frequency	= 10 yrs	Time to peak	= 741 min
Time interval	= 3 min	Hyd. volume	= 74,647 cuft
Drainage area	= 11.860 ac	Curve number	= 65
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 30.00 min
Total precip.	= 5.12 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

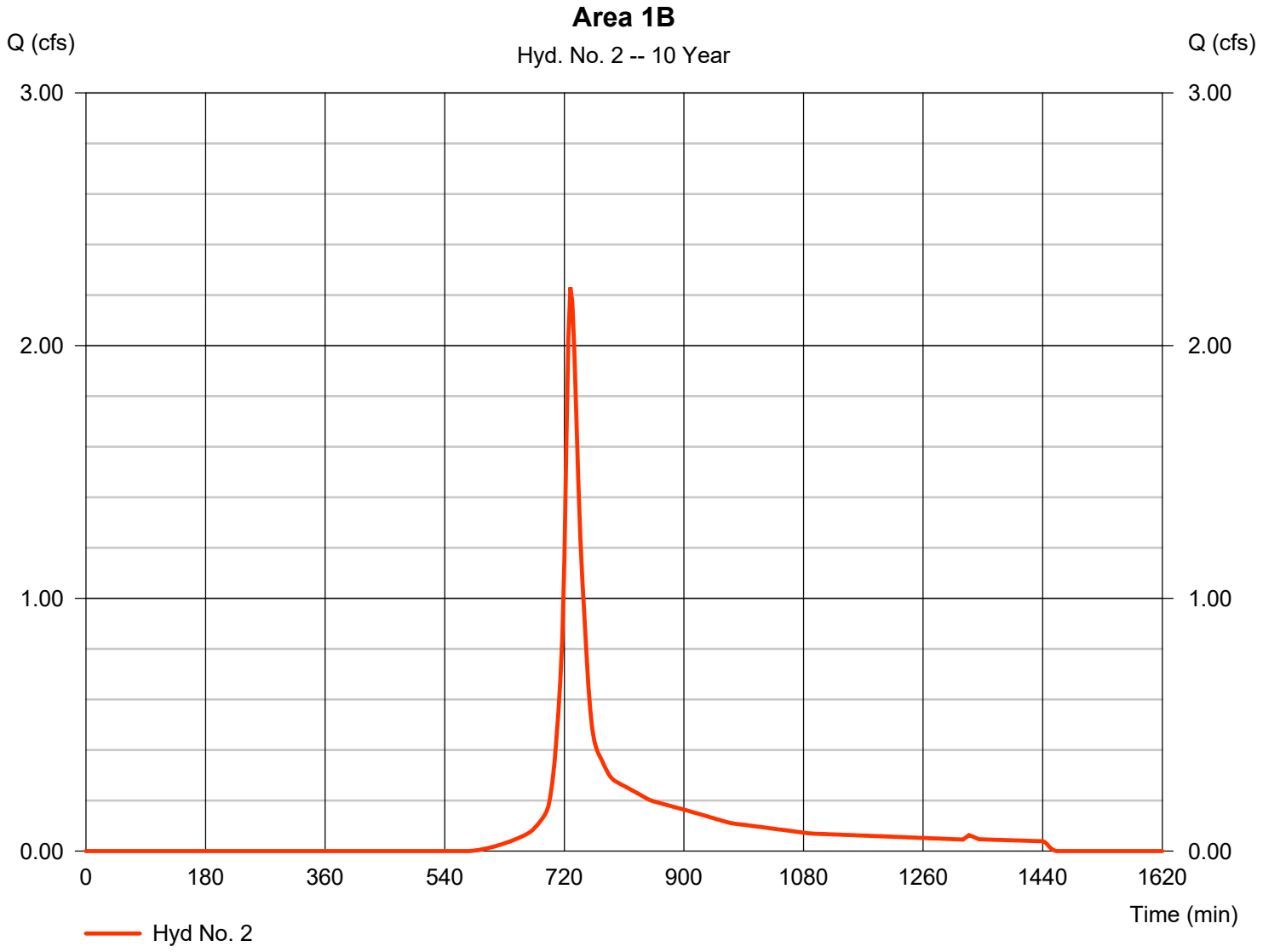


Hydrograph Report

Hyd. No. 2

Area 1B

Hydrograph type	= SCS Runoff	Peak discharge	= 2.231 cfs
Storm frequency	= 10 yrs	Time to peak	= 729 min
Time interval	= 3 min	Hyd. volume	= 8,951 cuft
Drainage area	= 1.160 ac	Curve number	= 70
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 5.12 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

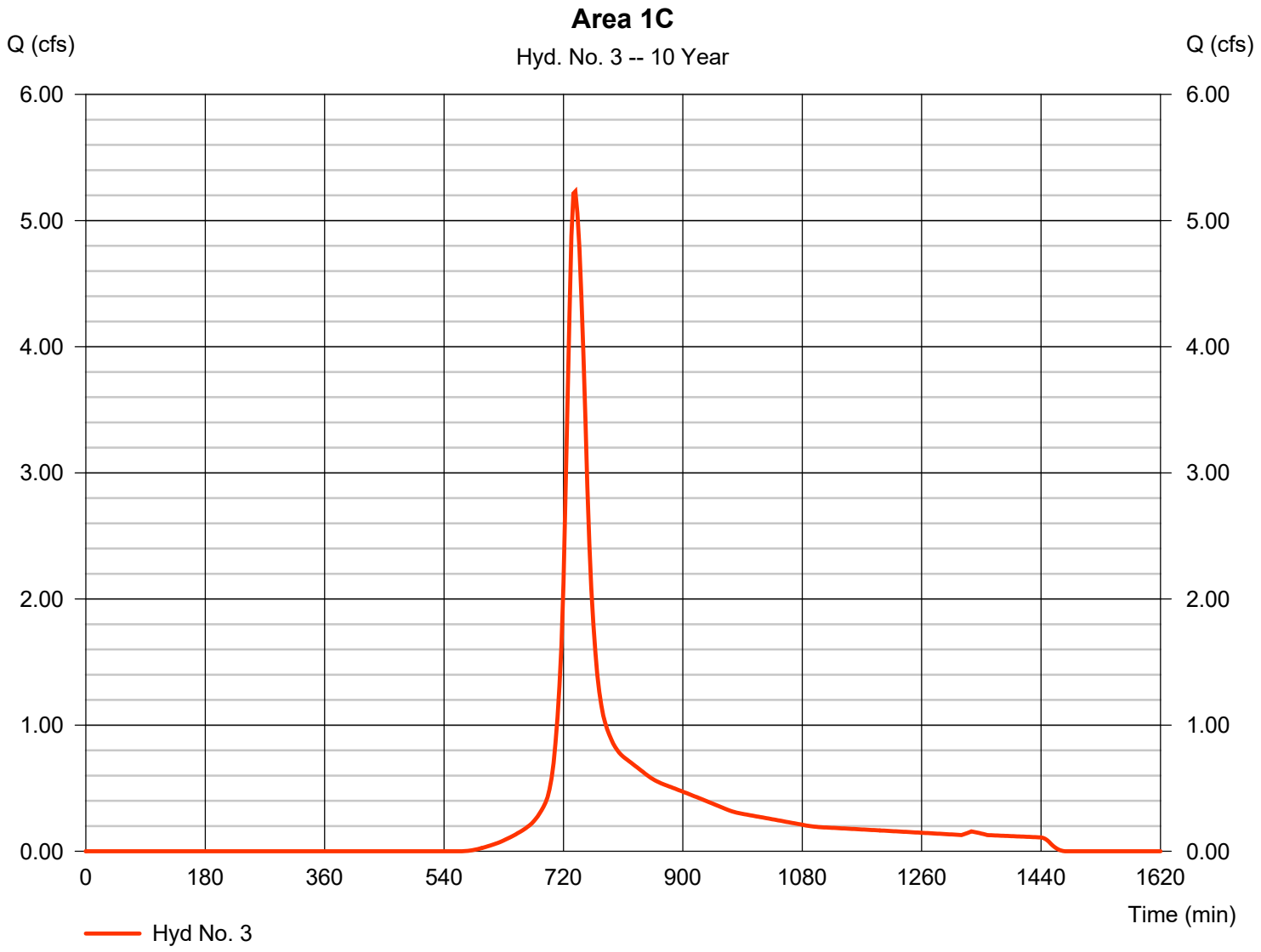


Hydrograph Report

Hyd. No. 3

Area 1C

Hydrograph type	=	SCS Runoff	Peak discharge	=	5.232 cfs
Storm frequency	=	10 yrs	Time to peak	=	738 min
Time interval	=	3 min	Hyd. volume	=	25,393 cuft
Drainage area	=	3.250 ac	Curve number	=	71
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	22.02 min
Total precip.	=	5.12 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484

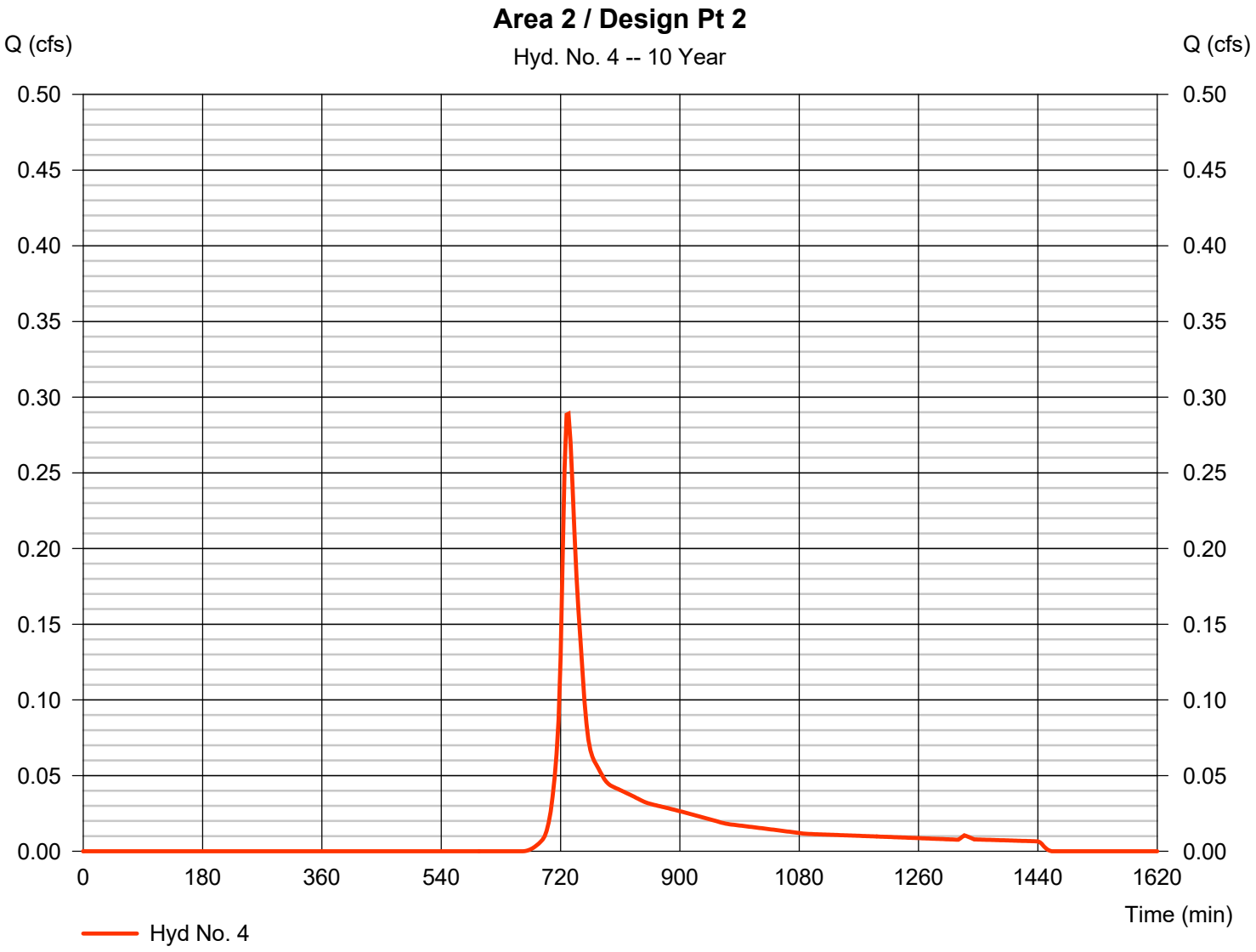


Hydrograph Report

Hyd. No. 4

Area 2 / Design Pt 2

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.289 cfs
Storm frequency	=	10 yrs	Time to peak	=	732 min
Time interval	=	3 min	Hyd. volume	=	1,256 cuft
Drainage area	=	0.240 ac	Curve number	=	61
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	13.60 min
Total precip.	=	5.12 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484



