ENGINEERING DESIGN
AND
DRAINAGE REPORT

THE LODGES AT STORRS
MANSFIELD, CT

Prepared for:

Storrs Lodges, CT
Mansfield, CT
Applicant

Prepared by:

F. A. Hesketh
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6 Creamery Brook
East Granby, CT 06026

860-653-8000

March 18, 2016
Revised March 24, 2016

FAHA Project #04161

STATE OF CONNECTICUT
DAVID S. ZIAKS
13336
LICENSED
PROFESSIONAL ENGINEER

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ENGINEERING DESIGN
AND
DRAINAGE REPORT

Prepared For

STORRS LODGES, LLC
MANSFIELD, CT

March 18, 2016 (Revised March 24, 2016)

A. INTRODUCTION

The project site consists of a 45.93-acre parcel of land located on the west side of Hunting Lodge Road, as shown on the attached Property Survey, Sheet PS-1. The developer is proposing to develop the property under the zoning requirements for a DMR-Design Multiple Residence. The property is currently zoned RAR-90.

An application will be been made to the Town of Mansfield for an Inland Wetlands Permit, Zone Change and Special Use-Site Plan approvals for a proposed multi-family development to consist of 218 residential rental units for UCONN students. Under the current proposed Development Plan, the property will be developed with a mix of 47 two-story apartment buildings and a community center building with outdoor recreation area, as shown on the attached Master Plan, Sheet MA-1.

B. WATER SUPPLY

The project will be serviced by extension of the existing UCONN/CT Water public water supply system located in Northwood Road and Hunting Lodge Road through conventional service connections to the property. Fire hydrants will be provided throughout the development at the locations specified by the Mansfield Fire Marshal and water company personnel. All work and materials will conform to utility company standard water service specifications.

C. SANITARY SEWAGE DISPOSAL

The project will be serviced by extension of the existing UCONN sanitary sewer system located in Northwood Road through conventional service connections to the property. The applicant is currently reviewing with UCONN utility personnel the scope of public improvements required to the existing sanitary pumping station located to the south near Eagleville Road in order to properly accommodate the additional wastewater generated by the project. Wastewater generated from the Northwood Road residential area is pumped up Eagleville Road via a force main towards the UCONN campus to the

university's wastewater treatment plant for disposal. All work and materials will conform to UCONN sanitary sewer design specifications.

D. ELECTRIC, TELEPHONE and OTHER UTILITY SERVICES

The site will be serviced by underground connections to the public electrical and communication utility companies using standard service extensions to the existing systems located in Northwood Road and Hunting Lodge Road. All work and materials will conform to the applicable utility company specifications. The applicant is also in discussions with the gas company on the feasibility of providing gas service to the site.

E. ON-SITE STORM DRAINAGE DESIGN

The storm sewer collection system proposed for the project is comprised for the most part of a conventional catch basin and pipe system connected to underground infiltration systems and bio-retention treatment basins and swales at each of the outlets. The system design is based on a 10-year design storm using the Rational Method. All materials and equipment will follow Town of Mansfield and ConnDOT design specifications for small drainage collection systems. Detailed design calculations are included in Appendix B.

The design goals for the on-site storm sewer system are as follows:

- Provide a system that has the hydraulic capacity for the 10-year design storm
- Create multiple discharge points around the Project Site to replicate existing runoff patterns to receiving wetlands and watercourses and the on-site vernal pool
- Maintain or reduce peak flow to immediate residential neighborhood to the south
- Create a Treatment Train that will provide a minimum of 80% TSS removal
- Provide for calculated Water Quality Volume (WQV) and Groundwater Recharge Volume (GRV)
- Implement BMP and LID design techniques
- Provide riprap outlet protection to minimize erosion issues and provide final treatment of runoff before discharge downstream

The overall Stormwater Management Plan for the project includes the implementation of Best Management Practices (BMP's) with Low Impact Design (LID) techniques to

produce a Treatment Train to treat runoff consistent with the guidelines recommended by CTDEEP, as follows:

- Implementation of a comprehensive routine site cleaning and maintenance program
- Use of permeable paver units in selected overflow parking space areas
- Install pre-cast catch basins with 4-foot precast sumps and hooded outlets
- Use of a combination of underground infiltration systems, bio-retention basins and in-line hydrodynamic separator structures prior to outlet discharge for primary treatment, along with the use of permeable pavers, flared end sections, and level spreaders for secondary treatment to meet the design goals of 80% TSS removals, Water Quality Volume (WQV) and Groundwater Recharge Volume (GRV)
- Discharge of roof leaders not connected to the storm sewer system to multiple splash blocks around the building perimeter and connection to the underground infiltrator systems to the extent possible to promote infiltration

F. MACRO WATERSHED ANALYSIS

In accordance with Town Engineering Requirements, a comprehensive drainage and watershed analysis was completed. The computer printout for the macro analysis for the proposed Stormwater Management Plan is included in Appendix A. The hydrologic analysis and stormwater routing for the project site was completed using the software package Hydraflow by Intelisove utilizing the 2 thru 100-year storm events.

The purpose of the macro study was to determine the effect of stormwater runoff generated by the development on downstream watersheds and the need to incorporate detention and/or retention facilities in the various on-site sub-watersheds. The roughly 98-acre± Study Area falls partially within the watershed for Eagleville Brook and partially within the watershed for Cedar Swamp Brook. Eagleville Brook has a total watershed of approximately 2.4 sq. miles and Cedar Swamp Brook has a much larger watershed. Both brooks are tributary to the Willimantic River.

The limits of the Study Area under existing and proposed conditions are shown on the attached Watershed Maps (WS-1 and WS-2), Scale 1"=100'. In addition to the Project Site, the Study Area includes portions of neighboring parcels that discharge runoff to the site including a small watercourse tributary to Eagleville Brook that enters the northeasterly portion of the site and flows through the property to the south where is continues to an existing 24" drainage culvert under Eagleville Road to Eagleville Brook.

Eagleville Brook is listed as an impaired watercourse by CTDEEP. Both Eagleville Brook and Cedar Swamp Brook are rated as B/A or B/AA water quality, meaning that the natural water quality is or may be threatened. Concerns with Eagleville Brook from both water quality and hydrological perspectives are well documented in several published studies, some of which remain ongoing. In addition, neighbors to the south of the project site down to Eagleville Road have expressed concerns with the effects of possible increases in flow caused by the development that could further exacerbate existing localized drainage issues they currently experience on their properties.

In order to assess the potential impacts to the downstream watersheds, the Study Area was divided into several subwatershed areas for both existing and proposed conditions. Each subwatershed area was analyzed separately and then combined to determine peak design flow at Design Points "X", "Y' and "Z". Under Existing Conditions, the Study Area (see Sheet WS-1) was broken up into nine (9) sub-watershed areas (A thru I) comprised of the Project Site (except for the westerly most portion of the property outside the development area), the portion of Carriage House Apartments to the north and residential properties to the east of Hunting Lodge Road that drain to the Project Site, and portions of the residential properties south of the Project Site down to Eagleville Road.

Under Proposed Conditions, the Study Area (see Sheet WS-2) is broken up similar to the Existing Conditions model. The Project Site is further broken up into 24 sub-watersheds that follow the drainage patterns created by the grading and drainage system layout in the proposed development.

Design Point "X" is located at the southerly side of the existing culverts under Eagleville Road. Design Point "Y" is located at the westerly portion of the site and indicates runoff to the Cedar Swamp Watershed. Design Point "Z" is located along the southerly property line of the Project Site at the point where the watercourse intersects the property line.

No credit was taken in the macro model calculations for infiltration or other LID design techniques that are included in the proposed site drainage system design. To be conservative, the drainage model treats all pavement types as impervious. The actual peak rates of runoff generated for all storm events will therefore be actually less than projected in the macro model results.

The design goals of the Stormwater Management Plan are as follows:

- Implement treatment systems to meet CTDEEP Water Quality standards
- Match or reduce peak flow rates for all design storm events to the Eagleville Brook Watershed analyzed at Design Points "X" and "Z"
- Minimize any increase in peak flow rates for all design storm events to the Cedar Swamp Watershed to a negligible amount
- Maintain flow rates to the vernal pool
- Maintain or reduce peak flow rates to the lots in abutting residential neighborhood to the south

Results and Conclusion

Initial modeling efforts indicated that substantial detention/retention capacity was needed for the drainage systems discharging to both watersheds in order to meet the goals of the design. The results of the analysis are summarized in Table 1.

Starting with Design Point "Y", the results of the macro hydraulic computer modeling indicate that the peak flow rates from the Project Site for the 2 thru 100-year storm events will be essentially maintained to the Cedar Swamp Brook Watershed. If you factor in the positive effects of the proposed infiltration system, natural storage of the downstream wetland corridor and the large heavily wooded upland along the entire westerly side of the site, peak flow rates, particularly for the more frequent storm events, will be considerably reduced under Proposed Conditions.

At the downstream Design Point "X" at Eagleville Road, there is very little change to peak flow rates and essentially no change to inlet elevations at the town owned culverts under the road. Therefore, there will be no measurable impact to the existing town drainage system or the downstream Eagleville Brook watershed.

At Design Point "Z", the model indicates there will be a measurable reduction in peak flow rates leaving the property for all storm events. Again, when you factor in effects of the infiltration system and other LID techniques incorporated into the analysis, there will a considerable reduction in peak flow leaving the site at the southerly property line under Proposed Conditions.

Separate calculations were completed for runoff to the vernal pool and the portion of the residential neighborhood abutting to the south. Table 2 includes results for the overland flow to the vernal pool. The calculations show that flow conditions under

Proposed Conditions essentially match existing flow conditions to the pool meeting one of the design goals.

Table 3 includes the results of the calculations for peak runoff to the abutting neighborhood. As indicated, the peak flow to the neighborhood from runoff from the Project Site will be reduced for all storm events.

In conclusion, the modeling results indicate that all design goals of the Stormwater Management Plan will be accomplished with implementation of the proposed plan.

Water Quality Volume (WQV), Groundwater Recharge Volume (GRV), Treatment Train Analysis

The calculations included in Appendix A provide a summary of the Water Quality Volume (WQV) calculations completed and indicates that more than sufficient capacity is provided through the combination of volumes in the infiltration systems and bio-retention basins.

With regards to Groundwater Recharge Volume (GRV), the underlying soil conditions in the development areas on the property fall generally as Group B soils meaning that they are somewhat conducive to groundwater infiltration techniques. A calculation for required GRV is included in Appendix A and indicates that more than sufficient capacity is provided through the combination of volumes in the proposed infiltration systems and bio-retention basins.

Treatment Train Efficiency Calculations for the few portions of the new drainage system not connected to the infiltrators prior to final discharge are included in Appendix A. The TSS removal rate was determined to exceed the CTDEEP minimum requirement of 80% using inline hydrodynamic separator units in the design.

G. DRIVEWAY DESIGN AND WETLAND CROSSINGS

In order to minimize impervious coverage, proposed driveway widths are limited to 24 feet. On the main driveway from Hunting Lodge Road, the applicant is proposing to use a pre-cast concrete arch bridge with block retaining walls on both sides to minimize the footprint of the embankment and span the wetland corridor, as illustrated on Sheet SDD-1. The proposed site driveway is located over what appears to be the remains of a gravel driveway that once served the property. There is a natural breech in the existing filled embankment that allows the watercourse to pass through. This does

create some ponding upstream of the crossing that the project wetlands consultant has recommended not be altered. The proposed crossing design eliminates any disturbance to the existing watercourse and minimizes the need to fill the adjoining wetland areas.

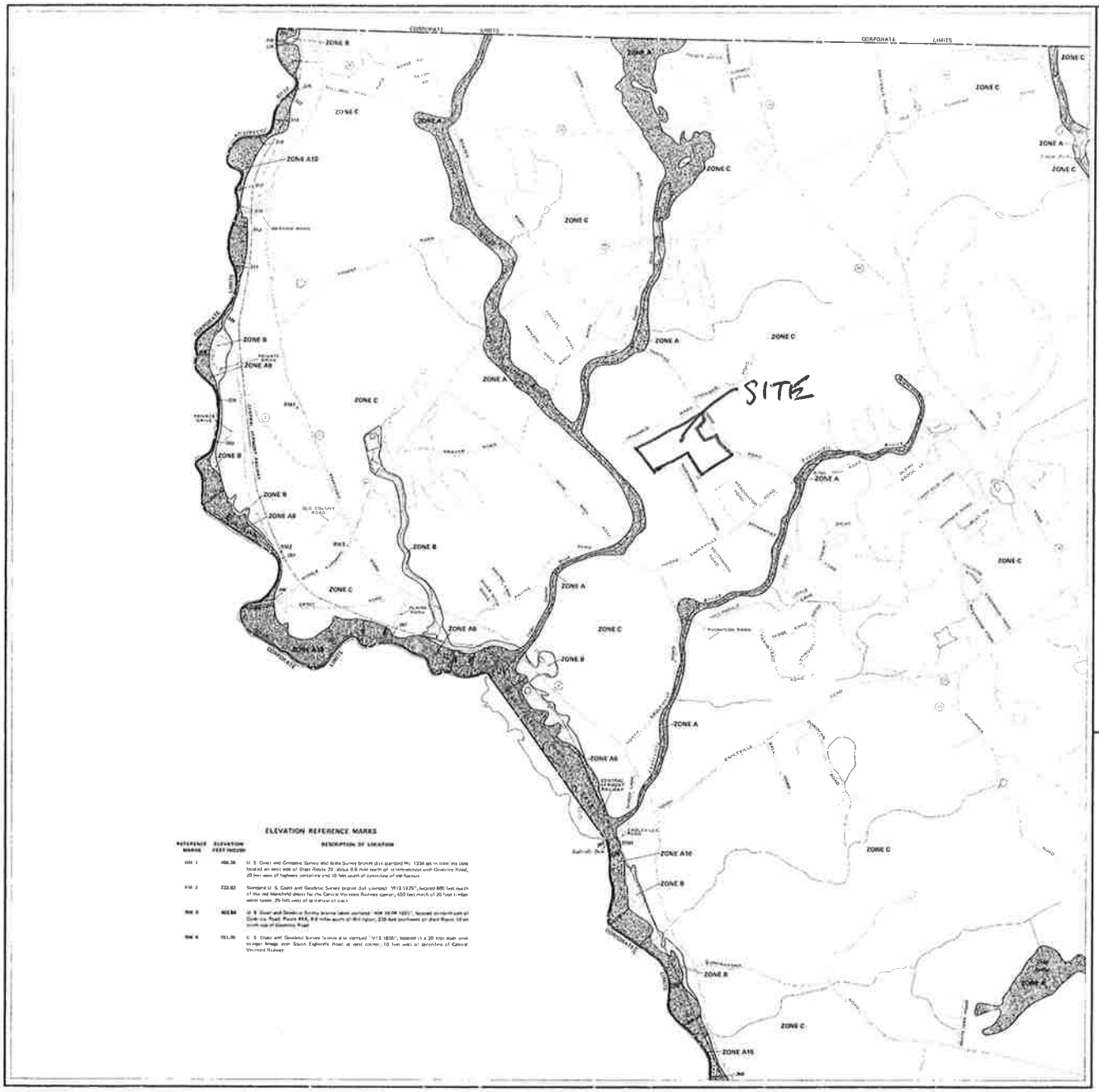
H. SOIL EROSION CONTROL PLAN

A soil and erosion control plan has been prepared in accordance with town and CTDEEP requirements. Prior to the start of site construction, the limits of clearing will be carefully staked out in the field and reviewed with town staff. Silt fencing will be installed around the entire perimeter of the site. Once the site clearing has been completed, rough grading of the site and installation of site improvements can commence.

The project contract specifications will require the contractor to prepare sub-phasing plans as the work progresses incorporating interim erosion control measures at every step. These plans will be submitted to the project engineer and construction manager for review and concurrence throughout the duration of site construction.

I. FEMA FLOOD ANALYSIS

According to the current FEMA FIRM for Eagleville Brook, no portion of the property falls within the Zone A (100-year BFE storm) limits.



KEY TO MAP

ZONE B

ZONE B

*EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
A5	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; no base flood elevations determined.
AH, AO	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
*	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to a 100-year flood but with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood (or shaded in some instances).
B	Areas of minimal flooding (no shading).
C	Areas of minimal flooding (no shading).
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

NOTES TO USER

Certain areas not in the 100-year flood hazard (Zones A and V) may be protected by flood control structures.

This map is for flood insurance purposes only; it does not necessarily show all areas subject to flooding in the community or all potential subdivisions or other flood-prone areas.

For adjacent map panels, see index printed Index To Map Panels.

INITIAL IDENTIFICATION
JANUARY 6, 1978
FLOOD HAZARD BOUNDARY MAP REVISIONS
OCTOBER 26, 1979
JUNE 30, 1980

FLOOD INSURANCE RATE MAP EFFECTIVE
JANUARY 2, 1981

FLOOD INSURANCE RATE MAP REVISIONS

Refer to the FLOOD INSURANCE RATE MAP EFFECTIVE date shown on this map to determine when actuarial rates apply to structures in the zones where elevations or depths have been established.

To determine if flood insurance is available in this community, contact your insurance agent, or call the National Flood Insurance Program at (800) 638-6620 or (800) 424-8872.

APPROXIMATE SCALE
1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

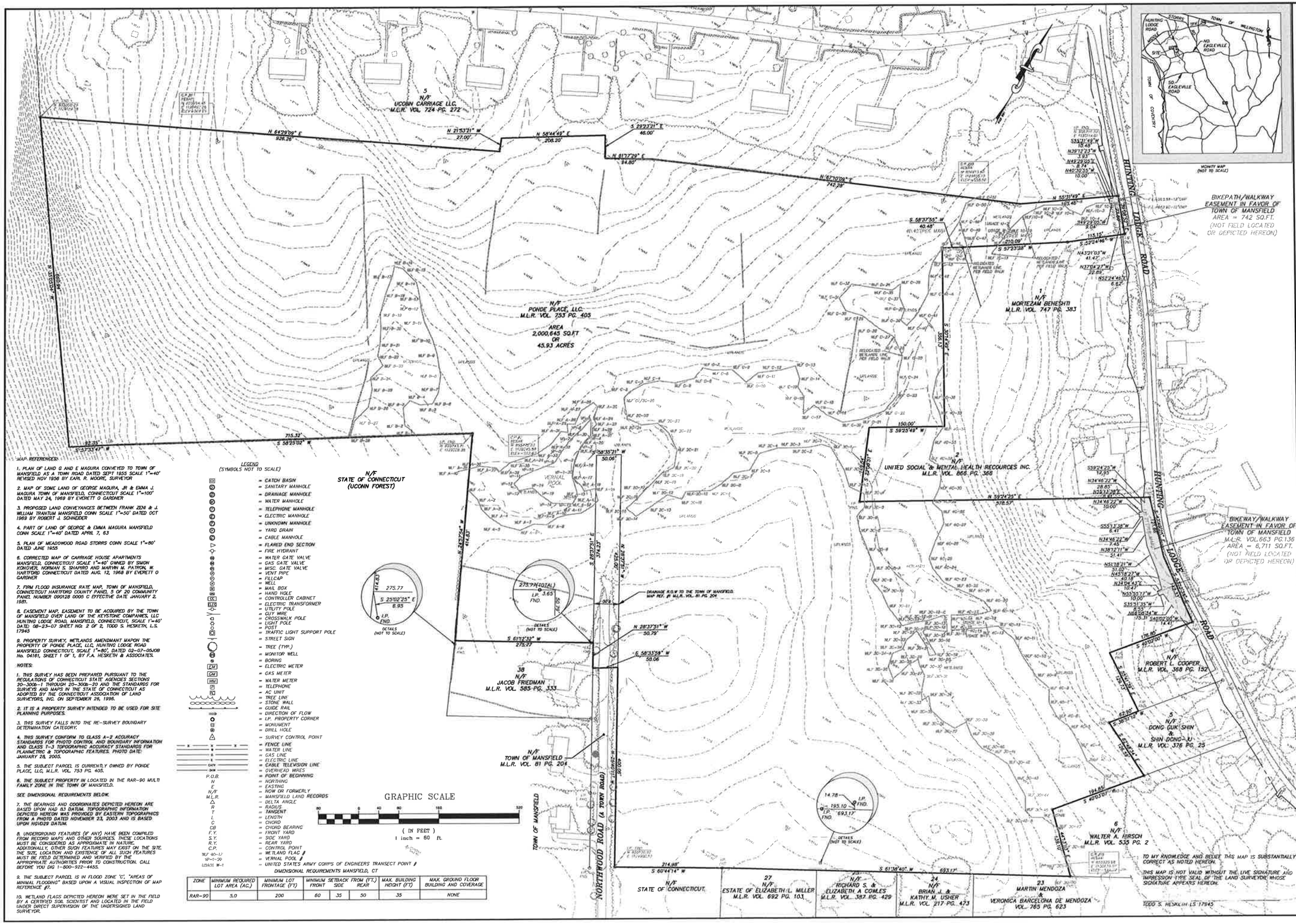
TOWN OF
MANSFIELD,
CONNECTICUT
TOLLAND COUNTY

PANEL 5 OF 20

COMMUNITY-PANEL NUMBER
090129 0005 C

EFFECTIVE DATE:
JANUARY 2, 1981

federal emergency management agency
federal insurance administration



MAP REFERENCES

1. PLAN OF LAND G AND E MAGURA CONVEYED TO TOWN OF MANSFIELD AS A TOWN ROAD DATED SEPT 1955 SCALE 1"=40' REVISED NOV 1956 BY EARL R. MOORE, SURVEYOR

2. MAP OF SOME LAND OF GEORGE MAGURA, JR & EMMA J. MAGURA TOWN OF MANSFIELD, CONNECTICUT SCALE 1"=100' DATED MAY 24, 1969 BY EVERETT O GARDNER

3. PROPOSED LAND CONVEYANCES BETWEEN FRANK ZEN & J. WILLIAM TRANTUM MANSFIELD CONN SCALE 1"=50' DATED OCT 1969 BY ROBERT J. SCHNEIDER

4. PART OF LAND OF GEORGE & EMMA MAGURA MANSFIELD CONN SCALE 1"=40' DATED APRIL 7, 63

5. PLAN OF MEADOWOOD ROAD STORRS CONN SCALE 1"=80' DATED JUNE 1955

6. CORRECTED MAP OF CARRIAGE HOUSE APARTMENTS MANSFIELD, CONNECTICUT SCALE 1"=40' OWNED BY SIMON KONOVER, NORMAN S. SHAPIRO AND MARVIN M. PATRON, W. HARTFORD CONNECTICUT DATED AUG. 12, 1968 BY EVERETT O GARDNER

7. FIRM FLOOD INSURANCE RATE MAP, TOWN OF MANSFIELD, CONNECTICUT HARTFORD COUNTY PANEL 5 OF 20 COMMUNITY PANEL NUMBER 090128 0005 C EFFECTIVE DATE JANUARY 2, 1981.

8. EASEMENT MAP, EASEMENT TO BE ACQUIRED BY THE TOWN OF MANSFIELD OVER LAND OF THE KEYSTONE COMPANIES, LLC HUNTING LODGE ROAD, MANSFIELD, CONNECTICUT, SCALE 1"=40' DATED: 08-23-07 SHEET NO. 2 OF 2, TODD S. HESKETH, L.S. 17945

9. PROPERTY SURVEY, WETLANDS AMENDMANT MAPON THE PROPERTY OF PONDE PLACE, LLC, HUNTING LODGE ROAD MANSFIELD CONNECTICUT, SCALE 1"=80', DATED 02-07-05JOB No. 04161, SHEET 1 OF 1, BY F.A. HESKETH & ASSOCIATES.

NOTES:

1. THIS SURVEY HAS BEEN PREPARED PURSUANT TO THE REGULATIONS OF CONNECTICUT STATE AGENCIES SECTIONS 20-300b-1 THROUGH 20-300b-20 AND THE STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPTEMBER 26, 1996.

2. IT IS A PROPERTY SURVEY INTENDED TO BE USED FOR SITE PLANNING PURPOSES.

3. THIS SURVEY FALLS INTO THE RE-SURVEY BOUNDARY DETERMINATION CATEGORY.

4. THIS SURVEY CONFORM TO CLASS A-2 ACCURACY STANDARDS FOR PHOTO CONTROL AND BOUNDARY INFORMATION AND CLASS T-3 TOPOGRAPHIC ACCURACY STANDARDS FOR PLANIMETRIC & TOPOGRAPHIC FEATURES. PHOTO DATE: JANUARY 28, 2005.

5. THE SUBJECT PARCEL IS CURRENTLY OWNED BY PONDE PLACE, LLC, M.L.R. VOL. 753 PG. 405.

6. THE SUBJECT PROPERTY IN LOCATED IN THE RAR-90 MULTI FAMILY ZONE IN THE TOWN OF MANSFIELD.

SEE DIMENSIONAL REQUIREMENTS BELOW.

7. THE BEARINGS AND COORDINATES DEPICTED HEREON ARE BASED UPON NAD 83 DATUM. TOPOGRAPHIC INFORMATION DEPICTED HEREON WAS PROVIDED BY EASTERN TOPOGRAPHICS FROM A PHOTO DATED NOVEMBER 23, 2003 AND IS BASED UPON NGVD29 DATUM.

8. UNDERGROUND FEATURES (IF ANY) HAVE BEEN COMPILED FROM RECORD MAPS AND OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED AS APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE. THE SIZE, LOCATION AND EXISTENCE OF ALL SUCH FEATURES MUST BE FIELD DETERMINED AND VERIFIED BY THE APPROPRIATE AUTHORITIES PRIOR TO CONSTRUCTION. CALL BEFORE YOU DIG 1-800-922-4455.

9. THE SUBJECT PARCEL IS IN FLOOD ZONE 'C', "AREAS OF MINIMAL FLOODING" BASED UPON A VISUAL INSPECTION OF MAP REFERENCE #7.

10. WETLAND FLAGS DEPICTED HEREON WERE SET IN THE FIELD BY A CERTIFIED SOIL SCIENTIST AND LOCATED IN THE FIELD UNDER DIRECT SUPERVISION OF THE UNDERSIGNED LAND SURVEYOR.

LEGEND
(SYMBOLS NOT TO SCALE)

- CB = CATCH BASIN
- SM = SANITARY MANHOLE
- DM = DRAINAGE MANHOLE
- WM = WATER MANHOLE
- TM = TELEPHONE MANHOLE
- EM = ELECTRIC MANHOLE
- UM = UNKNOWN MANHOLE
- YD = YARD DRAIN
- CM = CABLE MANHOLE
- FES = FLARED END SECTION
- FH = FIRE HYDRANT
- WGV = WATER GATE VALVE
- GGV = GAS GATE VALVE
- MGV = MISC. GATE VALVE
- VP = VENT PIPE
- FC = FILLCAP
- W = WELL
- MB = MAIL BOX
- HH = HAND HOLE
- CC = CONTROLLER CABINET
- ET = ELECTRIC TRANSFORMER
- UP = UTILITY POLE
- GW = GUY WIRE
- CW = CROSSWALK POLE
- LP = LIGHT POLE
- P = POST
- TL = TRAFFIC LIGHT SUPPORT POLE
- SS = STREET SIGN
- T = TREE (TYP.)
- MW = MONITOR WELL
- B = BORING
- EM = ELECTRIC METER
- GM = GAS METER
- WM = WATER METER
- TM = TELEPHONE
- AC = AC UNIT
- TL = TREE LINE
- SW = STONE WALL
- GR = GUIDE RAIL
- FL = DIRECTION OF FLOW
- IPC = I.P. PROPERTY CORNER
- M = MONUMENT
- DH = DRILL HOLE
- SCP = SURVEY CONTROL POINT
- FL = FENCE LINE
- WL = WATER LINE
- GL = GAS LINE
- EL = ELECTRIC LINE
- TL = CABLE TELEVISION LINE
- OHW = OVERHEAD WIRES
- P.O.B. = POINT OF BEGINNING
- N = NORTHING
- E = EASTING
- N/F = NOW OR FORMERLY
- M.L.R. = MANSFIELD LAND RECORDS
- Δ = DELTA ANGLE
- R = RADIUS
- T = TANGENT
- L = LENGTH
- C = CHORD
- CB = CHORD BEARING
- F.Y. = FRONT YARD
- S.Y. = SIDE YARD
- R.Y. = REAR YARD
- C.P. = CONTROL POINT
- WLF 40-17 = WETLAND FLAG #
- VP-17-39 = VERNAL POOL #
- USACE W-1 = UNITED STATES ARMY CORPS OF ENGINEERS TRANSECT POINT #

DIMENSIONAL REQUIREMENTS MANSFIELD, CT

ZONE	MINIMUM REQUIRED LOT AREA (AC.)	MINIMUM LOT FRONTAGE (FT)	MINIMUM SETBACK FROM (FT.) FRONT	SIDE	REAR	MAX. BUILDING HEIGHT (FT)	MAX. GROUND FLOOR BUILDING AND COVERAGE
RAR-90	5.0	200	60	35	50	35	NONE

TO MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

THIS MAP IS NOT VALID WITHOUT THE LIVE SIGNATURE AND IMPRESSION TYPE SEAL OF THE LAND SURVEYOR WHOSE SIGNATURE APPEARS HEREON.

TODD S. HESKETH LS 17945

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Revisions:

No.	Date	Description
1	06-27-07	MISC
2	10-27-15	WETLANDS / TITLE UPDATED
3	03-18-16	SUBMITTAL / TITLE

PROPERTY SURVEY
PREPARED FOR
STORRS LODGES, LLC.
HUNTING LODGE ROAD
MANSFIELD, CONNECTICUT

Date: 02-07-05 | Drawn by: RM | Job no: 04161
Scale: 1" = 80' | Checked by: TSH | Sheet no: 1 OF 1

PS-1

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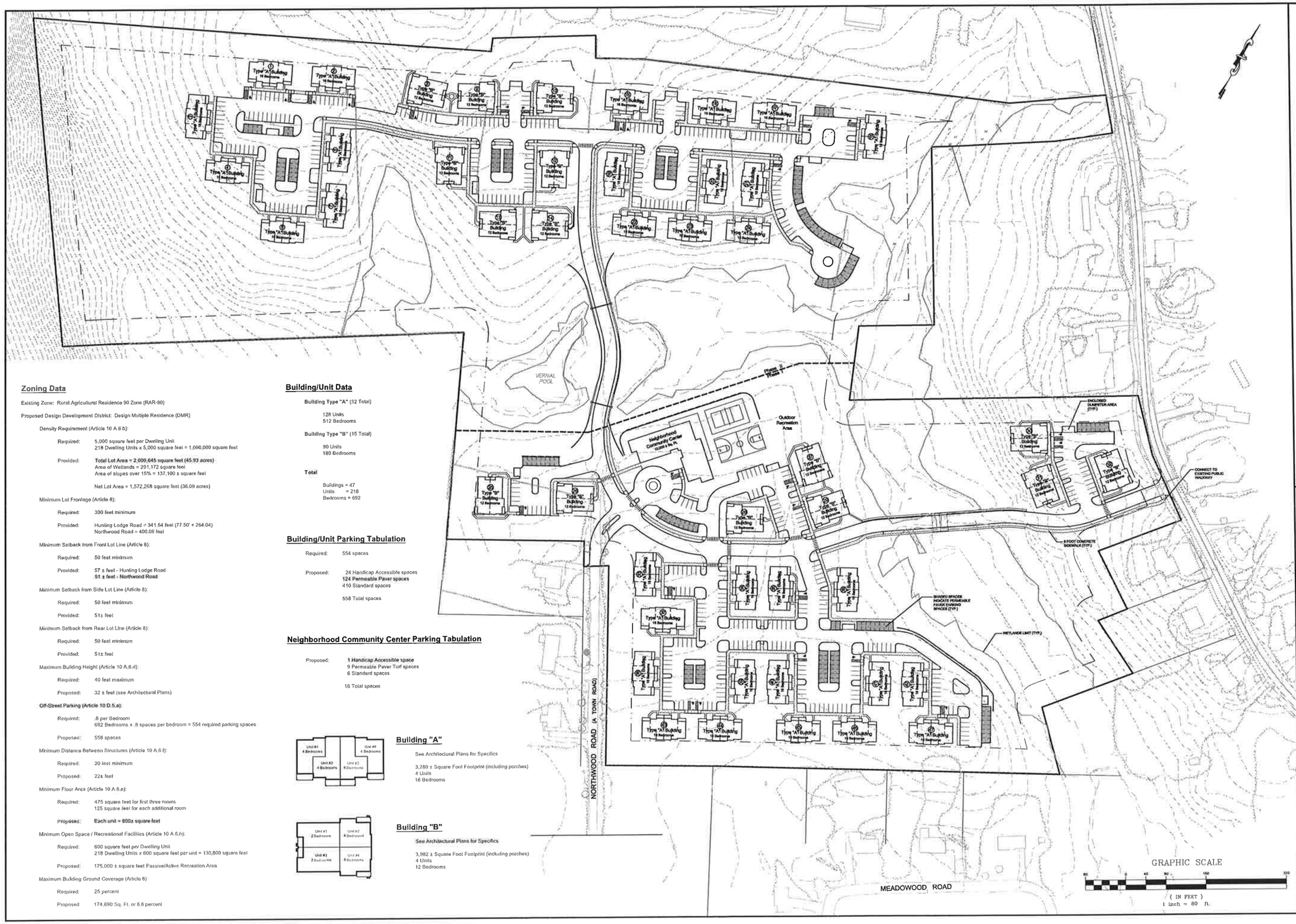

Zoning Data

Existing Zone: Rural Agricultural Residence 90 Zone (RAR-90)

Proposed Design Development District: Design Multiple Residence (DMR)

Density Requirement (Article 10 A.6.b):

Required: 5,000 square feet per Dwelling Unit
218 Dwelling Units x 5,000 square feet = 1,090,000 square feet

Provided: **Total Lot Area = 2,000,645 square feet (45.93 acres)**
Area of Wetlands = 291,172 square feet
Area of slopes over 15% = 137,100 ± square feet

Net Lot Area = 1,572,268 square feet (36.09 acres)

Minimum Lot Frontage (Article 8):

Required: 300 feet minimum

Provided: Hunting Lodge Road = 341.54 feet (77.50' + 264.04)
Northwood Road = 400.08 feet

Minimum Setback from Front Lot Line (Article 8):

Required: 50 feet minimum

Provided: 57 ± feet - Hunting Lodge Road
51 ± feet - Northwood Road

Minimum Setback from Side Lot Line (Article 8):

Required: 50 feet minimum

Provided: 51± feet

Minimum Setback from Rear Lot Line (Article 8):

Required: 50 feet minimum

Provided: 51± feet

Maximum Building Height (Article 10 A.6.d):

Required: 40 feet maximum

Proposed: 32 ± feet (see Architectural Plans)

Off-Street Parking (Article 10 D.5.a):

Required: .8 per Bedroom
692 Bedrooms x .8 spaces per bedroom = 554 required parking spaces

Proposed: 558 spaces

Minimum Distance Between Structures (Article 10 A.6.f):

Required: 20 feet minimum

Proposed: 22± feet

Minimum Floor Area (Article 10 A.6.e):

Required: 475 square feet for first three rooms
125 square feet for each additional room

Proposed: **Each unit = 800± square feet**

Minimum Open Space / Recreational Facilities (Article 10 A.6.h):

Required: 600 square feet per Dwelling Unit
218 Dwelling Units x 600 square feet per unit = 130,800 square feet

Proposed: 175,000 ± square feet Passive/Active Recreation Area

Maximum Building Ground Coverage (Article 8)

Required: 25 percent

Proposed 174,690 Sq. Ft. or 8.8 percent

Building/Unit Data

Building Type "A" (32 Total)

128 Units
512 Bedrooms

Building Type "B" (15 Total)

90 Units
180 Bedrooms

Total

Buildings = 47
Units = 218
Bedrooms = 692

Building/Unit Parking Tabulation

Required: 554 spaces

Proposed: 24 Handicap Accessible spaces
124 Permeable Paver spaces
410 Standard spaces

558 Total spaces

Neighborhood Community Center Parking Tabulation

Proposed: **1 Handicap Accessible space**
9 Permeable Paver Turf spaces
6 Standard spaces

16 Total spaces

Building "A"

See Architectural Plans for Specifics

3,280 ± Square Foot Footprint (including porches)
4 Units
16 Bedrooms

Building "B"

See Architectural Plans for Specifics

3,982 ± Square Foot Footprint (including porches)
4 Units
12 Bedrooms

THE LODGES AT STORRS

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Phone (860) 653-8000
Fax: (860) 844-8600
e-mail mail@fahesketh.com

No.	Date	Description

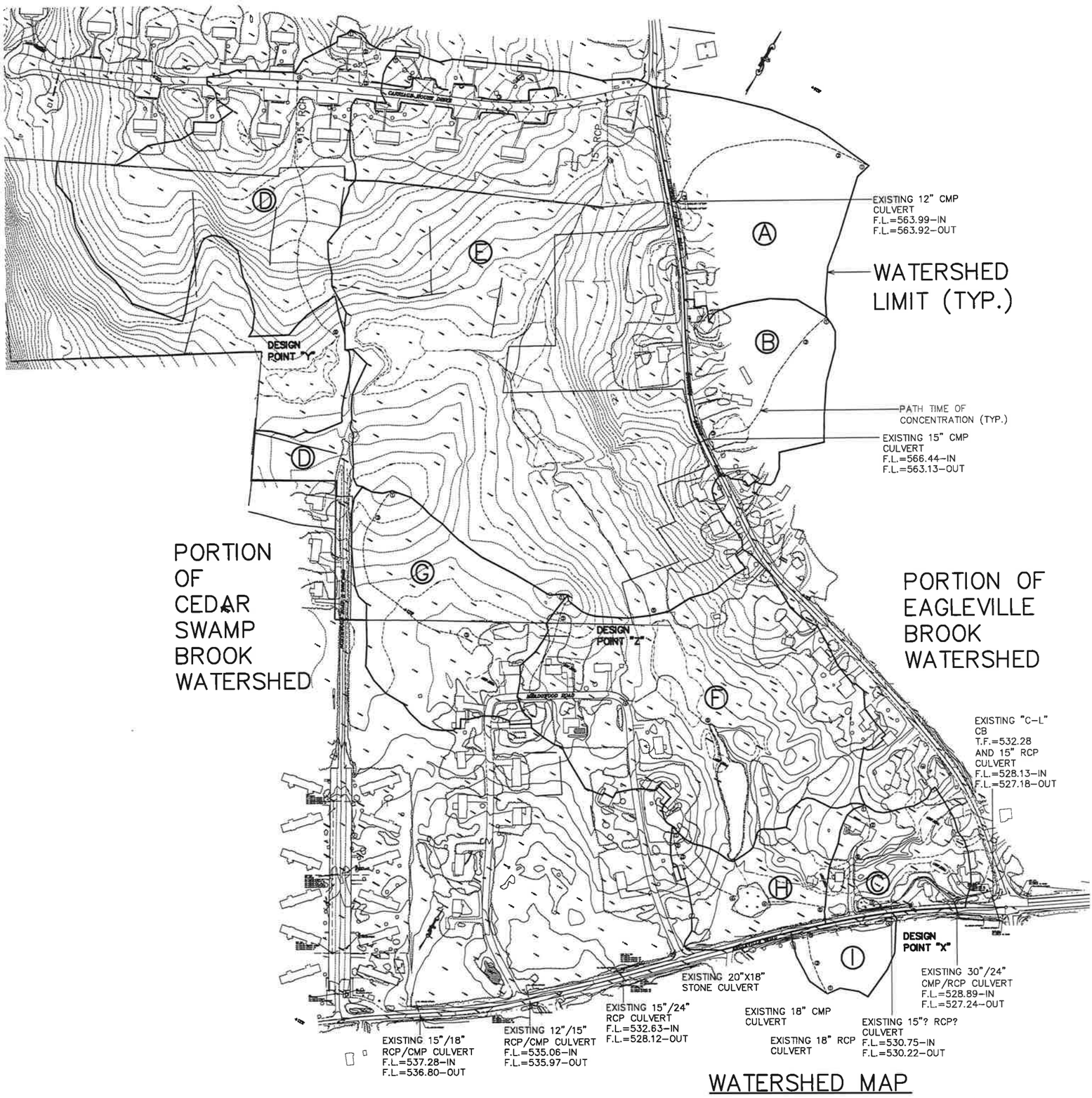
Revisions:

MASTER PLAN
PREPARED FOR
STORRS LODGES, LLC
HUNTING LODGE ROAD
MANSFIELD, CONNECTICUT

Date: 03-18-2016 | Drawn by: KLL | Job no: 04161
Scale: 1" = 80' | Checked by: DSZ | Sheet no: 1 OF 1

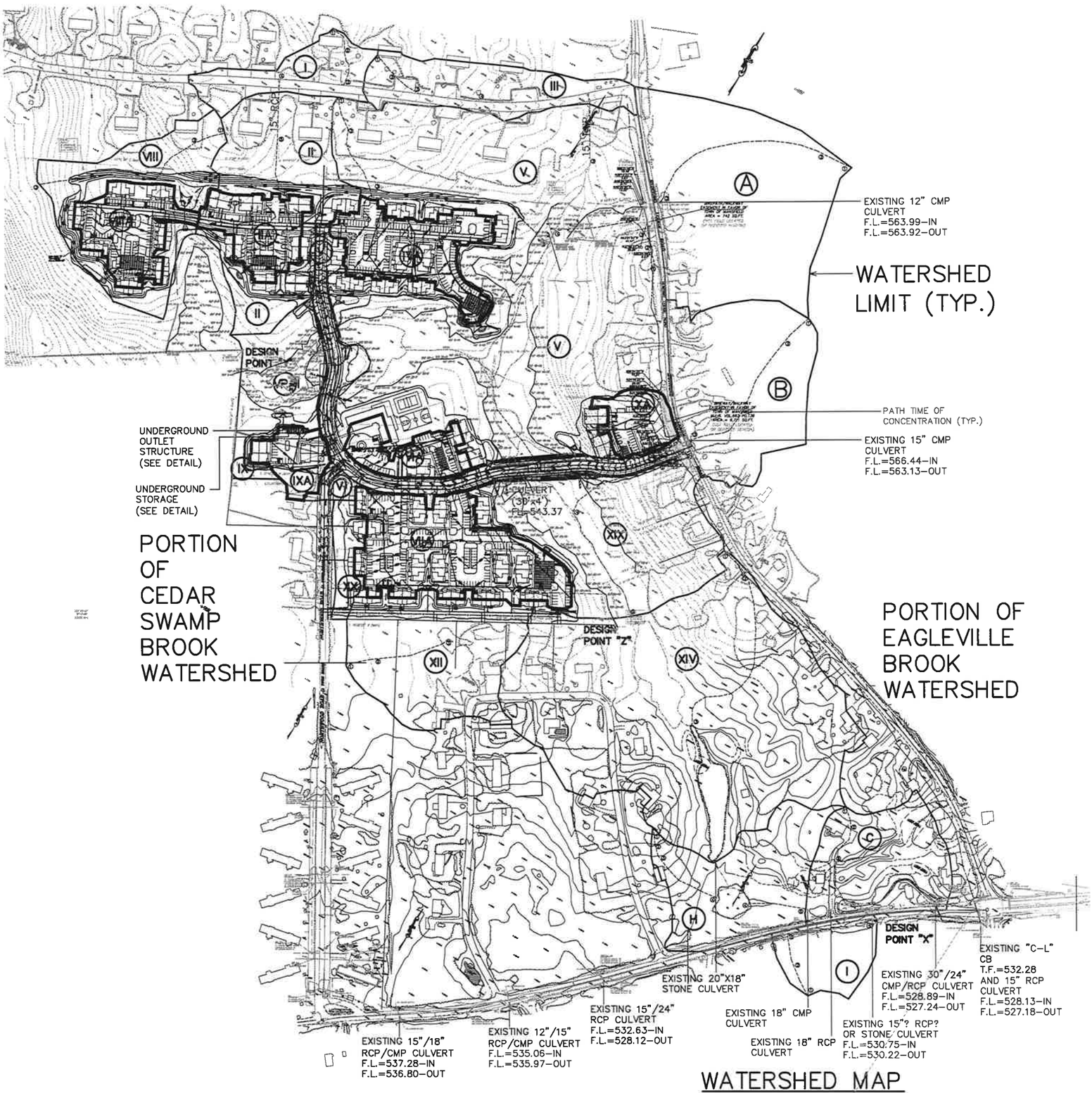
MA-1

© 2003-4\04161\2016 - January\Lodges102.dwg, MA-1, Mar. 17, 2016 - 3:48:51 PM



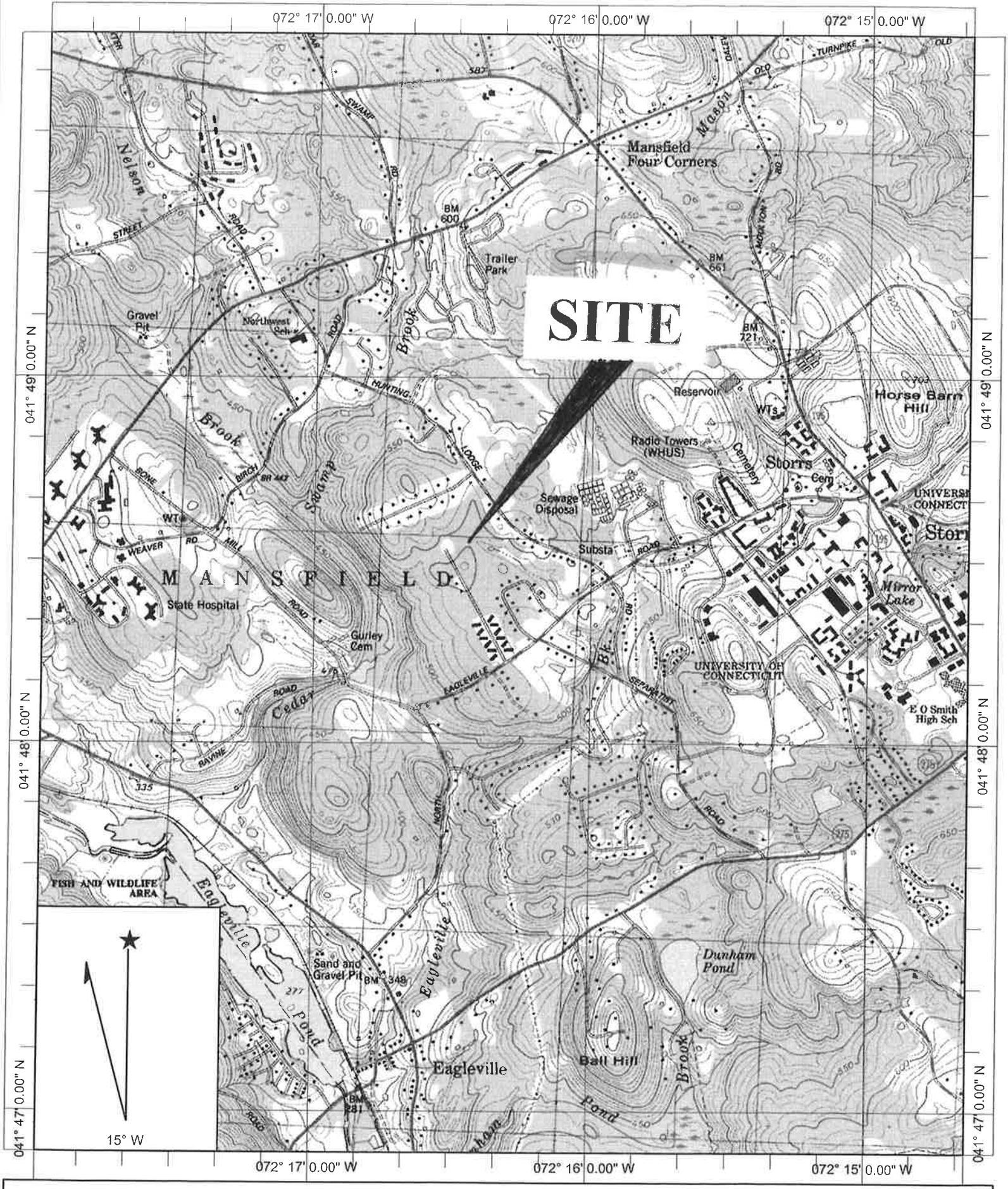
WATERSHED MAP
EXISTING CONDITIONS/WS-1

SCALE: 1"=150'
Revised: 3/18/16
Revised: 3/24/16



WATERSHED MAP
PROPOSED CONDITIONS/WS-2

SCALE: 1"=150'
3/18/2016
Revised: 3/24/2016



Name: COVENTRY
Date: 6/4/2007
Scale: 1 inch equals 2000 feet

Location: 041° 48' 24.8" N 072° 16' 18.6" W
Caption: LOCATION MAP
1"=200'

Copyright (C) 1997, Maptech, Inc.

PEAK FLOW SUMMARY-TABLE 1

EXISTING AND PROPOSED CONDITIONS

STORRS LODGES, CT

PLANS DATED 3/24/2016

STORM EVENT	EXISTING CONDITIONS							PROPOSED CONDITIONS						
	DESIGN POINT "X"			DESIGN POINT "Y"	DESIGN POINT "Z"			DESIGN POINT "X"			DESIGN POINT "Y"	DESIGN POINT "Z"		
	IN	OUT	ELEV	IN	IN	OUT	ELEV	IN	OUT	ELEV	IN	IN	OUT	ELEV
2(1)	3.6(2)	3.3	529.64(3)	10	22.7	8.7	541.9	3.6	3.3	529.64	9.9	13.7	7.8	541.81
10	5.2	4.6	529.83	14.4	33.6	16.3	542.1	5.2	4.7	529.83	13.6	21.2	14.1	542.06
25	6.1	5.4	529.92	16.9	39.6	20.4	542.15	6.1	5.4	529.92	15.7	26.4	17.9	542.12
50	6.8	6	529.99	18.8	44.2	23.6	542.2	6.8	6	529.99	17.2	30.6	20.9	542.16
100	7.4	6.6	530.05	20.7	48.8	28	542.23	7.4	6.6	530.05	18.7	35	24	542.2

(1) Return period (Years)
(2) Flow (CFS)
(3) Elevation (FT)

Design Point "X"- Eagleville Brook Watershed (North Eagleville Road)
Design Point "Y"- Cedar Swamp Brook Watershed (Northwood Road)
Design Point "Z"- Access Road (From Hunting Lodge Road)

PEAK FLOW SUMMARY-TABLE 2

VERNAL POOL #1

STORRS LODGES, CT

PLANS DATED 3/24/2016

STORM EVENT	EXISTING CONDITIONS			PROPOSED CONDITIONS		
	WATERSHED K			WATERSHED VP #1, II, IIA, IX & IXA		
	IN	**OUT**	**ELEV**	**IN**	**OUT**	**ELEV**
2(1)	**6.6(2)**	**0**	**550.07(3)**	**6**	**0**	**550.09**
10	**9.5**	**0**	**550.24**	**8.2**	**0**	**550.25**
25	**11.2**	**0**	**550.34**	**9.5**	**0**	**550.34**
50	**12.4**	**0**	**550.41**	**10.4**	**0**	**550.41**
100	**13.6**	**0**	**550.48**	**11.3**	**0**	**550.47**

(1) Return period (Years)
(2) Flow (CFS)
(3) Elevation (FT)

Design Point "X"- Eagleville Brook Watershed (North Eagleville Road)
Design Point "Y"- Cedar Swamp Brook Watershed (Northwood Road)
Design Point "Z"- Access Road (From Hunting Lodge Road)

PEAK FLOW SUMMARY-TABLE 3

WATERSHED G vs XII

STORRS LODGES, CT

PLANS DATED 3/24/2016

STORM EVENT	EXISTING CONDITIONS			PROPOSED CONDITIONS		
	WATERSHED "G"			WATERSHED "XII"		
	IN	OUT	ELEV	IN	OUT	ELEV
2(1)	4.2(2)	0	546.2(3)	3.1	0	546.14
10	6.1	0	546.31	4.6	0	546.22
25	7.2	0	546.38	5.4	0	546.27
50	8	0	546.42	6	0	546.31
100	8.7	0	546.47	6.7	0	546.34

(1) Return period (Years)
(2) Flow (CFS)
(3) Elevation (FT)

Design Point "X"- Eagleville Brook Watershed (North Eagleville Road)
Design Point "Y"- Cedar Swamp Brook Watershed (Northwood Road)
Design Point "Z"- Access Road (From Hunting Lodge Road)

APPENDIX A

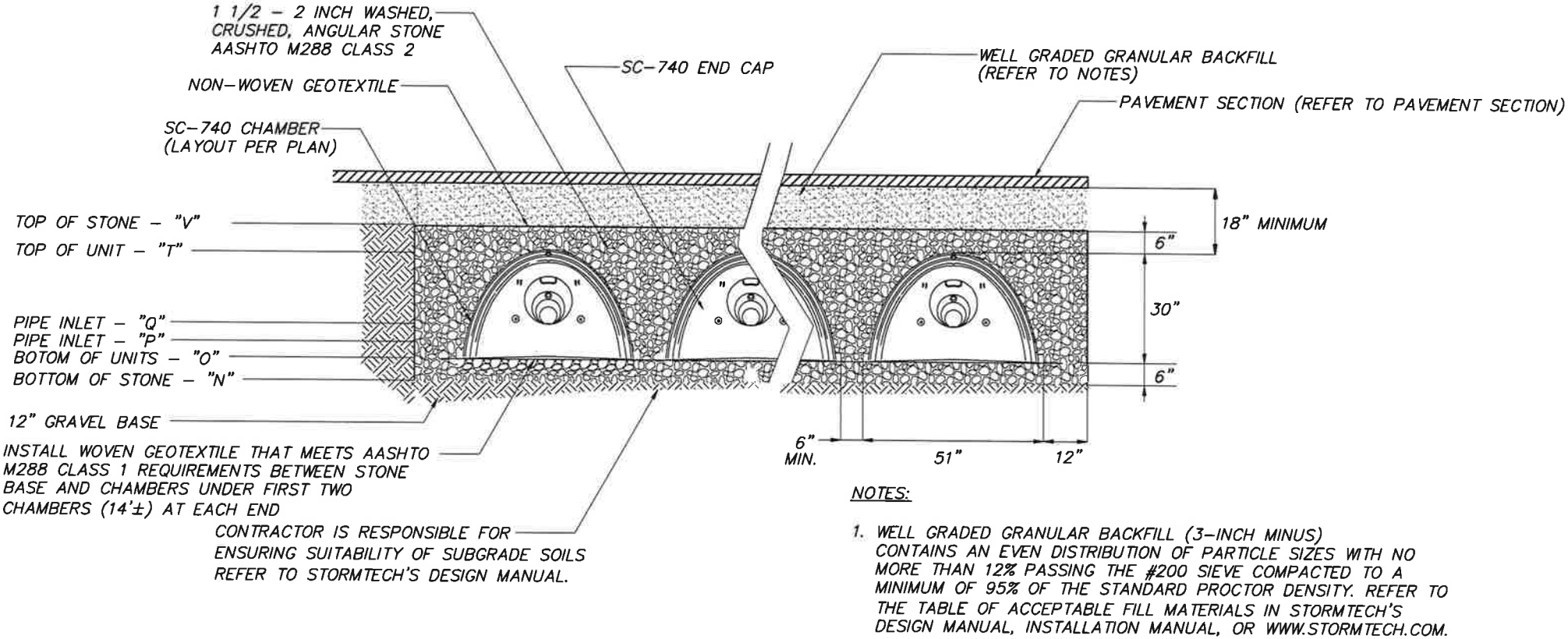
MACRO HYDROLOGIC ANALYSIS

STORRS LODGES
MANSFIELD, CT

March 18, 2016
Revised March 24, 2016

FAHA Project #04161

INPUT DATA

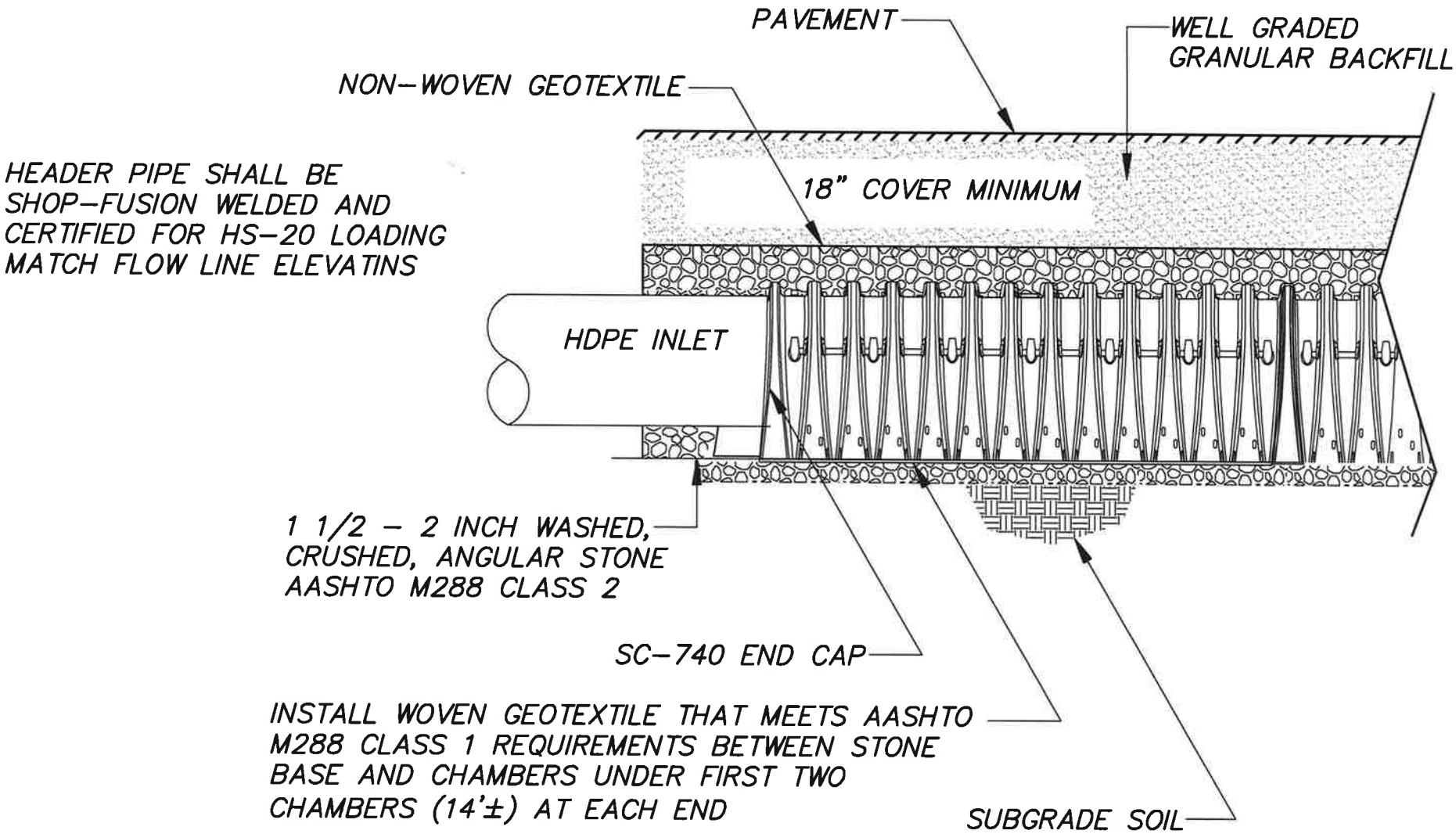


NOTES:

1. WELL GRADED GRANULAR BACKFILL (3-INCH MINUS) CONTAINS AN EVEN DISTRIBUTION OF PARTICLE SIZES WITH NO MORE THAN 12% PASSING THE #200 SIEVE COMPACTED TO A MINIMUM OF 95% OF THE STANDARD PROCTOR DENSITY. REFER TO THE TABLE OF ACCEPTABLE FILL MATERIALS IN STORMTECH'S DESIGN MANUAL, INSTALLATION MANUAL, OR WWW.STORMTECH.COM.

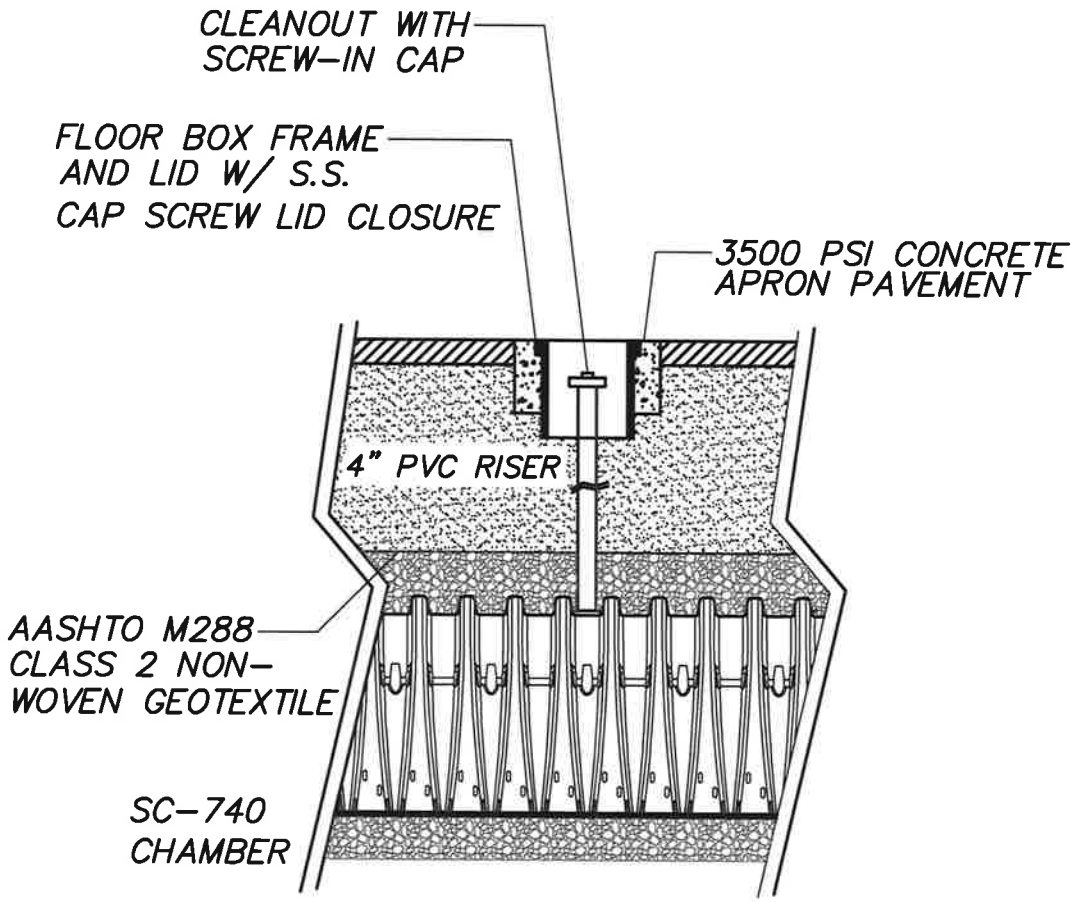
STORMTECH SC-740 CHAMBER SYSTEM
TYPICAL CROSS SECTION

N.T.S.



STORMTECH SC-740 CHAMBER SYSTEM
TYPICAL PROFILE - INLET ROW

N.T.S.



*REFER TO STORMTECH'S DESIGN MANUAL

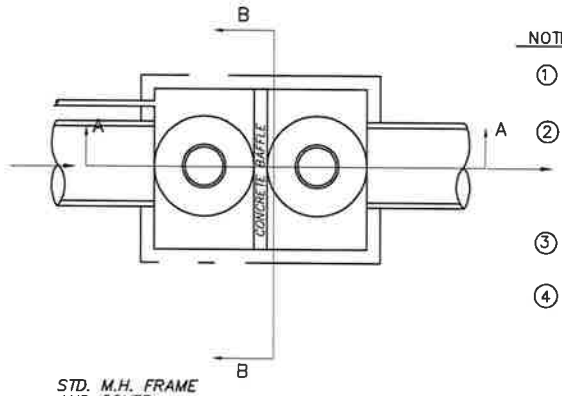
STORMTECH SC-740 CHAMBER SYSTEM INSPECTION PORT DETAIL

N.T.S.

	#	IIA	IVA	VIA	VIIA	VIIIA	IXA	XA
TOP OF STONE ("T"+6")	"V"	563.00	553.00	551.00	547.00	560.00	554.67	558.00
TOP OF UNIT ("O"+30")	"T"	562.50	552.50	550.50	546.50	559.50	554.17	557.50
PIPE INLET	"Q"	18"	18"	18"	18",15"	18"	12"	15"
		560.00	550.00	548.00	544.00	557.00	551.67	555.00
PIPE OUTLET	"P"	24"	18"	18"	24"	18"	12"	15"
		560.00	550.00	548.00	544.00	557.00	551.67	555.00
BOTTOM OF UNITS	"O"	560.00	550.00	548.00	544.00	557.00	551.67	555.00
BOTTOM OF STONE ("O"−6")	"N"	559.50	549.50	547.50	543.50	556.50	551.17	554.50

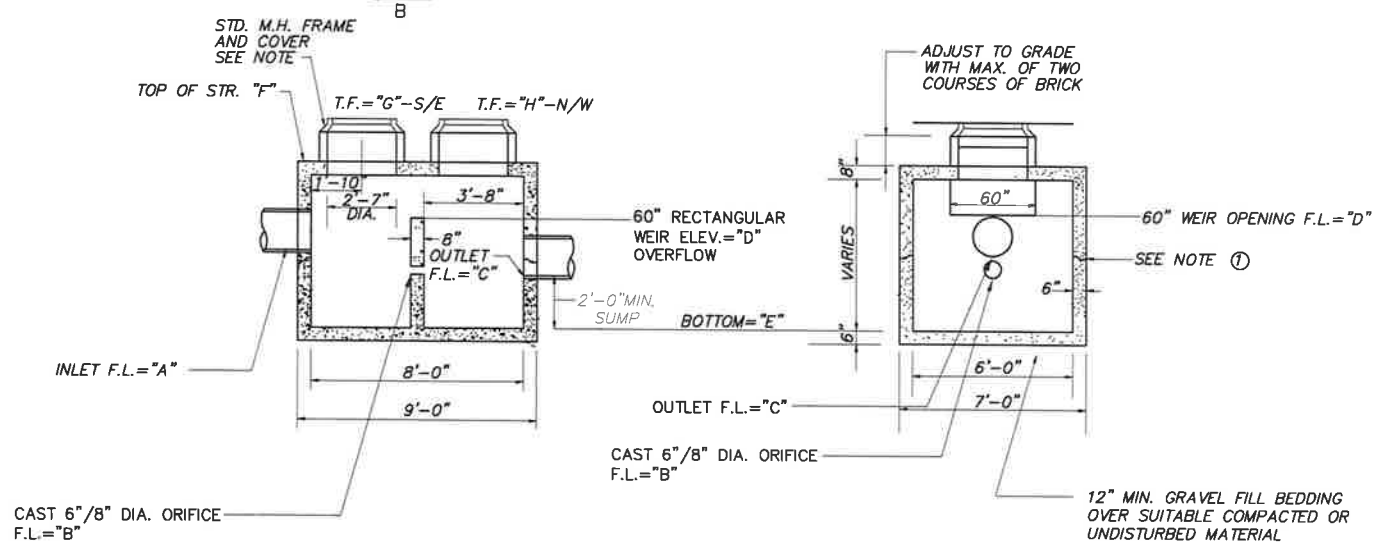
	#	IIA	IVA	VIA	VIIA	VIIIA	IXA	XA
INLET	"A"	24"	18"	18"	24"	18"	12"	15"
		560.00	550.00	548.00	544.00	557.00	551.67	555.00
ORIFICE (="O") *	"B"	560.00	550.00	548.00	544.00	557.00	551.67	555.00
OUTLET	"C"	18"	18"	15"	18"	15"	12"	15"
		559.90	550.00	547.74	544.00	556.35	551.67	554.00
WEIR ("B"+36")	"D"	563.00	553.00	551.00	547.81	560.00	554.67	558.00
BOTTOM ("C"-24")	"E"	557.90	548.00	545.74	542.00	554.35	549.67	552.00
TOP OF STR.	"F"	564.90	555.00	552.74	548.50	561.35	556.17	559.50
T.F. SOUTH OR EAST	"G"	567.55	556.27	556.66	549.57	563.30	556.67	561.20
T.F. NORTH OR WEST	"H"	567.45	556.21	556.75	549.55	563.50	556.70	561.40

* ALL ORIFICES ARE 6" EXCEPT FOR VIIIA = 8"



NOTES:

1. CONSTRUCTION JOINT – SEALED WITH 1" DIA. BUTYL RUBBER OR EQUIVALENT.
2. DESIGN LOADING – STANDARD UNITS: AASHTO H10–44.
   OPTIONAL UNITS: AASHTO HS20–44.
   STEEL REINFORCEMENT – ASTM A615, GRADE 60, 1" MIN. COVER.
   CONCRETE MINIMUM STRENGTH– 5,000 P.S.I. @ 28 DAYS.
   MAXIMUM HEIGHT OF EACH ADDITIONAL PIECE 4'–0".
3. MAXIMUM INSIDE HEIGHT FOR 2 PIECE CHAMBER 8'–0". ROOF AND SIDE WALL OPENINGS AS SPECIFIED.
4. ADJUST M.H. FRAME TO SUIT REQUIRED FIELD HEIGHT.



SECTION A–A

SECTION B–B

UNDERGROUND STORAGE OUTLET STRUCTURE # IIA, IVA, VIA, VIIA, VIIIA, IXA, & XA.

N.T.S.

THE LODGES AT STORRS
Mansfield, CT
Storage Capacity
Stormtech Units SC-740

STAGE	ELEVATION (Ft.)	INCREMENTAL STORAGE (C.F.)	TOTAL STORAGE (C.F.)	TOTAL INCREMENTAL STORAGE (C.F.)	TOTAL STORAGE (C.F.)	14 UNITS
0.00	27.50	0.00	0.00		0.00	
0.50	28.00	6.76	6.76	94.64	94.64	
1.00	28.50	14.55	21.31	203.70	298.34	
1.50	29.00	13.92	35.23	194.88	493.22	
2.00	29.50	12.96	48.19	181.44	674.66	
2.50	30.00	11.47	59.66	160.58	835.24	
3.00	30.50	8.48	68.14	118.72	953.96	
3.50	31.00	6.76	74.90	94.64	1048.60	

THE LODGES AT STORRS
Mansfield, CT
Storage Capacity
Stormtech Units SC-740

STAGE	ELEVATION (Ft.)	INCREMENTAL STORAGE (C.F.)	TOTAL STORAGE (C.F.)	TOTAL INCREMENTAL STORAGE (C.F.)	TOTAL STORAGE (C.F.)	20 UNITS
0.00	27.50	0.00	0.00		0.00	
0.50	28.00	6.76	6.76	135.20	135.20	
1.00	28.50	14.55	21.31	291.00	426.20	
1.50	29.00	13.92	35.23	278.40	704.60	
2.00	29.50	12.96	48.19	259.20	963.80	
2.50	30.00	11.47	59.66	229.40	1193.20	
3.00	30.50	8.48	68.14	169.60	1362.80	
3.50	31.00	6.76	74.90	135.20	1498.00	

THE LODGES AT STORRS
Mansfield, CT
Storage Capacity
Stormtech Units SC-740

STAGE	ELEVATION (Ft.)	INCREMENTAL STORAGE (C.F.)	TOTAL STORAGE (C.F.)	TOTAL INCREMENTAL STORAGE (C.F.)	TOTAL STORAGE (C.F.)	50 UNITS
0.00	27.50	0.00	0.00		0.00	
0.50	28.00	6.76	6.76	338.00	338.00	
1.00	28.50	14.55	21.31	727.50	1065.50	
1.50	29.00	13.92	35.23	696.00	1761.50	
2.00	29.50	12.96	48.19	648.00	2409.50	
2.50	30.00	11.47	59.66	573.50	2983.00	
3.00	30.50	8.48	68.14	424.00	3407.00	
3.50	31.00	6.76	74.90	338.00	3745.00	

THE LODGES AT STORRS
Mansfield, CT
Storage Capacity
Stormtech Units SC-740

STAGE	ELEVATION (Ft.)	INCREMENTAL STORAGE (C.F.)	TOTAL STORAGE (C.F.)	TOTAL INCREMENTAL STORAGE (C.F.)	TOTAL STORAGE (C.F.)	70 UNITS
0.00	27.50	0.00	0.00		0.00	
0.50	28.00	6.76	6.76	473.20	473.20	
1.00	28.50	14.55	21.31	1018.50	1491.70	
1.50	29.00	13.92	35.23	974.40	2466.10	
2.00	29.50	12.96	48.19	907.20	3373.30	
2.50	30.00	11.47	59.66	802.90	4176.20	
3.00	30.50	8.48	68.14	593.60	4769.80	
3.50	31.00	6.76	74.90	473.20	5243.00	

THE LODGES AT STORRS
Mansfield, CT
Storage Capacity
Stormtech Units SC-740

STAGE	ELEVATION (Ft.)	INCREMENTAL STORAGE (C.F.)	TOTAL STORAGE (C.F.)	TOTAL INCREMENTAL STORAGE (C.F.)	TOTAL STORAGE (C.F.)	90 UNITS
0.00	27.50	0.00	0.00		0.00	
0.50	28.00	6.76	6.76	608.40	608.40	
1.00	28.50	14.55	21.31	1309.50	1917.90	
1.50	29.00	13.92	35.23	1252.80	3170.70	
2.00	29.50	12.96	48.19	1166.40	4337.10	
2.50	30.00	11.47	59.66	1032.30	5369.40	
3.00	30.50	8.48	68.14	763.20	6132.60	
3.50	31.00	6.76	74.90	608.40	6741.00	

THE LODGES AT STORRS
Mansfield, CT
Storage Capacity
Stormtech Units SC-740

STAGE	ELEVATION (Ft.)	INCREMENTAL STORAGE (C.F.)	TOTAL STORAGE (C.F.)	TOTAL INCREMENTAL STORAGE (C.F.)	TOTAL 100 UNITS STORAGE (C.F.)
0.00	27.50	0.00	0.00		0.00
0.50	28.00	6.76	6.76	676.00	676.00
1.00	28.50	14.55	21.31	1455.00	2131.00
1.50	29.00	13.92	35.23	1392.00	3523.00
2.00	29.50	12.96	48.19	1296.00	4819.00
2.50	30.00	11.47	59.66	1147.00	5966.00
3.00	30.50	8.48	68.14	848.00	6814.00
3.50	31.00	6.76	74.90	676.00	7490.00

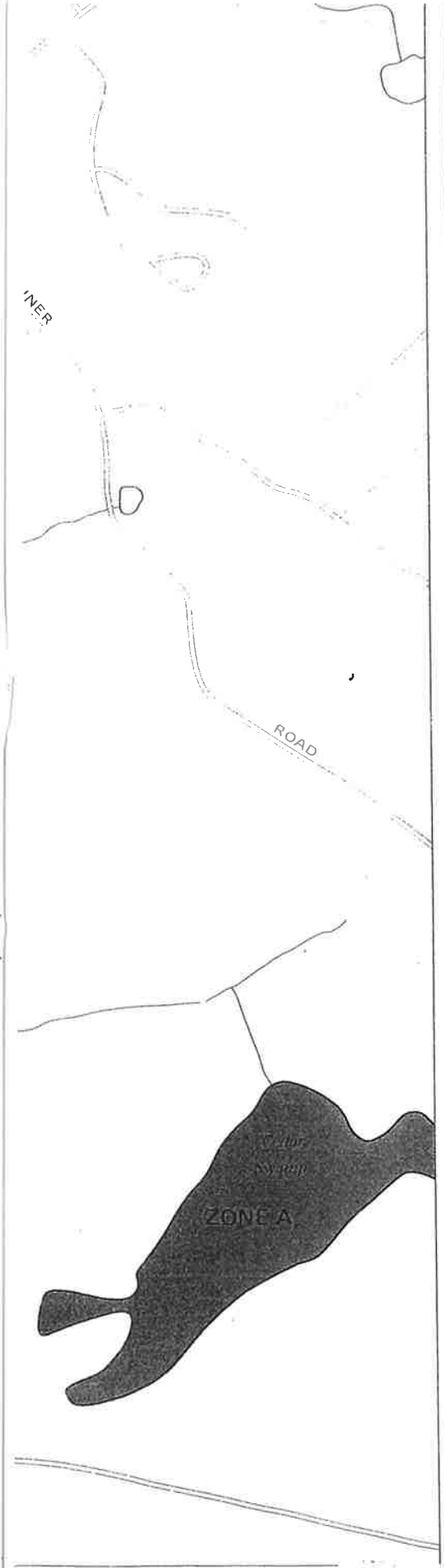
THE LODGES AT STORRS
Mansfield, CT
Storage Capacity
Stormtech Units SC-740

STAGE	ELEVATION (Ft.)	INCREMENTAL STORAGE (C.F.)	TOTAL STORAGE (C.F.)	TOTAL INCREMENTAL STORAGE (C.F.)	TOTAL 150 UNITS STORAGE (C.F.)
0.00	27.50	0.00	0.00		0.00
0.50	28.00	6.76	6.76	1014.00	1014.00
1.00	28.50	14.55	21.31	2182.50	3196.50
1.50	29.00	13.92	35.23	2088.00	5284.50
2.00	29.50	12.96	48.19	1944.00	7228.50
2.50	30.00	11.47	59.66	1720.50	8949.00
3.00	30.50	8.48	68.14	1272.00	10221.00
3.50	31.00	6.76	74.90	1014.00	11235.00

To determine if flood insurance is available in this community, contact your insurance agent, or call the National Flood Insurance Program, at (800) 638-6620, or (800) 424-8872.

APPROXIMATE SCALE

1000 0 1000 FEET



NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

TOWN OF
MANSFIELD,
CONNECTICUT
TOLLAND COUNTY

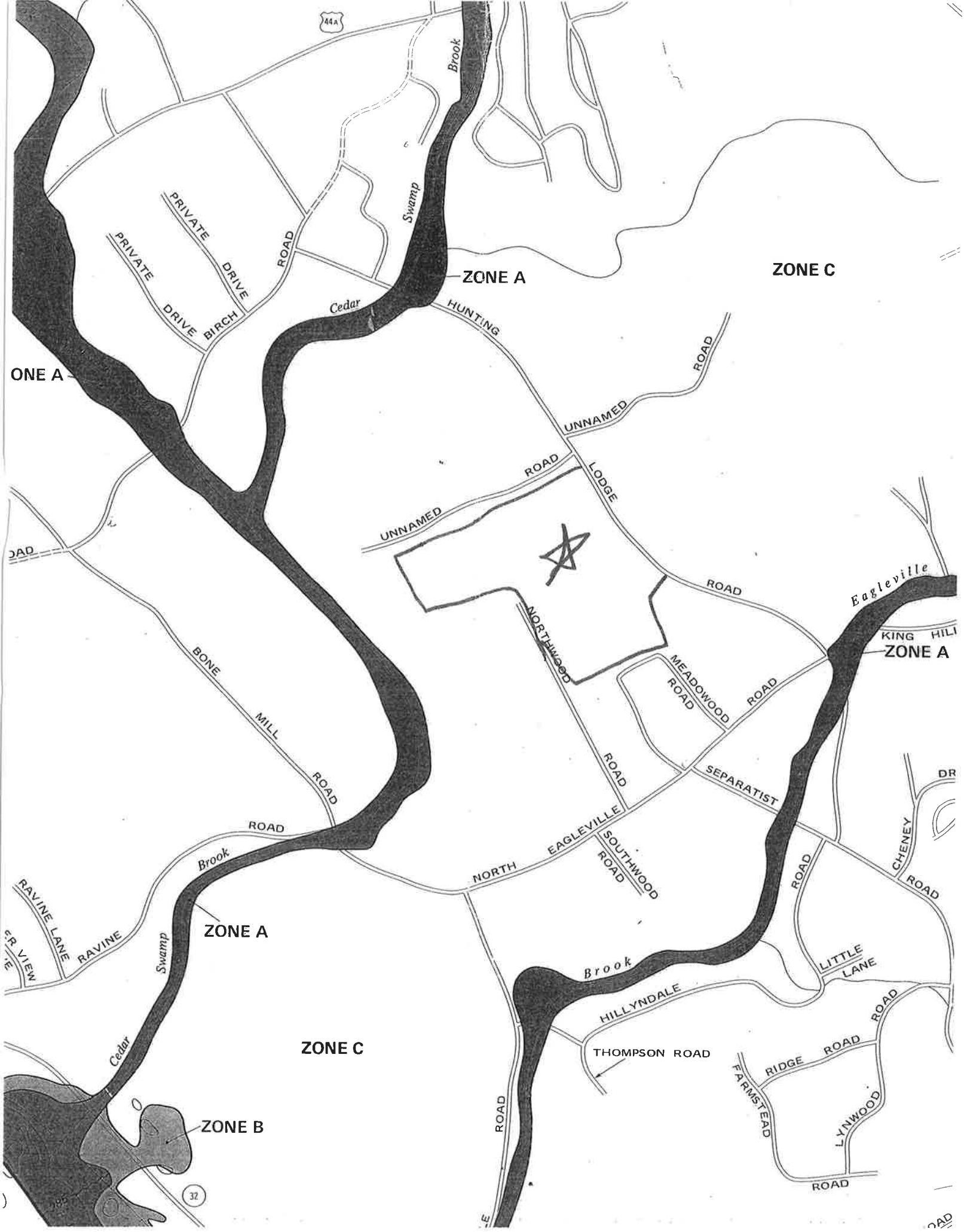
PANEL 5 OF 20

COMMUNITY-PANEL NUMBER
090128 0005 C

EFFECTIVE DATE:
JANUARY 2, 1981

federal emergency management agency
federal insurance administration

NORTHWEST


44A
Brook
Swamp
Cedar
PRIVATE DRIVE
PRIVATE DRIVE
BIRCH ROAD
ZONE A
ZONE C
HUNTING ROAD
UNNAMED ROAD
UNNAMED ROAD
LODGE ROAD
ROAD
Eagleville
KING HILL
ZONE A
NORTHWOOD ROAD
MEADOWOOD ROAD
ROAD
BONE MILL ROAD
SEPARATIST ROAD
DR
CHENEY ROAD
ROAD
NORTH EAGLEVILLE ROAD
SOUTHWOOD ROAD
ROAD
Brook
RAVINE LANE
RAVINE
ZONE A
Swamp
Cedar
LITTLE LANE
Brook
HILLYNDALE ROAD
THOMPSON ROAD
RIDGE ROAD
FARMSTEAD ROAD
LYNWOOD ROAD
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04161e-2016-2.gpw

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Wednesday, Mar 30, 2016

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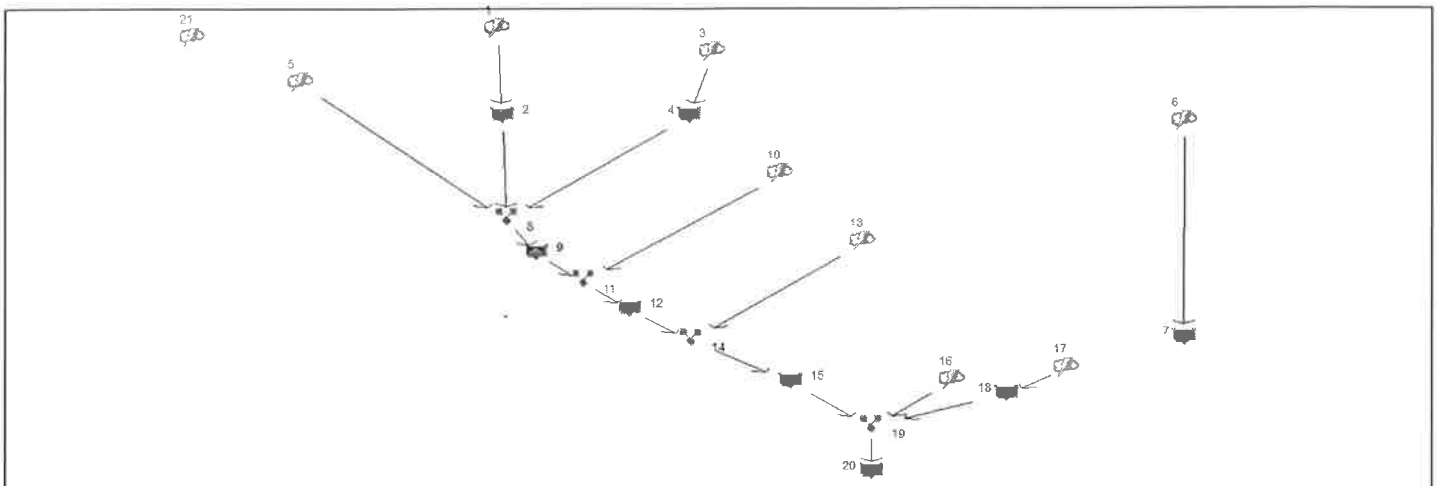
Watershed Model Schematic

Hydraflow Hydrographs by Intelisolve v9.1



Legend

Hyd.	Origin	Description
1	Rational	Watershed A
2	Reservoir	Watershed A
3	Rational	Watershed B
4	Reservoir	Watershed B
5	Rational	Watershed E
6	Rational	Watershed G
7	Reservoir	Watershed G
8	Combine	Watershed A+B+E
9	Reservoir	Watershed E-POINT Z
10	Rational	Watershed F
11	Combine	Watershed A+B+E+F
12	Reservoir	Watershed F
13	Rational	Watershed H
14	Combine	Watershed F+H
15	Reservoir	Watershed H
16	Rational	Watershed C
17	Rational	Watershed I
18	Reservoir	Watershed I
19	Combine	Watershed H+C+I
20	Reservoir	Watershed C-POINT X
21	Rational	Watershed D-POINT Y

Hydrograph Return Period Recap

Hydraflow Hydrographs by Intelisolve v9.1

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	Rational	-------	-------	5.109	-------	-------	7.312	8.549	9.466	10.35	Watershed A
2	Reservoir	1	-------	1.946	-------	-------	2.822	3.158	3.353	3.537	Watershed A
3	Rational	-------	-------	3.906	-------	-------	5.507	6.396	7.054	7.676	Watershed B
4	Reservoir	3	-------	0.678	-------	-------	1.167	1.471	1.698	1.932	Watershed B
5	Rational	-------	-------	20.18	-------	-------	29.71	35.02	39.24	43.46	Watershed E
6	Rational	-------	-------	4.196	-------	-------	6.102	7.174	7.989	8.794	Watershed G
7	Reservoir	6	-------	0.007	-------	-------	0.007	0.007	0.007	0.007	Watershed G
8	Combine	2, 4, 5,	-------	22.67	-------	-------	33.59	39.56	44.19	48.82	Watershed A+B+E
9	Reservoir	8	-------	8.665	-------	-------	16.32	20.43	23.58	27.95	Watershed E-POINT Z
10	Rational	-------	-------	11.23	-------	-------	16.23	19.04	21.16	23.22	Watershed F
11	Combine	9, 10	-------	12.31	-------	-------	18.65	23.93	27.92	32.04	Watershed A+B+E+F
12	Reservoir	11	-------	0.723	-------	-------	1.089	3.112	4.871	6.650	Watershed F
13	Rational	-------	-------	2.781	-------	-------	4.003	4.691	5.204	5.704	Watershed H
14	Combine	12, 13	-------	2.848	-------	-------	4.100	4.805	5.332	6.650	Watershed F+H
15	Reservoir	14	-------	0.726	-------	-------	1.019	1.823	2.575	3.164	Watershed H
16	Rational	-------	-------	2.781	-------	-------	3.998	4.682	5.193	5.689	Watershed C
17	Rational	-------	-------	1.662	-------	-------	2.315	2.674	2.942	3.190	Watershed I
18	Reservoir	17	-------	1.643	-------	-------	2.292	2.648	2.913	3.161	Watershed I
19	Combine	15, 16, 18	-------	3.619	-------	-------	5.202	6.097	6.770	7.417	Watershed H+C+I
20	Reservoir	19	-------	3.284	-------	-------	4.649	5.386	5.989	6.576	Watershed C-POINT X
21	Rational	-------	-------	9.989	-------	-------	14.44	16.94	18.82	20.66	Watershed D-POINT Y

Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.1

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	Rational	5.109	1	17	6,957	----	------	------	Watershed A
2	Reservoir	1.946	1	34	6,874	1	565.38	4,594	Watershed A
3	Rational	3.906	1	14	4,238	----	------	------	Watershed B
4	Reservoir	0.678	1	32	4,090	3	566.82	3,470	Watershed B
5	Rational	20.18	1	29	47,456	----	------	------	Watershed E
6	Rational	4.196	1	22	7,534	----	------	------	Watershed G
7	Reservoir	0.007	1	59	1,109	6	546.20	7,409	Watershed G
8	Combine	22.67	1	29	58,187	2, 4, 5,	------	------	Watershed A+B+E
9	Reservoir	8.665	1	60	58,175	8	541.90	34,294	Watershed E-POINT Z
10	Rational	11.23	1	20	17,944	----	------	------	Watershed F
11	Combine	12.31	1	20	75,699	9, 10	------	------	Watershed A+B+E+F
12	Reservoir	0.723	1	265	64,772	11	538.91	59,610	Watershed F
13	Rational	2.781	1	19	4,163	----	------	------	Watershed H
14	Combine	2.848	1	19	66,357	12, 13	------	------	Watershed F+H
15	Reservoir	0.726	1	20	65,804	14	535.97	1,402	Watershed H
16	Rational	2.781	1	18	4,076	----	------	------	Watershed C
17	Rational	1.662	1	12	1,535	----	------	------	Watershed I
18	Reservoir	1.643	1	12	601	17	531.39	20.7	Watershed I
19	Combine	3.619	1	12	70,409	15, 16, 18	------	------	Watershed H+C+I
20	Reservoir	3.284	1	20	70,365	19	529.64	501	Watershed C-POINT X
21	Rational	9.989	1	20	16,002	----	------	------	Watershed D-POINT Y

Hydrograph Report

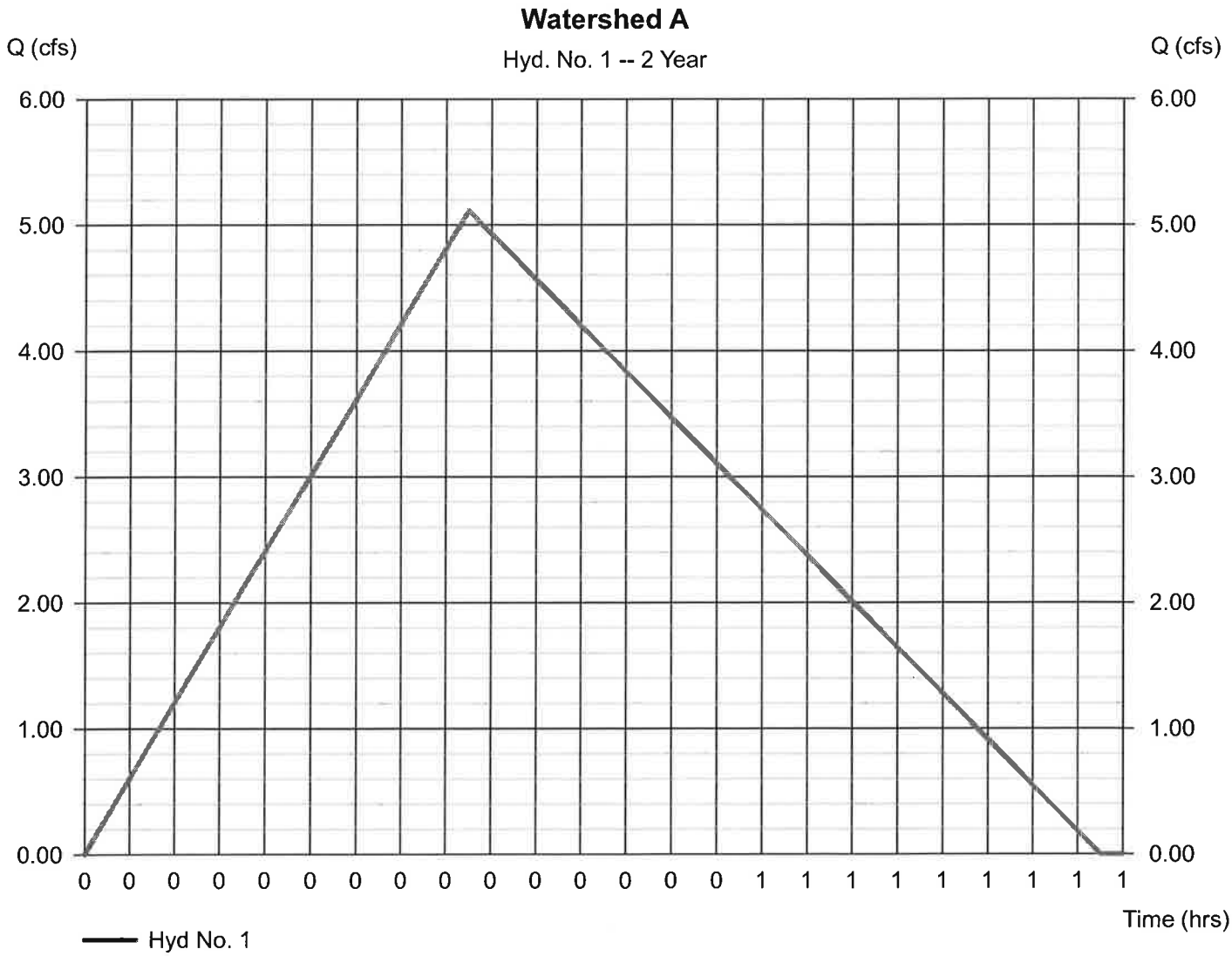
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 1

Watershed A

Hydrograph type	= Rational	Peak discharge	= 5.109 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.28 hrs
Time interval	= 1 min	Hyd. volume	= 6,957 cuft
Drainage area	= 8.000 ac	Runoff coeff.	= 0.24*
Intensity	= 2.661 in/hr	Tc by TR55	= 17.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.400 x 0.90) + (0.500 x 0.30) + (7.100 x 0.20)] / 8.000



TR55 Tc Worksheet

Hydraflow Hydrographs by Intelisolve v9.1

Hyd. No. 1

Watershed A

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.400		0.011		0.011		
Flow length (ft)	=	100.0		0.0		0.0		
Two-year 24-hr precip. (in)	=	3.20		0.00		0.00		
Land slope (%)	=	6.00		0.00		0.00		
Travel Time (min)	**=**	**13.84**	**+**	**0.00**	**+**	**0.00**	**=**	**13.84**
Shallow Concentrated Flow								
Flow length (ft)	=	624.00		0.00		0.00		
Watercourse slope (%)	=	3.36		0.00		0.00		
Surface description	=	Unpaved		Paved		Paved		
Average velocity (ft/s)	=	2.96		0.00		0.00		
Travel Time (min)	**=**	**3.52**	**+**	**0.00**	**+**	**0.00**	**=**	**3.52**
Channel Flow								
X sectional flow area (sqft)	=	0.00		0.00		0.00		
Wetted perimeter (ft)	=	0.00		0.00		0.00		
Channel slope (%)	=	0.00		0.00		0.00		
Manning's n-value	=	0.015		0.015		0.015		
Velocity (ft/s)	=	0.00		0.00		0.00		
Flow length (ft)	=	0.0		0.0		0.0		
Travel Time (min)	**=**	**0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... 17.00 min

Hydrograph Report

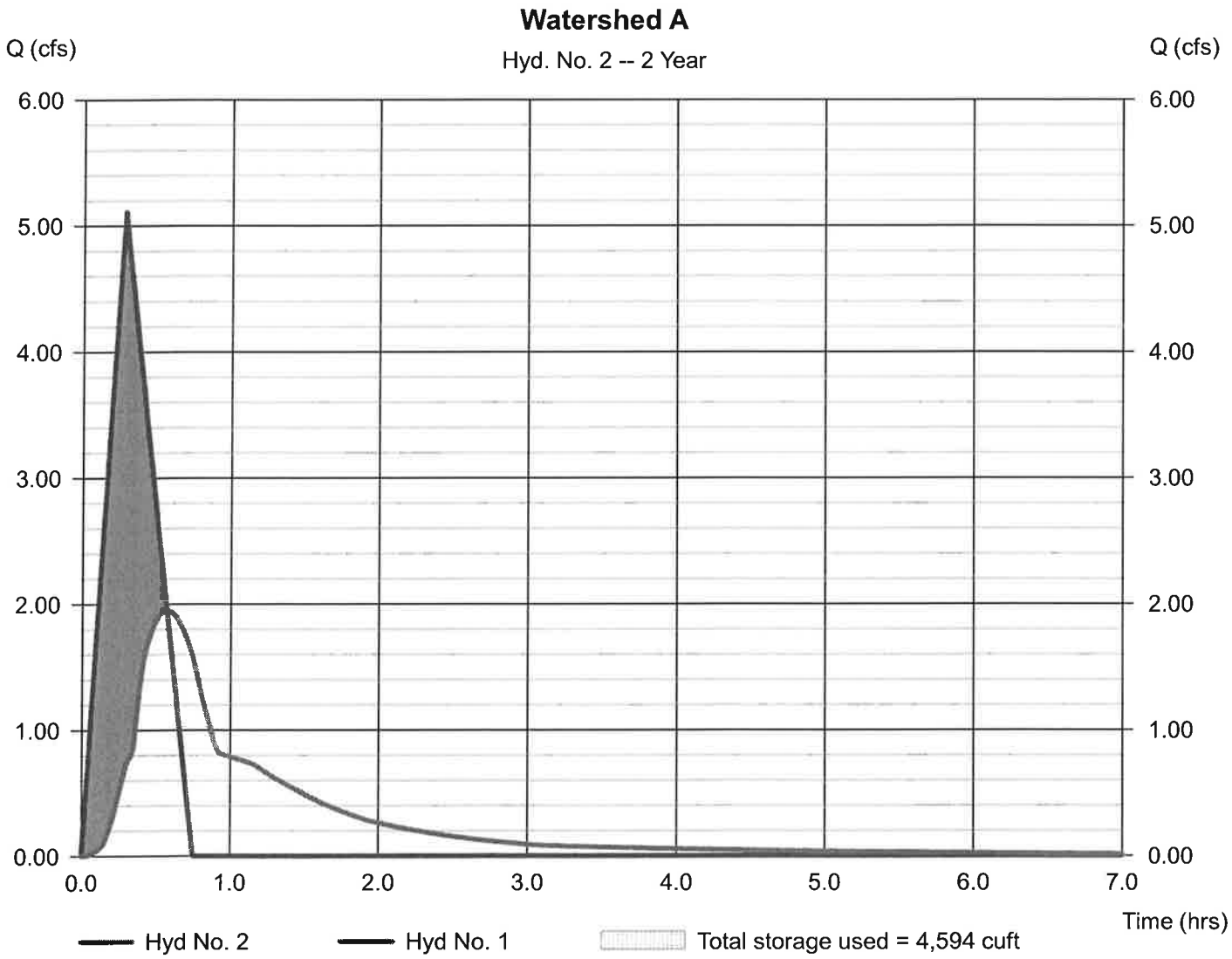
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 2

Watershed A

Hydrograph type	= Reservoir	Peak discharge	= 1.946 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.57 hrs
Time interval	= 1 min	Hyd. volume	= 6,874 cuft
Inflow hyd. No.	= 1 - Watershed A	Max. Elevation	= 565.38 ft
Reservoir name	= Watershed A	Max. Storage	= 4,594 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Pond No. 1 - Watershed A

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 563.99 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	563.99	1,590	0	0
0.01	564.00	1,600	16	16
2.01	566.00	5,440	6,660	6,675
3.11	567.10	5,500	6,016	12,692
4.01	568.00	6,000	5,173	17,865

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 12.00	0.00	0.00	0.00
Span (in)	= 12.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 563.99	0.00	0.00	0.00
Length (ft)	= 30.79	0.00	0.00	0.00
Slope (%)	= 0.23	0.00	0.00	n/a
N-Value	= .024	.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)	= 118.50	0.00	0.00	0.00
Crest El. (ft)	= 567.10	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 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	563.99	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.00	2	563.99	0.00 oc	---	---	---	0.00	---	---	---	---	---	0.00
0.00	3	563.99	0.00 oc	---	---	---	0.00	---	---	---	---	---	0.00
0.00	5	563.99	0.00 oc	---	---	---	0.00	---	---	---	---	---	0.00
0.00	6	563.99	0.00 oc	---	---	---	0.00	---	---	---	---	---	0.00
0.01	8	563.99	0.00 oc	---	---	---	0.00	---	---	---	---	---	0.00
0.01	10	564.00	0.00 oc	---	---	---	0.00	---	---	---	---	---	0.00
0.01	11	564.00	0.00 oc	---	---	---	0.00	---	---	---	---	---	0.00
0.01	13	564.00	0.00 oc	---	---	---	0.00	---	---	---	---	---	0.00
0.01	14	564.00	0.00 oc	---	---	---	0.00	---	---	---	---	---	0.00
0.01	16	564.00	0.00 oc	---	---	---	0.00	---	---	---	---	---	0.00
0.21	682	564.20	0.08 oc	---	---	---	0.00	---	---	---	---	---	0.08
0.41	1,348	564.40	0.28 oc	---	---	---	0.00	---	---	---	---	---	0.28
0.61	2,014	564.60	0.52 oc	---	---	---	0.00	---	---	---	---	---	0.52
0.81	2,680	564.80	0.73 oc	---	---	---	0.00	---	---	---	---	---	0.73
1.01	3,346	565.00	0.82 oc	---	---	---	0.00	---	---	---	---	---	0.82
1.21	4,012	565.20	1.53 oc	---	---	---	0.00	---	---	---	---	---	1.53
1.41	4,678	565.40	2.00 oc	---	---	---	0.00	---	---	---	---	---	2.00
1.61	5,344	565.60	2.39 oc	---	---	---	0.00	---	---	---	---	---	2.39
1.81	6,010	565.80	2.71 oc	---	---	---	0.00	---	---	---	---	---	2.71
2.01	6,675	566.00	3.01 oc	---	---	---	0.00	---	---	---	---	---	3.01
2.12	7,277	566.11	3.15 oc	---	---	---	0.00	---	---	---	---	---	3.15
2.23	7,879	566.22	3.30 oc	---	---	---	0.00	---	---	---	---	---	3.30
2.34	8,480	566.33	3.43 oc	---	---	---	0.00	---	---	---	---	---	3.43
2.45	9,082	566.44	3.57 oc	---	---	---	0.00	---	---	---	---	---	3.57
2.56	9,684	566.55	3.69 oc	---	---	---	0.00	---	---	---	---	---	3.69
2.67	10,285	566.66	3.81 oc	---	---	---	0.00	---	---	---	---	---	3.81
2.78	10,887	566.77	3.93 oc	---	---	---	0.00	---	---	---	---	---	3.93
2.89	11,489	566.88	4.05 oc	---	---	---	0.00	---	---	---	---	---	4.05
3.00	12,090	566.99	4.16 oc	---	---	---	0.00	---	---	---	---	---	4.16
3.11	12,692	567.10	4.27 oc	---	---	---	0.00	---	---	---	---	---	4.27
3.20	13,209	567.19	4.36 oc	---	---	---	8.32	---	---	---	---	---	12.68
3.29	13,726	567.28	4.44 oc	---	---	---	23.54	---	---	---	---	---	27.98
3.38	14,244	567.37	4.53 oc	---	---	---	43.26	---	---	---	---	---	47.79
3.47	14,761	567.46	4.61 oc	---	---	---	66.58	---	---	---	---	---	71.19
3.56	15,278	567.55	4.69 oc	---	---	---	93.05	---	---	---	---	---	97.74
3.65	15,796	567.64	4.77 oc	---	---	---	122.29	---	---	---	---	---	127.06

Continues on next page...