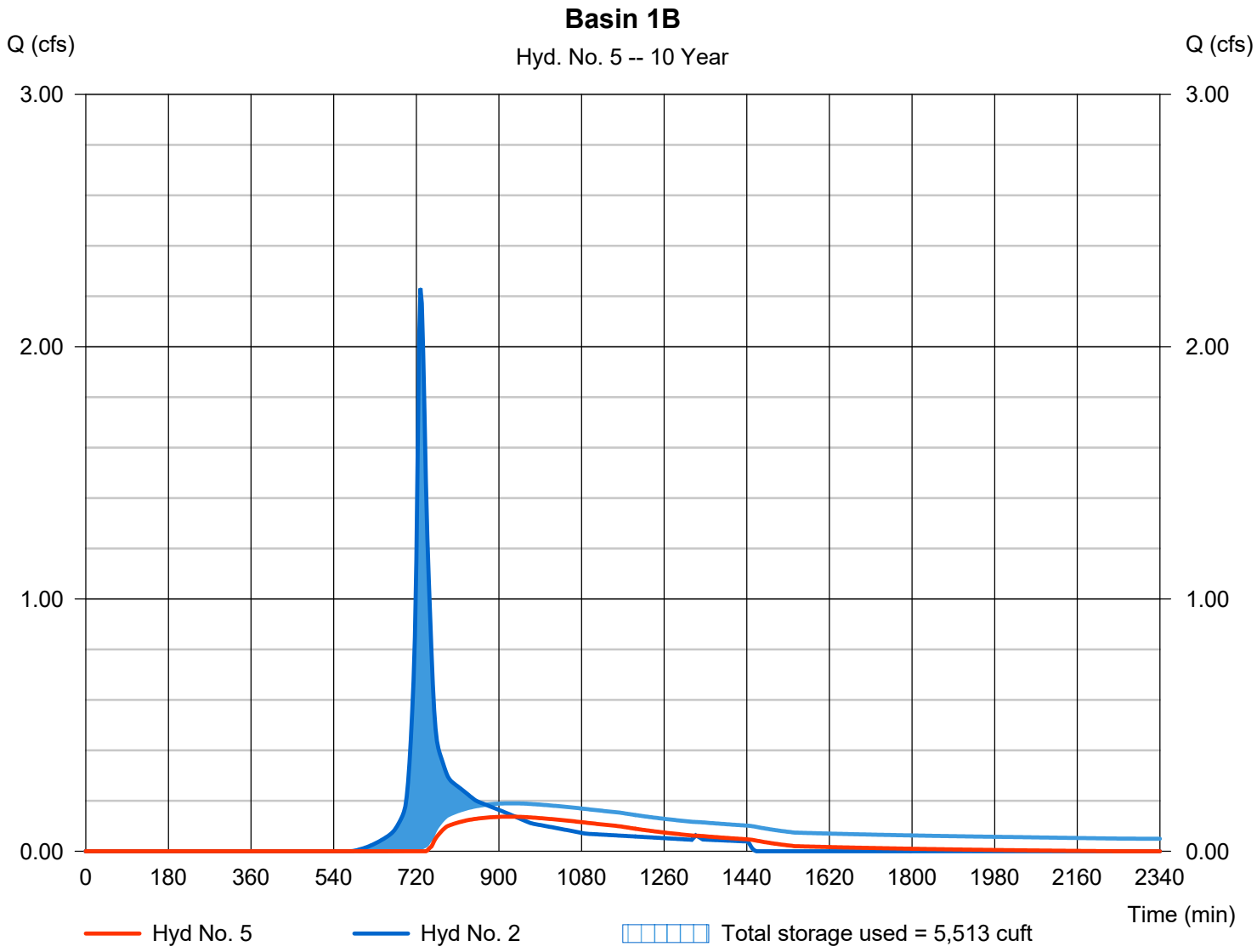
Hydrograph Report

Hyd. No. 5

Basin 1B

Hydrograph type	=	Reservoir	Peak discharge	=	0.137 cfs
Storm frequency	=	10 yrs	Time to peak	=	924 min
Time interval	=	3 min	Hyd. volume	=	4,609 cuft
Inflow hyd. No.	=	2 - Area 1B	Max. Elevation	=	128.97 ft
Reservoir name	=	Basin 1B	Max. Storage	=	5,513 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



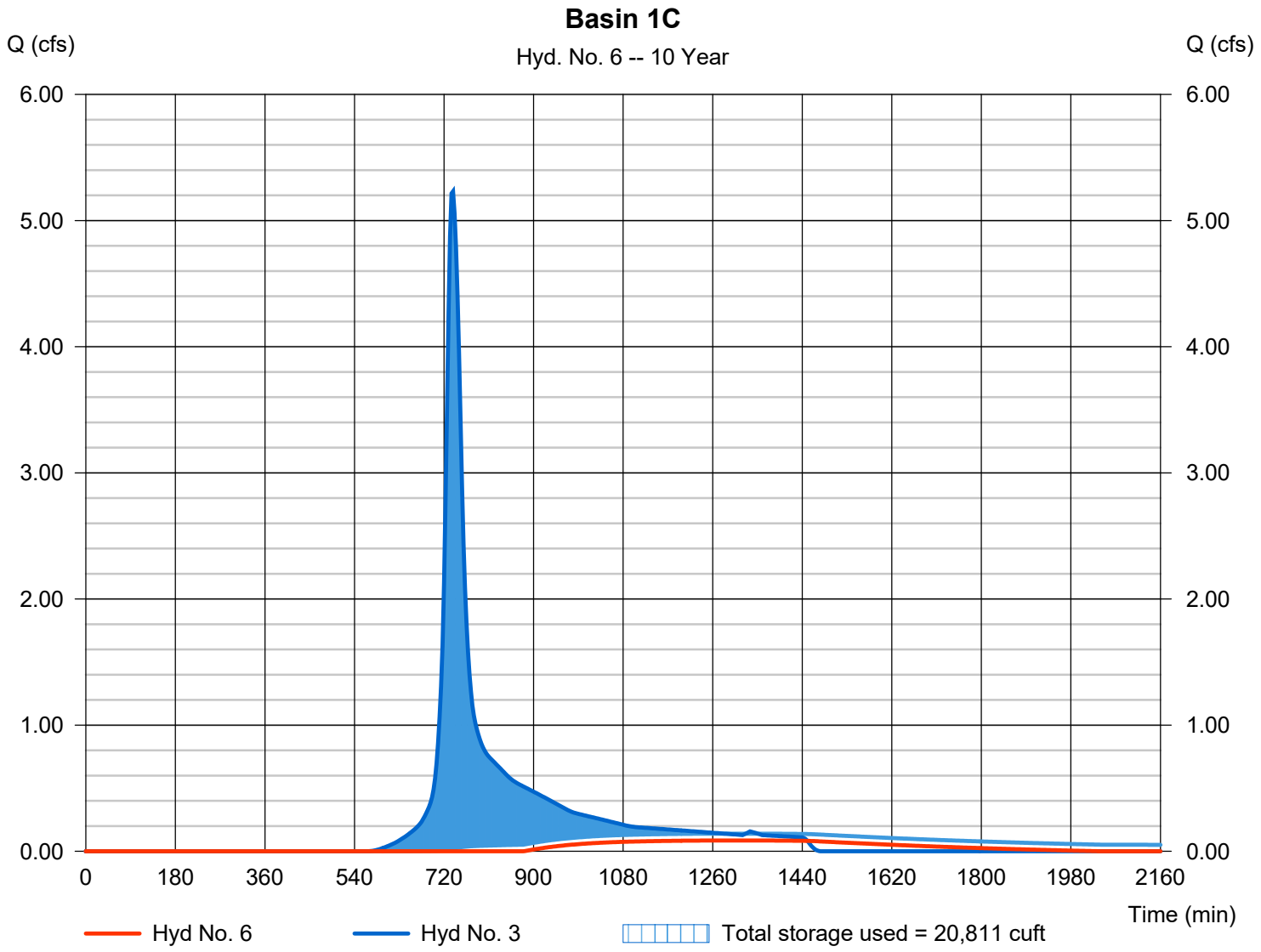
Hydrograph Report

Hyd. No. 6

Basin 1C

Hydrograph type	=	Reservoir	Peak discharge	=	0.085 cfs
Storm frequency	=	10 yrs	Time to peak	=	1350 min
Time interval	=	3 min	Hyd. volume	=	3,675 cuft
Inflow hyd. No.	=	3 - Area 1C	Max. Elevation	=	126.27 ft
Reservoir name	=	Basin 1C	Max. Storage	=	20,811 cuft

Storage Indication method used. Exfiltration extracted from Outflow.

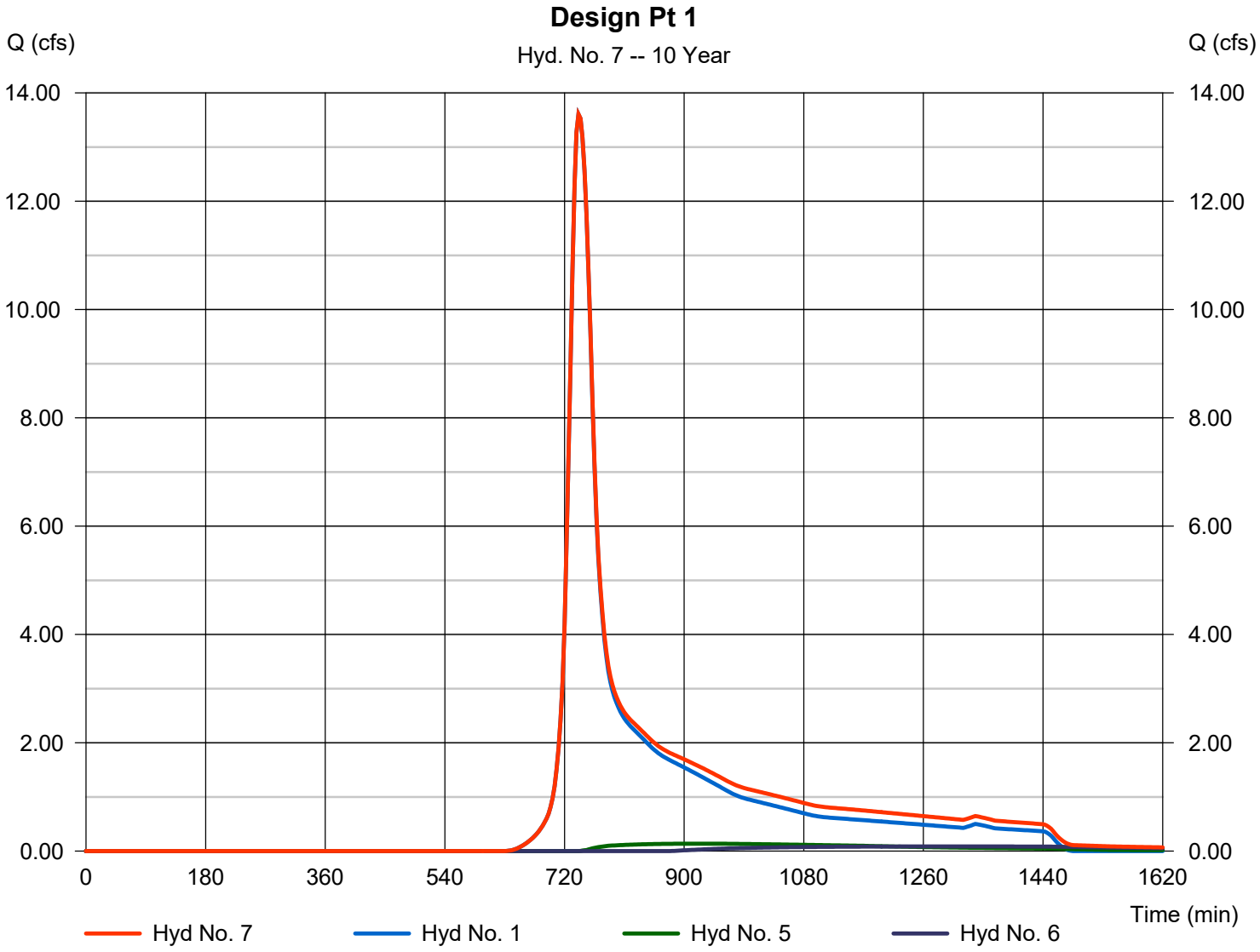


Hydrograph Report

Hyd. No. 7

Design Pt 1

Hydrograph type	=	Combine	Peak discharge	=	13.61 cfs
Storm frequency	=	10 yrs	Time to peak	=	741 min
Time interval	=	3 min	Hyd. volume	=	82,930 cuft
Inflow hyds.	=	1, 5, 6	Contrib. drain. area	=	11.860 ac



Hydrograph Summary Report

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

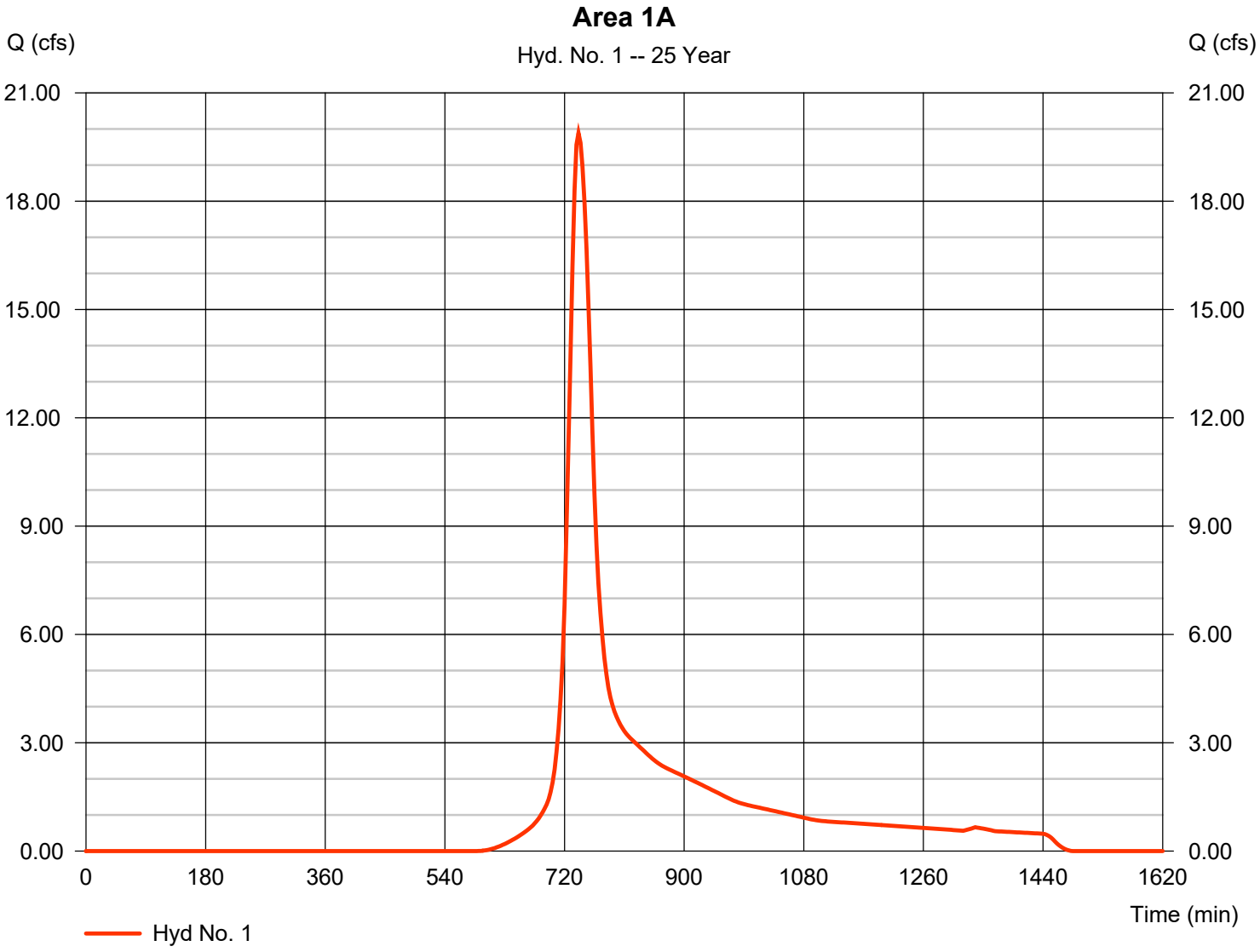
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	19.89	3	741	106,266	------	------	------	Area 1A
2	SCS Runoff	3.120	3	729	12,349	------	------	------	Area 1B
3	SCS Runoff	7.251	3	735	34,832	------	------	------	Area 1C
4	SCS Runoff	0.445	3	729	1,841	------	------	------	Area 2 / Design Pt 2
5	Reservoir	0.215	3	888	7,920	2	129.46	7,228	Basin 1B
6	Reservoir	0.186	3	1113	11,449	3	126.75	26,467	Basin 1C
7	Combine	19.99	3	741	125,635	1, 5, 6	------	------	Design Pt 1

Hydrograph Report

Hyd. No. 1

Area 1A

Hydrograph type	=	SCS Runoff	Peak discharge	=	19.89 cfs
Storm frequency	=	25 yrs	Time to peak	=	741 min
Time interval	=	3 min	Hyd. volume	=	106,266 cuft
Drainage area	=	11.860 ac	Curve number	=	65
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	30.00 min
Total precip.	=	6.16 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484

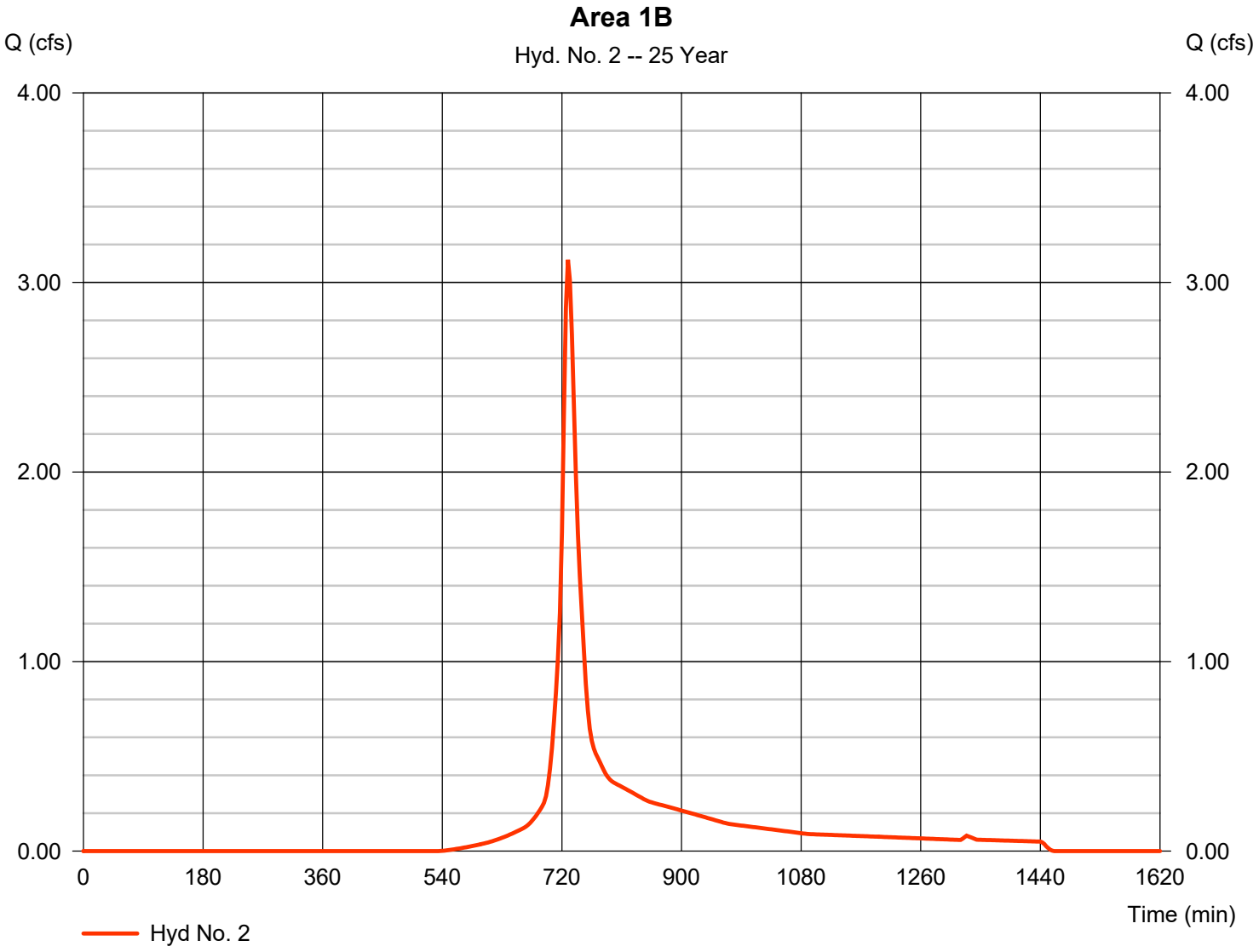


Hydrograph Report

Hyd. No. 2

Area 1B

Hydrograph type	= SCS Runoff	Peak discharge	= 3.120 cfs
Storm frequency	= 25 yrs	Time to peak	= 729 min
Time interval	= 3 min	Hyd. volume	= 12,349 cuft
Drainage area	= 1.160 ac	Curve number	= 70
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.00 min
Total precip.	= 6.16 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

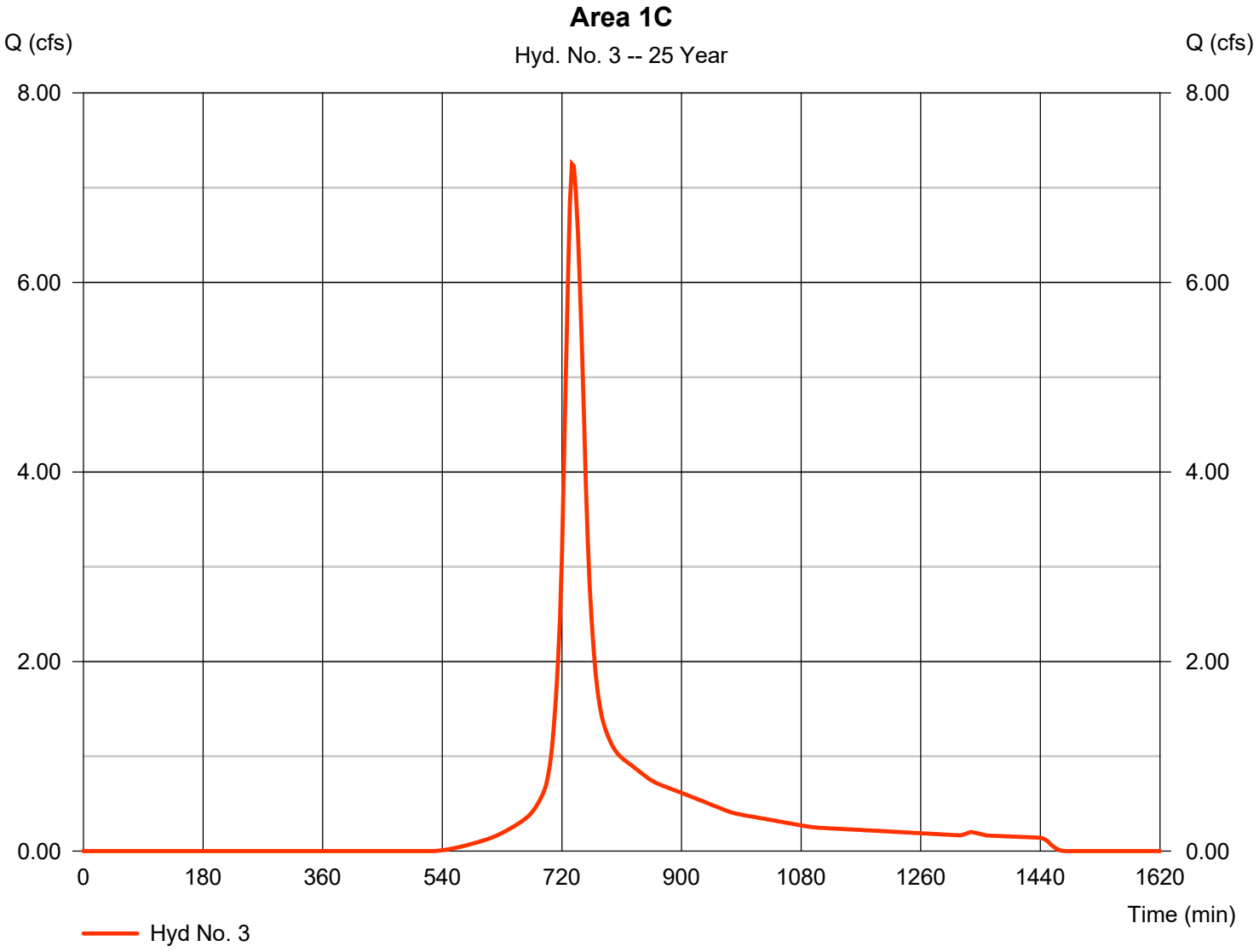


Hydrograph Report

Hyd. No. 3

Area 1C

Hydrograph type	=	SCS Runoff	Peak discharge	=	7.251 cfs
Storm frequency	=	25 yrs	Time to peak	=	735 min
Time interval	=	3 min	Hyd. volume	=	34,832 cuft
Drainage area	=	3.250 ac	Curve number	=	71
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	22.02 min
Total precip.	=	6.16 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484

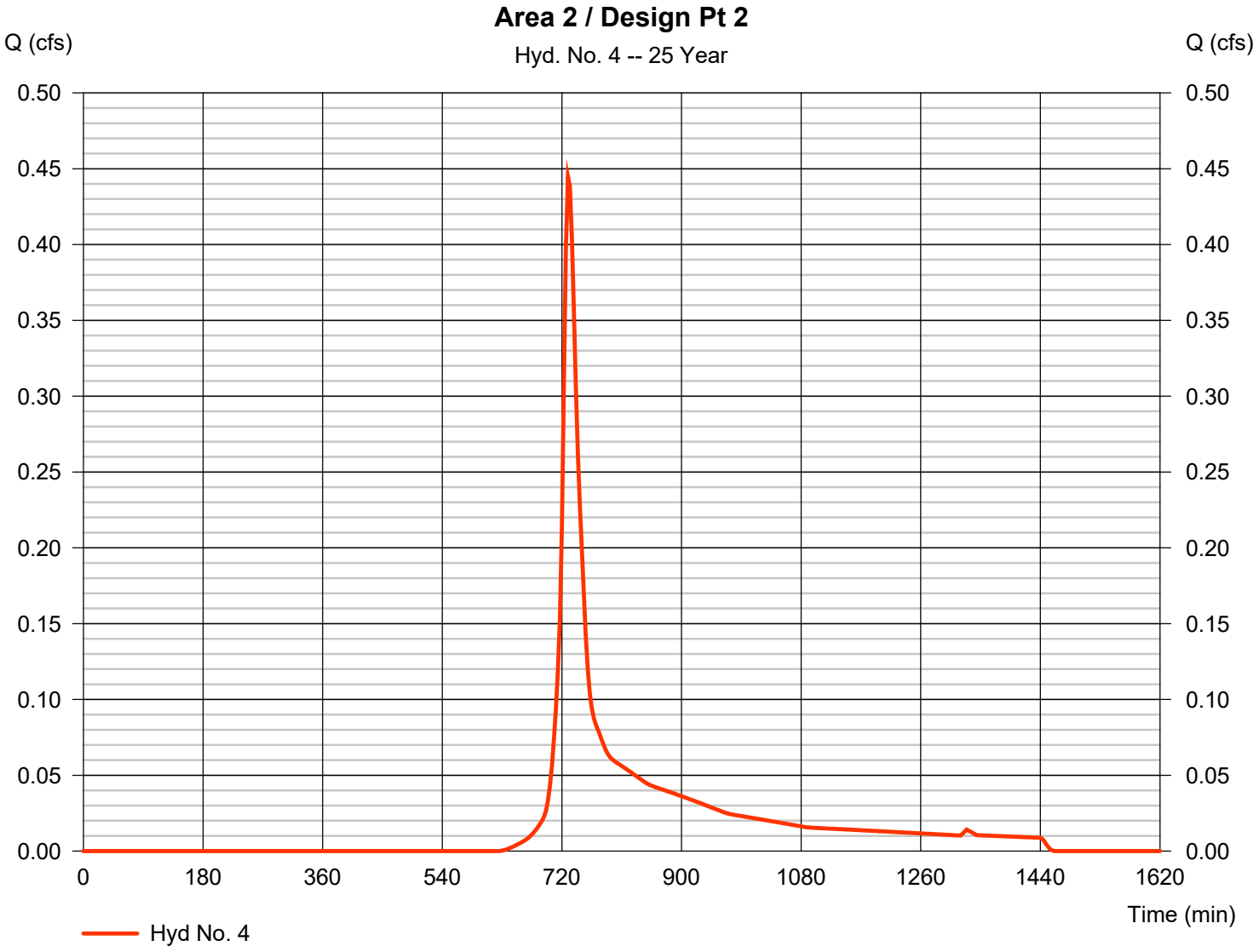


Hydrograph Report

Hyd. No. 4

Area 2 / Design Pt 2

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.445 cfs
Storm frequency	=	25 yrs	Time to peak	=	729 min
Time interval	=	3 min	Hyd. volume	=	1,841 cuft
Drainage area	=	0.240 ac	Curve number	=	61
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	13.60 min
Total precip.	=	6.16 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484