Watershed A

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
3.74	16,313	567.73	4.85 oc	---	---	---	154.16	---	---	---	---	---	159.00
3.83	16,830	567.82	4.92 oc	---	---	---	188.31	---	---	---	---	---	193.24
3.92	17,347	567.91	5.00 oc	---	---	---	224.71	---	---	---	---	---	229.71
4.01	17,865	568.00	5.07 oc	---	---	---	263.07	---	---	---	---	---	268.15

...End

Hydrograph Report

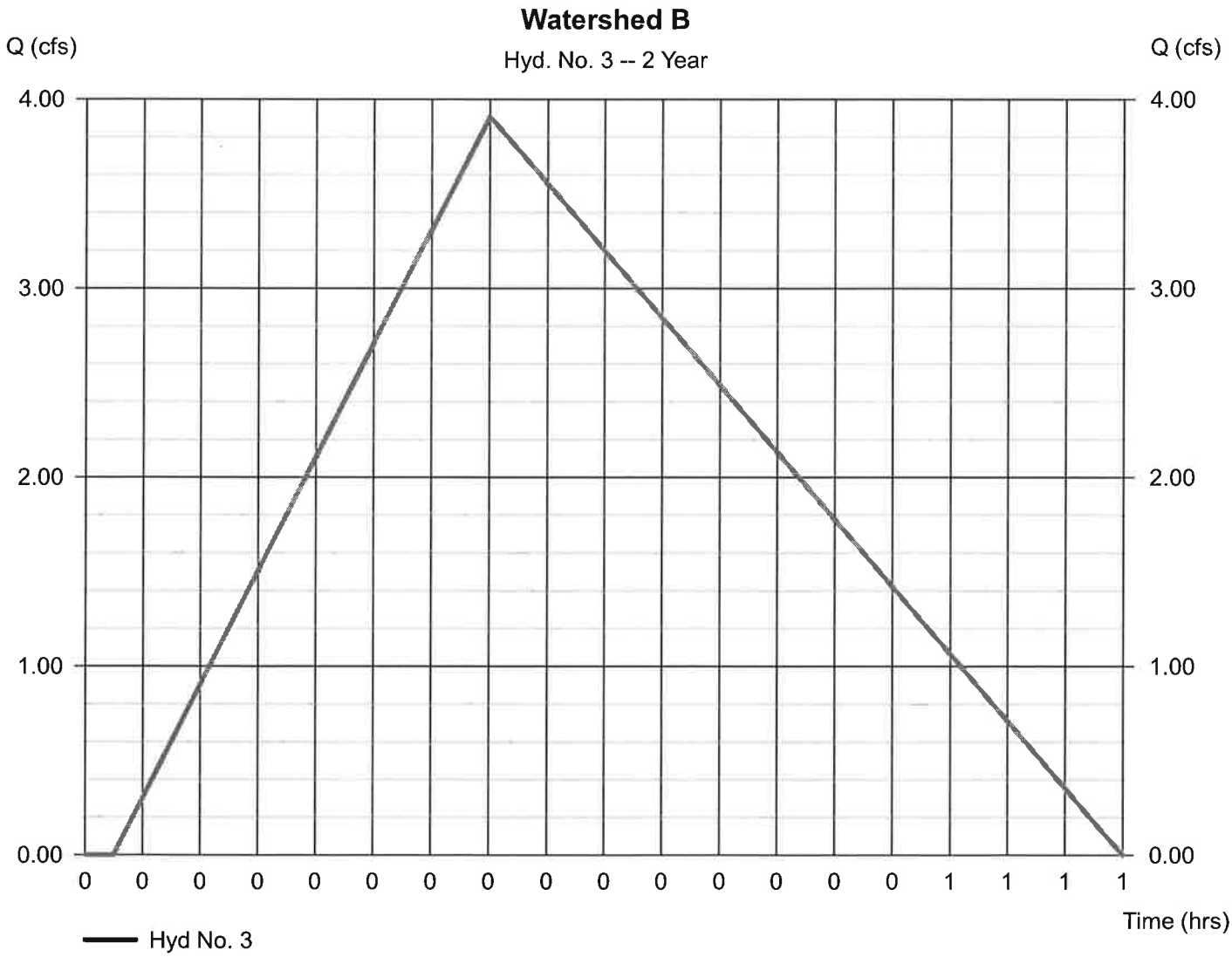
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 3

Watershed B

Hydrograph type	= Rational	Peak discharge	= 3.906 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.23 hrs
Time interval	= 1 min	Hyd. volume	= 4,238 cuft
Drainage area	= 5.200 ac	Runoff coeff.	= 0.25*
Intensity	= 3.005 in/hr	Tc by TR55	= 13.54 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.300 x 0.90) + (0.500 x 0.30) + (4.400 x 0.20)] / 5.200



TR55 Tc Worksheet

Hyd. No. 3

Watershed B

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.400		0.011		0.011		
Flow length (ft)	=	100.0		0.0		0.0		
Two-year 24-hr precip. (in)	=	3.20		0.00		0.00		
Land slope (%)	=	12.00		0.00		0.00		
Travel Time (min)	**=**	**10.49**	**+**	**0.00**	**+**	**0.00**	**=**	**10.49**
Shallow Concentrated Flow								
Flow length (ft)	=	479.00		0.00		0.00		
Watercourse slope (%)	=	2.62		0.00		0.00		
Surface description	=	Unpaved		Paved		Paved		
Average velocity (ft/s)	=	2.61		0.00		0.00		
Travel Time (min)	**=**	**3.06**	**+**	**0.00**	**+**	**0.00**	**=**	**3.06**
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		
Travel Time (min)	**=**	**0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... 13.54 min

Hydrograph Report

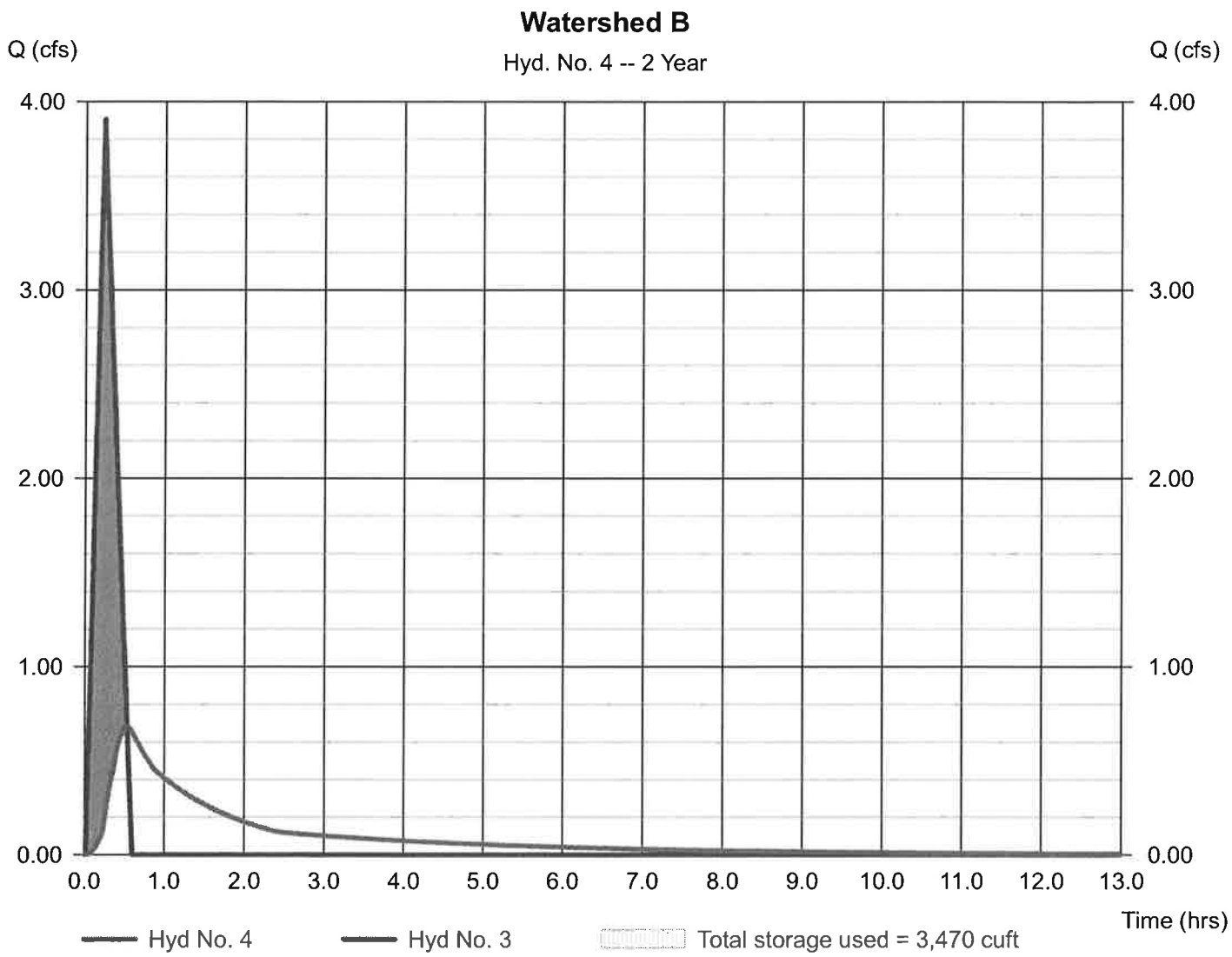
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 4

Watershed B

Hydrograph type	= Reservoir	Peak discharge	= 0.678 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.53 hrs
Time interval	= 1 min	Hyd. volume	= 4,090 cuft
Inflow hyd. No.	= 3 - Watershed B	Max. Elevation	= 566.82 ft
Reservoir name	= Watershed B	Max. Storage	= 3,470 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Pond No. 2 - Watershed B

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 566.44 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	566.44	8,300	0	0
1.56	568.00	10,080	14,313	14,313

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 15.00	0.00	0.00	0.00
Span (in)	= 15.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 566.44	0.00	0.00	0.00
Length (ft)	= 27.15	0.00	0.00	0.00
Slope (%)	= 12.19	0.00	0.00	n/a
N-Value	= .024	.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)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
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	566.44	0.00	---	---	---	---	---	---	---	---	---	0.00
0.16	1,431	566.60	0.12 ic	---	---	---	---	---	---	---	---	---	0.12
0.31	2,863	566.75	0.46 ic	---	---	---	---	---	---	---	---	---	0.46
0.47	4,294	566.91	0.98 ic	---	---	---	---	---	---	---	---	---	0.98
0.62	5,725	567.06	1.65 ic	---	---	---	---	---	---	---	---	---	1.65
0.78	7,156	567.22	2.42 ic	---	---	---	---	---	---	---	---	---	2.42
0.94	8,588	567.38	3.25 ic	---	---	---	---	---	---	---	---	---	3.25
1.09	10,019	567.53	4.05 ic	---	---	---	---	---	---	---	---	---	4.05
1.25	11,450	567.69	4.67 ic	---	---	---	---	---	---	---	---	---	4.67
1.40	12,881	567.84	5.21 ic	---	---	---	---	---	---	---	---	---	5.21
1.56	14,313	568.00	5.71 ic	---	---	---	---	---	---	---	---	---	5.71

Hydrograph Report

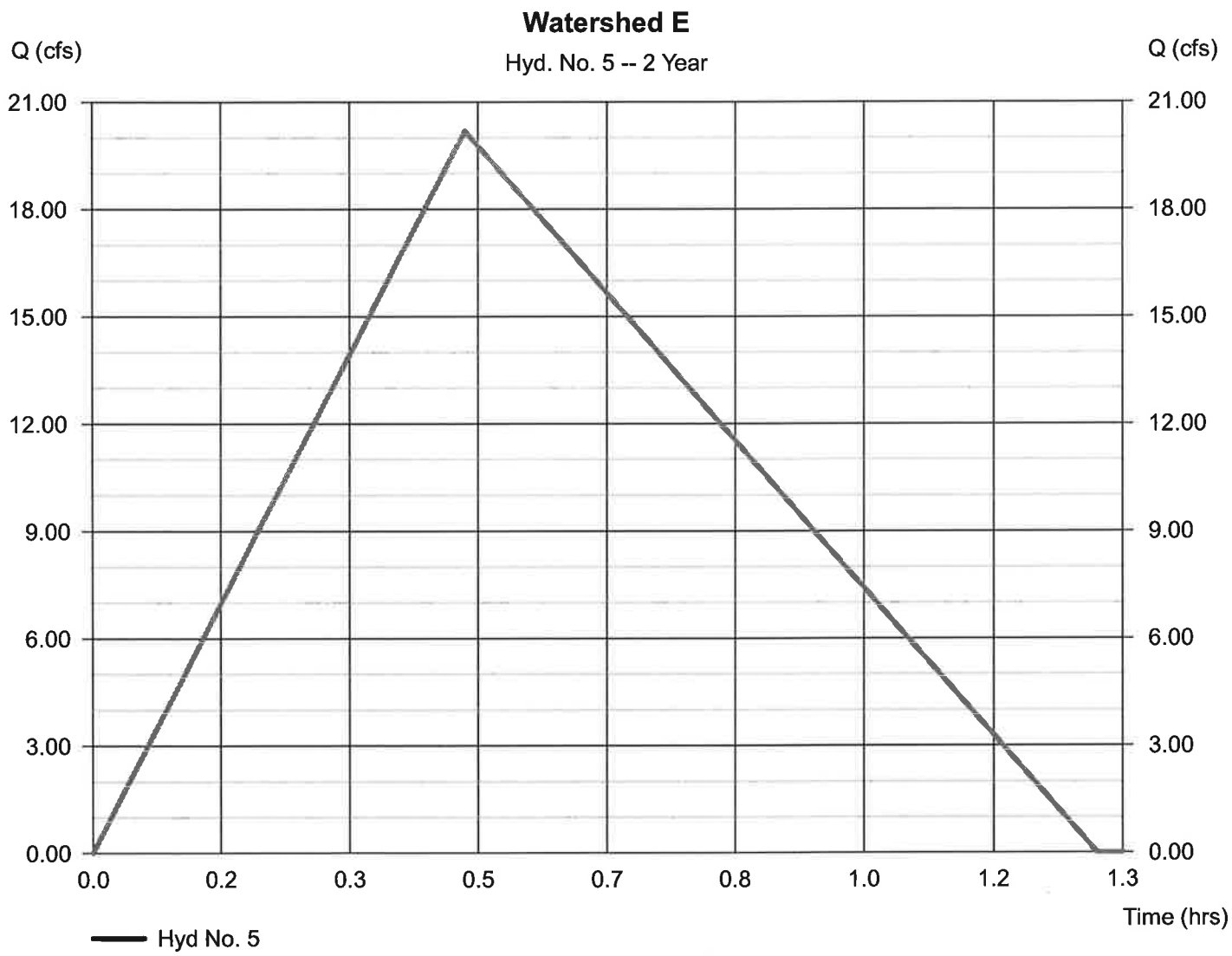
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 5

Watershed E

Hydrograph type	= Rational	Peak discharge	= 20.18 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.48 hrs
Time interval	= 1 min	Hyd. volume	= 47,456 cuft
Drainage area	= 40.300 ac	Runoff coeff.	= 0.26*
Intensity	= 1.926 in/hr	Tc by TR55	= 29.36 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(2.100 x 0.90) + (7.700 x 0.30) + (30.500 x 0.20)] / 40.300



TR55 Tc Worksheet

Hyd. No. 5

Watershed E

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.240		0.016		0.011		
Flow length (ft)	=	95.0		75.0		0.0		
Two-year 24-hr precip. (in)	=	3.20		3.20		0.00		
Land slope (%)	=	3.15		5.33		0.00		
Travel Time (min)	**=**	**11.42**	**+**	**0.88**	**+**	**0.00**	**=**	**12.30**
Shallow Concentrated Flow								
Flow length (ft)	=	211.00		0.00		0.00		
Watercourse slope (%)	=	4.00		0.00		0.00		
Surface description	=	Paved		Paved		Paved		
Average velocity (ft/s)	=	4.07		0.00		0.00		
Travel Time (min)	**=**	**0.86**	**+**	**0.00**	**+**	**0.00**	**=**	**0.86**
Channel Flow								
X sectional flow area (sqft)	=	1.23		1.50		0.00		
Wetted perimeter (ft)	=	3.93		4.24		0.00		
Channel slope (%)	=	1.65		1.13		0.00		
Manning's n-value	=	0.015		0.040		0.015		
Velocity (ft/s)	=	5.85		1.97		0.00		
Flow length (ft)	=	543.0		1732.0		0.0		
Travel Time (min)	**=**	**1.55**	**+**	**14.65**	**+**	**0.00**	**=**	**16.19**

Total Travel Time, Tc ..... 29.36 min

Hydrograph Report

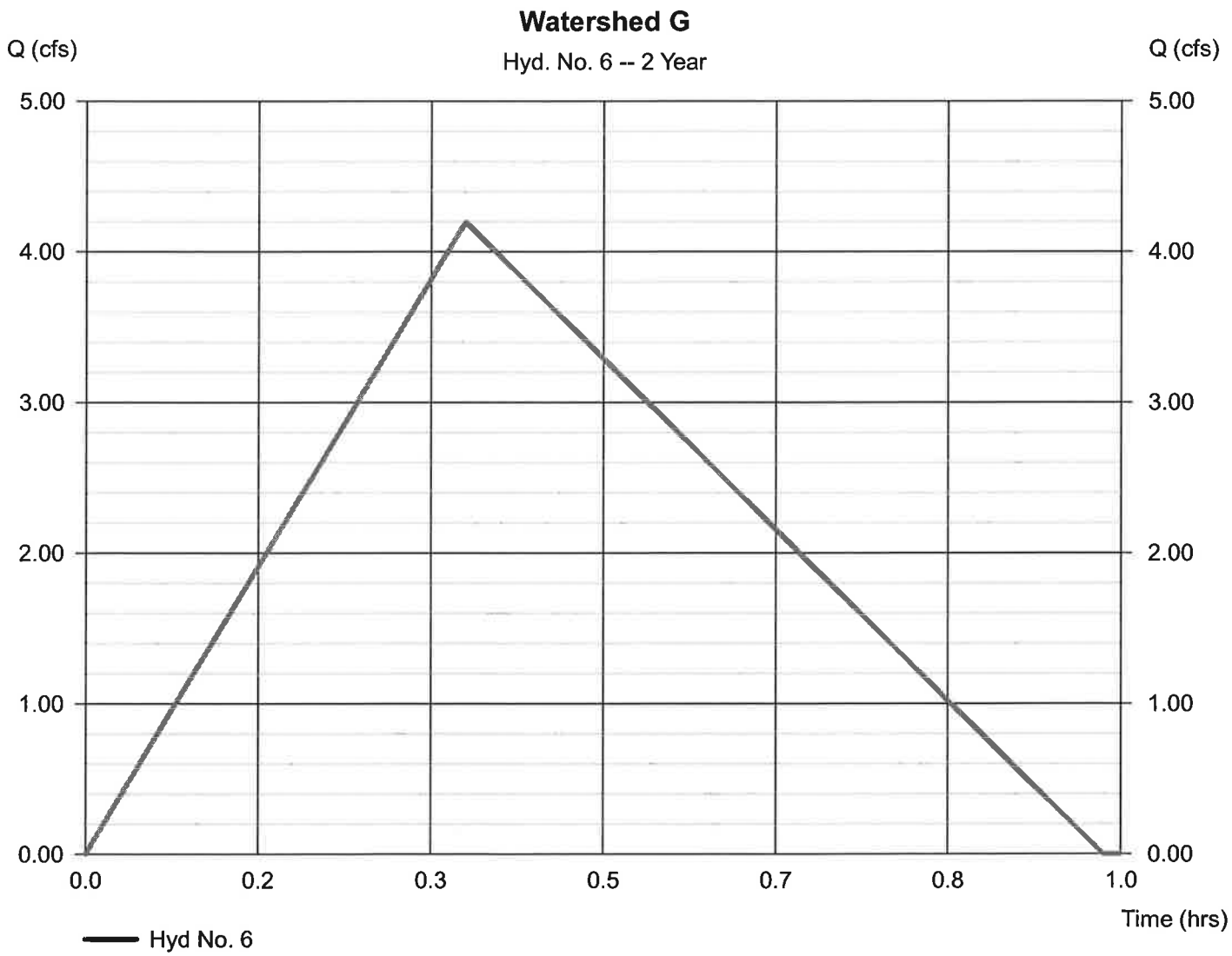
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 6

Watershed G

Hydrograph type	= Rational	Peak discharge	= 4.196 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.37 hrs
Time interval	= 1 min	Hyd. volume	= 7,534 cuft
Drainage area	= 7.700 ac	Runoff coeff.	= 0.24*
Intensity	= 2.271 in/hr	Tc by TR55	= 22.41 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.300 x 0.90) + (0.800 x 0.30) + (6.600 x 0.20)] / 7.700



TR55 Tc Worksheet

Hyd. No. 6

Watershed G

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.400		0.011		0.011		
Flow length (ft)	=	100.0		0.0		0.0		
Two-year 24-hr precip. (in)	=	3.20		0.00		0.00		
Land slope (%)	=	2.90		0.00		0.00		
Travel Time (min)	**=**	**18.51**	**+**	**0.00**	**+**	**0.00**	**=**	**18.51**
Shallow Concentrated Flow								
Flow length (ft)	=	598.00		0.00		0.00		
Watercourse slope (%)	=	2.50		0.00		0.00		
Surface description	=	Unpaved		Paved		Paved		
Average velocity (ft/s)	=	2.55		0.00		0.00		
Travel Time (min)	**=**	**3.91**	**+**	**0.00**	**+**	**0.00**	**=**	**3.91**
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		
Travel Time (min)	**=**	**0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... 22.41 min

Hydrograph Report

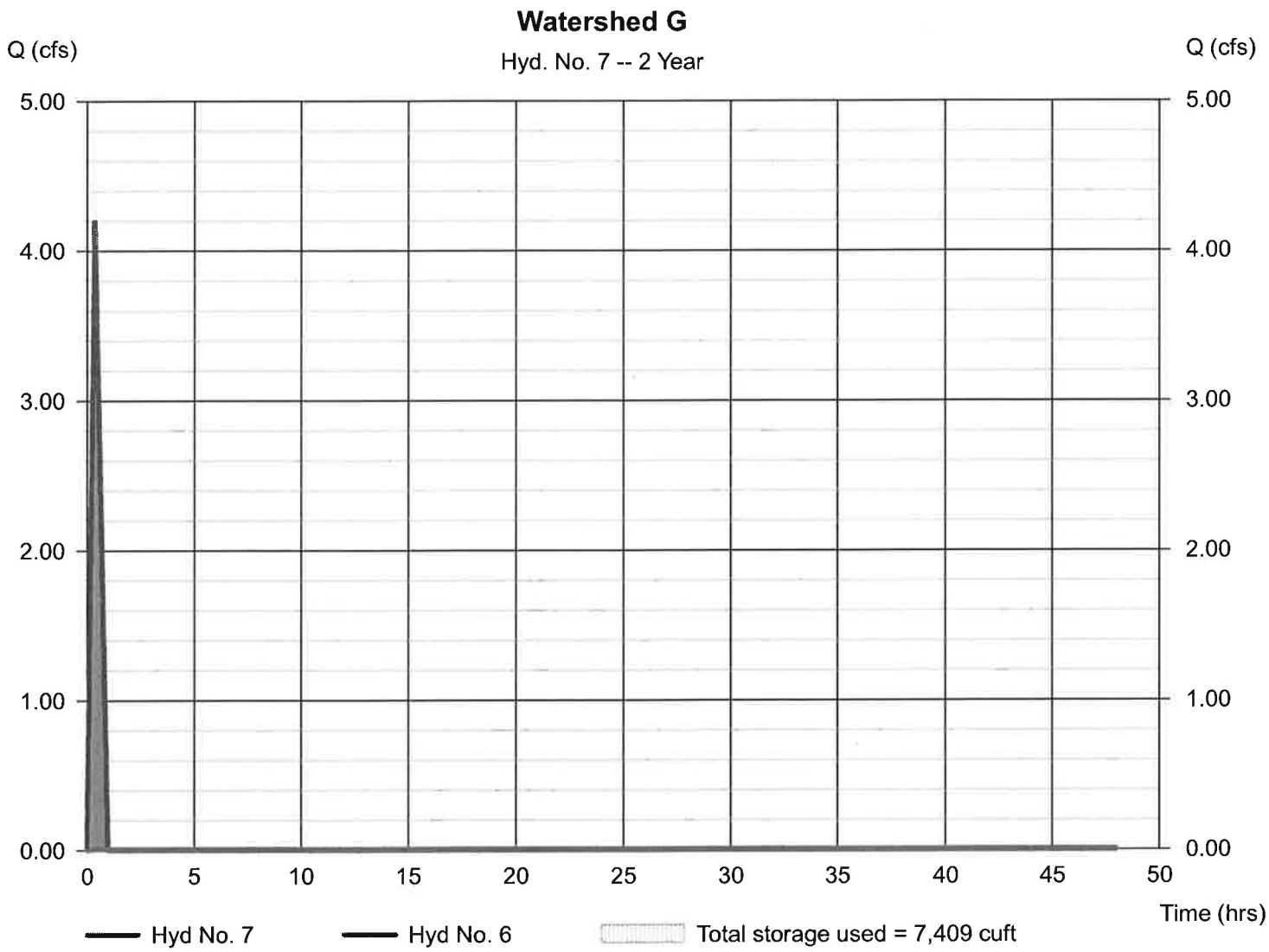
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 7

Watershed G

Hydrograph type	= Reservoir	Peak discharge	= 0.007 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.98 hrs
Time interval	= 1 min	Hyd. volume	= 1,109 cuft
Inflow hyd. No.	= 6 - Watershed G	Max. Elevation	= 546.20 ft
Reservoir name	= Watershed G	Max. Storage	= 7,409 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Pond No. 5 - Watershed G

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 545.20 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	545.20	00	0	0
0.80	546.00	5,000	1,333	1,333
2.80	548.00	67,000	60,196	61,529

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.50	0.00	0.00	0.00
Span (in)	= 0.50	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 545.20	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)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
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	545.20	0.00	---	---	---	---	---	---	---	---	---	0.00
0.08	133	545.28	0.00 ic	---	---	---	---	---	---	---	---	---	0.00
0.16	267	545.36	0.00 ic	---	---	---	---	---	---	---	---	---	0.00
0.24	400	545.44	0.00 ic	---	---	---	---	---	---	---	---	---	0.00
0.32	533	545.52	0.00 ic	---	---	---	---	---	---	---	---	---	0.00
0.40	667	545.60	0.00 ic	---	---	---	---	---	---	---	---	---	0.00
0.48	800	545.68	0.00 ic	---	---	---	---	---	---	---	---	---	0.00
0.56	933	545.76	0.00 ic	---	---	---	---	---	---	---	---	---	0.00
0.64	1,067	545.84	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
0.72	1,200	545.92	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
0.80	1,333	546.00	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
1.00	7,353	546.20	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
1.20	13,372	546.40	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
1.40	19,392	546.60	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
1.60	25,412	546.80	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
1.80	31,431	547.00	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
2.00	37,451	547.20	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
2.20	43,470	547.40	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
2.40	49,490	547.60	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
2.60	55,510	547.80	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
2.80	61,529	548.00	0.01 ic	---	---	---	---	---	---	---	---	---	0.01

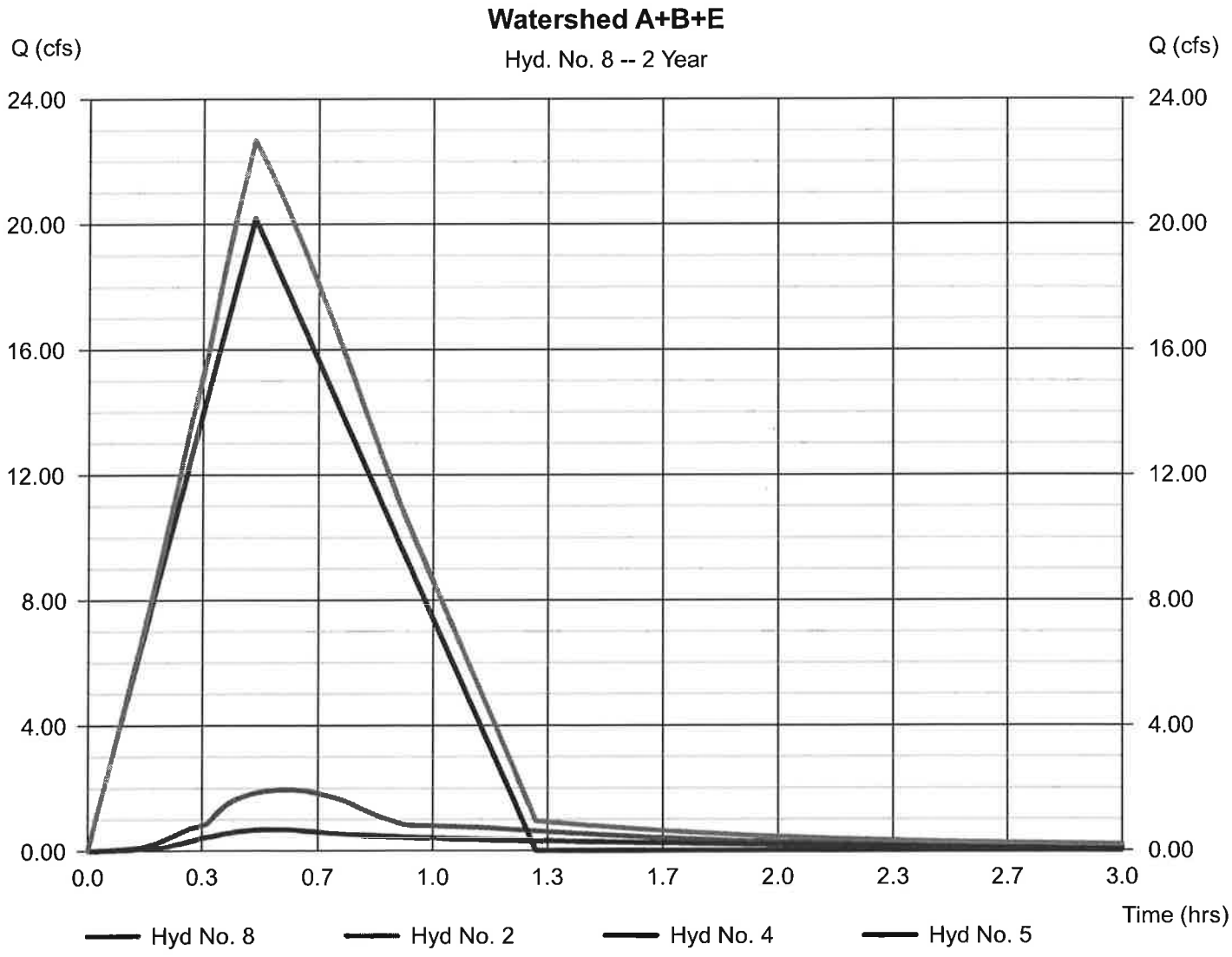
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 8

Watershed A+B+E

Hydrograph type	= Combine	Peak discharge	= 22.67 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.48 hrs
Time interval	= 1 min	Hyd. volume	= 58,187 cuft
Inflow hyds.	= 2, 4, 5	Contrib. drain. area	= 40.300 ac



Hydrograph Report

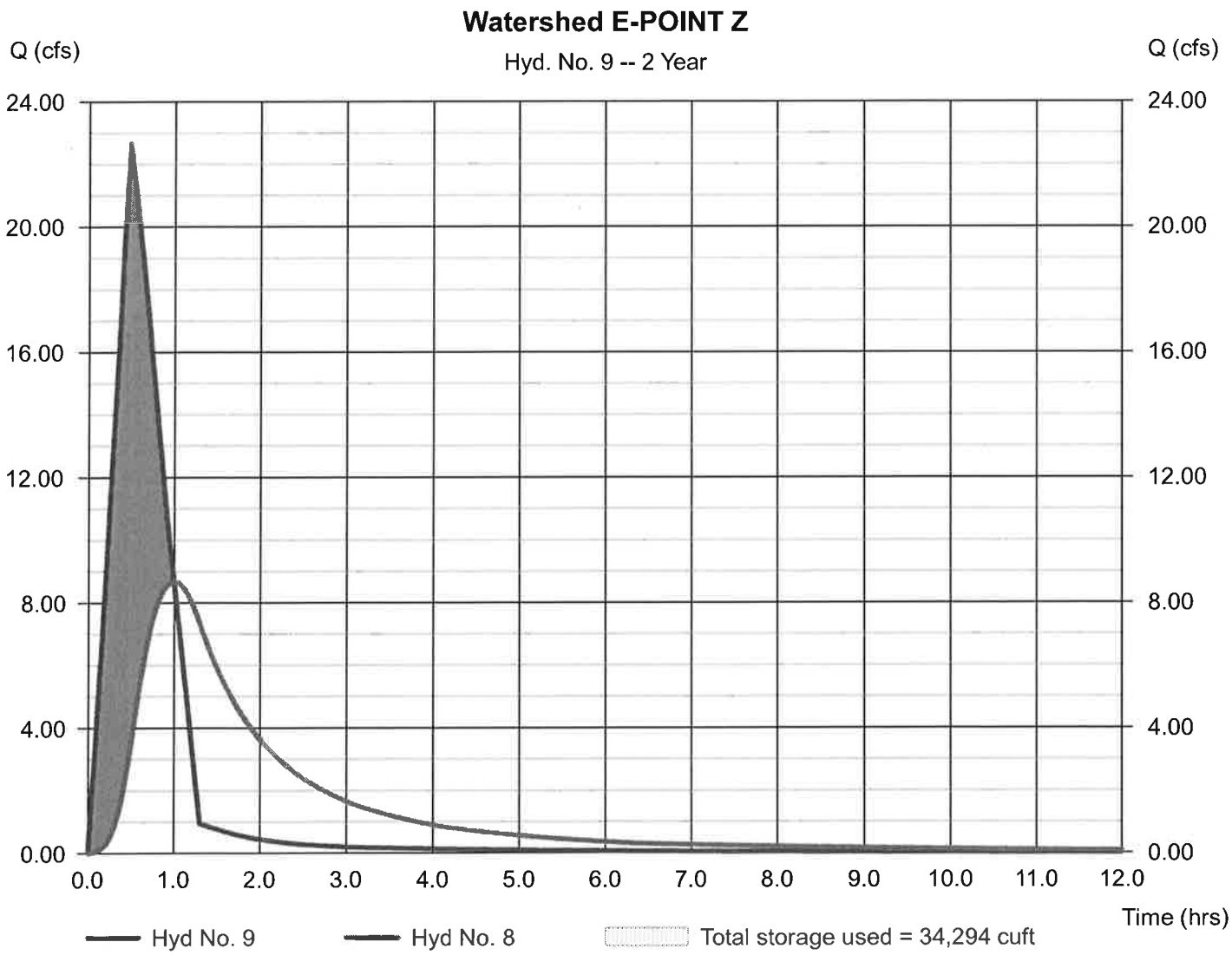
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 9

Watershed E-POINT Z

Hydrograph type	= Reservoir	Peak discharge	= 8.665 cfs
Storm frequency	= 2 yrs	Time to peak	= 1.00 hrs
Time interval	= 1 min	Hyd. volume	= 58,175 cuft
Inflow hyd. No.	= 8 - Watershed A+B+E	Max. Elevation	= 541.90 ft
Reservoir name	= Watershed E	Max. Storage	= 34,294 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Pond No. 9 - Watershed E

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 540.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	540.50	00	0	0
1.50	542.00	73,263	36,628	36,628
3.50	544.00	126,744	197,560	234,187

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)	= 2.00	52.50	149.00	0.00
Crest El. (ft)	= 540.50	542.00	544.00	0.00
Weir Coeff.	= 2.60	2.60	2.60	3.33
Weir Type	= Broad	Broad	Broad	---
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	540.50	---	---	---	---	0.00	0.00	0.00	---	---	---	0.00
0.15	3,663	540.65	---	---	---	---	0.30	0.00	0.00	---	---	---	0.30
0.30	7,326	540.80	---	---	---	---	0.85	0.00	0.00	---	---	---	0.85
0.45	10,988	540.95	---	---	---	---	1.57	0.00	0.00	---	---	---	1.57
0.60	14,651	541.10	---	---	---	---	2.42	0.00	0.00	---	---	---	2.42
0.75	18,314	541.25	---	---	---	---	3.38	0.00	0.00	---	---	---	3.38
0.90	21,977	541.40	---	---	---	---	4.44	0.00	0.00	---	---	---	4.44
1.05	25,639	541.55	---	---	---	---	5.60	0.00	0.00	---	---	---	5.60
1.20	29,302	541.70	---	---	---	---	6.84	0.00	0.00	---	---	---	6.84
1.35	32,965	541.85	---	---	---	---	8.16	0.00	0.00	---	---	---	8.16
1.50	36,628	542.00	---	---	---	---	9.55	0.00	0.00	---	---	---	9.55
1.70	56,384	542.20	---	---	---	---	11.53	12.21	0.00	---	---	---	23.74
1.90	76,140	542.40	---	---	---	---	13.62	34.54	0.00	---	---	---	48.15
2.10	95,896	542.60	---	---	---	---	15.83	63.45	0.00	---	---	---	79.27
2.30	115,652	542.80	---	---	---	---	18.14	97.68	0.00	---	---	---	115.82
2.50	135,408	543.00	---	---	---	---	20.56	136.51	0.00	---	---	---	157.07
2.70	155,164	543.20	---	---	---	---	23.07	179.45	0.00	---	---	---	202.52
2.90	174,920	543.40	---	---	---	---	25.68	226.13	0.00	---	---	---	251.81
3.10	194,676	543.60	---	---	---	---	28.38	276.28	0.00	---	---	---	304.67
3.30	214,432	543.80	---	---	---	---	31.17	329.67	0.00	---	---	---	360.85
3.50	234,187	544.00	---	---	---	---	34.05	386.08	0.00	---	---	---	420.13

Hydrograph Report

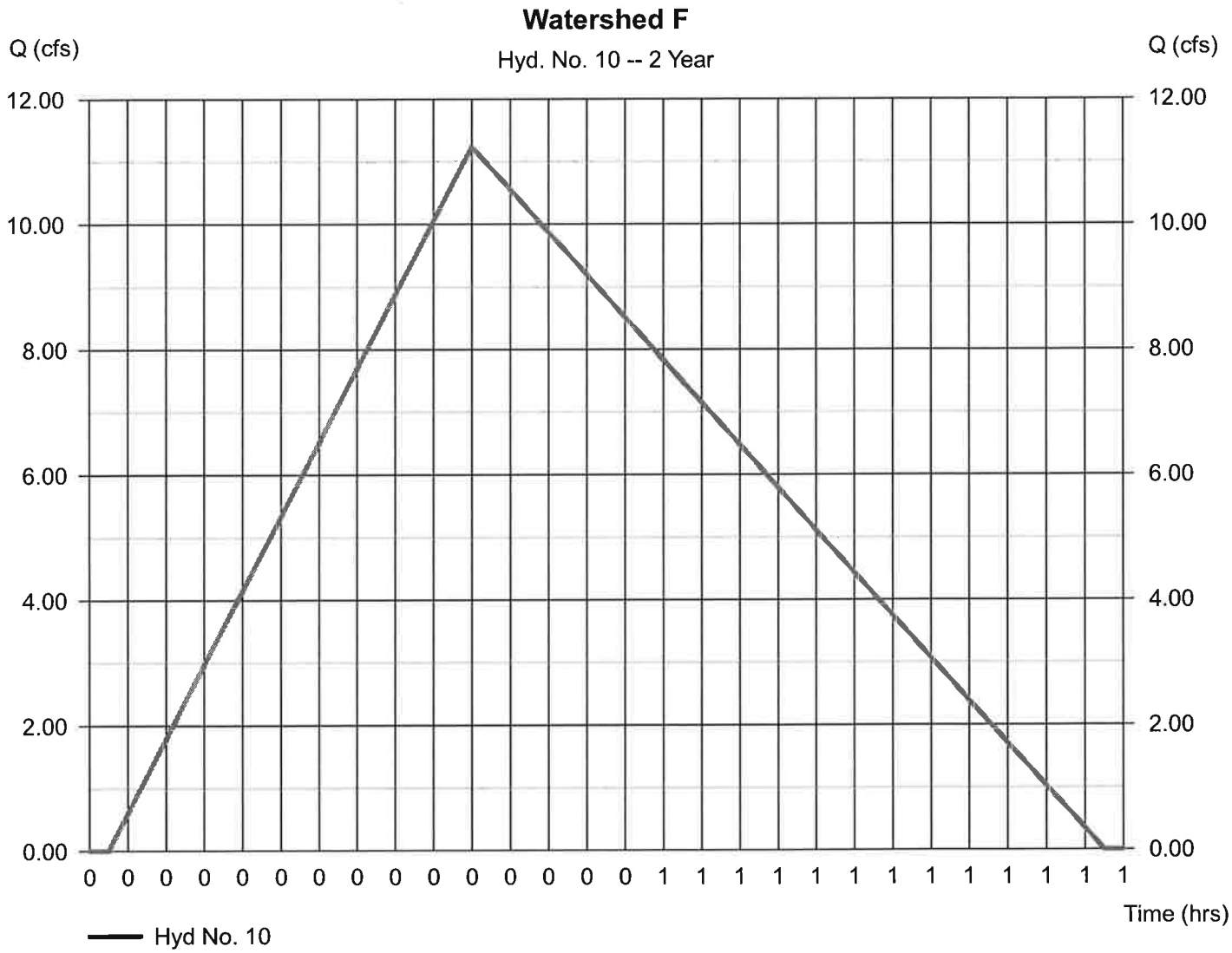
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 10

Watershed F

Hydrograph type	= Rational	Peak discharge	= 11.23 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 17,944 cuft
Drainage area	= 15.400 ac	Runoff coeff.	= 0.3*
Intensity	= 2.431 in/hr	Tc by TR55	= 19.94 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.000 x 0.90) + (5.100 x 0.30) + (8.800 x 0.20) + (0.500 x 1.00)] / 15.400



TR55 Tc Worksheet

Hyd. No. 10

Watershed F

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.400		0.016		0.011		
Flow length (ft)	=	100.0		0.0		0.0		
Two-year 24-hr precip. (in)	=	3.20		0.00		0.00		
Land slope (%)	=	6.20		0.00		0.00		
Travel Time (min)	**=**	**13.66**	**+**	**0.00**	**+**	**0.00**	**=**	**13.66**
Shallow Concentrated Flow								
Flow length (ft)	=	242.00		319.00		0.00		
Watercourse slope (%)	=	0.82		1.70		0.00		
Surface description	=	Unpaved		Paved		Paved		
Average velocity (ft/s)	=	1.46		2.65		0.00		
Travel Time (min)	**=**	**2.76**	**+**	**2.01**	**+**	**0.00**	**=**	**4.77**
Channel Flow								
X sectional flow area (sqft)	=	5.00		0.00		0.00		
Wetted perimeter (ft)	=	7.47		0.00		0.00		
Channel slope (%)	=	1.65		0.00		0.00		
Manning's n-value	=	0.040		0.015		0.015		
Velocity (ft/s)	=	3.66		0.00		0.00		
Flow length (ft)	=	333.0		0.0		0.0		
Travel Time (min)	**=**	**1.52**	**+**	**0.00**	**+**	**0.00**	**=**	**1.52**

Total Travel Time, Tc ..... 19.94 min

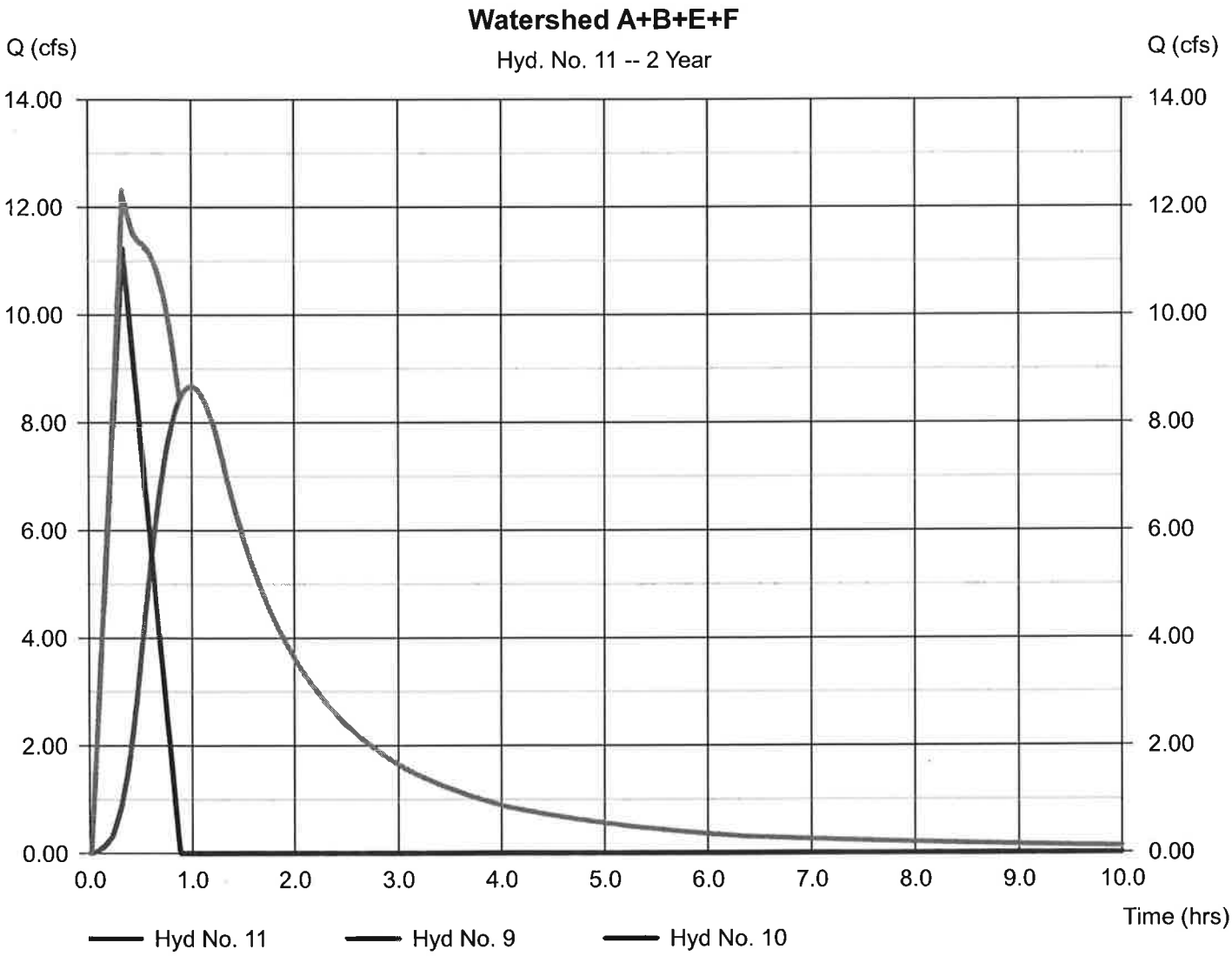
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 11

Watershed A+B+E+F

Hydrograph type	= Combine	Peak discharge	= 12.31 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 75,699 cuft
Inflow hyds.	= 9, 10	Contrib. drain. area	= 15.400 ac



Hydrograph Report

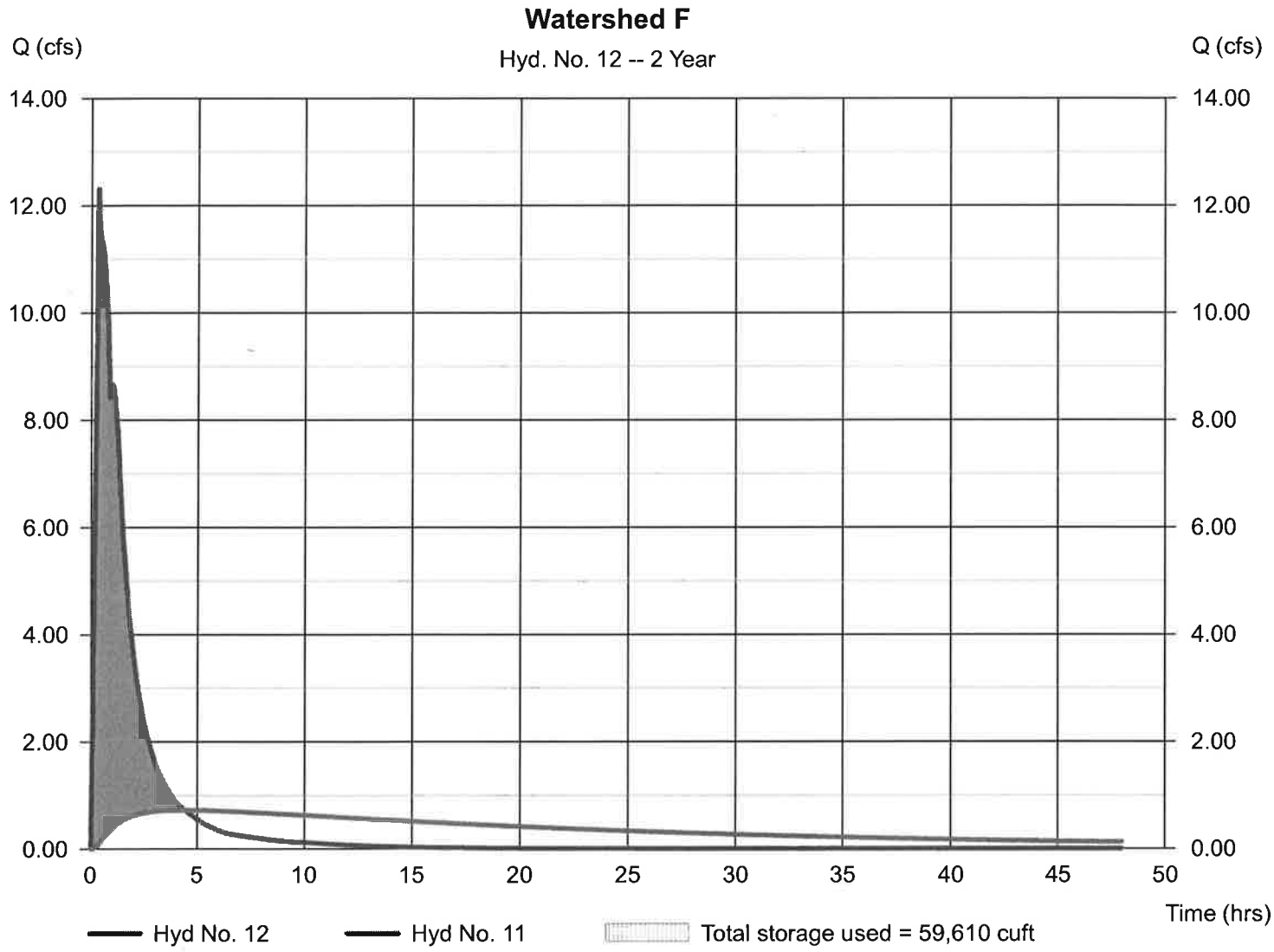
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 12

Watershed F

Hydrograph type	= Reservoir	Peak discharge	= 0.723 cfs
Storm frequency	= 2 yrs	Time to peak	= 4.42 hrs
Time interval	= 1 min	Hyd. volume	= 64,772 cuft
Inflow hyd. No.	= 11 - Watershed A+B+E+F	Max. Elevation	= 538.91 ft
Reservoir name	= Watershed F	Max. Storage	= 59,610 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Pond No. 3 - Watershed F

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 538.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	538.00	46,741	0	0
2.00	540.00	86,762	131,443	131,443

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	0.00	0.00	0.00
Span (in)	= 20.00	0.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 538.00	0.00	0.00	0.00
Length (ft)	= 5.75	0.00	0.00	0.00
Slope (%)	= 0.10	0.00	0.00	n/a
N-Value	= .015	.015	.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)	= 67.00	Inactive	0.00	0.00
Crest El. (ft)	= 540.00	0.00	0.00	0.00
Weir Coeff.	= 2.60	2.60	3.33	3.33
Weir Type	= Broad	Broad	---	---
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	538.00	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.20	13,144	538.20	0.15 oc	---	---	---	0.00	---	---	---	---	---	0.15
0.40	26,289	538.40	0.31 oc	---	---	---	0.00	---	---	---	---	---	0.31
0.60	39,433	538.60	0.47 oc	---	---	---	0.00	---	---	---	---	---	0.47
0.80	52,577	538.80	0.64 oc	---	---	---	0.00	---	---	---	---	---	0.64
1.00	65,722	539.00	0.80 oc	---	---	---	0.00	---	---	---	---	---	0.80
1.20	78,866	539.20	0.96 oc	---	---	---	0.00	---	---	---	---	---	0.96
1.40	92,010	539.40	1.13 oc	---	---	---	0.00	---	---	---	---	---	1.13
1.60	105,155	539.60	5.11 oc	---	---	---	0.00	---	---	---	---	---	5.11
1.80	118,299	539.80	8.69 oc	---	---	---	0.00	---	---	---	---	---	8.69
2.00	131,443	540.00	11.18 oc	---	---	---	0.00	---	---	---	---	---	11.18

Hydrograph Report

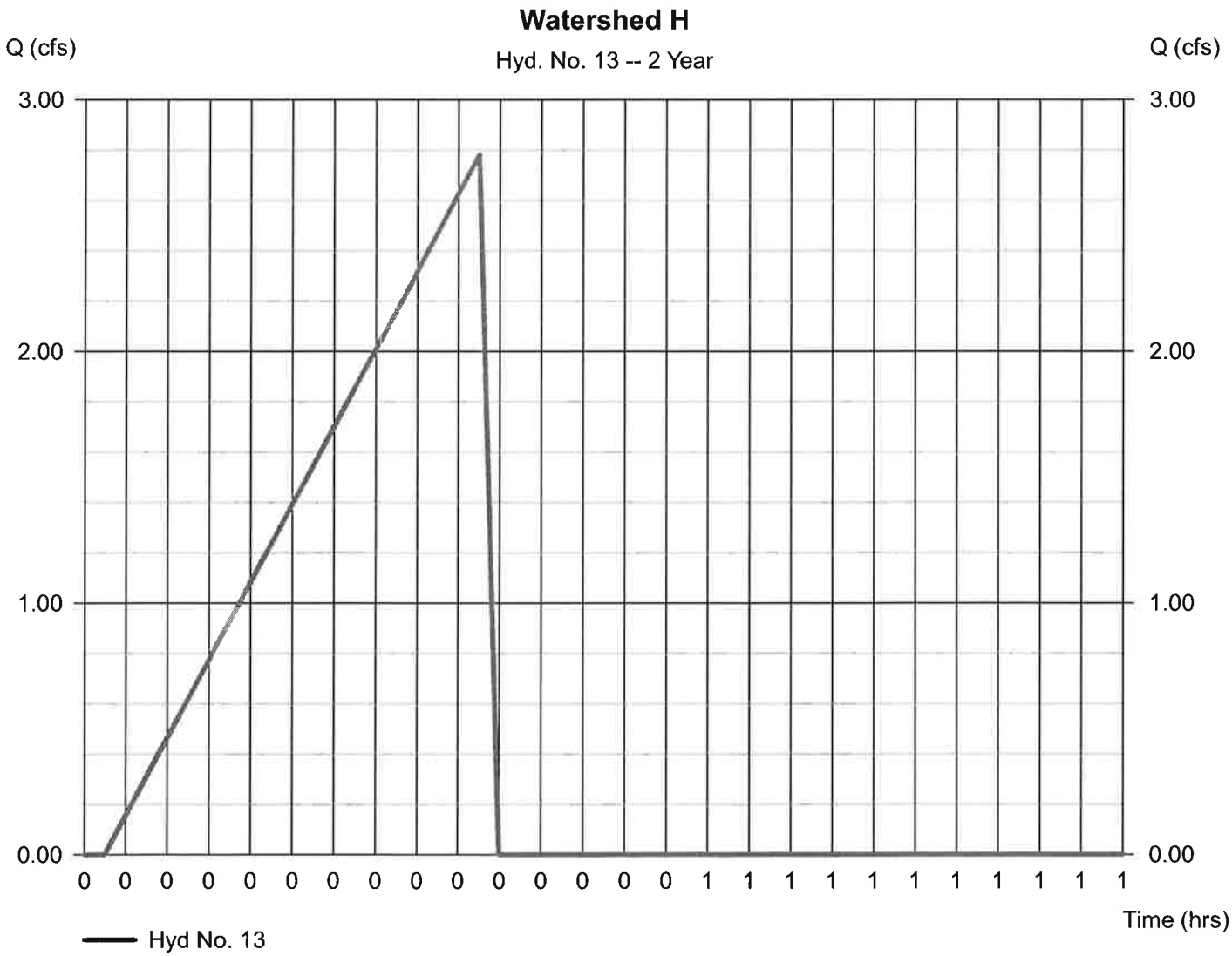
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 13

Watershed H

Hydrograph type	= Rational	Peak discharge	= 2.781 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 4,163 cuft
Drainage area	= 3.800 ac	Runoff coeff.	= 0.29*
Intensity	= 2.524 in/hr	Tc by TR55	= 18.69 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.200 x 0.90) + (0.100 x 0.30) + (2.500 x 0.20) + (0.800 x 0.25) + (0.200 x 1.00)] / 3.800



TR55 Tc Worksheet

Hyd. No. 13

Watershed H

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.400		0.240		0.011		
Flow length (ft)	=	60.0		40.0		0.0		
Two-year 24-hr precip. (in)	=	3.20		3.20		0.00		
Land slope (%)	=	5.30		5.00		0.00		
Travel Time (min)	**=**	**9.66**	**+**	**4.75**	**+**	**0.00**	**=**	**14.42**
Shallow Concentrated Flow								
Flow length (ft)	=	229.00		0.00		0.00		
Watercourse slope (%)	=	4.30		0.00		0.00		
Surface description	=	Unpaved		Paved		Paved		
Average velocity (ft/s)	=	3.35		0.00		0.00		
Travel Time (min)	**=**	**1.14**	**+**	**0.00**	**+**	**0.00**	**=**	**1.14**
Channel Flow								
X sectional flow area (sqft)	=	1.25		0.00		0.00		
Wetted perimeter (ft)	=	3.74		0.00		0.00		
Channel slope (%)	=	0.30		0.00		0.00		
Manning's n-value	=	0.040		0.015		0.015		
Velocity (ft/s)	=	0.98		0.00		0.00		
Flow length (ft)	=	184.0		0.0		0.0		
Travel Time (min)	**=**	**3.13**	**+**	**0.00**	**+**	**0.00**	**=**	**3.13**

Total Travel Time, Tc ..... 18.69 min

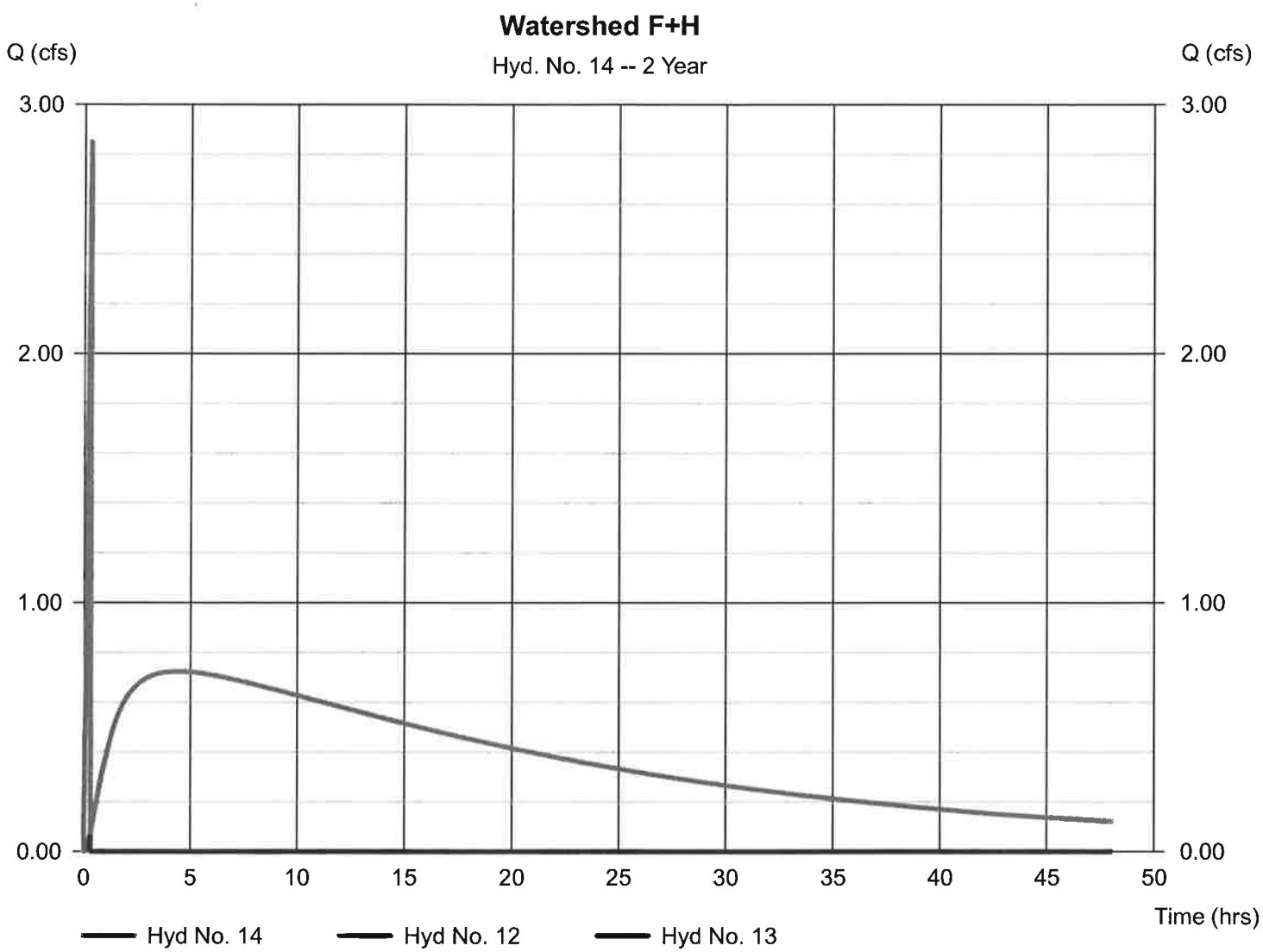
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 14

Watershed F+H

Hydrograph type	= Combine	Peak discharge	= 2.848 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 66,357 cuft
Inflow hyds.	= 12, 13	Contrib. drain. area	= 3.800 ac



Hydrograph Report

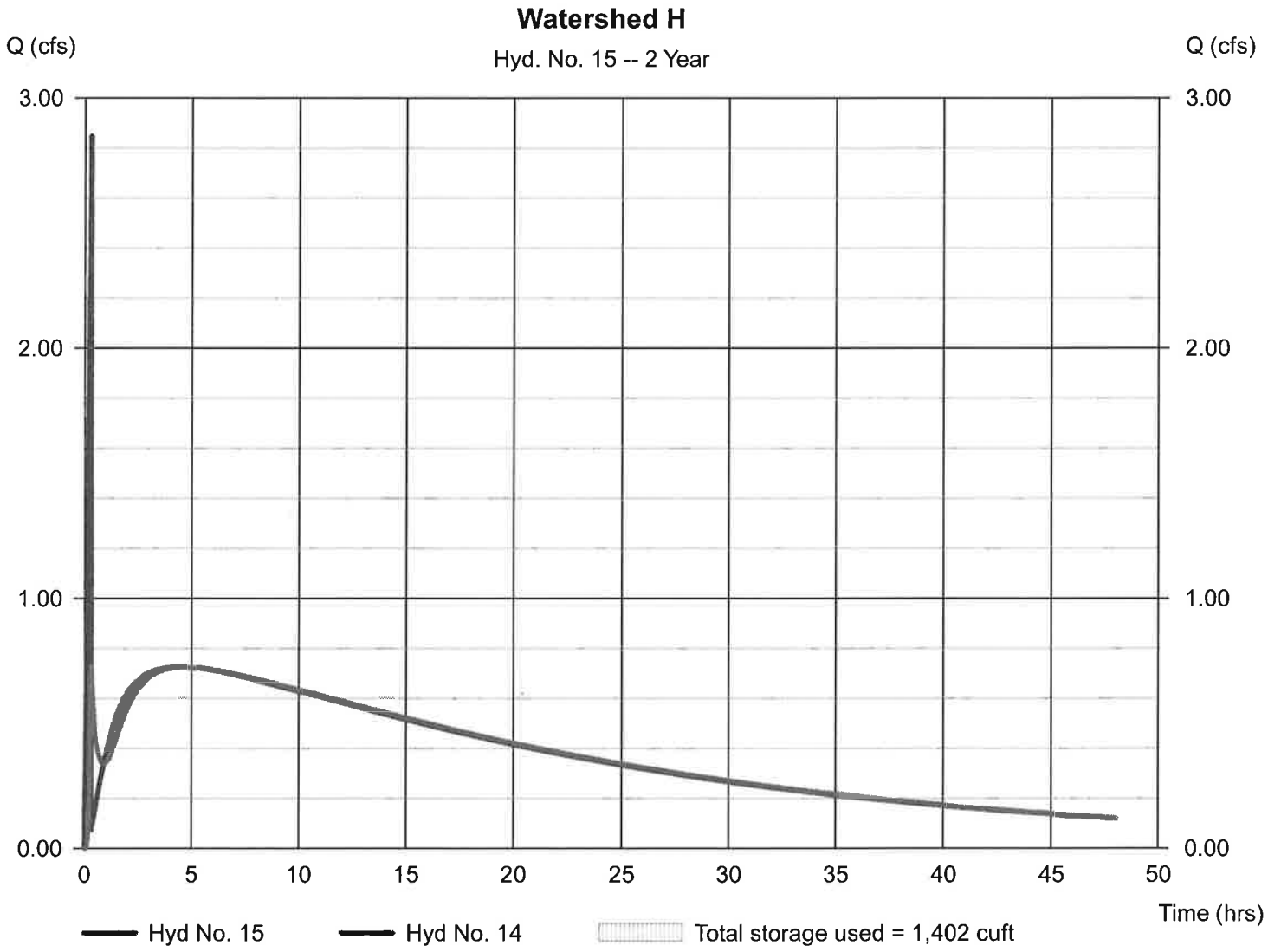
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 15

Watershed H

Hydrograph type	= Reservoir	Peak discharge	= 0.726 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 65,804 cuft
Inflow hyd. No.	= 14 - Watershed F+H	Max. Elevation	= 535.97 ft
Reservoir name	= Watershed H	Max. Storage	= 1,402 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Pond No. 7 - Watershed H

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 535.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	535.50	00	0	0
0.50	536.00	9,000	1,500	1,500
2.50	538.00	62,000	63,075	64,575

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	0.00	0.00	0.00
Span (in)	= 18.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 535.50	0.00	0.00	0.00
Length (ft)	= 40.00	0.00	0.00	0.00
Slope (%)	= 0.50	0.00	0.00	n/a
N-Value	= .024	.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)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
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	535.50	0.00	---	---	---	---	---	---	---	---	---	0.00
0.05	150	535.55	0.01 oc	---	---	---	---	---	---	---	---	---	0.01
0.10	300	535.60	0.04 oc	---	---	---	---	---	---	---	---	---	0.04
0.15	450	535.65	0.08 oc	---	---	---	---	---	---	---	---	---	0.08
0.20	600	535.70	0.14 oc	---	---	---	---	---	---	---	---	---	0.14
0.25	750	535.75	0.23 oc	---	---	---	---	---	---	---	---	---	0.23
0.30	900	535.80	0.32 oc	---	---	---	---	---	---	---	---	---	0.32
0.35	1,050	535.85	0.43 oc	---	---	---	---	---	---	---	---	---	0.43
0.40	1,200	535.90	0.55 oc	---	---	---	---	---	---	---	---	---	0.55
0.45	1,350	535.95	0.68 oc	---	---	---	---	---	---	---	---	---	0.68
0.50	1,500	536.00	0.82 oc	---	---	---	---	---	---	---	---	---	0.82
0.70	7,807	536.20	1.43 oc	---	---	---	---	---	---	---	---	---	1.43
0.90	14,115	536.40	2.08 oc	---	---	---	---	---	---	---	---	---	2.08
1.10	20,422	536.60	2.69 oc	---	---	---	---	---	---	---	---	---	2.69
1.30	26,730	536.80	3.16 oc	---	---	---	---	---	---	---	---	---	3.16
1.50	33,037	537.00	3.19 oc	---	---	---	---	---	---	---	---	---	3.19
1.70	39,345	537.20	4.51 oc	---	---	---	---	---	---	---	---	---	4.51
1.90	45,652	537.40	5.52 oc	---	---	---	---	---	---	---	---	---	5.52
2.10	51,960	537.60	6.37 oc	---	---	---	---	---	---	---	---	---	6.37
2.30	58,267	537.80	7.12 oc	---	---	---	---	---	---	---	---	---	7.12
2.50	64,575	538.00	7.80 oc	---	---	---	---	---	---	---	---	---	7.80

Hydrograph Report

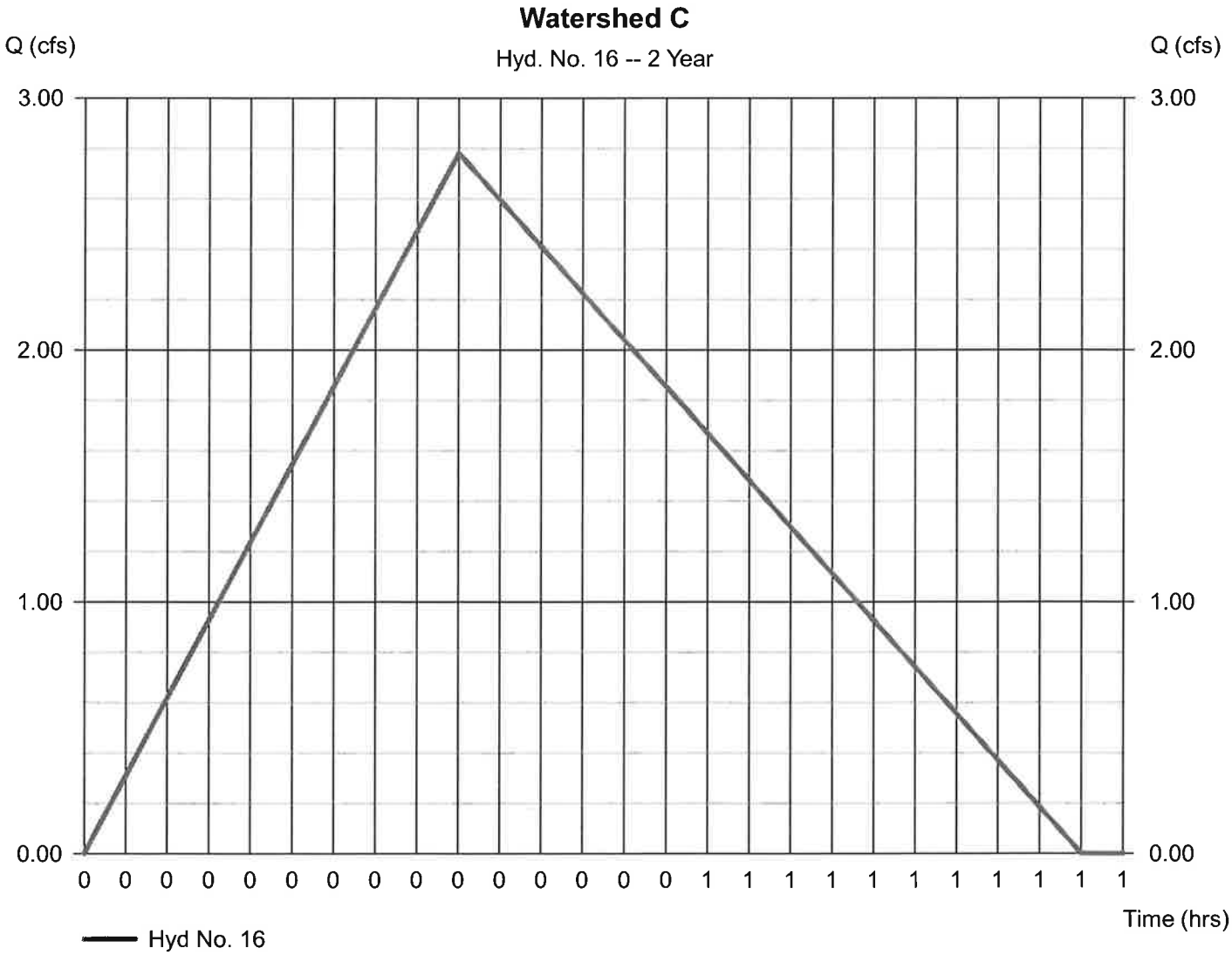
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 16

Watershed C

Hydrograph type	= Rational	Peak discharge	= 2.781 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.30 hrs
Time interval	= 1 min	Hyd. volume	= 4,076 cuft
Drainage area	= 3.300 ac	Runoff coeff.	= 0.33*
Intensity	= 2.554 in/hr	Tc by TR55	= 18.30 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.400 x 0.90) + (1.200 x 0.30) + (1.400 x 0.20) + (0.300 x 0.25)] / 3.300



TR55 Tc Worksheet

Hydraflow Hydrographs by Intelisolve v9.1

Hyd. No. 16

Watershed C

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.240		0.011		0.011		
Flow length (ft)	=	72.0		116.0		0.0		
Two-year 24-hr precip. (in)	=	3.20		3.20		0.00		
Land slope (%)	=	1.00		3.27		0.00		
Travel Time (min)	**=**	**14.48**	**+**	**1.12**	**+**	**0.00**	**=**	**15.60**
Shallow Concentrated Flow								
Flow length (ft)	=	175.00		0.00		0.00		
Watercourse slope (%)	=	8.00		0.00		0.00		
Surface description	=	Unpaved		Paved		Paved		
Average velocity (ft/s)	=	4.56		0.00		0.00		
Travel Time (min)	**=**	**0.64**	**+**	**0.00**	**+**	**0.00**	**=**	**0.64**
Channel Flow								
X sectional flow area (sqft)	=	5.00		0.00		0.00		
Wetted perimeter (ft)	=	7.47		0.00		0.00		
Channel slope (%)	=	0.90		0.00		0.00		
Manning's n-value	=	0.040		0.015		0.015		
Velocity (ft/s)	=	2.70		0.00		0.00		
Flow length (ft)	=	334.0		0.0		0.0		
Travel Time (min)	**=**	**2.06**	**+**	**0.00**	**+**	**0.00**	**=**	**2.06**

Total Travel Time, Tc ..... 18.30 min

Hydrograph Report

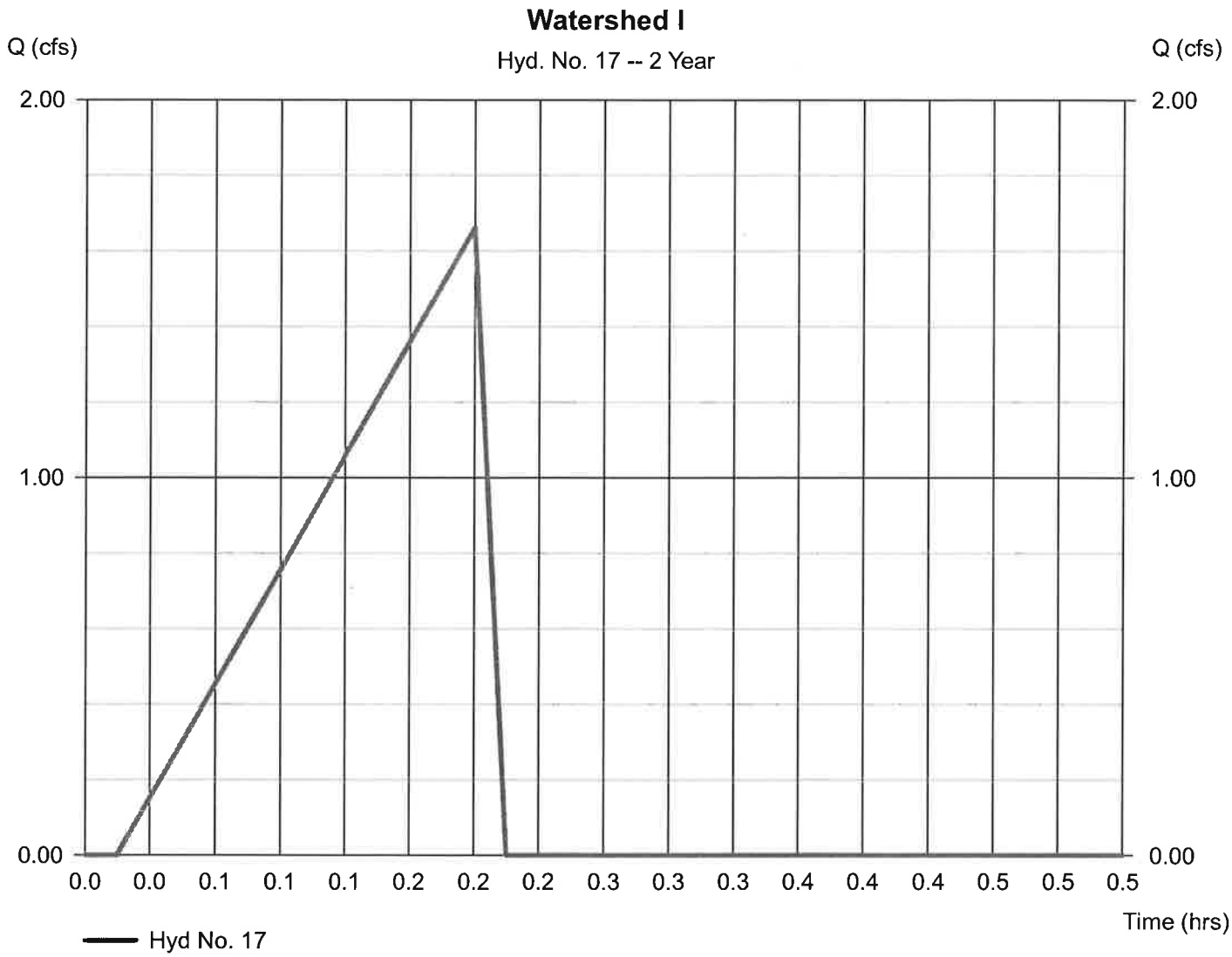
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 17

Watershed I

Hydrograph type	= Rational	Peak discharge	= 1.662 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 1,535 cuft
Drainage area	= 1.500 ac	Runoff coeff.	= 0.34*
Intensity	= 3.258 in/hr	Tc by TR55	= 11.53 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.200 x 0.90) + (0.700 x 0.30) + (0.600 x 0.20)] / 1.500



TR55 Tc Worksheet

Hydraflow Hydrographs by Intelisolve v9.1

Hyd. No. 17

Watershed I

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.240		0.011		0.011		
Flow length (ft)	=	100.0		0.0		0.0		
Two-year 24-hr precip. (in)	=	3.20		0.00		0.00		
Land slope (%)	=	6.00		0.00		0.00		
Travel Time (min)	**=**	**9.20**	**+**	**0.00**	**+**	**0.00**	**=**	**9.20**
Shallow Concentrated Flow								
Flow length (ft)	=	113.00		274.00		0.00		
Watercourse slope (%)	=	6.20		1.45		0.00		
Surface description	=	Unpaved		Paved		Paved		
Average velocity (ft/s)	=	4.02		2.45		0.00		
Travel Time (min)	**=**	**0.47**	**+**	**1.87**	**+**	**0.00**	**=**	**2.33**
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		
Travel Time (min)	**=**	**0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... 11.53 min

Hydrograph Report

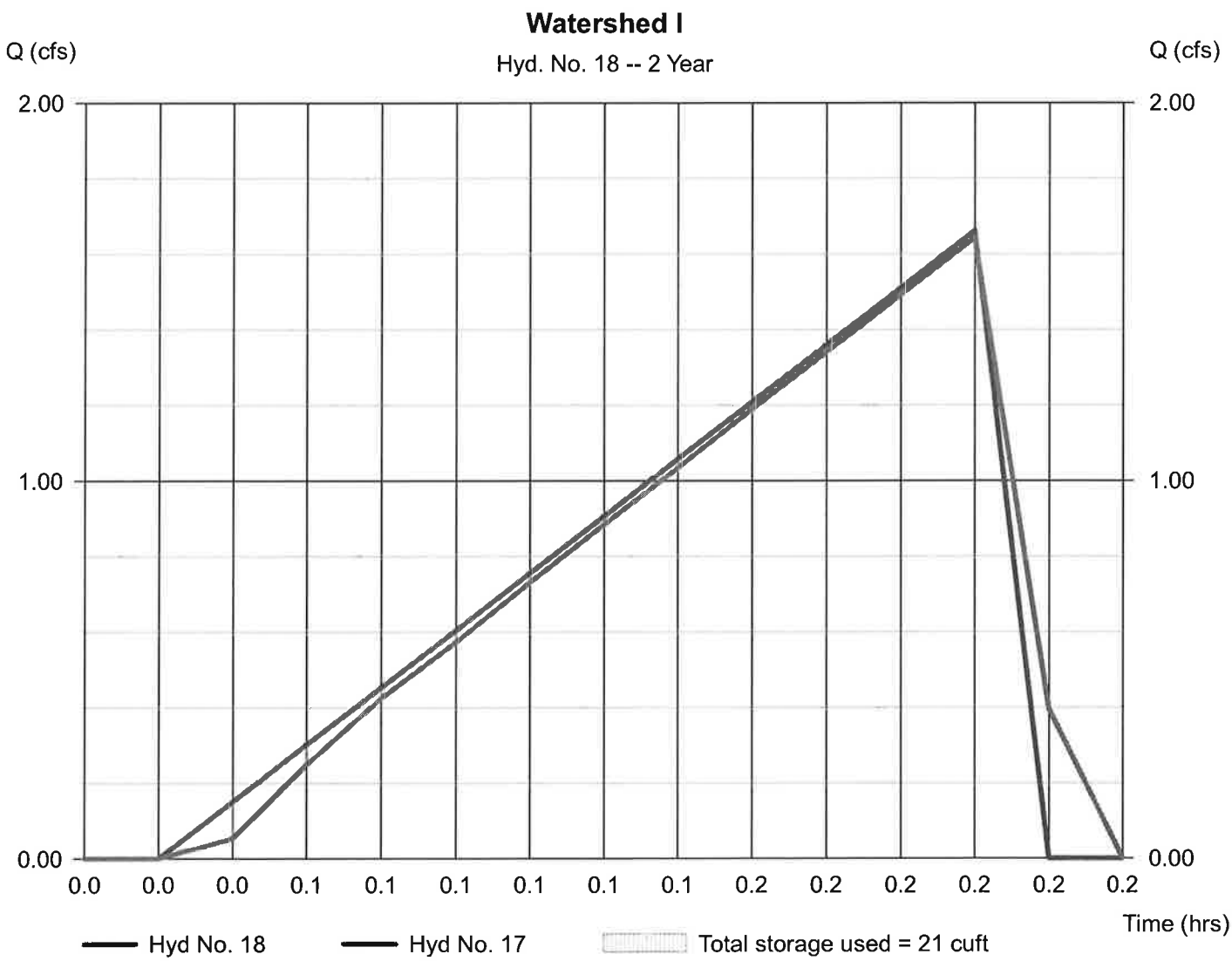
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 18

Watershed I

Hydrograph type	= Reservoir	Peak discharge	= 1.643 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 601 cuft
Inflow hyd. No.	= 17 - Watershed I	Max. Elevation	= 531.39 ft
Reservoir name	= Watershed I	Max. Storage	= 21 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Pond No. 6 - Watershed I

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 530.75 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	530.75	00	0	0
1.25	532.00	100	42	42
3.25	534.00	200	294	336

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 15.00	0.00	0.00	0.00
Span (in)	= 15.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 530.75	0.00	0.00	0.00
Length (ft)	= 36.65	0.00	0.00	0.00
Slope (%)	= 1.44	0.00	0.00	n/a
N-Value	= .015	.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)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
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	530.75	0.00	---	---	---	---	---	---	---	---	---	0.00
0.13	4	530.88	0.08 ic	---	---	---	---	---	---	---	---	---	0.08
0.25	8	531.00	0.30 ic	---	---	---	---	---	---	---	---	---	0.30
0.38	12	531.13	0.65 ic	---	---	---	---	---	---	---	---	---	0.65
0.50	17	531.25	1.10 ic	---	---	---	---	---	---	---	---	---	1.10
0.63	21	531.38	1.65 ic	---	---	---	---	---	---	---	---	---	1.65
0.75	25	531.50	2.27 ic	---	---	---	---	---	---	---	---	---	2.27
0.88	29	531.63	2.92 ic	---	---	---	---	---	---	---	---	---	2.92
1.00	33	531.75	3.58 ic	---	---	---	---	---	---	---	---	---	3.58
1.13	37	531.88	4.20 ic	---	---	---	---	---	---	---	---	---	4.20
1.25	42	532.00	4.42 oc	---	---	---	---	---	---	---	---	---	4.42
1.45	71	532.20	5.19 oc	---	---	---	---	---	---	---	---	---	5.19
1.65	101	532.40	5.86 oc	---	---	---	---	---	---	---	---	---	5.86
1.85	130	532.60	6.46 oc	---	---	---	---	---	---	---	---	---	6.46
2.05	159	532.80	7.01 oc	---	---	---	---	---	---	---	---	---	7.01
2.25	189	533.00	7.51 oc	---	---	---	---	---	---	---	---	---	7.51
2.45	218	533.20	7.98 ic	---	---	---	---	---	---	---	---	---	7.98
2.65	248	533.40	8.41 ic	---	---	---	---	---	---	---	---	---	8.41
2.85	277	533.60	8.81 ic	---	---	---	---	---	---	---	---	---	8.81
3.05	306	533.80	9.20 ic	---	---	---	---	---	---	---	---	---	9.20
3.25	336	534.00	9.57 ic	---	---	---	---	---	---	---	---	---	9.57

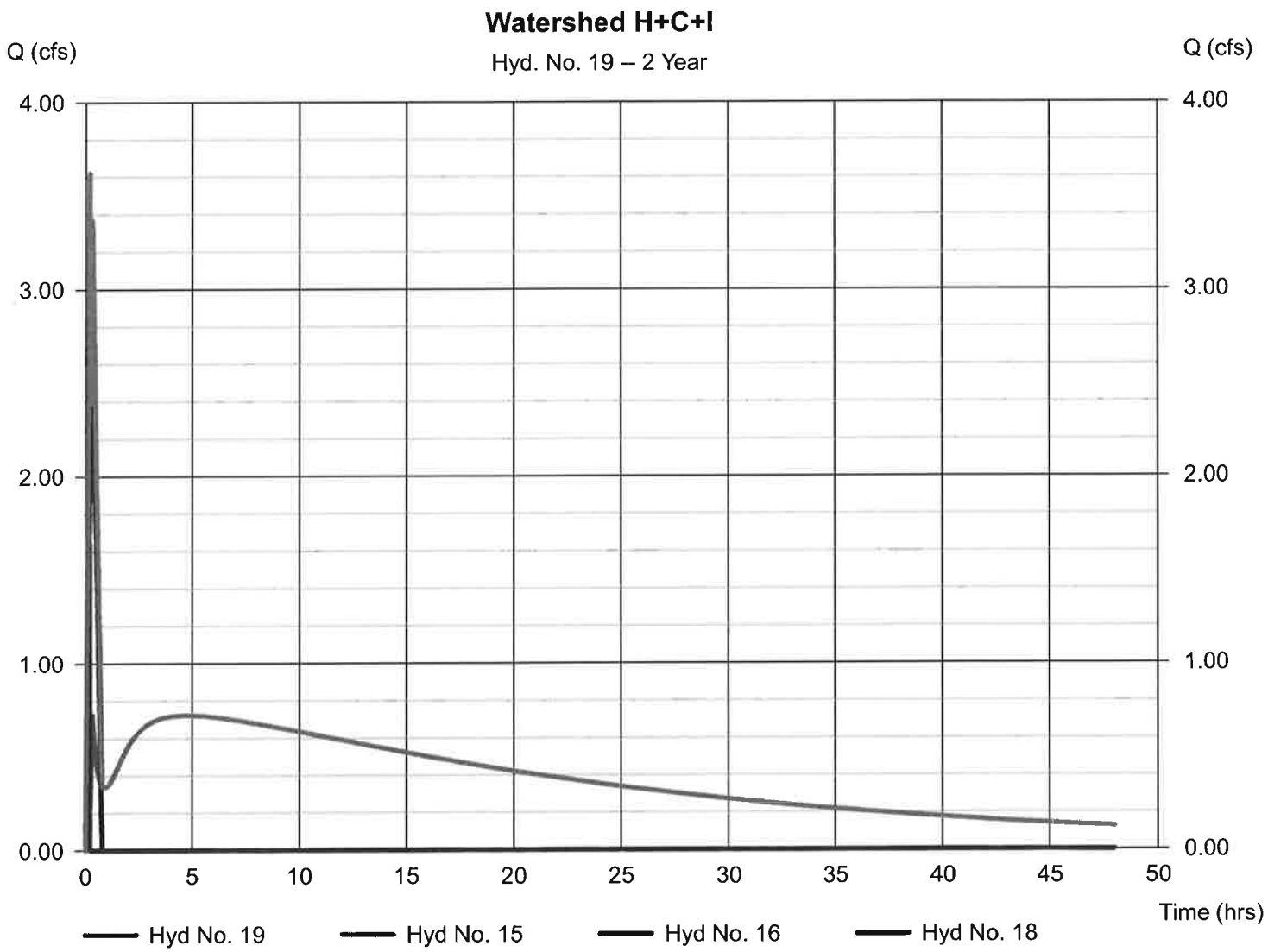
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 19

Watershed H+C+I

Hydrograph type	= Combine	Peak discharge	= 3.619 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 70,409 cuft
Inflow hyds.	= 15, 16, 18	Contrib. drain. area	= 3.300 ac



Hydrograph Report

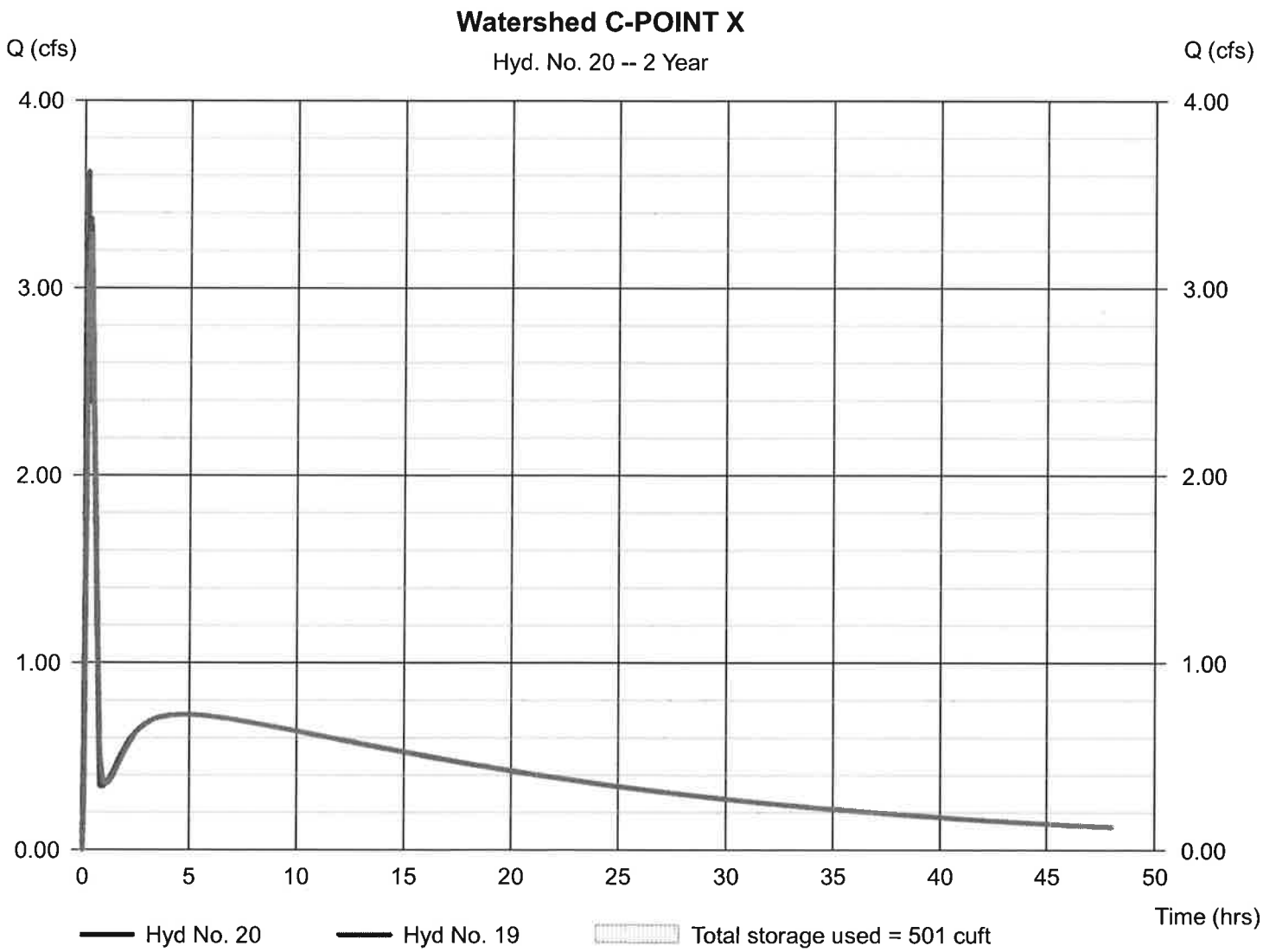
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 20

Watershed C-POINT X

Hydrograph type	= Reservoir	Peak discharge	= 3.284 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 70,365 cuft
Inflow hyd. No.	= 19 - Watershed H+C+I	Max. Elevation	= 529.64 ft
Reservoir name	= Watershed C	Max. Storage	= 501 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Pond No. 8 - Watershed C

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 528.89 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	528.89	00	0	0
3.11	532.00	2,000	2,073	2,073
5.11	534.00	25,000	22,712	24,785
7.11	536.00	36,000	60,661	85,446

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 24.00	0.00	0.00	0.00
Span (in)	= 24.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 528.89	0.00	0.00	0.00
Length (ft)	= 133.50	0.00	0.00	0.00
Slope (%)	= 1.24	0.00	0.00	n/a
N-Value	= .024	.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)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
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	528.89	0.00	---	---	---	---	---	---	---	---	---	0.00
0.31	207	529.20	0.59 ic	---	---	---	---	---	---	---	---	---	0.59
0.62	415	529.51	2.24 ic	---	---	---	---	---	---	---	---	---	2.24
0.93	622	529.82	4.73 ic	---	---	---	---	---	---	---	---	---	4.73
1.24	829	530.13	7.80 ic	---	---	---	---	---	---	---	---	---	7.80
1.56	1,037	530.44	11.13 ic	---	---	---	---	---	---	---	---	---	11.13
1.87	1,244	530.76	12.76 oc	---	---	---	---	---	---	---	---	---	12.76
2.18	1,451	531.07	12.78 oc	---	---	---	---	---	---	---	---	---	12.78
2.49	1,659	531.38	13.82 oc	---	---	---	---	---	---	---	---	---	13.82
2.80	1,866	531.69	14.79 oc	---	---	---	---	---	---	---	---	---	14.79
3.11	2,073	532.00	15.71 oc	---	---	---	---	---	---	---	---	---	15.71
3.31	4,344	532.20	16.26 oc	---	---	---	---	---	---	---	---	---	16.26
3.51	6,615	532.40	16.81 oc	---	---	---	---	---	---	---	---	---	16.81
3.71	8,887	532.60	17.33 oc	---	---	---	---	---	---	---	---	---	17.33
3.91	11,158	532.80	17.84 oc	---	---	---	---	---	---	---	---	---	17.84
4.11	13,429	533.00	18.33 oc	---	---	---	---	---	---	---	---	---	18.33
4.31	15,700	533.20	18.81 oc	---	---	---	---	---	---	---	---	---	18.81
4.51	17,971	533.40	19.28 oc	---	---	---	---	---	---	---	---	---	19.28
4.71	20,243	533.60	19.74 oc	---	---	---	---	---	---	---	---	---	19.74
4.91	22,514	533.80	20.19 oc	---	---	---	---	---	---	---	---	---	20.19
5.11	24,785	534.00	20.63 oc	---	---	---	---	---	---	---	---	---	20.63
5.31	30,851	534.20	21.06 oc	---	---	---	---	---	---	---	---	---	21.06
5.51	36,917	534.40	21.48 oc	---	---	---	---	---	---	---	---	---	21.48
5.71	42,983	534.60	21.89 oc	---	---	---	---	---	---	---	---	---	21.89
5.91	49,049	534.80	22.29 oc	---	---	---	---	---	---	---	---	---	22.29
6.11	55,115	535.00	22.69 oc	---	---	---	---	---	---	---	---	---	22.69
6.31	61,181	535.20	23.08 oc	---	---	---	---	---	---	---	---	---	23.08
6.51	67,247	535.40	23.47 oc	---	---	---	---	---	---	---	---	---	23.47
6.71	73,313	535.60	23.84 oc	---	---	---	---	---	---	---	---	---	23.84
6.91	79,379	535.80	24.22 oc	---	---	---	---	---	---	---	---	---	24.22
7.11	85,446	536.00	24.58 oc	---	---	---	---	---	---	---	---	---	24.58

Hydrograph Report

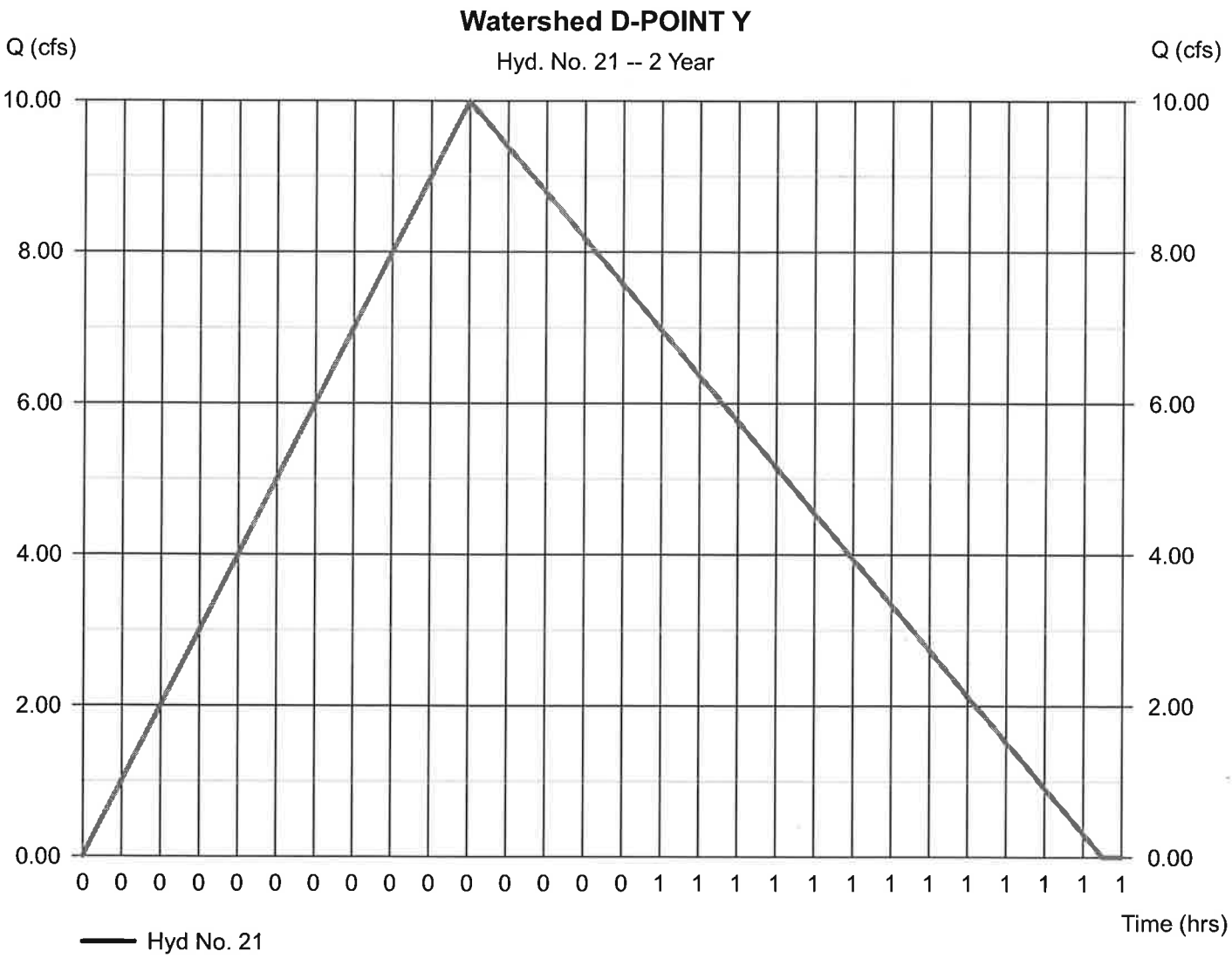
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 21

Watershed D-POINT Y

Hydrograph type	= Rational	Peak discharge	= 9.989 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 16,002 cuft
Drainage area	= 14.190 ac	Runoff coeff.	= 0.29*
Intensity	= 2.427 in/hr	Tc by TR55	= 20.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.500 x 0.90) + (1.750 x 0.30) + (10.940 x 0.20)] / 14.190



TR55 Tc Worksheet

Hydraflow Hydrographs by Intelisolve v9.1

Hyd. No. 21

Watershed D-POINT Y

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.240		0.011		0.011		
Flow length (ft)	=	100.0		0.0		0.0		
Two-year 24-hr precip. (in)	=	3.20		0.00		0.00		
Land slope (%)	=	2.30		0.00		0.00		
Travel Time (min)	**=**	**13.49**	**+**	**0.00**	**+**	**0.00**	**=**	**13.49**
Shallow Concentrated Flow								
Flow length (ft)	=	107.00		206.00		0.00		
Watercourse slope (%)	=	7.57		0.49		0.00		
Surface description	=	Unpaved		Paved		Paved		
Average velocity (ft/s)	=	4.44		1.42		0.00		
Travel Time (min)	**=**	**0.40**	**+**	**2.43**	**+**	**0.00**	**=**	**2.83**
Channel Flow								
X sectional flow area (sqft)	=	1.23		1.50		0.00		
Wetted perimeter (ft)	=	3.93		4.24		0.00		
Channel slope (%)	=	0.50		4.42		0.00		
Manning's n-value	=	0.015		0.040		0.015		
Velocity (ft/s)	=	3.22		3.91		0.00		
Flow length (ft)	=	194.0		678.0		0.0		
Travel Time (min)	**=**	**1.00**	**+**	**2.89**	**+**	**0.00**	**=**	**3.90**

Total Travel Time, Tc ..... 20.00 min

Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.1

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	Rational	7.312	1	17	9,956	----	------	------	Watershed A
2	Reservoir	2.822	1	34	9,848	1	565.88	6,257	Watershed A
3	Rational	5.507	1	14	5,974	----	------	------	Watershed B
4	Reservoir	1.167	1	31	5,770	3	566.95	4,695	Watershed B
5	Rational	29.71	1	29	69,874	----	------	------	Watershed E
6	Rational	6.102	1	22	10,956	----	------	------	Watershed G
7	Reservoir	0.007	1	59	1,170	6	546.31	10,780	Watershed G
8	Combine	33.59	1	29	85,149	2, 4, 5,	------	------	Watershed A+B+E
9	Reservoir	16.32	1	55	85,137	8	542.10	46,060	Watershed E-POINT Z
10	Rational	16.23	1	20	25,926	----	------	------	Watershed F
11	Combine	18.65	1	43	110,457	9, 10	------	------	Watershed A+B+E+F
12	Reservoir	1.089	1	236	95,217	11	539.36	89,119	Watershed F
13	Rational	4.003	1	19	5,992	----	------	------	Watershed H
14	Combine	4.100	1	19	97,499	12, 13	------	------	Watershed F+H
15	Reservoir	1.019	1	423	96,840	14	536.07	3,567	Watershed H
16	Rational	3.998	1	18	5,860	----	------	------	Watershed C
17	Rational	2.315	1	12	2,138	----	------	------	Watershed I
18	Reservoir	2.292	1	12	838	17	531.52	25.1	Watershed I
19	Combine	5.202	1	12	103,435	15, 16, 18	------	------	Watershed H+C+I
20	Reservoir	4.649	1	20	103,374	19	529.83	615	Watershed C-POINT X
21	Rational	14.44	1	20	23,125	----	------	------	Watershed D-POINT Y

Hydrograph Report

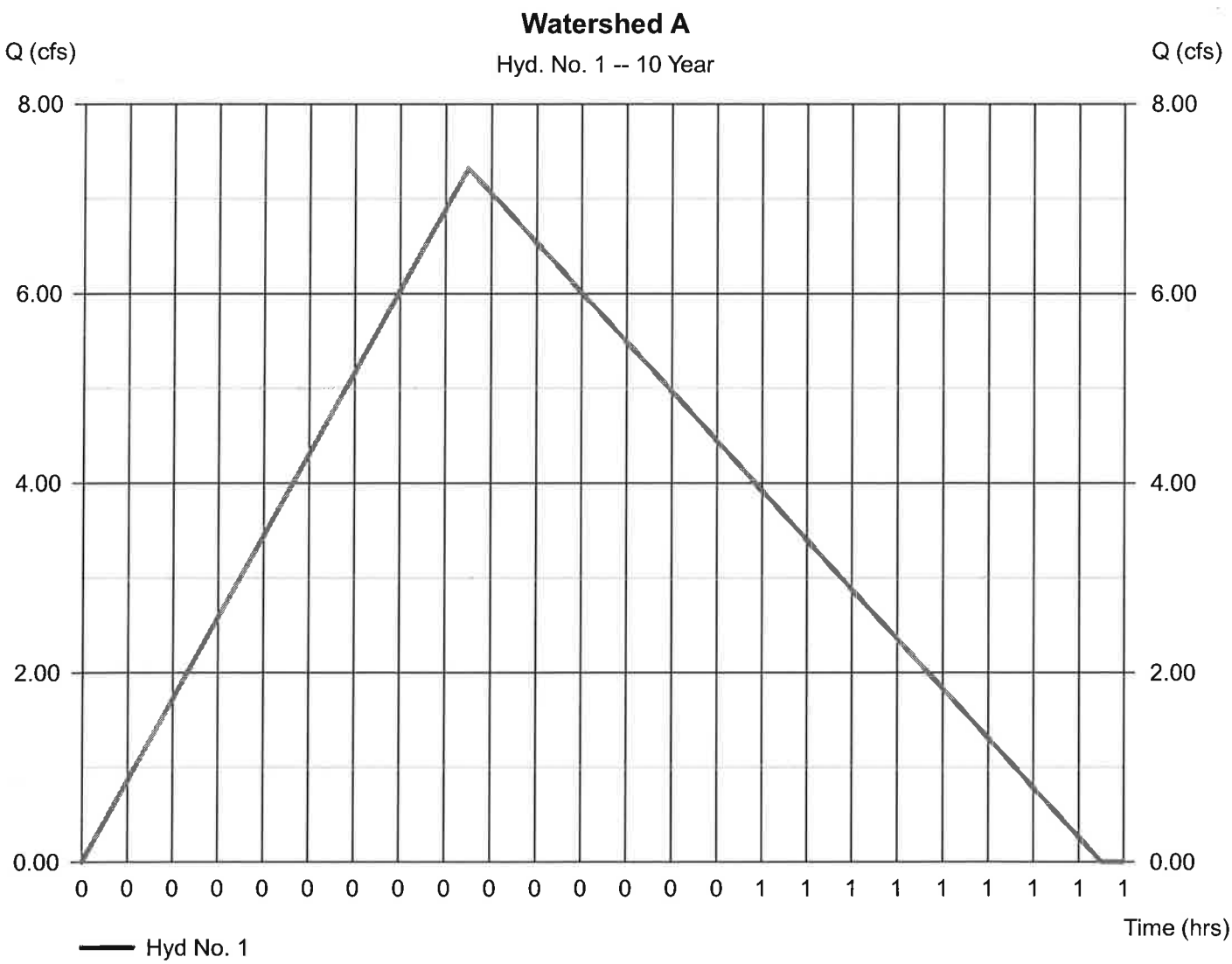
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 1

Watershed A

Hydrograph type	= Rational	Peak discharge	= 7.312 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.28 hrs
Time interval	= 1 min	Hyd. volume	= 9,956 cuft
Drainage area	= 8.000 ac	Runoff coeff.	= 0.24*
Intensity	= 3.808 in/hr	Tc by TR55	= 17.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.400 x 0.90) + (0.500 x 0.30) + (7.100 x 0.20)] / 8.000



Hydrograph Report

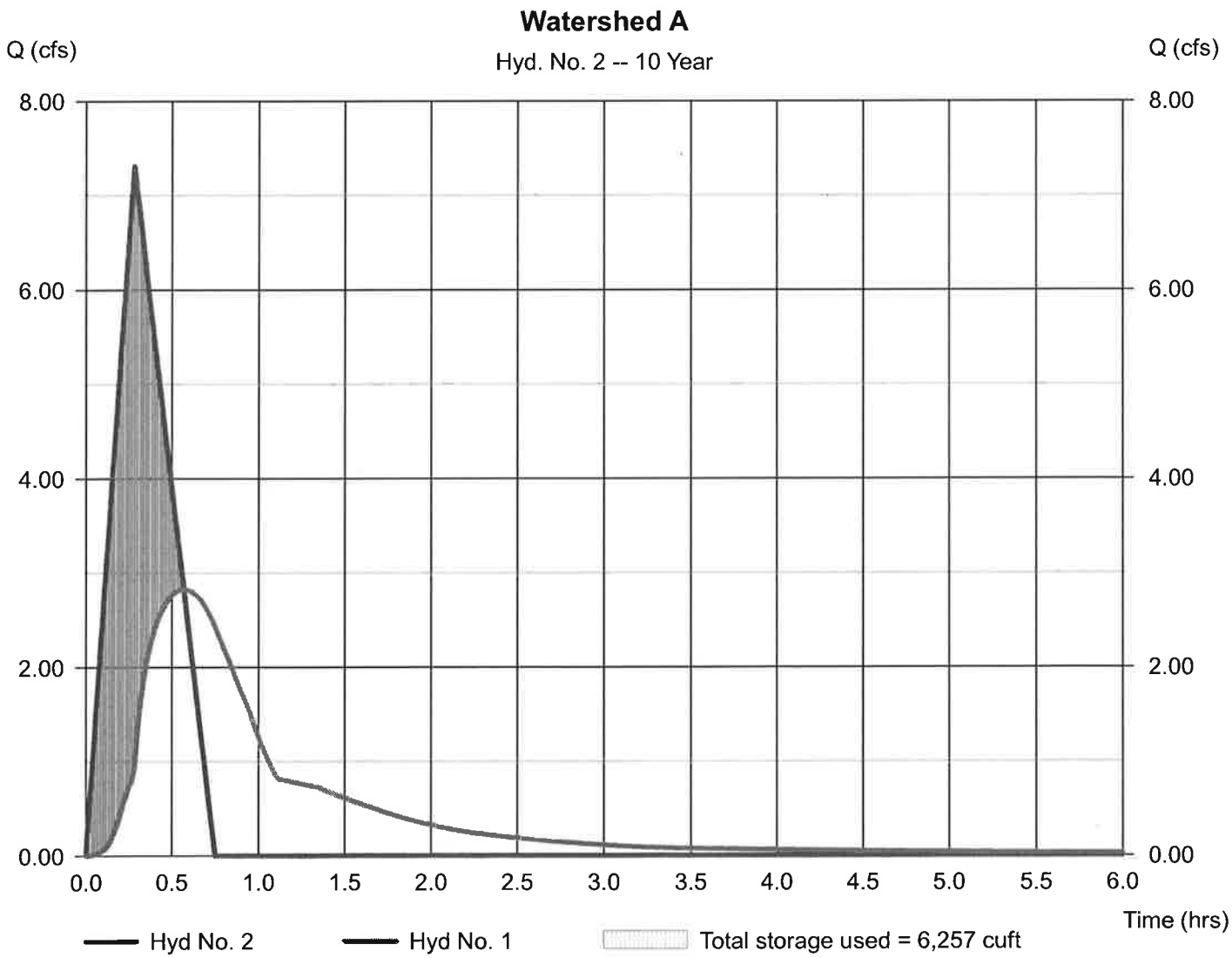
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 2

Watershed A

Hydrograph type	= Reservoir	Peak discharge	= 2.822 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.57 hrs
Time interval	= 1 min	Hyd. volume	= 9,848 cuft
Inflow hyd. No.	= 1 - Watershed A	Max. Elevation	= 565.88 ft
Reservoir name	= Watershed A	Max. Storage	= 6,257 cuft

Storage Indication method used.



Hydrograph Report

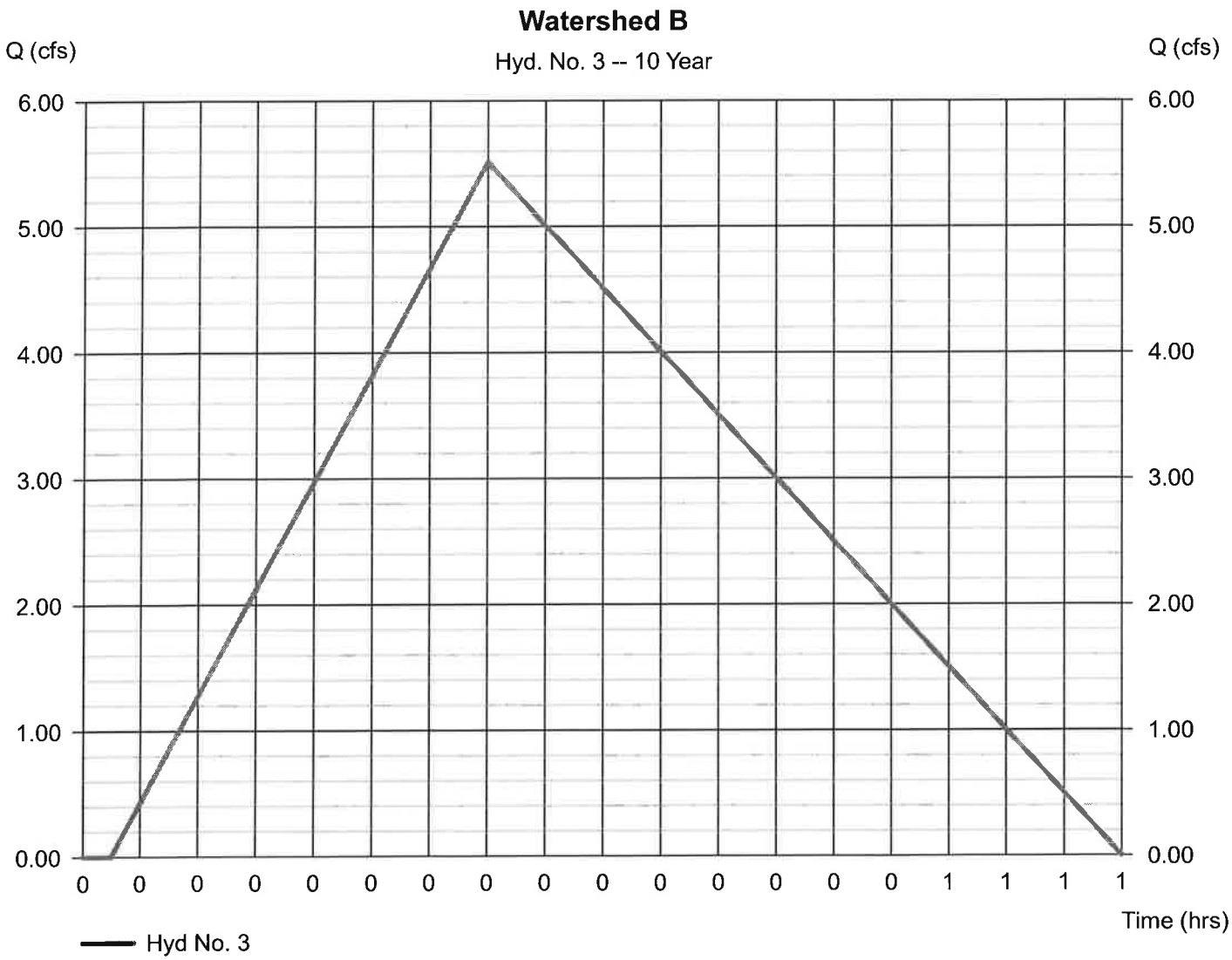
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 3

Watershed B

Hydrograph type	= Rational	Peak discharge	= 5.507 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.23 hrs
Time interval	= 1 min	Hyd. volume	= 5,974 cuft
Drainage area	= 5.200 ac	Runoff coeff.	= 0.25*
Intensity	= 4.236 in/hr	Tc by TR55	= 13.54 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.300 x 0.90) + (0.500 x 0.30) + (4.400 x 0.20)] / 5.200



Hydrograph Report

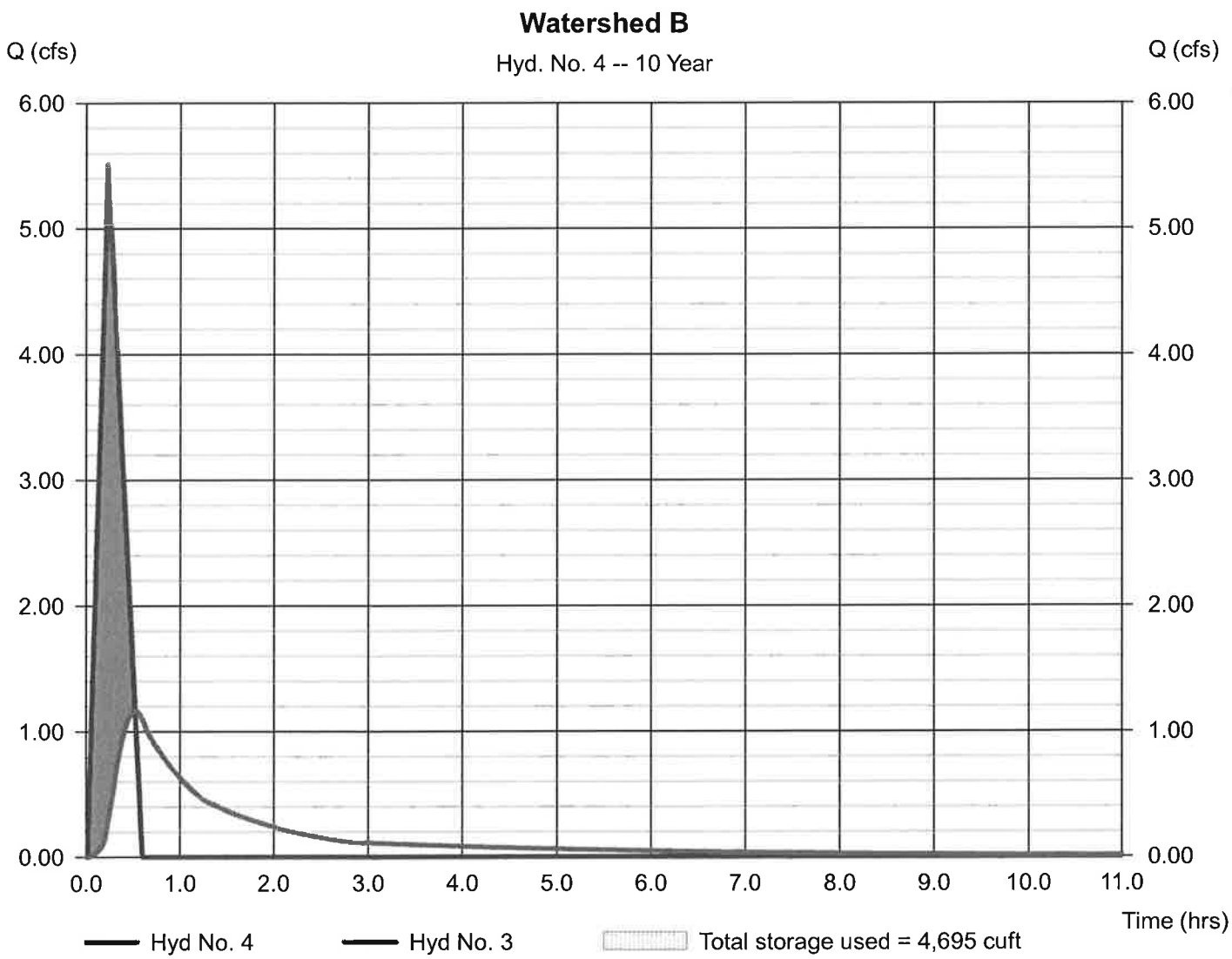
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 4

Watershed B

Hydrograph type	= Reservoir	Peak discharge	= 1.167 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.52 hrs
Time interval	= 1 min	Hyd. volume	= 5,770 cuft
Inflow hyd. No.	= 3 - Watershed B	Max. Elevation	= 566.95 ft
Reservoir name	= Watershed B	Max. Storage	= 4,695 cuft

Storage Indication method used.



Hydrograph Report

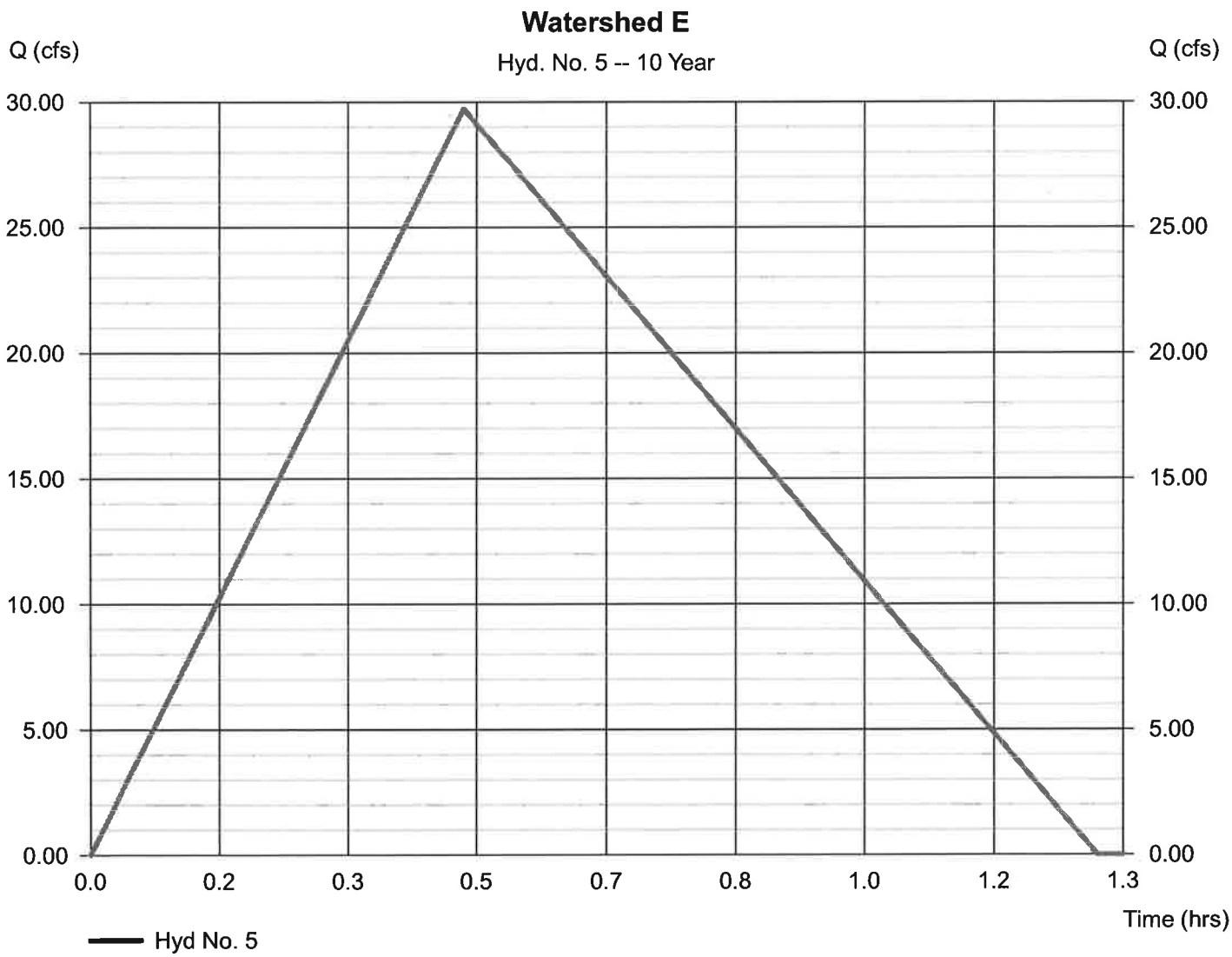
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 5

Watershed E

Hydrograph type	= Rational	Peak discharge	= 29.71 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.48 hrs
Time interval	= 1 min	Hyd. volume	= 69,874 cuft
Drainage area	= 40.300 ac	Runoff coeff.	= 0.26*
Intensity	= 2.836 in/hr	Tc by TR55	= 29.36 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(2.100 x 0.90) + (7.700 x 0.30) + (30.500 x 0.20)] / 40.300



Hydrograph Report

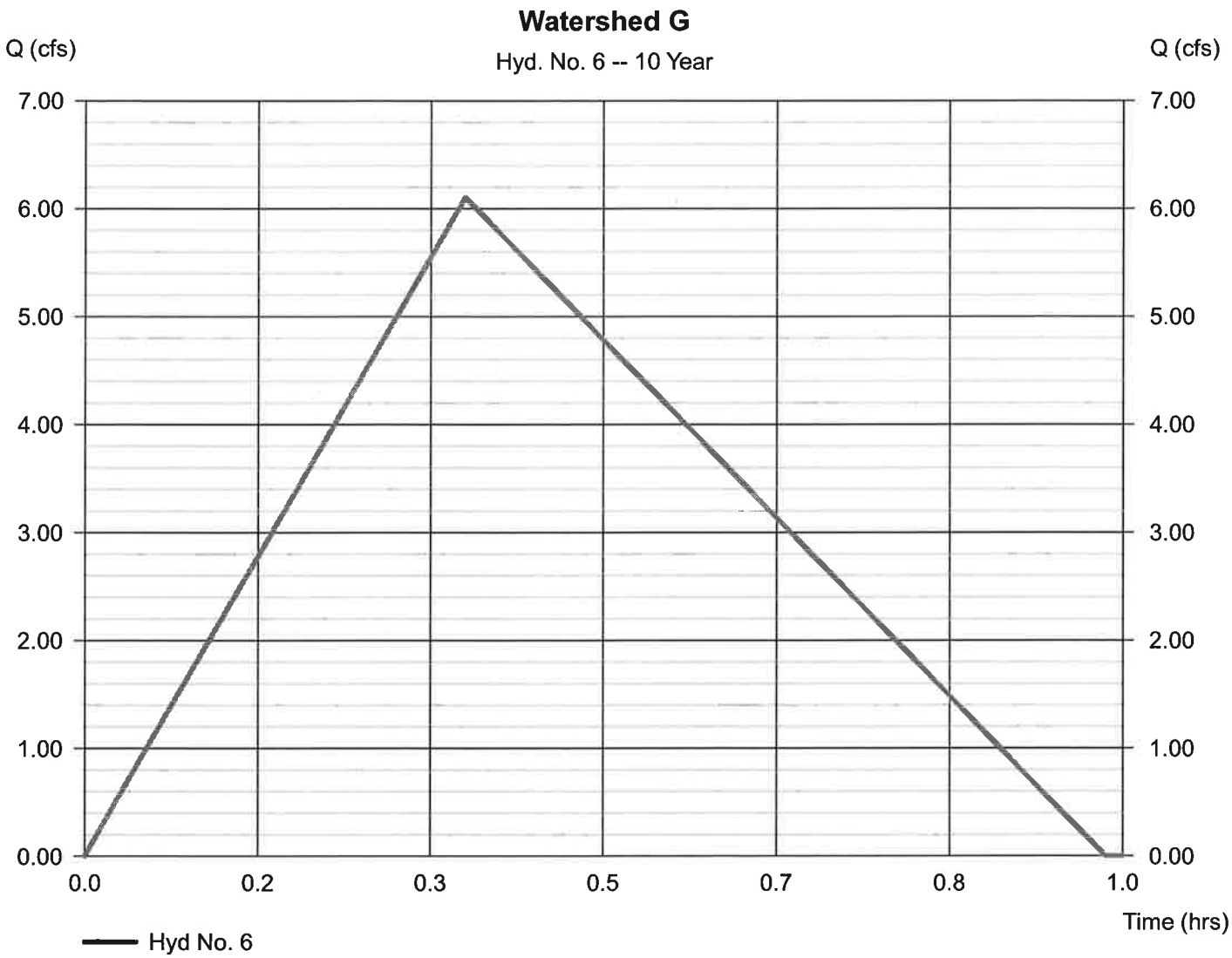
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 6

Watershed G

Hydrograph type	= Rational	Peak discharge	= 6.102 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.37 hrs
Time interval	= 1 min	Hyd. volume	= 10,956 cuft
Drainage area	= 7.700 ac	Runoff coeff.	= 0.24*
Intensity	= 3.302 in/hr	Tc by TR55	= 22.41 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.300 x 0.90) + (0.800 x 0.30) + (6.600 x 0.20)] / 7.700



Hydrograph Report

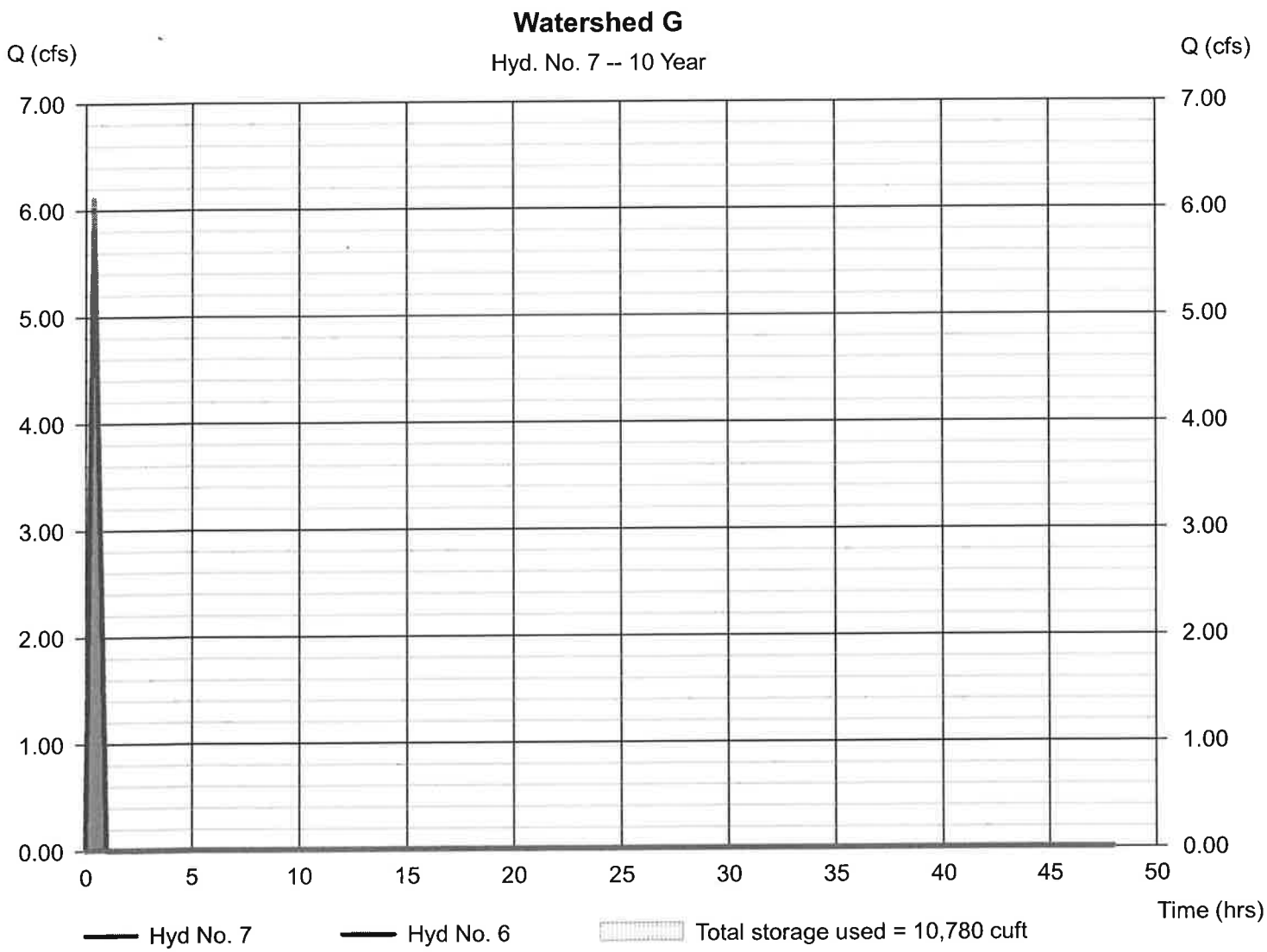
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 7

Watershed G

Hydrograph type	= Reservoir	Peak discharge	= 0.007 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.98 hrs
Time interval	= 1 min	Hyd. volume	= 1,170 cuft
Inflow hyd. No.	= 6 - Watershed G	Max. Elevation	= 546.31 ft
Reservoir name	= Watershed G	Max. Storage	= 10,780 cuft

Storage Indication method used.



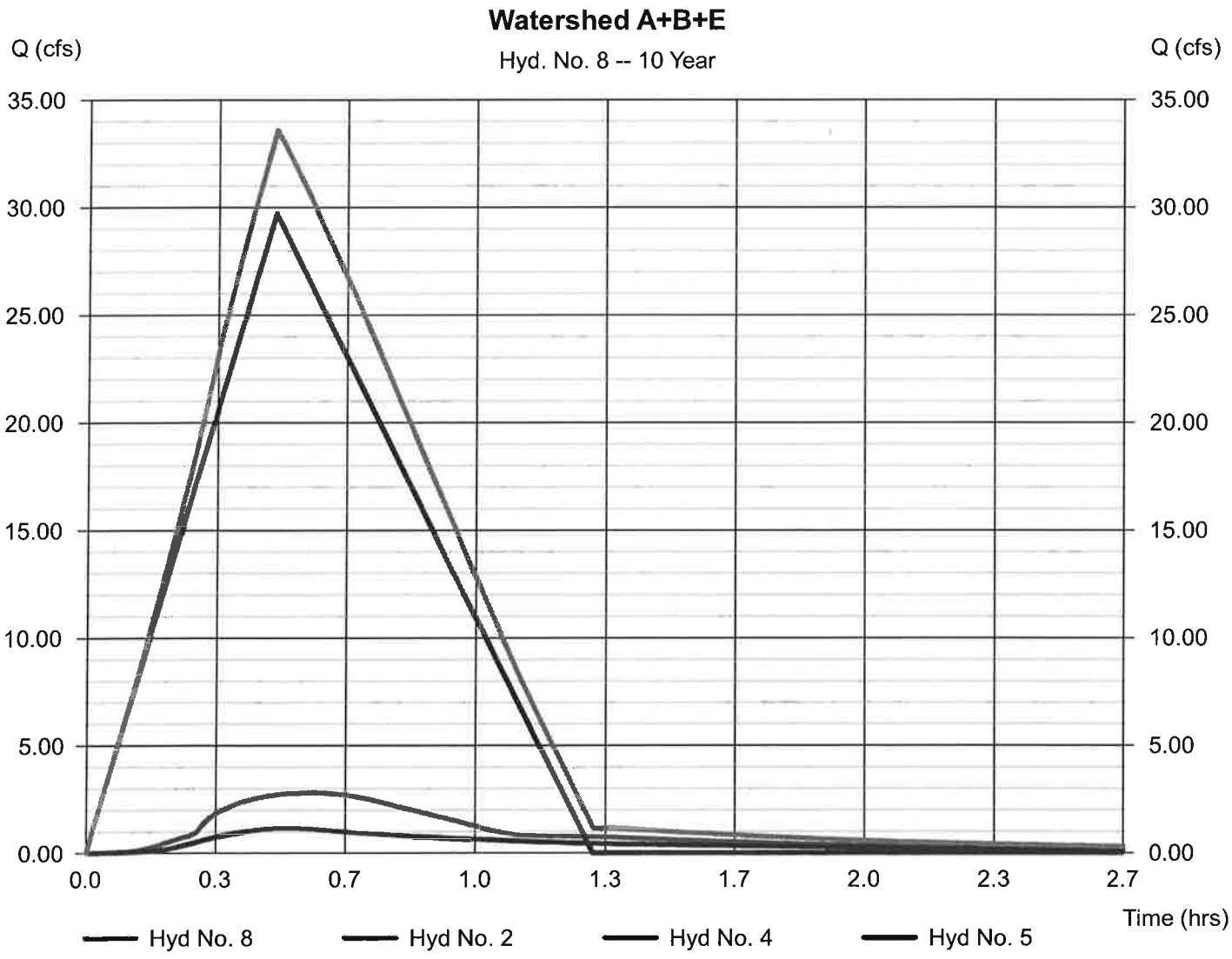
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 8

Watershed A+B+E

Hydrograph type	= Combine	Peak discharge	= 33.59 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.48 hrs
Time interval	= 1 min	Hyd. volume	= 85,149 cuft
Inflow hyds.	= 2, 4, 5	Contrib. drain. area	= 40.300 ac



Hydrograph Report

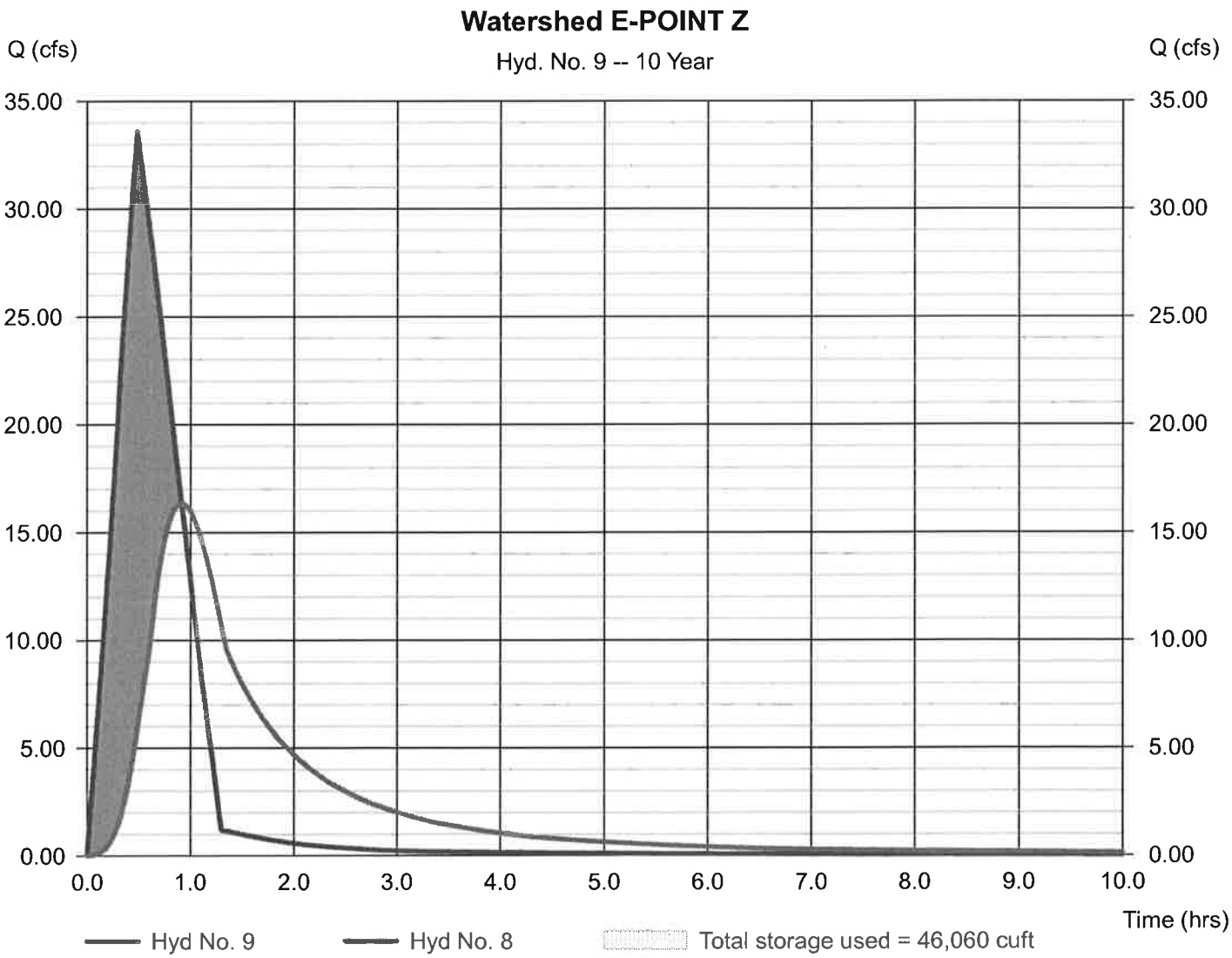
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 9

Watershed E-POINT Z

Hydrograph type	= Reservoir	Peak discharge	= 16.32 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.92 hrs
Time interval	= 1 min	Hyd. volume	= 85,137 cuft
Inflow hyd. No.	= 8 - Watershed A+B+E	Max. Elevation	= 542.10 ft
Reservoir name	= Watershed E	Max. Storage	= 46,060 cuft

Storage Indication method used.



Hydrograph Report

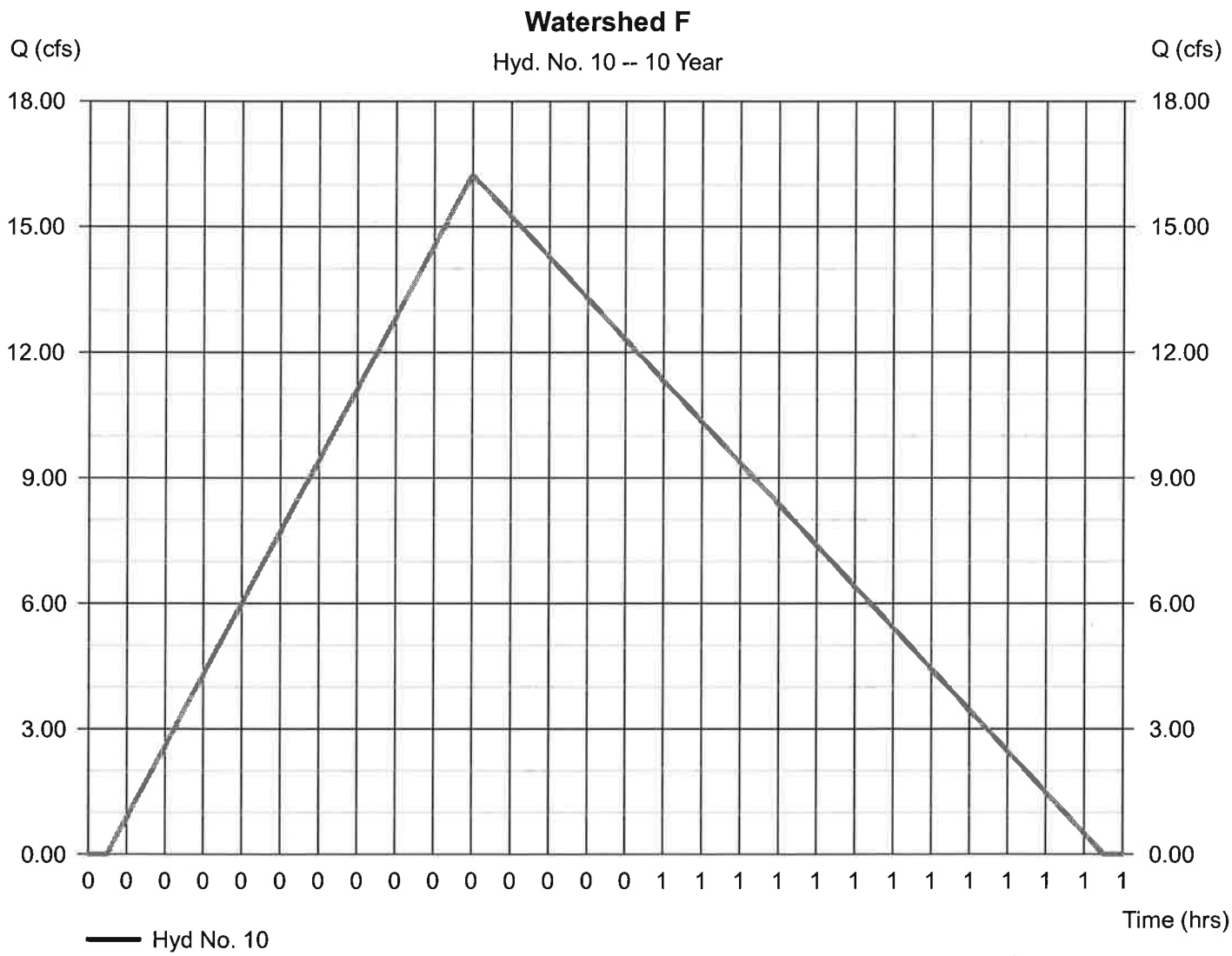
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 10

Watershed F

Hydrograph type	= Rational	Peak discharge	= 16.23 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 25,926 cuft
Drainage area	= 15.400 ac	Runoff coeff.	= 0.3*
Intensity	= 3.513 in/hr	Tc by TR55	= 19.94 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.000 x 0.90) + (5.100 x 0.30) + (8.800 x 0.20) + (0.500 x 1.00)] / 15.400



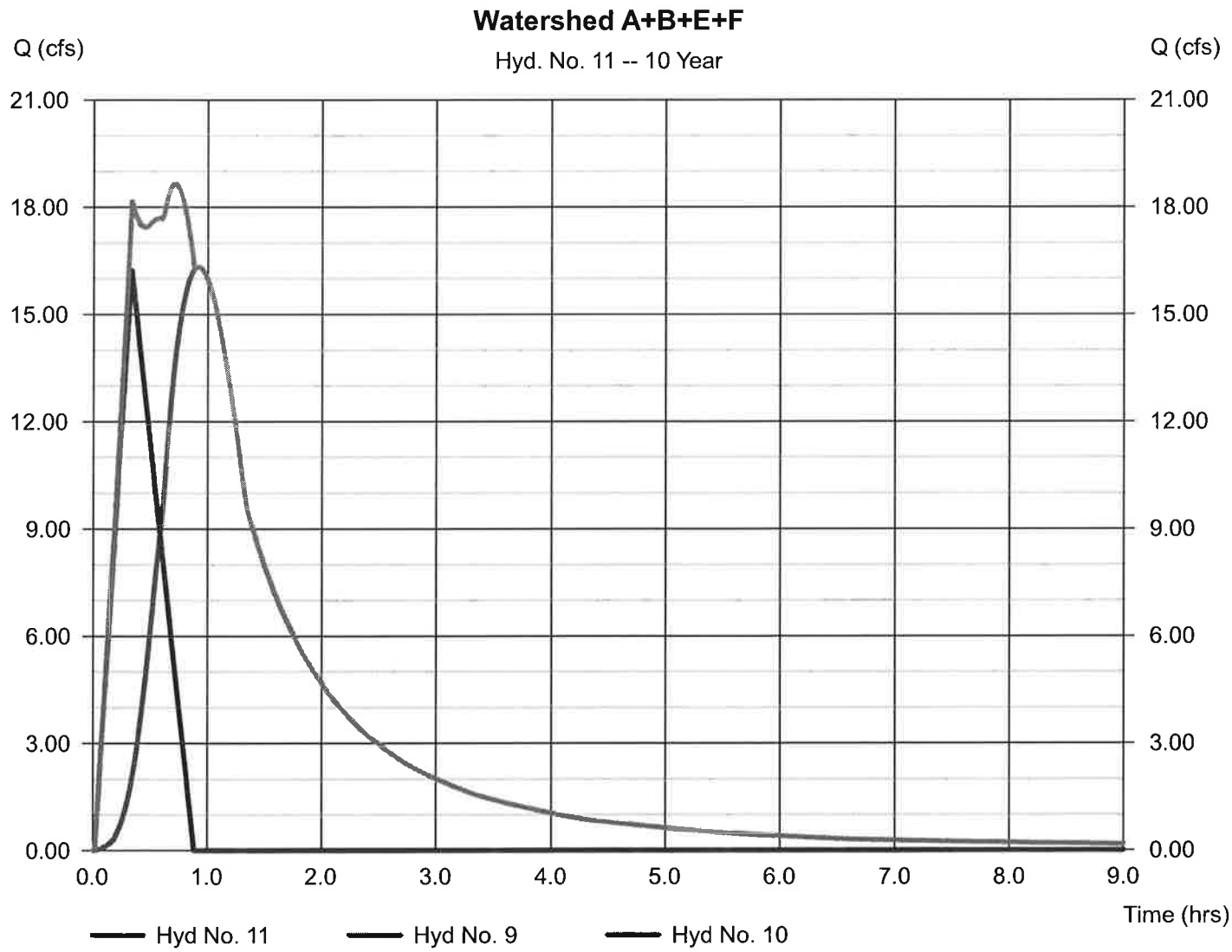
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 11

Watershed A+B+E+F

Hydrograph type	= Combine	Peak discharge	= 18.65 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.72 hrs
Time interval	= 1 min	Hyd. volume	= 110,457 cuft
Inflow hyds.	= 9, 10	Contrib. drain. area	= 15.400 ac



Hydrograph Report

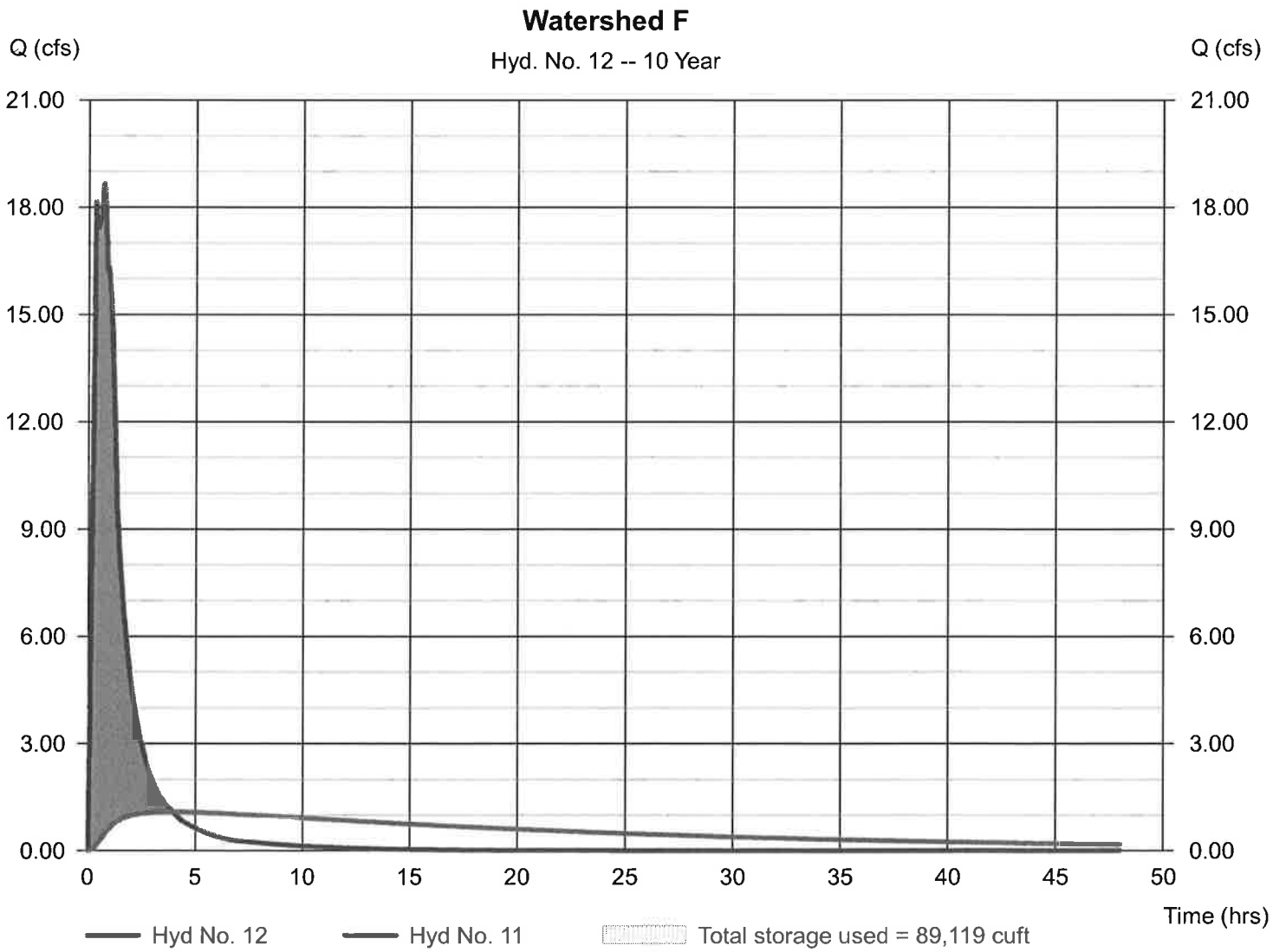
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 12

Watershed F

Hydrograph type	= Reservoir	Peak discharge	= 1.089 cfs
Storm frequency	= 10 yrs	Time to peak	= 3.93 hrs
Time interval	= 1 min	Hyd. volume	= 95,217 cuft
Inflow hyd. No.	= 11 - Watershed A+B+E+F	Max. Elevation	= 539.36 ft
Reservoir name	= Watershed F	Max. Storage	= 89,119 cuft

Storage Indication method used.



Hydrograph Report

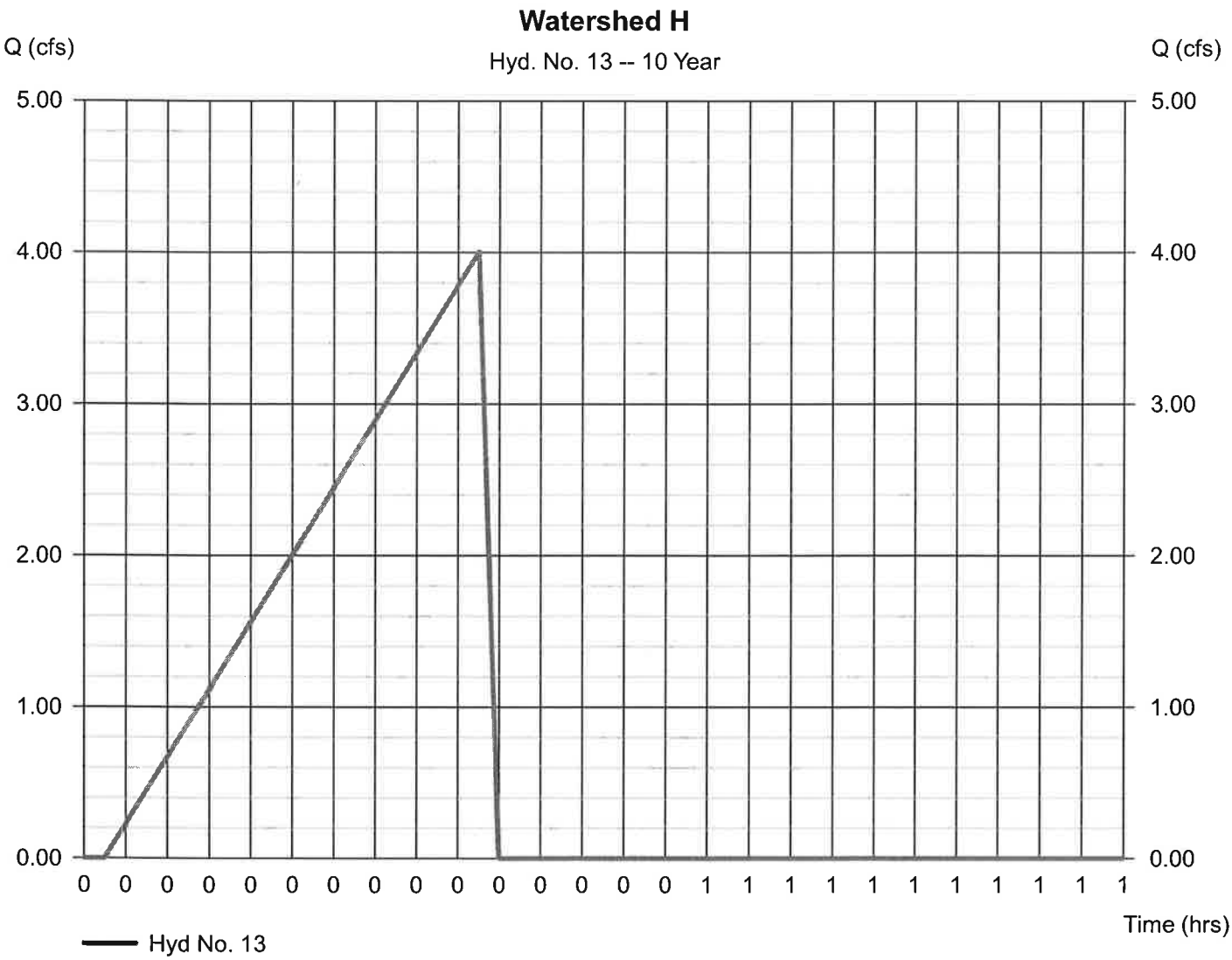
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 13

Watershed H

Hydrograph type	= Rational	Peak discharge	= 4.003 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 5,992 cuft
Drainage area	= 3.800 ac	Runoff coeff.	= 0.29*
Intensity	= 3.633 in/hr	Tc by TR55	= 18.69 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.200 x 0.90) + (0.100 x 0.30) + (2.500 x 0.20) + (0.800 x 0.25) + (0.200 x 1.00)] / 3.800



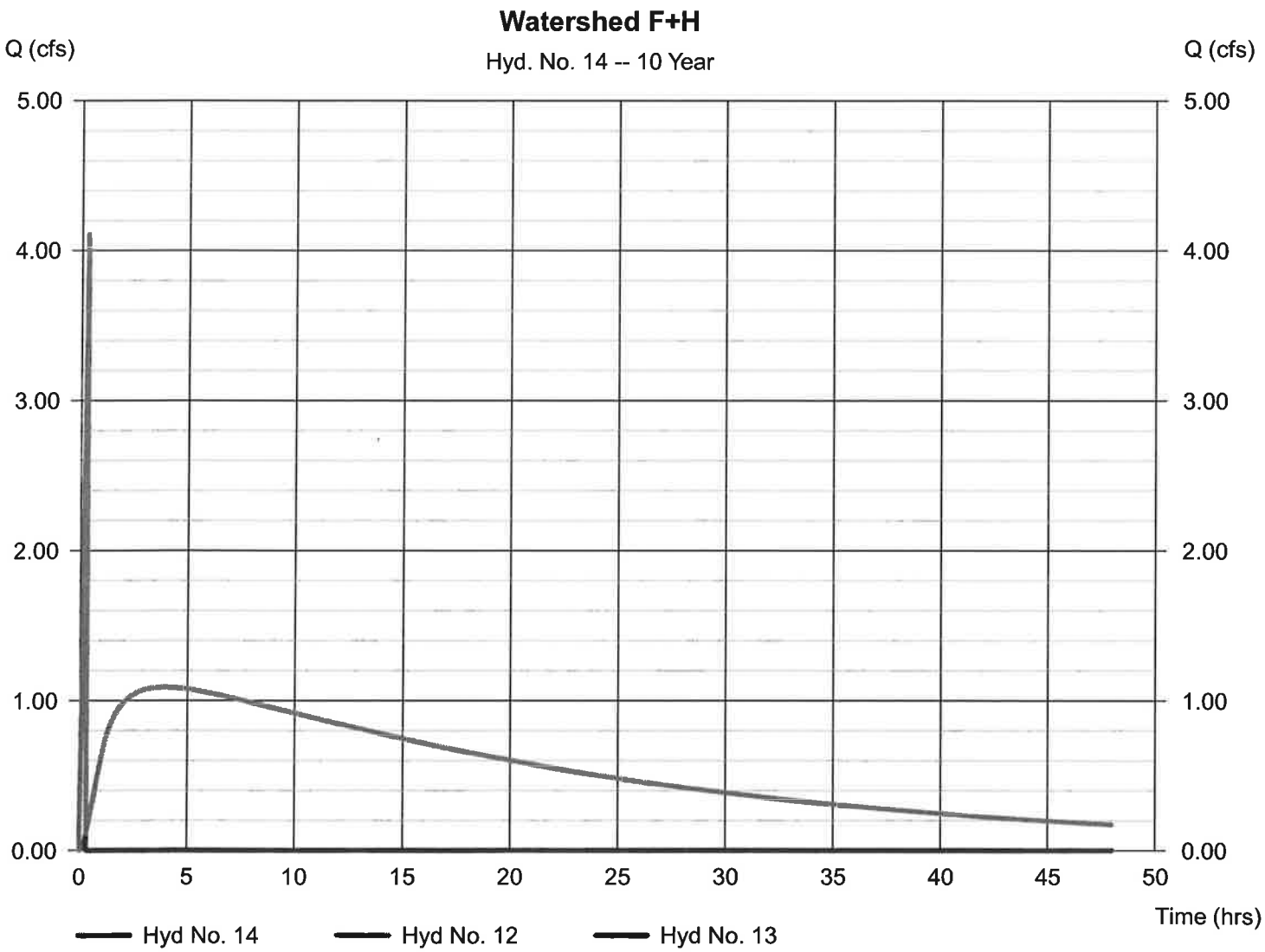
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 14

Watershed F+H

Hydrograph type	= Combine	Peak discharge	= 4.100 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 97,499 cuft
Inflow hyds.	= 12, 13	Contrib. drain. area	= 3.800 ac



Hydrograph Report

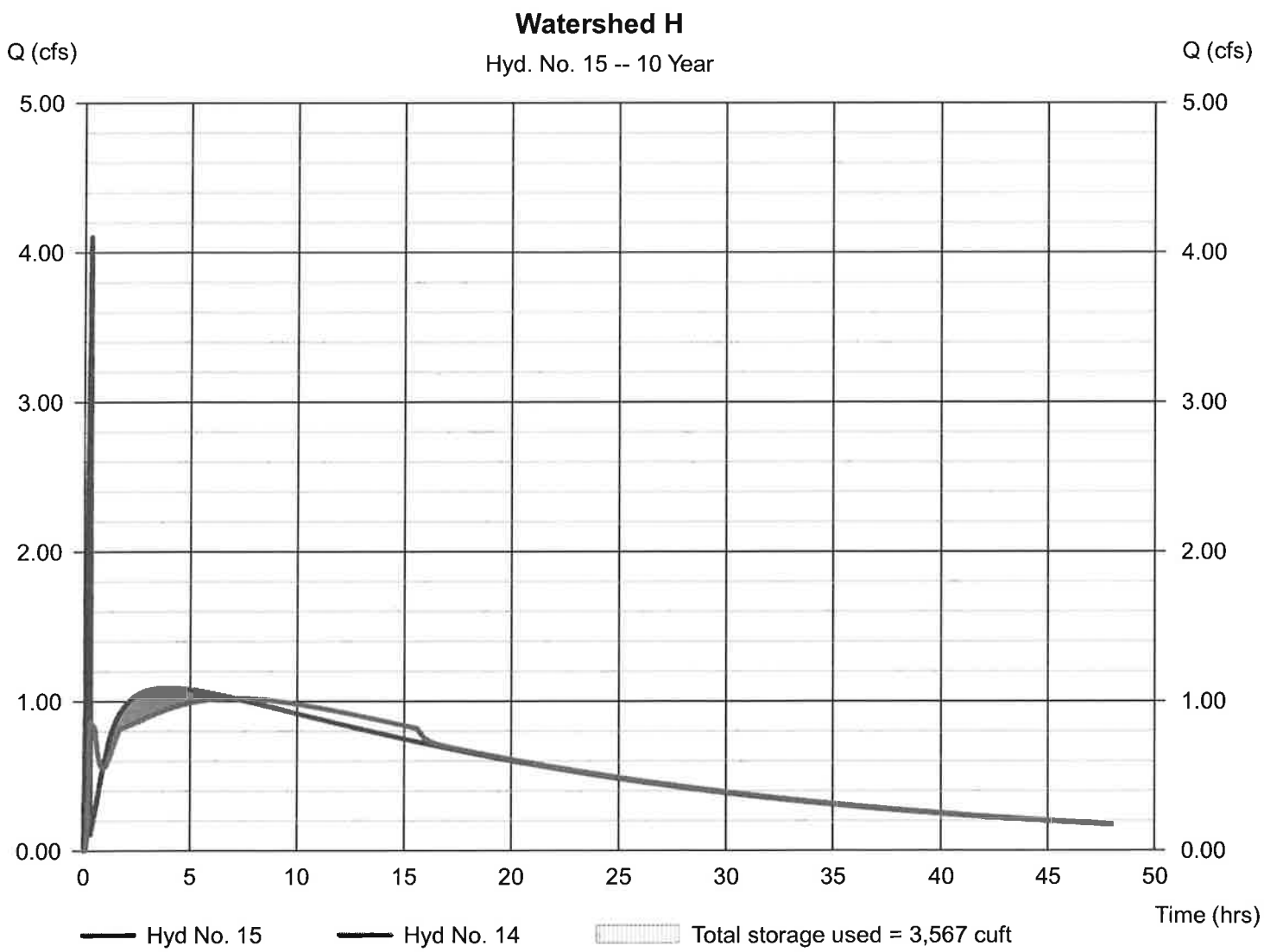
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 15

Watershed H

Hydrograph type	= Reservoir	Peak discharge	= 1.019 cfs
Storm frequency	= 10 yrs	Time to peak	= 7.05 hrs
Time interval	= 1 min	Hyd. volume	= 96,840 cuft
Inflow hyd. No.	= 14 - Watershed F+H	Max. Elevation	= 536.07 ft
Reservoir name	= Watershed H	Max. Storage	= 3,567 cuft

Storage Indication method used.