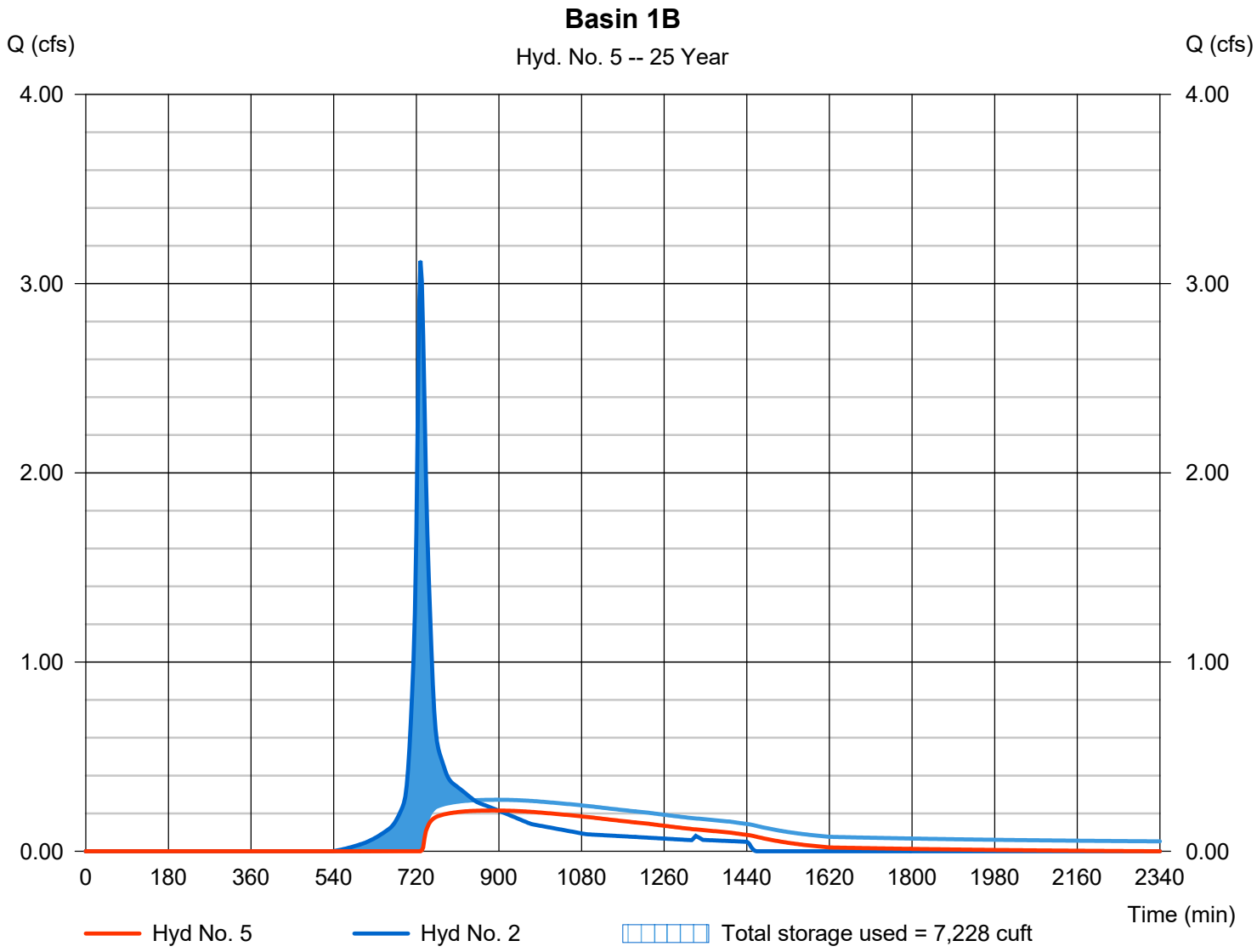
Hydrograph Report

Hyd. No. 5

Basin 1B

Hydrograph type	=	Reservoir	Peak discharge	=	0.215 cfs
Storm frequency	=	25 yrs	Time to peak	=	888 min
Time interval	=	3 min	Hyd. volume	=	7,920 cuft
Inflow hyd. No.	=	2 - Area 1B	Max. Elevation	=	129.46 ft
Reservoir name	=	Basin 1B	Max. Storage	=	7,228 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



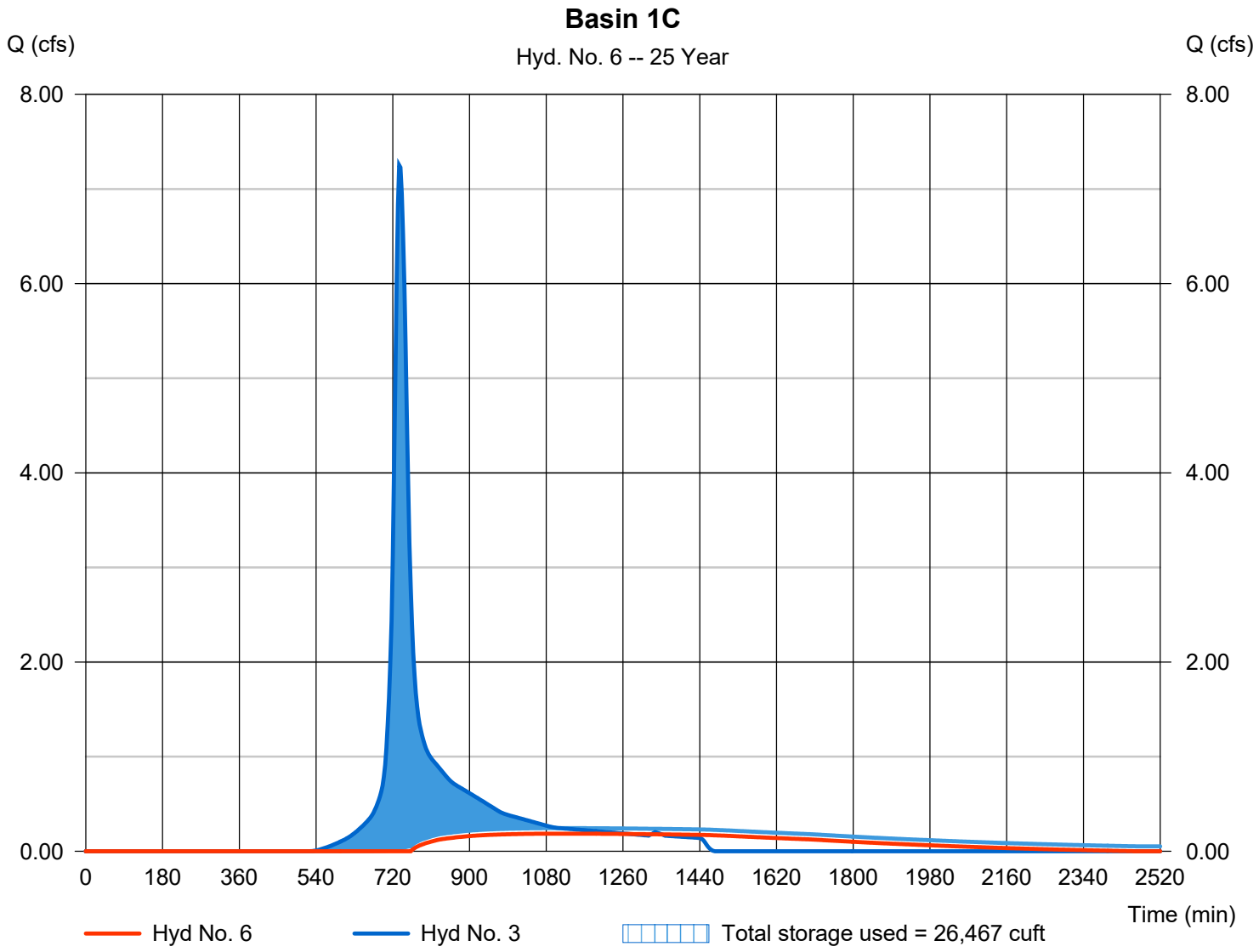
Hydrograph Report

Hyd. No. 6

Basin 1C

Hydrograph type	=	Reservoir	Peak discharge	=	0.186 cfs
Storm frequency	=	25 yrs	Time to peak	=	1113 min
Time interval	=	3 min	Hyd. volume	=	11,449 cuft
Inflow hyd. No.	=	3 - Area 1C	Max. Elevation	=	126.75 ft
Reservoir name	=	Basin 1C	Max. Storage	=	26,467 cuft

Storage Indication method used. Exfiltration extracted from Outflow.

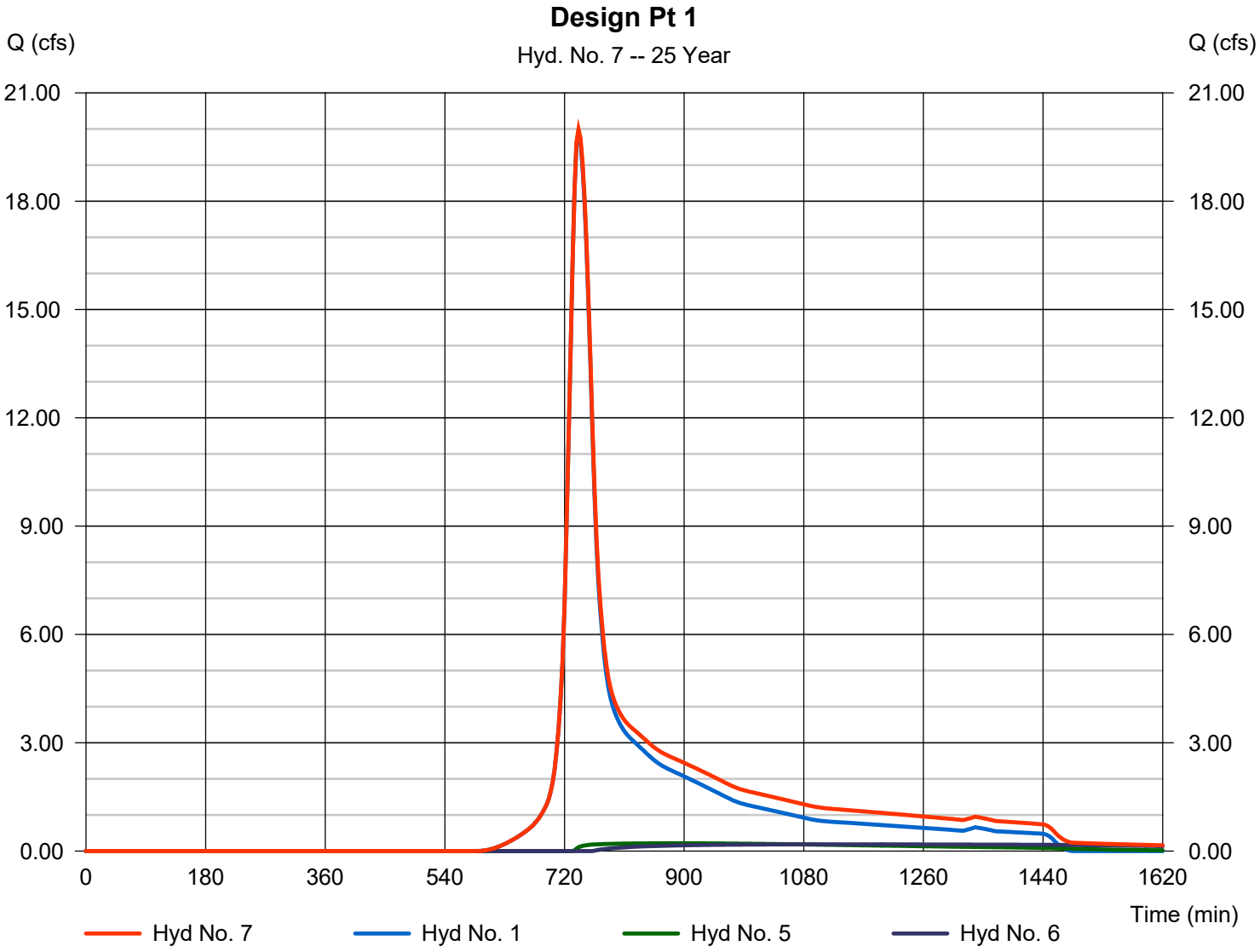


Hydrograph Report

Hyd. No. 7

Design Pt 1

Hydrograph type	=	Combine	Peak discharge	=	19.99 cfs
Storm frequency	=	25 yrs	Time to peak	=	741 min
Time interval	=	3 min	Hyd. volume	=	125,635 cuft
Inflow hyds.	=	1, 5, 6	Contrib. drain. area	=	11.860 ac



Hydrograph Summary Report

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

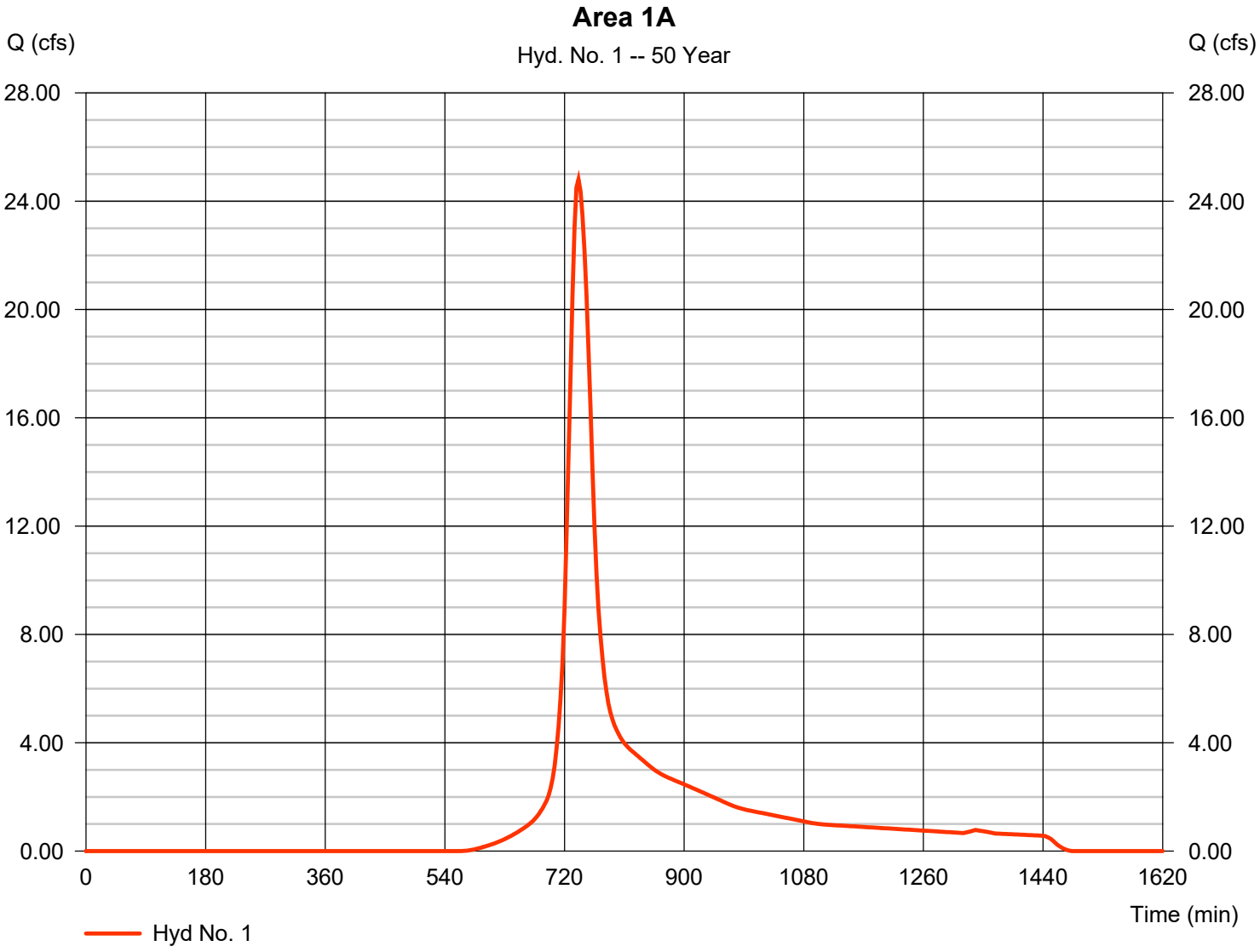
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	24.80	3	741	131,245	------	------	------	Area 1A
2	SCS Runoff	3.804	3	729	14,992	------	------	------	Area 1B
3	SCS Runoff	8.815	3	735	42,152	------	------	------	Area 1C
4	SCS Runoff	0.569	3	729	2,310	------	------	------	Area 2 / Design Pt 2
5	Reservoir	0.267	3	876	10,478	2	129.90	8,773	Basin 1B
6	Reservoir	0.402	3	981	18,124	3	127.07	30,243	Basin 1C
7	Combine	24.98	3	741	159,847	1, 5, 6	------	------	Design Pt 1