Hydrograph Report

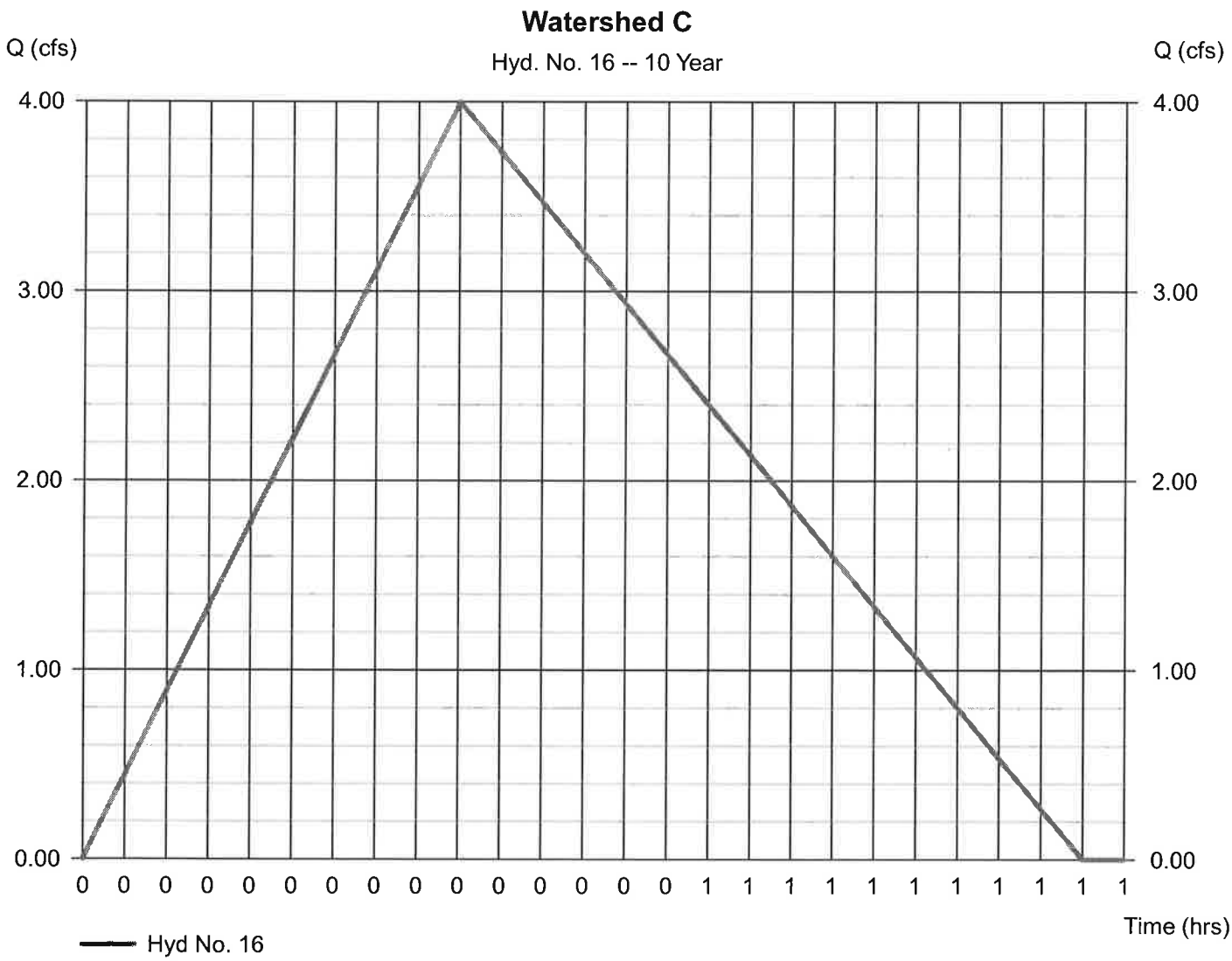
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 16

Watershed C

Hydrograph type	= Rational	Peak discharge	= 3.998 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.30 hrs
Time interval	= 1 min	Hyd. volume	= 5,860 cuft
Drainage area	= 3.300 ac	Runoff coeff.	= 0.33*
Intensity	= 3.671 in/hr	Tc by TR55	= 18.30 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.400 x 0.90) + (1.200 x 0.30) + (1.400 x 0.20) + (0.300 x 0.25)] / 3.300



Hydrograph Report

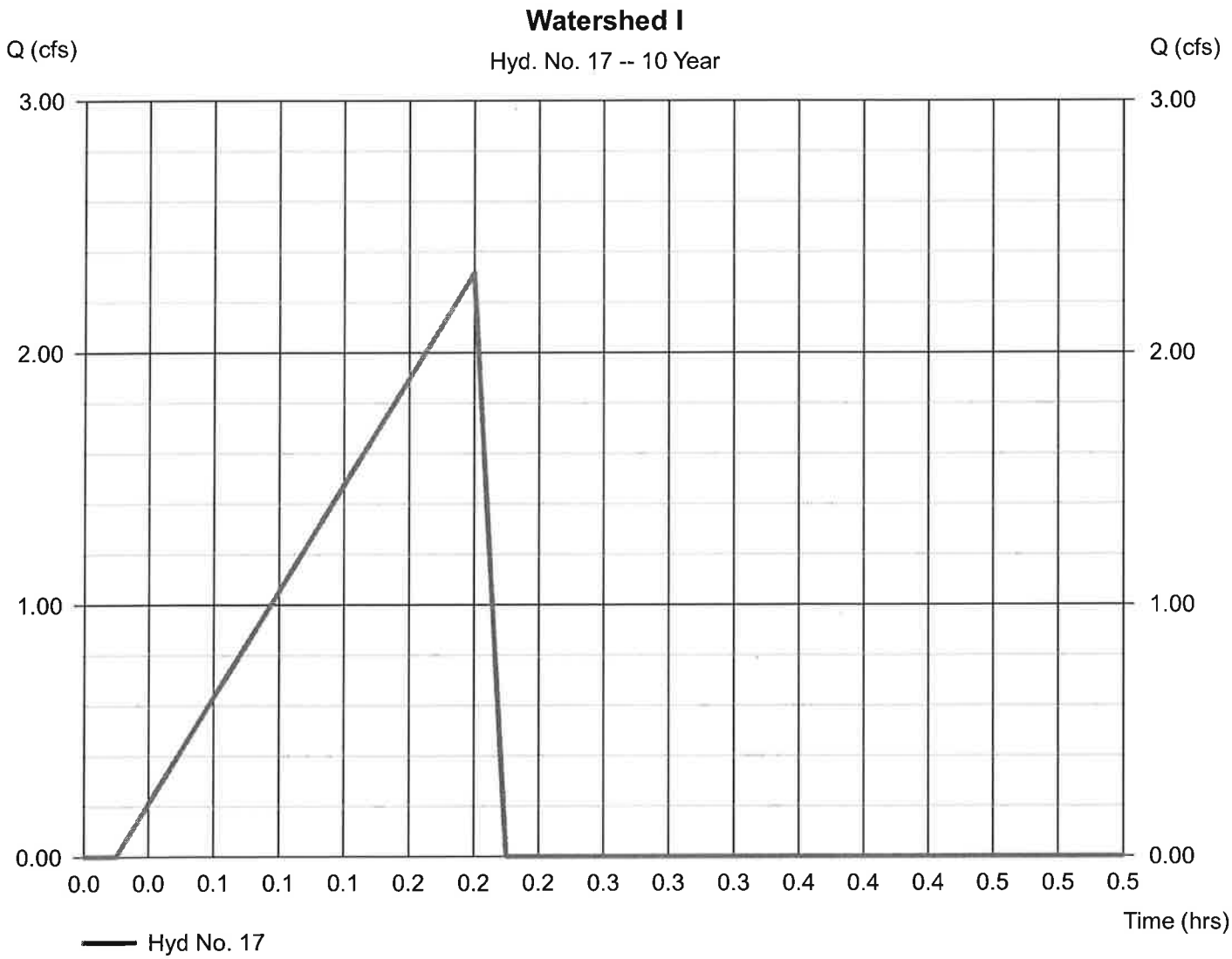
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 17

Watershed I

Hydrograph type	= Rational	Peak discharge	= 2.315 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 2,138 cuft
Drainage area	= 1.500 ac	Runoff coeff.	= 0.34*
Intensity	= 4.539 in/hr	Tc by TR55	= 11.53 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.200 x 0.90) + (0.700 x 0.30) + (0.600 x 0.20)] / 1.500



Hydrograph Report

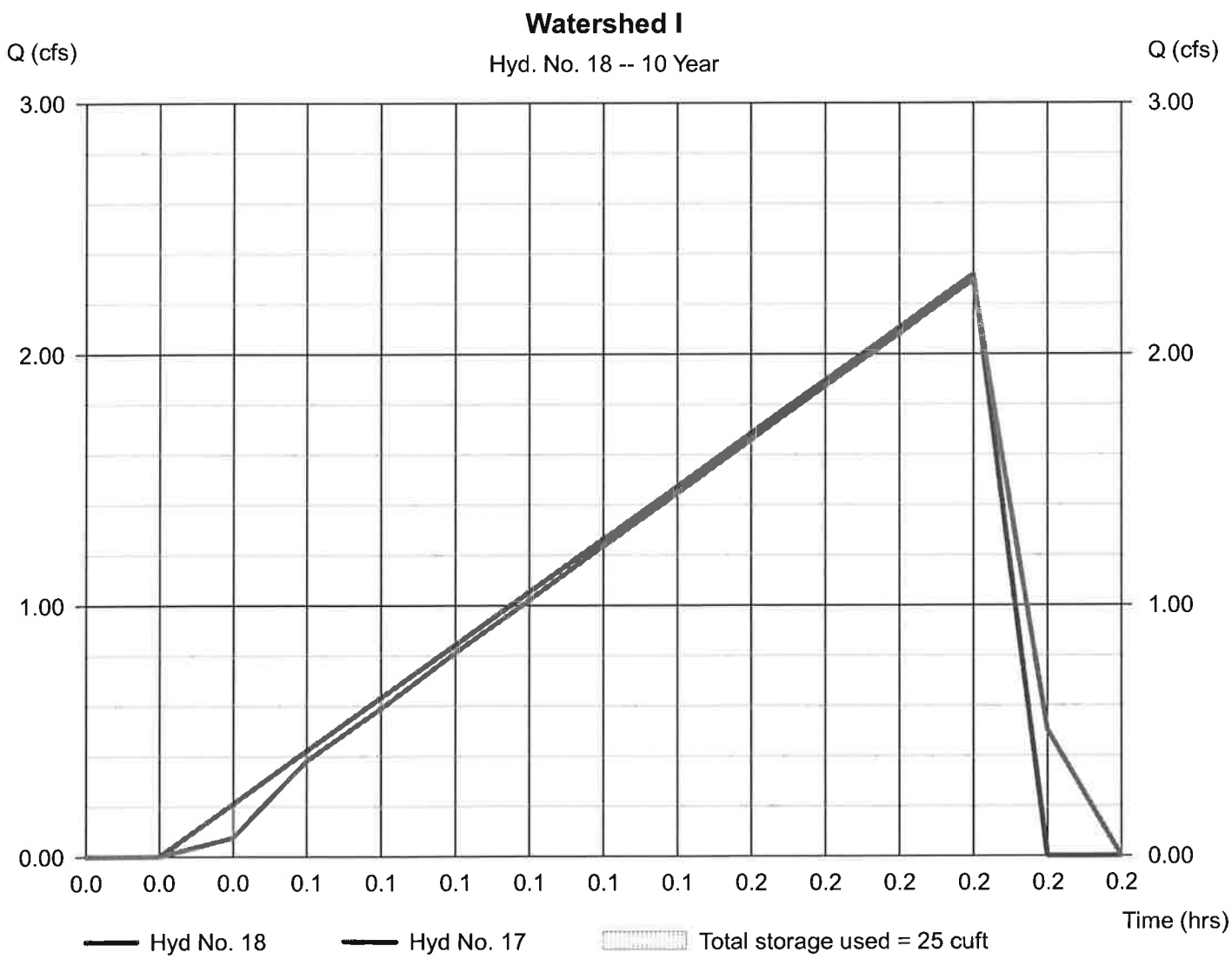
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 18

Watershed I

Hydrograph type	= Reservoir	Peak discharge	= 2.292 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 838 cuft
Inflow hyd. No.	= 17 - Watershed I	Max. Elevation	= 531.52 ft
Reservoir name	= Watershed I	Max. Storage	= 25 cuft

Storage Indication method used.



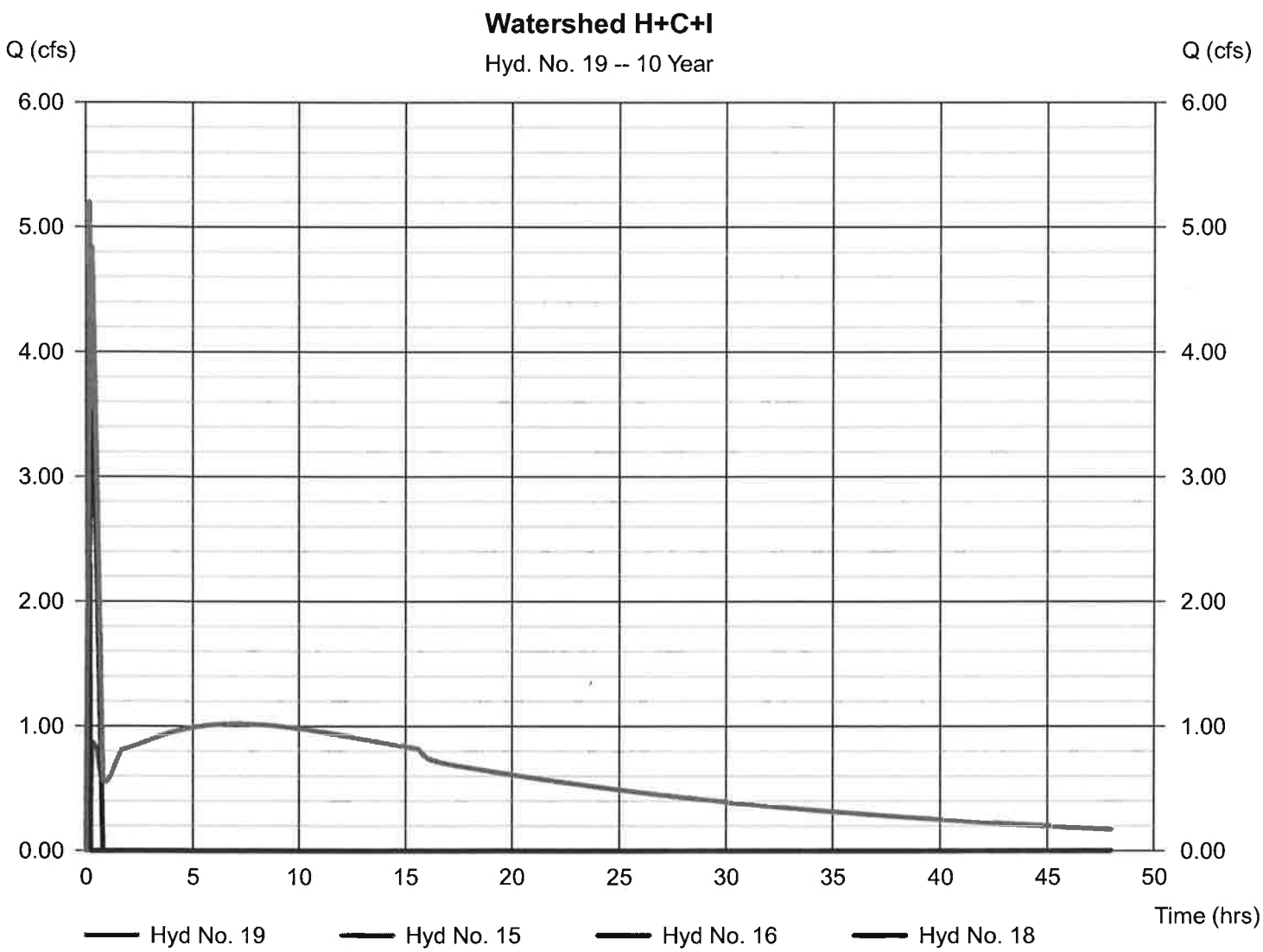
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 19

Watershed H+C+I

Hydrograph type	= Combine	Peak discharge	= 5.202 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 103,435 cuft
Inflow hyds.	= 15, 16, 18	Contrib. drain. area	= 3.300 ac



Hydrograph Report

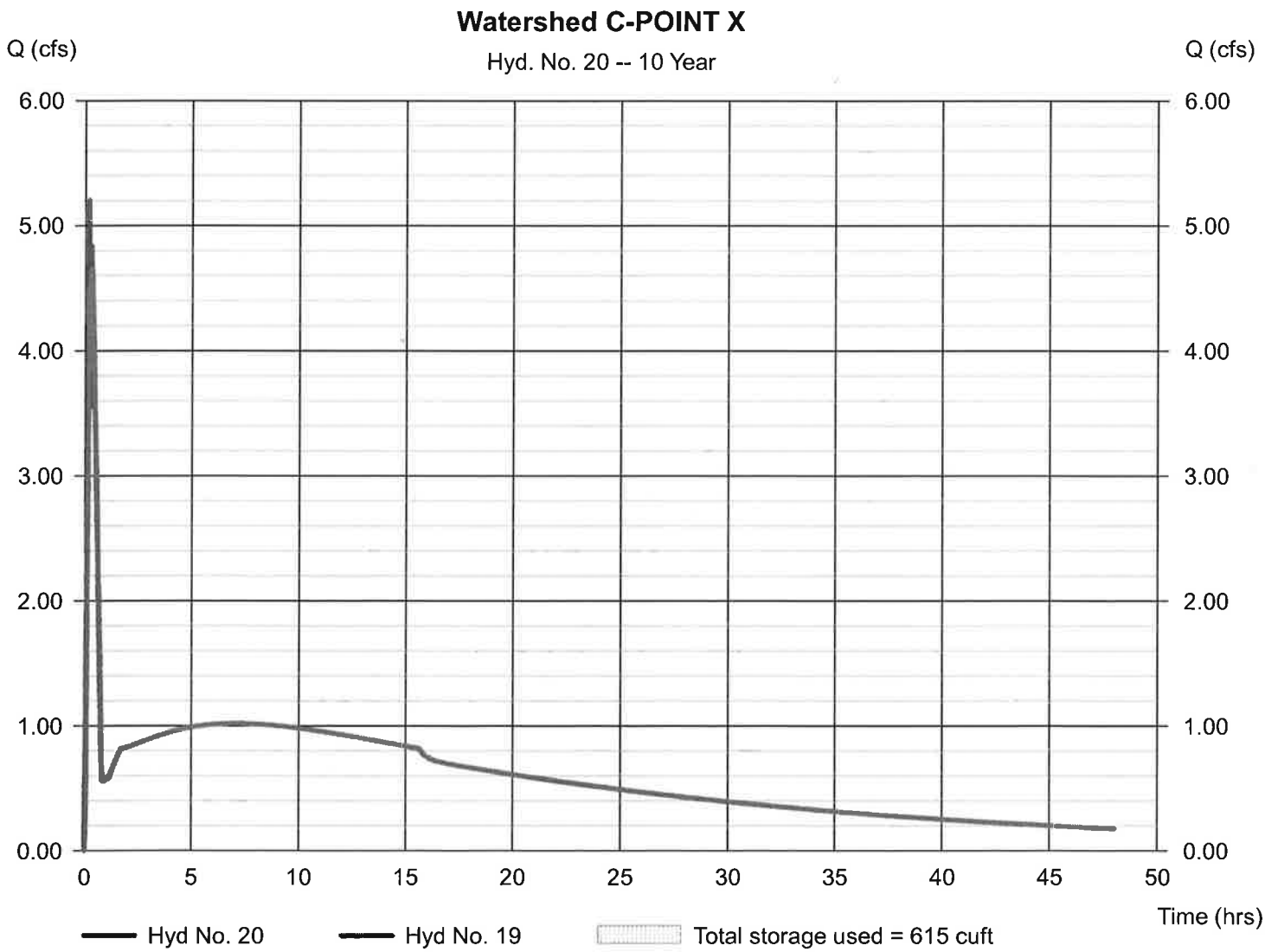
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 20

Watershed C-POINT X

Hydrograph type	= Reservoir	Peak discharge	= 4.649 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 103,374 cuft
Inflow hyd. No.	= 19 - Watershed H+C+I	Max. Elevation	= 529.83 ft
Reservoir name	= Watershed C	Max. Storage	= 615 cuft

Storage Indication method used.



Hydrograph Report

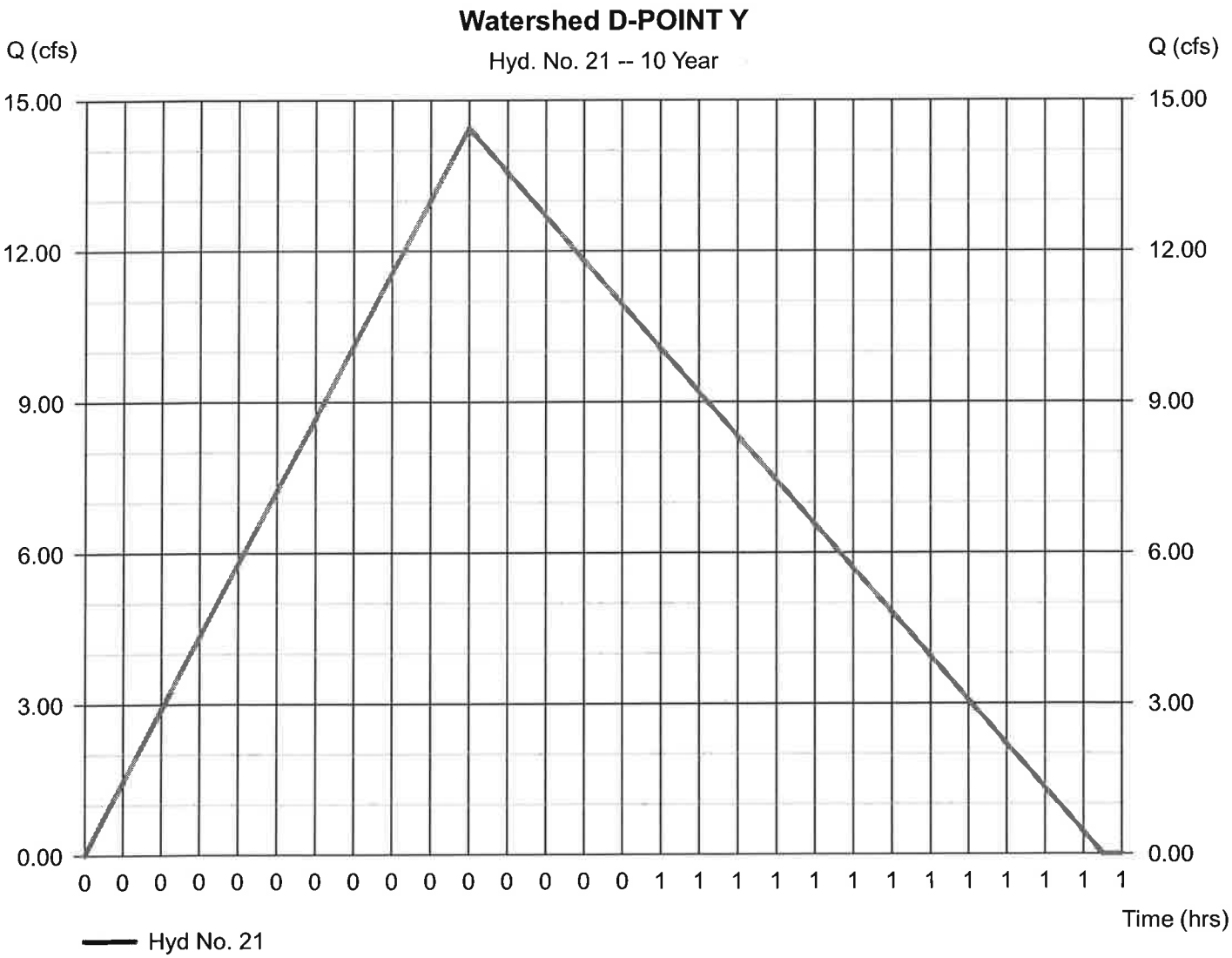
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 21

Watershed D-POINT Y

Hydrograph type	= Rational	Peak discharge	= 14.44 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 23,125 cuft
Drainage area	= 14.190 ac	Runoff coeff.	= 0.29*
Intensity	= 3.508 in/hr	Tc by TR55	= 20.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.500 x 0.90) + (1.750 x 0.30) + (10.940 x 0.20)] / 14.190



Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.1

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	Rational	8.549	1	17	11,641	----	------	------	Watershed A
2	Reservoir	3.158	1	35	11,518	1	566.11	7,290	Watershed A
3	Rational	6.396	1	14	6,939	----	------	------	Watershed B
4	Reservoir	1.471	1	31	6,704	3	567.02	5,343	Watershed B
5	Rational	35.02	1	29	82,347	----	------	------	Watershed E
6	Rational	7.174	1	22	12,880	----	------	------	Watershed G
7	Reservoir	0.007	1	59	1,204	6	546.38	12,677	Watershed G
8	Combine	39.56	1	29	100,165	2, 4, 5,	------	------	Watershed A+B+E
9	Reservoir	20.43	1	54	100,153	8	542.15	51,779	Watershed E-POINT Z
10	Rational	19.04	1	20	30,420	----	------	------	Watershed F
11	Combine	23.93	1	41	129,862	9, 10	------	------	Watershed A+B+E+F
12	Reservoir	3.112	1	152	113,985	11	539.50	98,559	Watershed F
13	Rational	4.691	1	19	7,021	----	------	------	Watershed H
14	Combine	4.805	1	19	116,659	12, 13	------	------	Watershed F+H
15	Reservoir	1.823	1	248	115,985	14	536.32	11,578	Watershed H
16	Rational	4.682	1	18	6,864	----	------	------	Watershed C
17	Rational	2.674	1	12	2,470	----	------	------	Watershed I
18	Reservoir	2.648	1	12	968	17	531.60	27.4	Watershed I
19	Combine	6.097	1	12	123,696	15, 16, 18	------	------	Watershed H+C+I
20	Reservoir	5.386	1	19	123,631	19	529.92	666	Watershed C-POINT X
21	Rational	16.94	1	20	27,135	----	------	------	Watershed D-POINT Y

Hydrograph Report

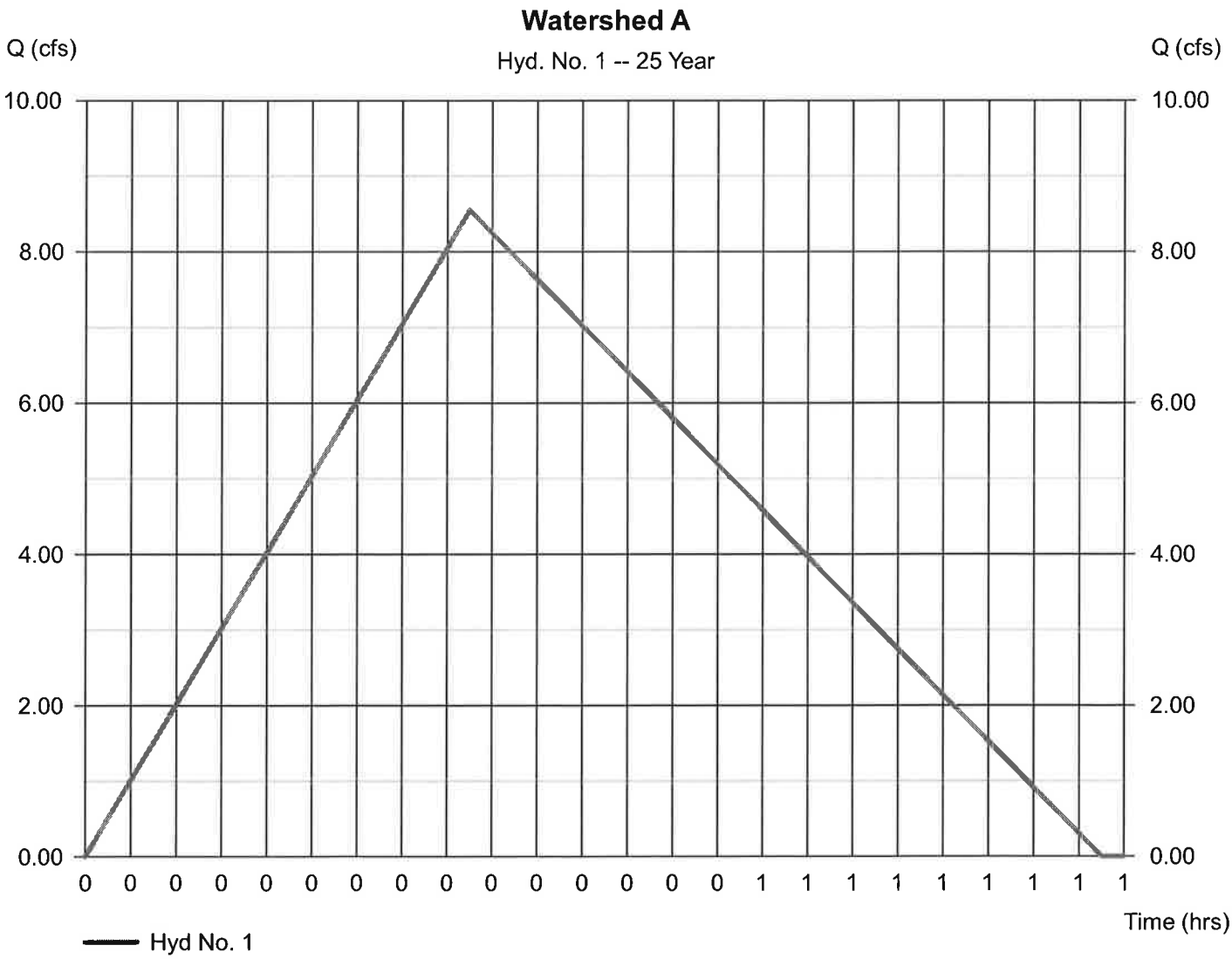
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 1

Watershed A

Hydrograph type	= Rational	Peak discharge	= 8.549 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.28 hrs
Time interval	= 1 min	Hyd. volume	= 11,641 cuft
Drainage area	= 8.000 ac	Runoff coeff.	= 0.24*
Intensity	= 4.452 in/hr	Tc by TR55	= 17.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.400 x 0.90) + (0.500 x 0.30) + (7.100 x 0.20)] / 8.000



Hydrograph Report

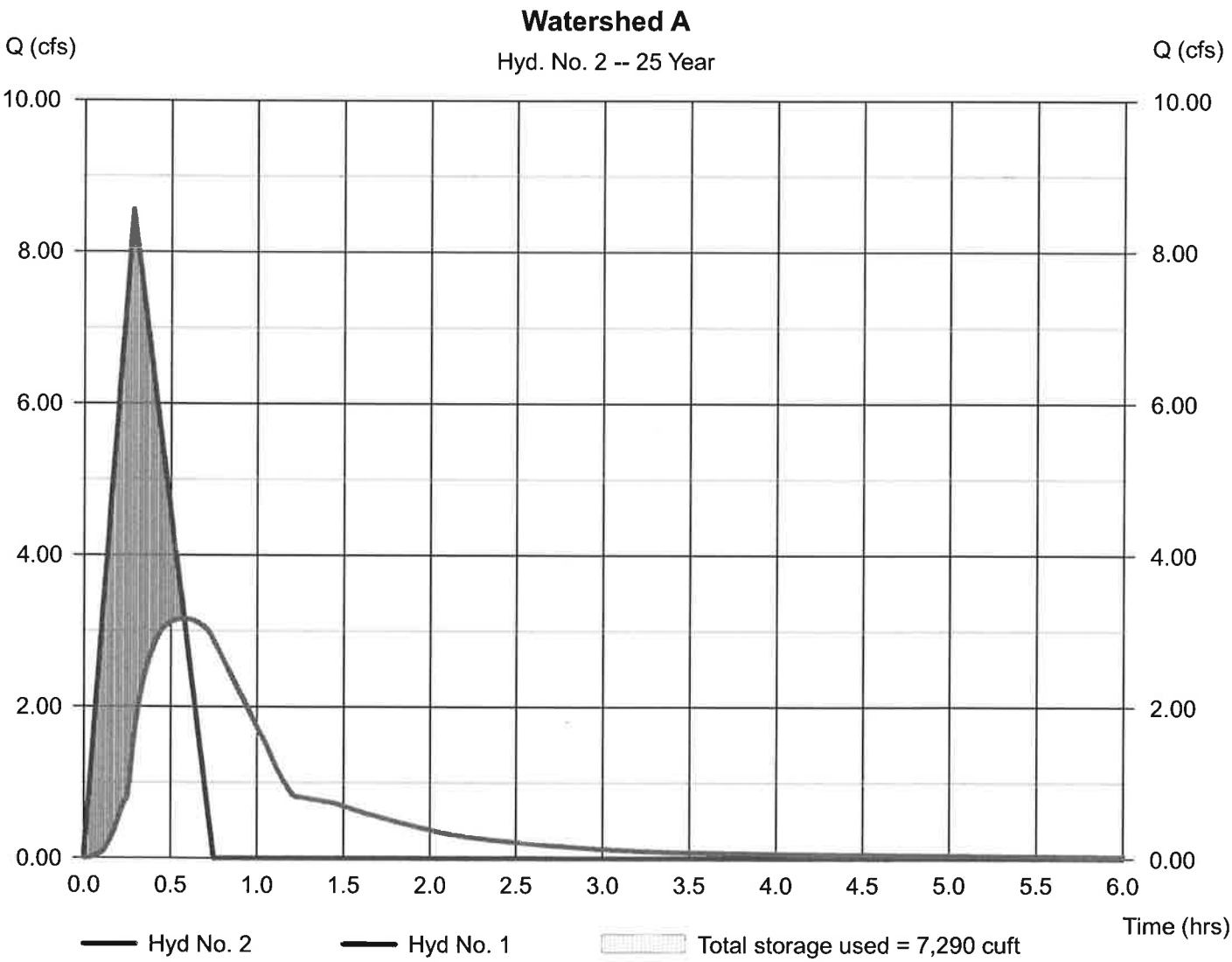
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 2

Watershed A

Hydrograph type	= Reservoir	Peak discharge	= 3.158 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.58 hrs
Time interval	= 1 min	Hyd. volume	= 11,518 cuft
Inflow hyd. No.	= 1 - Watershed A	Max. Elevation	= 566.11 ft
Reservoir name	= Watershed A	Max. Storage	= 7,290 cuft

Storage Indication method used.



Hydrograph Report

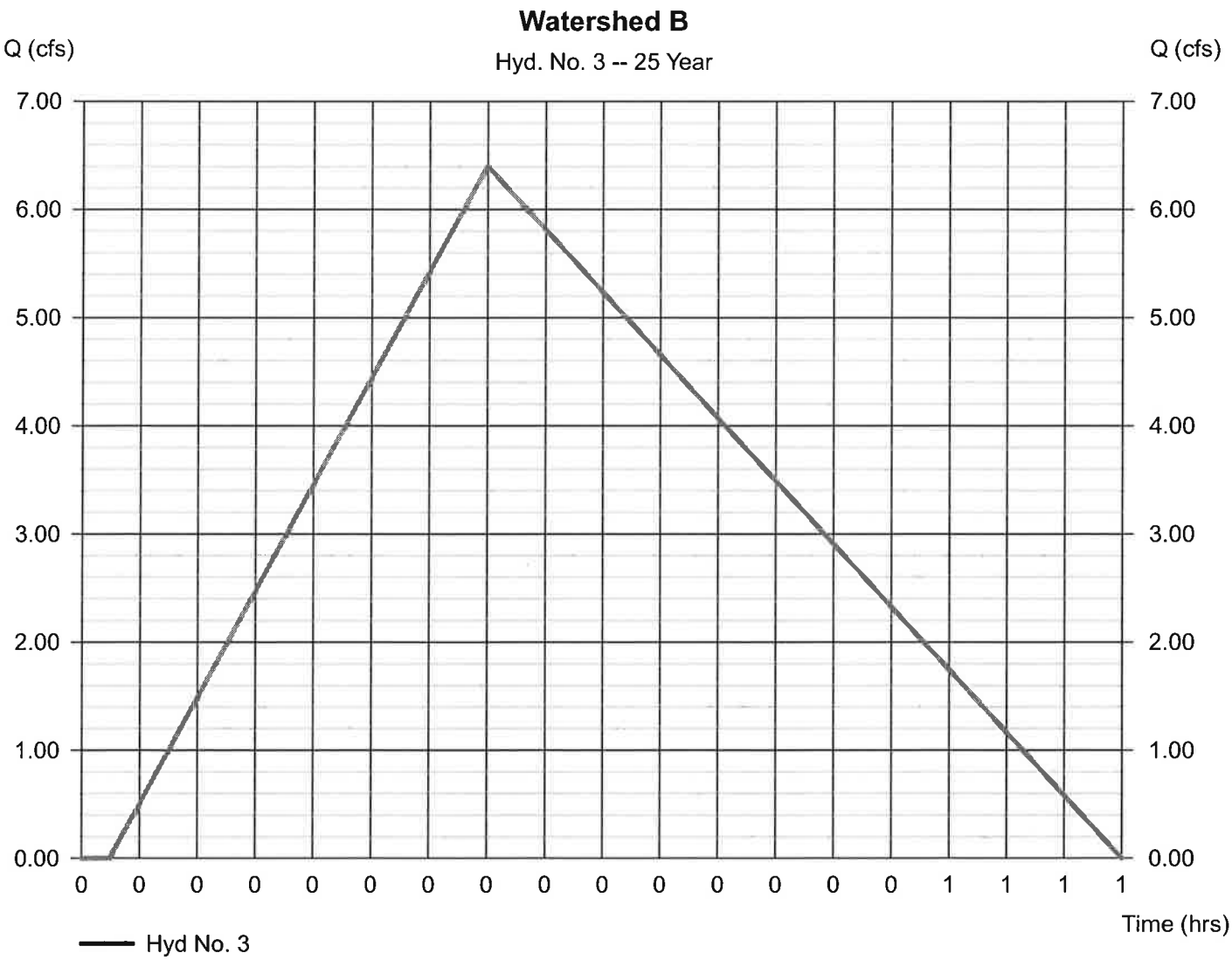
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 3

Watershed B

Hydrograph type	= Rational	Peak discharge	= 6.396 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.23 hrs
Time interval	= 1 min	Hyd. volume	= 6,939 cuft
Drainage area	= 5.200 ac	Runoff coeff.	= 0.25*
Intensity	= 4.920 in/hr	Tc by TR55	= 13.54 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.300 x 0.90) + (0.500 x 0.30) + (4.400 x 0.20)] / 5.200



Hydrograph Report

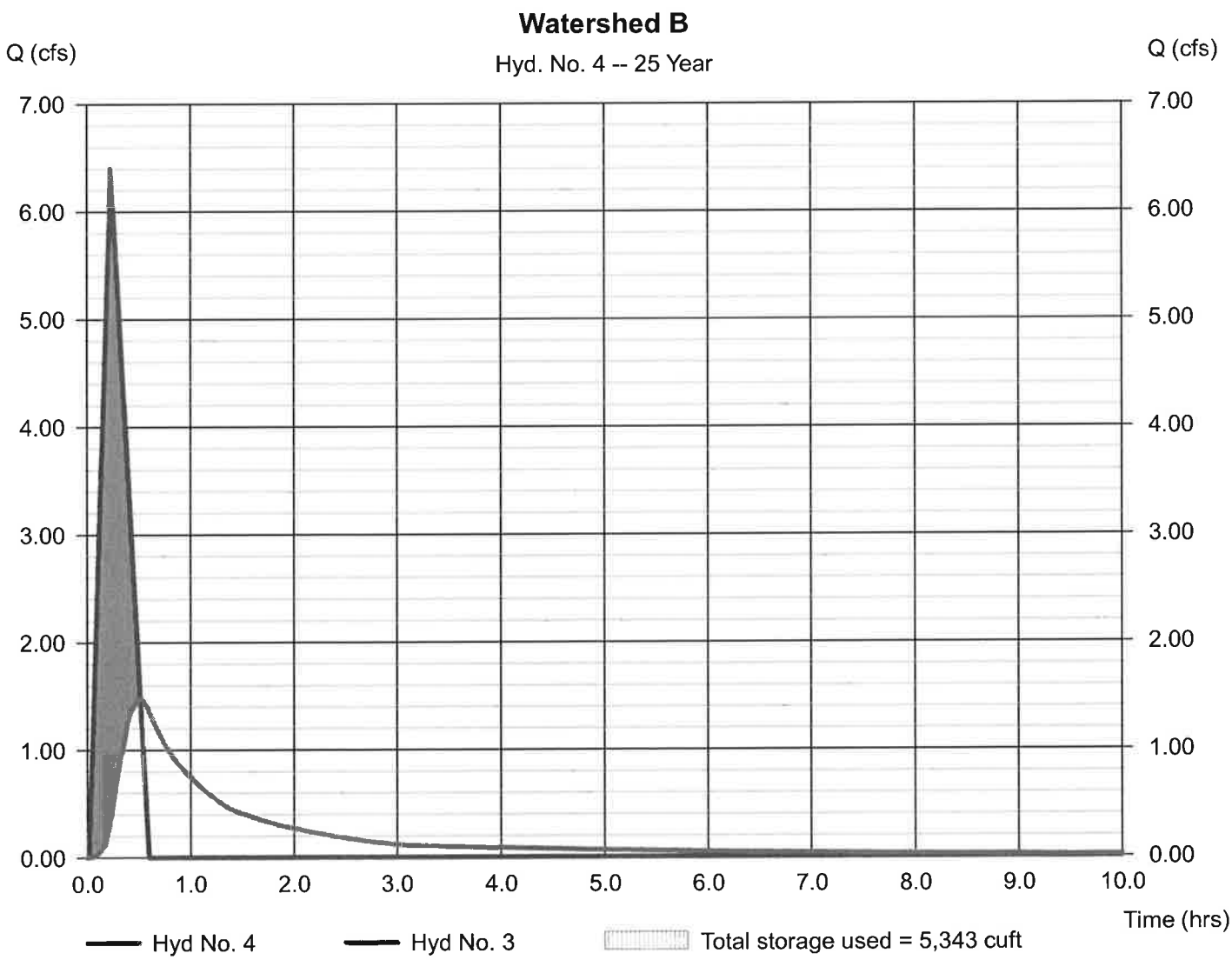
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 4

Watershed B

Hydrograph type	= Reservoir	Peak discharge	= 1.471 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.52 hrs
Time interval	= 1 min	Hyd. volume	= 6,704 cuft
Inflow hyd. No.	= 3 - Watershed B	Max. Elevation	= 567.02 ft
Reservoir name	= Watershed B	Max. Storage	= 5,343 cuft

Storage Indication method used.



Hydrograph Report

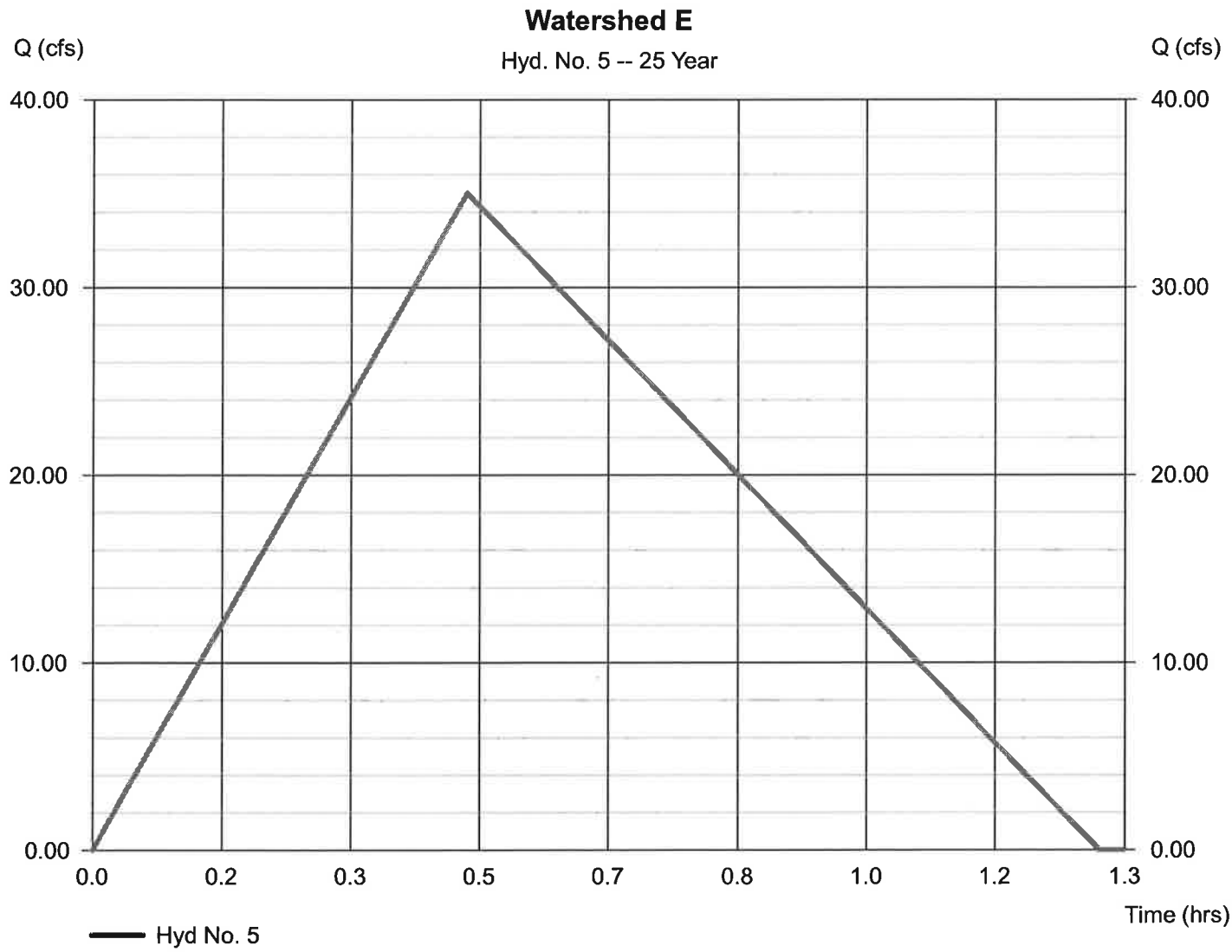
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 5

Watershed E

Hydrograph type	= Rational	Peak discharge	= 35.02 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.48 hrs
Time interval	= 1 min	Hyd. volume	= 82,347 cuft
Drainage area	= 40.300 ac	Runoff coeff.	= 0.26*
Intensity	= 3.342 in/hr	Tc by TR55	= 29.36 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(2.100 x 0.90) + (7.700 x 0.30) + (30.500 x 0.20)] / 40.300



Hydrograph Report

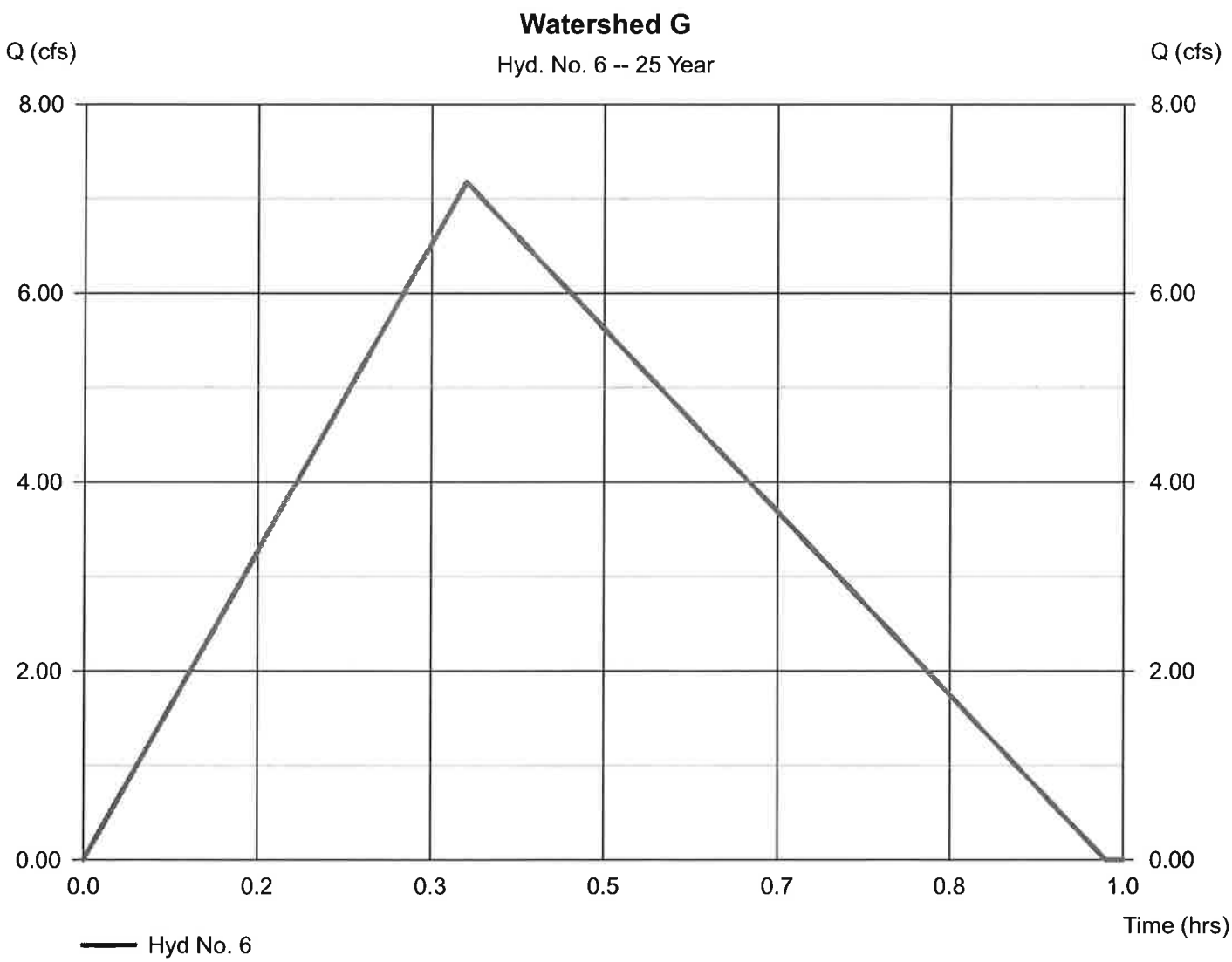
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 6

Watershed G

Hydrograph type	= Rational	Peak discharge	= 7.174 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.37 hrs
Time interval	= 1 min	Hyd. volume	= 12,880 cuft
Drainage area	= 7.700 ac	Runoff coeff.	= 0.24*
Intensity	= 3.882 in/hr	Tc by TR55	= 22.41 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.300 x 0.90) + (0.800 x 0.30) + (6.600 x 0.20)] / 7.700



Hydrograph Report

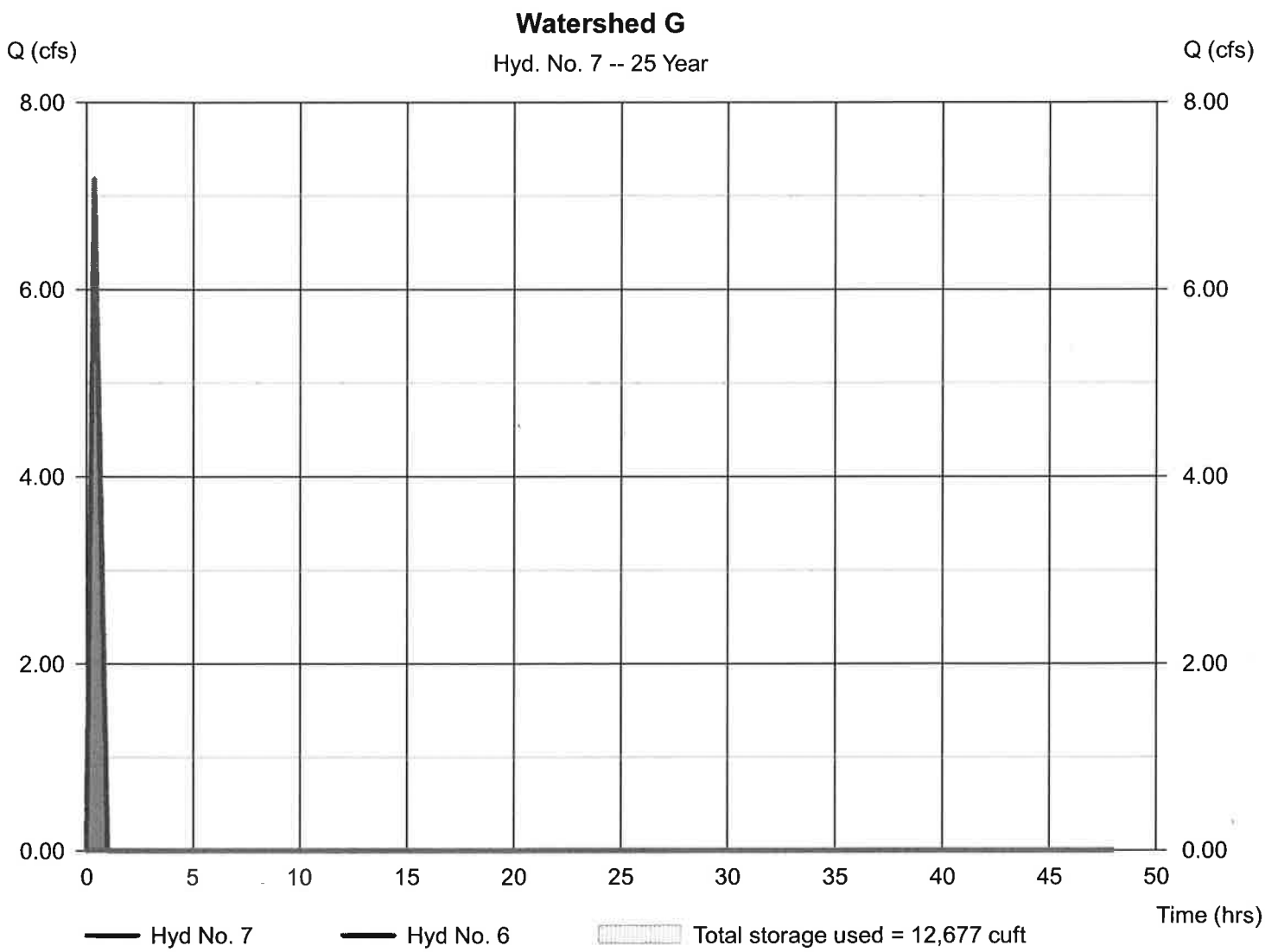
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 7

Watershed G

Hydrograph type	= Reservoir	Peak discharge	= 0.007 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.98 hrs
Time interval	= 1 min	Hyd. volume	= 1,204 cuft
Inflow hyd. No.	= 6 - Watershed G	Max. Elevation	= 546.38 ft
Reservoir name	= Watershed G	Max. Storage	= 12,677 cuft

Storage Indication method used.



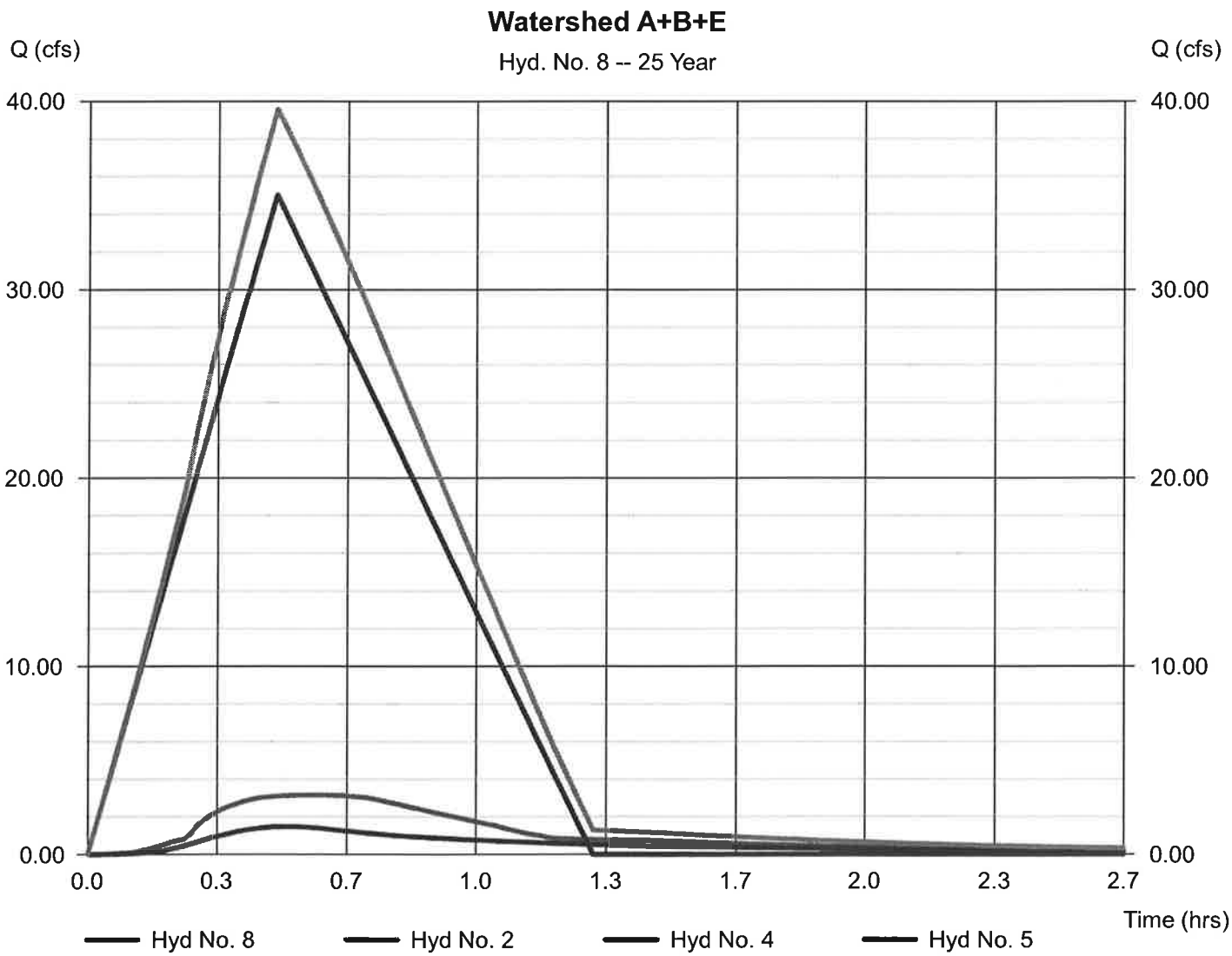
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 8

Watershed A+B+E

Hydrograph type	= Combine	Peak discharge	= 39.56 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.48 hrs
Time interval	= 1 min	Hyd. volume	= 100,165 cuft
Inflow hyds.	= 2, 4, 5	Contrib. drain. area	= 40.300 ac



Hydrograph Report

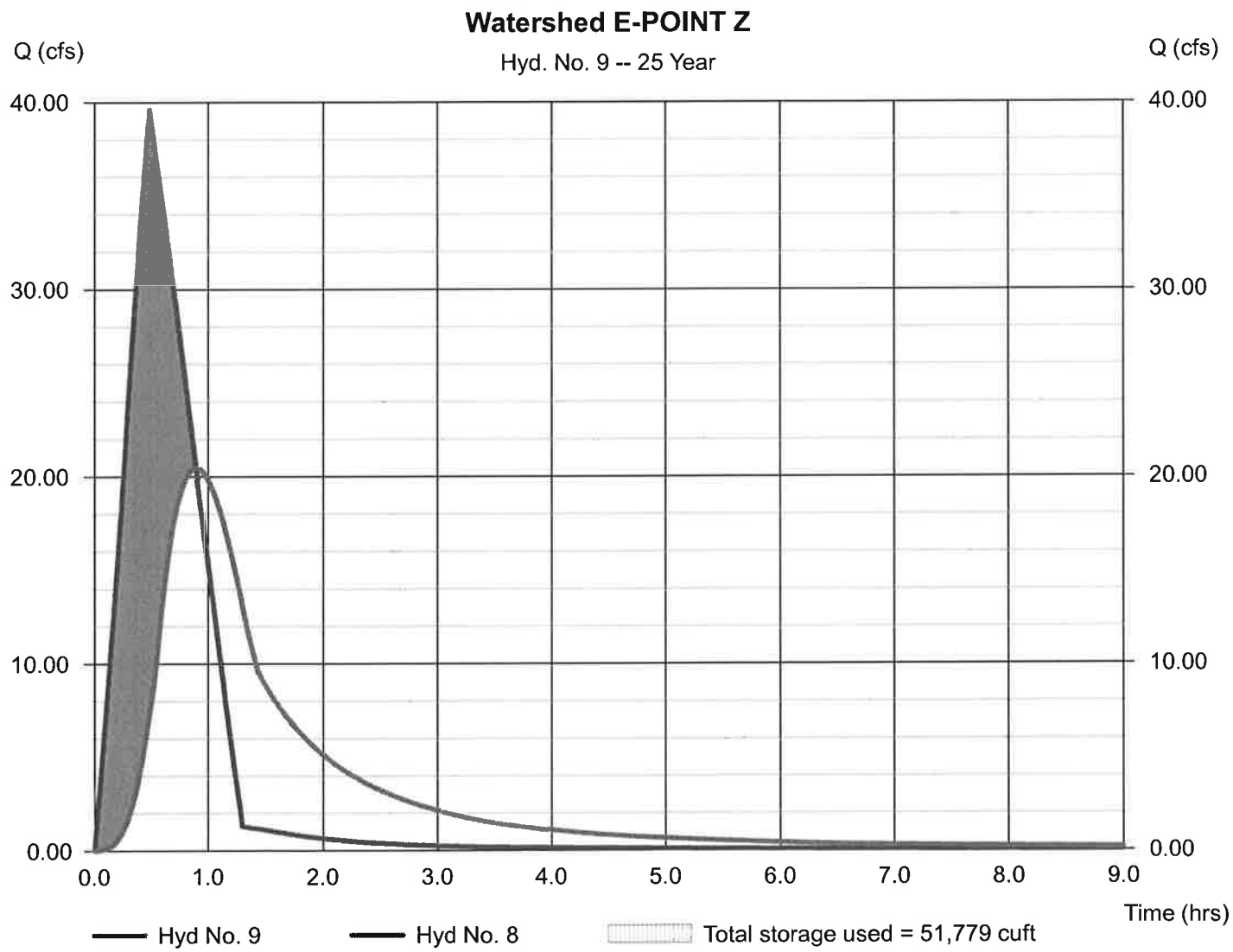
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 9

Watershed E-POINT Z

Hydrograph type	= Reservoir	Peak discharge	= 20.43 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.90 hrs
Time interval	= 1 min	Hyd. volume	= 100,153 cuft
Inflow hyd. No.	= 8 - Watershed A+B+E	Max. Elevation	= 542.15 ft
Reservoir name	= Watershed E	Max. Storage	= 51,779 cuft

Storage Indication method used.



Hydrograph Report

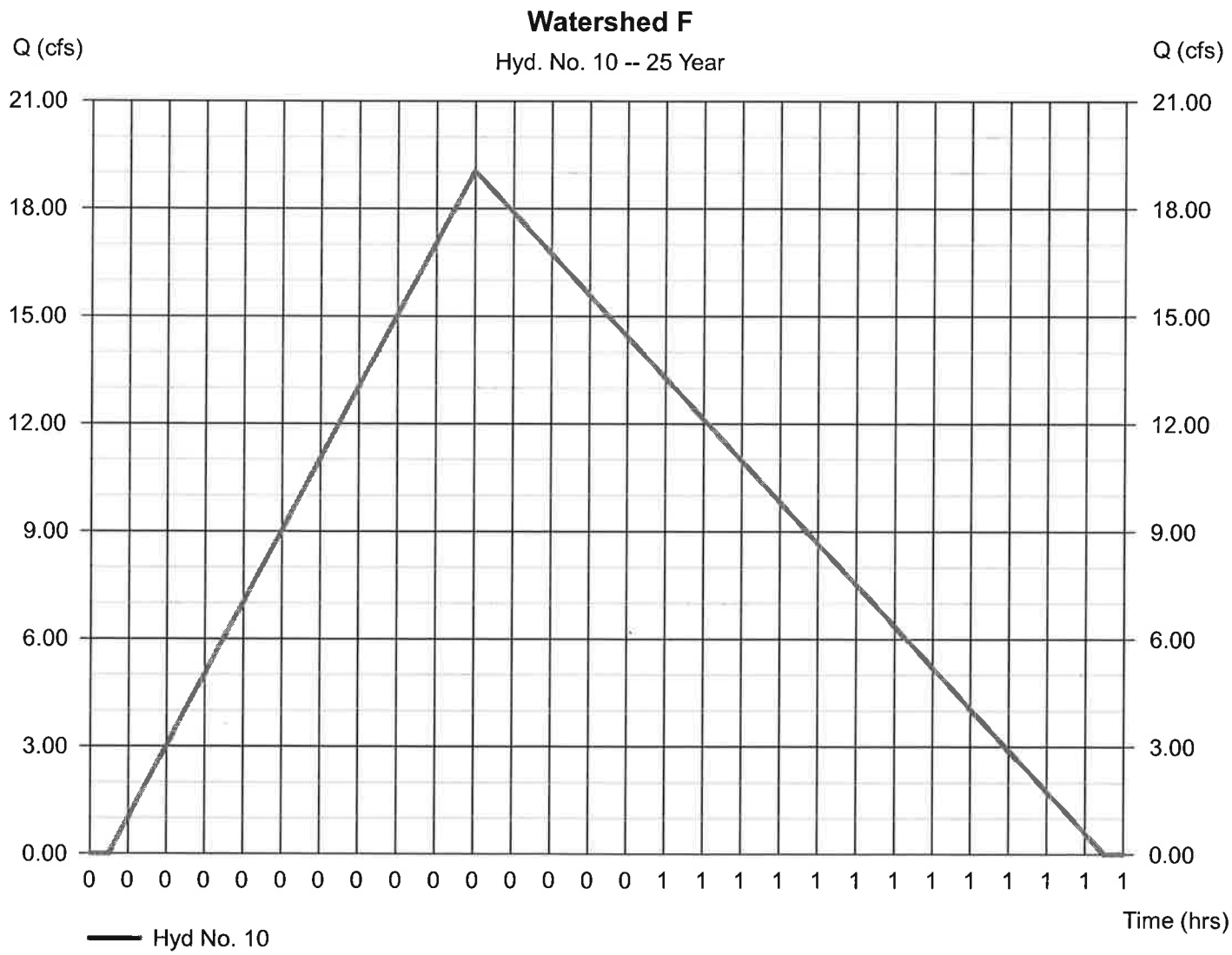
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 10

Watershed F

Hydrograph type	= Rational	Peak discharge	= 19.04 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 30,420 cuft
Drainage area	= 15.400 ac	Runoff coeff.	= 0.3*
Intensity	= 4.122 in/hr	Tc by TR55	= 19.94 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.000 x 0.90) + (5.100 x 0.30) + (8.800 x 0.20) + (0.500 x 1.00)] / 15.400



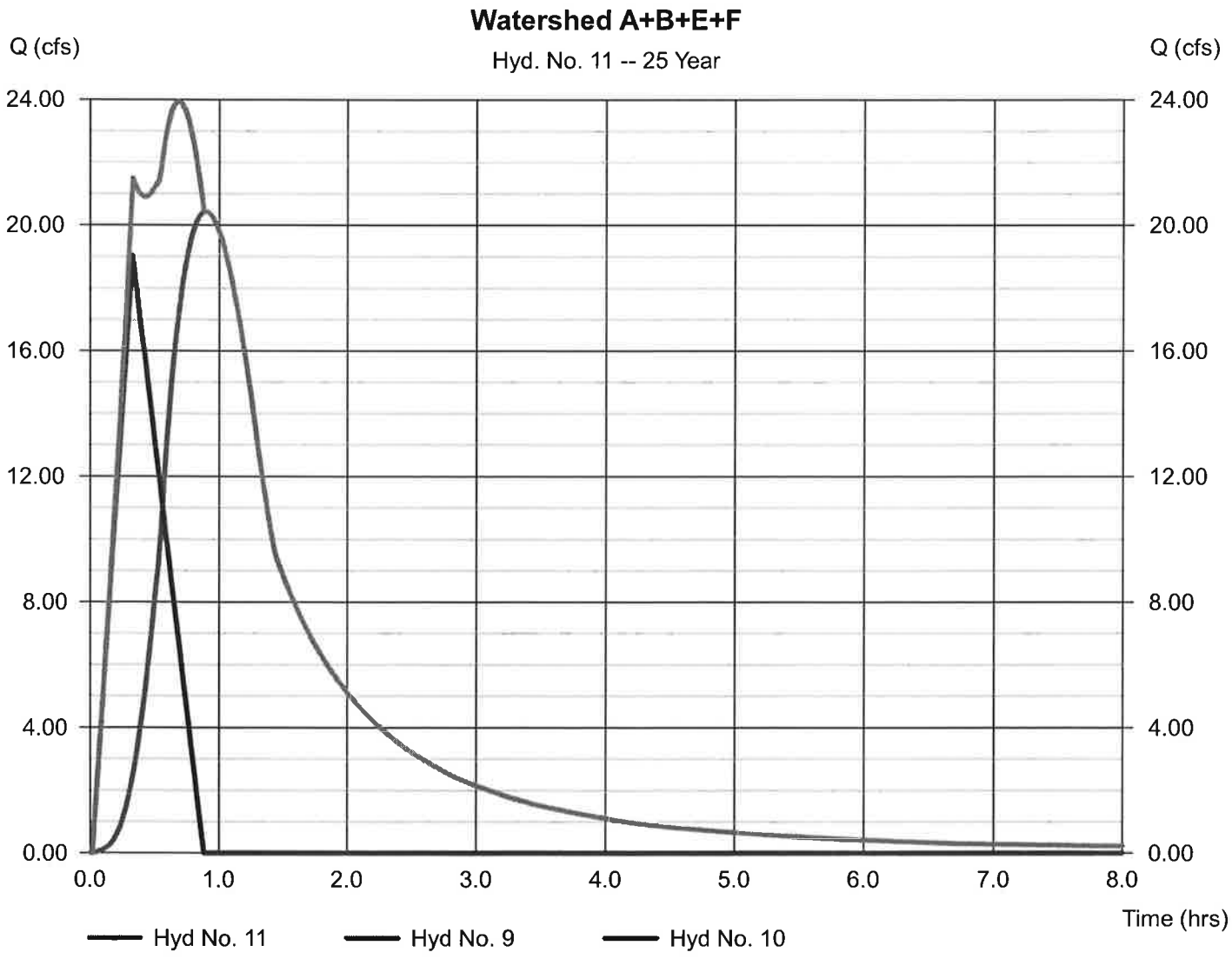
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 11

Watershed A+B+E+F

Hydrograph type	= Combine	Peak discharge	= 23.93 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.68 hrs
Time interval	= 1 min	Hyd. volume	= 129,862 cuft
Inflow hyds.	= 9, 10	Contrib. drain. area	= 15.400 ac



Hydrograph Report

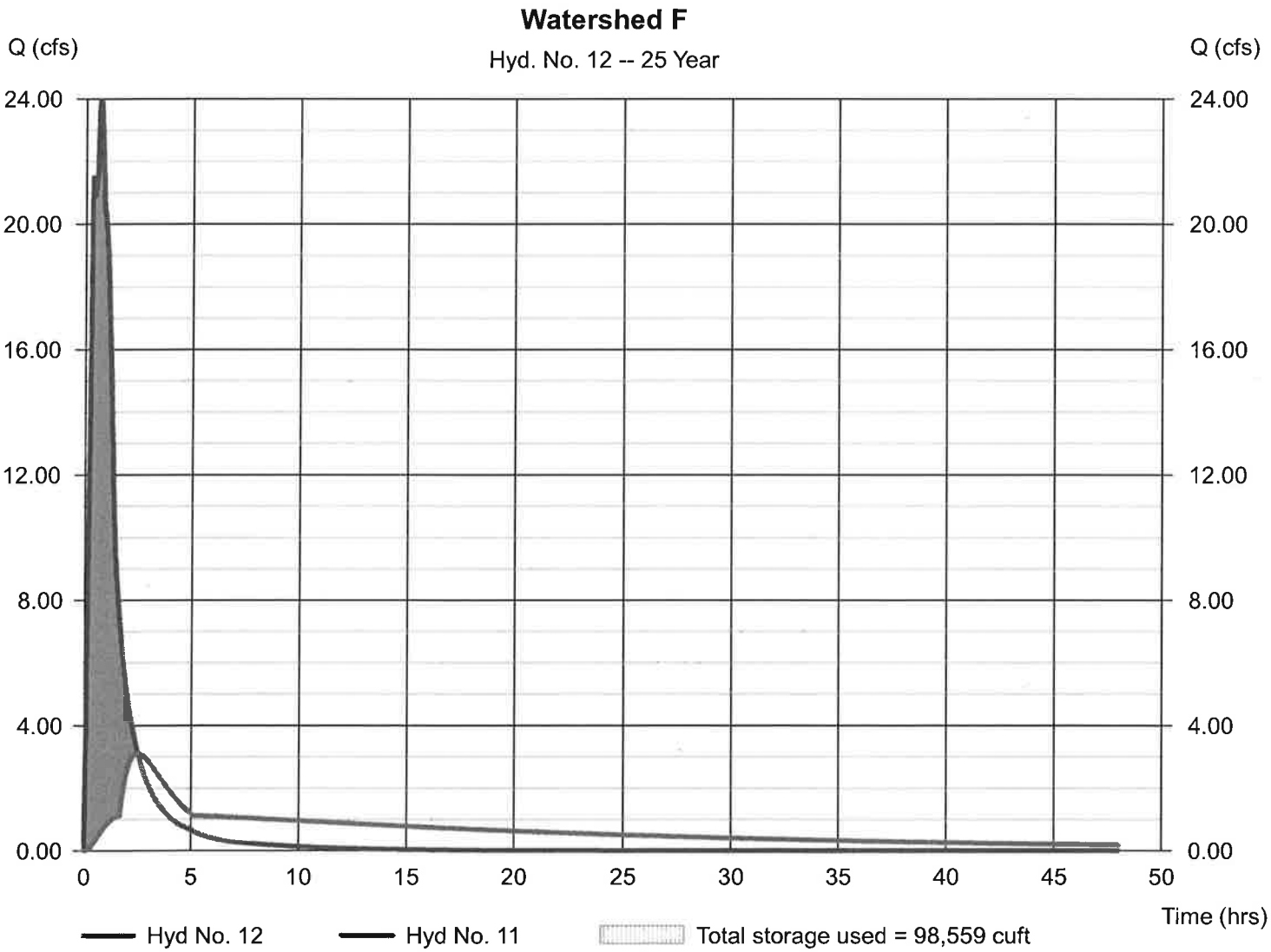
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 12

Watershed F

Hydrograph type	= Reservoir	Peak discharge	= 3.112 cfs
Storm frequency	= 25 yrs	Time to peak	= 2.53 hrs
Time interval	= 1 min	Hyd. volume	= 113,985 cuft
Inflow hyd. No.	= 11 - Watershed A+B+E+F	Max. Elevation	= 539.50 ft
Reservoir name	= Watershed F	Max. Storage	= 98,559 cuft

Storage Indication method used.



Hydrograph Report

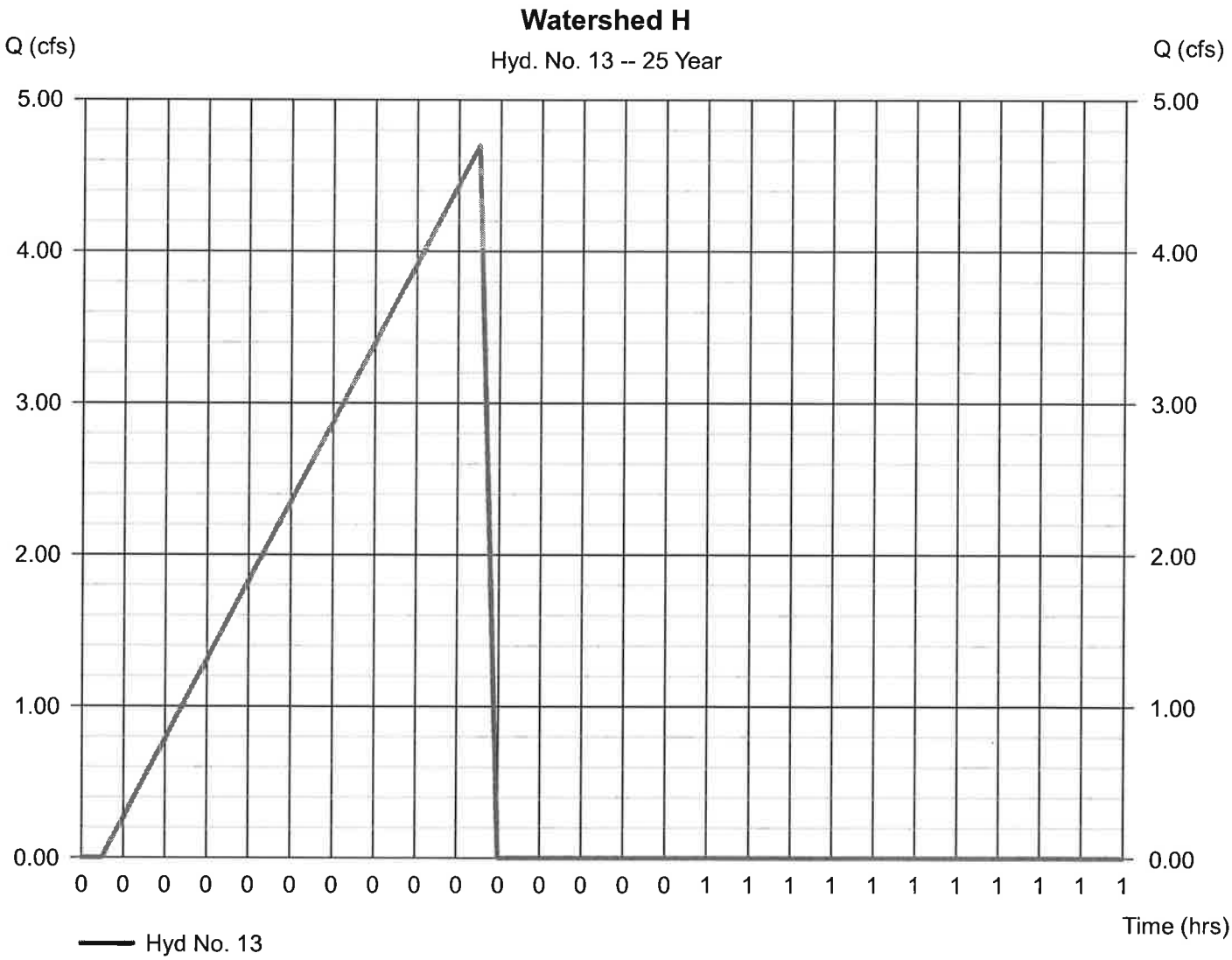
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 13

Watershed H

Hydrograph type	= Rational	Peak discharge	= 4.691 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 7,021 cuft
Drainage area	= 3.800 ac	Runoff coeff.	= 0.29*
Intensity	= 4.257 in/hr	Tc by TR55	= 18.69 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.200 x 0.90) + (0.100 x 0.30) + (2.500 x 0.20) + (0.800 x 0.25) + (0.200 x 1.00)] / 3.800



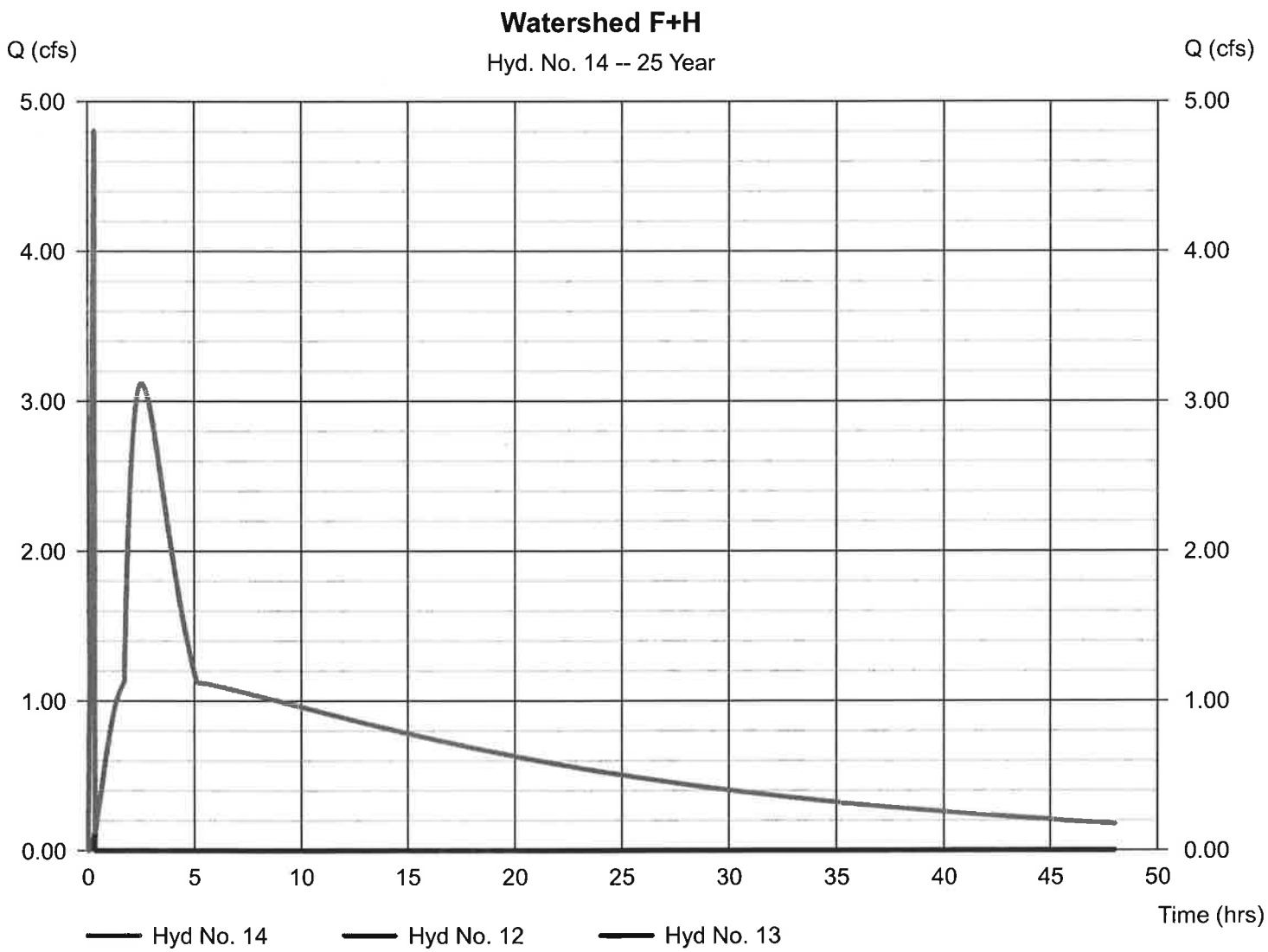
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 14

Watershed F+H

Hydrograph type	= Combine	Peak discharge	= 4.805 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 116,659 cuft
Inflow hyds.	= 12, 13	Contrib. drain. area	= 3.800 ac



Hydrograph Report

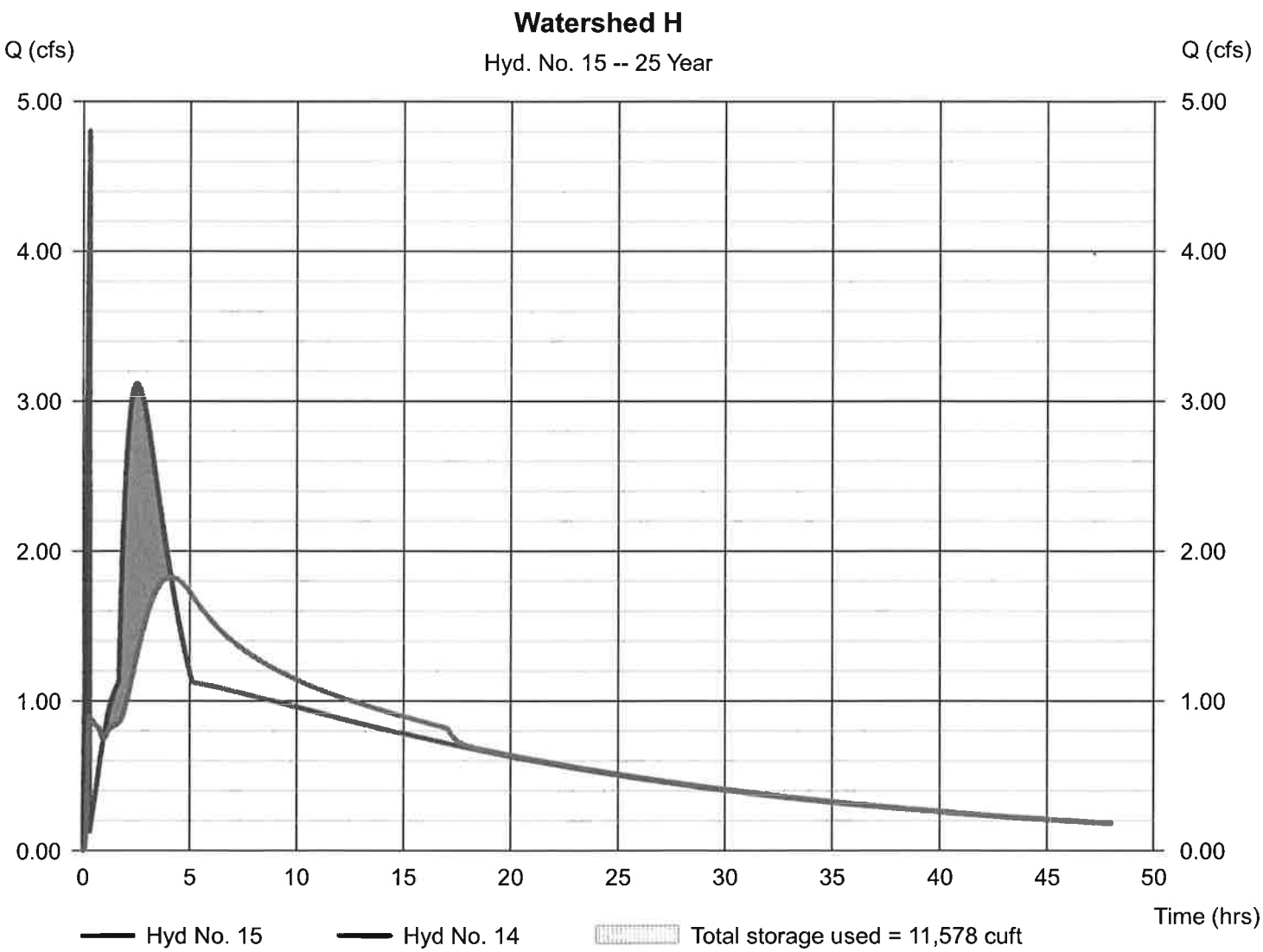
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 15

Watershed H

Hydrograph type	= Reservoir	Peak discharge	= 1.823 cfs
Storm frequency	= 25 yrs	Time to peak	= 4.13 hrs
Time interval	= 1 min	Hyd. volume	= 115,985 cuft
Inflow hyd. No.	= 14 - Watershed F+H	Max. Elevation	= 536.32 ft
Reservoir name	= Watershed H	Max. Storage	= 11,578 cuft

Storage Indication method used.



Hydrograph Report

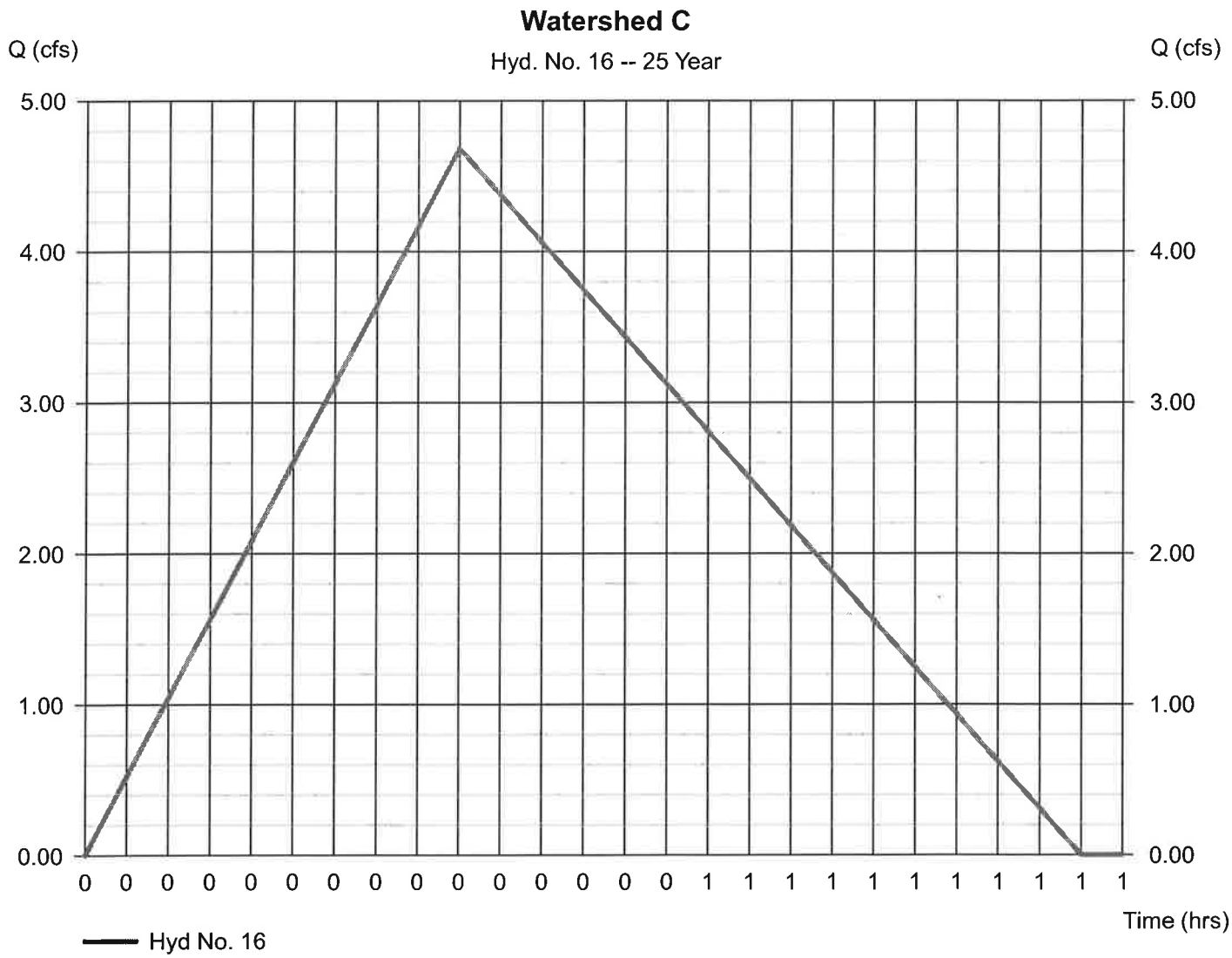
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 16

Watershed C

Hydrograph type	= Rational	Peak discharge	= 4.682 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.30 hrs
Time interval	= 1 min	Hyd. volume	= 6,864 cuft
Drainage area	= 3.300 ac	Runoff coeff.	= 0.33*
Intensity	= 4.300 in/hr	Tc by TR55	= 18.30 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.400 x 0.90) + (1.200 x 0.30) + (1.400 x 0.20) + (0.300 x 0.25)] / 3.300



Hydrograph Report

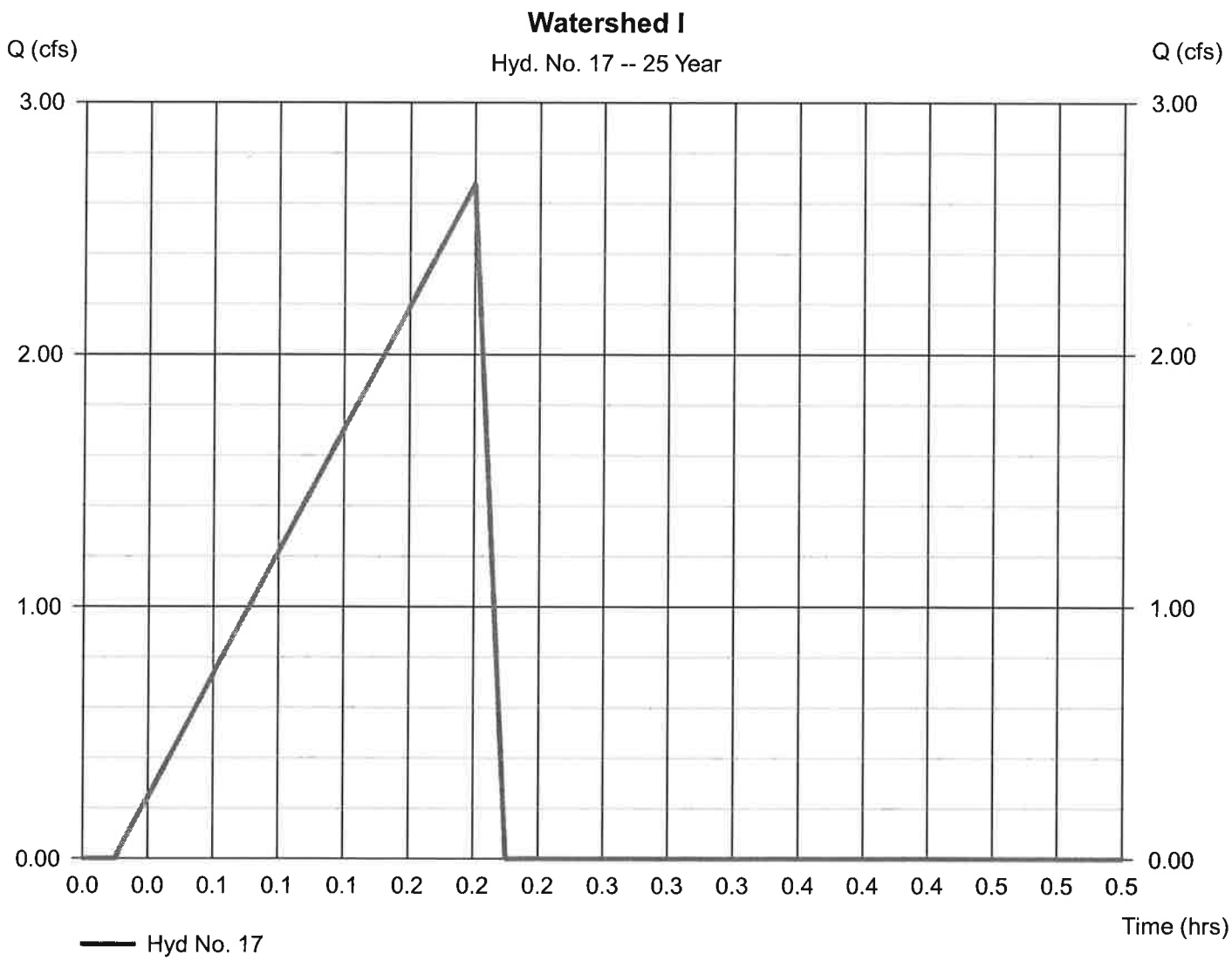
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 17

Watershed I

Hydrograph type	= Rational	Peak discharge	= 2.674 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 2,470 cuft
Drainage area	= 1.500 ac	Runoff coeff.	= 0.34*
Intensity	= 5.244 in/hr	Tc by TR55	= 11.53 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.200 x 0.90) + (0.700 x 0.30) + (0.600 x 0.20)] / 1.500



Hydrograph Report

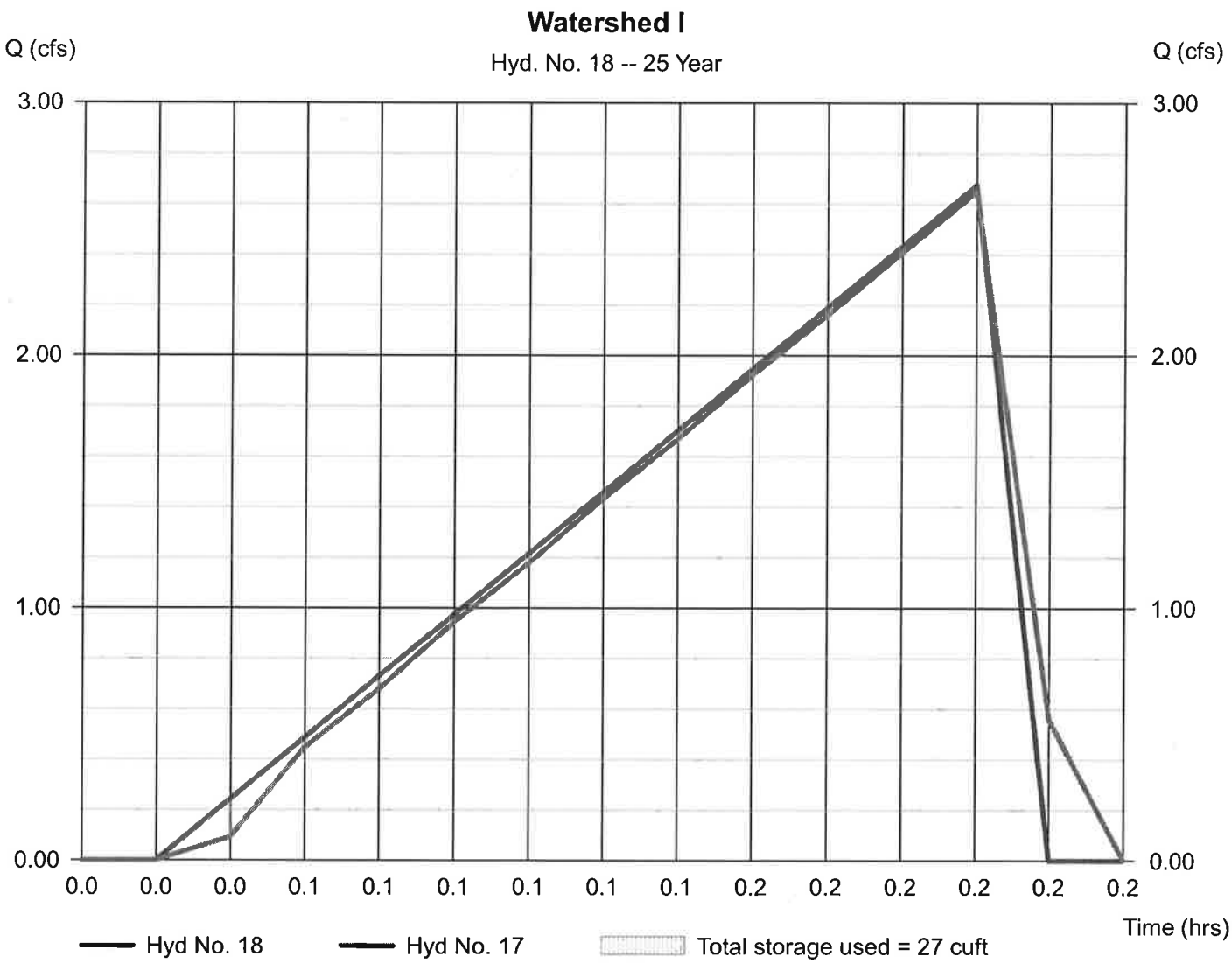
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 18

Watershed I

Hydrograph type	= Reservoir	Peak discharge	= 2.648 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 968 cuft
Inflow hyd. No.	= 17 - Watershed I	Max. Elevation	= 531.60 ft
Reservoir name	= Watershed I	Max. Storage	= 27 cuft

Storage Indication method used.



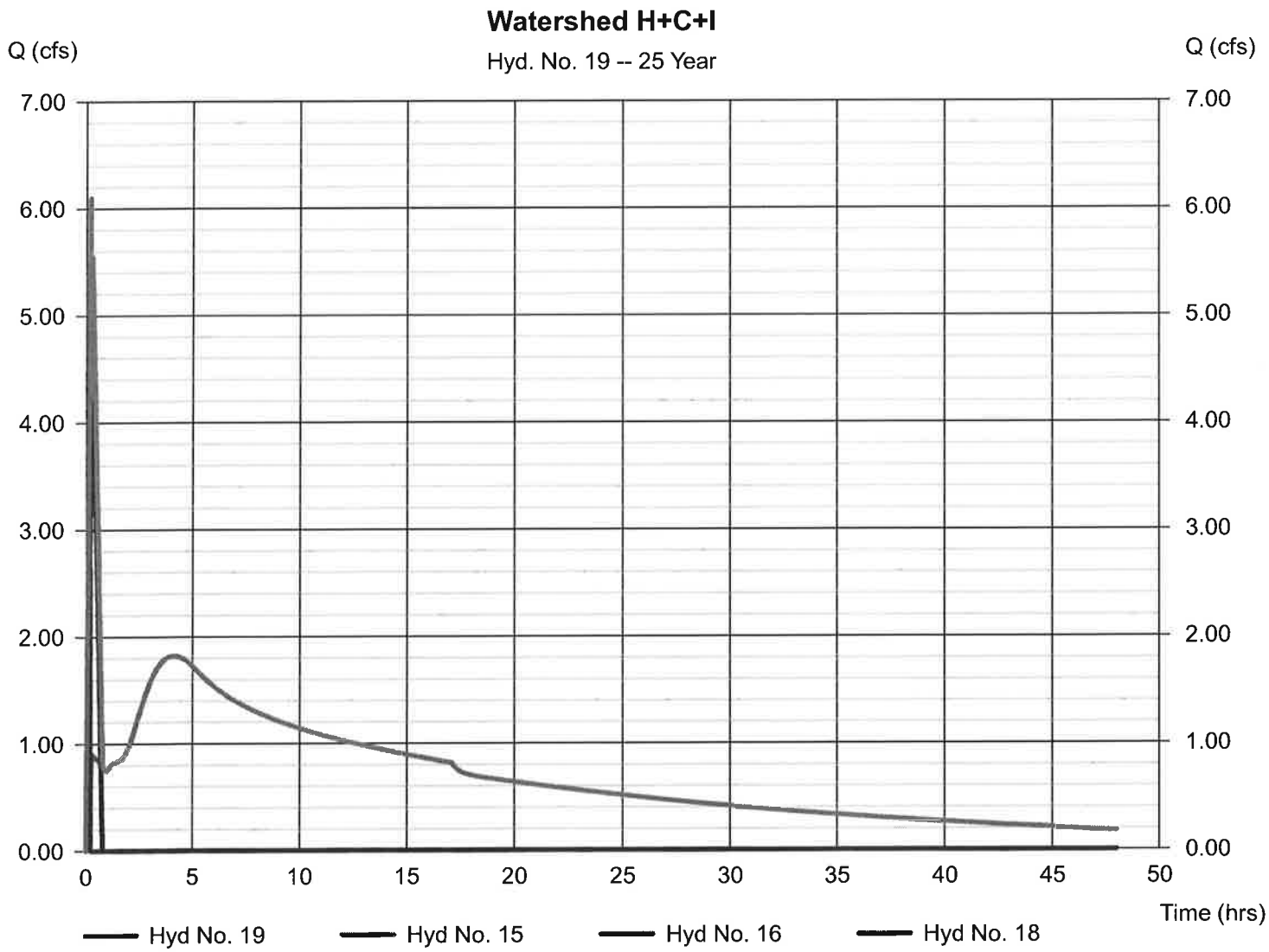
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 19

Watershed H+C+I

Hydrograph type	= Combine	Peak discharge	= 6.097 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 123,696 cuft
Inflow hyds.	= 15, 16, 18	Contrib. drain. area	= 3.300 ac



Hydrograph Report

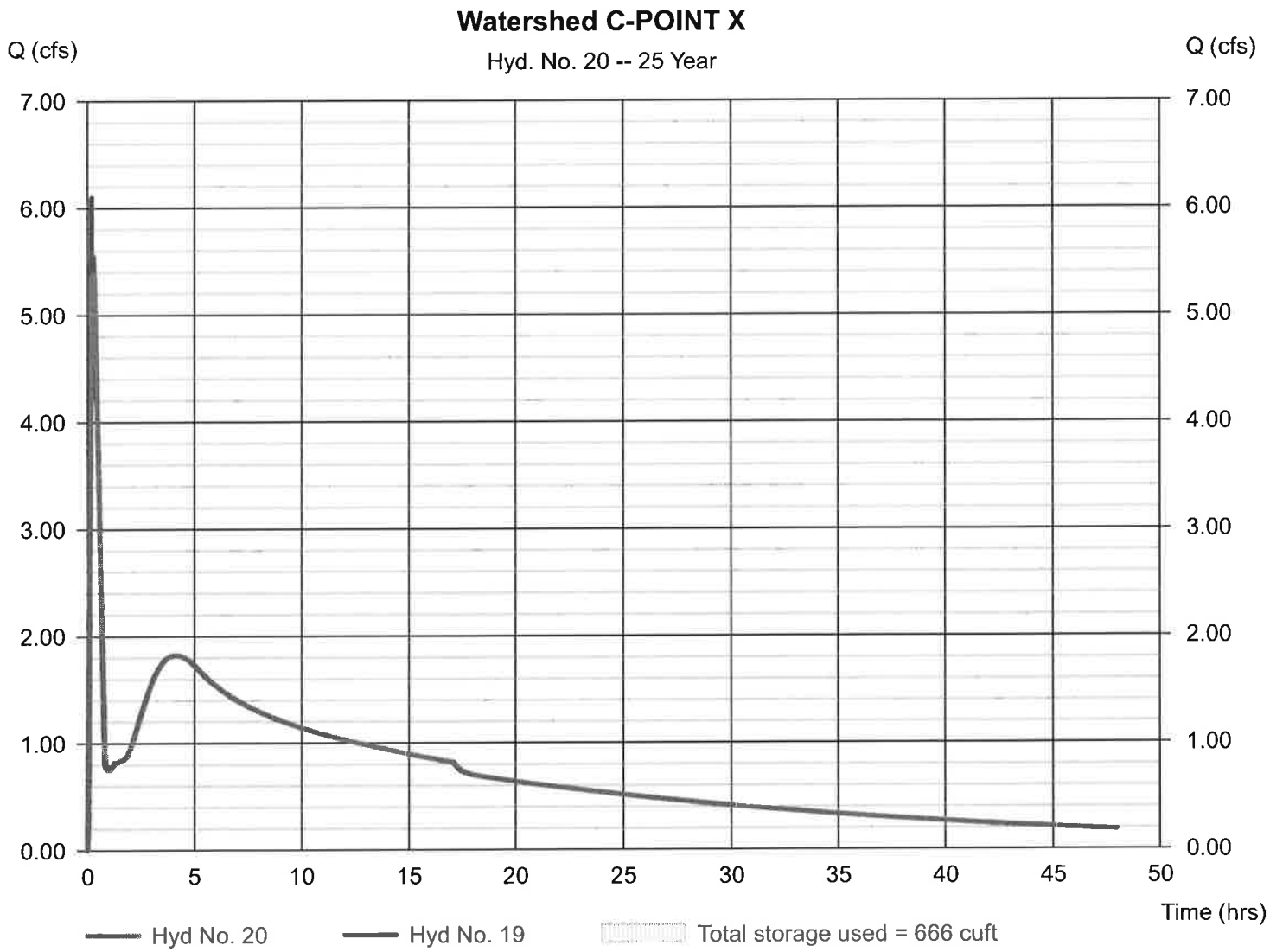
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 20

Watershed C-POINT X

Hydrograph type	= Reservoir	Peak discharge	= 5.386 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 123,631 cuft
Inflow hyd. No.	= 19 - Watershed H+C+I	Max. Elevation	= 529.92 ft
Reservoir name	= Watershed C	Max. Storage	= 666 cuft

Storage Indication method used.



Hydrograph Report

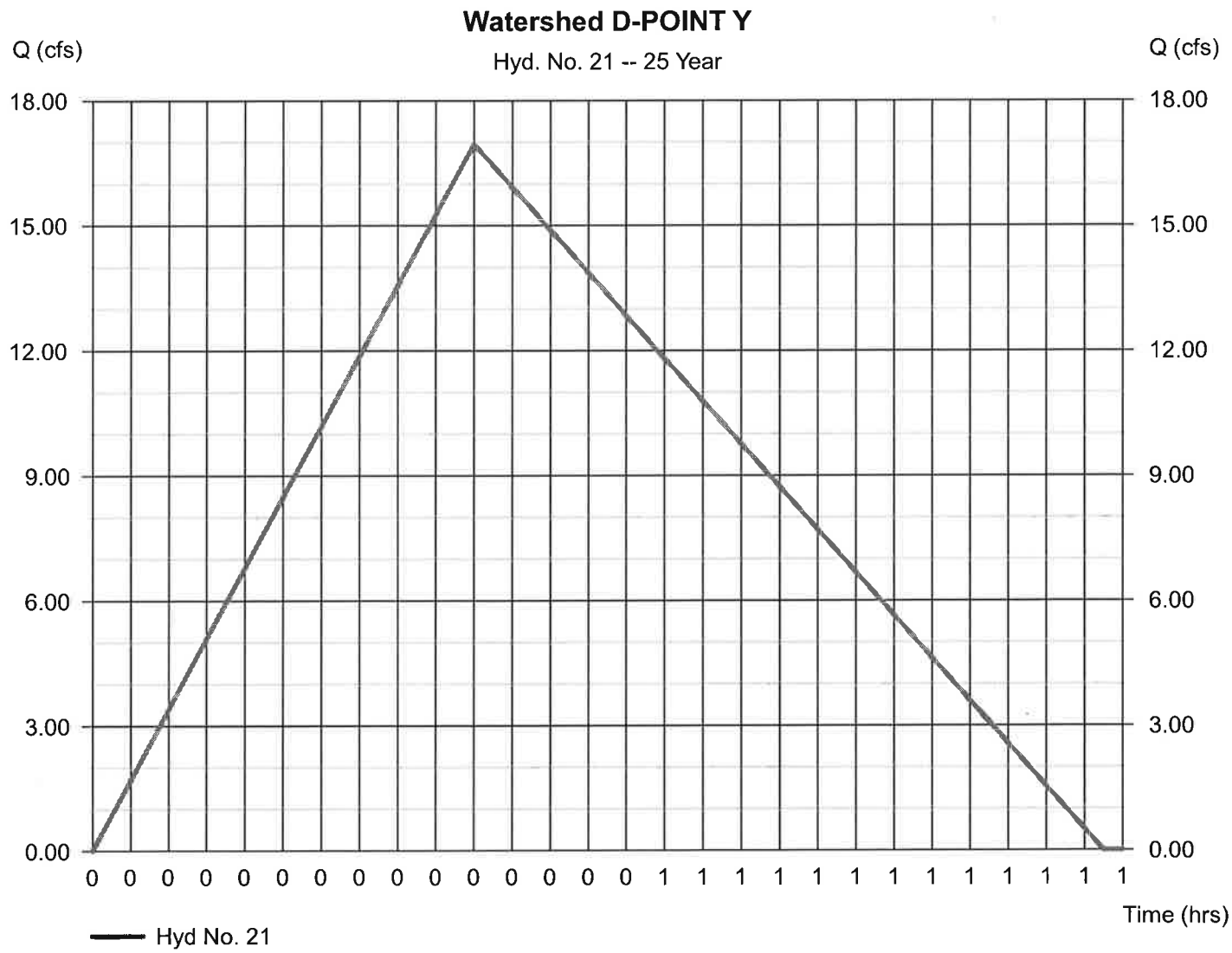
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 21

Watershed D-POINT Y

Hydrograph type	= Rational	Peak discharge	= 16.94 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 27,135 cuft
Drainage area	= 14.190 ac	Runoff coeff.	= 0.29*
Intensity	= 4.116 in/hr	Tc by TR55	= 20.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.500 x 0.90) + (1.750 x 0.30) + (10.940 x 0.20)] / 14.190



Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.1

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	Rational	9.466	1	17	12,890	----	------	------	Watershed A
2	Reservoir	3.353	1	35	12,757	1	566.26	8,123	Watershed A
3	Rational	7.054	1	14	7,653	----	------	------	Watershed B
4	Reservoir	1.698	1	31	7,395	3	567.07	5,814	Watershed B
5	Rational	39.24	1	29	92,280	----	------	------	Watershed E
6	Rational	7.989	1	22	14,344	----	------	------	Watershed G
7	Reservoir	0.007	1	59	1,230	6	546.42	14,120	Watershed G
8	Combine	44.19	1	29	111,979	2, 4, 5,	------	------	Watershed A+B+E
9	Reservoir	23.58	1	53	111,966	8	542.20	56,164	Watershed E-POINT Z
10	Rational	21.16	1	20	33,794	----	------	------	Watershed F
11	Combine	27.92	1	40	144,970	9, 10	------	------	Watershed A+B+E+F
12	Reservoir	4.871	1	127	129,015	11	539.59	104,355	Watershed F
13	Rational	5.204	1	19	7,789	----	------	------	Watershed H
14	Combine	5.332	1	19	131,981	12, 13	------	------	Watershed F+H
15	Reservoir	2.575	1	227	131,306	14	536.56	19,195	Watershed H
16	Rational	5.193	1	18	7,612	----	------	------	Watershed C
17	Rational	2.942	1	12	2,717	----	------	------	Watershed I
18	Reservoir	2.913	1	12	1,065	17	531.65	29.1	Watershed I
19	Combine	6.770	1	12	139,849	15, 16, 18	------	------	Watershed H+C+I
20	Reservoir	5.989	1	12	139,784	19	529.99	707	Watershed C-POINT X
21	Rational	18.82	1	20	30,146	----	------	------	Watershed D-POINT Y

Hydrograph Report

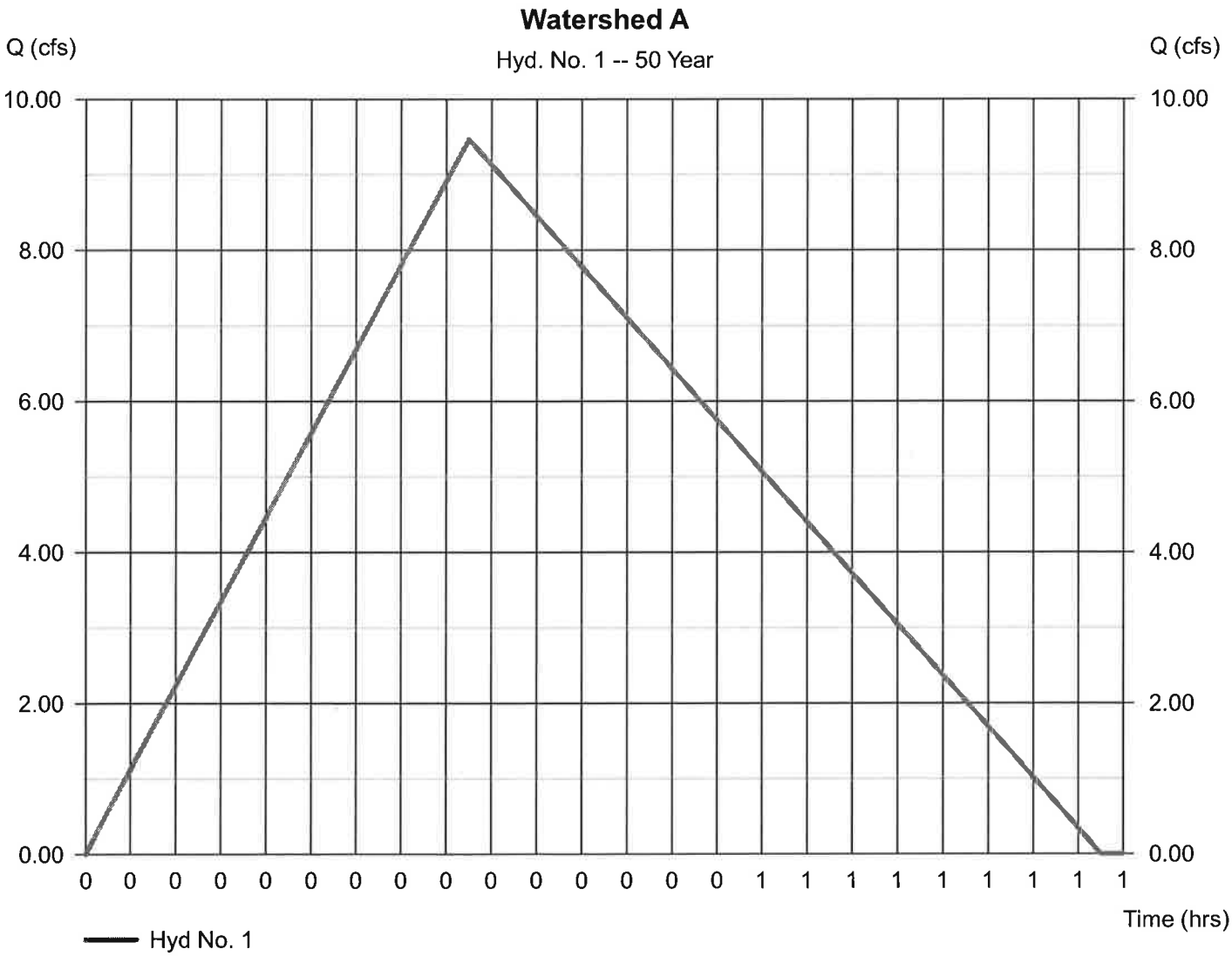
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 1

Watershed A

Hydrograph type	= Rational	Peak discharge	= 9.466 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.28 hrs
Time interval	= 1 min	Hyd. volume	= 12,890 cuft
Drainage area	= 8.000 ac	Runoff coeff.	= 0.24*
Intensity	= 4.930 in/hr	Tc by TR55	= 17.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.400 x 0.90) + (0.500 x 0.30) + (7.100 x 0.20)] / 8.000



Hydrograph Report

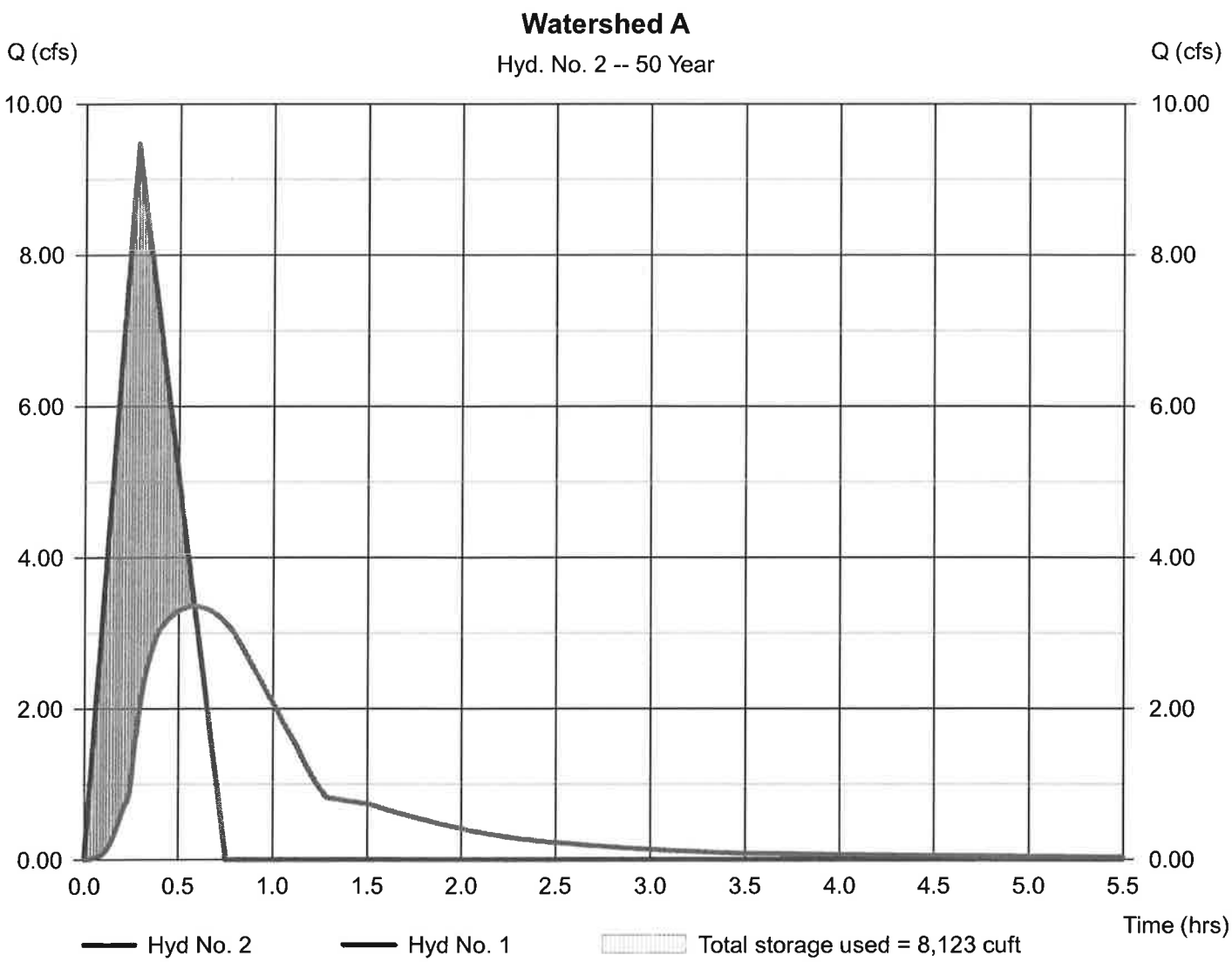
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 2

Watershed A

Hydrograph type	= Reservoir	Peak discharge	= 3.353 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.58 hrs
Time interval	= 1 min	Hyd. volume	= 12,757 cuft
Inflow hyd. No.	= 1 - Watershed A	Max. Elevation	= 566.26 ft
Reservoir name	= Watershed A	Max. Storage	= 8,123 cuft

Storage Indication method used.



Hydrograph Report

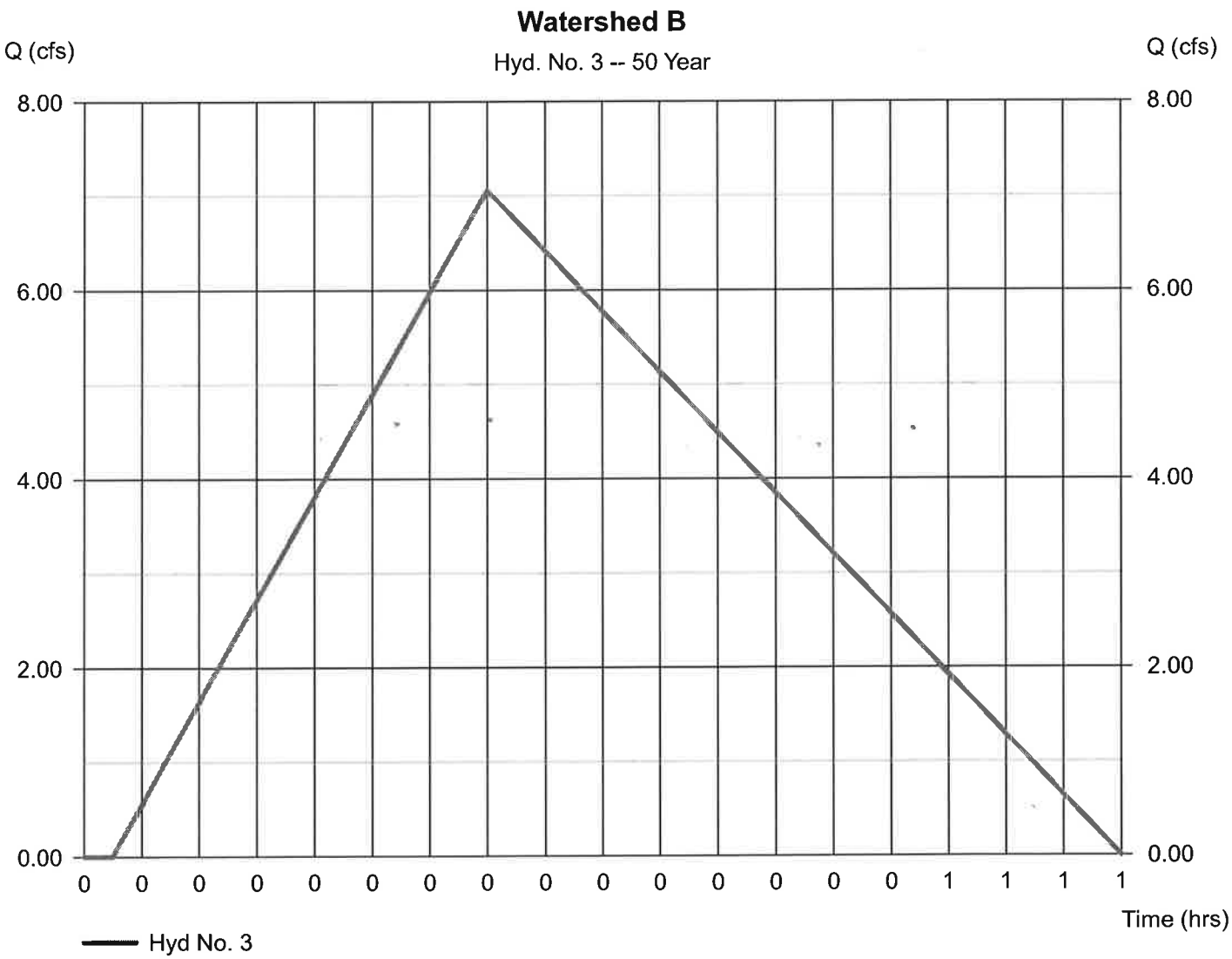
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 3

Watershed B

Hydrograph type	= Rational	Peak discharge	= 7.054 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.23 hrs
Time interval	= 1 min	Hyd. volume	= 7,653 cuft
Drainage area	= 5.200 ac	Runoff coeff.	= 0.25*
Intensity	= 5.426 in/hr	Tc by TR55	= 13.54 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.300 x 0.90) + (0.500 x 0.30) + (4.400 x 0.20)] / 5.200



Hydrograph Report

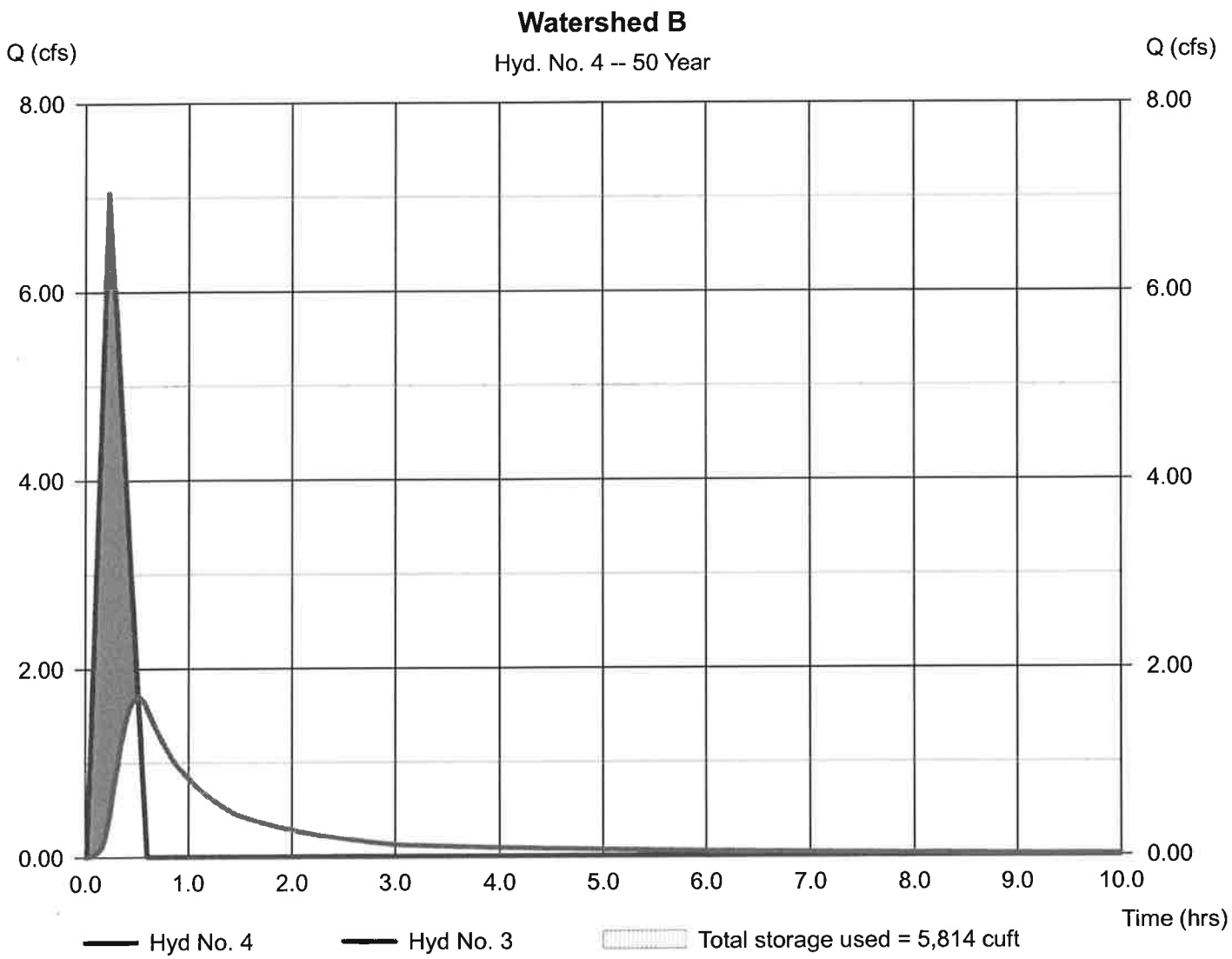
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 4

Watershed B

Hydrograph type	= Reservoir	Peak discharge	= 1.698 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.52 hrs
Time interval	= 1 min	Hyd. volume	= 7,395 cuft
Inflow hyd. No.	= 3 - Watershed B	Max. Elevation	= 567.07 ft
Reservoir name	= Watershed B	Max. Storage	= 5,814 cuft

Storage Indication method used.



Hydrograph Report

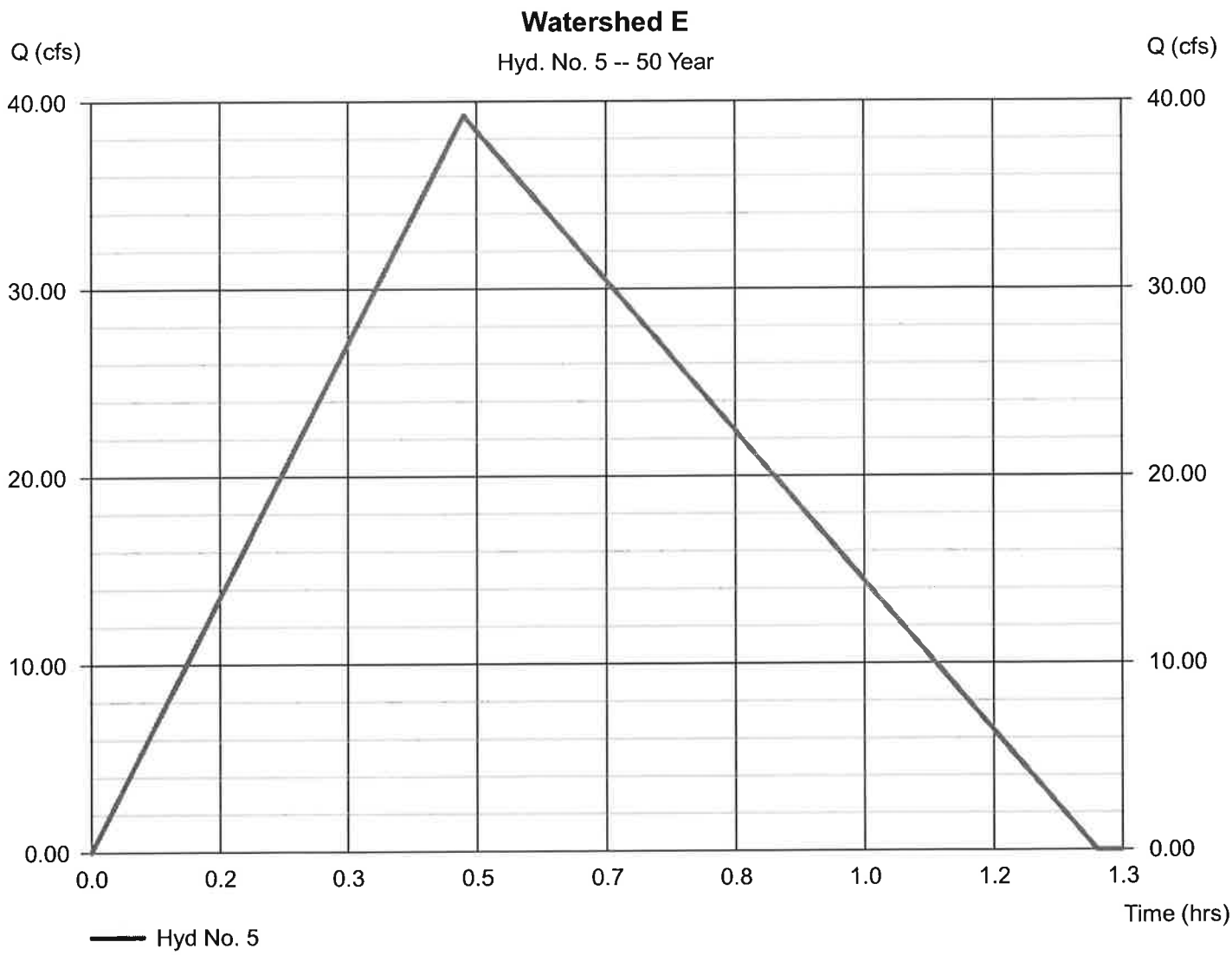
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 5

Watershed E

Hydrograph type	= Rational	Peak discharge	= 39.24 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.48 hrs
Time interval	= 1 min	Hyd. volume	= 92,280 cuft
Drainage area	= 40.300 ac	Runoff coeff.	= 0.26*
Intensity	= 3.745 in/hr	Tc by TR55	= 29.36 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(2.100 x 0.90) + (7.700 x 0.30) + (30.500 x 0.20)] / 40.300



Hydrograph Report

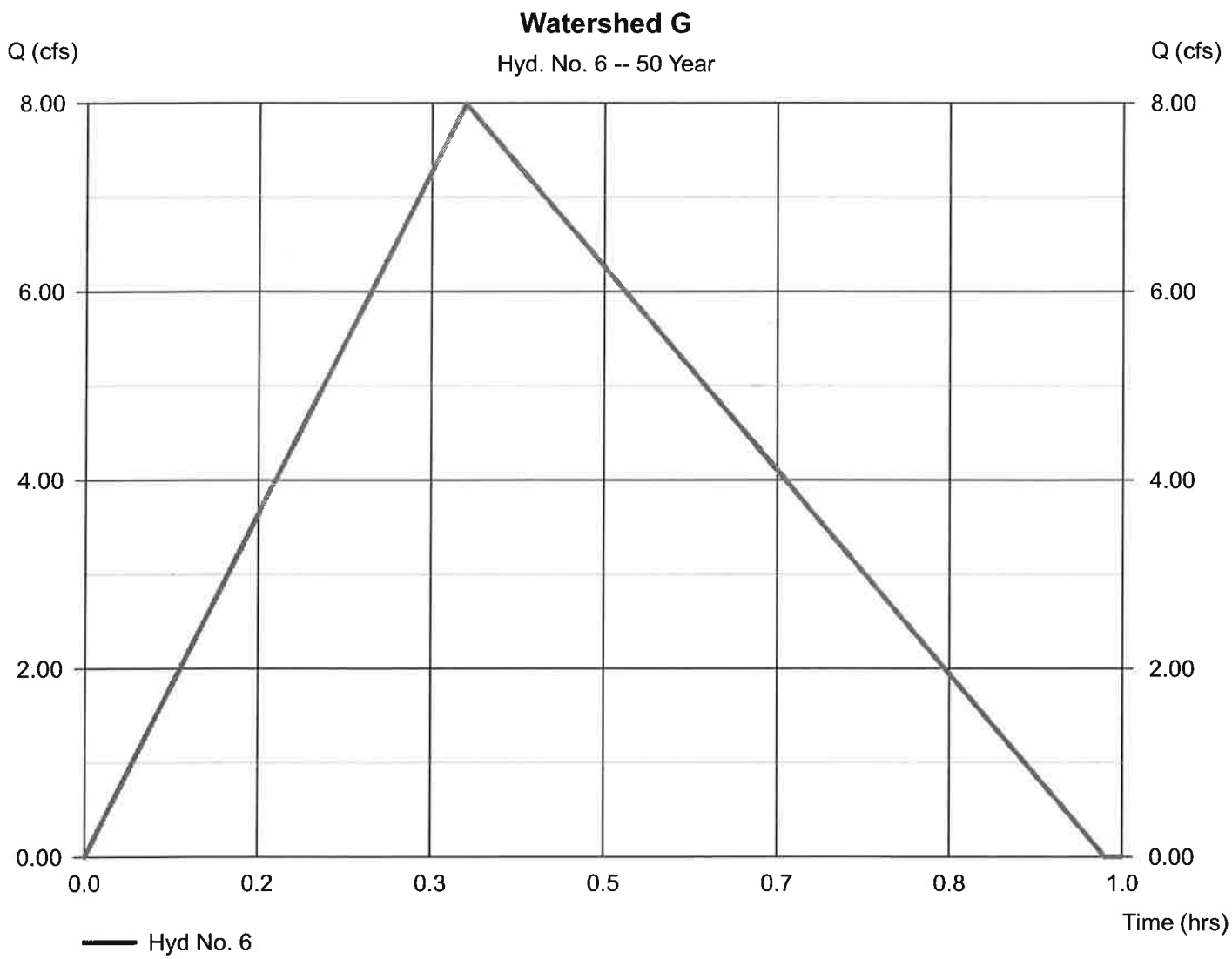
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 6

Watershed G

Hydrograph type	= Rational	Peak discharge	= 7.989 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.37 hrs
Time interval	= 1 min	Hyd. volume	= 14,344 cuft
Drainage area	= 7.700 ac	Runoff coeff.	= 0.24*
Intensity	= 4.323 in/hr	Tc by TR55	= 22.41 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.300 x 0.90) + (0.800 x 0.30) + (6.600 x 0.20)] / 7.700



Hydrograph Report

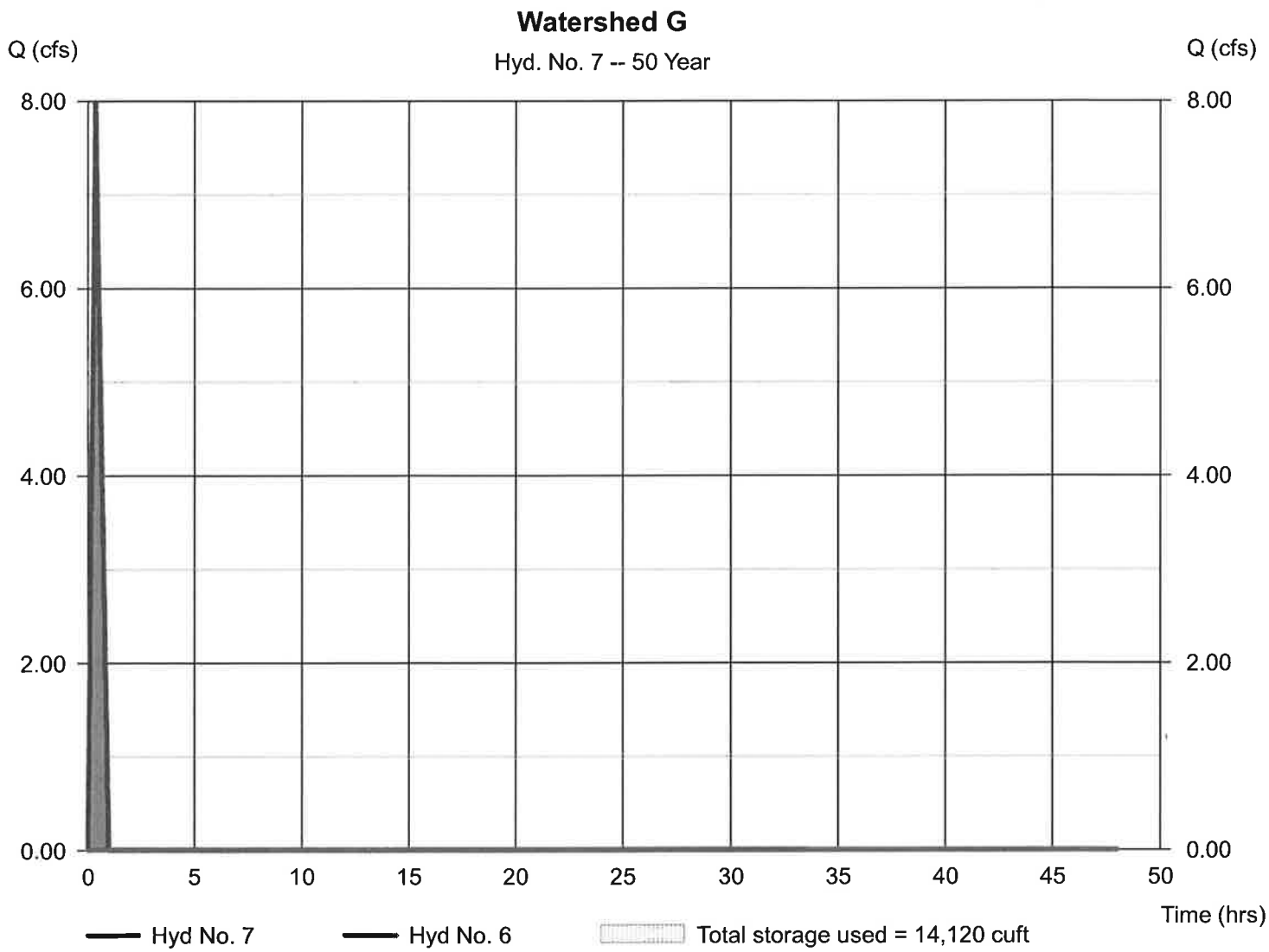
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 7

Watershed G

Hydrograph type	= Reservoir	Peak discharge	= 0.007 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.98 hrs
Time interval	= 1 min	Hyd. volume	= 1,230 cuft
Inflow hyd. No.	= 6 - Watershed G	Max. Elevation	= 546.42 ft
Reservoir name	= Watershed G	Max. Storage	= 14,120 cuft

Storage Indication method used.



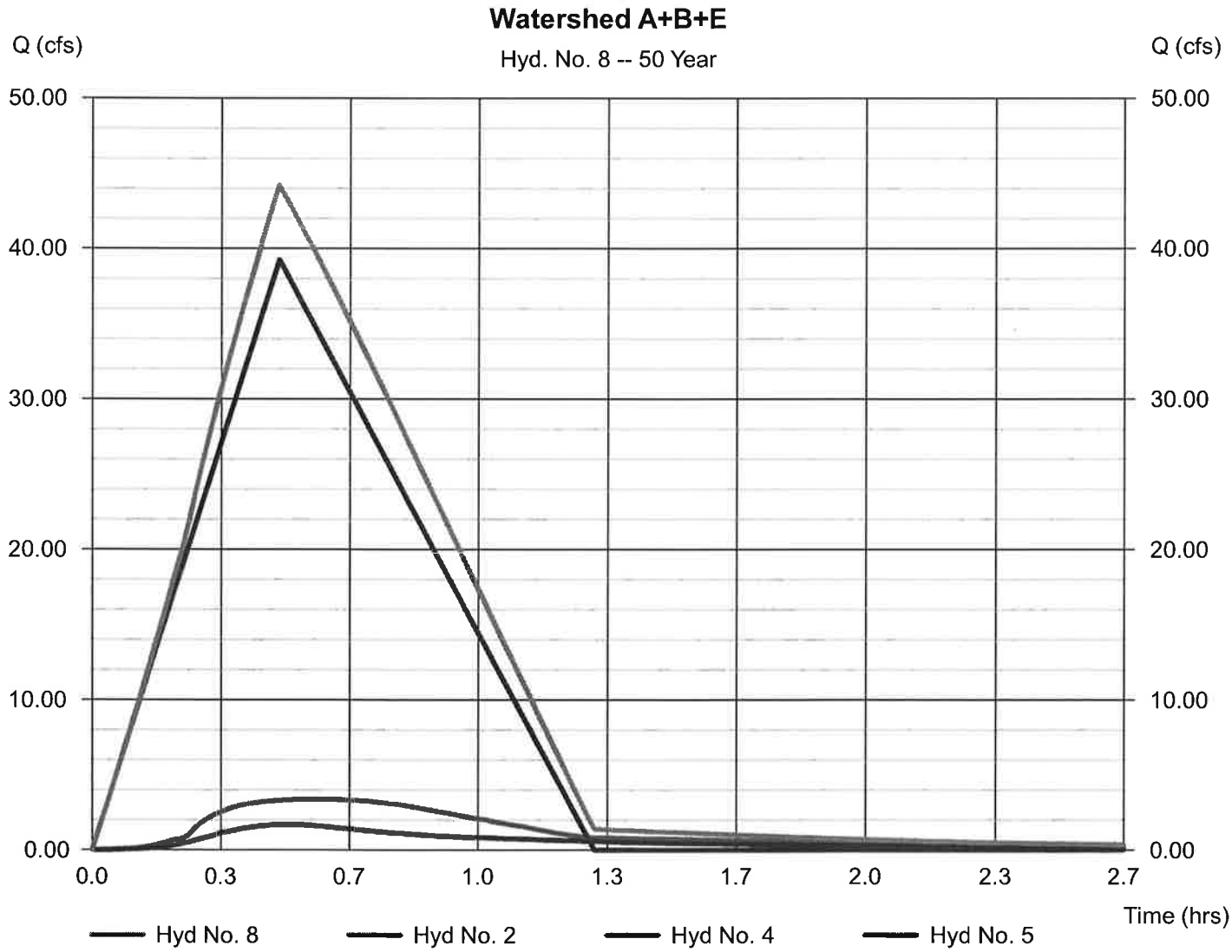
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 8

Watershed A+B+E

Hydrograph type	= Combine	Peak discharge	= 44.19 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.48 hrs
Time interval	= 1 min	Hyd. volume	= 111,979 cuft
Inflow hyds.	= 2, 4, 5	Contrib. drain. area	= 40.300 ac



Hydrograph Report

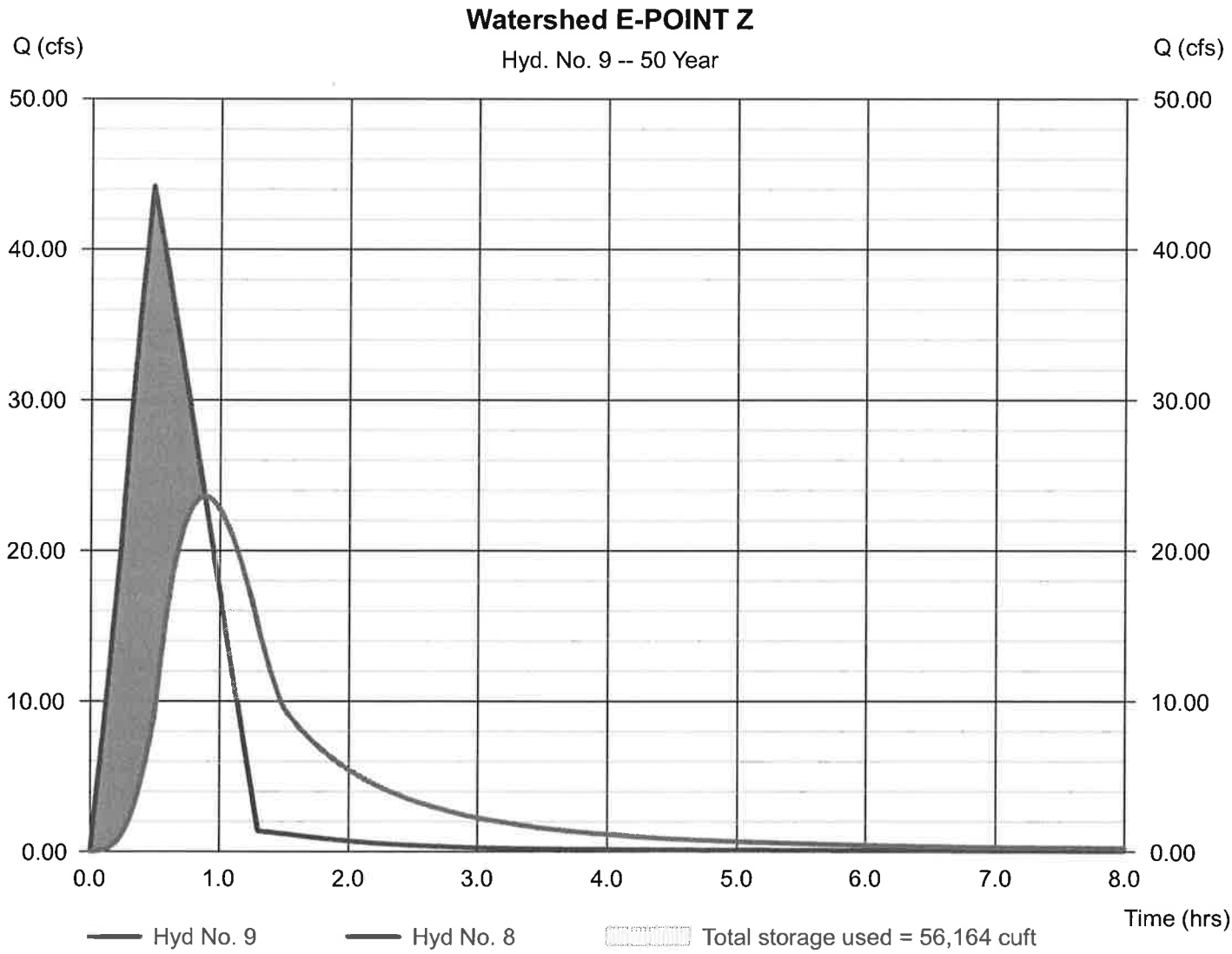
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 9

Watershed E-POINT Z

Hydrograph type	= Reservoir	Peak discharge	= 23.58 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.88 hrs
Time interval	= 1 min	Hyd. volume	= 111,966 cuft
Inflow hyd. No.	= 8 - Watershed A+B+E	Max. Elevation	= 542.20 ft
Reservoir name	= Watershed E	Max. Storage	= 56,164 cuft

Storage Indication method used.



Hydrograph Report

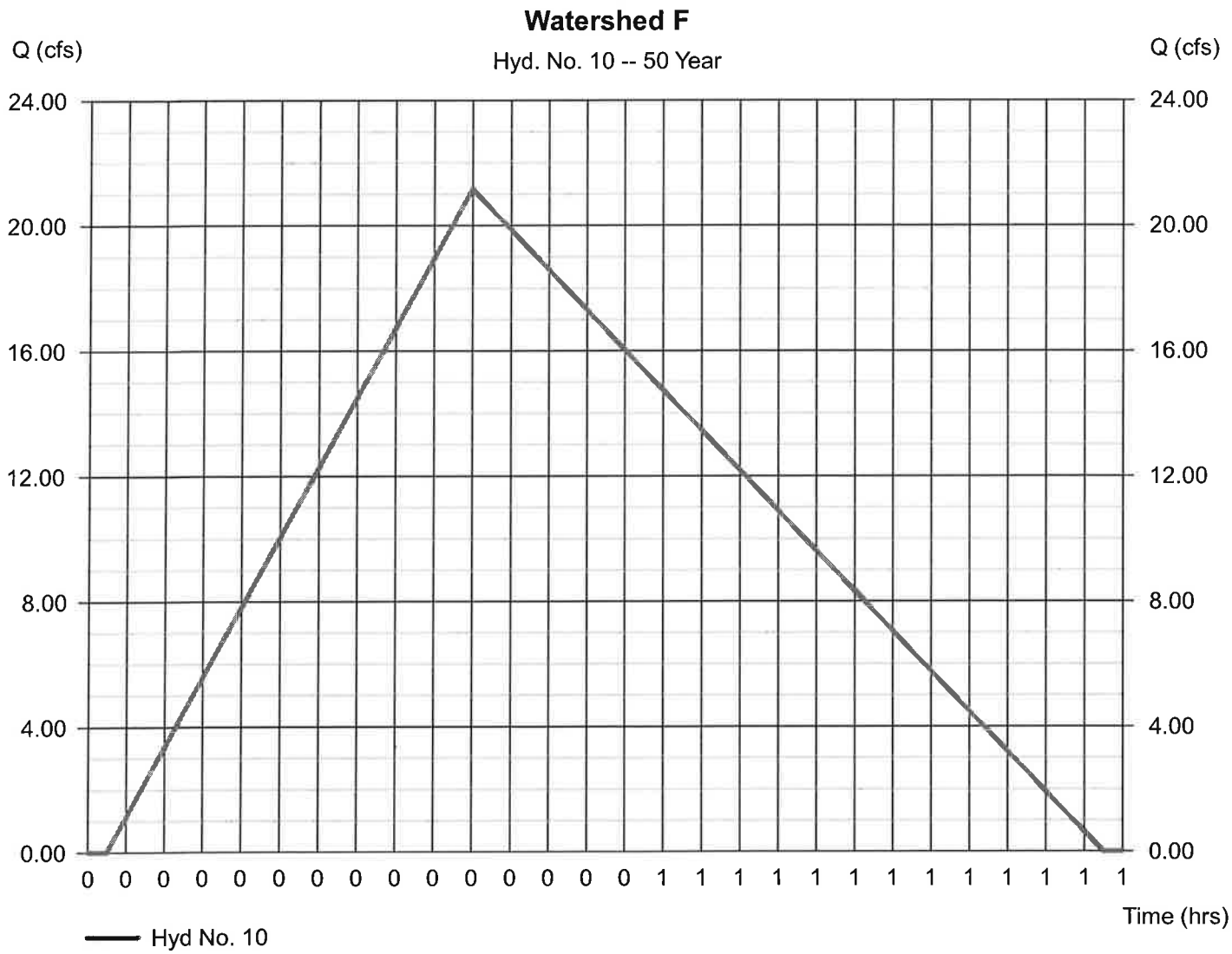
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 10

Watershed F

Hydrograph type	= Rational	Peak discharge	= 21.16 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 33,794 cuft
Drainage area	= 15.400 ac	Runoff coeff.	= 0.3*
Intensity	= 4.579 in/hr	Tc by TR55	= 19.94 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.000 x 0.90) + (5.100 x 0.30) + (8.800 x 0.20) + (0.500 x 1.00)] / 15.400



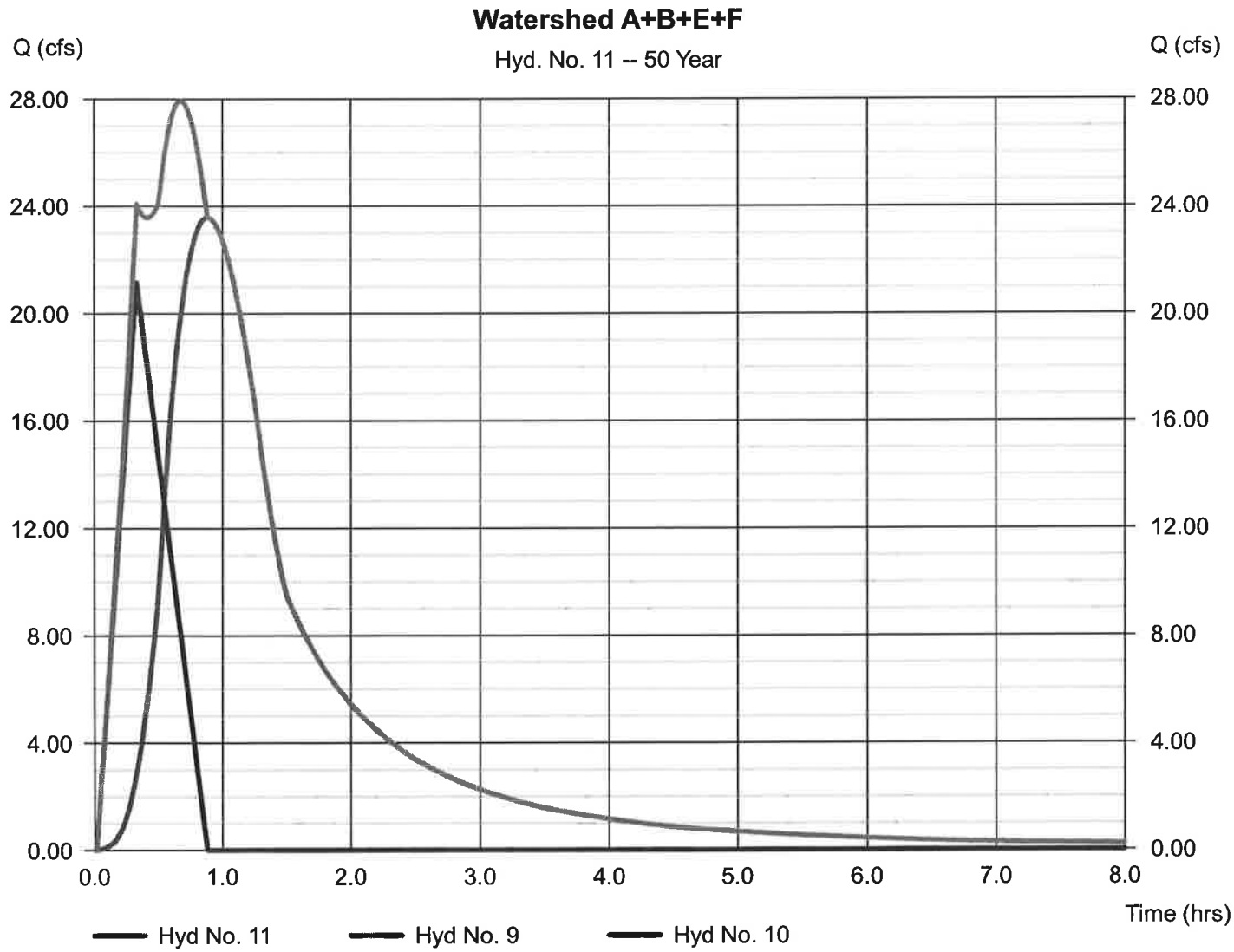
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 11

Watershed A+B+E+F

Hydrograph type	= Combine	Peak discharge	= 27.92 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.67 hrs
Time interval	= 1 min	Hyd. volume	= 144,970 cuft
Inflow hyds.	= 9, 10	Contrib. drain. area	= 15.400 ac



Hydrograph Report

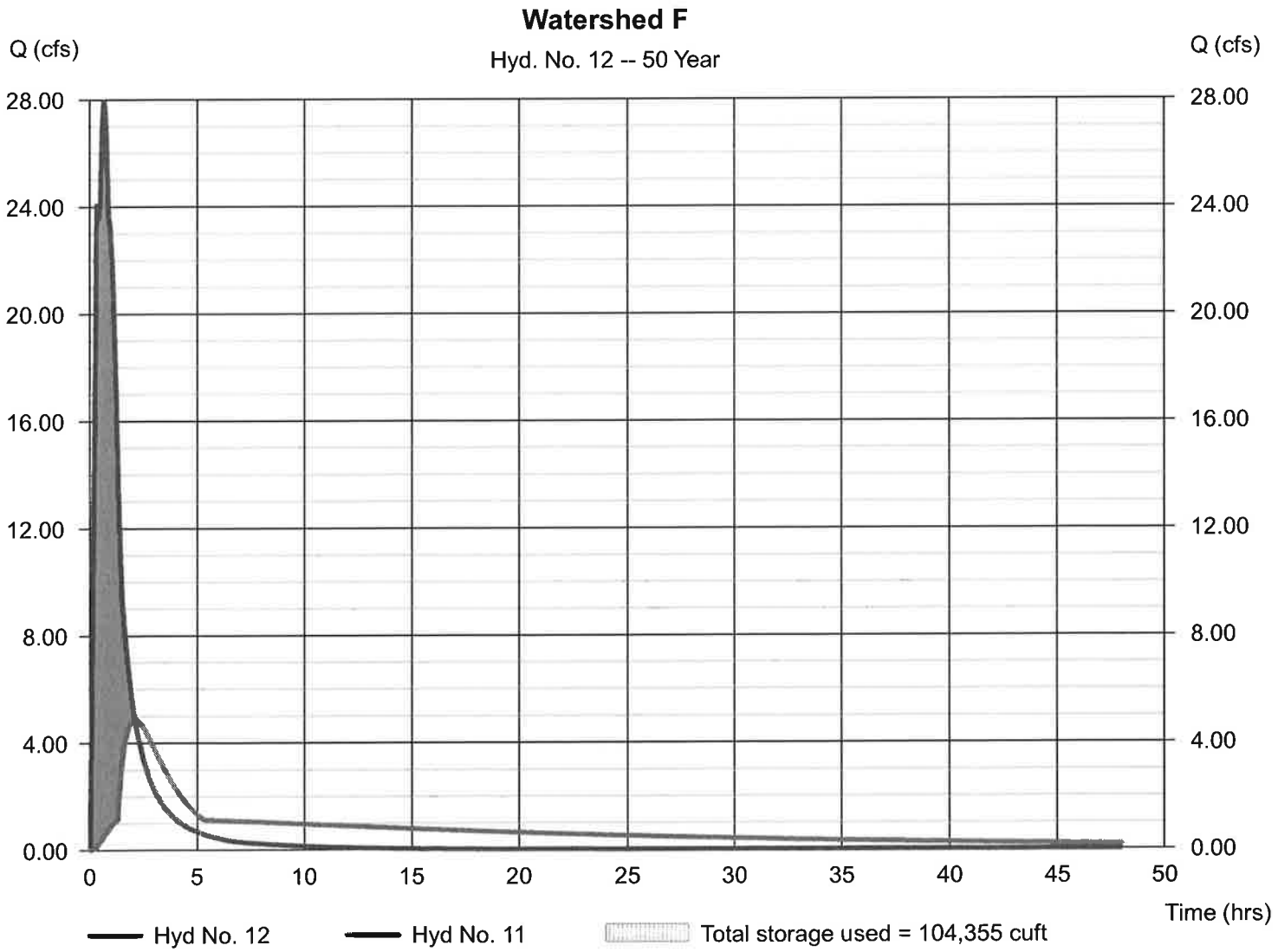
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 12

Watershed F

Hydrograph type	= Reservoir	Peak discharge	= 4.871 cfs
Storm frequency	= 50 yrs	Time to peak	= 2.12 hrs
Time interval	= 1 min	Hyd. volume	= 129,015 cuft
Inflow hyd. No.	= 11 - Watershed A+B+E+F	Max. Elevation	= 539.59 ft
Reservoir name	= Watershed F	Max. Storage	= 104,355 cuft

Storage Indication method used.



Hydrograph Report

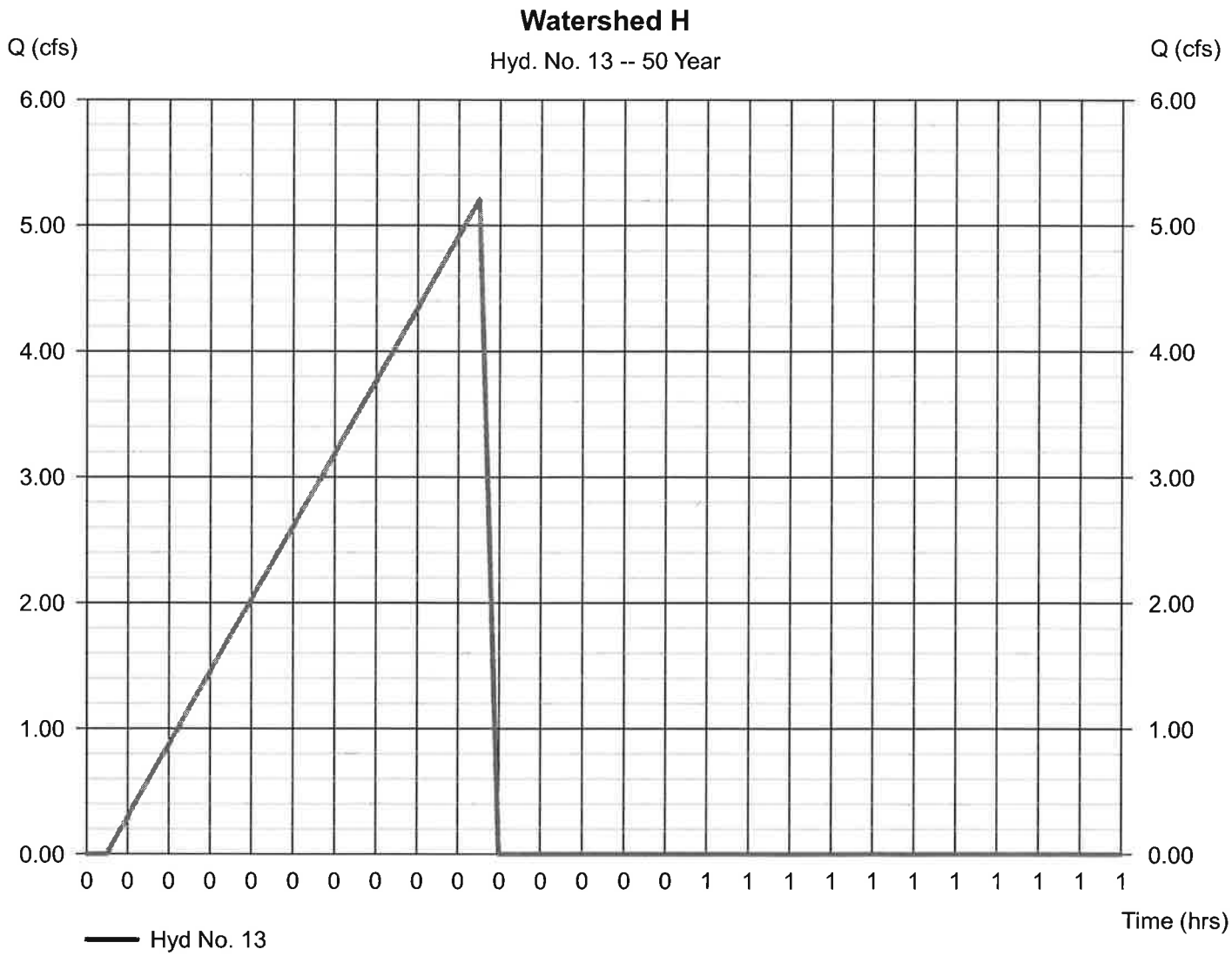
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 13

Watershed H

Hydrograph type	= Rational	Peak discharge	= 5.204 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 7,789 cuft
Drainage area	= 3.800 ac	Runoff coeff.	= 0.29*
Intensity	= 4.722 in/hr	Tc by TR55	= 18.69 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.200 x 0.90) + (0.100 x 0.30) + (2.500 x 0.20) + (0.800 x 0.25) + (0.200 x 1.00)] / 3.800



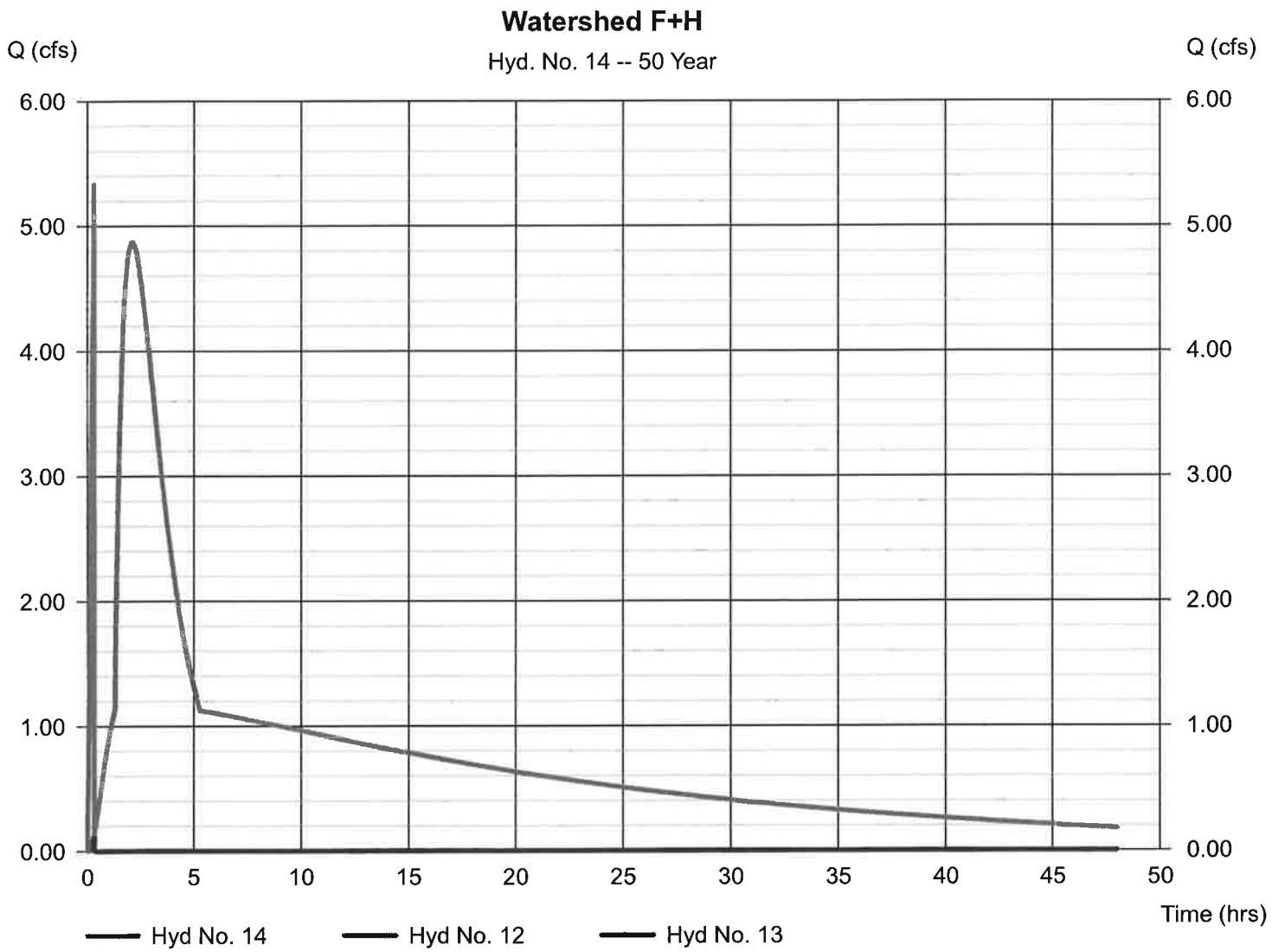
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 14

Watershed F+H

Hydrograph type	= Combine	Peak discharge	= 5.332 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 131,981 cuft
Inflow hyds.	= 12, 13	Contrib. drain. area	= 3.800 ac



Hydrograph Report

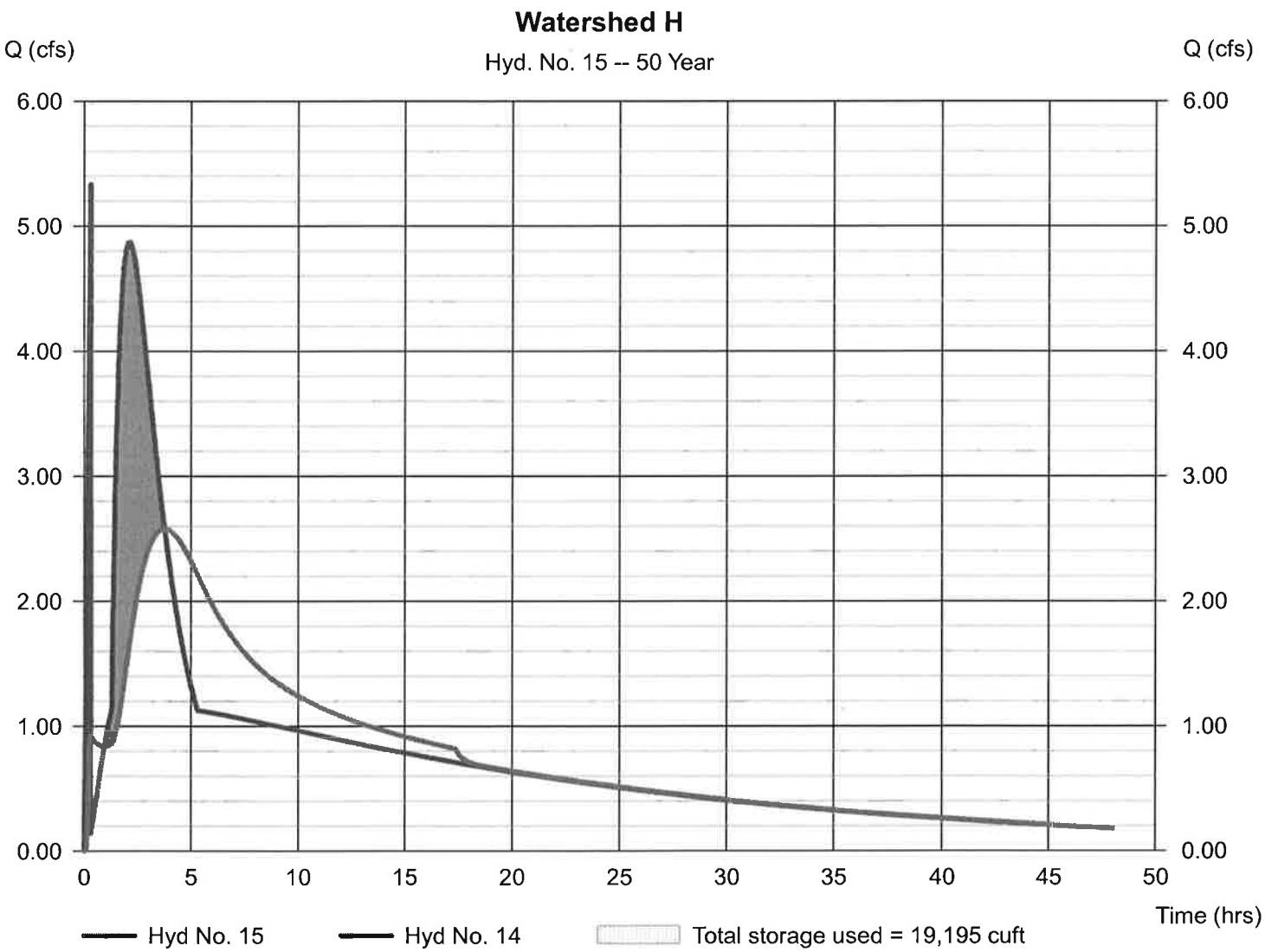
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 15

Watershed H

Hydrograph type	= Reservoir	Peak discharge	= 2.575 cfs
Storm frequency	= 50 yrs	Time to peak	= 3.78 hrs
Time interval	= 1 min	Hyd. volume	= 131,306 cuft
Inflow hyd. No.	= 14 - Watershed F+H	Max. Elevation	= 536.56 ft
Reservoir name	= Watershed H	Max. Storage	= 19,195 cuft

Storage Indication method used.



Hydrograph Report

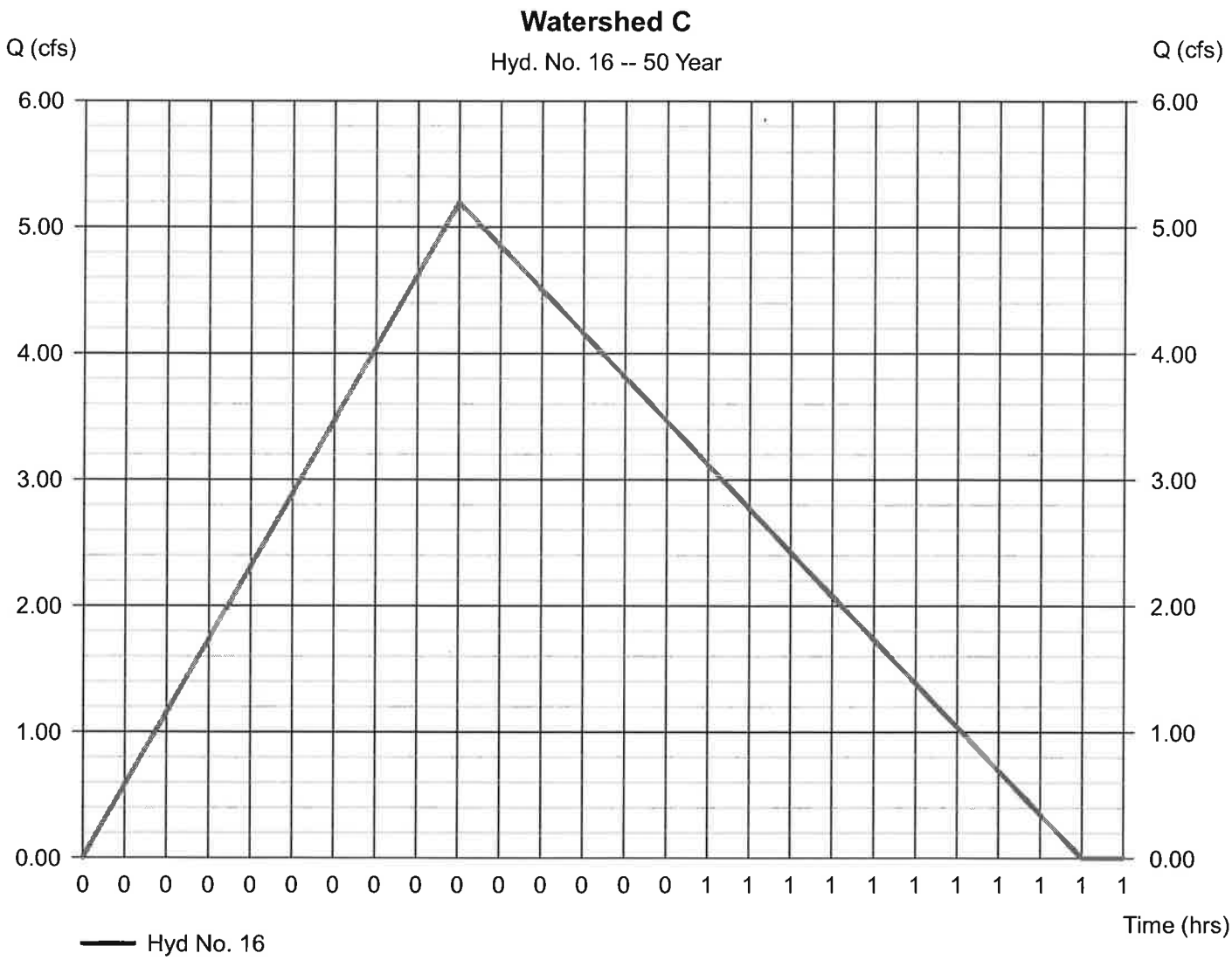
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 16

Watershed C

Hydrograph type	= Rational	Peak discharge	= 5.193 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.30 hrs
Time interval	= 1 min	Hyd. volume	= 7,612 cuft
Drainage area	= 3.300 ac	Runoff coeff.	= 0.33*
Intensity	= 4.768 in/hr	Tc by TR55	= 18.30 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.400 x 0.90) + (1.200 x 0.30) + (1.400 x 0.20) + (0.300 x 0.25)] / 3.300



Hydrograph Report

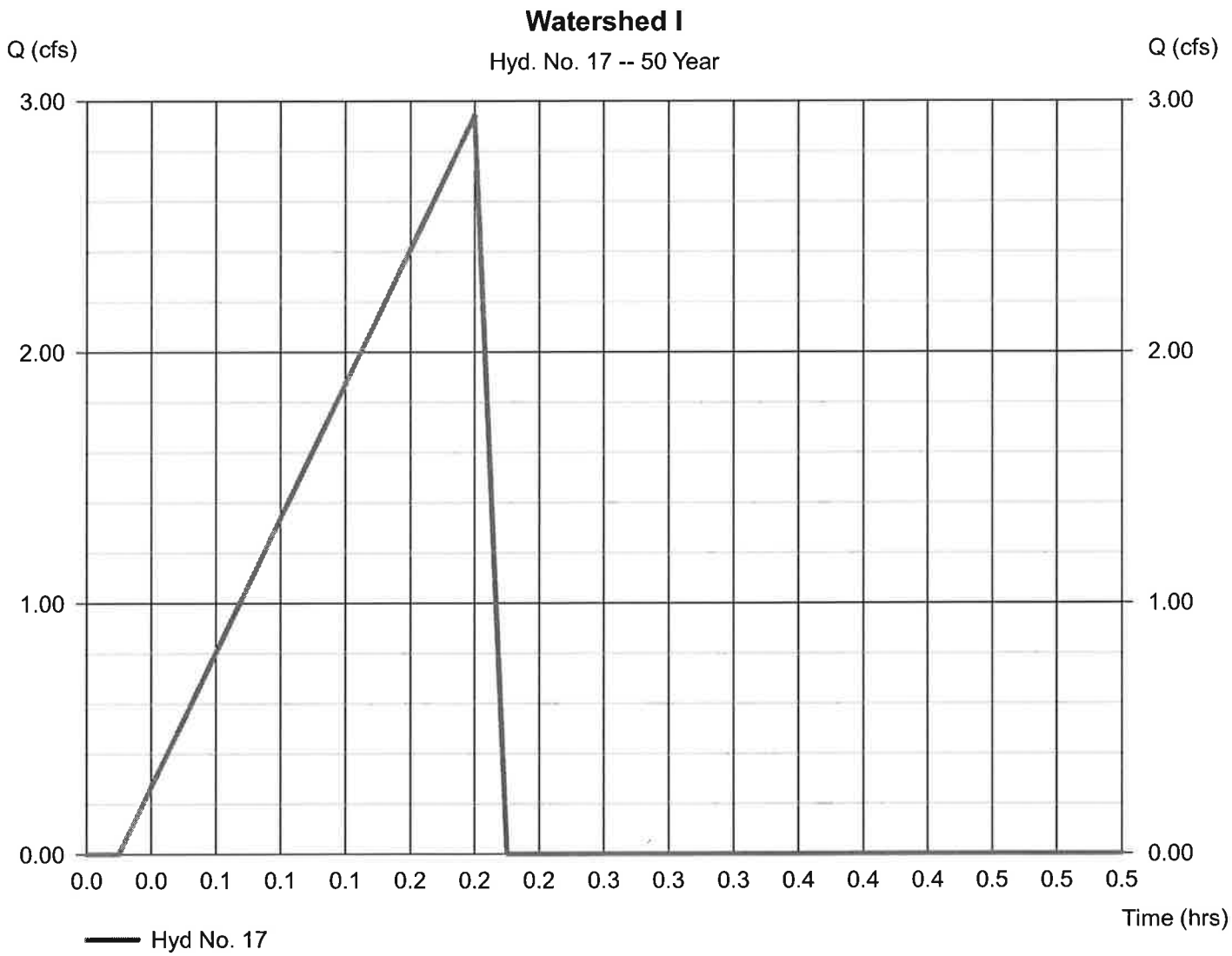
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 17

Watershed I

Hydrograph type	= Rational	Peak discharge	= 2.942 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 2,717 cuft
Drainage area	= 1.500 ac	Runoff coeff.	= 0.34*
Intensity	= 5.769 in/hr	Tc by TR55	= 11.53 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.200 x 0.90) + (0.700 x 0.30) + (0.600 x 0.20)] / 1.500



Hydrograph Report

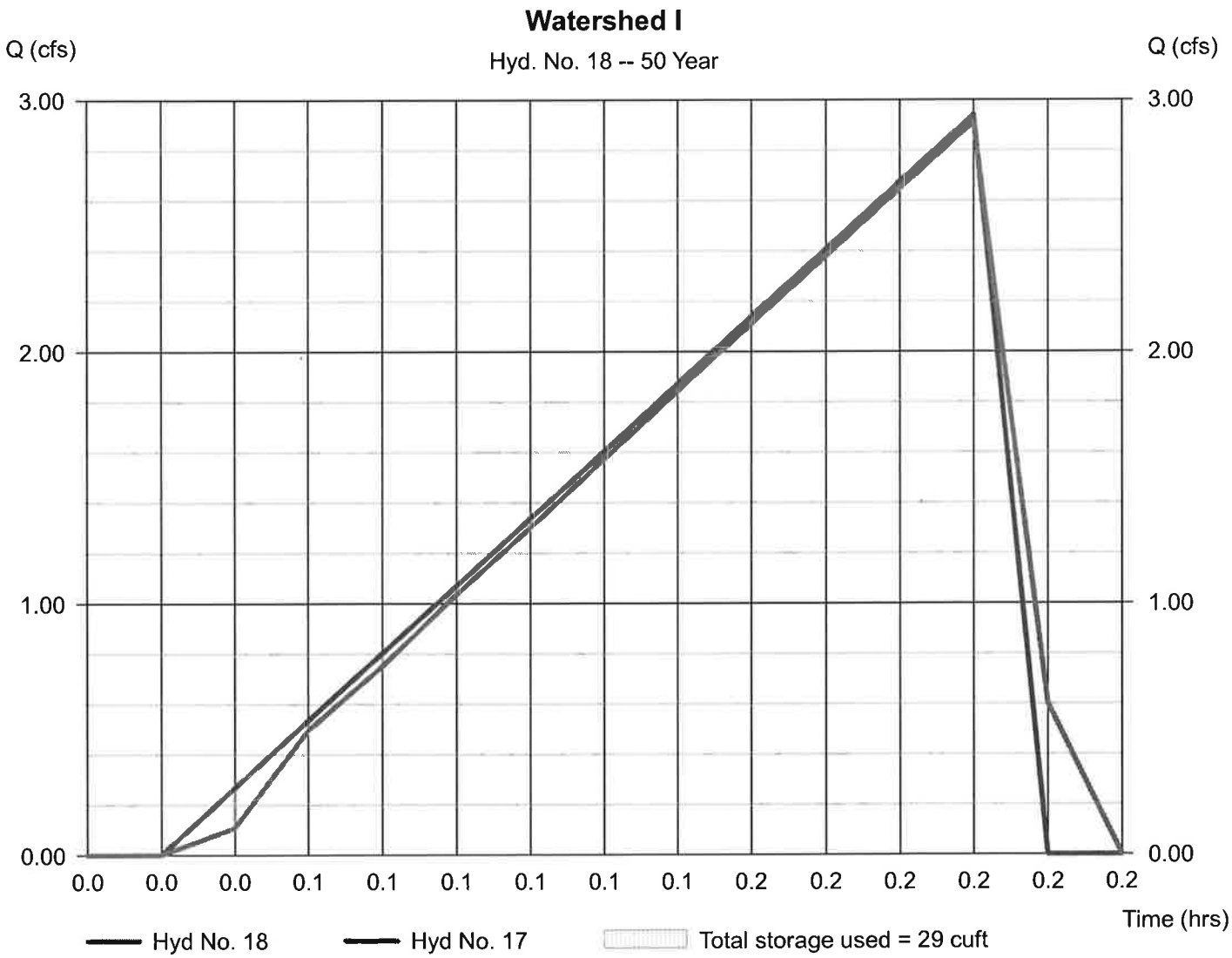
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 18

Watershed I

Hydrograph type	= Reservoir	Peak discharge	= 2.913 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 1,065 cuft
Inflow hyd. No.	= 17 - Watershed I	Max. Elevation	= 531.65 ft
Reservoir name	= Watershed I	Max. Storage	= 29 cuft

Storage Indication method used.