Hydrograph Report

Hyd. No. 1

Area 1A

Hydrograph type	=	SCS Runoff	Peak discharge	=	24.80 cfs
Storm frequency	=	50 yrs	Time to peak	=	741 min
Time interval	=	3 min	Hyd. volume	=	131,245 cuft
Drainage area	=	11.860 ac	Curve number	=	65
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	30.00 min
Total precip.	=	6.93 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484

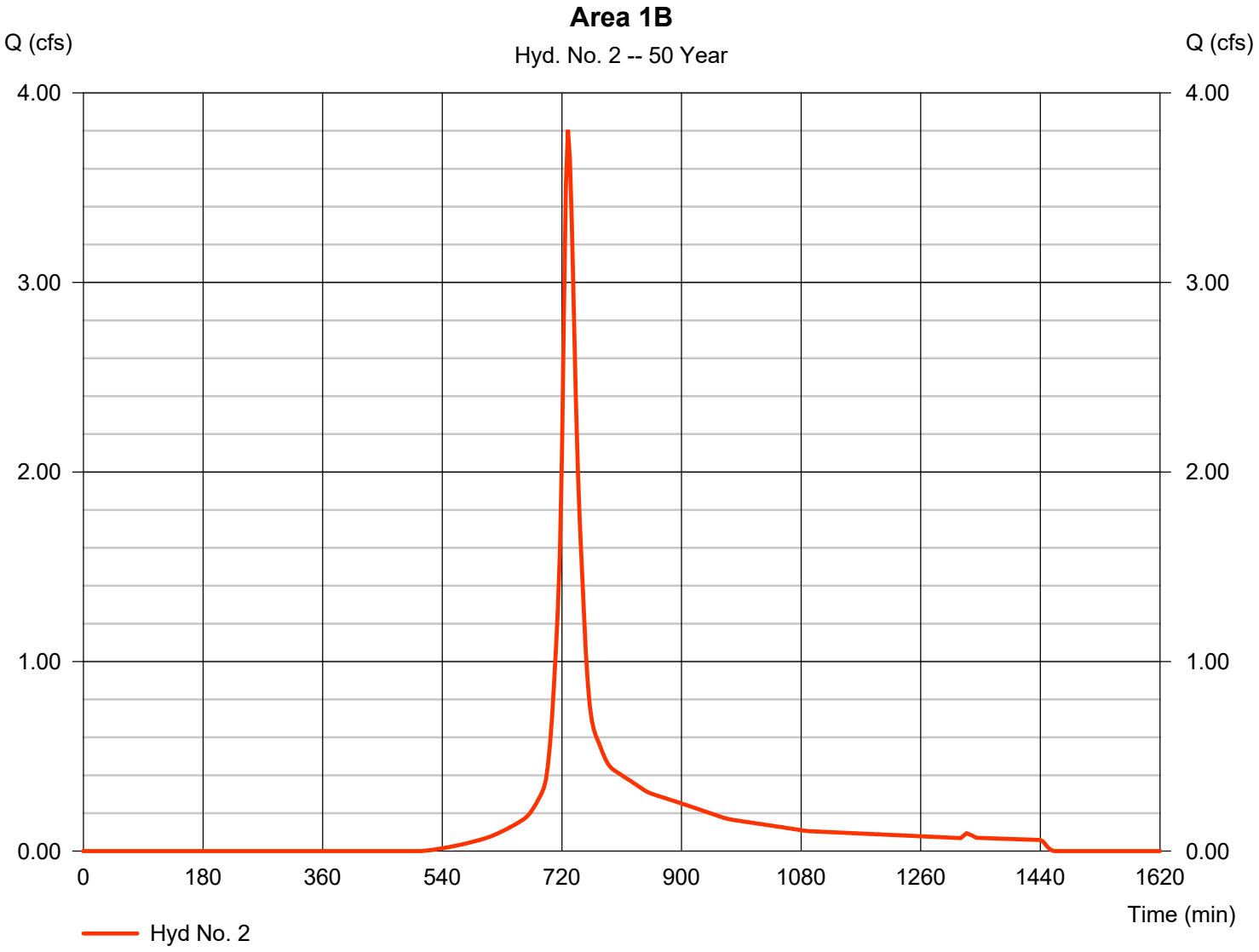


Hydrograph Report

Hyd. No. 2

Area 1B

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.804 cfs
Storm frequency	=	50 yrs	Time to peak	=	729 min
Time interval	=	3 min	Hyd. volume	=	14,992 cuft
Drainage area	=	1.160 ac	Curve number	=	70
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	6.93 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484

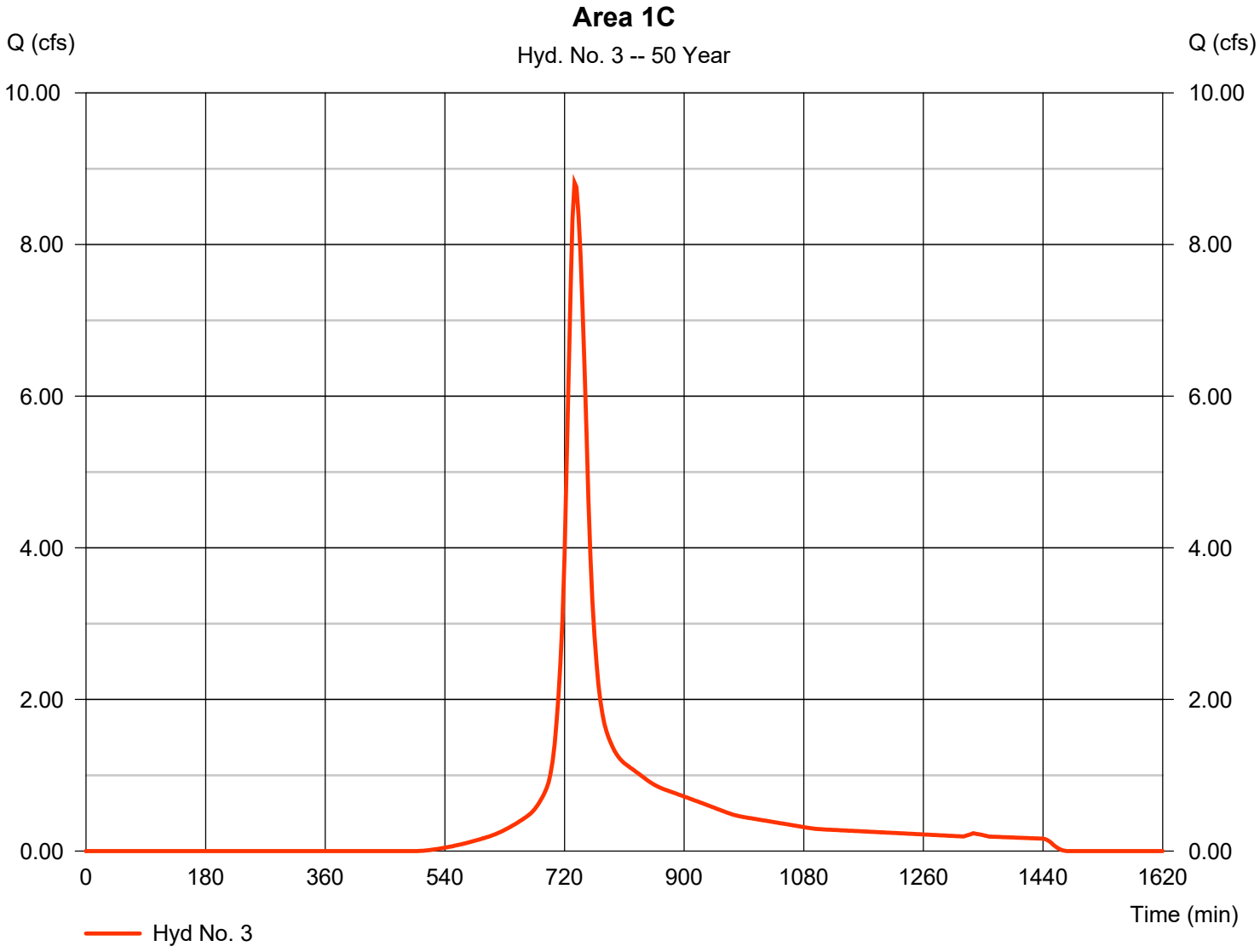


Hydrograph Report

Hyd. No. 3

Area 1C

Hydrograph type	=	SCS Runoff	Peak discharge	=	8.815 cfs
Storm frequency	=	50 yrs	Time to peak	=	735 min
Time interval	=	3 min	Hyd. volume	=	42,152 cuft
Drainage area	=	3.250 ac	Curve number	=	71
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	22.02 min
Total precip.	=	6.93 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484

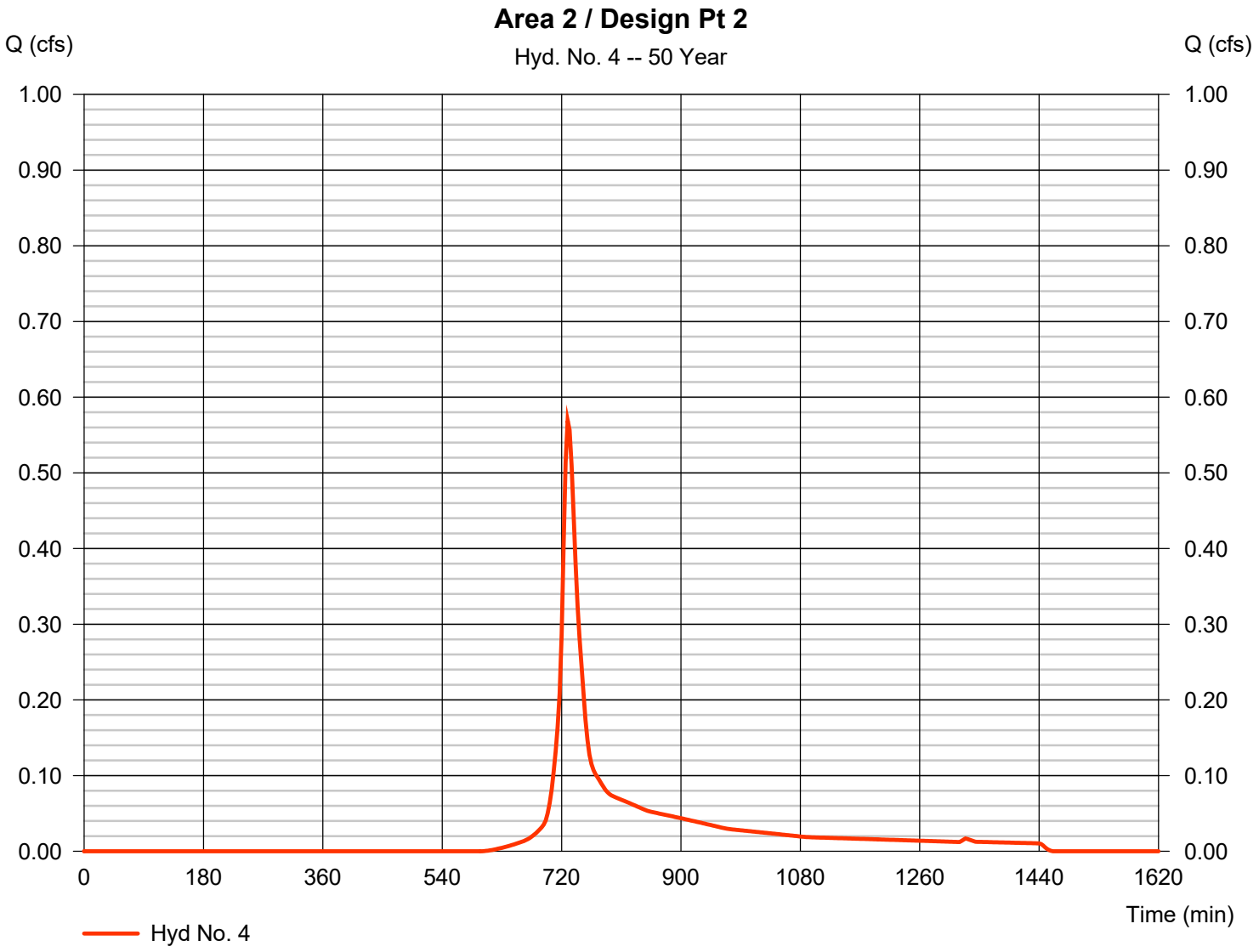


Hydrograph Report

Hyd. No. 4

Area 2 / Design Pt 2

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.569 cfs
Storm frequency	=	50 yrs	Time to peak	=	729 min
Time interval	=	3 min	Hyd. volume	=	2,310 cuft
Drainage area	=	0.240 ac	Curve number	=	61
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	13.60 min
Total precip.	=	6.93 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484