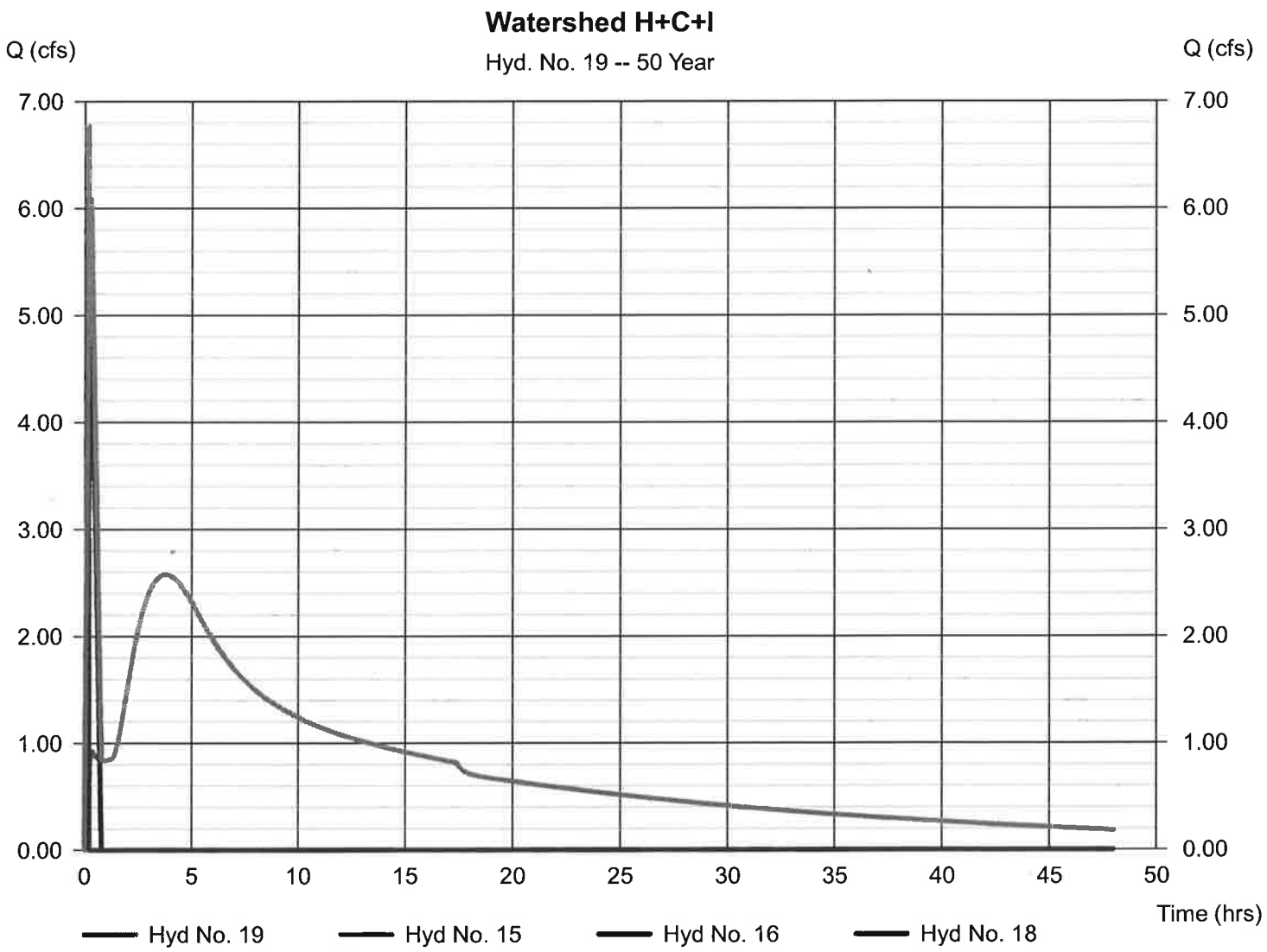
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 19

Watershed H+C+I

Hydrograph type	= Combine	Peak discharge	= 6.770 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 139,849 cuft
Inflow hyds.	= 15, 16, 18	Contrib. drain. area	= 3.300 ac



Hydrograph Report

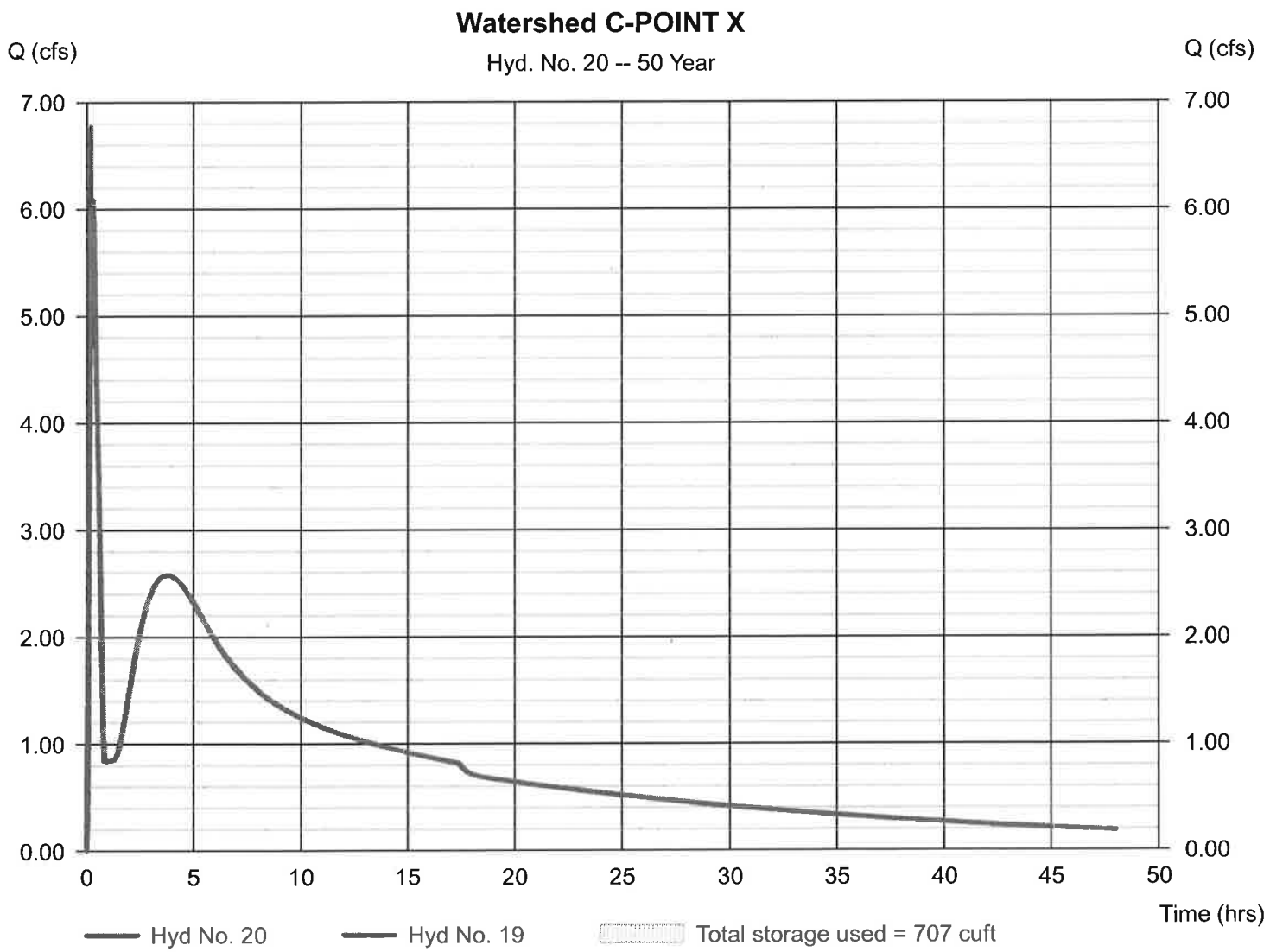
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 20

Watershed C-POINT X

Hydrograph type	= Reservoir	Peak discharge	= 5.989 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 139,784 cuft
Inflow hyd. No.	= 19 - Watershed H+C+I	Max. Elevation	= 529.99 ft
Reservoir name	= Watershed C	Max. Storage	= 707 cuft

Storage Indication method used.



Hydrograph Report

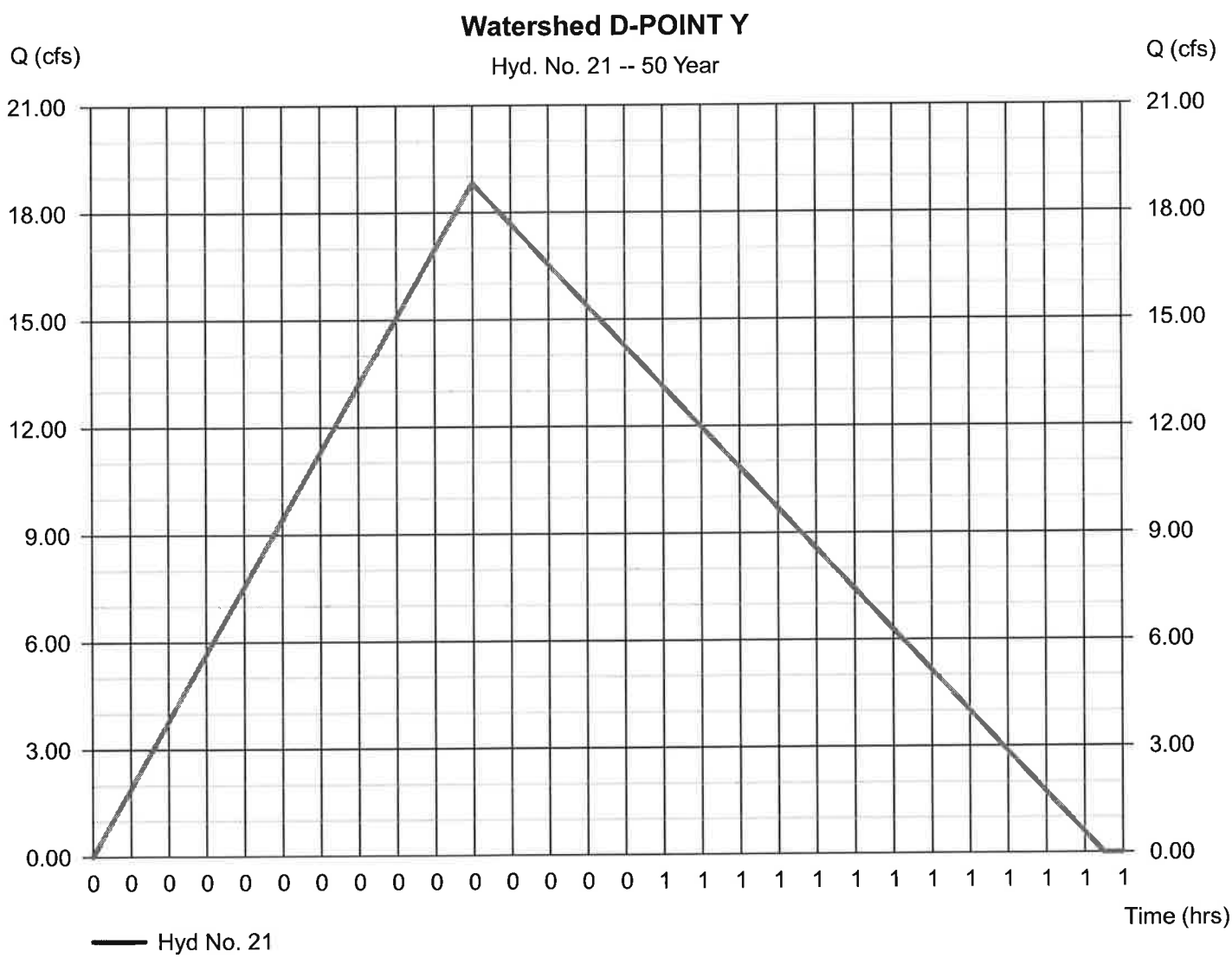
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 21

Watershed D-POINT Y

Hydrograph type	= Rational	Peak discharge	= 18.82 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 30,146 cuft
Drainage area	= 14.190 ac	Runoff coeff.	= 0.29*
Intensity	= 4.573 in/hr	Tc by TR55	= 20.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.500 x 0.90) + (1.750 x 0.30) + (10.940 x 0.20)] / 14.190



Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.1

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	Rational	10.35	1	17	14,098	----	------	------	Watershed A
2	Reservoir	3.537	1	35	13,954	1	566.42	8,954	Watershed A
3	Rational	7.676	1	14	8,327	----	------	------	Watershed B
4	Reservoir	1.932	1	30	8,047	3	567.12	6,247	Watershed B
5	Rational	43.46	1	29	102,205	----	------	------	Watershed E
6	Rational	8.794	1	22	15,788	----	------	------	Watershed G
7	Reservoir	0.007	1	59	1,254	6	546.47	15,543	Watershed G
8	Combine	48.82	1	29	123,705	2, 4, 5,	------	------	Watershed A+B+E
9	Reservoir	27.95	1	51	123,693	8	542.23	59,791	Watershed E-POINT Z
10	Rational	23.22	1	20	37,095	----	------	------	Watershed F
11	Combine	32.04	1	44	159,921	9, 10	------	------	Watershed A+B+E+F
12	Reservoir	6.650	1	111	143,909	11	539.69	110,798	Watershed F
13	Rational	5.704	1	19	8,537	----	------	------	Watershed H
14	Combine	6.650	1	111	147,159	12, 13	------	------	Watershed F+H
15	Reservoir	3.164	1	219	146,483	14	536.82	27,363	Watershed H
16	Rational	5.689	1	18	8,339	----	------	------	Watershed C
17	Rational	3.190	1	12	2,946	----	------	------	Watershed I
18	Reservoir	3.161	1	12	1,155	17	531.70	30.7	Watershed I
19	Combine	7.417	1	12	155,830	15, 16, 18	------	------	Watershed H+C+I
20	Reservoir	6.576	1	12	155,764	19	530.05	747	Watershed C-POINT X
21	Rational	20.66	1	20	33,094	----	------	------	Watershed D-POINT Y

Hydrograph Report

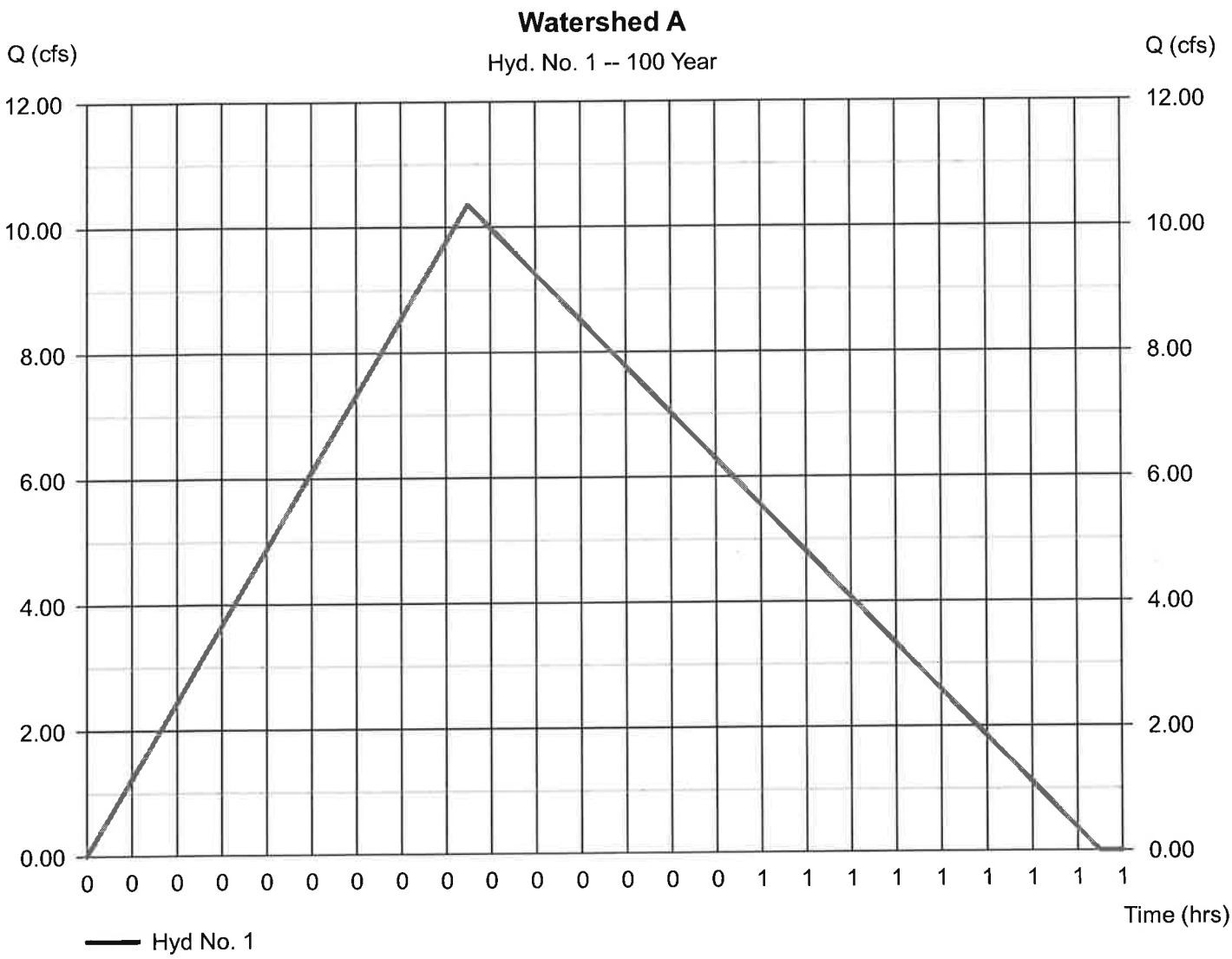
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 1

Watershed A

Hydrograph type	= Rational	Peak discharge	= 10.35 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.28 hrs
Time interval	= 1 min	Hyd. volume	= 14,098 cuft
Drainage area	= 8.000 ac	Runoff coeff.	= 0.24*
Intensity	= 5.392 in/hr	Tc by TR55	= 17.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.400 x 0.90) + (0.500 x 0.30) + (7.100 x 0.20)] / 8.000



Hydrograph Report

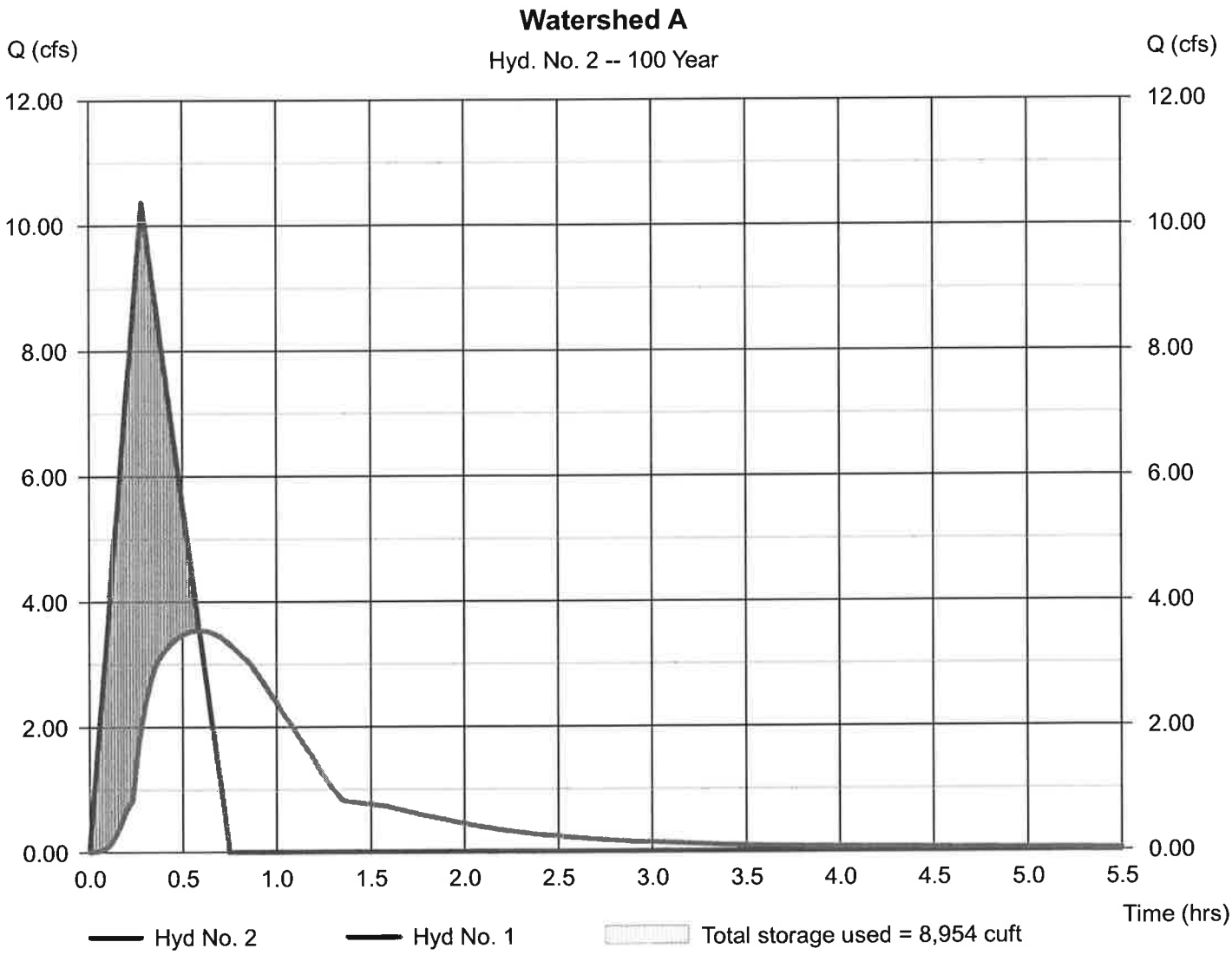
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 2

Watershed A

Hydrograph type	= Reservoir	Peak discharge	= 3.537 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.58 hrs
Time interval	= 1 min	Hyd. volume	= 13,954 cuft
Inflow hyd. No.	= 1 - Watershed A	Max. Elevation	= 566.42 ft
Reservoir name	= Watershed A	Max. Storage	= 8,954 cuft

Storage Indication method used.



Hydrograph Report

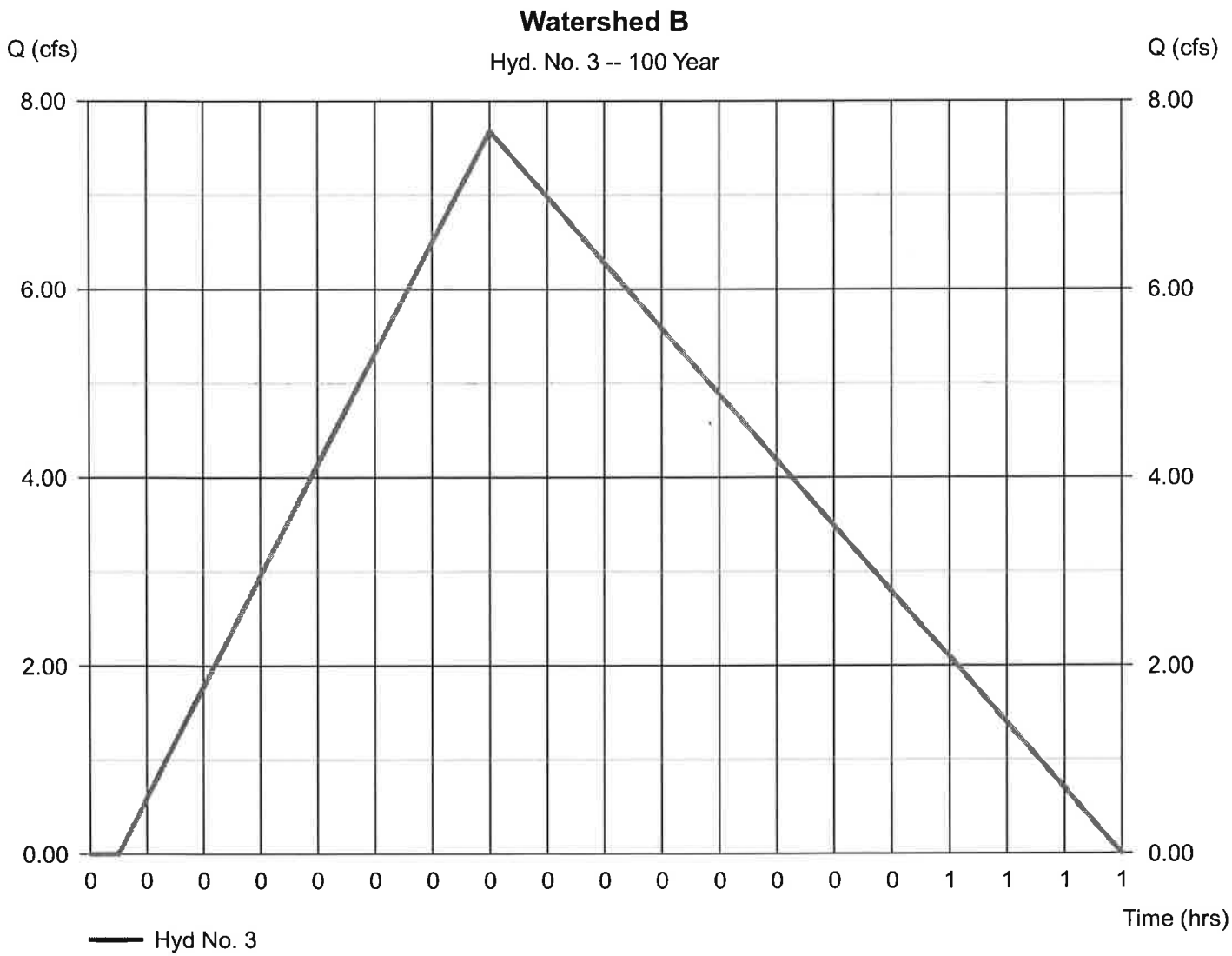
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 3

Watershed B

Hydrograph type	= Rational	Peak discharge	= 7.676 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.23 hrs
Time interval	= 1 min	Hyd. volume	= 8,327 cuft
Drainage area	= 5.200 ac	Runoff coeff.	= 0.25*
Intensity	= 5.904 in/hr	Tc by TR55	= 13.54 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.300 x 0.90) + (0.500 x 0.30) + (4.400 x 0.20)] / 5.200



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

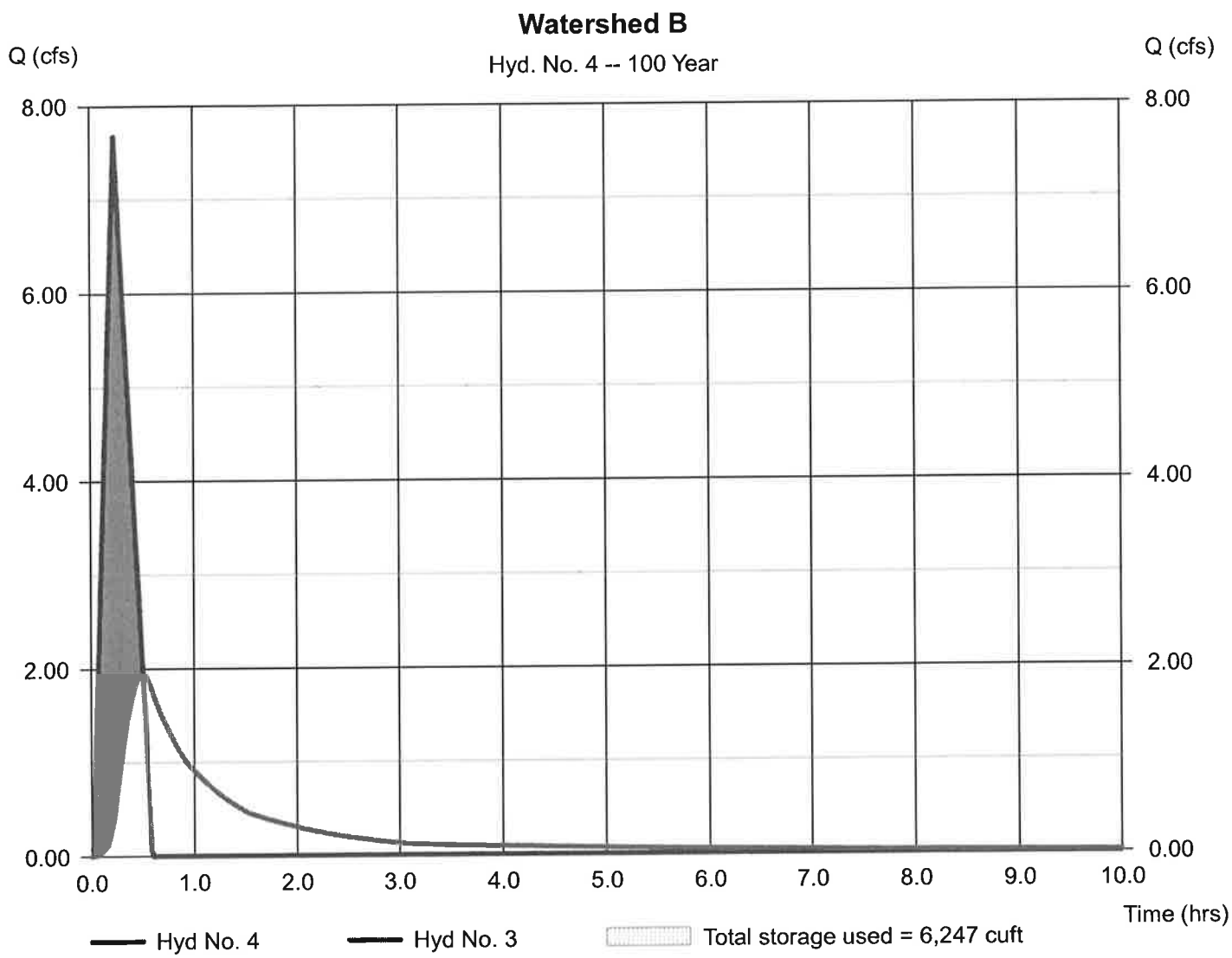
Wednesday, Mar 30, 2016

Hyd. No. 4

Watershed B

Hydrograph type	= Reservoir	Peak discharge	= 1.932 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.50 hrs
Time interval	= 1 min	Hyd. volume	= 8,047 cuft
Inflow hyd. No.	= 3 - Watershed B	Max. Elevation	= 567.12 ft
Reservoir name	= Watershed B	Max. Storage	= 6,247 cuft

Storage Indication method used.



Hydrograph Report

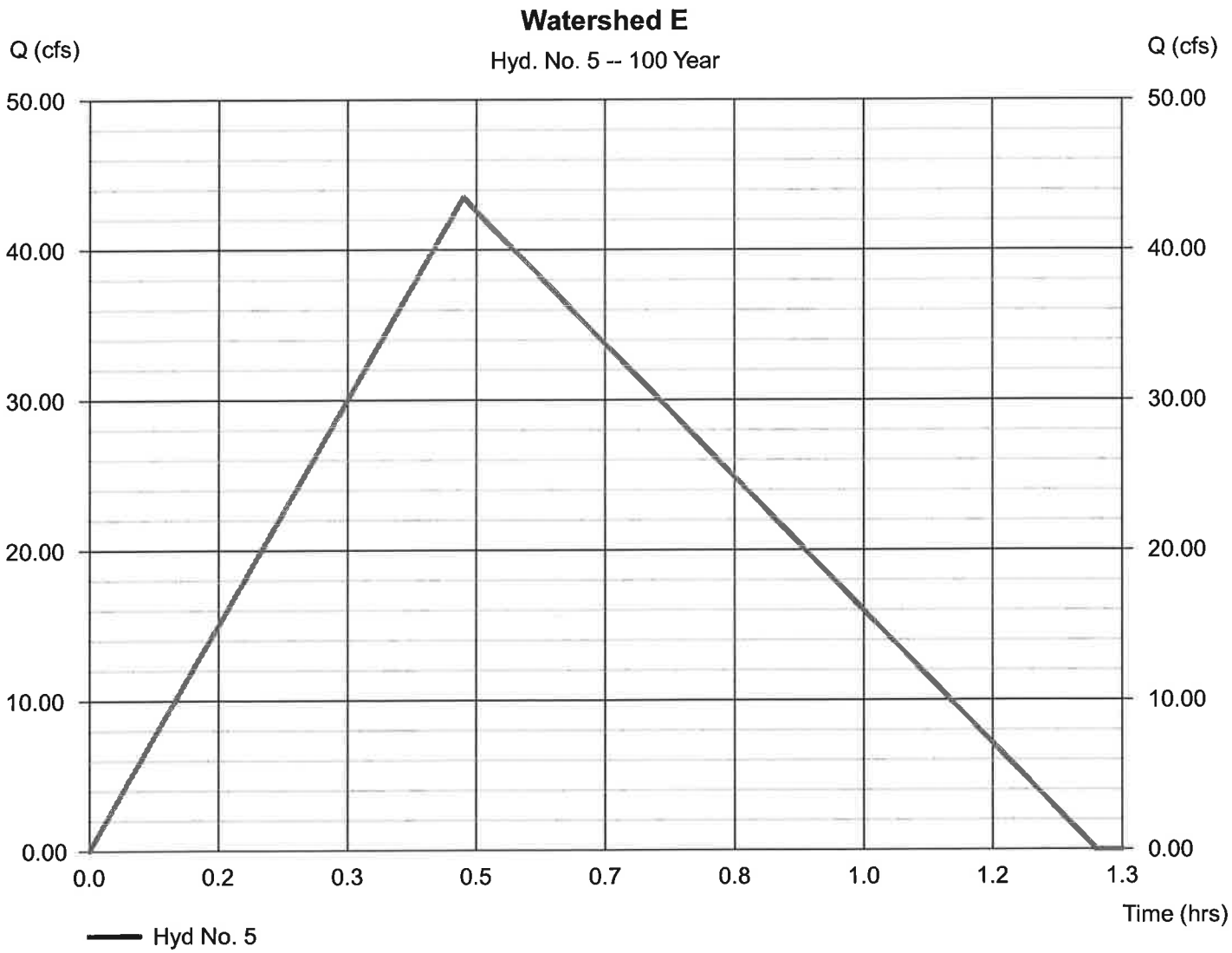
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 5

Watershed E

Hydrograph type	= Rational	Peak discharge	= 43.46 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.48 hrs
Time interval	= 1 min	Hyd. volume	= 102,205 cuft
Drainage area	= 40.300 ac	Runoff coeff.	= 0.26*
Intensity	= 4.148 in/hr	Tc by TR55	= 29.36 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(2.100 x 0.90) + (7.700 x 0.30) + (30.500 x 0.20)] / 40.300



Hydrograph Report

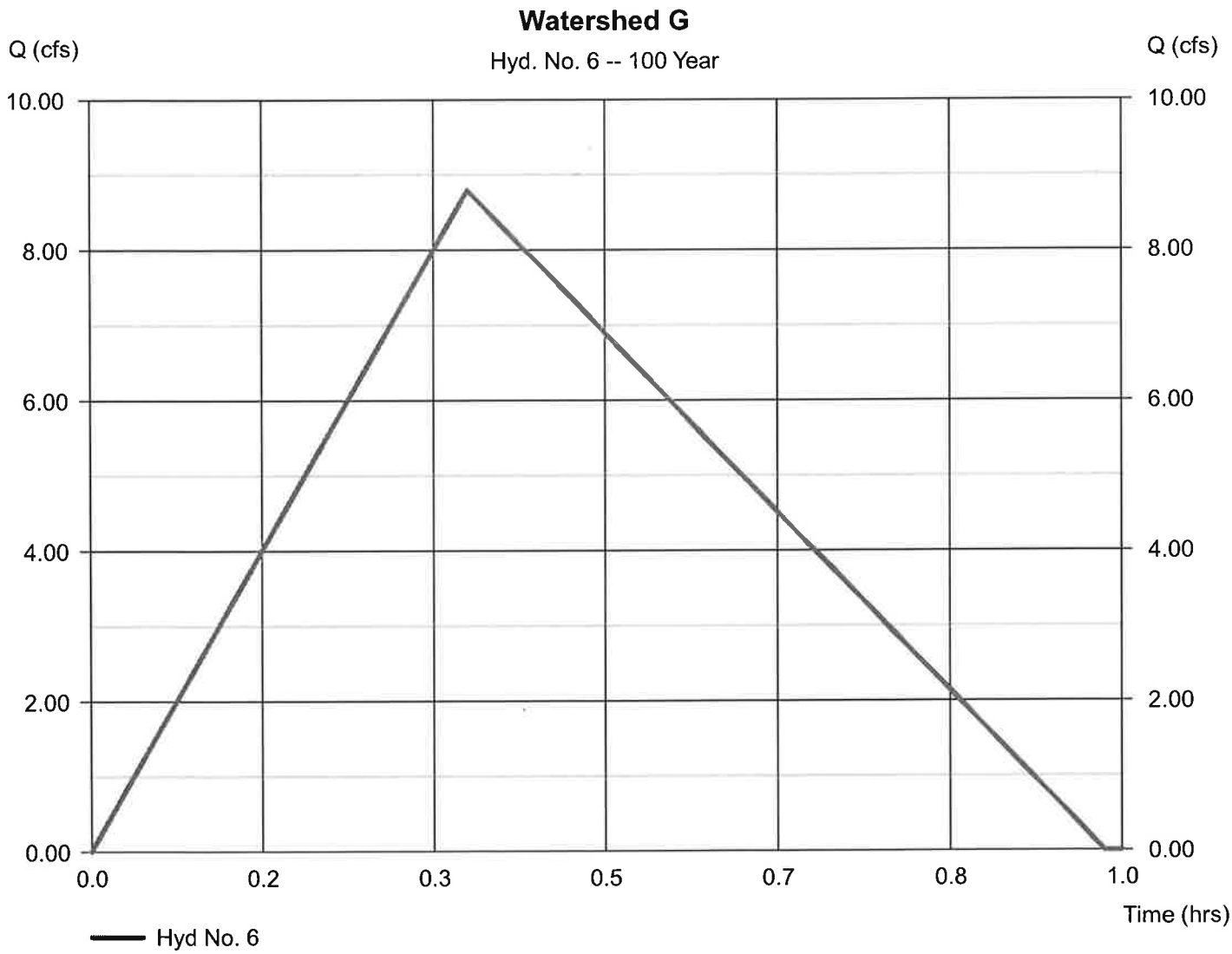
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 6

Watershed G

Hydrograph type	= Rational	Peak discharge	= 8.794 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.37 hrs
Time interval	= 1 min	Hyd. volume	= 15,788 cuft
Drainage area	= 7.700 ac	Runoff coeff.	= 0.24*
Intensity	= 4.758 in/hr	Tc by TR55	= 22.41 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.300 x 0.90) + (0.800 x 0.30) + (6.600 x 0.20)] / 7.700



Hydrograph Report

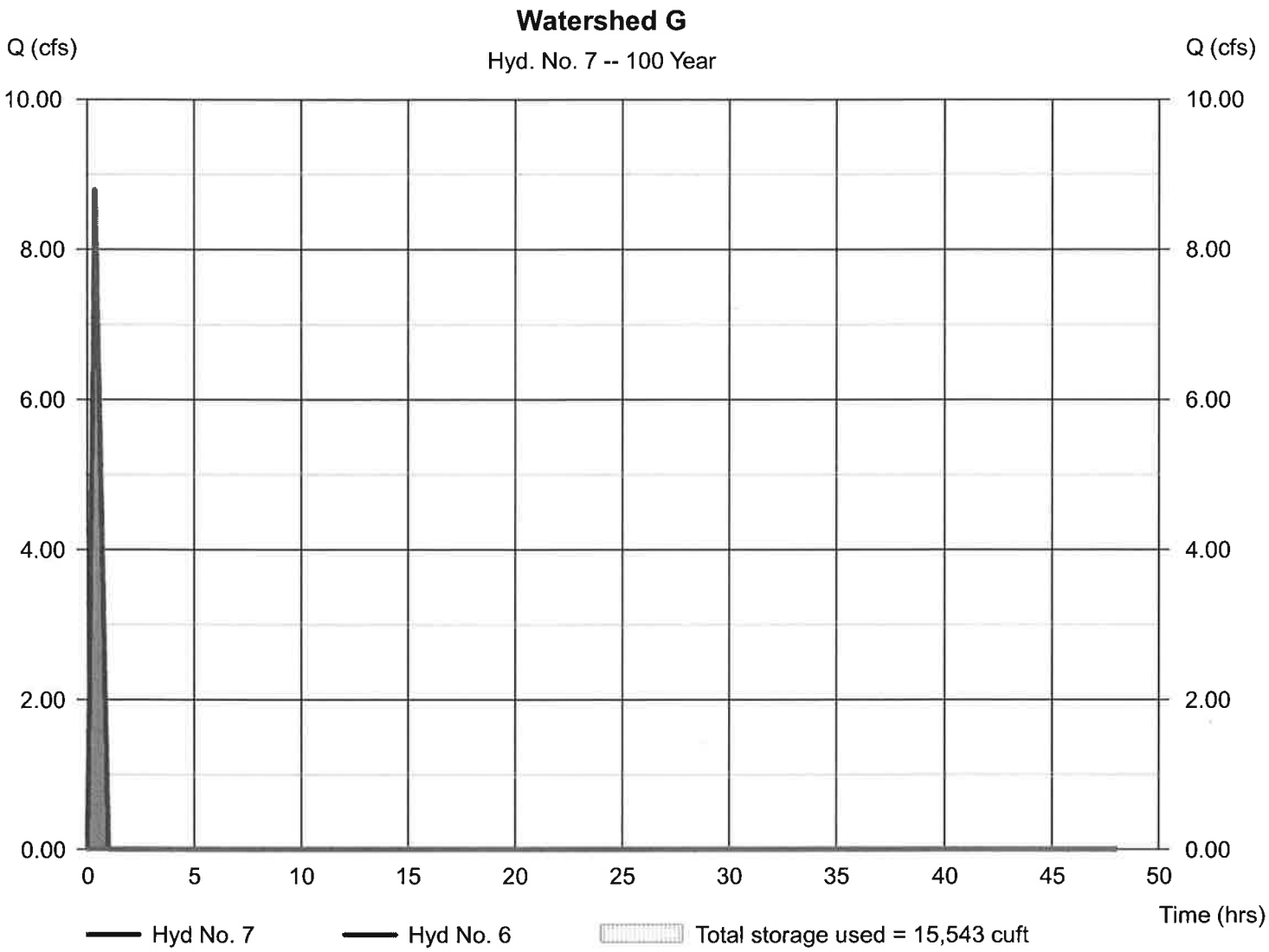
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 7

Watershed G

Hydrograph type	= Reservoir	Peak discharge	= 0.007 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.98 hrs
Time interval	= 1 min	Hyd. volume	= 1,254 cuft
Inflow hyd. No.	= 6 - Watershed G	Max. Elevation	= 546.47 ft
Reservoir name	= Watershed G	Max. Storage	= 15,543 cuft

Storage Indication method used.



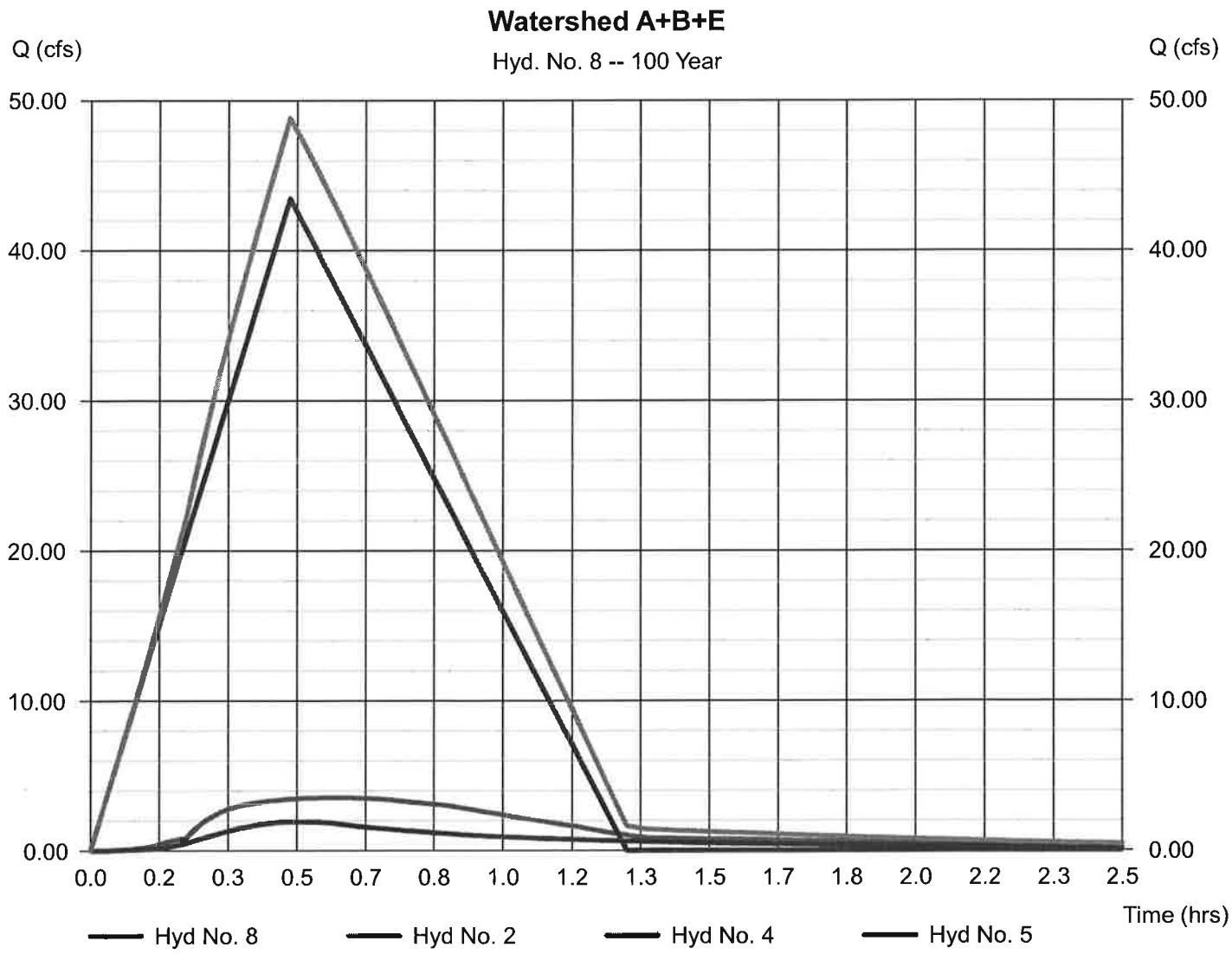
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 8

Watershed A+B+E

Hydrograph type	= Combine	Peak discharge	= 48.82 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.48 hrs
Time interval	= 1 min	Hyd. volume	= 123,705 cuft
Inflow hyds.	= 2, 4, 5	Contrib. drain. area	= 40.300 ac



Hydrograph Report

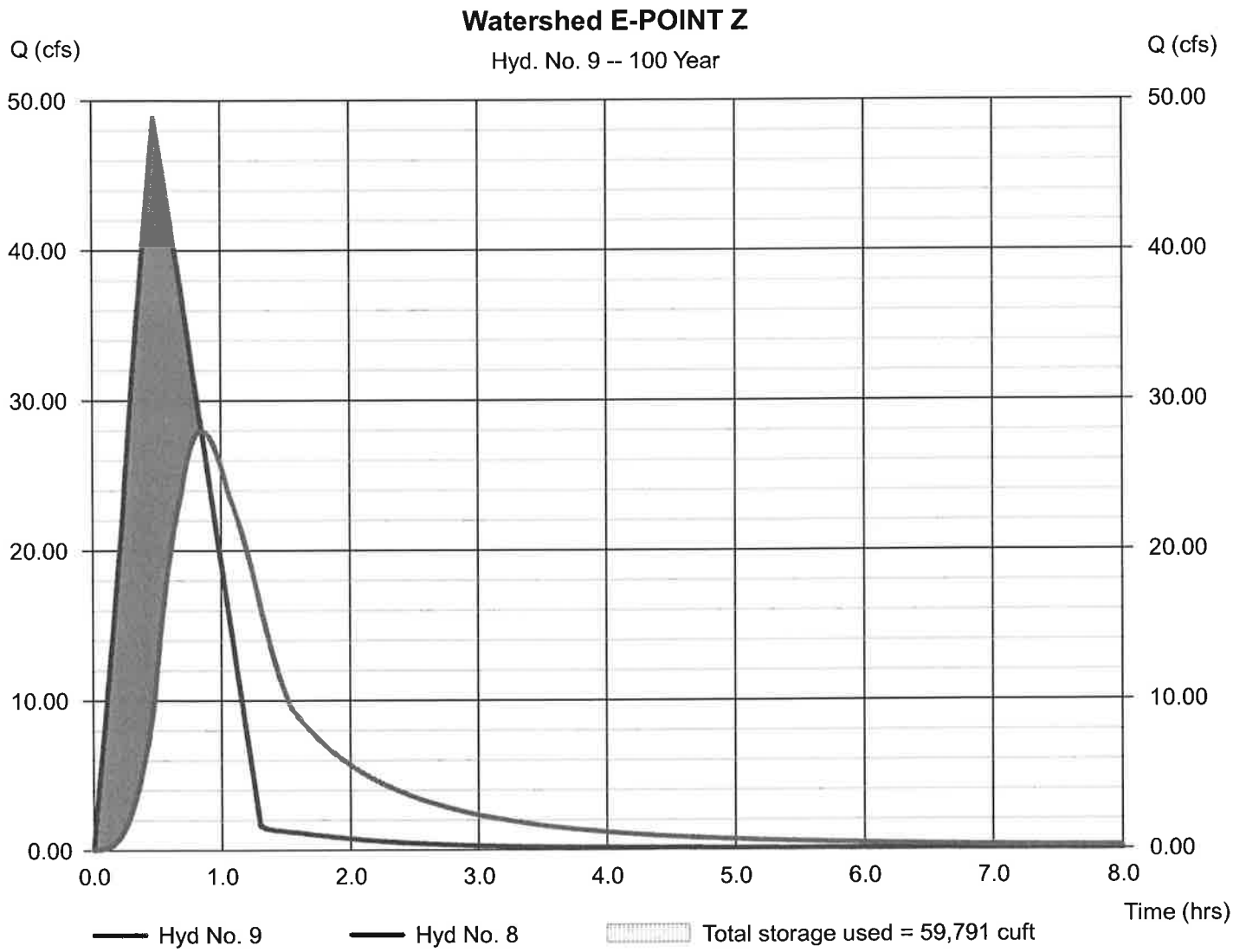
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 9

Watershed E-POINT Z

Hydrograph type	= Reservoir	Peak discharge	= 27.95 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.85 hrs
Time interval	= 1 min	Hyd. volume	= 123,693 cuft
Inflow hyd. No.	= 8 - Watershed A+B+E	Max. Elevation	= 542.23 ft
Reservoir name	= Watershed E	Max. Storage	= 59,791 cuft

Storage Indication method used.



Hydrograph Report

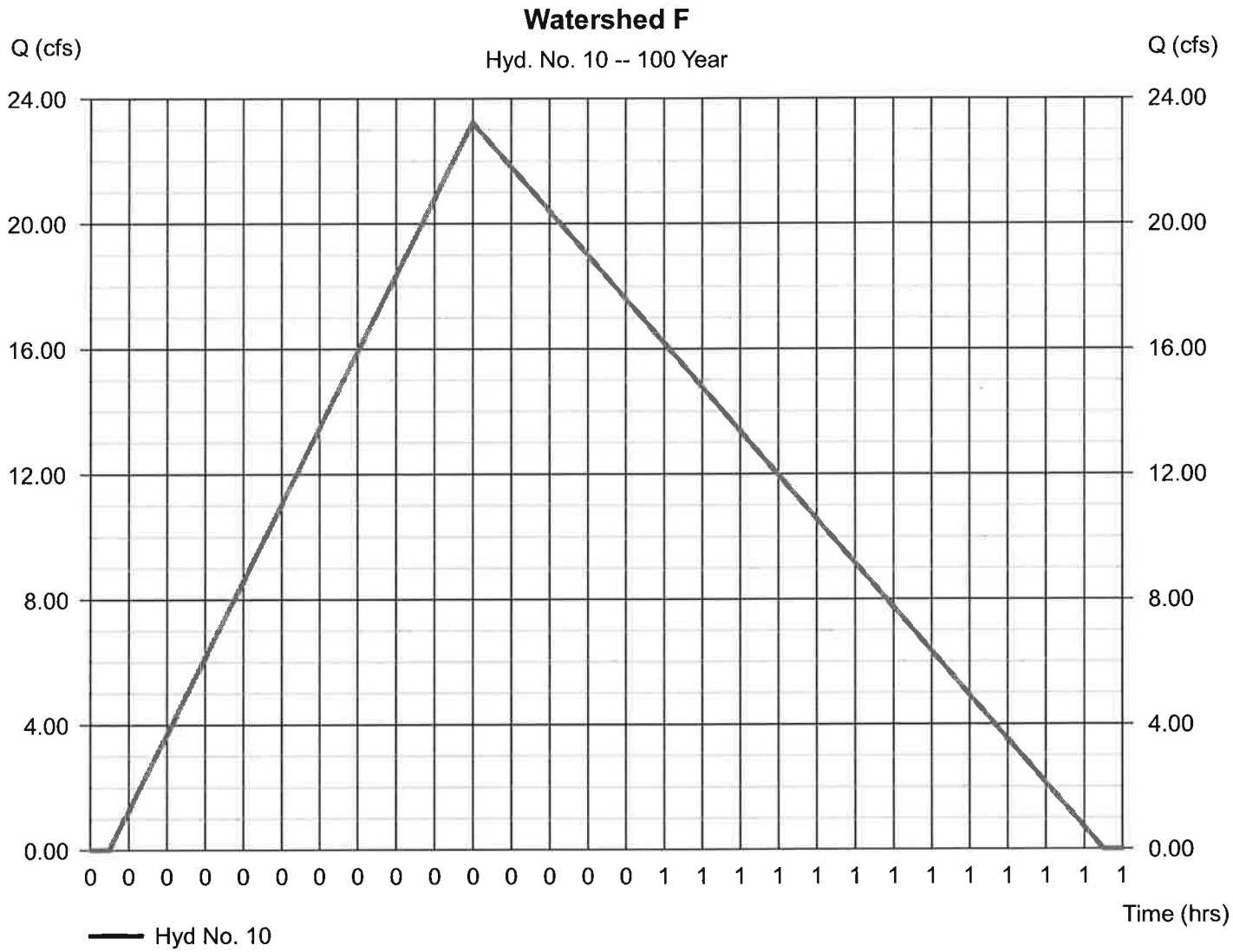
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 10

Watershed F

Hydrograph type	= Rational	Peak discharge	= 23.22 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 37,095 cuft
Drainage area	= 15.400 ac	Runoff coeff.	= 0.3*
Intensity	= 5.027 in/hr	Tc by TR55	= 19.94 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.000 x 0.90) + (5.100 x 0.30) + (8.800 x 0.20) + (0.500 x 1.00)] / 15.400



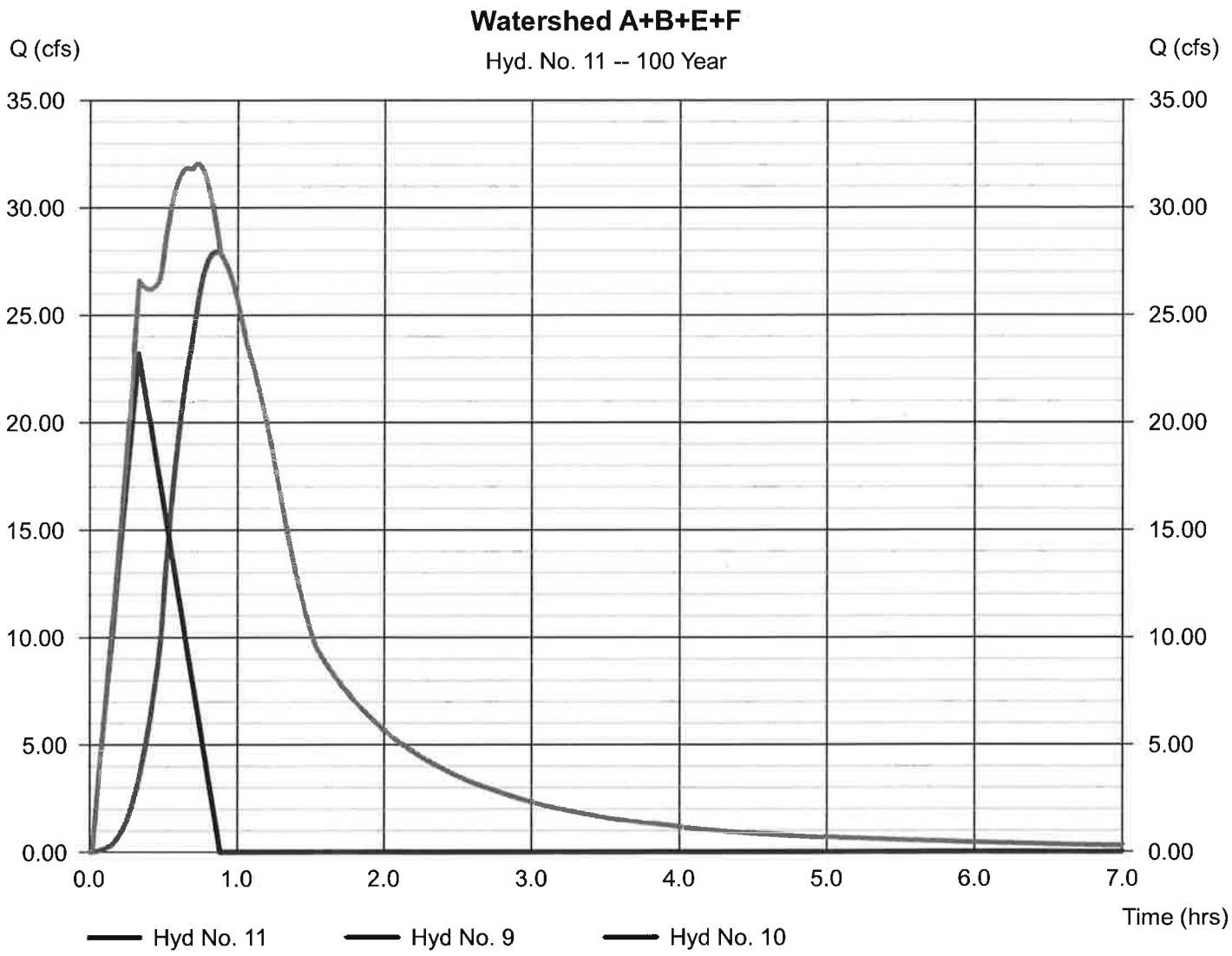
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 11

Watershed A+B+E+F

Hydrograph type	= Combine	Peak discharge	= 32.04 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.73 hrs
Time interval	= 1 min	Hyd. volume	= 159,921 cuft
Inflow hyds.	= 9, 10	Contrib. drain. area	= 15.400 ac



Hydrograph Report

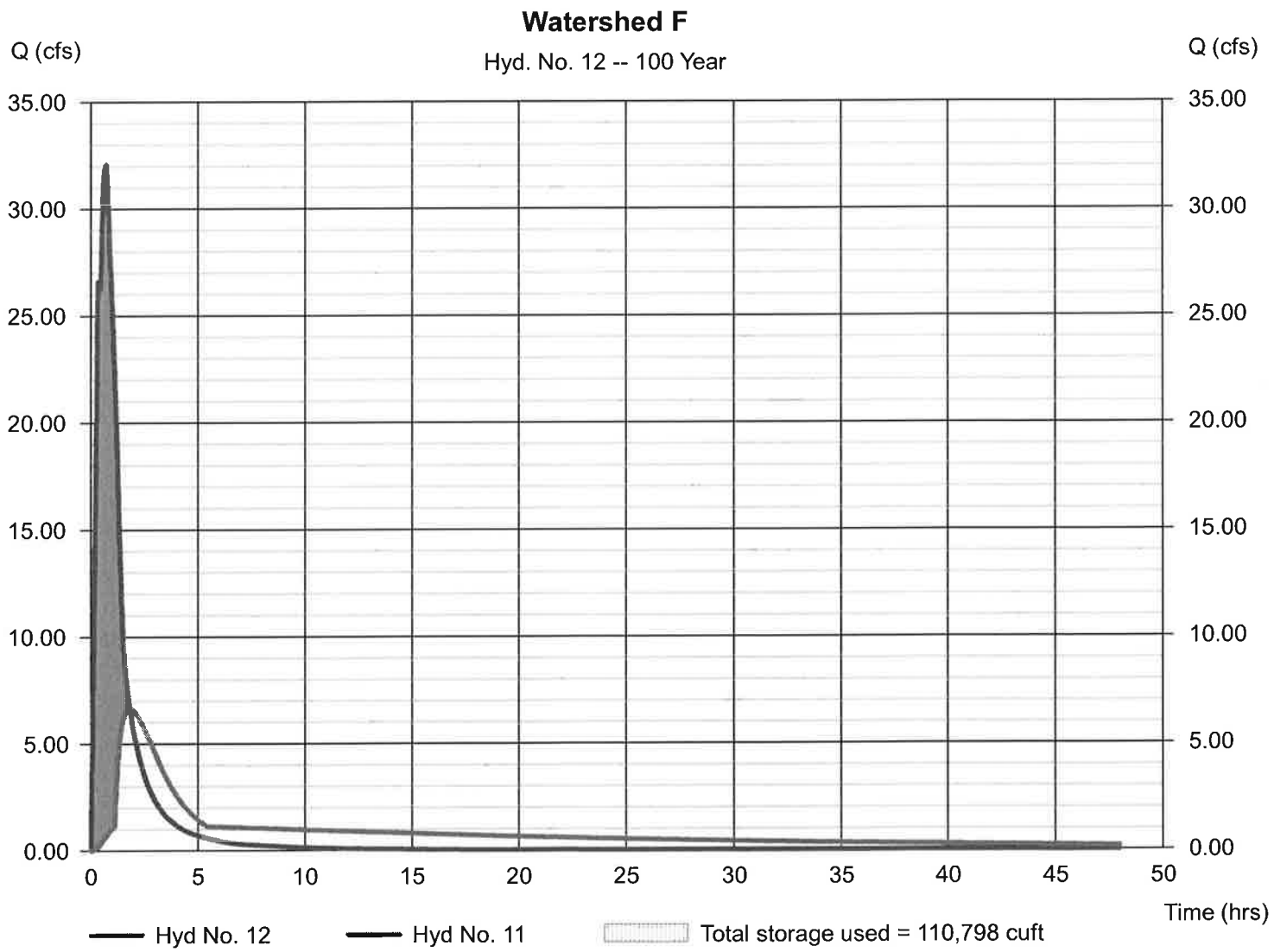
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 12

Watershed F

Hydrograph type	= Reservoir	Peak discharge	= 6.650 cfs
Storm frequency	= 100 yrs	Time to peak	= 1.85 hrs
Time interval	= 1 min	Hyd. volume	= 143,909 cuft
Inflow hyd. No.	= 11 - Watershed A+B+E+F	Max. Elevation	= 539.69 ft
Reservoir name	= Watershed F	Max. Storage	= 110,798 cuft

Storage Indication method used.



Hydrograph Report

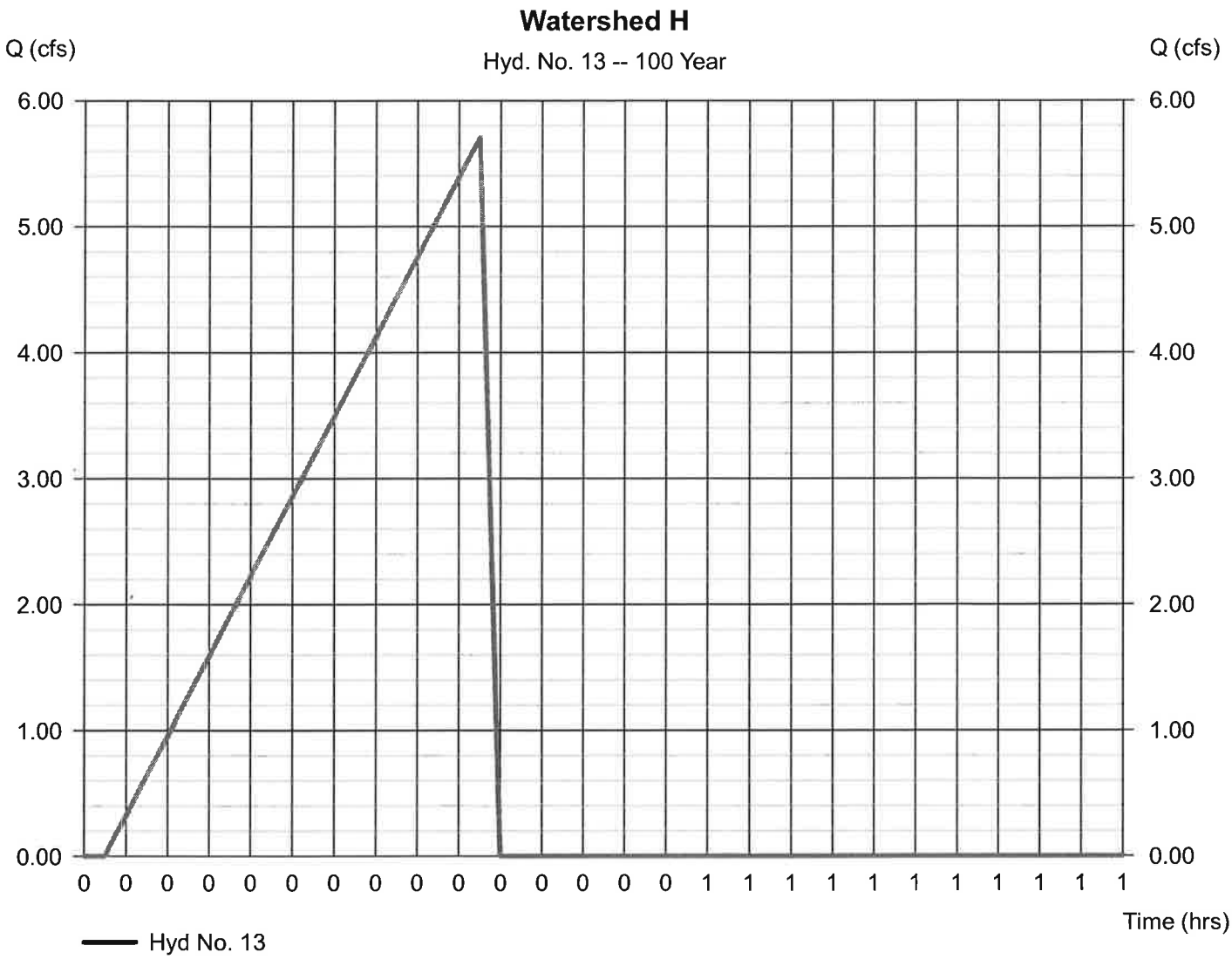
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 13

Watershed H

Hydrograph type	= Rational	Peak discharge	= 5.704 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 8,537 cuft
Drainage area	= 3.800 ac	Runoff coeff.	= 0.29*
Intensity	= 5.176 in/hr	Tc by TR55	= 18.69 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.200 x 0.90) + (0.100 x 0.30) + (2.500 x 0.20) + (0.800 x 0.25) + (0.200 x 1.00)] / 3.800



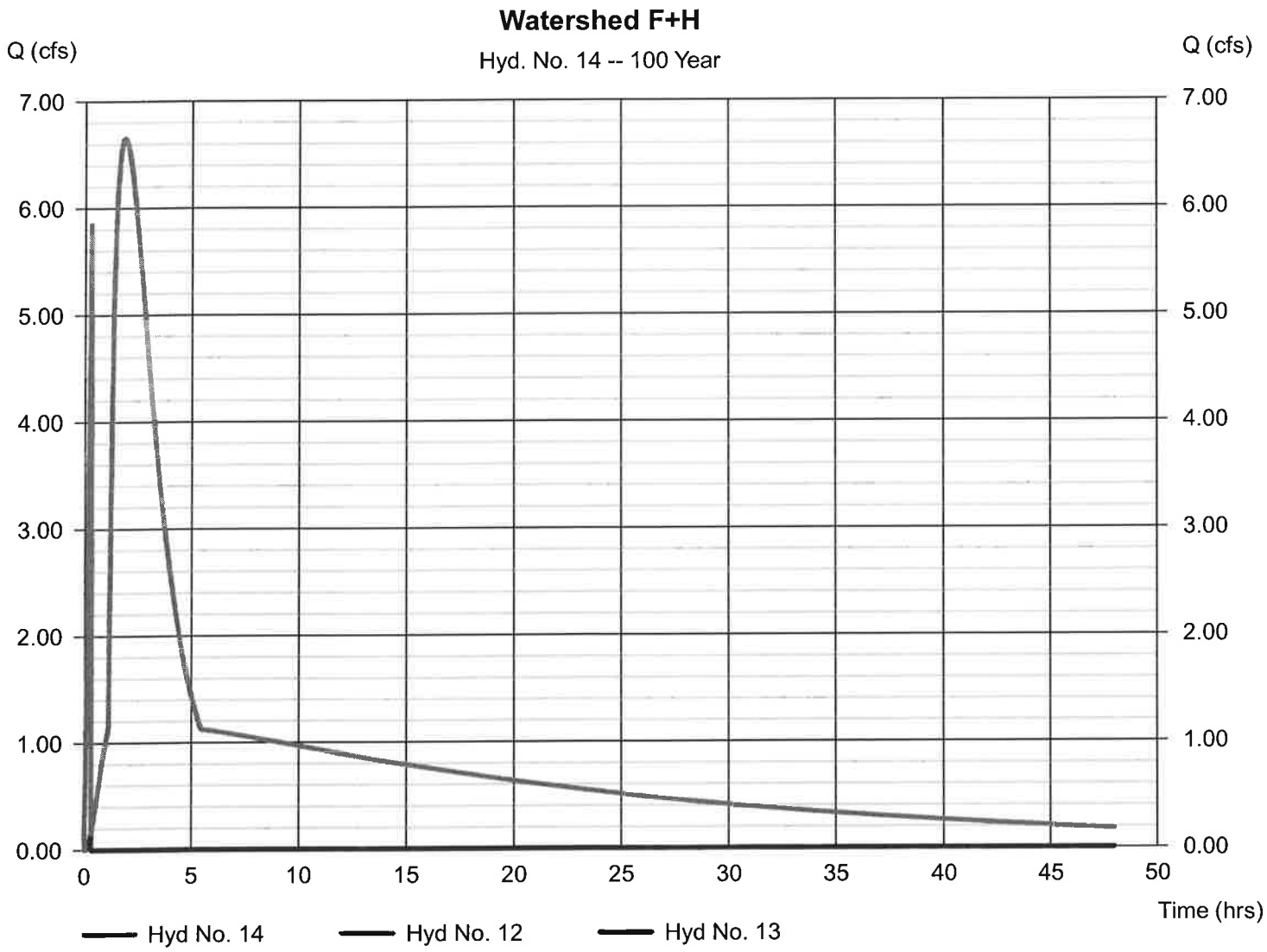
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 14

Watershed F+H

Hydrograph type	= Combine	Peak discharge	= 6.650 cfs
Storm frequency	= 100 yrs	Time to peak	= 1.85 hrs
Time interval	= 1 min	Hyd. volume	= 147,159 cuft
Inflow hyds.	= 12, 13	Contrib. drain. area	= 3.800 ac



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

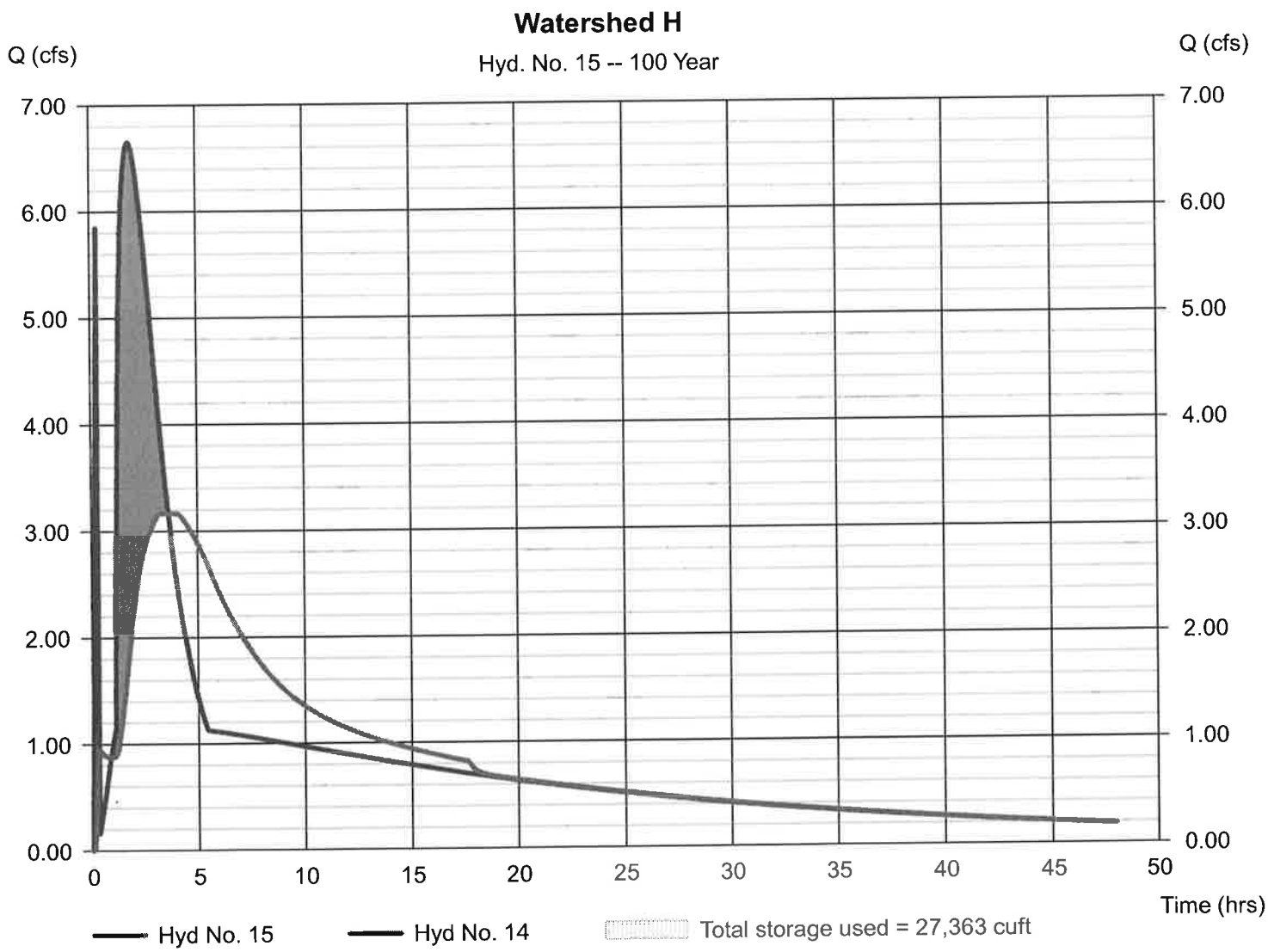
Wednesday, Mar 30, 2016

Hyd. No. 15

Watershed H

Hydrograph type	= Reservoir	Peak discharge	= 3.164 cfs
Storm frequency	= 100 yrs	Time to peak	= 3.65 hrs
Time interval	= 1 min	Hyd. volume	= 146,483 cuft
Inflow hyd. No.	= 14 - Watershed F+H	Max. Elevation	= 536.82 ft
Reservoir name	= Watershed H	Max. Storage	= 27,363 cuft

Storage Indication method used.



Hydrograph Report

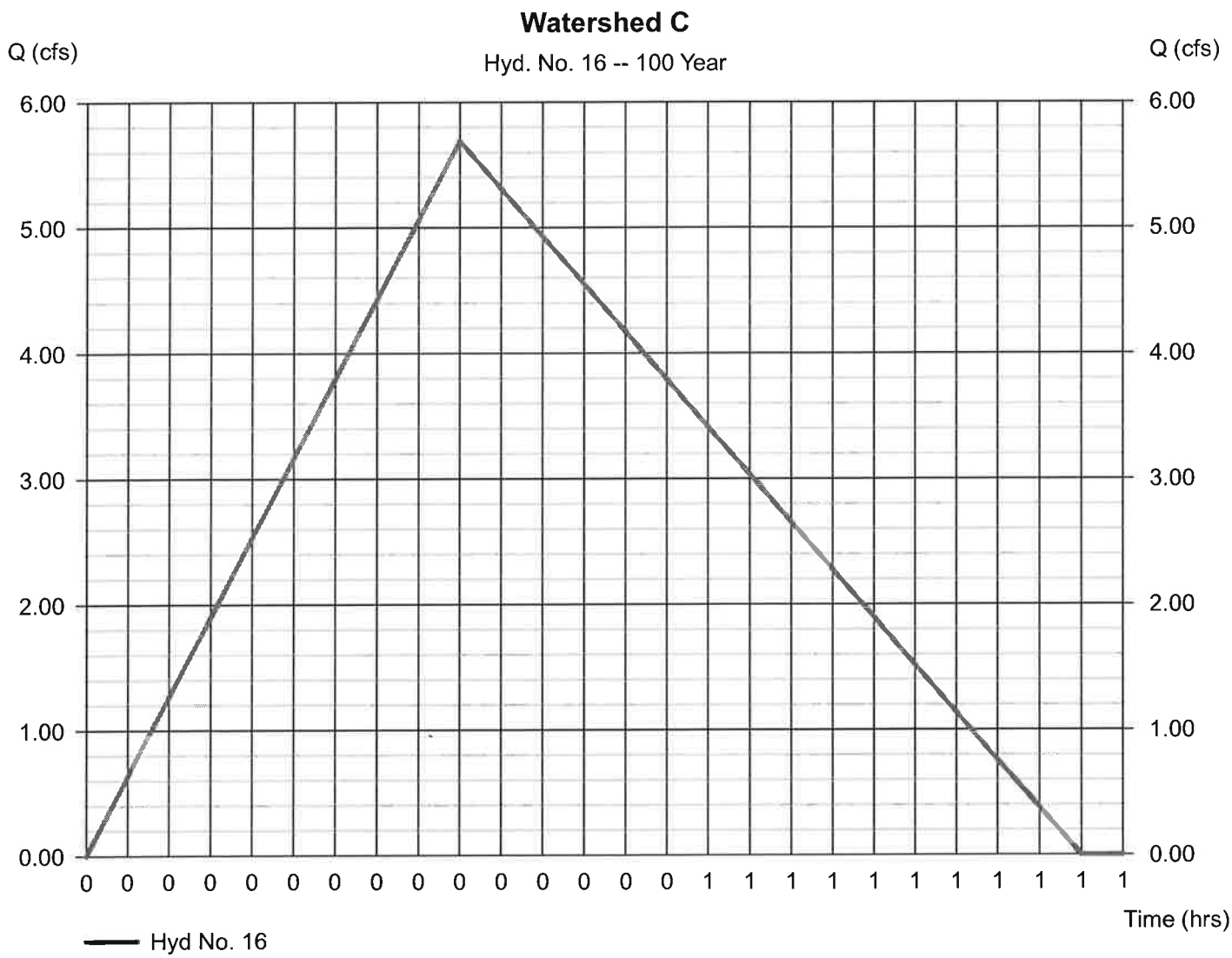
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 16

Watershed C

Hydrograph type	= Rational	Peak discharge	= 5.689 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.30 hrs
Time interval	= 1 min	Hyd. volume	= 8,339 cuft
Drainage area	= 3.300 ac	Runoff coeff.	= 0.33*
Intensity	= 5.224 in/hr	Tc by TR55	= 18.30 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.400 x 0.90) + (1.200 x 0.30) + (1.400 x 0.20) + (0.300 x 0.25)] / 3.300



Hydrograph Report

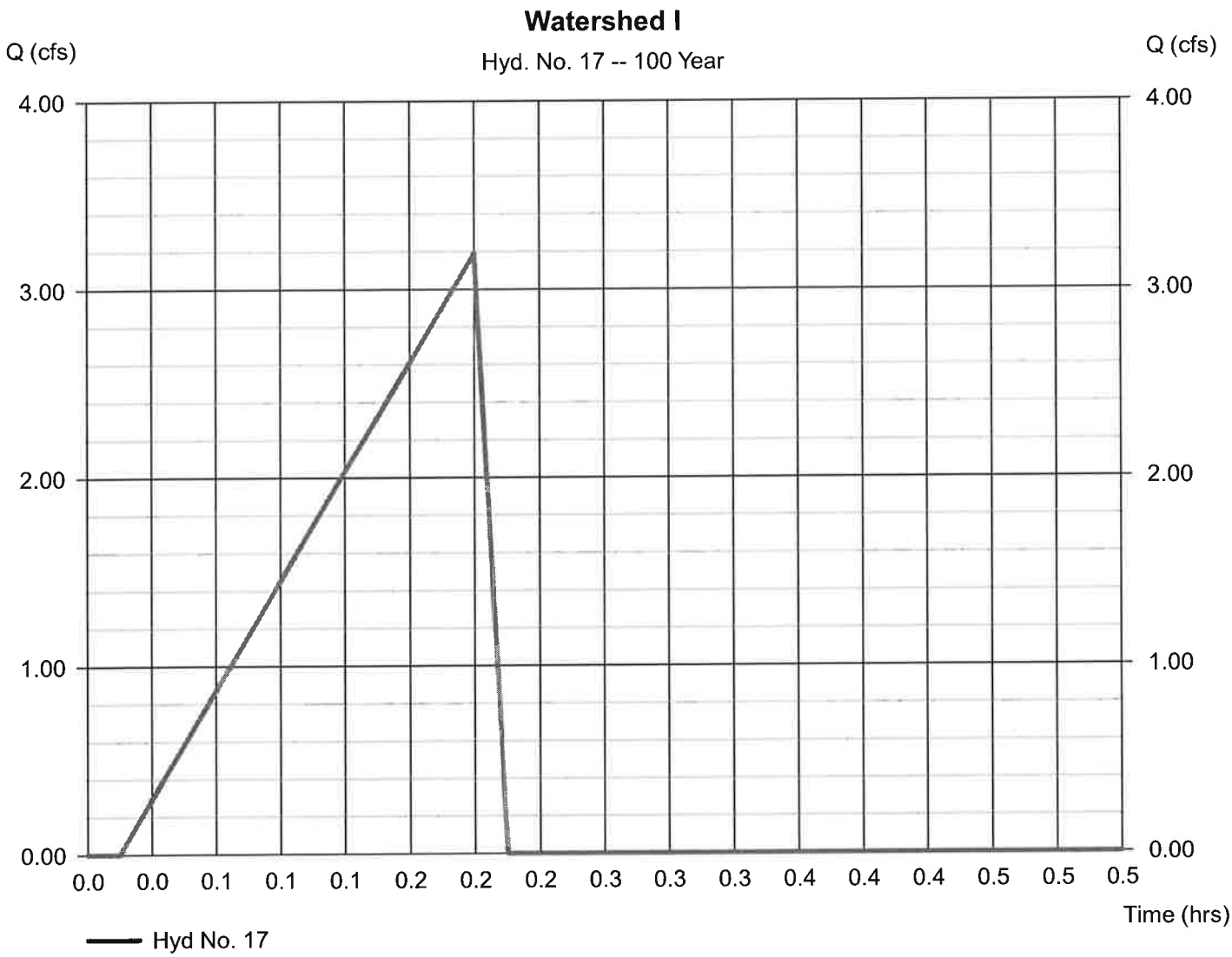
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 17

Watershed I

Hydrograph type	= Rational	Peak discharge	= 3.190 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 2,946 cuft
Drainage area	= 1.500 ac	Runoff coeff.	= 0.34*
Intensity	= 6.255 in/hr	Tc by TR55	= 11.53 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.200 x 0.90) + (0.700 x 0.30) + (0.600 x 0.20)] / 1.500



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

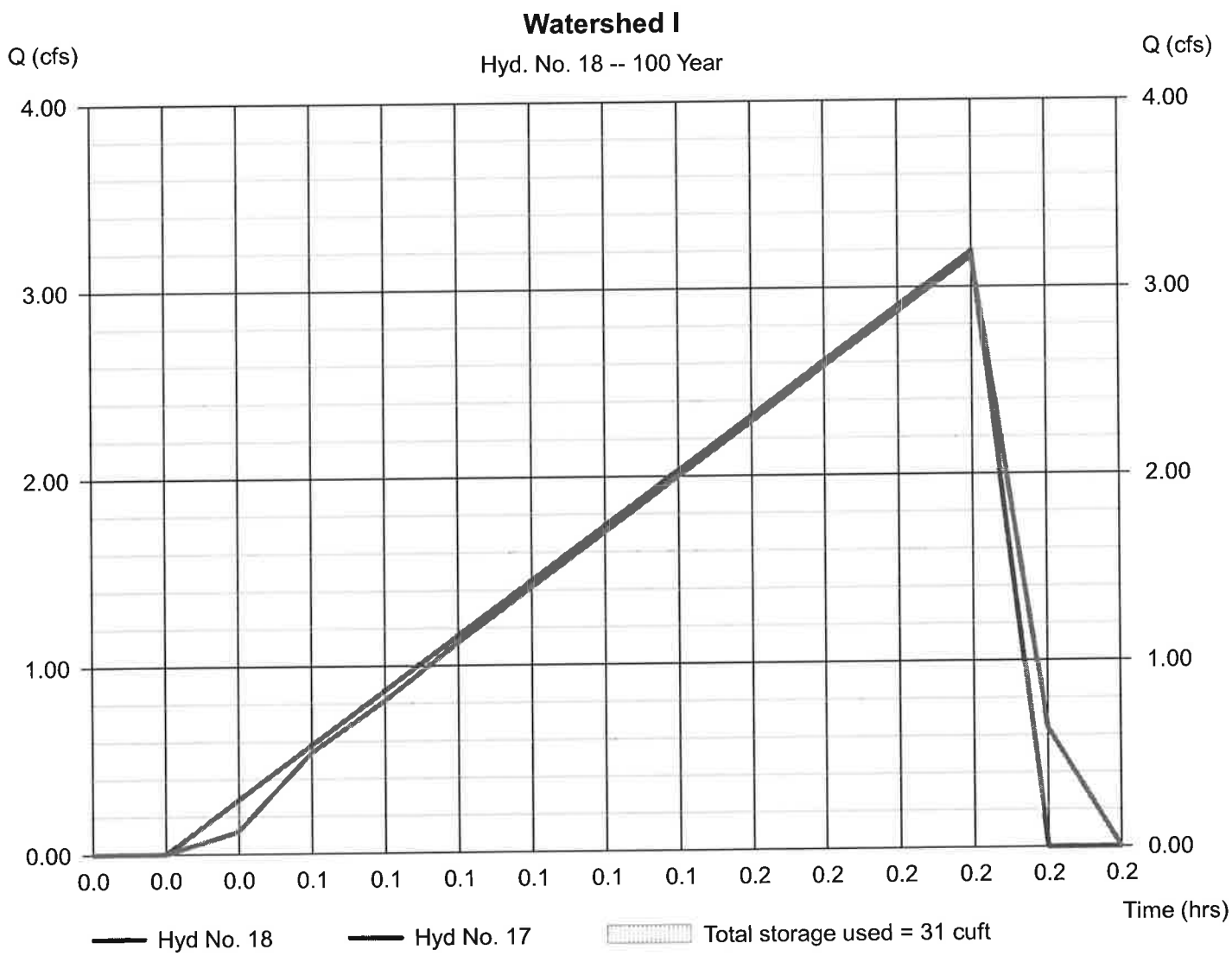
Wednesday, Mar 30, 2016

Hyd. No. 18

Watershed I

Hydrograph type	= Reservoir	Peak discharge	= 3.161 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 1,155 cuft
Inflow hyd. No.	= 17 - Watershed I	Max. Elevation	= 531.70 ft
Reservoir name	= Watershed I	Max. Storage	= 31 cuft

Storage Indication method used.



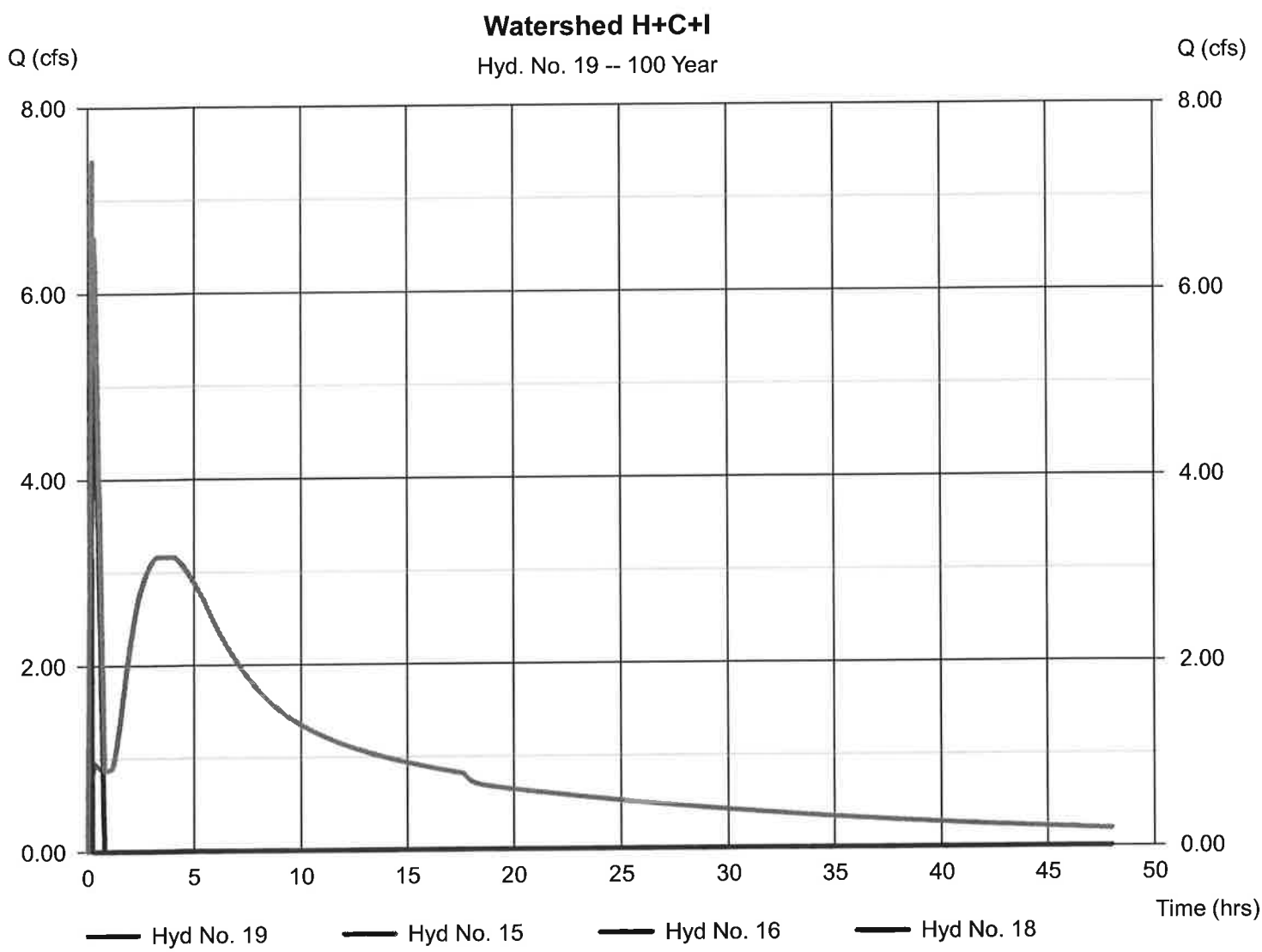
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 19

Watershed H+C+I

Hydrograph type	= Combine	Peak discharge	= 7.417 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 155,830 cuft
Inflow hyds.	= 15, 16, 18	Contrib. drain. area	= 3.300 ac



Hydrograph Report

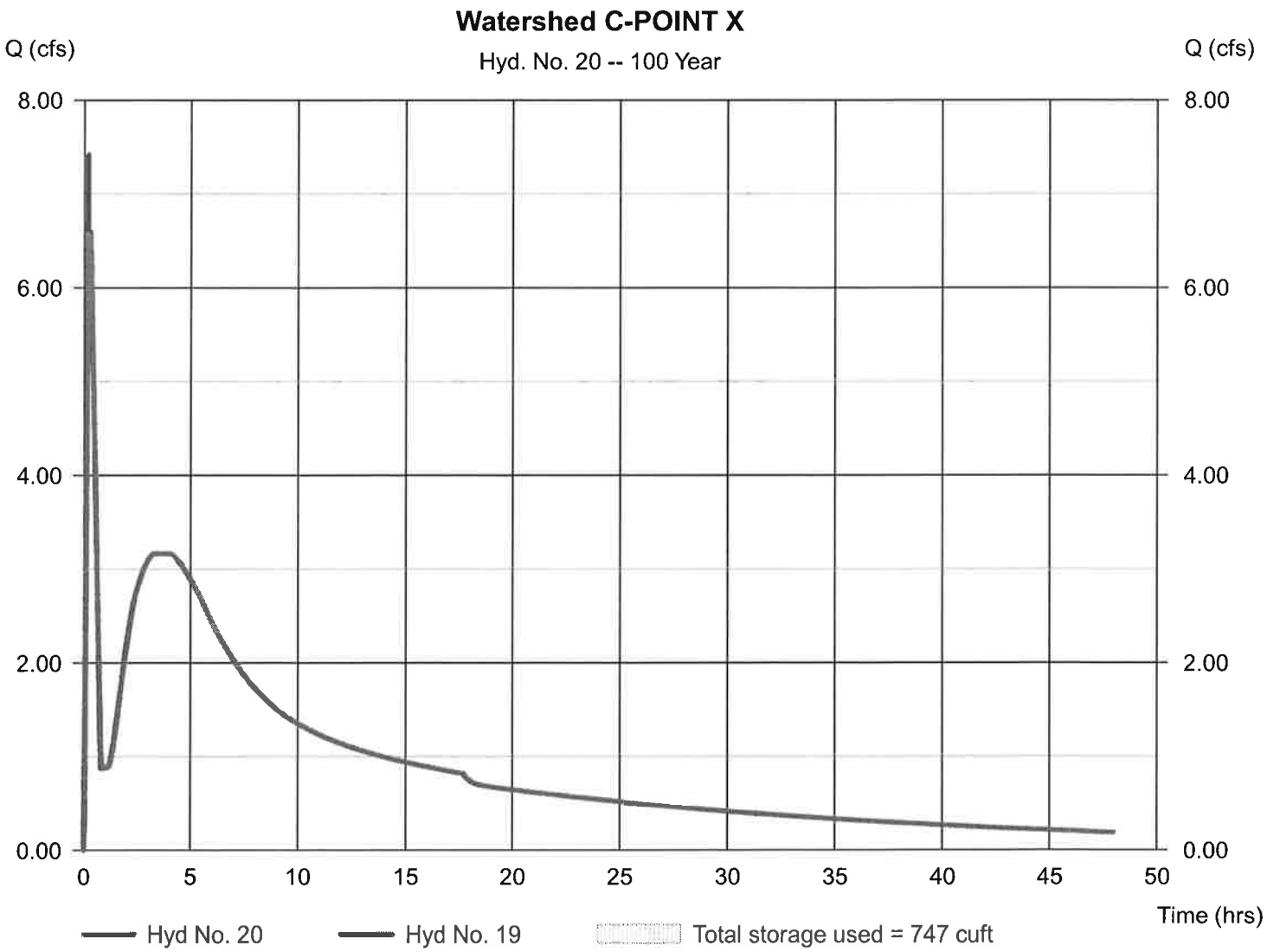
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 20

Watershed C-POINT X

Hydrograph type	= Reservoir	Peak discharge	= 6.576 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 155,764 cuft
Inflow hyd. No.	= 19 - Watershed H+C+I	Max. Elevation	= 530.05 ft
Reservoir name	= Watershed C	Max. Storage	= 747 cuft

Storage Indication method used.