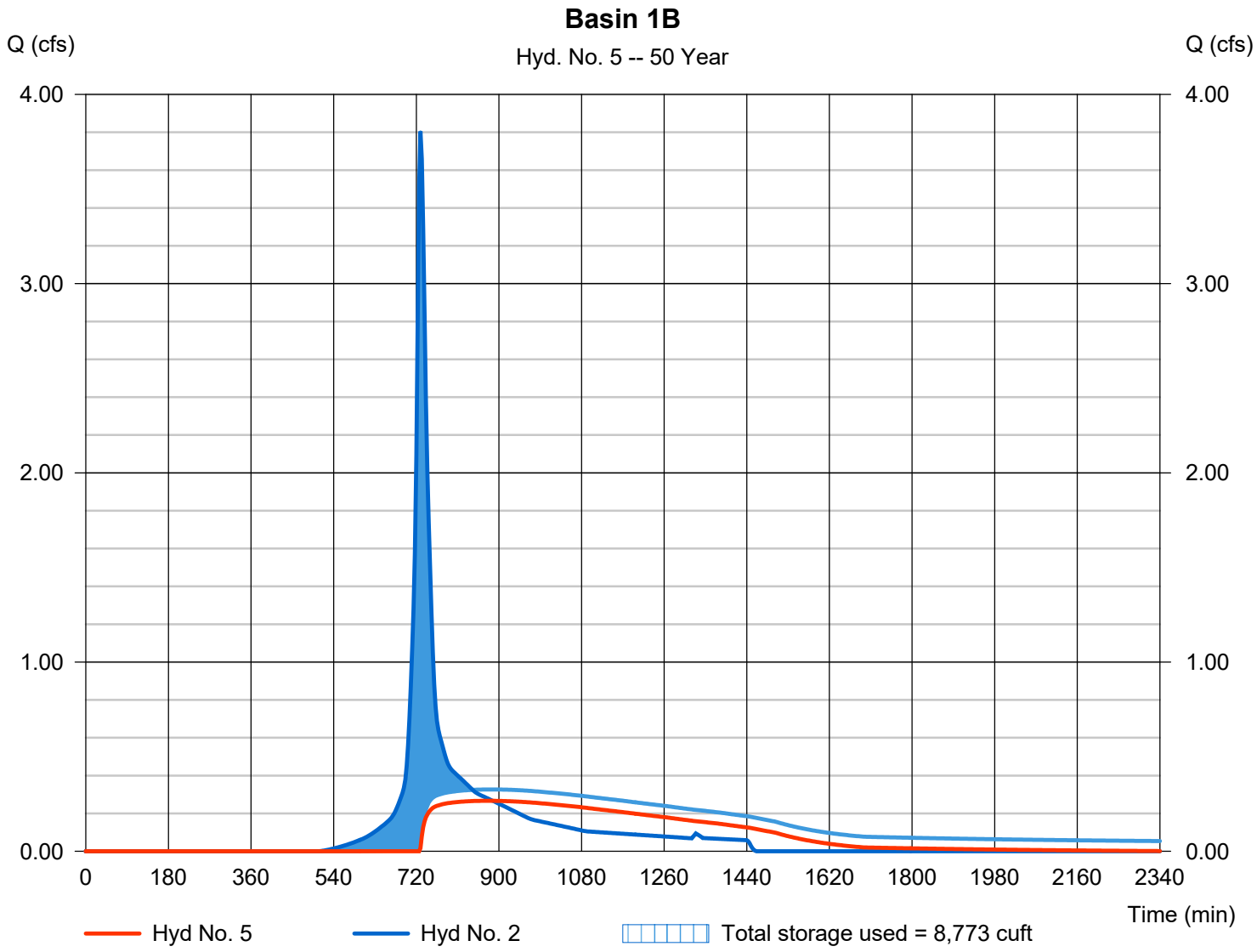
Hydrograph Report

Hyd. No. 5

Basin 1B

Hydrograph type	=	Reservoir	Peak discharge	=	0.267 cfs
Storm frequency	=	50 yrs	Time to peak	=	876 min
Time interval	=	3 min	Hyd. volume	=	10,478 cuft
Inflow hyd. No.	=	2 - Area 1B	Max. Elevation	=	129.90 ft
Reservoir name	=	Basin 1B	Max. Storage	=	8,773 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



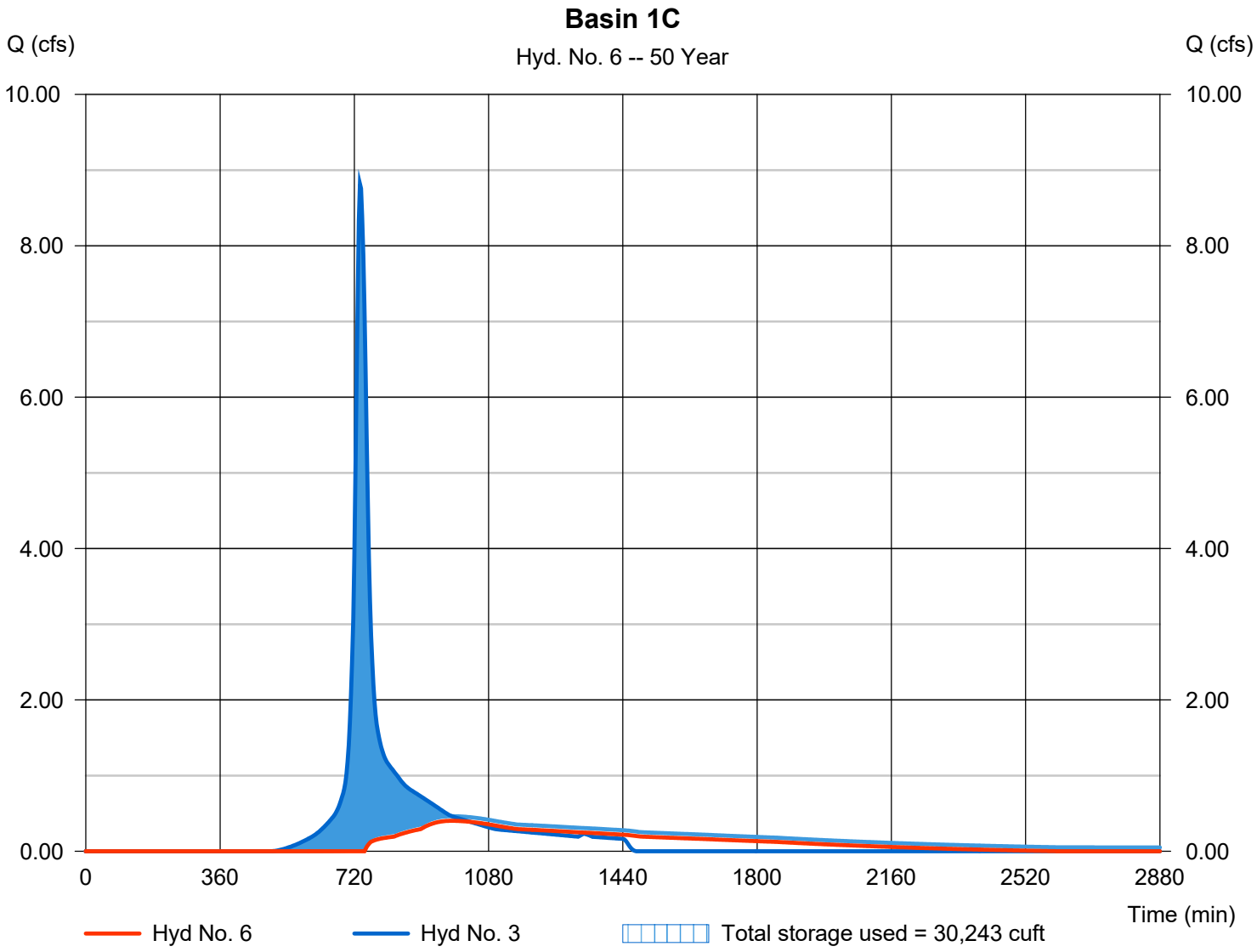
Hydrograph Report

Hyd. No. 6

Basin 1C

Hydrograph type	=	Reservoir	Peak discharge	=	0.402 cfs
Storm frequency	=	50 yrs	Time to peak	=	981 min
Time interval	=	3 min	Hyd. volume	=	18,124 cuft
Inflow hyd. No.	=	3 - Area 1C	Max. Elevation	=	127.07 ft
Reservoir name	=	Basin 1C	Max. Storage	=	30,243 cuft

Storage Indication method used. Exfiltration extracted from Outflow.

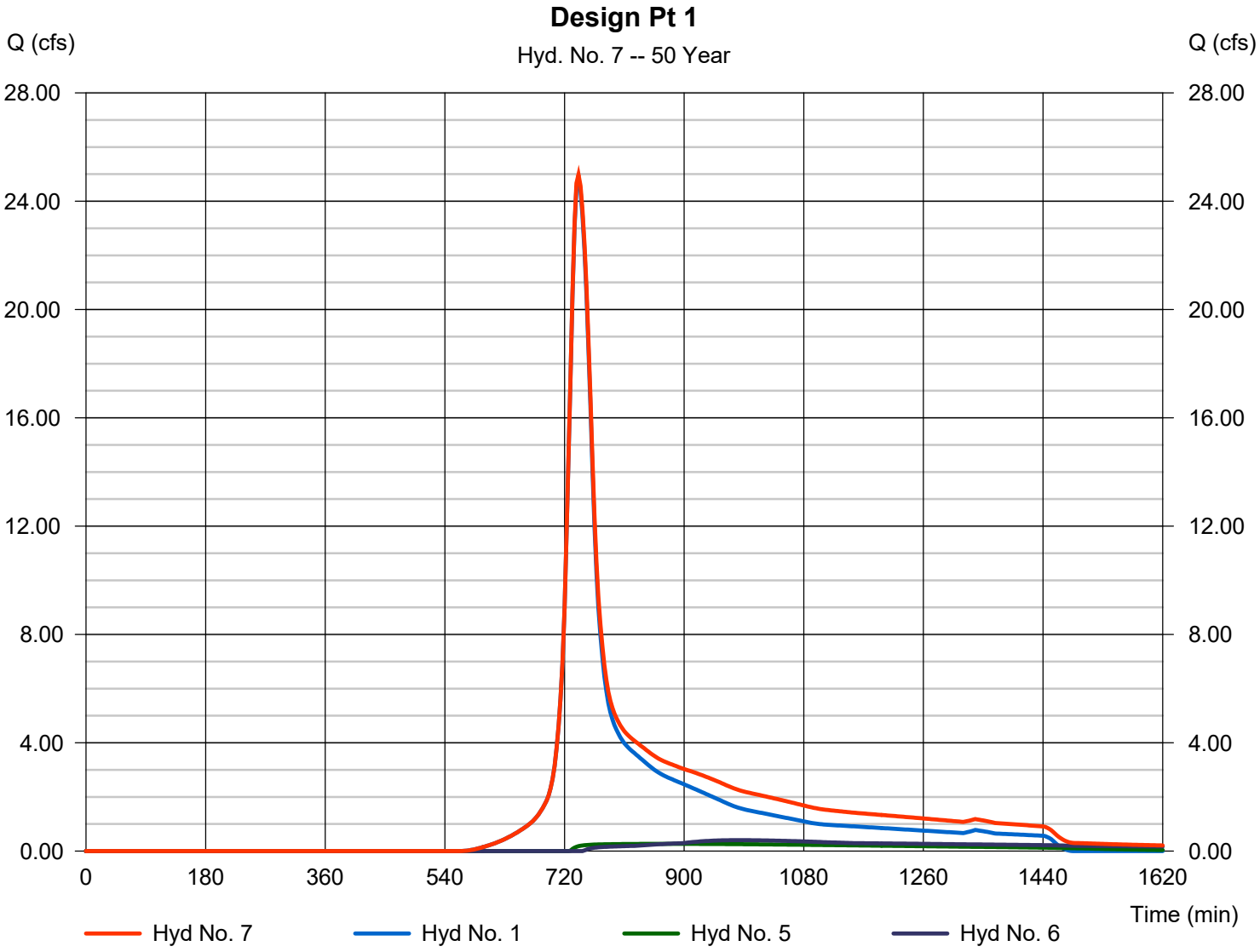


Hydrograph Report

Hyd. No. 7

Design Pt 1

Hydrograph type	=	Combine	Peak discharge	=	24.98 cfs
Storm frequency	=	50 yrs	Time to peak	=	741 min
Time interval	=	3 min	Hyd. volume	=	159,847 cuft
Inflow hyds.	=	1, 5, 6	Contrib. drain. area	=	11.860 ac



Hydrograph Summary Report

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

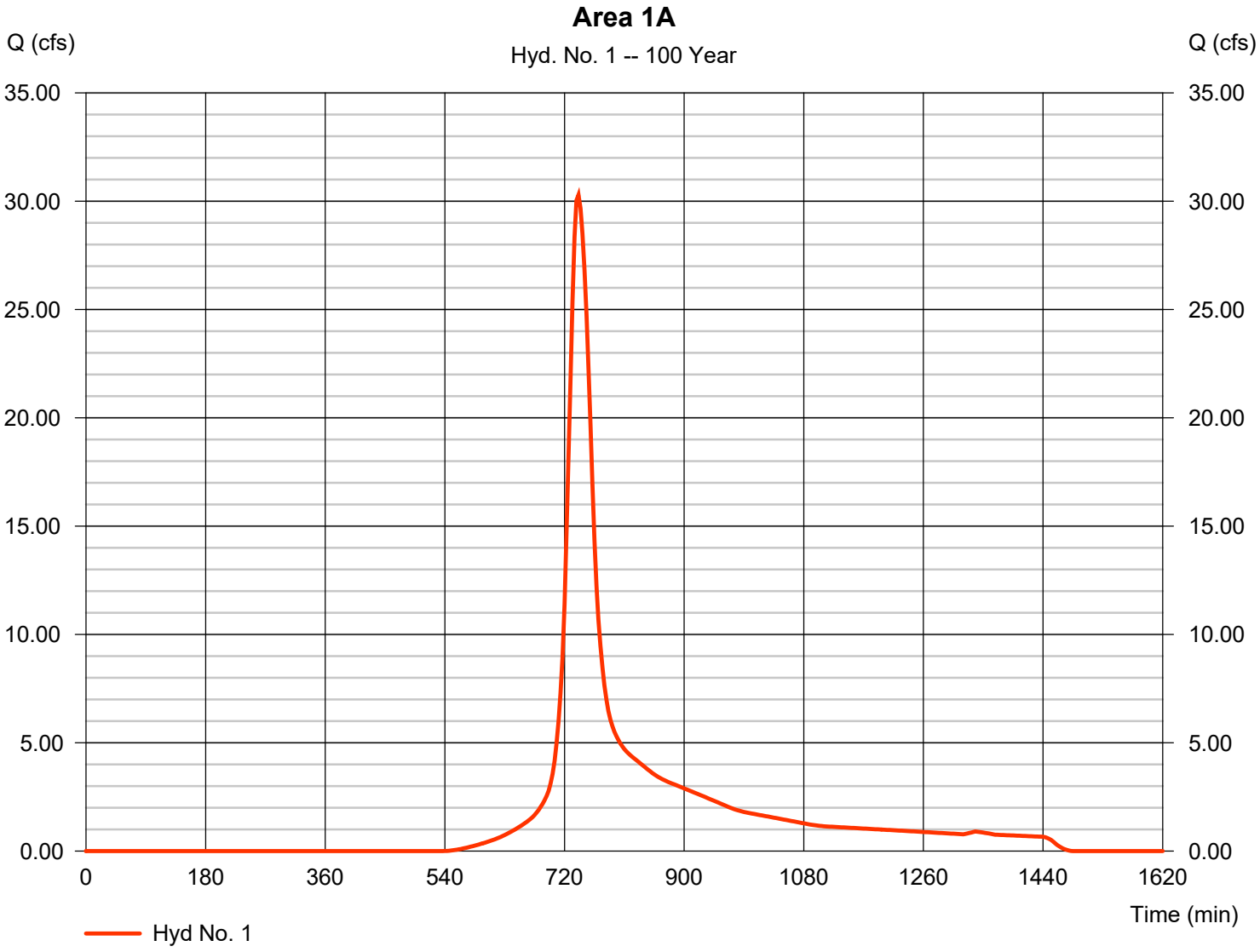
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	30.29	3	741	159,338	------	------	------	Area 1A
2	SCS Runoff	4.559	3	729	17,933	------	------	------	Area 1B
3	SCS Runoff	10.54	3	735	50,283	------	------	------	Area 1C
4	SCS Runoff	0.710	3	729	2,843	------	------	------	Area 2 / Design Pt 2
5	Reservoir	0.854	3	762	13,371	2	130.05	9,353	Basin 1B
6	Reservoir	0.741	3	909	26,036	3	127.29	32,908	Basin 1C
7	Combine	30.54	3	741	198,745	1, 5, 6	------	------	Design Pt 1

Hydrograph Report

Hyd. No. 1

Area 1A

Hydrograph type	=	SCS Runoff	Peak discharge	=	30.29 cfs
Storm frequency	=	100 yrs	Time to peak	=	741 min
Time interval	=	3 min	Hyd. volume	=	159,338 cuft
Drainage area	=	11.860 ac	Curve number	=	65
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	30.00 min
Total precip.	=	7.76 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484

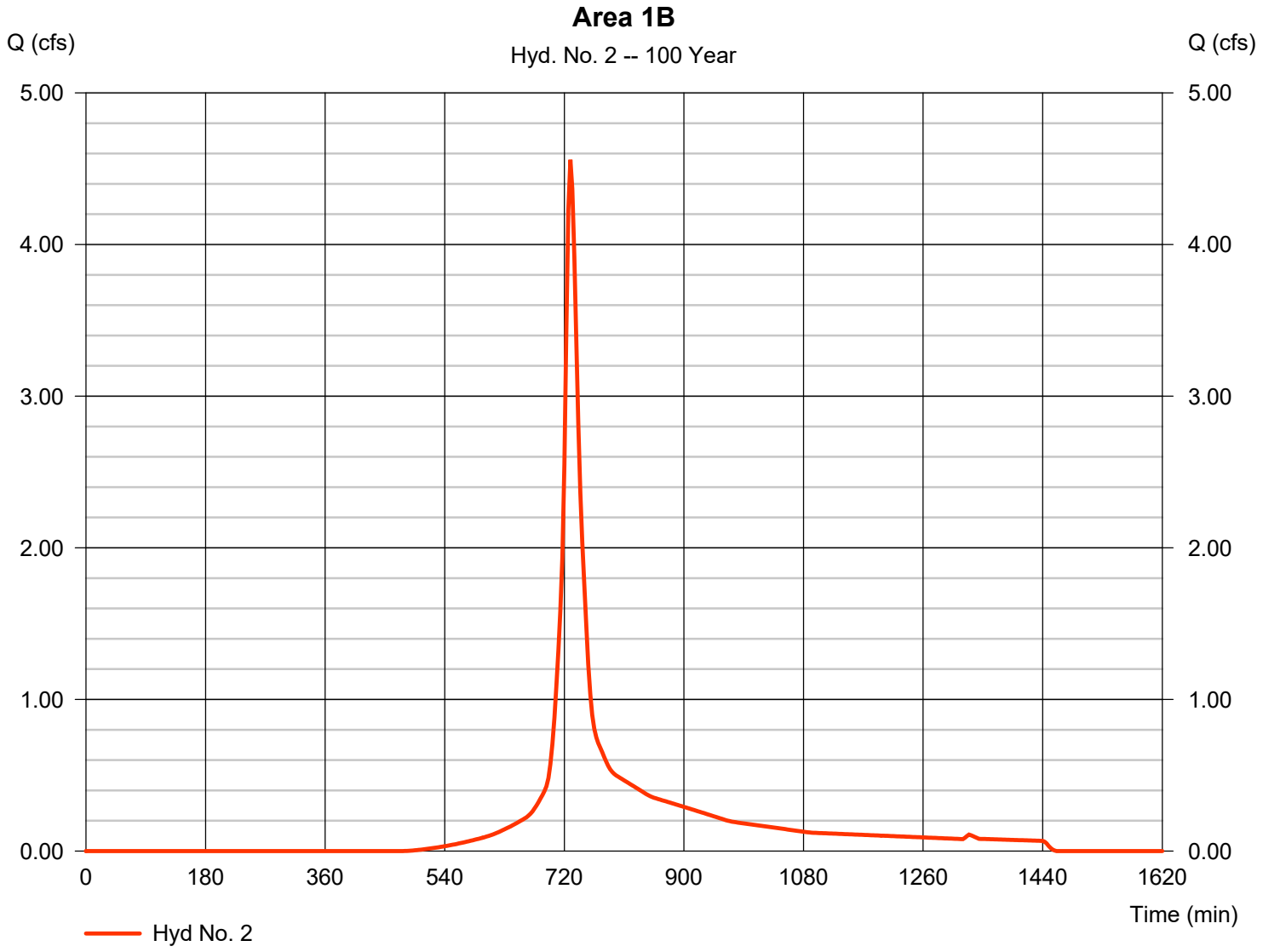


Hydrograph Report

Hyd. No. 2

Area 1B

Hydrograph type	=	SCS Runoff	Peak discharge	=	4.559 cfs
Storm frequency	=	100 yrs	Time to peak	=	729 min
Time interval	=	3 min	Hyd. volume	=	17,933 cuft
Drainage area	=	1.160 ac	Curve number	=	70
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	7.76 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484

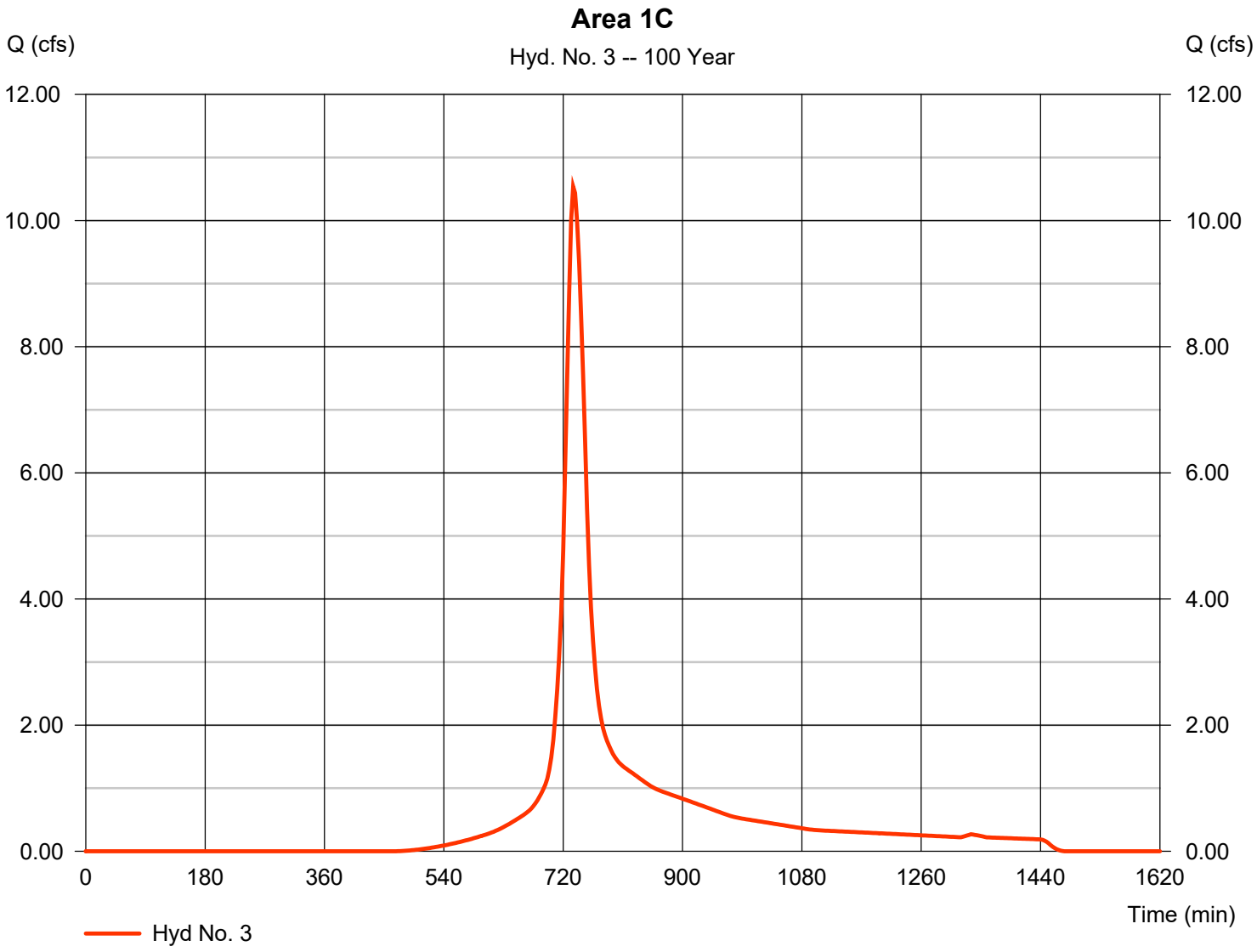


Hydrograph Report

Hyd. No. 3

Area 1C

Hydrograph type	=	SCS Runoff	Peak discharge	=	10.54 cfs
Storm frequency	=	100 yrs	Time to peak	=	735 min
Time interval	=	3 min	Hyd. volume	=	50,283 cuft
Drainage area	=	3.250 ac	Curve number	=	71
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	22.02 min
Total precip.	=	7.76 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484

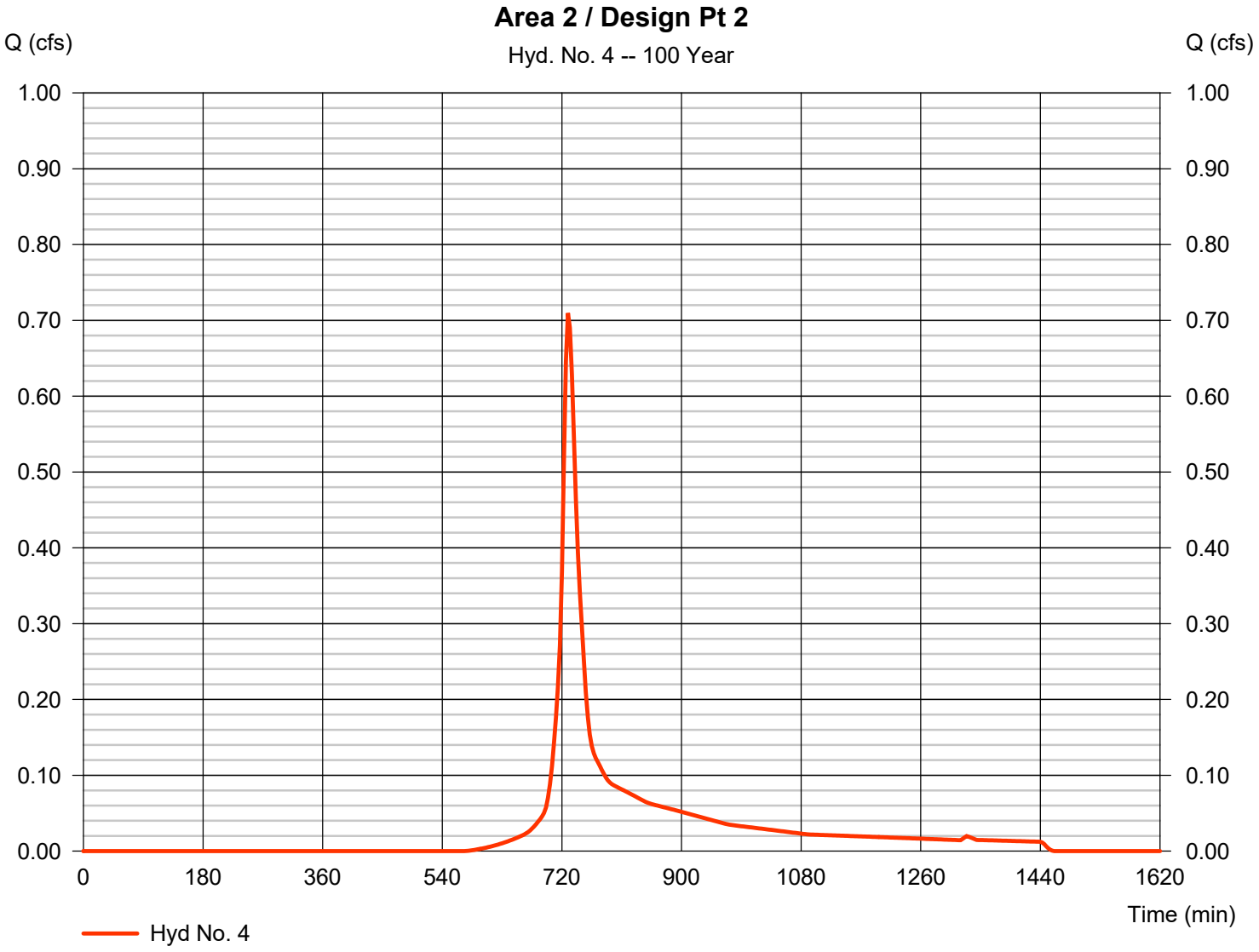


Hydrograph Report

Hyd. No. 4

Area 2 / Design Pt 2

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.710 cfs
Storm frequency	=	100 yrs	Time to peak	=	729 min
Time interval	=	3 min	Hyd. volume	=	2,843 cuft
Drainage area	=	0.240 ac	Curve number	=	61
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	13.60 min
Total precip.	=	7.76 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484