Hydrograph Report

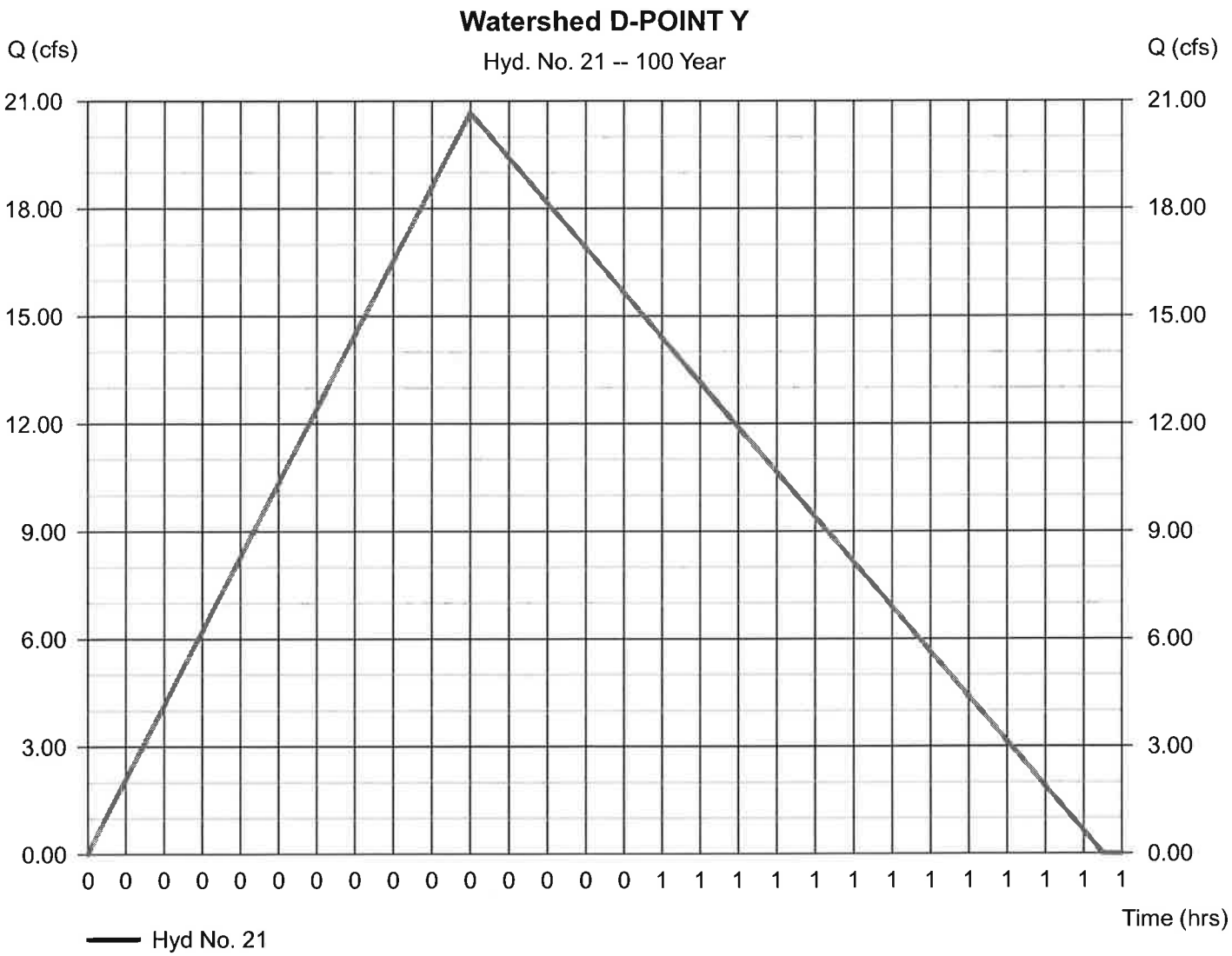
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 21

Watershed D-POINT Y

Hydrograph type	= Rational	Peak discharge	= 20.66 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 33,094 cuft
Drainage area	= 14.190 ac	Runoff coeff.	= 0.29*
Intensity	= 5.020 in/hr	Tc by TR55	= 20.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.500 x 0.90) + (1.750 x 0.30) + (10.940 x 0.20)] / 14.190



PROPOSED CONDITIONS

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04161p-2016-7.gpw

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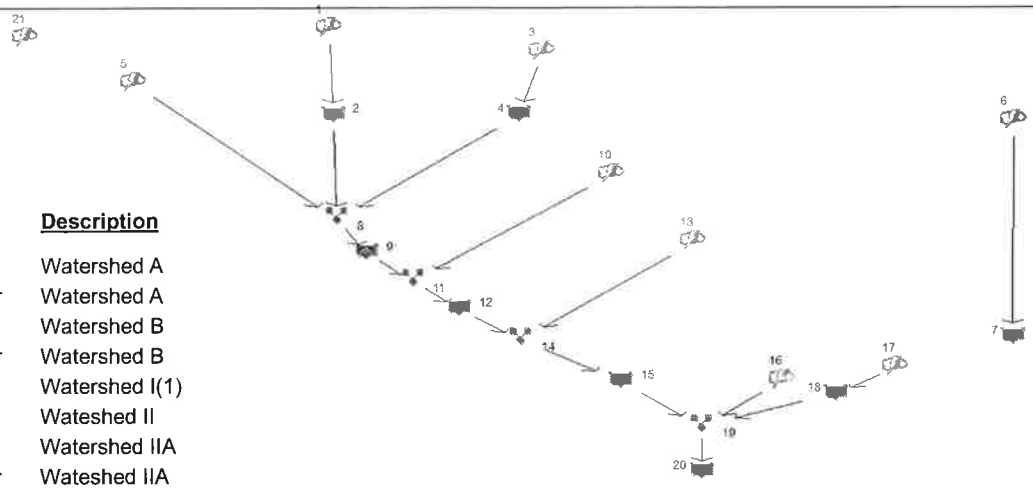
Watershed Model Schematic

Hydraflow Hydrographs by Intelisolve v9.1



Legend

Hyd.	Origin	Description
1	Rational	Watershed A
2	Reservoir	Watershed A
3	Rational	Watershed B
4	Reservoir	Watershed B
5	Rational	Watershed I(1)
6	Rational	Wateshed II
7	Rational	Watershed IIA
8	Reservoir	Wateshed IIA
9	Rational	Watershed VIII
10	Rational	Watershed VIIIA
11	Reservoir	Watershed VIIIA
12	Rational	Watershed IX
13	Rational	Watershed IXA
14	Reservoir	Watershed IXA
15	Combine	Combine
16	Combine	Watershed-Point Y
17	Rational	Watershed III
18	Rational	Watershed IV
19	Rational	Watershed IVA
20	Reservoir	Watershed IVA
21	Combine	Watershed A+III+VI
22	Rational	Watershed VI
23	Rational	Watershed VIA
24	Reservoir	Watershed VIA
25	Rational	Watershed VIIA
26	Reservoir	Watershed VIIA
27	Rational	Watershed X
28	Rational	Watershed V
29	Rational	Watershed XA
30	Reservoir	Watershed XA
31	Rational	Watershed VII
32	Combine	Combine
33	Reservoir	Watershed V
34	Rational	Watershed XII
35	Reservoir	Watershed XII
36	Rational	Watershed XIX
37	Combine	Watershed B+X+XI+XIX
38	Reservoir	Watershed XIX-POINT Z
39	Rational	Watershed XIV
40	Combine	Watershed XIV+XIX
41	Reservoir	Watershed XIV
42	Rational	Watershed H
43	Combine	Watershed XIV+H
44	Reservoir	Watershed H
45	Rational	Watershed C
46	Rational	Watershed I
47	Reservoir	Watershed I
48	Combine	Watershed H+C+I
49	Reservoir	Watershed C-POINT X
50	Rational	Watershed XX- To Northwood Road

Hydrograph Return Period Recap

Hydraflow Hydrographs by Intelisolve v9.1

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	Rational	-------	-------	5.109	-------	-------	7.312	8.549	9.466	10.35	Watershed A
2	Reservoir	1	-------	1.946	-------	-------	2.822	3.158	3.353	3.537	Watershed A
3	Rational	-------	-------	3.906	-------	-------	5.507	6.396	7.054	7.676	Watershed B
4	Reservoir	3	-------	0.678	-------	-------	1.167	1.471	1.698	1.932	Watershed B
5	Rational	-------	-------	2.138	-------	-------	3.097	3.636	4.043	4.442	Watershed I(1)
6	Rational	-------	-------	2.924	-------	-------	4.213	4.939	5.482	6.011	Wateshed II
7	Rational	-------	-------	4.214	-------	-------	5.808	6.675	7.327	7.922	Watershed IIA
8	Reservoir	7	-------	1.025	-------	-------	1.244	1.364	1.459	1.555	Wateshed IIA
9	Rational	-------	-------	2.992	-------	-------	4.205	4.878	5.376	5.845	Watershed VIII
10	Rational	-------	-------	4.966	-------	-------	6.845	7.866	8.635	9.336	Watershed VIIIA
11	Reservoir	10	-------	1.012	-------	-------	1.224	1.336	1.418	1.512	Watershed VIIIA
12	Rational	-------	-------	0.009	-------	-------	0.012	0.014	0.016	0.017	Watershed IX
13	Rational	-------	-------	1.841	-------	-------	2.537	2.916	3.201	3.460	Watershed IXA
14	Reservoir	13	-------	0.960	-------	-------	1.202	1.332	1.430	1.537	Watershed IXA
15	Combine	5, 6, 8, 11,	-------	6.903	-------	-------	9.491	10.94	12.02	13.10	Combine
16	Combine	9, 12, 14, 15	-------	9.940	-------	-------	13.62	15.65	17.18	18.67	Watershed-Point Y
17	Rational	-------	-------	3.999	-------	-------	5.676	6.614	7.307	7.969	Watershed III
18	Rational	-------	-------	1.339	-------	-------	1.845	2.121	2.328	2.517	Watershed IV
19	Rational	-------	-------	6.196	-------	-------	8.541	9.816	10.78	11.65	Watershed IVA
20	Reservoir	19	-------	0.000	-------	-------	0.000	2.136	3.682	4.990	Watershed IVA
21	Combine	2, 17, 20	-------	4.482	-------	-------	6.410	9.452	12.03	14.25	Watershed A+III+VI
22	Rational	-------	-------	2.389	-------	-------	3.293	3.785	4.155	4.492	Watershed VI
23	Rational	-------	-------	3.263	-------	-------	4.498	5.169	5.674	6.134	Watershed VIA
24	Reservoir	23	-------	1.009	-------	-------	1.233	1.354	1.449	1.547	Watershed VIA
25	Rational	-------	-------	10.55	-------	-------	14.54	16.71	18.35	19.84	Watershed VIIA
26	Reservoir	25	-------	2.017	-------	-------	2.487	3.257	6.050	8.250	Watershed VIIA
27	Rational	-------	-------	1.037	-------	-------	1.430	1.643	1.804	1.950	Watershed X
28	Rational	-------	-------	18.16	-------	-------	26.45	31.10	34.66	38.17	Watershed V
29	Rational	-------	-------	1.737	-------	-------	2.394	2.751	3.020	3.265	Watershed XA
30	Reservoir	29	-------	1.019	-------	-------	1.297	1.453	1.745	2.400	Watershed XA
31	Rational	-------	-------	0.241	-------	-------	0.332	0.381	0.418	0.452	Watershed VII
32	Combine	21, 24, 28, 30,	----	24.03	-------	-------	34.98	43.08	48.30	52.86	Combine
33	Reservoir	32	-------	11.45	-------	-------	17.96	22.58	26.20	30.03	Watershed V

Hydrograph Return Period Recap

Hydraflow Hydrographs by Intelisolve v9.1

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	
34	Rational	-------	-------	3.150	-------	-------	4.581	5.386	5.998	6.602	Watershed XII
35	Reservoir	34	-------	0.006	-------	-------	0.007	0.007	0.007	0.007	Watershed XII
36	Rational	-------	-------	4.673	-------	-------	6.603	7.678	8.472	9.225	Watershed XIX
37	Combine	4, 26, 33, 36	------	13.69	-------	-------	21.24	26.41	30.63	34.97	Watershed B+X+XI+XIX
38	Reservoir	37	-------	7.807	-------	-------	14.06	17.92	20.92	24.04	Watershed XIX-POINT Z
39	Rational	-------	-------	11.21	-------	-------	16.21	19.02	21.13	23.19	Watershed XIV
40	Combine	38, 39	-------	12.05	-------	-------	17.63	20.83	23.33	27.56	Watershed XIV+XIX
41	Reservoir	40	-------	0.797	-------	-------	1.782	4.079	5.719	7.315	Watershed XIV
42	Rational	-------	-------	2.781	-------	-------	4.003	4.691	5.204	5.704	Watershed H
43	Combine	41, 42	-------	2.851	-------	-------	4.104	4.810	5.719	7.315	Watershed XIV+H
44	Reservoir	43	-------	0.796	-------	-------	1.248	2.295	2.988	3.366	Watershed H
45	Rational	-------	-------	2.781	-------	-------	3.998	4.682	5.193	5.689	Watershed C
46	Rational	-------	-------	1.662	-------	-------	2.315	2.674	2.942	3.190	Watershed I
47	Reservoir	46	-------	1.643	-------	-------	2.292	2.648	2.913	3.161	Watershed I
48	Combine	44, 45, 47	-------	3.620	-------	-------	5.203	6.098	6.771	7.419	Watershed H+C+I
49	Reservoir	48	-------	3.285	-------	-------	4.650	5.386	5.990	6.577	Watershed C-POINT X
50	Rational	-------	-------	0.878	-------	-------	1.211	1.392	1.528	1.652	Watershed XX- To Northwood Roa

Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.1

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	Rational	5.109	1	17	6,957	----	------	------	Watershed A
2	Reservoir	1.946	1	34	6,874	1	565.38	4,594	Watershed A
3	Rational	3.906	1	14	4,238	----	------	------	Watershed B
4	Reservoir	0.678	1	32	4,090	3	566.82	3,470	Watershed B
5	Rational	2.138	1	21	3,562	----	------	------	Watershed I(1)
6	Rational	2.924	1	19	4,464	----	------	------	Wateshed II
7	Rational	4.214	1	10	3,375	----	------	------	Watershed IIA
8	Reservoir	1.025	1	22	3,281	7	561.93	2,320	Wateshed IIA
9	Rational	2.992	1	13	3,116	----	------	------	Watershed VIII
10	Rational	4.966	1	10	3,978	----	------	------	Watershed VIIIA
11	Reservoir	1.012	1	23	3,866	10	558.90	2,912	Watershed VIIIA
12	Rational	0.009	1	10	7	----	------	------	Watershed IX
13	Rational	1.841	1	10	1,474	----	------	------	Watershed IXA
14	Reservoir	0.960	1	18	1,434	13	553.45	583	Watershed IXA
15	Combine	6.903	1	21	14,995	5, 6, 8, 11,	------	------	Combine
16	Combine	9.940	1	19	19,488	9, 12, 14, 15	------	------	Watershed-Point Y
17	Rational	3.999	1	15	4,804	----	------	------	Watershed III
18	Rational	1.339	1	10	1,072	----	------	------	Watershed IV
19	Rational	6.196	1	10	4,963	----	------	------	Watershed IVA
20	Reservoir	0.000	1	n/a	0	19	552.51	4,833	Watershed IVA
21	Combine	4.482	1	15	11,673	2, 17, 20	------	------	Watershed A+III+VI
22	Rational	2.389	1	10	1,914	----	------	------	Watershed VI
23	Rational	3.263	1	10	2,614	----	------	------	Watershed VIA
24	Reservoir	1.009	1	21	2,541	23	549.89	1,607	Watershed VIA
25	Rational	10.55	1	10	8,451	----	------	------	Watershed VIIA
26	Reservoir	2.017	1	23	8,218	25	546.27	6,348	Watershed VIIA
27	Rational	1.037	1	10	831	----	------	------	Watershed X
28	Rational	18.16	1	23	33,461	----	------	------	Watershed V
29	Rational	1.737	1	10	1,391	----	------	------	Watershed XA
30	Reservoir	1.019	1	17	1,353	29	556.92	459	Watershed XA
31	Rational	0.241	1	10	193	----	------	------	Watershed VII
32	Combine	24.03	1	23	48,805	21, 24, 28, 30,	------	------	Combine
33	Reservoir	11.45	1	42	48,798	32	543.69	25,411	Watershed V

Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.1

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
34	Rational	3.150	1	22	5,668	----	------	------	Watershed XII
35	Reservoir	0.006	1	59	1,072	34	546.14	5,557	Watershed XII
36	Rational	4.673	1	14	5,241	----	------	------	Watershed XIX
37	Combine	13.69	1	41	66,294	4, 26, 33, 36	------	------	Watershed B+X+XI+XIX
38	Reservoir	7.807	1	70	66,284	37	541.81	26,585	Watershed XIX-POINT Z
39	Rational	11.21	1	20	17,966	----	------	------	Watershed XIV
40	Combine	12.05	1	20	84,115	38, 39	------	------	Watershed XIV+XIX
41	Reservoir	0.797	1	297	71,972	40	539.00	65,543	Watershed XIV
42	Rational	2.781	1	19	4,163	----	------	------	Watershed H
43	Combine	2.851	1	19	73,557	41, 42	------	------	Watershed XIV+H
44	Reservoir	0.796	1	318	72,971	43	535.99	1,478	Watershed H
45	Rational	2.781	1	18	4,076	----	------	------	Watershed C
46	Rational	1.662	1	12	1,535	----	------	------	Watershed I
47	Reservoir	1.643	1	12	601	46	531.39	20.7	Watershed I
48	Combine	3.620	1	12	77,576	44, 45, 47	------	------	Watershed H+C+I
49	Reservoir	3.285	1	20	77,528	48	529.64	501	Watershed C-POINT X
50	Rational	0.878	1	10	704	----	------	------	Watershed XX- To Northwood Roa

Hydrograph Report

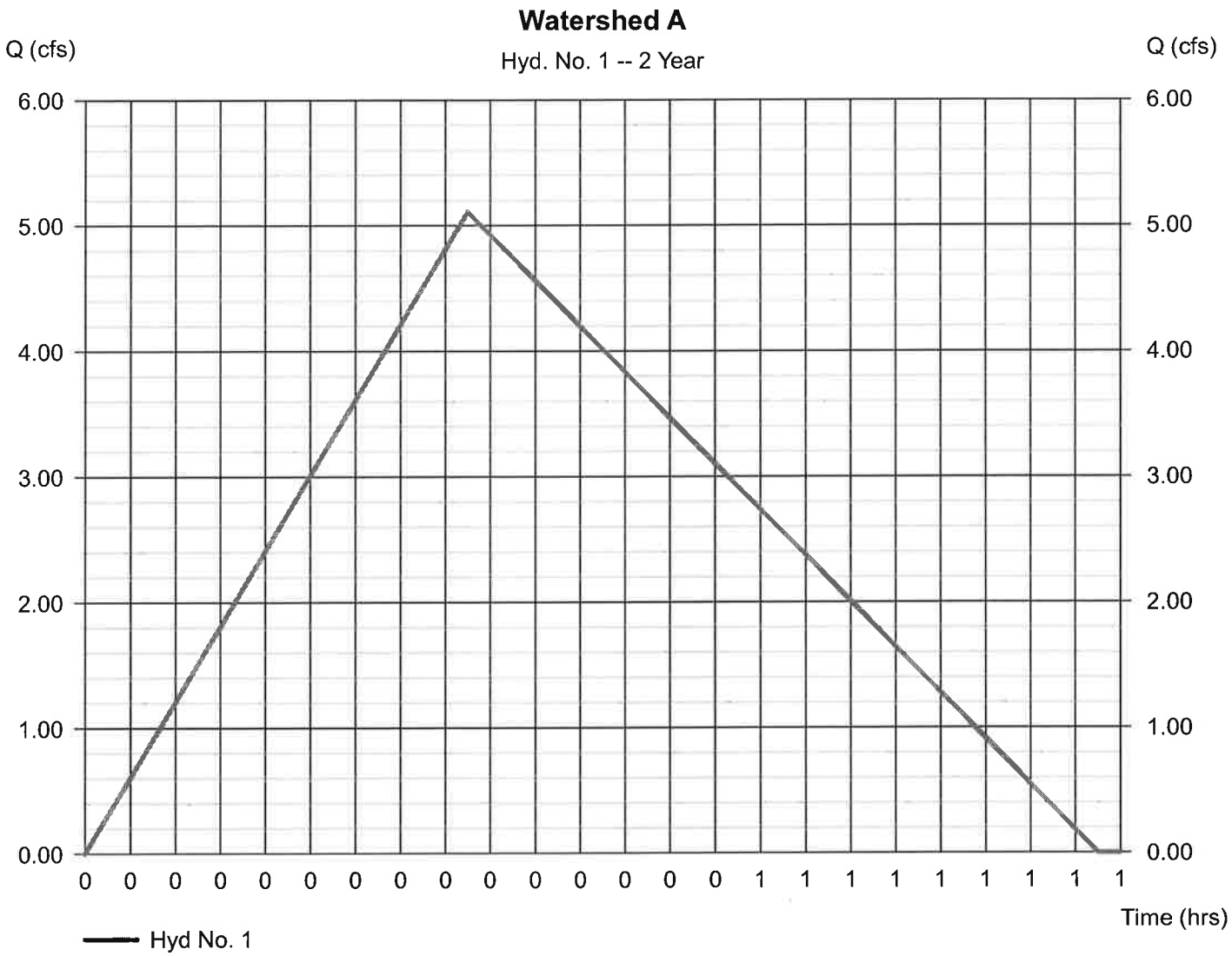
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 1

Watershed A

Hydrograph type	= Rational	Peak discharge	= 5.109 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.28 hrs
Time interval	= 1 min	Hyd. volume	= 6,957 cuft
Drainage area	= 8.000 ac	Runoff coeff.	= 0.24*
Intensity	= 2.661 in/hr	Tc by TR55	= 17.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.400 x 0.90) + (0.500 x 0.30) + (7.100 x 0.20)] / 8.000



TR55 Tc Worksheet

Hydraflow Hydrographs by Intelisolve v9.1

Hyd. No. 1

Watershed A

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.400		0.011		0.011		
Flow length (ft)	=	100.0		0.0		0.0		
Two-year 24-hr precip. (in)	=	3.20		0.00		0.00		
Land slope (%)	=	6.00		0.00		0.00		
Travel Time (min)	**=**	**13.84**	**+**	**0.00**	**+**	**0.00**	**=**	**13.84**
Shallow Concentrated Flow								
Flow length (ft)	=	624.00		0.00		0.00		
Watercourse slope (%)	=	3.36		0.00		0.00		
Surface description	=	Unpaved		Paved		Paved		
Average velocity (ft/s)	=	2.96		0.00		0.00		
Travel Time (min)	**=**	**3.52**	**+**	**0.00**	**+**	**0.00**	**=**	**3.52**
Channel Flow								
X sectional flow area (sqft)	=	0.00		0.00		0.00		
Wetted perimeter (ft)	=	0.00		0.00		0.00		
Channel slope (%)	=	0.00		0.00		0.00		
Manning's n-value	=	0.015		0.015		0.015		
Velocity (ft/s)	=	0.00		0.00		0.00		
Flow length (ft)	=	0.0		0.0		0.0		
Travel Time (min)	**=**	**0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... 17.00 min

Hydrograph Report

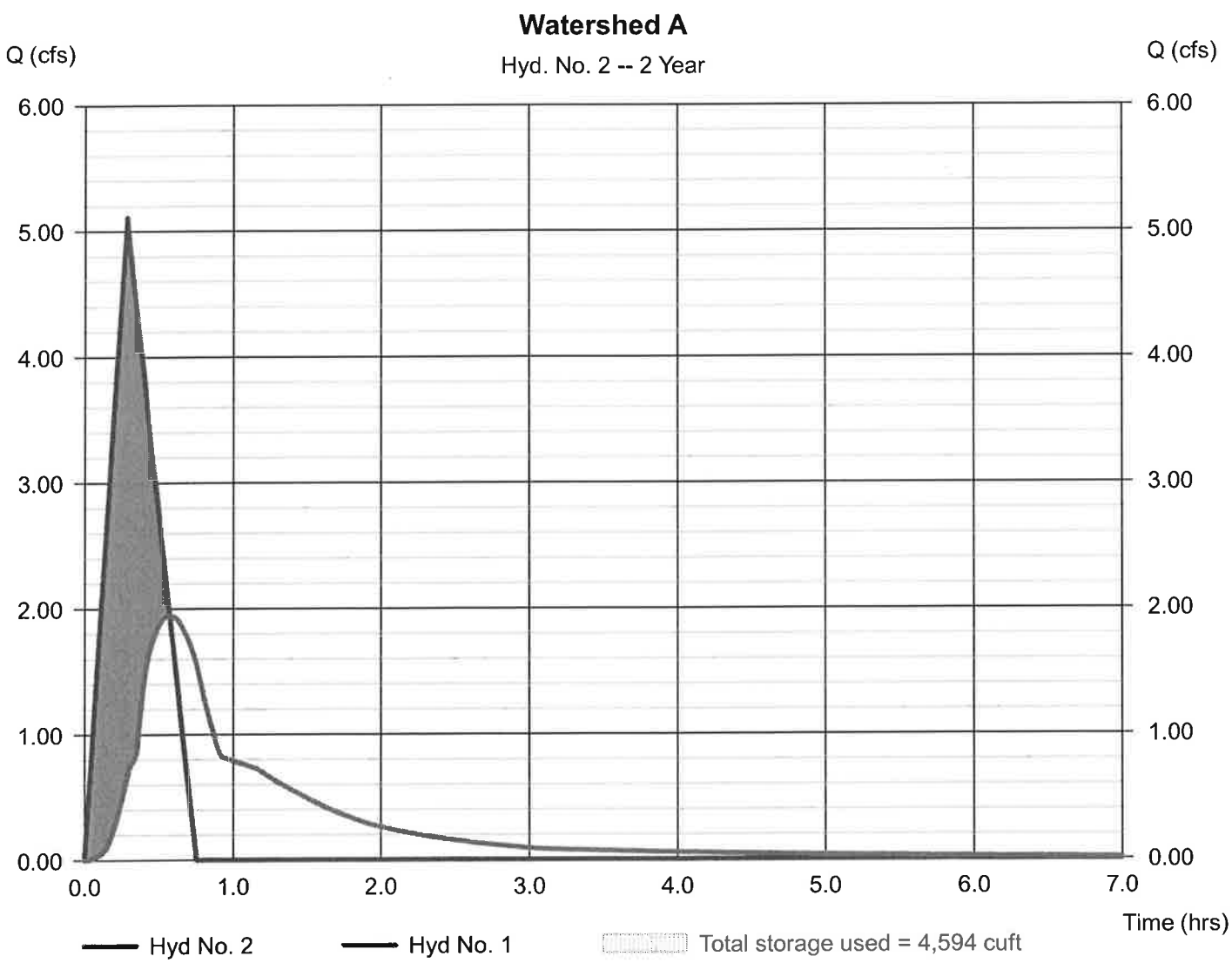
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 2

Watershed A

Hydrograph type	= Reservoir	Peak discharge	= 1.946 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.57 hrs
Time interval	= 1 min	Hyd. volume	= 6,874 cuft
Inflow hyd. No.	= 1 - Watershed A	Max. Elevation	= 565.38 ft
Reservoir name	= Watershed A	Max. Storage	= 4,594 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Pond No. 1 - Watershed A

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 563.99 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	563.99	1,590	0	0
0.01	564.00	1,600	16	16
2.01	566.00	5,440	6,660	6,675
3.11	567.10	5,500	6,016	12,692
4.01	568.00	6,000	5,173	17,865

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 12.00	0.00	0.00	0.00
Span (in)	= 12.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 563.99	0.00	0.00	0.00
Length (ft)	= 30.79	0.00	0.00	0.00
Slope (%)	= 0.23	0.00	0.00	n/a
N-Value	= .024	.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)	= 118.50	0.00	0.00	0.00
Crest El. (ft)	= 567.10	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 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	563.99	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.00	2	563.99	0.00 oc	---	---	---	0.00	---	---	---	---	---	0.00
0.00	3	563.99	0.00 oc	---	---	---	0.00	---	---	---	---	---	0.00
0.00	5	563.99	0.00 oc	---	---	---	0.00	---	---	---	---	---	0.00
0.00	6	563.99	0.00 oc	---	---	---	0.00	---	---	---	---	---	0.00
0.01	8	563.99	0.00 oc	---	---	---	0.00	---	---	---	---	---	0.00
0.01	10	564.00	0.00 oc	---	---	---	0.00	---	---	---	---	---	0.00
0.01	11	564.00	0.00 oc	---	---	---	0.00	---	---	---	---	---	0.00
0.01	13	564.00	0.00 oc	---	---	---	0.00	---	---	---	---	---	0.00
0.01	14	564.00	0.00 oc	---	---	---	0.00	---	---	---	---	---	0.00
0.01	16	564.00	0.00 oc	---	---	---	0.00	---	---	---	---	---	0.00
0.21	682	564.20	0.08 oc	---	---	---	0.00	---	---	---	---	---	0.08
0.41	1,348	564.40	0.28 oc	---	---	---	0.00	---	---	---	---	---	0.28
0.61	2,014	564.60	0.52 oc	---	---	---	0.00	---	---	---	---	---	0.52
0.81	2,680	564.80	0.73 oc	---	---	---	0.00	---	---	---	---	---	0.73
1.01	3,346	565.00	0.82 oc	---	---	---	0.00	---	---	---	---	---	0.82
1.21	4,012	565.20	1.53 oc	---	---	---	0.00	---	---	---	---	---	1.53
1.41	4,678	565.40	2.00 oc	---	---	---	0.00	---	---	---	---	---	2.00
1.61	5,344	565.60	2.39 oc	---	---	---	0.00	---	---	---	---	---	2.39
1.81	6,010	565.80	2.71 oc	---	---	---	0.00	---	---	---	---	---	2.71
2.01	6,675	566.00	3.01 oc	---	---	---	0.00	---	---	---	---	---	3.01
2.12	7,277	566.11	3.15 oc	---	---	---	0.00	---	---	---	---	---	3.15
2.23	7,879	566.22	3.30 oc	---	---	---	0.00	---	---	---	---	---	3.30
2.34	8,480	566.33	3.43 oc	---	---	---	0.00	---	---	---	---	---	3.43
2.45	9,082	566.44	3.57 oc	---	---	---	0.00	---	---	---	---	---	3.57
2.56	9,684	566.55	3.69 oc	---	---	---	0.00	---	---	---	---	---	3.69
2.67	10,285	566.66	3.81 oc	---	---	---	0.00	---	---	---	---	---	3.81
2.78	10,887	566.77	3.93 oc	---	---	---	0.00	---	---	---	---	---	3.93
2.89	11,489	566.88	4.05 oc	---	---	---	0.00	---	---	---	---	---	4.05
3.00	12,090	566.99	4.16 oc	---	---	---	0.00	---	---	---	---	---	4.16
3.11	12,692	567.10	4.27 oc	---	---	---	0.00	---	---	---	---	---	4.27
3.20	13,209	567.19	4.36 oc	---	---	---	8.32	---	---	---	---	---	12.68
3.29	13,726	567.28	4.44 oc	---	---	---	23.54	---	---	---	---	---	27.98
3.38	14,244	567.37	4.53 oc	---	---	---	43.26	---	---	---	---	---	47.79
3.47	14,761	567.46	4.61 oc	---	---	---	66.58	---	---	---	---	---	71.19
3.56	15,278	567.55	4.69 oc	---	---	---	93.05	---	---	---	---	---	97.74
3.65	15,796	567.64	4.77 oc	---	---	---	122.29	---	---	---	---	---	127.06

Continues on next page...

Watershed A

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
3.74	16,313	567.73	4.85 oc	---	---	---	154.16	---	---	---	---	---	159.00
3.83	16,830	567.82	4.92 oc	---	---	---	188.31	---	---	---	---	---	193.24
3.92	17,347	567.91	5.00 oc	---	---	---	224.71	---	---	---	---	---	229.71
4.01	17,865	568.00	5.07 oc	---	---	---	263.07	---	---	---	---	---	268.15

...End

Hydrograph Report

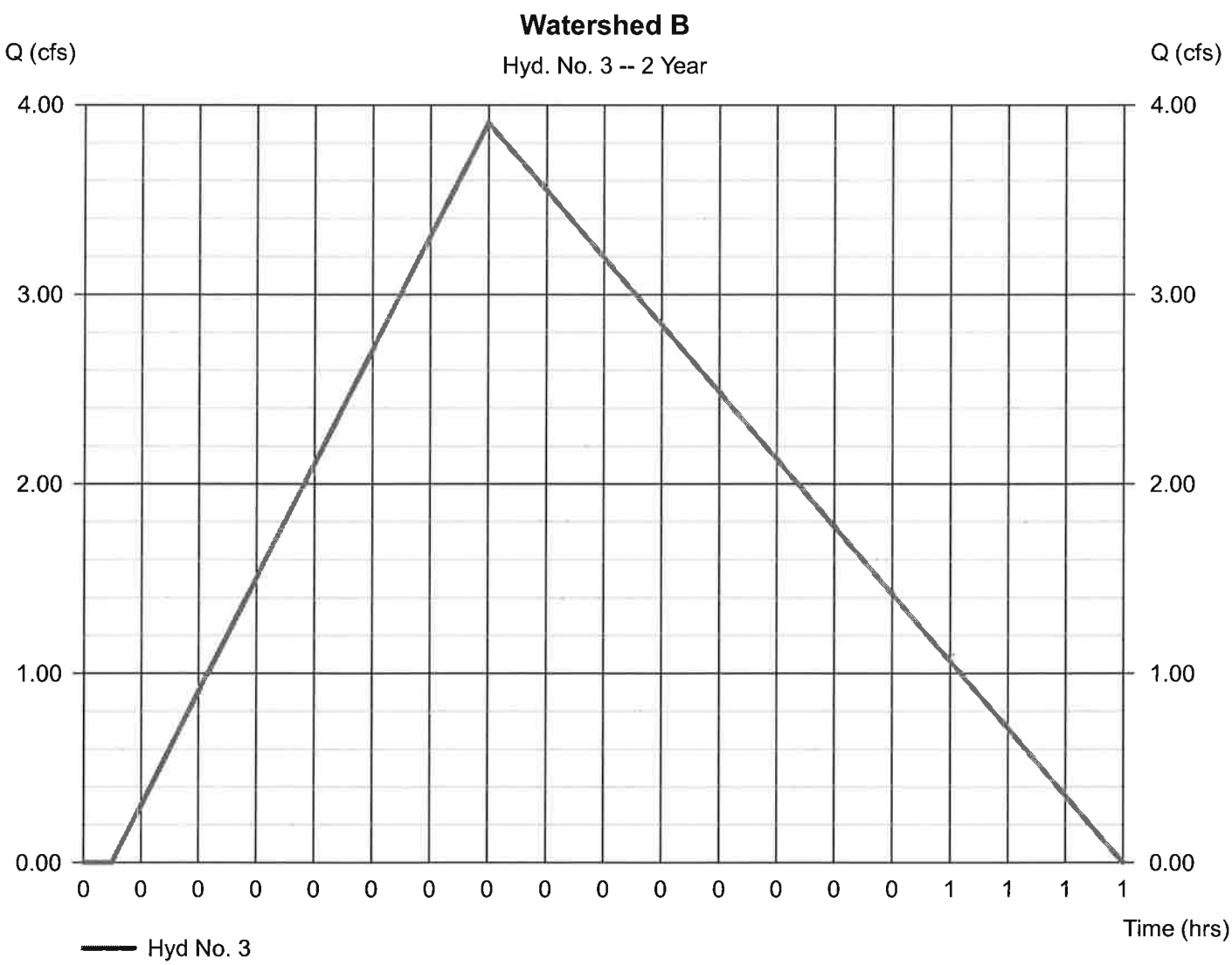
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 3

Watershed B

Hydrograph type	= Rational	Peak discharge	= 3.906 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.23 hrs
Time interval	= 1 min	Hyd. volume	= 4,238 cuft
Drainage area	= 5.200 ac	Runoff coeff.	= 0.25*
Intensity	= 3.005 in/hr	Tc by TR55	= 13.54 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.300 x 0.90) + (0.500 x 0.30) + (4.400 x 0.20)] / 5.200



TR55 Tc Worksheet

Hyd. No. 3

Watershed B

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.400		0.011		0.011		
Flow length (ft)	=	100.0		0.0		0.0		
Two-year 24-hr precip. (in)	=	3.20		0.00		0.00		
Land slope (%)	=	12.00		0.00		0.00		
Travel Time (min)	**=**	**10.49**	**+**	**0.00**	**+**	**0.00**	**=**	**10.49**
Shallow Concentrated Flow								
Flow length (ft)	=	479.00		0.00		0.00		
Watercourse slope (%)	=	2.62		0.00		0.00		
Surface description	=	Unpaved		Paved		Paved		
Average velocity (ft/s)	=	2.61		0.00		0.00		
Travel Time (min)	**=**	**3.06**	**+**	**0.00**	**+**	**0.00**	**=**	**3.06**
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		
Travel Time (min)	**=**	**0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... 13.54 min

Hydrograph Report

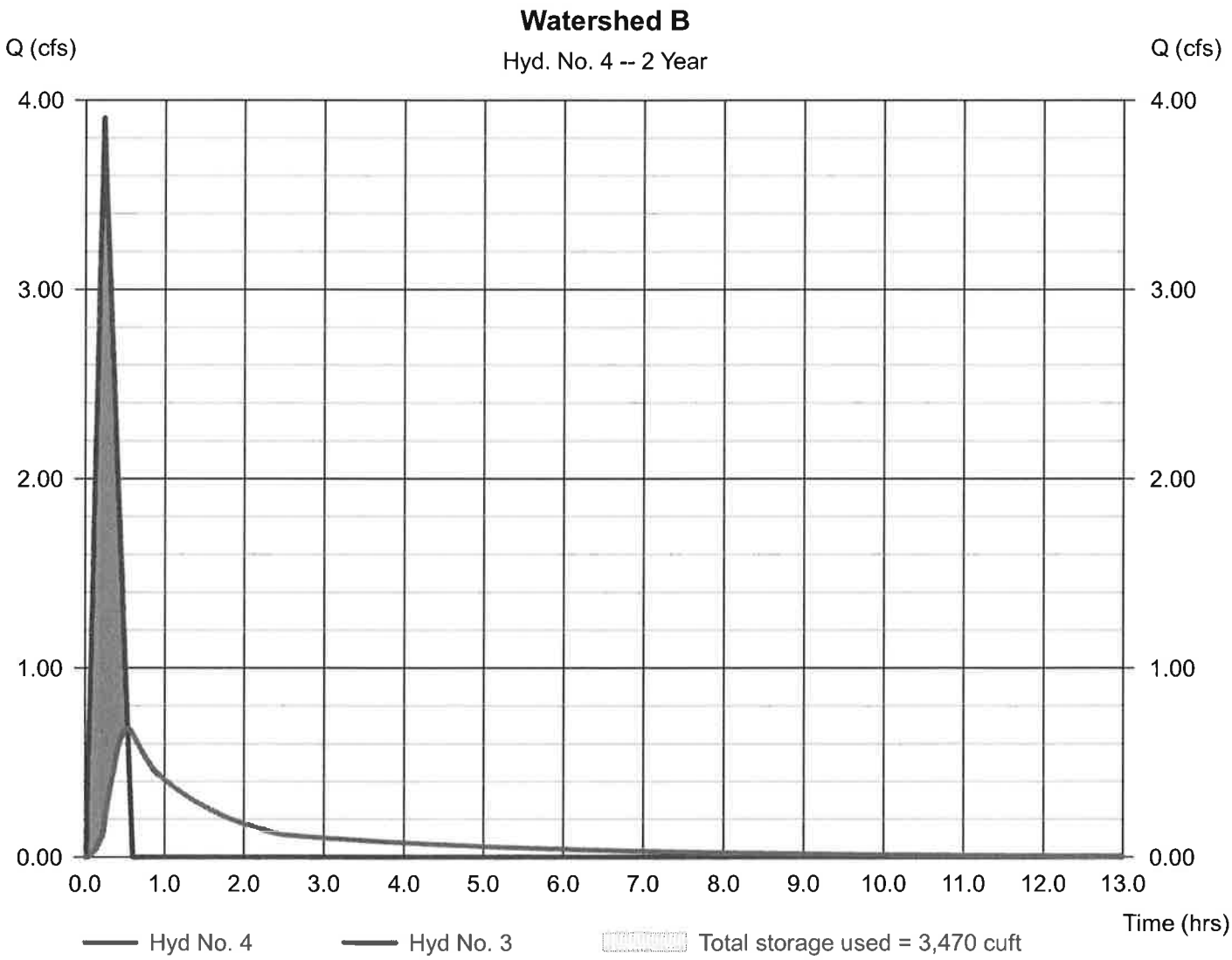
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 4

Watershed B

Hydrograph type	= Reservoir	Peak discharge	= 0.678 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.53 hrs
Time interval	= 1 min	Hyd. volume	= 4,090 cuft
Inflow hyd. No.	= 3 - Watershed B	Max. Elevation	= 566.82 ft
Reservoir name	= Watershed B	Max. Storage	= 3,470 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Pond No. 2 - Watershed B

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 566.44 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	566.44	8,300	0	0
1.56	568.00	10,080	14,313	14,313

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 15.00	0.00	0.00	0.00
Span (in)	= 15.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 566.44	0.00	0.00	0.00
Length (ft)	= 27.15	0.00	0.00	0.00
Slope (%)	= 12.19	0.00	0.00	n/a
N-Value	= .024	.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)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
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	566.44	0.00	---	---	---	---	---	---	---	---	---	0.00
0.16	1,431	566.60	0.12 ic	---	---	---	---	---	---	---	---	---	0.12
0.31	2,863	566.75	0.46 ic	---	---	---	---	---	---	---	---	---	0.46
0.47	4,294	566.91	0.98 ic	---	---	---	---	---	---	---	---	---	0.98
0.62	5,725	567.06	1.65 ic	---	---	---	---	---	---	---	---	---	1.65
0.78	7,156	567.22	2.42 ic	---	---	---	---	---	---	---	---	---	2.42
0.94	8,588	567.38	3.25 ic	---	---	---	---	---	---	---	---	---	3.25
1.09	10,019	567.53	4.05 ic	---	---	---	---	---	---	---	---	---	4.05
1.25	11,450	567.69	4.67 ic	---	---	---	---	---	---	---	---	---	4.67
1.40	12,881	567.84	5.21 ic	---	---	---	---	---	---	---	---	---	5.21
1.56	14,313	568.00	5.71 ic	---	---	---	---	---	---	---	---	---	5.71

Hydrograph Report

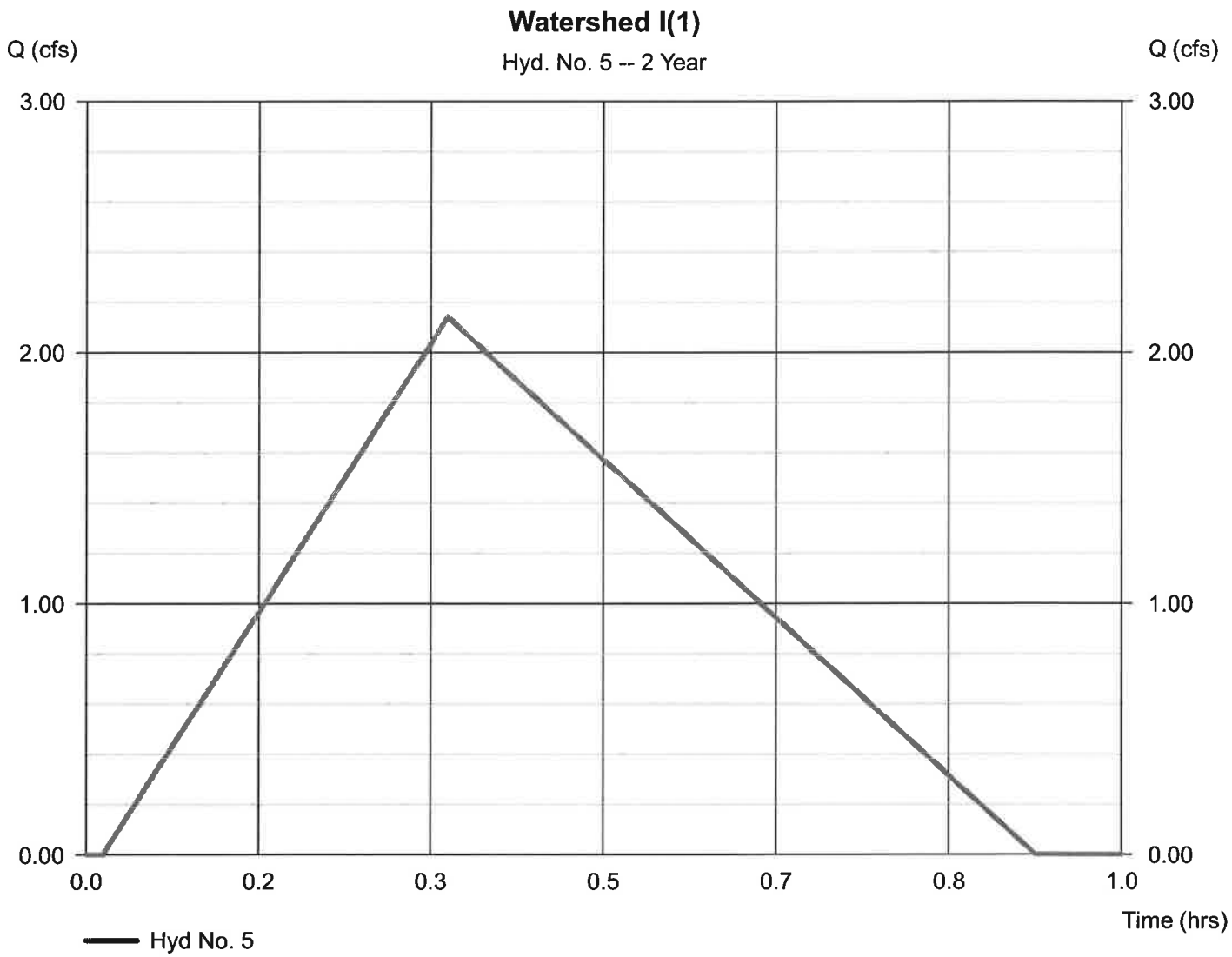
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 5

Watershed I(1)

Hydrograph type	= Rational	Peak discharge	= 2.138 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.35 hrs
Time interval	= 1 min	Hyd. volume	= 3,562 cuft
Drainage area	= 1.700 ac	Runoff coeff.	= 0.53*
Intensity	= 2.373 in/hr	Tc by TR55	= 20.80 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.700 x 0.90) + (0.700 x 0.30) + (0.300 x 0.20)] / 1.700



TR55 Tc Worksheet

Hydraflow Hydrographs by Intelisolve v9.1

Hyd. No. 5

Watershed I(1)

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.240		0.016		0.011		
Flow length (ft)	=	100.0		0.0		0.0		
Two-year 24-hr precip. (in)	=	3.20		0.00		0.00		
Land slope (%)	=	2.30		0.00		0.00		
Travel Time (min)	**=**	**13.49**	**+**	**0.00**	**+**	**0.00**	**=**	**13.49**
Shallow Concentrated Flow								
Flow length (ft)	=	107.00		206.00		0.00		
Watercourse slope (%)	=	7.57		0.49		0.00		
Surface description	=	Unpaved		Paved		Paved		
Average velocity (ft/s)	=	4.44		1.42		0.00		
Travel Time (min)	**=**	**0.40**	**+**	**2.43**	**+**	**0.00**	**=**	**2.83**
Channel Flow								
X sectional flow area (sqft)	=	1.23		0.63		1.23		
Wetted perimeter (ft)	=	3.93		3.12		3.93		
Channel slope (%)	=	0.50		0.50		0.50		
Manning's n-value	=	0.015		0.040		0.015		
Velocity (ft/s)	=	3.22		0.90		3.22		
Flow length (ft)	=	194.0		90.0		348.0		
Travel Time (min)	**=**	**1.00**	**+**	**1.67**	**+**	**1.80**	**=**	**4.48**

Total Travel Time, Tc ..... **20.80 min**

Hydrograph Report

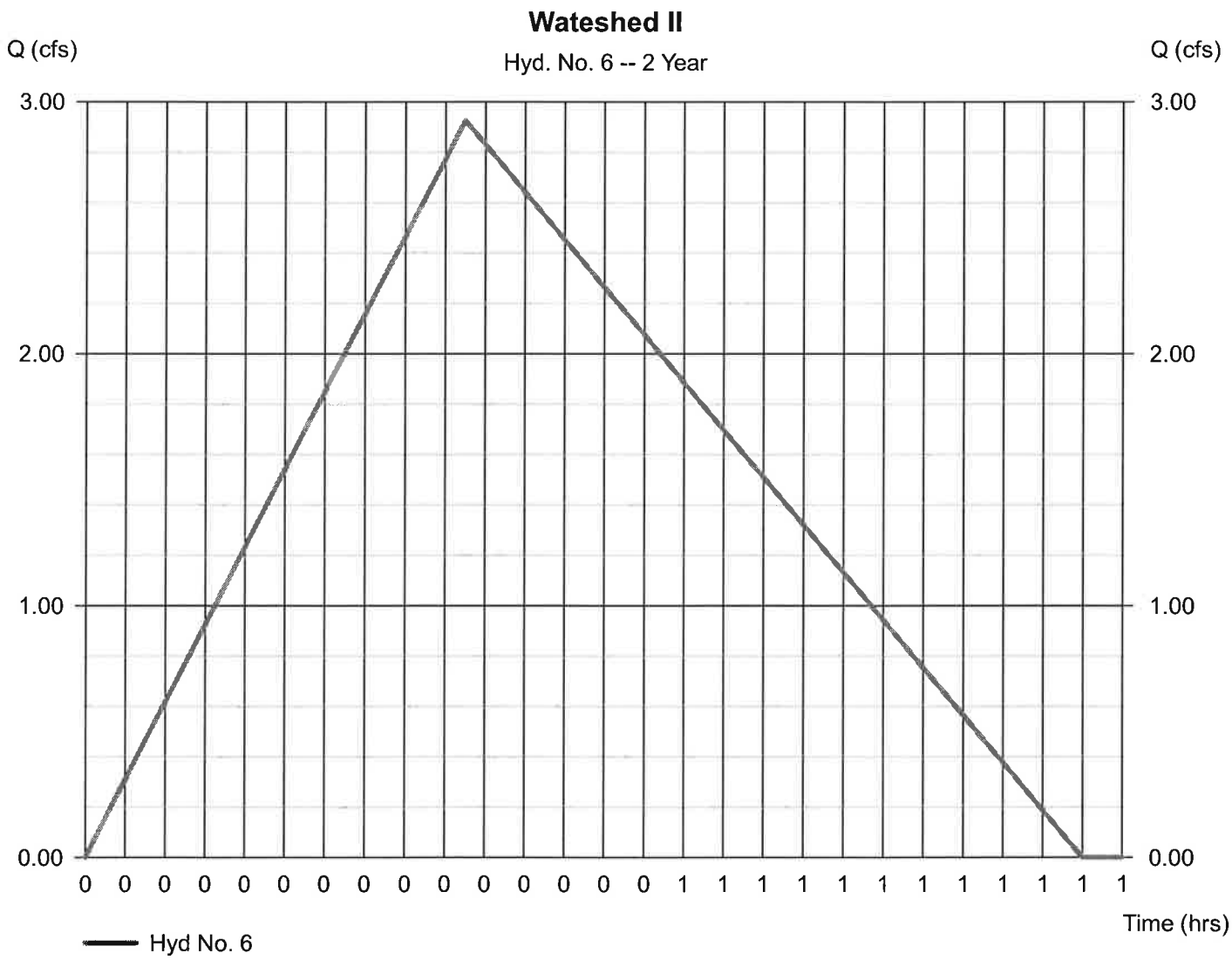
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 6

Wateshed II

Hydrograph type	= Rational	Peak discharge	= 2.924 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 4,464 cuft
Drainage area	= 4.040 ac	Runoff coeff.	= 0.29*
Intensity	= 2.495 in/hr	Tc by TR55	= 19.06 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.230 x 0.90) + (1.940 x 0.30) + (1.870 x 0.20)] / 4.040



TR55 Tc Worksheet

Hyd. No. 6

Wateshed II

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.240		0.011		0.011		
Flow length (ft)	=	100.0		0.0		0.0		
Two-year 24-hr precip. (in)	=	3.20		0.00		0.00		
Land slope (%)	=	3.20		0.00		0.00		
Travel Time (min)	**=**	**11.82**	**+**	**0.00**	**+**	**0.00**	**=**	**11.82**
Shallow Concentrated Flow								
Flow length (ft)	=	250.00		0.00		0.00		
Watercourse slope (%)	=	4.90		0.00		0.00		
Surface description	=	Unpaved		Paved		Paved		
Average velocity (ft/s)	=	3.57		0.00		0.00		
Travel Time (min)	**=**	**1.17**	**+**	**0.00**	**+**	**0.00**	**=**	**1.17**
Channel Flow								
X sectional flow area (sqft)	=	1.23		0.00		0.00		
Wetted perimeter (ft)	=	3.93		0.00		0.00		
Channel slope (%)	=	0.50		0.00		0.00		
Manning's n-value	=	0.040		0.015		0.015		
Velocity (ft/s)	=	1.21		0.00		0.00		
Flow length (ft)	=	440.0		0.0		0.0		
Travel Time (min)	**=**	**6.07**	**+**	**0.00**	**+**	**0.00**	**=**	**6.07**

Total Travel Time, Tc ..... **19.06 min**

Hydrograph Report

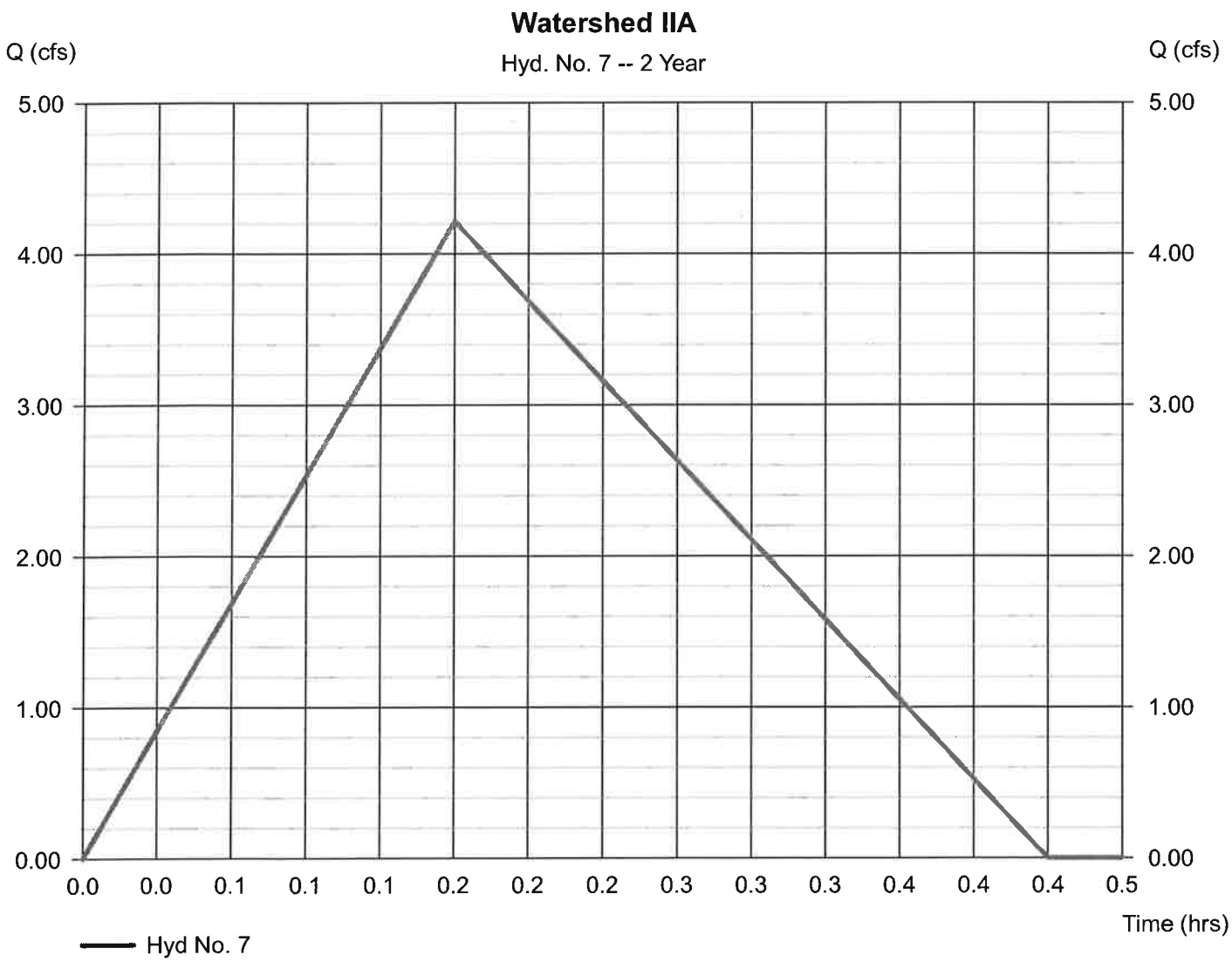
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 7

Watershed IIA

Hydrograph type	= Rational	Peak discharge	= 4.214 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 3,375 cuft
Drainage area	= 1.530 ac	Runoff coeff.	= 0.79*
Intensity	= 3.486 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.250 x 0.90) + (0.280 x 0.30)] / 1.530



Hydrograph Report

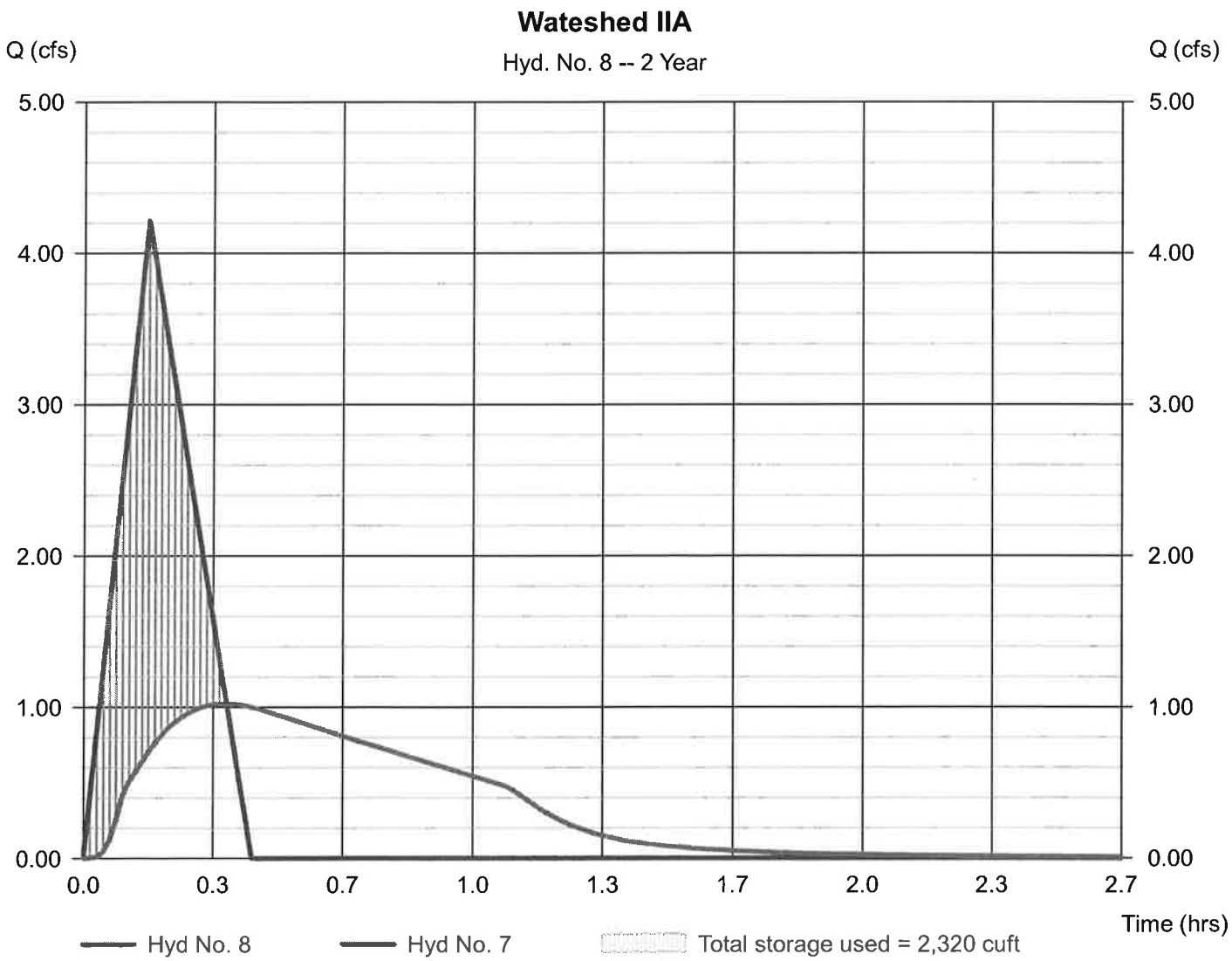
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 8

Wateshed IIA

Hydrograph type	= Reservoir	Peak discharge	= 1.025 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.37 hrs
Time interval	= 1 min	Hyd. volume	= 3,281 cuft
Inflow hyd. No.	= 7 - Watershed IIA	Max. Elevation	= 561.93 ft
Reservoir name	= Watershed IIA	Max. Storage	= 2,320 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Pond No. 20 - Watershed IIA

Pond Data

Pond storage is based on user-defined values.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	560.50	n/a	0	0
0.50	561.00	n/a	473	473
1.00	561.50	n/a	1,018	1,491
1.50	562.00	n/a	975	2,466
2.00	562.50	n/a	907	3,373
2.50	563.00	n/a	803	4,176
3.00	563.50	n/a	593	4,769
3.50	564.00	n/a	474	5,243

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 6.00	0.00	0.00	0.00
Span (in)	= 6.00	0.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 560.50	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)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 56305.00	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	560.50	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.05	47	560.55	0.01 ic	---	---	---	0.00	---	---	---	---	---	0.01
0.10	95	560.60	0.03 ic	---	---	---	0.00	---	---	---	---	---	0.03
0.15	142	560.65	0.07 ic	---	---	---	0.00	---	---	---	---	---	0.07
0.20	189	560.70	0.11 ic	---	---	---	0.00	---	---	---	---	---	0.11
0.25	237	560.75	0.17 ic	---	---	---	0.00	---	---	---	---	---	0.17
0.30	284	560.80	0.23 ic	---	---	---	0.00	---	---	---	---	---	0.23
0.35	331	560.85	0.30 ic	---	---	---	0.00	---	---	---	---	---	0.30
0.40	378	560.90	0.36 ic	---	---	---	0.00	---	---	---	---	---	0.36
0.45	426	560.95	0.43 ic	---	---	---	0.00	---	---	---	---	---	0.43
0.50	473	561.00	0.47 ic	---	---	---	0.00	---	---	---	---	---	0.47
0.55	575	561.05	0.52 ic	---	---	---	0.00	---	---	---	---	---	0.52
0.60	677	561.10	0.56 ic	---	---	---	0.00	---	---	---	---	---	0.56
0.65	778	561.15	0.60 ic	---	---	---	0.00	---	---	---	---	---	0.60
0.70	880	561.20	0.63 ic	---	---	---	0.00	---	---	---	---	---	0.63
0.75	982	561.25	0.67 ic	---	---	---	0.00	---	---	---	---	---	0.67
0.80	1,084	561.30	0.70 ic	---	---	---	0.00	---	---	---	---	---	0.70
0.85	1,186	561.35	0.73 ic	---	---	---	0.00	---	---	---	---	---	0.73
0.90	1,287	561.40	0.76 ic	---	---	---	0.00	---	---	---	---	---	0.76
0.95	1,389	561.45	0.79 ic	---	---	---	0.00	---	---	---	---	---	0.79
1.00	1,491	561.50	0.82 ic	---	---	---	0.00	---	---	---	---	---	0.82
1.05	1,589	561.55	0.85 ic	---	---	---	0.00	---	---	---	---	---	0.85
1.10	1,686	561.60	0.87 ic	---	---	---	0.00	---	---	---	---	---	0.87
1.15	1,784	561.65	0.90 ic	---	---	---	0.00	---	---	---	---	---	0.90
1.20	1,881	561.70	0.92 ic	---	---	---	0.00	---	---	---	---	---	0.92
1.25	1,979	561.75	0.95 ic	---	---	---	0.00	---	---	---	---	---	0.95
1.30	2,076	561.80	0.97 ic	---	---	---	0.00	---	---	---	---	---	0.97
1.35	2,174	561.85	0.99 ic	---	---	---	0.00	---	---	---	---	---	0.99
1.40	2,271	561.90	1.01 ic	---	---	---	0.00	---	---	---	---	---	1.01
1.45	2,369	561.95	1.04 ic	---	---	---	0.00	---	---	---	---	---	1.04
1.50	2,466	562.00	1.06 ic	---	---	---	0.00	---	---	---	---	---	1.06
1.55	2,557	562.05	1.08 ic	---	---	---	0.00	---	---	---	---	---	1.08
1.60	2,647	562.10	1.10 ic	---	---	---	0.00	---	---	---	---	---	1.10
1.65	2,738	562.15	1.12 ic	---	---	---	0.00	---	---	---	---	---	1.12

Continues on next page...

Watershed IIA

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
1.70	2,829	562.20	1.14 ic	---	---	---	0.00	---	---	---	---	---	1.14
1.75	2,920	562.25	1.16 ic	---	---	---	0.00	---	---	---	---	---	1.16
1.80	3,010	562.30	1.18 ic	---	---	---	0.00	---	---	---	---	---	1.18
1.85	3,101	562.35	1.20 ic	---	---	---	0.00	---	---	---	---	---	1.20
1.90	3,192	562.40	1.21 ic	---	---	---	0.00	---	---	---	---	---	1.21
1.95	3,282	562.45	1.23 ic	---	---	---	0.00	---	---	---	---	---	1.23
2.00	3,373	562.50	1.25 ic	---	---	---	0.00	---	---	---	---	---	1.25
2.05	3,453	562.55	1.27 ic	---	---	---	0.00	---	---	---	---	---	1.27
2.10	3,534	562.60	1.29 ic	---	---	---	0.00	---	---	---	---	---	1.29
2.15	3,614	562.65	1.30 ic	---	---	---	0.00	---	---	---	---	---	1.30
2.20	3,694	562.70	1.32 ic	---	---	---	0.00	---	---	---	---	---	1.32
2.25	3,775	562.75	1.34 ic	---	---	---	0.00	---	---	---	---	---	1.34
2.30	3,855	562.80	1.35 ic	---	---	---	0.00	---	---	---	---	---	1.35
2.35	3,935	562.85	1.37 ic	---	---	---	0.00	---	---	---	---	---	1.37
2.40	4,015	562.90	1.39 ic	---	---	---	0.00	---	---	---	---	---	1.39
2.45	4,096	562.95	1.40 ic	---	---	---	0.00	---	---	---	---	---	1.40
2.50	4,176	563.00	1.42 ic	---	---	---	0.00	---	---	---	---	---	1.42
2.55	4,235	563.05	1.43 ic	---	---	---	0.00	---	---	---	---	---	1.43
2.60	4,295	563.10	1.45 ic	---	---	---	0.00	---	---	---	---	---	1.45
2.65	4,354	563.15	1.46 ic	---	---	---	0.00	---	---	---	---	---	1.46
2.70	4,413	563.20	1.48 ic	---	---	---	0.00	---	---	---	---	---	1.48
2.75	4,472	563.25	1.49 ic	---	---	---	0.00	---	---	---	---	---	1.49
2.80	4,532	563.30	1.51 ic	---	---	---	0.00	---	---	---	---	---	1.51
2.85	4,591	563.35	1.52 ic	---	---	---	0.00	---	---	---	---	---	1.52
2.90	4,650	563.40	1.54 ic	---	---	---	0.00	---	---	---	---	---	1.54
2.95	4,710	563.45	1.55 ic	---	---	---	0.00	---	---	---	---	---	1.55
3.00	4,769	563.50	1.57 ic	---	---	---	0.00	---	---	---	---	---	1.57
3.05	4,816	563.55	1.58 ic	---	---	---	0.00	---	---	---	---	---	1.58
3.10	4,864	563.60	1.60 ic	---	---	---	0.00	---	---	---	---	---	1.60
3.15	4,911	563.65	1.61 ic	---	---	---	0.00	---	---	---	---	---	1.61
3.20	4,959	563.70	1.62 ic	---	---	---	0.00	---	---	---	---	---	1.62
3.25	5,006	563.75	1.64 ic	---	---	---	0.00	---	---	---	---	---	1.64
3.30	5,053	563.80	1.65 ic	---	---	---	0.00	---	---	---	---	---	1.65
3.35	5,101	563.85	1.66 ic	---	---	---	0.00	---	---	---	---	---	1.66
3.40	5,148	563.90	1.68 ic	---	---	---	0.00	---	---	---	---	---	1.68
3.45	5,196	563.95	1.69 ic	---	---	---	0.00	---	---	---	---	---	1.69
3.50	5,243	564.00	1.70 ic	---	---	---	0.00	---	---	---	---	---	1.70

...End

Hydrograph Report

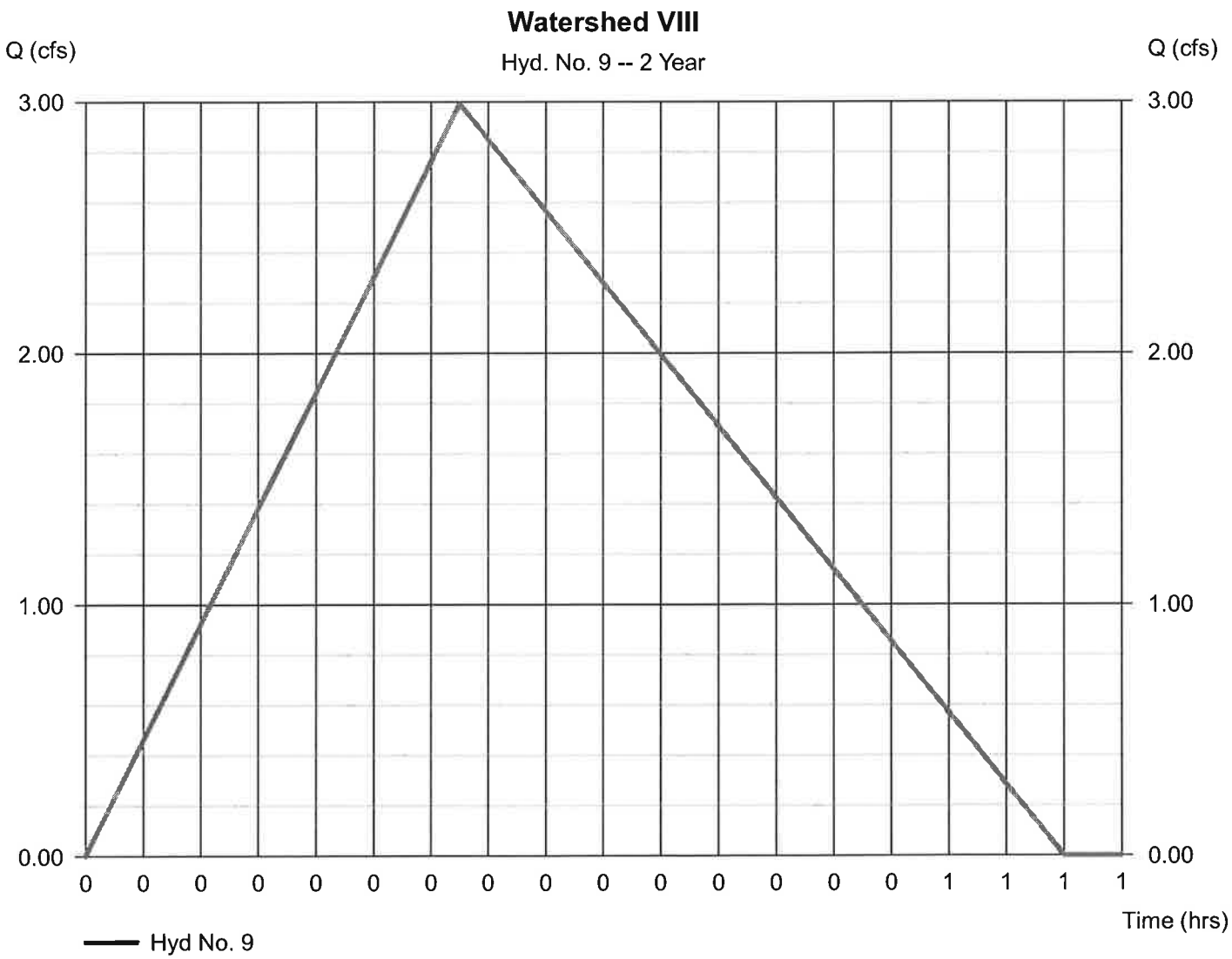
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 9

Watershed VIII

Hydrograph type	= Rational	Peak discharge	= 2.992 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.22 hrs
Time interval	= 1 min	Hyd. volume	= 3,116 cuft
Drainage area	= 3.250 ac	Runoff coeff.	= 0.3*
Intensity	= 3.069 in/hr	Tc by TR55	= 13.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.320 x 0.90) + (1.120 x 0.30) + (1.810 x 0.20)] / 3.250



TR55 Tc Worksheet

Hyd. No. 9

Watershed VIII

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.240		0.011		0.011		
Flow length (ft)	=	100.0		0.0		0.0		
Two-year 24-hr precip. (in)	=	3.20		0.00		0.00		
Land slope (%)	=	4.00		0.00		0.00		
Travel Time (min)	**=**	**10.81**	**+**	**0.00**	**+**	**0.00**	**=**	**10.81**
Shallow Concentrated Flow								
Flow length (ft)	=	553.00		0.00		0.00		
Watercourse slope (%)	=	5.70		0.00		0.00		
Surface description	=	Unpaved		Paved		Paved		
Average velocity (ft/s)	=	3.85		0.00		0.00		
Travel Time (min)	**=**	**2.39**	**+**	**0.00**	**+**	**0.00**	**=**	**2.39**
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		
Travel Time (min)	**=**	**0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... 13.00 min

Hydrograph Report

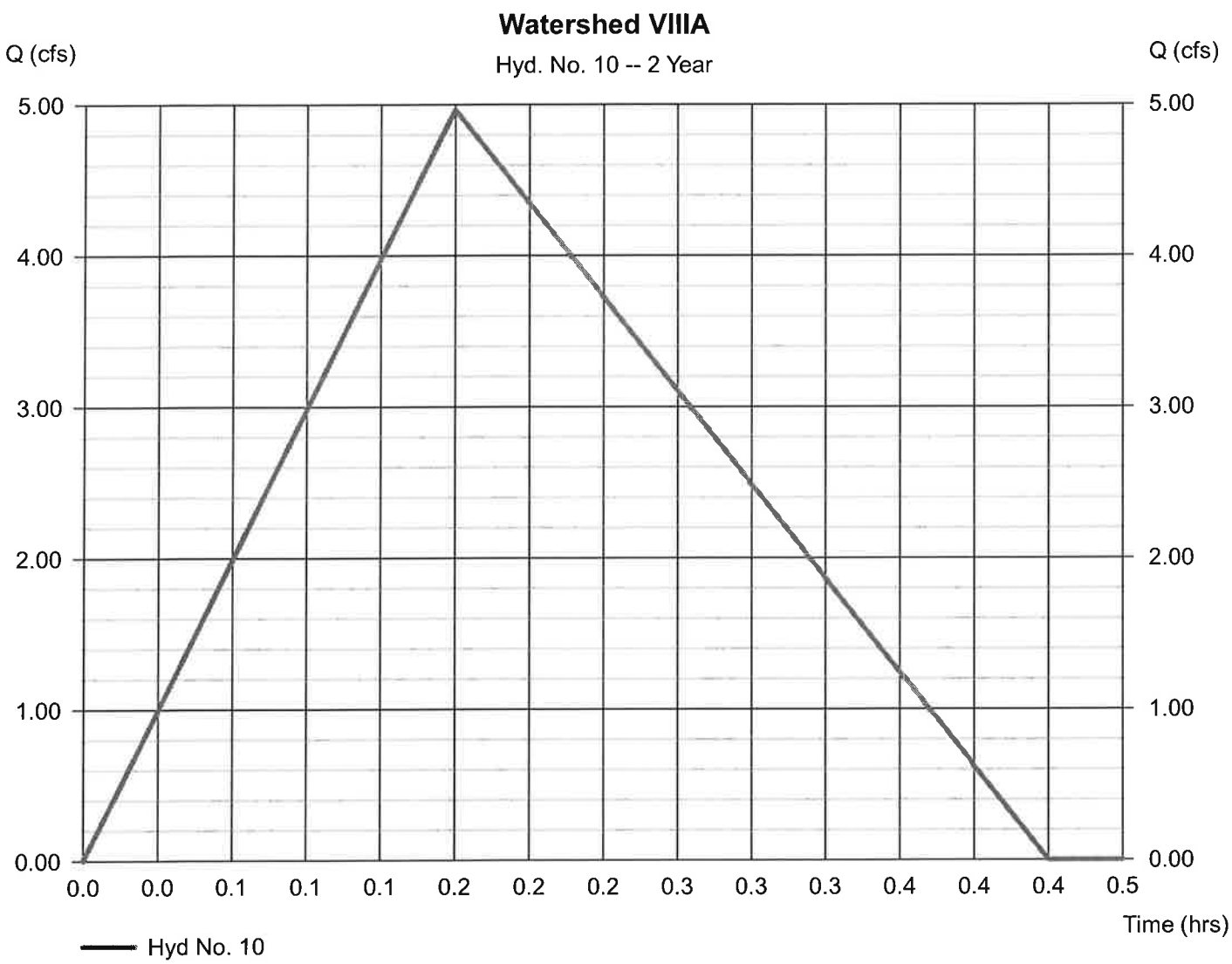
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 10

Watershed VIIIA

Hydrograph type	= Rational	Peak discharge	= 4.966 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 3,978 cuft
Drainage area	= 1.850 ac	Runoff coeff.	= 0.77*
Intensity	= 3.486 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.460 x 0.90) + (0.390 x 0.30)] / 1.850



Hydrograph Report

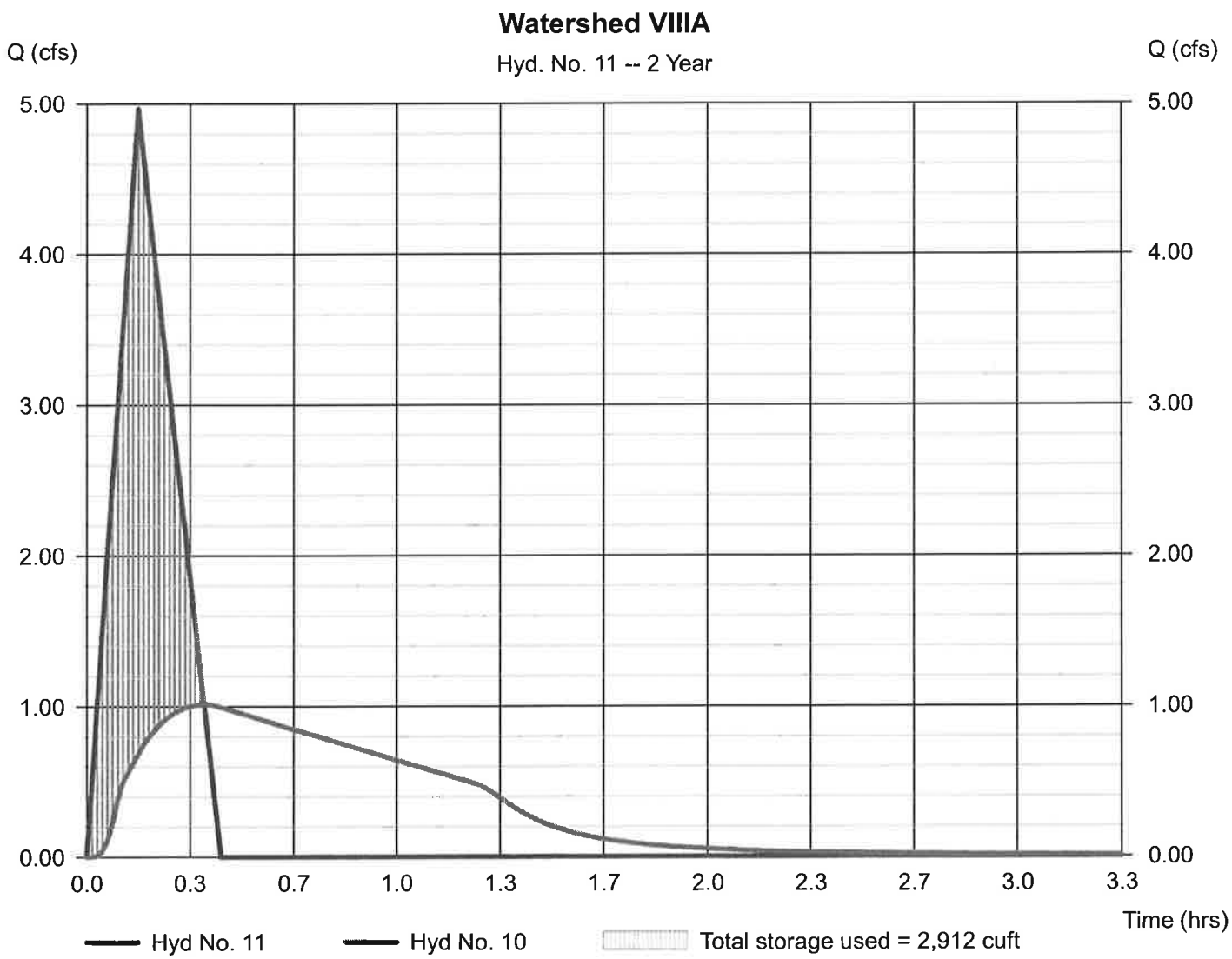
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 11

Watershed VIIIA

Hydrograph type	= Reservoir	Peak discharge	= 1.012 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.38 hrs
Time interval	= 1 min	Hyd. volume	= 3,866 cuft
Inflow hyd. No.	= 10 - Watershed VIIIA	Max. Elevation	= 558.90 ft
Reservoir name	= Watershed VIIIA	Max. Storage	= 2,912 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Pond No. 21 - Watershed VIIIA

Pond Data

Pond storage is based on user-defined values.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	557.50	n/a	0	0
0.50	558.00	n/a	608	608
1.00	558.50	n/a	1,309	1,917
1.50	559.00	n/a	1,253	3,170
2.00	559.50	n/a	1,167	4,337
2.50	560.00	n/a	1,032	5,369
3.00	560.50	n/a	763	6,132
3.50	561.00	n/a	609	6,741

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 6.00	0.00	0.00	0.00
Span (in)	= 6.00	0.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 557.50	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)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 560.50	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	557.50	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.05	61	557.55	0.01 ic	---	---	---	0.00	---	---	---	---	---	0.01
0.10	122	557.60	0.03 ic	---	---	---	0.00	---	---	---	---	---	0.03
0.15	182	557.65	0.07 ic	---	---	---	0.00	---	---	---	---	---	0.07
0.20	243	557.70	0.11 ic	---	---	---	0.00	---	---	---	---	---	0.11
0.25	304	557.75	0.17 ic	---	---	---	0.00	---	---	---	---	---	0.17
0.30	365	557.80	0.23 ic	---	---	---	0.00	---	---	---	---	---	0.23
0.35	426	557.85	0.30 ic	---	---	---	0.00	---	---	---	---	---	0.30
0.40	486	557.90	0.36 ic	---	---	---	0.00	---	---	---	---	---	0.36
0.45	547	557.95	0.43 ic	---	---	---	0.00	---	---	---	---	---	0.43
0.50	608	558.00	0.47 ic	---	---	---	0.00	---	---	---	---	---	0.47
0.55	739	558.05	0.52 ic	---	---	---	0.00	---	---	---	---	---	0.52
0.60	870	558.10	0.56 ic	---	---	---	0.00	---	---	---	---	---	0.56
0.65	1,001	558.15	0.60 ic	---	---	---	0.00	---	---	---	---	---	0.60
0.70	1,132	558.20	0.63 ic	---	---	---	0.00	---	---	---	---	---	0.63
0.75	1,263	558.25	0.67 ic	---	---	---	0.00	---	---	---	---	---	0.67
0.80	1,393	558.30	0.70 ic	---	---	---	0.00	---	---	---	---	---	0.70
0.85	1,524	558.35	0.73 ic	---	---	---	0.00	---	---	---	---	---	0.73
0.90	1,655	558.40	0.76 ic	---	---	---	0.00	---	---	---	---	---	0.76
0.95	1,786	558.45	0.79 ic	---	---	---	0.00	---	---	---	---	---	0.79
1.00	1,917	558.50	0.82 ic	---	---	---	0.00	---	---	---	---	---	0.82
1.05	2,042	558.55	0.85 ic	---	---	---	0.00	---	---	---	---	---	0.85
1.10	2,168	558.60	0.87 ic	---	---	---	0.00	---	---	---	---	---	0.87
1.15	2,293	558.65	0.90 ic	---	---	---	0.00	---	---	---	---	---	0.90
1.20	2,418	558.70	0.92 ic	---	---	---	0.00	---	---	---	---	---	0.92
1.25	2,544	558.75	0.95 ic	---	---	---	0.00	---	---	---	---	---	0.95
1.30	2,669	558.80	0.97 ic	---	---	---	0.00	---	---	---	---	---	0.97
1.35	2,794	558.85	0.99 ic	---	---	---	0.00	---	---	---	---	---	0.99
1.40	2,919	558.90	1.01 ic	---	---	---	0.00	---	---	---	---	---	1.01
1.45	3,045	558.95	1.04 ic	---	---	---	0.00	---	---	---	---	---	1.04
1.50	3,170	559.00	1.06 ic	---	---	---	0.00	---	---	---	---	---	1.06
1.55	3,287	559.05	1.08 ic	---	---	---	0.00	---	---	---	---	---	1.08
1.60	3,403	559.10	1.10 ic	---	---	---	0.00	---	---	---	---	---	1.10
1.65	3,520	559.15	1.12 ic	---	---	---	0.00	---	---	---	---	---	1.12

Continues on next page...