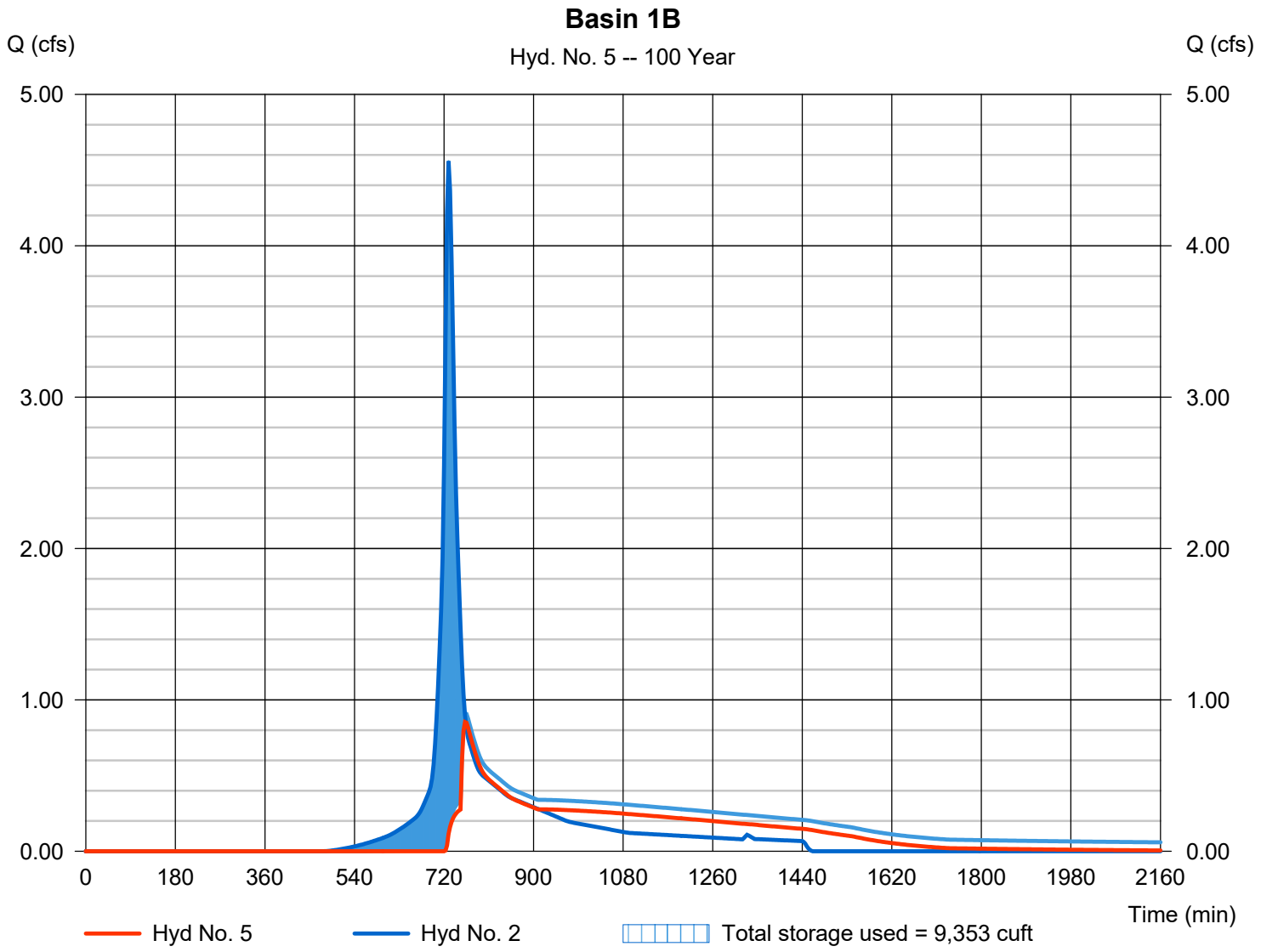
Hydrograph Report

Hyd. No. 5

Basin 1B

Hydrograph type	=	Reservoir	Peak discharge	=	0.854 cfs
Storm frequency	=	100 yrs	Time to peak	=	762 min
Time interval	=	3 min	Hyd. volume	=	13,371 cuft
Inflow hyd. No.	=	2 - Area 1B	Max. Elevation	=	130.05 ft
Reservoir name	=	Basin 1B	Max. Storage	=	9,353 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



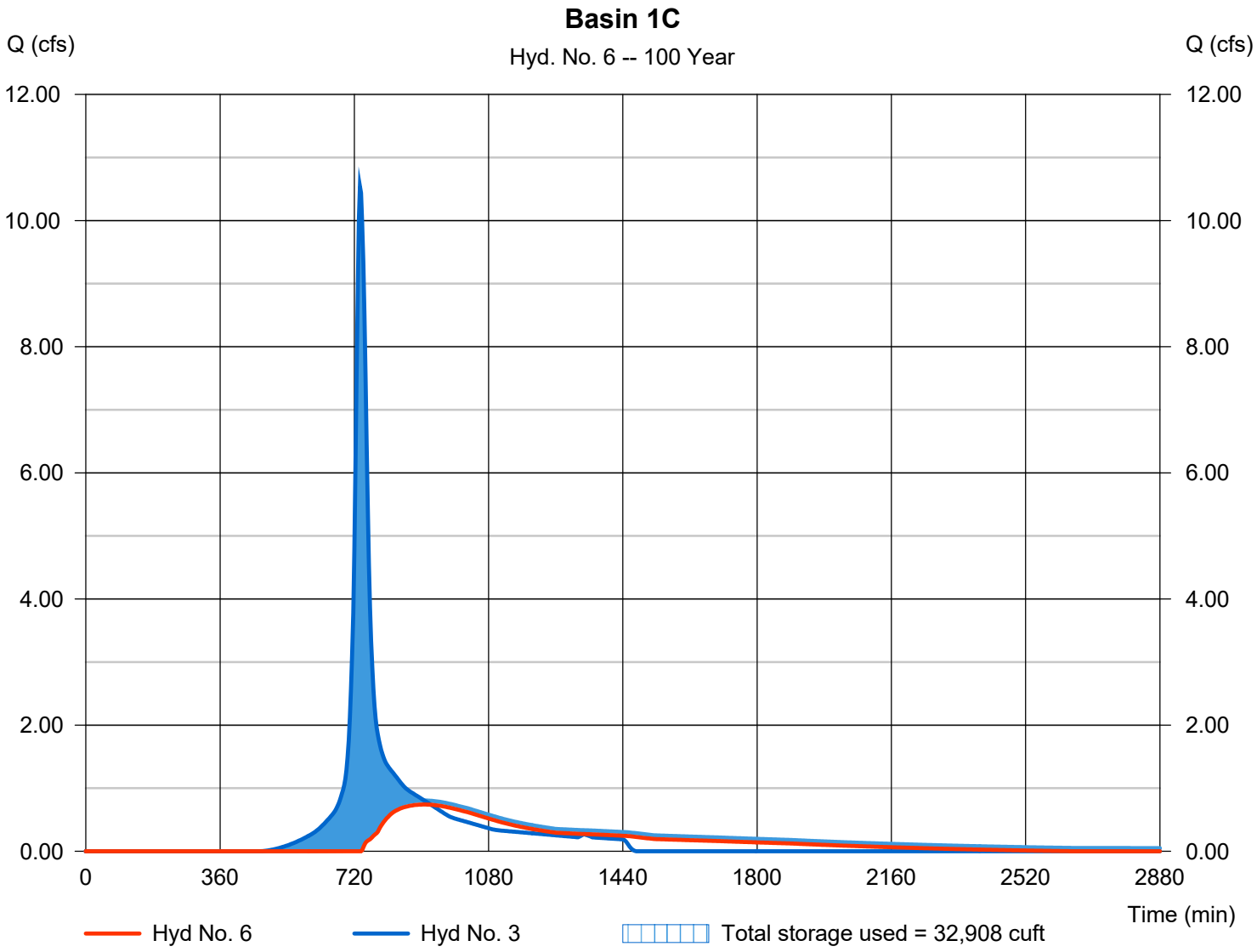
Hydrograph Report

Hyd. No. 6

Basin 1C

Hydrograph type	=	Reservoir	Peak discharge	=	0.741 cfs
Storm frequency	=	100 yrs	Time to peak	=	909 min
Time interval	=	3 min	Hyd. volume	=	26,036 cuft
Inflow hyd. No.	=	3 - Area 1C	Max. Elevation	=	127.29 ft
Reservoir name	=	Basin 1C	Max. Storage	=	32,908 cuft

Storage Indication method used. Exfiltration extracted from Outflow.

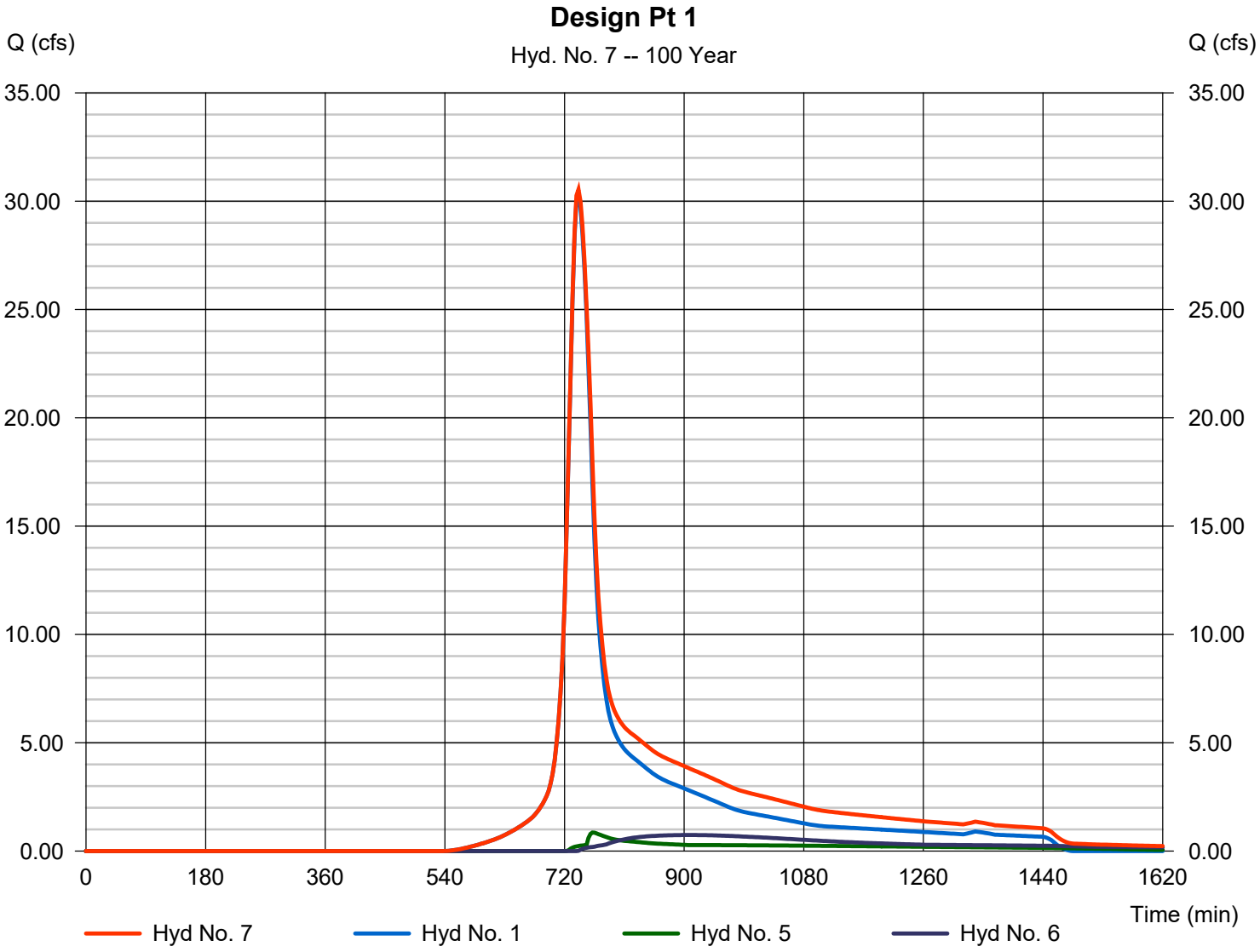


Hydrograph Report

Hyd. No. 7

Design Pt 1

Hydrograph type	=	Combine	Peak discharge	=	30.54 cfs
Storm frequency	=	100 yrs	Time to peak	=	741 min
Time interval	=	3 min	Hyd. volume	=	198,745 cuft
Inflow hyds.	=	1, 5, 6	Contrib. drain. area	=	11.860 ac



Hydraflow Rainfall Report

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	0.0000	0.0000	0.0000	--------
2	31.0528	6.5000	0.7751	--------
3	0.0000	0.0000	0.0000	--------
5	37.5996	7.8000	0.7527	--------
10	42.8310	8.5000	0.7459	--------
25	50.9274	9.3000	0.7422	--------
50	57.8228	9.9000	0.7423	--------
100	64.2908	10.3000	0.7411	--------

File name: IDF - Roberts Village Dr - Using Tech Memo Hydro-35.IDF

Intensity = B / (Tc + D)^E

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	4.68	3.54	2.88	2.45	2.14	1.91	1.73	1.58	1.46	1.36	1.27	1.20
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	5.52	4.31	3.57	3.08	2.72	2.44	2.22	2.05	1.90	1.77	1.67	1.57
10	6.15	4.86	4.06	3.52	3.12	2.81	2.57	2.37	2.20	2.06	1.94	1.83
25	7.07	5.66	4.77	4.15	3.69	3.34	3.05	2.82	2.63	2.46	2.32	2.19
50	7.78	6.28	5.32	4.64	4.14	3.75	3.43	3.17	2.96	2.77	2.61	2.47
100	8.51	6.90	5.86	5.13	4.58	4.15	3.81	3.52	3.29	3.08	2.90	2.75

Tc = time in minutes. Values may exceed 60.

OJECTS\2023\2023-922 Del Grosso - Roberts Court Waterford\DRAINAGE\DRAINAGE DEC 2023\PRECIP DATA.pcp

Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	2.89	3.45	0.00	4.36	5.12	6.16	6.93	7.76
SCS 6-Hr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-1st	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00