Watershed VIIIA

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
1.70	3,637	559.20	1.14 ic	---	---	---	0.00	---	---	---	---	---	1.14
1.75	3,754	559.25	1.16 ic	---	---	---	0.00	---	---	---	---	---	1.16
1.80	3,870	559.30	1.18 ic	---	---	---	0.00	---	---	---	---	---	1.18
1.85	3,987	559.35	1.20 ic	---	---	---	0.00	---	---	---	---	---	1.20
1.90	4,104	559.40	1.21 ic	---	---	---	0.00	---	---	---	---	---	1.21
1.95	4,220	559.45	1.23 ic	---	---	---	0.00	---	---	---	---	---	1.23
2.00	4,337	559.50	1.25 ic	---	---	---	0.00	---	---	---	---	---	1.25
2.05	4,440	559.55	1.27 ic	---	---	---	0.00	---	---	---	---	---	1.27
2.10	4,543	559.60	1.29 ic	---	---	---	0.00	---	---	---	---	---	1.29
2.15	4,647	559.65	1.30 ic	---	---	---	0.00	---	---	---	---	---	1.30
2.20	4,750	559.70	1.32 ic	---	---	---	0.00	---	---	---	---	---	1.32
2.25	4,853	559.75	1.34 ic	---	---	---	0.00	---	---	---	---	---	1.34
2.30	4,956	559.80	1.35 ic	---	---	---	0.00	---	---	---	---	---	1.35
2.35	5,059	559.85	1.37 ic	---	---	---	0.00	---	---	---	---	---	1.37
2.40	5,163	559.90	1.39 ic	---	---	---	0.00	---	---	---	---	---	1.39
2.45	5,266	559.95	1.40 ic	---	---	---	0.00	---	---	---	---	---	1.40
2.50	5,369	560.00	1.42 ic	---	---	---	0.00	---	---	---	---	---	1.42
2.55	5,445	560.05	1.43 ic	---	---	---	0.00	---	---	---	---	---	1.43
2.60	5,522	560.10	1.45 ic	---	---	---	0.00	---	---	---	---	---	1.45
2.65	5,598	560.15	1.46 ic	---	---	---	0.00	---	---	---	---	---	1.46
2.70	5,674	560.20	1.48 ic	---	---	---	0.00	---	---	---	---	---	1.48
2.75	5,750	560.25	1.49 ic	---	---	---	0.00	---	---	---	---	---	1.49
2.80	5,827	560.30	1.51 ic	---	---	---	0.00	---	---	---	---	---	1.51
2.85	5,903	560.35	1.52 ic	---	---	---	0.00	---	---	---	---	---	1.52
2.90	5,979	560.40	1.54 ic	---	---	---	0.00	---	---	---	---	---	1.54
2.95	6,056	560.45	1.55 ic	---	---	---	0.00	---	---	---	---	---	1.55
3.00	6,132	560.50	1.57 ic	---	---	---	0.00	---	---	---	---	---	1.57
3.05	6,193	560.55	1.58 ic	---	---	---	0.19	---	---	---	---	---	1.77
3.10	6,254	560.60	1.60 ic	---	---	---	0.53	---	---	---	---	---	2.12
3.15	6,315	560.65	1.61 ic	---	---	---	0.97	---	---	---	---	---	2.58
3.20	6,376	560.70	1.62 ic	---	---	---	1.49	---	---	---	---	---	3.11
3.25	6,437	560.75	1.64 ic	---	---	---	2.08	---	---	---	---	---	3.72
3.30	6,497	560.80	1.65 ic	---	---	---	2.73	---	---	---	---	---	4.39
3.35	6,558	560.85	1.66 ic	---	---	---	3.45	---	---	---	---	---	5.11
3.40	6,619	560.90	1.68 ic	---	---	---	4.21	---	---	---	---	---	5.89
3.45	6,680	560.95	1.69 ic	---	---	---	5.02	---	---	---	---	---	6.72
3.50	6,741	561.00	1.70 ic	---	---	---	5.89	---	---	---	---	---	7.59

...End

Hydrograph Report

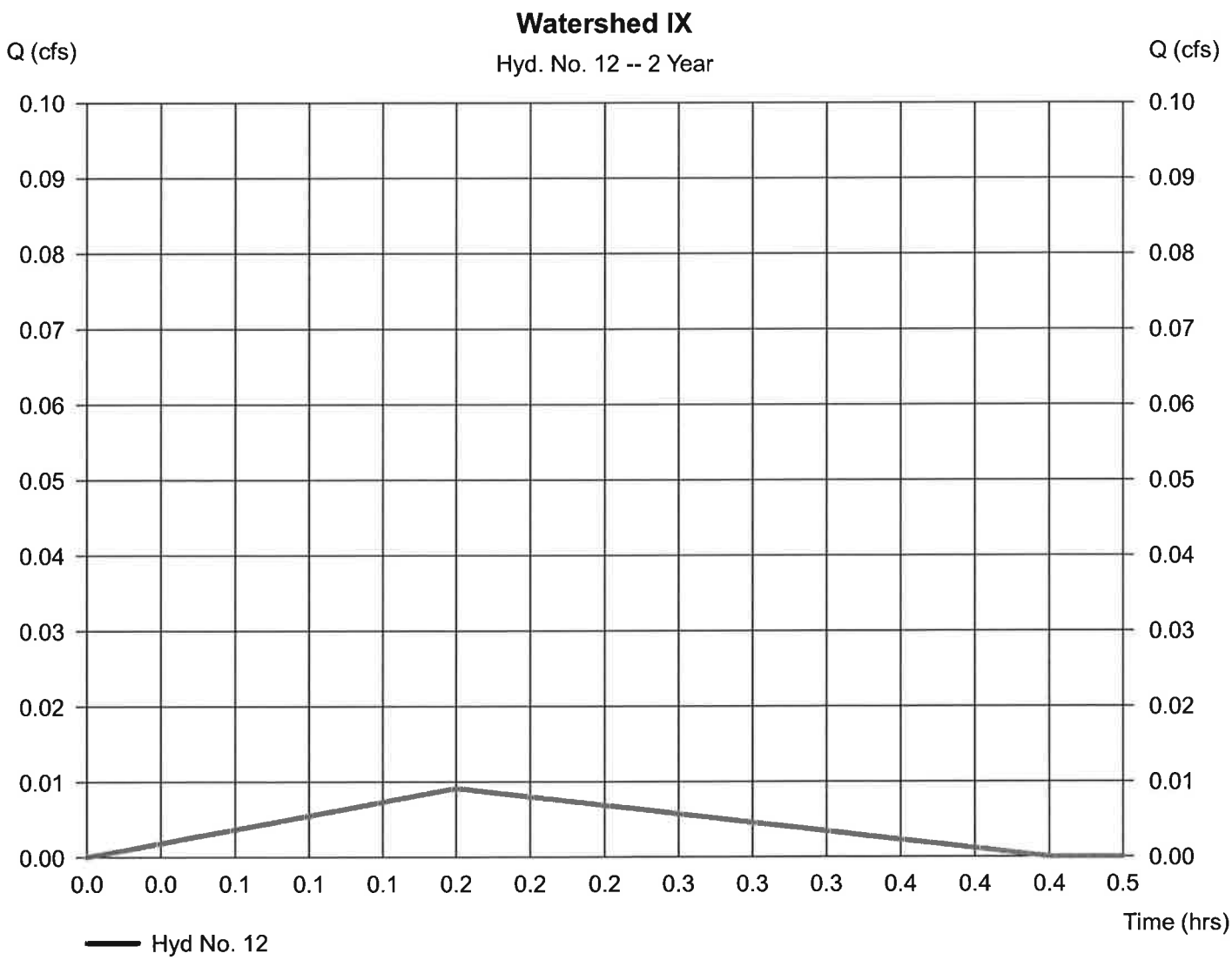
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 12

Watershed IX

Hydrograph type	= Rational	Peak discharge	= 0.009 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 7 cuft
Drainage area	= 0.260 ac	Runoff coeff.	= 0.01*
Intensity	= 3.486 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.010 x 0.30)] / 0.260



Hydrograph Report

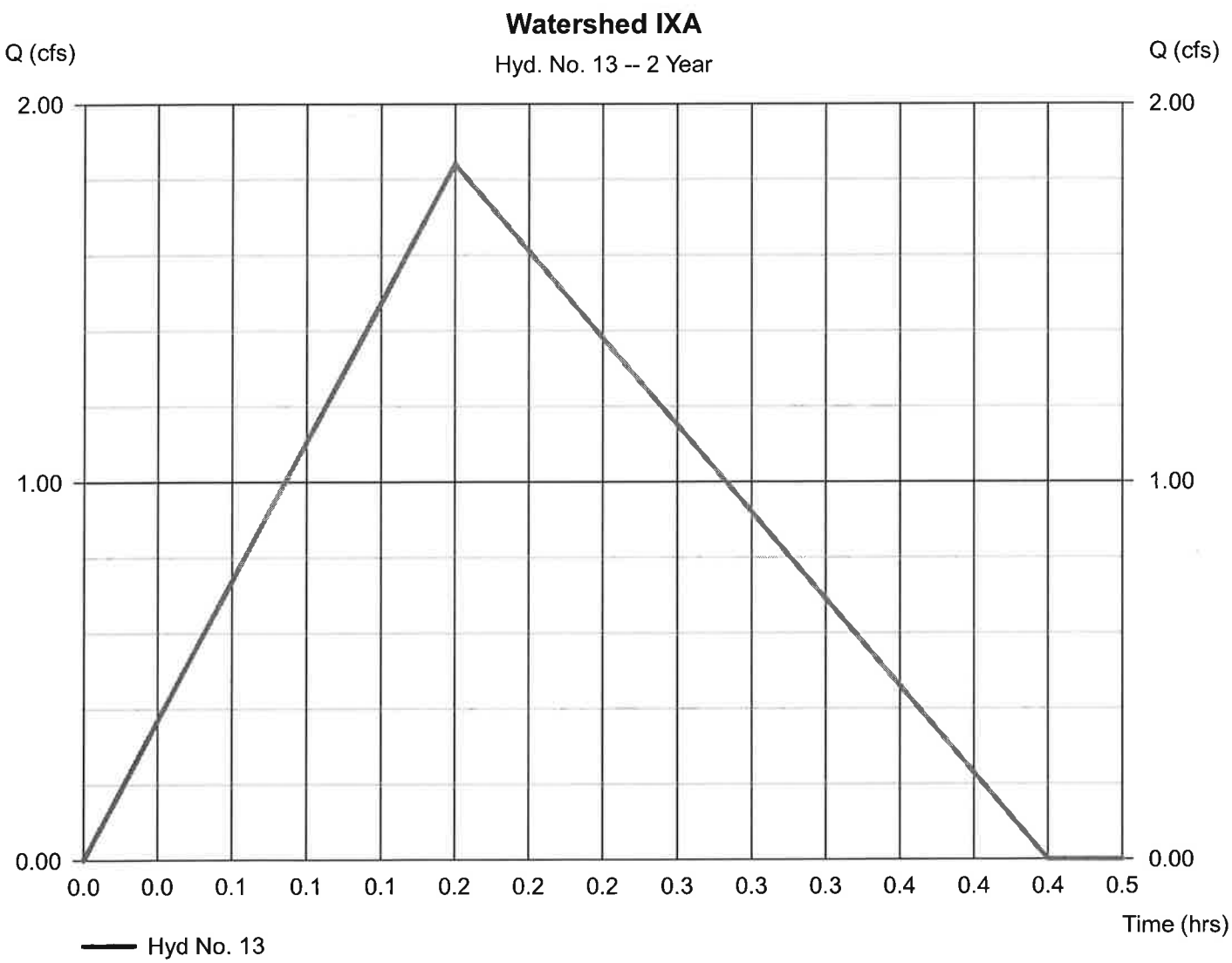
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 13

Watershed IXA

Hydrograph type	= Rational	Peak discharge	= 1.841 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 1,474 cuft
Drainage area	= 0.880 ac	Runoff coeff.	= 0.6*
Intensity	= 3.486 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.460 x 0.90) + (0.260 x 0.30) + (0.160 x 0.20)] / 0.880



Hydrograph Report

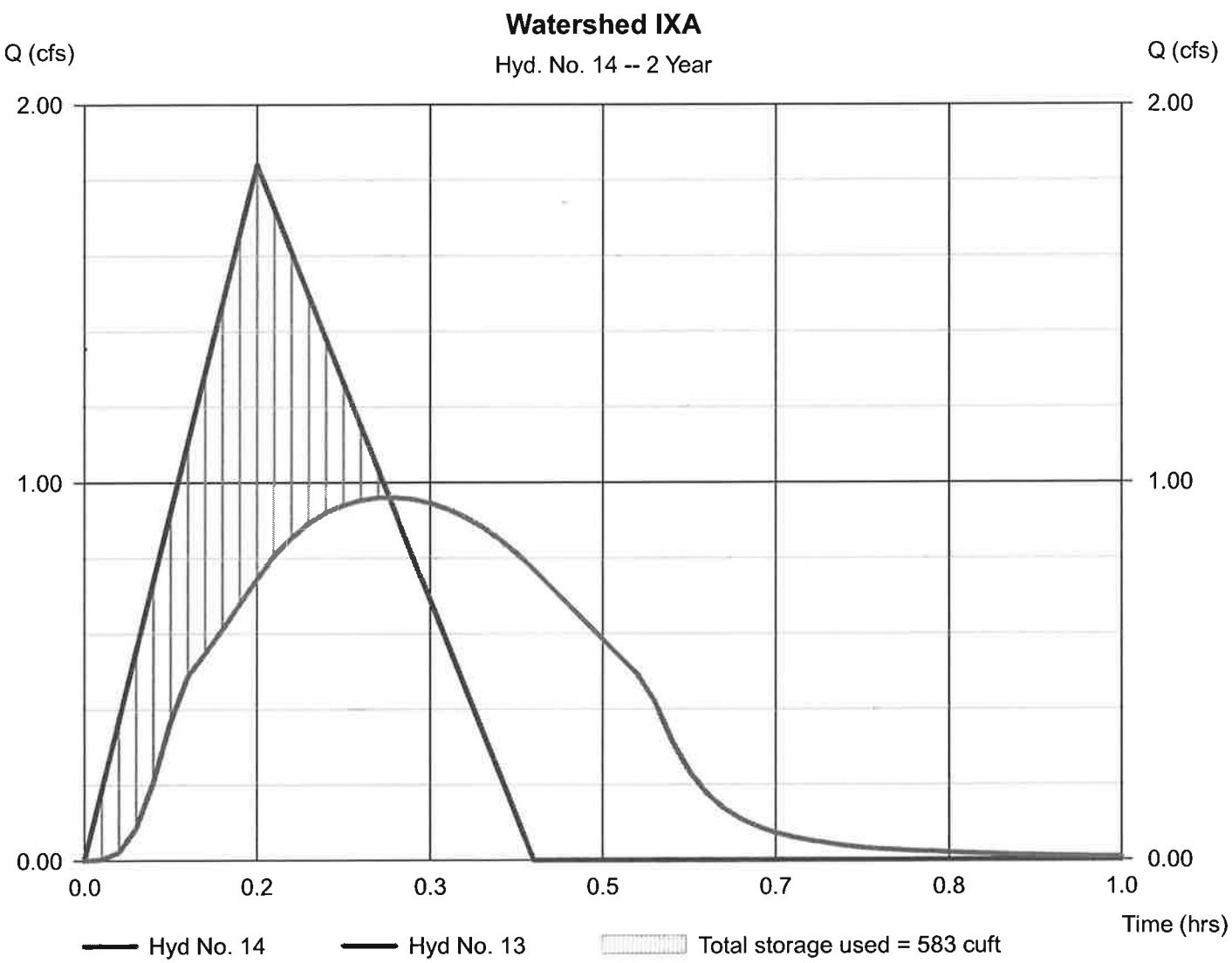
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 14

Watershed IXA

Hydrograph type	= Reservoir	Peak discharge	= 0.960 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.30 hrs
Time interval	= 1 min	Hyd. volume	= 1,434 cuft
Inflow hyd. No.	= 13 - Watershed IXA	Max. Elevation	= 553.45 ft
Reservoir name	= Waatershed IXA	Max. Storage	= 583 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Pond No. 22 - Waatershed IXA

Pond Data

Pond storage is based on user-defined values.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	552.17	n/a	0	0
0.50	552.67	n/a	135	135
1.00	553.17	n/a	291	426
1.50	553.67	n/a	278	704
2.00	554.17	n/a	259	963
2.50	554.67	n/a	230	1,193
3.00	555.17	n/a	169	1,362
3.50	555.67	n/a	136	1,498

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 6.00	0.00	0.00	0.00
Span (in)	= 6.00	0.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 552.17	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)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 555.17	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	552.17	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.05	14	552.22	0.01 ic	---	---	---	0.00	---	---	---	---	---	0.01
0.10	27	552.27	0.03 ic	---	---	---	0.00	---	---	---	---	---	0.03
0.15	41	552.32	0.07 ic	---	---	---	0.00	---	---	---	---	---	0.07
0.20	54	552.37	0.11 ic	---	---	---	0.00	---	---	---	---	---	0.11
0.25	68	552.42	0.17 ic	---	---	---	0.00	---	---	---	---	---	0.17
0.30	81	552.47	0.23 ic	---	---	---	0.00	---	---	---	---	---	0.23
0.35	95	552.52	0.30 ic	---	---	---	0.00	---	---	---	---	---	0.30
0.40	108	552.57	0.36 ic	---	---	---	0.00	---	---	---	---	---	0.36
0.45	122	552.62	0.43 ic	---	---	---	0.00	---	---	---	---	---	0.43
0.50	135	552.67	0.47 ic	---	---	---	0.00	---	---	---	---	---	0.47
0.55	164	552.72	0.52 ic	---	---	---	0.00	---	---	---	---	---	0.52
0.60	193	552.77	0.56 ic	---	---	---	0.00	---	---	---	---	---	0.56
0.65	222	552.82	0.60 ic	---	---	---	0.00	---	---	---	---	---	0.60
0.70	251	552.87	0.63 ic	---	---	---	0.00	---	---	---	---	---	0.63
0.75	281	552.92	0.67 ic	---	---	---	0.00	---	---	---	---	---	0.67
0.80	310	552.97	0.70 ic	---	---	---	0.00	---	---	---	---	---	0.70
0.85	339	553.02	0.73 ic	---	---	---	0.00	---	---	---	---	---	0.73
0.90	368	553.07	0.76 ic	---	---	---	0.00	---	---	---	---	---	0.76
0.95	397	553.12	0.79 ic	---	---	---	0.00	---	---	---	---	---	0.79
1.00	426	553.17	0.82 ic	---	---	---	0.00	---	---	---	---	---	0.82
1.05	454	553.22	0.85 ic	---	---	---	0.00	---	---	---	---	---	0.85
1.10	482	553.27	0.87 ic	---	---	---	0.00	---	---	---	---	---	0.87
1.15	509	553.32	0.90 ic	---	---	---	0.00	---	---	---	---	---	0.90
1.20	537	553.37	0.92 ic	---	---	---	0.00	---	---	---	---	---	0.92
1.25	565	553.42	0.95 ic	---	---	---	0.00	---	---	---	---	---	0.95
1.30	593	553.47	0.97 ic	---	---	---	0.00	---	---	---	---	---	0.97
1.35	621	553.52	0.99 ic	---	---	---	0.00	---	---	---	---	---	0.99
1.40	648	553.57	1.01 ic	---	---	---	0.00	---	---	---	---	---	1.01
1.45	676	553.62	1.04 ic	---	---	---	0.00	---	---	---	---	---	1.04
1.50	704	553.67	1.06 ic	---	---	---	0.00	---	---	---	---	---	1.06
1.55	730	553.72	1.08 ic	---	---	---	0.00	---	---	---	---	---	1.08
1.60	756	553.77	1.10 ic	---	---	---	0.00	---	---	---	---	---	1.10
1.65	782	553.82	1.12 ic	---	---	---	0.00	---	---	---	---	---	1.12

Continues on next page...

Waatershed IXA

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
1.70	808	553.87	1.14 ic	---	---	---	0.00	---	---	---	---	---	1.14
1.75	834	553.92	1.16 ic	---	---	---	0.00	---	---	---	---	---	1.16
1.80	859	553.97	1.18 ic	---	---	---	0.00	---	---	---	---	---	1.18
1.85	885	554.02	1.20 ic	---	---	---	0.00	---	---	---	---	---	1.20
1.90	911	554.07	1.21 ic	---	---	---	0.00	---	---	---	---	---	1.21
1.95	937	554.12	1.23 ic	---	---	---	0.00	---	---	---	---	---	1.23
2.00	963	554.17	1.25 ic	---	---	---	0.00	---	---	---	---	---	1.25
2.05	986	554.22	1.27 ic	---	---	---	0.00	---	---	---	---	---	1.27
2.10	1,009	554.27	1.29 ic	---	---	---	0.00	---	---	---	---	---	1.29
2.15	1,032	554.32	1.30 ic	---	---	---	0.00	---	---	---	---	---	1.30
2.20	1,055	554.37	1.32 ic	---	---	---	0.00	---	---	---	---	---	1.32
2.25	1,078	554.42	1.34 ic	---	---	---	0.00	---	---	---	---	---	1.34
2.30	1,101	554.47	1.35 ic	---	---	---	0.00	---	---	---	---	---	1.35
2.35	1,124	554.52	1.37 ic	---	---	---	0.00	---	---	---	---	---	1.37
2.40	1,147	554.57	1.39 ic	---	---	---	0.00	---	---	---	---	---	1.39
2.45	1,170	554.62	1.40 ic	---	---	---	0.00	---	---	---	---	---	1.40
2.50	1,193	554.67	1.42 ic	---	---	---	0.00	---	---	---	---	---	1.42
2.55	1,210	554.72	1.43 ic	---	---	---	0.00	---	---	---	---	---	1.43
2.60	1,227	554.77	1.45 ic	---	---	---	0.00	---	---	---	---	---	1.45
2.65	1,244	554.82	1.46 ic	---	---	---	0.00	---	---	---	---	---	1.46
2.70	1,261	554.87	1.48 ic	---	---	---	0.00	---	---	---	---	---	1.48
2.75	1,278	554.92	1.49 ic	---	---	---	0.00	---	---	---	---	---	1.49
2.80	1,294	554.97	1.51 ic	---	---	---	0.00	---	---	---	---	---	1.51
2.85	1,311	555.02	1.52 ic	---	---	---	0.00	---	---	---	---	---	1.52
2.90	1,328	555.07	1.54 ic	---	---	---	0.00	---	---	---	---	---	1.54
2.95	1,345	555.12	1.55 ic	---	---	---	0.00	---	---	---	---	---	1.55
3.00	1,362	555.17	1.57 ic	---	---	---	0.00	---	---	---	---	---	1.57
3.05	1,376	555.22	1.58 ic	---	---	---	0.19	---	---	---	---	---	1.77
3.10	1,389	555.27	1.60 ic	---	---	---	0.53	---	---	---	---	---	2.12
3.15	1,403	555.32	1.61 ic	---	---	---	0.97	---	---	---	---	---	2.58
3.20	1,416	555.37	1.62 ic	---	---	---	1.49	---	---	---	---	---	3.11
3.25	1,430	555.42	1.64 ic	---	---	---	2.08	---	---	---	---	---	3.72
3.30	1,444	555.47	1.65 ic	---	---	---	2.73	---	---	---	---	---	4.39
3.35	1,457	555.52	1.66 ic	---	---	---	3.45	---	---	---	---	---	5.11
3.40	1,471	555.57	1.68 ic	---	---	---	4.21	---	---	---	---	---	5.89
3.45	1,484	555.62	1.69 ic	---	---	---	5.02	---	---	---	---	---	6.72
3.50	1,498	555.67	1.70 ic	---	---	---	5.89	---	---	---	---	---	7.59

...End

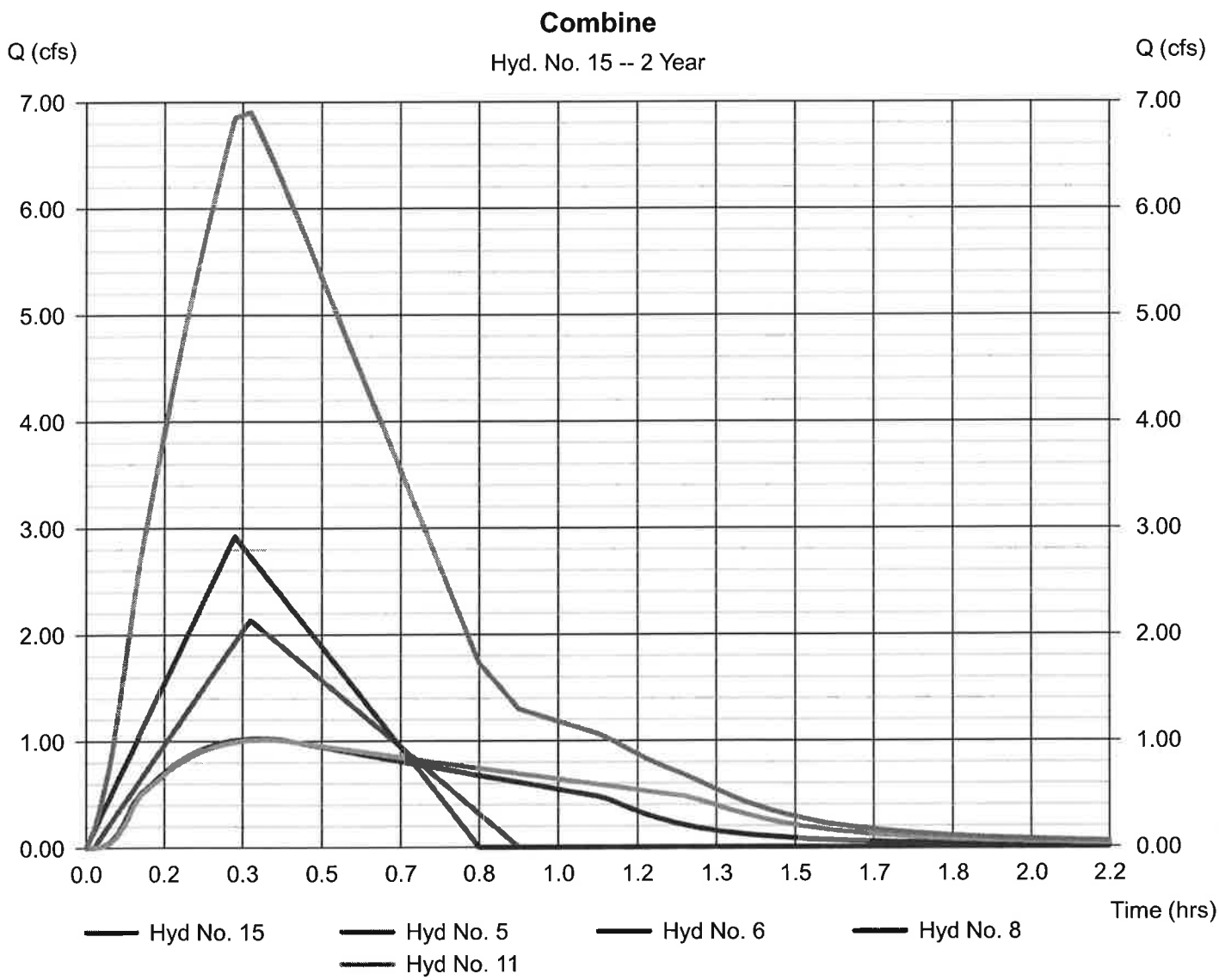
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 15

Combine

Hydrograph type	= Combine	Peak discharge	= 6.903 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.35 hrs
Time interval	= 1 min	Hyd. volume	= 14,995 cuft
Inflow hyds.	= 5, 6, 8, 11	Contrib. drain. area	= 5.740 ac



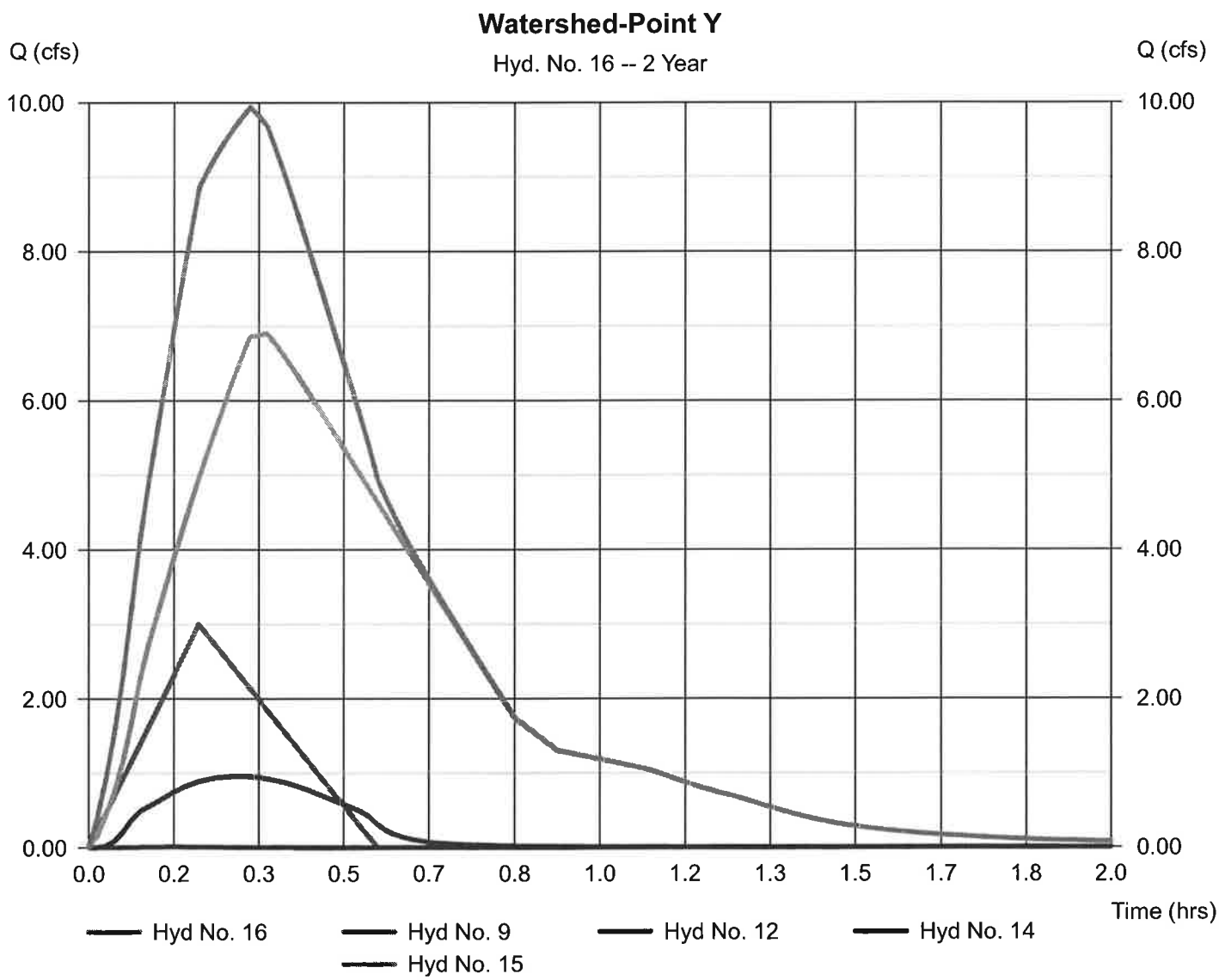
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 16

Watershed-Point Y

Hydrograph type	= Combine	Peak discharge	= 9.940 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 19,488 cuft
Inflow hyds.	= 9, 12, 14, 15	Contrib. drain. area	= 3.510 ac



Hydrograph Report

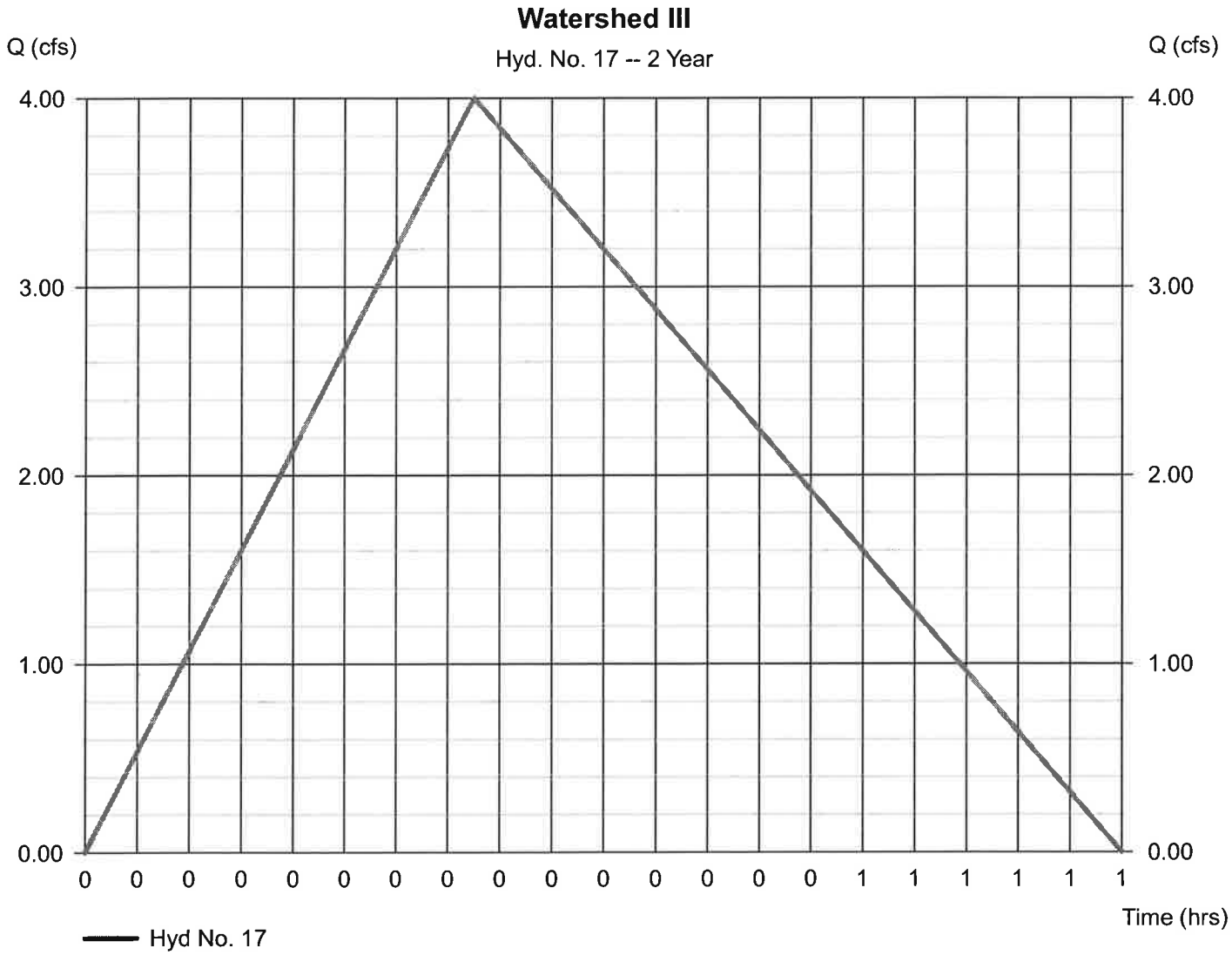
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 17

Watershed III

Hydrograph type	= Rational	Peak discharge	= 3.999 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.25 hrs
Time interval	= 1 min	Hyd. volume	= 4,804 cuft
Drainage area	= 2.700 ac	Runoff coeff.	= 0.52*
Intensity	= 2.848 in/hr	Tc by TR55	= 15.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.000 x 0.90) + (1.700 x 0.30)] / 2.700



TR55 Tc Worksheet

Hyd. No. 17

Watershed III

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.240		0.016		0.011		
Flow length (ft)	=	95.0		75.0		0.0		
Two-year 24-hr precip. (in)	=	3.20		3.20		0.00		
Land slope (%)	=	3.15		5.33		0.00		
Travel Time (min)	**=**	**11.42**	**+**	**0.88**	**+**	**0.00**	**=**	**12.30**
Shallow Concentrated Flow								
Flow length (ft)	=	286.00		0.00		0.00		
Watercourse slope (%)	=	4.37		0.00		0.00		
Surface description	=	Paved		Paved		Paved		
Average velocity (ft/s)	=	4.25		0.00		0.00		
Travel Time (min)	**=**	**1.12**	**+**	**0.00**	**+**	**0.00**	**=**	**1.12**
Channel Flow								
X sectional flow area (sqft)	=	1.23		0.00		0.00		
Wetted perimeter (ft)	=	3.93		0.00		0.00		
Channel slope (%)	=	1.65		0.00		0.00		
Manning's n-value	=	0.015		0.000		0.015		
Velocity (ft/s)	=	5.85		0.00		0.00		
Flow length (ft)	=	543.0		0.0		0.0		
Travel Time (min)	**=**	**1.55**	**+**	**0.00**	**+**	**0.00**	**=**	**1.55**

Total Travel Time, Tc ..... 15.00 min

Hydrograph Report

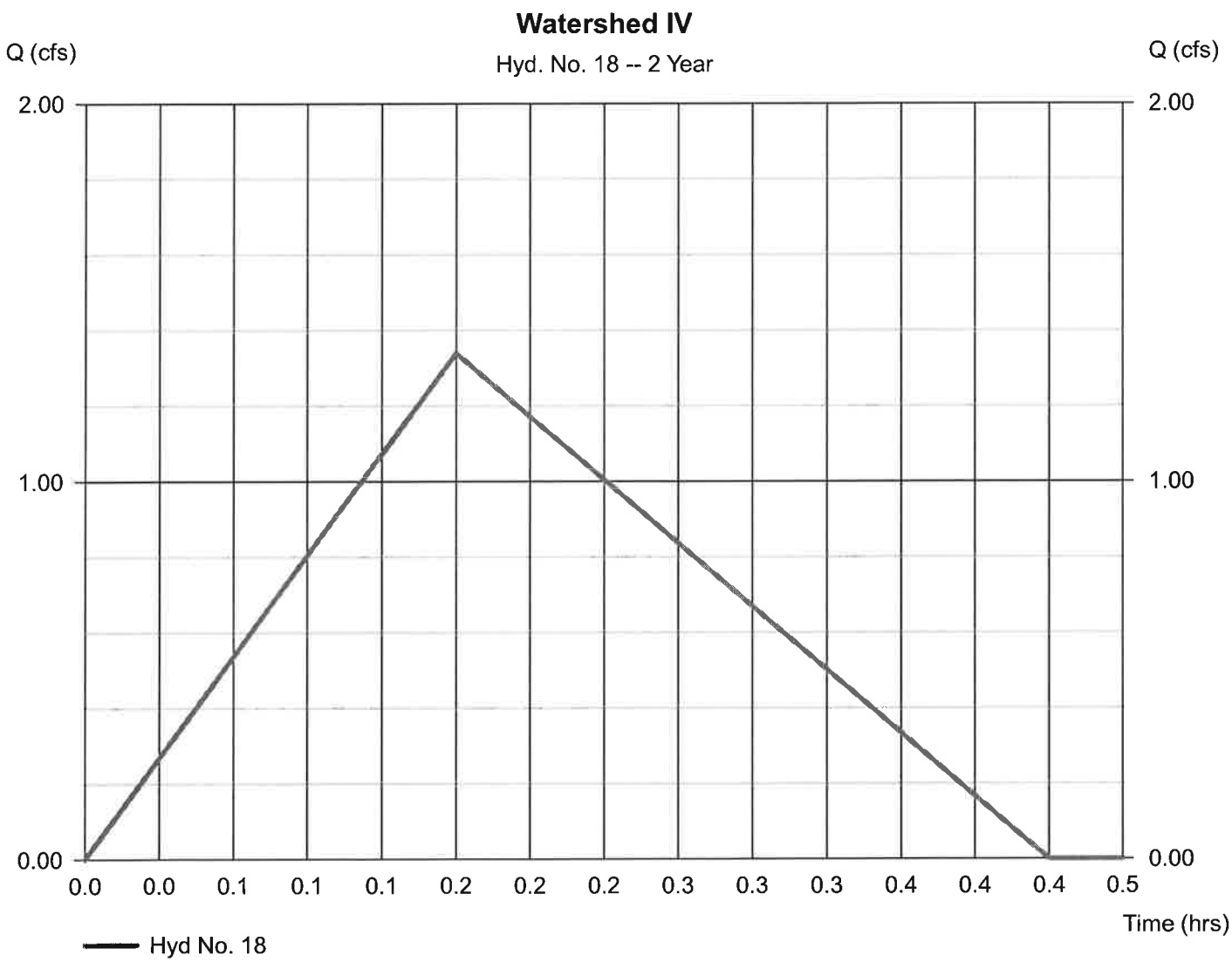
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 18

Watershed IV

Hydrograph type	= Rational	Peak discharge	= 1.339 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 1,072 cuft
Drainage area	= 0.800 ac	Runoff coeff.	= 0.48*
Intensity	= 3.486 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.260 x 0.90) + (0.440 x 0.30) + (0.100 x 0.20)] / 0.800



Hydrograph Report

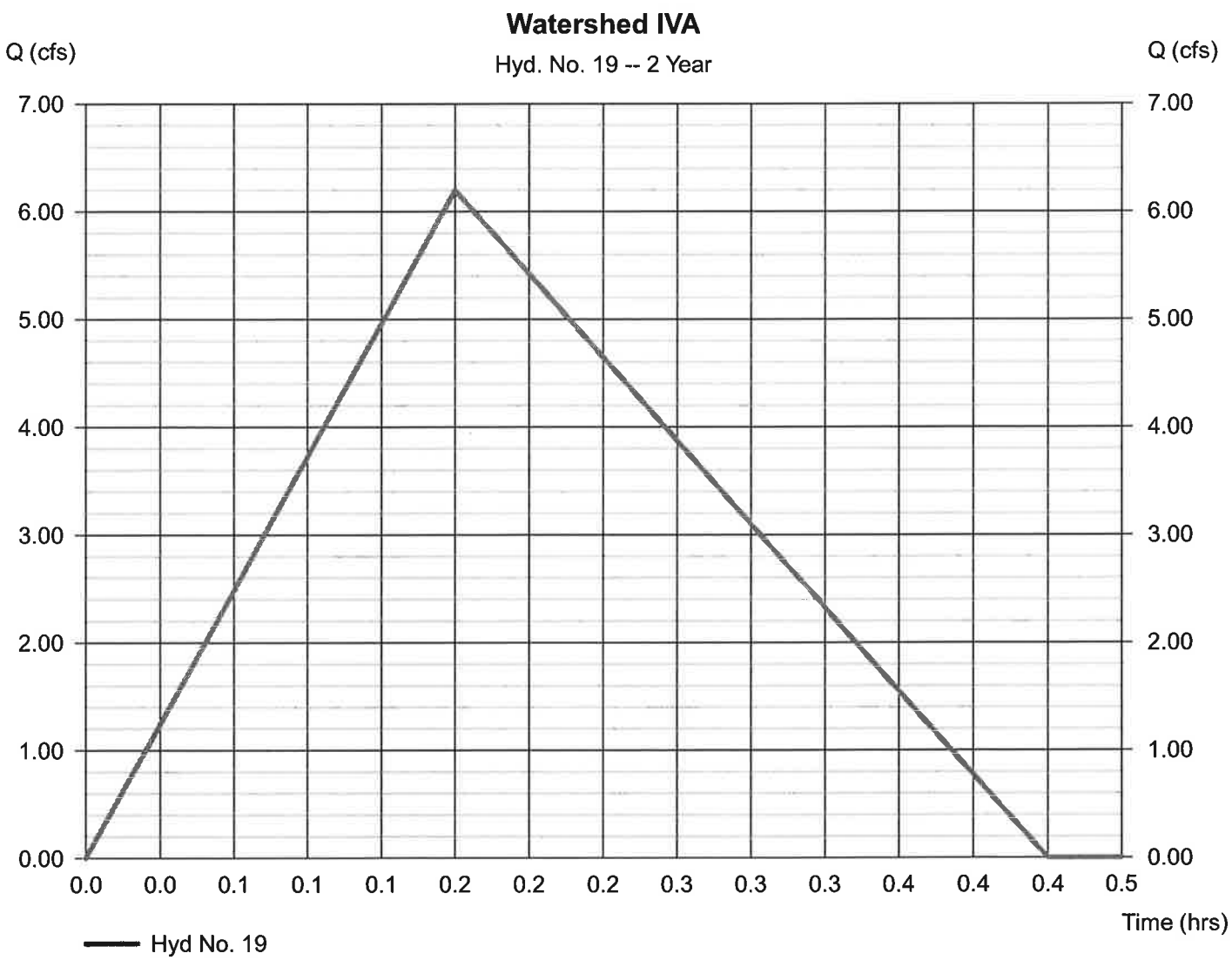
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 19

Watershed IVA

Hydrograph type	= Rational	Peak discharge	= 6.196 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 4,963 cuft
Drainage area	= 2.370 ac	Runoff coeff.	= 0.75*
Intensity	= 3.486 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.770 x 0.90) + (0.600 x 0.30)] / 2.370



Hydrograph Report

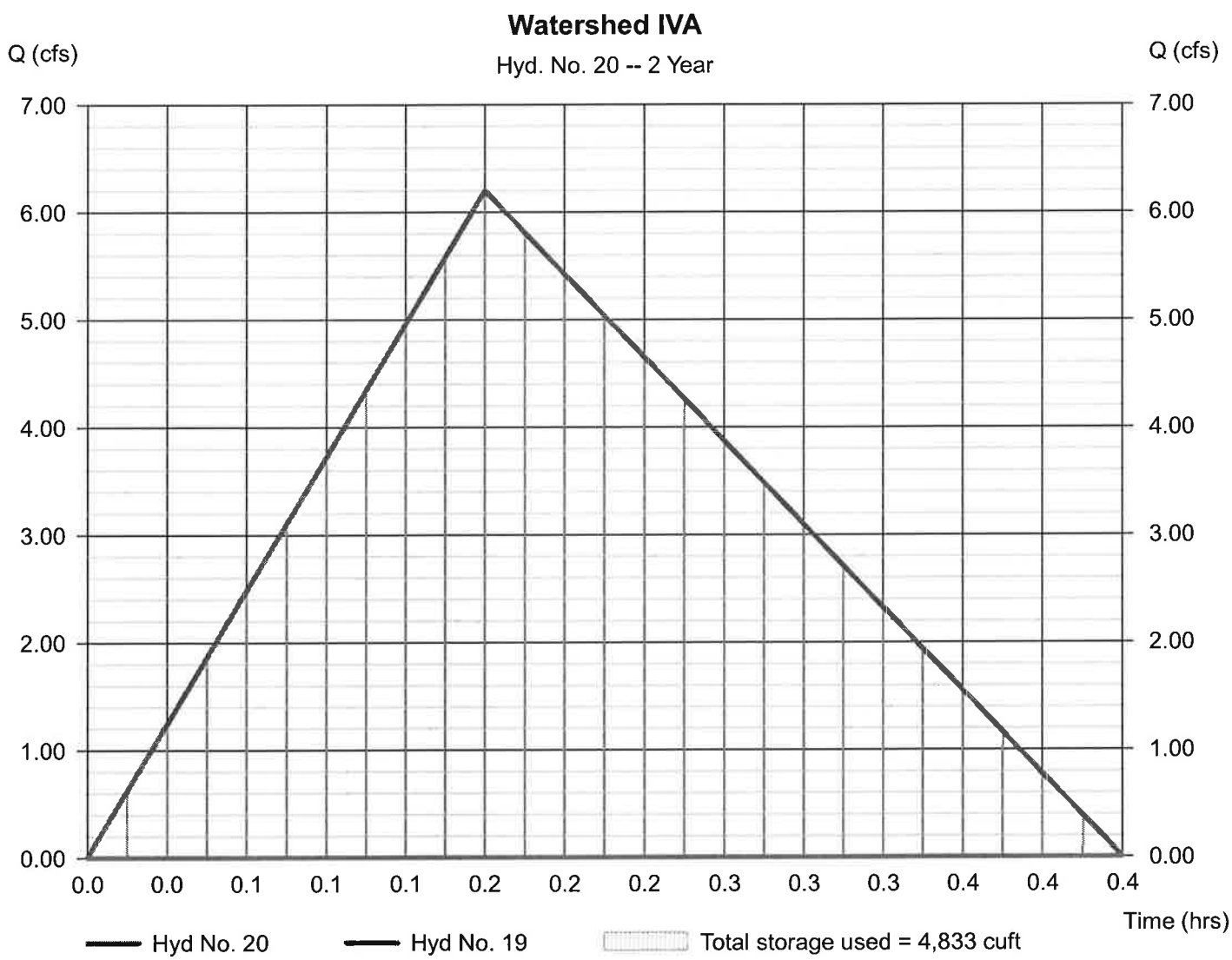
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 20

Watershed IVA

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 2 yrs	Time to peak	= n/a
Time interval	= 1 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 19 - Watershed IVA	Max. Elevation	= 552.51 ft
Reservoir name	= Watershed IVA	Max. Storage	= 4,833 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Pond No. 18 - Watershed IVA

Pond Data

Pond storage is based on user-defined values.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	550.50	n/a	0	0
0.50	551.00	n/a	676	676
1.00	551.50	n/a	1,455	2,131
1.50	552.00	n/a	1,392	3,523
2.00	552.50	n/a	1,296	4,819
2.50	553.00	n/a	1,147	5,966
3.00	553.50	n/a	848	6,814
3.50	554.00	n/a	676	7,490

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	Inactive	0.00	0.00	0.00
Span (in)	= 6.00	0.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 550.50	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)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 553.50	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	550.50	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.05	68	550.55	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.10	135	550.60	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.15	203	550.65	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.20	270	550.70	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.25	338	550.75	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.30	406	550.80	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.35	473	550.85	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.40	541	550.90	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.45	608	550.95	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.50	676	551.00	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.55	822	551.05	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.60	967	551.10	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.65	1,113	551.15	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.70	1,258	551.20	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.75	1,404	551.25	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.80	1,549	551.30	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.85	1,695	551.35	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.90	1,840	551.40	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.95	1,986	551.45	0.00	---	---	---	0.00	---	---	---	---	---	0.00
1.00	2,131	551.50	0.00	---	---	---	0.00	---	---	---	---	---	0.00
1.05	2,270	551.55	0.00	---	---	---	0.00	---	---	---	---	---	0.00
1.10	2,409	551.60	0.00	---	---	---	0.00	---	---	---	---	---	0.00
1.15	2,549	551.65	0.00	---	---	---	0.00	---	---	---	---	---	0.00
1.20	2,688	551.70	0.00	---	---	---	0.00	---	---	---	---	---	0.00
1.25	2,827	551.75	0.00	---	---	---	0.00	---	---	---	---	---	0.00
1.30	2,966	551.80	0.00	---	---	---	0.00	---	---	---	---	---	0.00
1.35	3,105	551.85	0.00	---	---	---	0.00	---	---	---	---	---	0.00
1.40	3,245	551.90	0.00	---	---	---	0.00	---	---	---	---	---	0.00
1.45	3,384	551.95	0.00	---	---	---	0.00	---	---	---	---	---	0.00
1.50	3,523	552.00	0.00	---	---	---	0.00	---	---	---	---	---	0.00
1.55	3,653	552.05	0.00	---	---	---	0.00	---	---	---	---	---	0.00
1.60	3,782	552.10	0.00	---	---	---	0.00	---	---	---	---	---	0.00
1.65	3,912	552.15	0.00	---	---	---	0.00	---	---	---	---	---	0.00

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Watershed IVA

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
1.70	4,041	552.20	0.00	---	---	---	0.00	---	---	---	---	---	0.00
1.75	4,171	552.25	0.00	---	---	---	0.00	---	---	---	---	---	0.00
1.80	4,301	552.30	0.00	---	---	---	0.00	---	---	---	---	---	0.00
1.85	4,430	552.35	0.00	---	---	---	0.00	---	---	---	---	---	0.00
1.90	4,560	552.40	0.00	---	---	---	0.00	---	---	---	---	---	0.00
1.95	4,689	552.45	0.00	---	---	---	0.00	---	---	---	---	---	0.00
2.00	4,819	552.50	0.00	---	---	---	0.00	---	---	---	---	---	0.00
2.05	4,934	552.55	0.00	---	---	---	0.00	---	---	---	---	---	0.00
2.10	5,048	552.60	0.00	---	---	---	0.00	---	---	---	---	---	0.00
2.15	5,163	552.65	0.00	---	---	---	0.00	---	---	---	---	---	0.00
2.20	5,278	552.70	0.00	---	---	---	0.00	---	---	---	---	---	0.00
2.25	5,393	552.75	0.00	---	---	---	0.00	---	---	---	---	---	0.00
2.30	5,507	552.80	0.00	---	---	---	0.00	---	---	---	---	---	0.00
2.35	5,622	552.85	0.00	---	---	---	0.00	---	---	---	---	---	0.00
2.40	5,737	552.90	0.00	---	---	---	0.00	---	---	---	---	---	0.00
2.45	5,851	552.95	0.00	---	---	---	0.00	---	---	---	---	---	0.00
2.50	5,966	553.00	0.00	---	---	---	0.00	---	---	---	---	---	0.00
2.55	6,051	553.05	0.00	---	---	---	0.00	---	---	---	---	---	0.00
2.60	6,136	553.10	0.00	---	---	---	0.00	---	---	---	---	---	0.00
2.65	6,220	553.15	0.00	---	---	---	0.00	---	---	---	---	---	0.00
2.70	6,305	553.20	0.00	---	---	---	0.00	---	---	---	---	---	0.00
2.75	6,390	553.25	0.00	---	---	---	0.00	---	---	---	---	---	0.00
2.80	6,475	553.30	0.00	---	---	---	0.00	---	---	---	---	---	0.00
2.85	6,560	553.35	0.00	---	---	---	0.00	---	---	---	---	---	0.00
2.90	6,644	553.40	0.00	---	---	---	0.00	---	---	---	---	---	0.00
2.95	6,729	553.45	0.00	---	---	---	0.00	---	---	---	---	---	0.00
3.00	6,814	553.50	0.00	---	---	---	0.00	---	---	---	---	---	0.00
3.05	6,882	553.55	0.00	---	---	---	0.19	---	---	---	---	---	0.19
3.10	6,949	553.60	0.00	---	---	---	0.53	---	---	---	---	---	0.53
3.15	7,017	553.65	0.00	---	---	---	0.97	---	---	---	---	---	0.97
3.20	7,084	553.70	0.00	---	---	---	1.49	---	---	---	---	---	1.49
3.25	7,152	553.75	0.00	---	---	---	2.08	---	---	---	---	---	2.08
3.30	7,220	553.80	0.00	---	---	---	2.73	---	---	---	---	---	2.73
3.35	7,287	553.85	0.00	---	---	---	3.45	---	---	---	---	---	3.45
3.40	7,355	553.90	0.00	---	---	---	4.21	---	---	---	---	---	4.21
3.45	7,422	553.95	0.00	---	---	---	5.02	---	---	---	---	---	5.02
3.50	7,490	554.00	0.00	---	---	---	5.89	---	---	---	---	---	5.89

...End

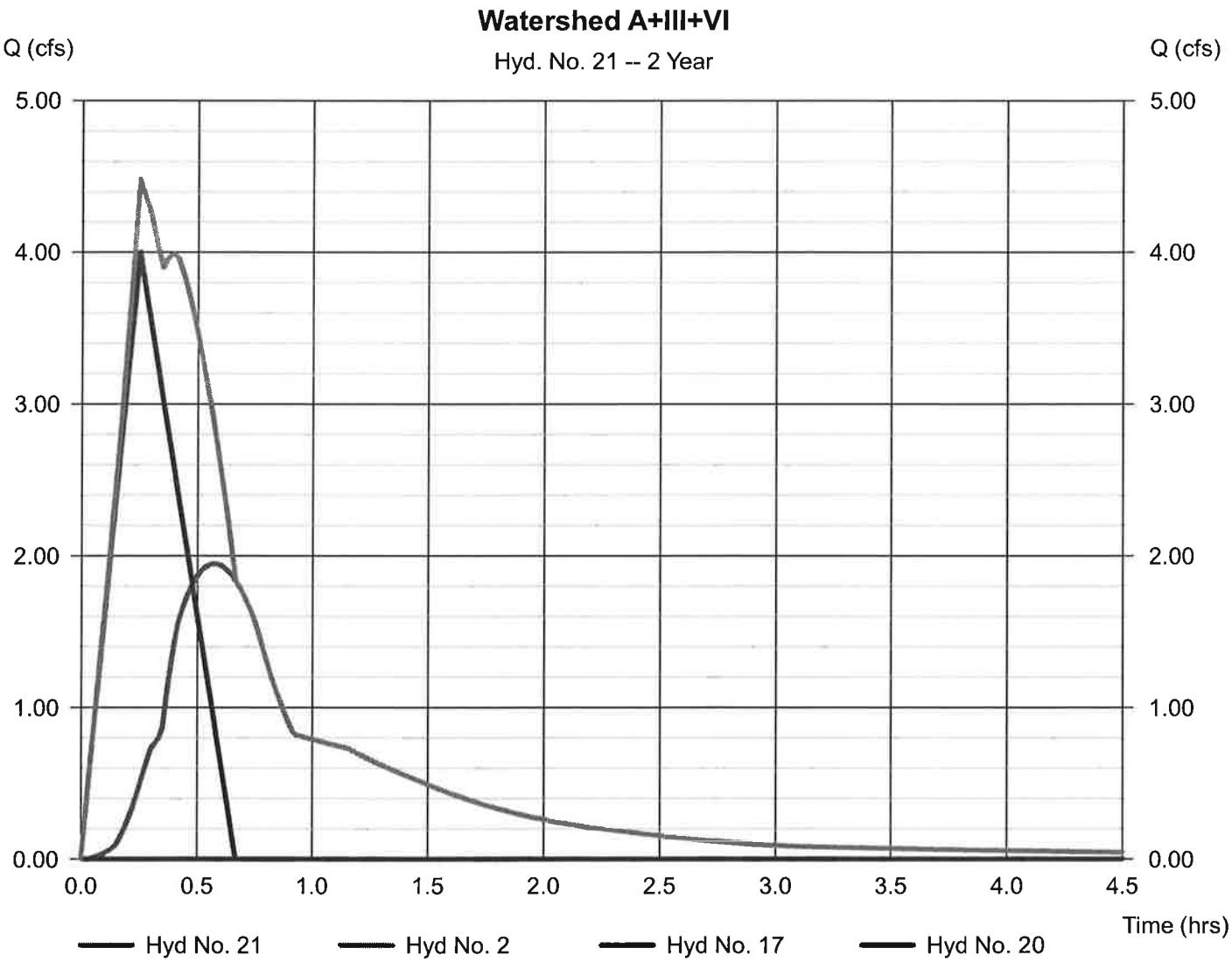
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 21

Watershed A+III+VI

Hydrograph type	= Combine	Peak discharge	= 4.482 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.25 hrs
Time interval	= 1 min	Hyd. volume	= 11,673 cuft
Inflow hyds.	= 2, 17, 20	Contrib. drain. area	= 2.700 ac



Hydrograph Report

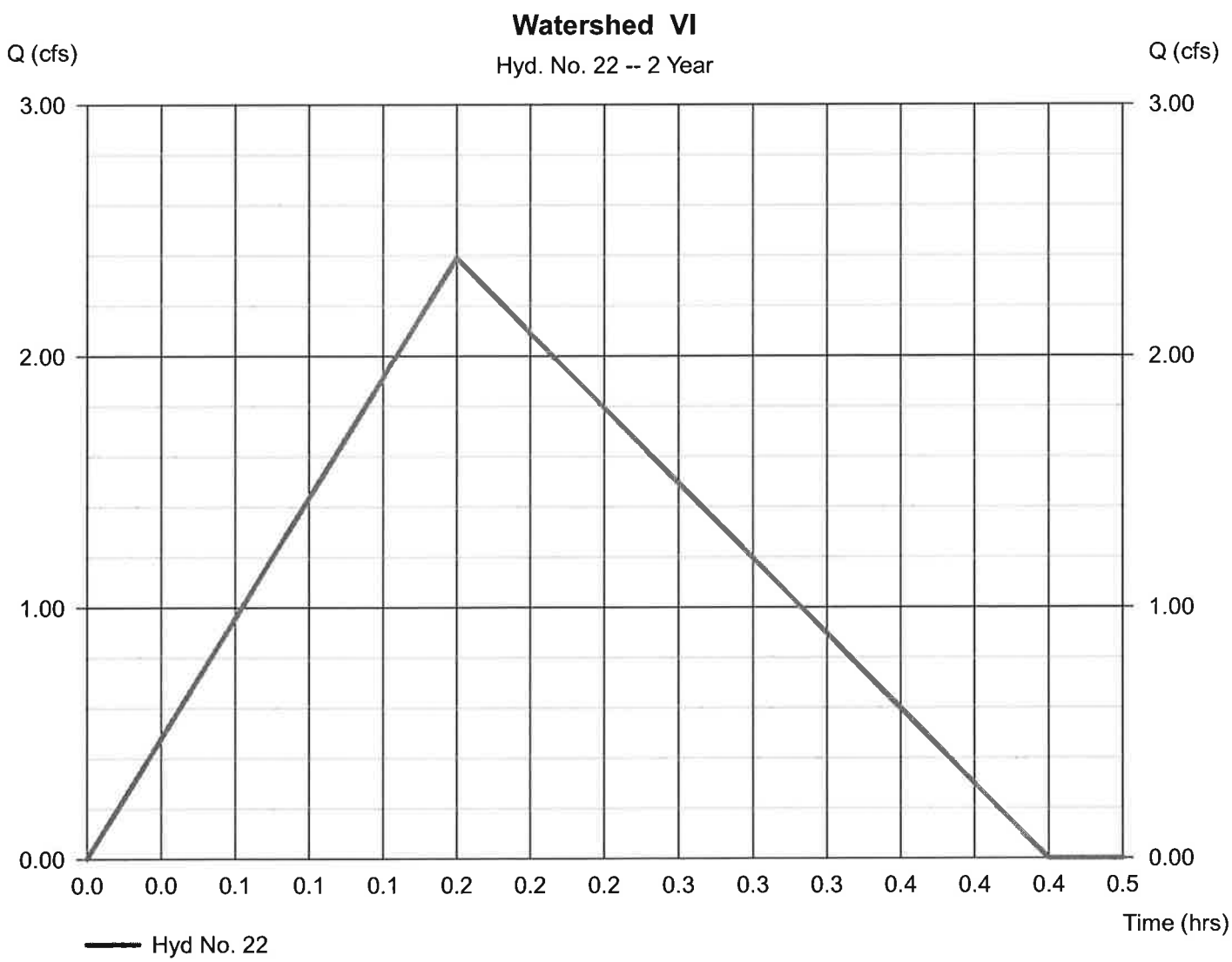
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 22

Watershed VI

Hydrograph type	= Rational	Peak discharge	= 2.389 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 1,914 cuft
Drainage area	= 1.490 ac	Runoff coeff.	= 0.46*
Intensity	= 3.486 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.400 x 0.90) + (1.090 x 0.30)] / 1.490



Hydrograph Report

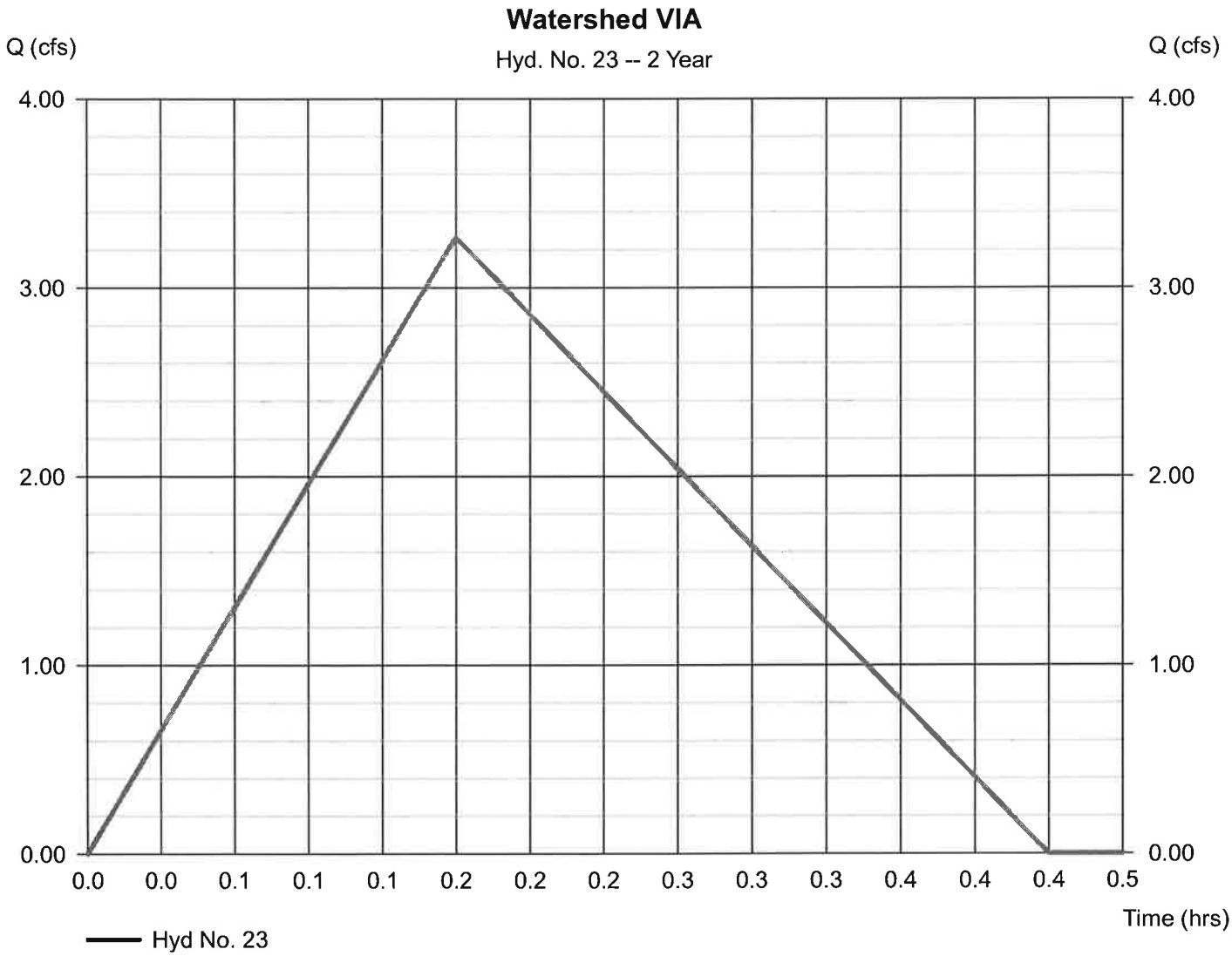
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 23

Watershed VIA

Hydrograph type	= Rational	Peak discharge	= 3.263 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 2,614 cuft
Drainage area	= 1.170 ac	Runoff coeff.	= 0.8*
Intensity	= 3.486 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.970 x 0.90) + (0.200 x 0.30)] / 1.170



Hydrograph Report

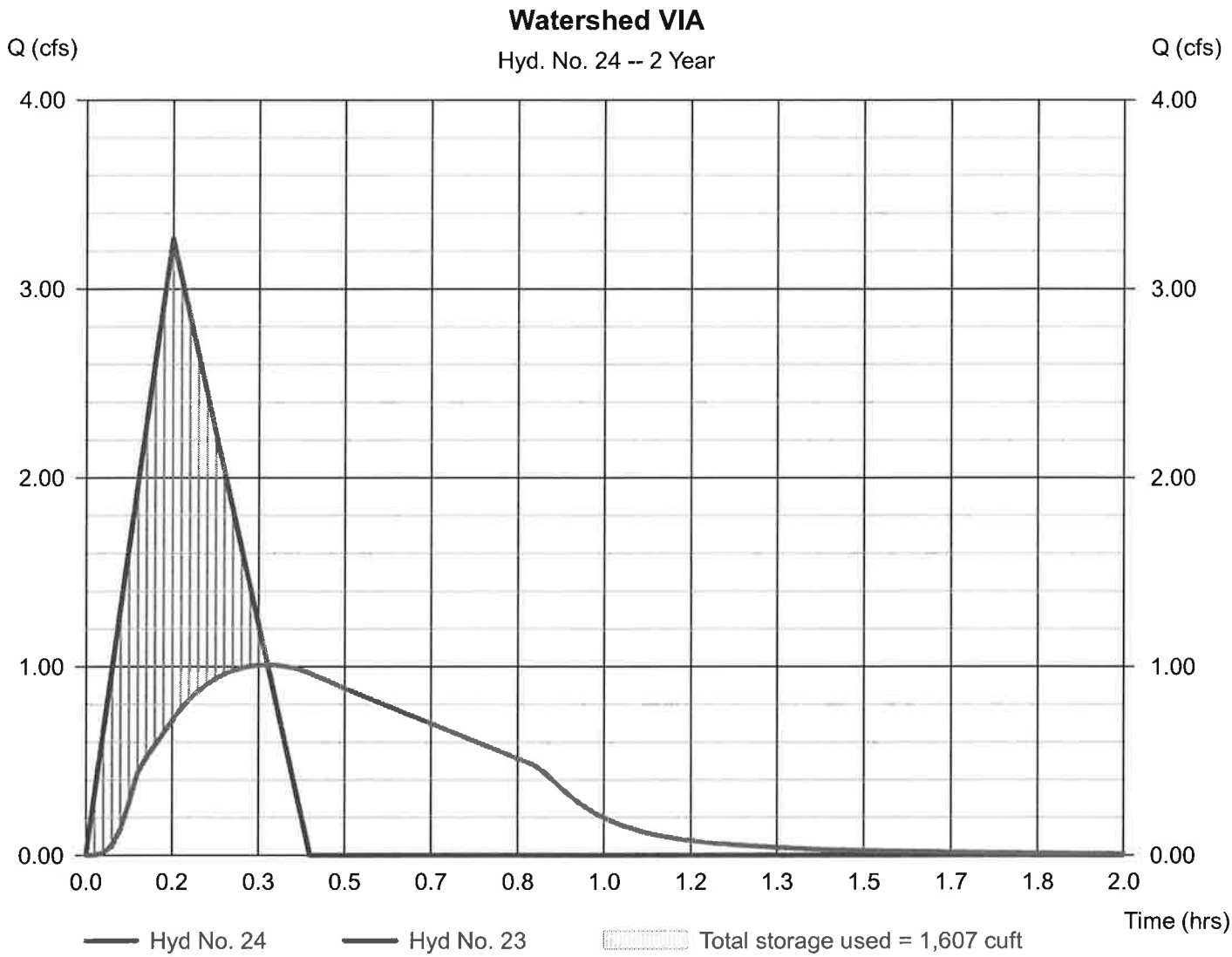
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 24

Watershed VIA

Hydrograph type	= Reservoir	Peak discharge	= 1.009 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.35 hrs
Time interval	= 1 min	Hyd. volume	= 2,541 cuft
Inflow hyd. No.	= 23 - Watershed VIA	Max. Elevation	= 549.89 ft
Reservoir name	= Watershed VIA	Max. Storage	= 1,607 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Pond No. 24 - Watershed VIA

Pond Data

Pond storage is based on user-defined values.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	548.50	n/a	0	0
0.50	549.00	n/a	338	338
1.00	549.50	n/a	727	1,065
1.50	550.00	n/a	696	1,761
2.00	550.50	n/a	648	2,409
2.50	551.00	n/a	574	2,983
3.00	551.50	n/a	424	3,407
3.50	552.00	n/a	338	3,745

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 6.00	0.00	0.00	0.00
Span (in)	= 6.00	0.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 548.50	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)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 551.50	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	548.50	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.05	34	548.55	0.01 ic	---	---	---	0.00	---	---	---	---	---	0.01
0.10	68	548.60	0.03 ic	---	---	---	0.00	---	---	---	---	---	0.03
0.15	101	548.65	0.07 ic	---	---	---	0.00	---	---	---	---	---	0.07
0.20	135	548.70	0.11 ic	---	---	---	0.00	---	---	---	---	---	0.11
0.25	169	548.75	0.17 ic	---	---	---	0.00	---	---	---	---	---	0.17
0.30	203	548.80	0.23 ic	---	---	---	0.00	---	---	---	---	---	0.23
0.35	237	548.85	0.30 ic	---	---	---	0.00	---	---	---	---	---	0.30
0.40	270	548.90	0.36 ic	---	---	---	0.00	---	---	---	---	---	0.36
0.45	304	548.95	0.43 ic	---	---	---	0.00	---	---	---	---	---	0.43
0.50	338	549.00	0.47 ic	---	---	---	0.00	---	---	---	---	---	0.47
0.55	411	549.05	0.52 ic	---	---	---	0.00	---	---	---	---	---	0.52
0.60	483	549.10	0.56 ic	---	---	---	0.00	---	---	---	---	---	0.56
0.65	556	549.15	0.60 ic	---	---	---	0.00	---	---	---	---	---	0.60
0.70	629	549.20	0.63 ic	---	---	---	0.00	---	---	---	---	---	0.63
0.75	702	549.25	0.67 ic	---	---	---	0.00	---	---	---	---	---	0.67
0.80	774	549.30	0.70 ic	---	---	---	0.00	---	---	---	---	---	0.70
0.85	847	549.35	0.73 ic	---	---	---	0.00	---	---	---	---	---	0.73
0.90	920	549.40	0.76 ic	---	---	---	0.00	---	---	---	---	---	0.76
0.95	992	549.45	0.79 ic	---	---	---	0.00	---	---	---	---	---	0.79
1.00	1,065	549.50	0.82 ic	---	---	---	0.00	---	---	---	---	---	0.82
1.05	1,135	549.55	0.85 ic	---	---	---	0.00	---	---	---	---	---	0.85
1.10	1,204	549.60	0.87 ic	---	---	---	0.00	---	---	---	---	---	0.87
1.15	1,274	549.65	0.90 ic	---	---	---	0.00	---	---	---	---	---	0.90
1.20	1,343	549.70	0.92 ic	---	---	---	0.00	---	---	---	---	---	0.92
1.25	1,413	549.75	0.95 ic	---	---	---	0.00	---	---	---	---	---	0.95
1.30	1,483	549.80	0.97 ic	---	---	---	0.00	---	---	---	---	---	0.97
1.35	1,552	549.85	0.99 ic	---	---	---	0.00	---	---	---	---	---	0.99
1.40	1,622	549.90	1.01 ic	---	---	---	0.00	---	---	---	---	---	1.01
1.45	1,691	549.95	1.04 ic	---	---	---	0.00	---	---	---	---	---	1.04
1.50	1,761	550.00	1.06 ic	---	---	---	0.00	---	---	---	---	---	1.06
1.55	1,826	550.05	1.08 ic	---	---	---	0.00	---	---	---	---	---	1.08
1.60	1,891	550.10	1.10 ic	---	---	---	0.00	---	---	---	---	---	1.10
1.65	1,955	550.15	1.12 ic	---	---	---	0.00	---	---	---	---	---	1.12

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Watershed VIA

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
1.70	2,020	550.20	1.14 ic	---	---	---	0.00	---	---	---	---	---	1.14
1.75	2,085	550.25	1.16 ic	---	---	---	0.00	---	---	---	---	---	1.16
1.80	2,150	550.30	1.18 ic	---	---	---	0.00	---	---	---	---	---	1.18
1.85	2,215	550.35	1.20 ic	---	---	---	0.00	---	---	---	---	---	1.20
1.90	2,279	550.40	1.21 ic	---	---	---	0.00	---	---	---	---	---	1.21
1.95	2,344	550.45	1.23 ic	---	---	---	0.00	---	---	---	---	---	1.23
2.00	2,409	550.50	1.25 ic	---	---	---	0.00	---	---	---	---	---	1.25
2.05	2,466	550.55	1.27 ic	---	---	---	0.00	---	---	---	---	---	1.27
2.10	2,524	550.60	1.29 ic	---	---	---	0.00	---	---	---	---	---	1.29
2.15	2,581	550.65	1.30 ic	---	---	---	0.00	---	---	---	---	---	1.30
2.20	2,639	550.70	1.32 ic	---	---	---	0.00	---	---	---	---	---	1.32
2.25	2,696	550.75	1.34 ic	---	---	---	0.00	---	---	---	---	---	1.34
2.30	2,753	550.80	1.35 ic	---	---	---	0.00	---	---	---	---	---	1.35
2.35	2,811	550.85	1.37 ic	---	---	---	0.00	---	---	---	---	---	1.37
2.40	2,868	550.90	1.39 ic	---	---	---	0.00	---	---	---	---	---	1.39
2.45	2,926	550.95	1.40 ic	---	---	---	0.00	---	---	---	---	---	1.40
2.50	2,983	551.00	1.42 ic	---	---	---	0.00	---	---	---	---	---	1.42
2.55	3,025	551.05	1.43 ic	---	---	---	0.00	---	---	---	---	---	1.43
2.60	3,068	551.10	1.45 ic	---	---	---	0.00	---	---	---	---	---	1.45
2.65	3,110	551.15	1.46 ic	---	---	---	0.00	---	---	---	---	---	1.46
2.70	3,153	551.20	1.48 ic	---	---	---	0.00	---	---	---	---	---	1.48
2.75	3,195	551.25	1.49 ic	---	---	---	0.00	---	---	---	---	---	1.49
2.80	3,237	551.30	1.51 ic	---	---	---	0.00	---	---	---	---	---	1.51
2.85	3,280	551.35	1.52 ic	---	---	---	0.00	---	---	---	---	---	1.52
2.90	3,322	551.40	1.54 ic	---	---	---	0.00	---	---	---	---	---	1.54
2.95	3,365	551.45	1.55 ic	---	---	---	0.00	---	---	---	---	---	1.55
3.00	3,407	551.50	1.57 ic	---	---	---	0.00	---	---	---	---	---	1.57
3.05	3,441	551.55	1.58 ic	---	---	---	0.19	---	---	---	---	---	1.77
3.10	3,475	551.60	1.60 ic	---	---	---	0.53	---	---	---	---	---	2.12
3.15	3,508	551.65	1.61 ic	---	---	---	0.97	---	---	---	---	---	2.58
3.20	3,542	551.70	1.62 ic	---	---	---	1.49	---	---	---	---	---	3.11
3.25	3,576	551.75	1.64 ic	---	---	---	2.08	---	---	---	---	---	3.72
3.30	3,610	551.80	1.65 ic	---	---	---	2.73	---	---	---	---	---	4.39
3.35	3,644	551.85	1.66 ic	---	---	---	3.45	---	---	---	---	---	5.11
3.40	3,677	551.90	1.68 ic	---	---	---	4.21	---	---	---	---	---	5.89
3.45	3,711	551.95	1.69 ic	---	---	---	5.02	---	---	---	---	---	6.72
3.50	3,745	552.00	1.70 ic	---	---	---	5.89	---	---	---	---	---	7.59

...End

Hydrograph Report

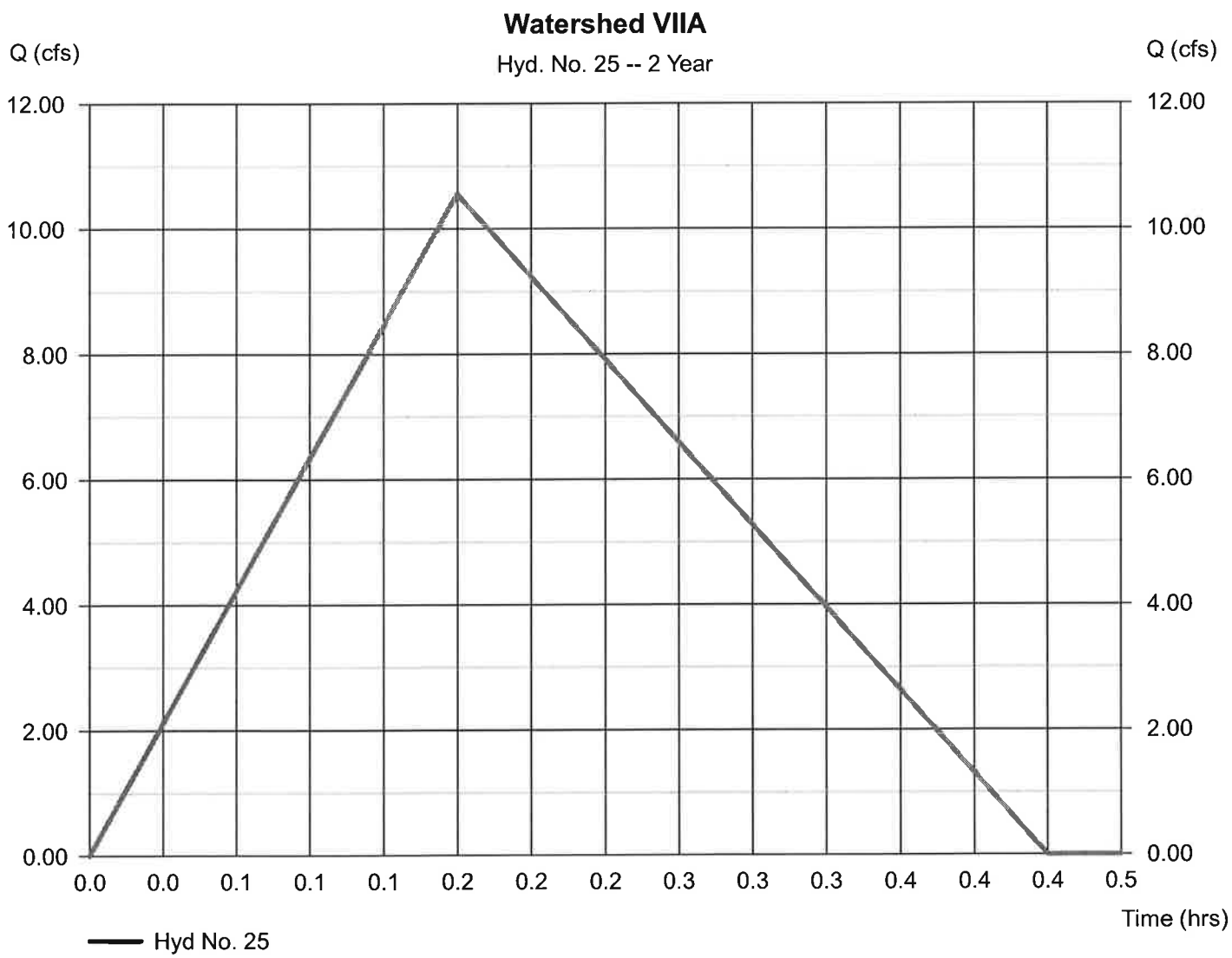
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 25

Watershed VIIA

Hydrograph type	= Rational	Peak discharge	= 10.55 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 8,451 cuft
Drainage area	= 4.090 ac	Runoff coeff.	= 0.74*
Intensity	= 3.486 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(3.020 x 0.90) + (1.070 x 0.30)] / 4.090



Hydrograph Report

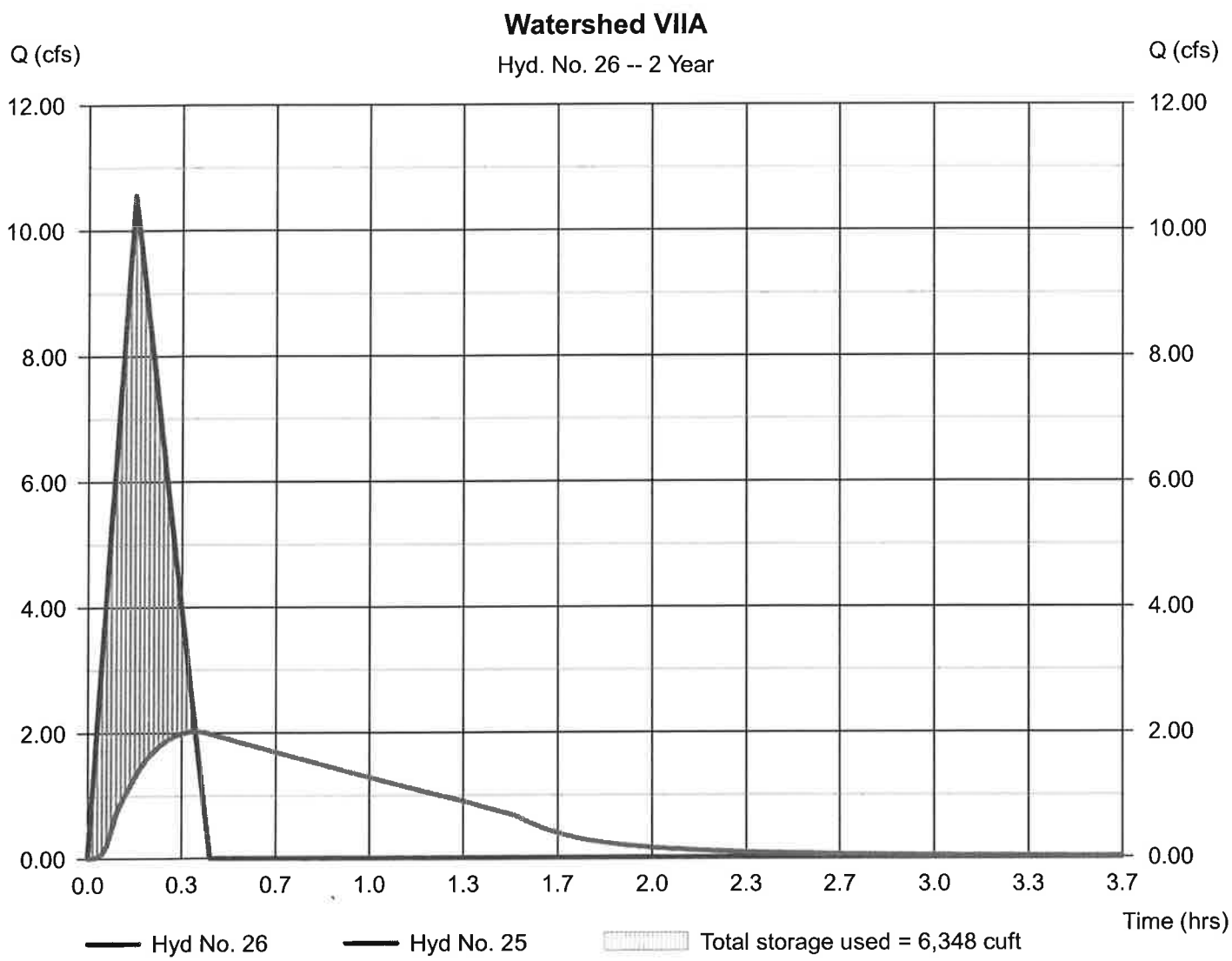
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 26

Watershed VIIA

Hydrograph type	= Reservoir	Peak discharge	= 2.017 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.38 hrs
Time interval	= 1 min	Hyd. volume	= 8,218 cuft
Inflow hyd. No.	= 25 - Watershed VIIA	Max. Elevation	= 546.27 ft
Reservoir name	= Watershed VIIA	Max. Storage	= 6,348 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Pond No. 5 - Watershed VIIA

Pond Data

Pond storage is based on user-defined values.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	544.50	n/a	0	0
0.50	545.00	n/a	1,014	1,014
1.00	545.50	n/a	2,182	3,196
1.50	546.00	n/a	2,088	5,284
2.00	546.50	n/a	1,944	7,228
2.50	547.00	n/a	1,721	8,949
3.00	547.50	n/a	1,272	10,221
3.50	548.00	n/a	1,014	11,235

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 8.00	0.00	0.00	0.00
Span (in)	= 8.00	0.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 544.50	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)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 547.50	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	544.50	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.05	101	544.55	0.01 ic	---	---	---	0.00	---	---	---	---	---	0.01
0.10	203	544.60	0.04 ic	---	---	---	0.00	---	---	---	---	---	0.04
0.15	304	544.65	0.08 ic	---	---	---	0.00	---	---	---	---	---	0.08
0.20	406	544.70	0.13 ic	---	---	---	0.00	---	---	---	---	---	0.13
0.25	507	544.75	0.20 ic	---	---	---	0.00	---	---	---	---	---	0.20
0.30	608	544.80	0.28 ic	---	---	---	0.00	---	---	---	---	---	0.28
0.35	710	544.85	0.37 ic	---	---	---	0.00	---	---	---	---	---	0.37
0.40	811	544.90	0.47 ic	---	---	---	0.00	---	---	---	---	---	0.47
0.45	913	544.95	0.57 ic	---	---	---	0.00	---	---	---	---	---	0.57
0.50	1,014	545.00	0.68 ic	---	---	---	0.00	---	---	---	---	---	0.68
0.55	1,232	545.05	0.78 ic	---	---	---	0.00	---	---	---	---	---	0.78
0.60	1,450	545.10	0.87 ic	---	---	---	0.00	---	---	---	---	---	0.87
0.65	1,669	545.15	0.95 ic	---	---	---	0.00	---	---	---	---	---	0.95
0.70	1,887	545.20	1.02 ic	---	---	---	0.00	---	---	---	---	---	1.02
0.75	2,105	545.25	1.08 ic	---	---	---	0.00	---	---	---	---	---	1.08
0.80	2,323	545.30	1.15 ic	---	---	---	0.00	---	---	---	---	---	1.15
0.85	2,541	545.35	1.21 ic	---	---	---	0.00	---	---	---	---	---	1.21
0.90	2,760	545.40	1.26 ic	---	---	---	0.00	---	---	---	---	---	1.26
0.95	2,978	545.45	1.32 ic	---	---	---	0.00	---	---	---	---	---	1.32
1.00	3,196	545.50	1.37 ic	---	---	---	0.00	---	---	---	---	---	1.37
1.05	3,405	545.55	1.42 ic	---	---	---	0.00	---	---	---	---	---	1.42
1.10	3,614	545.60	1.47 ic	---	---	---	0.00	---	---	---	---	---	1.47
1.15	3,822	545.65	1.52 ic	---	---	---	0.00	---	---	---	---	---	1.52
1.20	4,031	545.70	1.56 ic	---	---	---	0.00	---	---	---	---	---	1.56
1.25	4,240	545.75	1.61 ic	---	---	---	0.00	---	---	---	---	---	1.61
1.30	4,449	545.80	1.65 ic	---	---	---	0.00	---	---	---	---	---	1.65
1.35	4,658	545.85	1.69 ic	---	---	---	0.00	---	---	---	---	---	1.69
1.40	4,866	545.90	1.74 ic	---	---	---	0.00	---	---	---	---	---	1.74
1.45	5,075	545.95	1.78 ic	---	---	---	0.00	---	---	---	---	---	1.78
1.50	5,284	546.00	1.82 ic	---	---	---	0.00	---	---	---	---	---	1.82
1.55	5,478	546.05	1.85 ic	---	---	---	0.00	---	---	---	---	---	1.85
1.60	5,673	546.10	1.89 ic	---	---	---	0.00	---	---	---	---	---	1.89
1.65	5,867	546.15	1.93 ic	---	---	---	0.00	---	---	---	---	---	1.93

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Watershed VIIA

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
1.70	6,062	546.20	1.96 ic	---	---	---	0.00	---	---	---	---	---	1.96
1.75	6,256	546.25	2.00 ic	---	---	---	0.00	---	---	---	---	---	2.00
1.80	6,450	546.30	2.04 ic	---	---	---	0.00	---	---	---	---	---	2.04
1.85	6,645	546.35	2.07 ic	---	---	---	0.00	---	---	---	---	---	2.07
1.90	6,839	546.40	2.10 ic	---	---	---	0.00	---	---	---	---	---	2.10
1.95	7,034	546.45	2.14 ic	---	---	---	0.00	---	---	---	---	---	2.14
2.00	7,228	546.50	2.17 ic	---	---	---	0.00	---	---	---	---	---	2.17
2.05	7,400	546.55	2.20 ic	---	---	---	0.00	---	---	---	---	---	2.20
2.10	7,572	546.60	2.23 ic	---	---	---	0.00	---	---	---	---	---	2.23
2.15	7,744	546.65	2.27 ic	---	---	---	0.00	---	---	---	---	---	2.27
2.20	7,916	546.70	2.30 ic	---	---	---	0.00	---	---	---	---	---	2.30
2.25	8,089	546.75	2.33 ic	---	---	---	0.00	---	---	---	---	---	2.33
2.30	8,261	546.80	2.36 ic	---	---	---	0.00	---	---	---	---	---	2.36
2.35	8,433	546.85	2.39 ic	---	---	---	0.00	---	---	---	---	---	2.39
2.40	8,605	546.90	2.42 ic	---	---	---	0.00	---	---	---	---	---	2.42
2.45	8,777	546.95	2.44 ic	---	---	---	0.00	---	---	---	---	---	2.44
2.50	8,949	547.00	2.47 ic	---	---	---	0.00	---	---	---	---	---	2.47
2.55	9,076	547.05	2.50 ic	---	---	---	0.00	---	---	---	---	---	2.50
2.60	9,203	547.10	2.53 ic	---	---	---	0.00	---	---	---	---	---	2.53
2.65	9,331	547.15	2.56 ic	---	---	---	0.00	---	---	---	---	---	2.56
2.70	9,458	547.20	2.59 ic	---	---	---	0.00	---	---	---	---	---	2.59
2.75	9,585	547.25	2.61 ic	---	---	---	0.00	---	---	---	---	---	2.61
2.80	9,712	547.30	2.64 ic	---	---	---	0.00	---	---	---	---	---	2.64
2.85	9,839	547.35	2.67 ic	---	---	---	0.00	---	---	---	---	---	2.67
2.90	9,967	547.40	2.69 ic	---	---	---	0.00	---	---	---	---	---	2.69
2.95	10,094	547.45	2.72 ic	---	---	---	0.00	---	---	---	---	---	2.72
3.00	10,221	547.50	2.74 ic	---	---	---	0.00	---	---	---	---	---	2.74
3.05	10,322	547.55	2.77 ic	---	---	---	0.19	---	---	---	---	---	2.96
3.10	10,424	547.60	2.80 ic	---	---	---	0.53	---	---	---	---	---	3.32
3.15	10,525	547.65	2.82 ic	---	---	---	0.97	---	---	---	---	---	3.79
3.20	10,627	547.70	2.85 ic	---	---	---	1.49	---	---	---	---	---	4.33
3.25	10,728	547.75	2.87 ic	---	---	---	2.08	---	---	---	---	---	4.95
3.30	10,829	547.80	2.89 ic	---	---	---	2.73	---	---	---	---	---	5.63
3.35	10,931	547.85	2.92 ic	---	---	---	3.45	---	---	---	---	---	6.37
3.40	11,032	547.90	2.94 ic	---	---	---	4.21	---	---	---	---	---	7.15
3.45	11,134	547.95	2.97 ic	---	---	---	5.02	---	---	---	---	---	7.99
3.50	11,235	548.00	2.99 ic	---	---	---	5.89	---	---	---	---	---	8.88

...End

Hydrograph Report

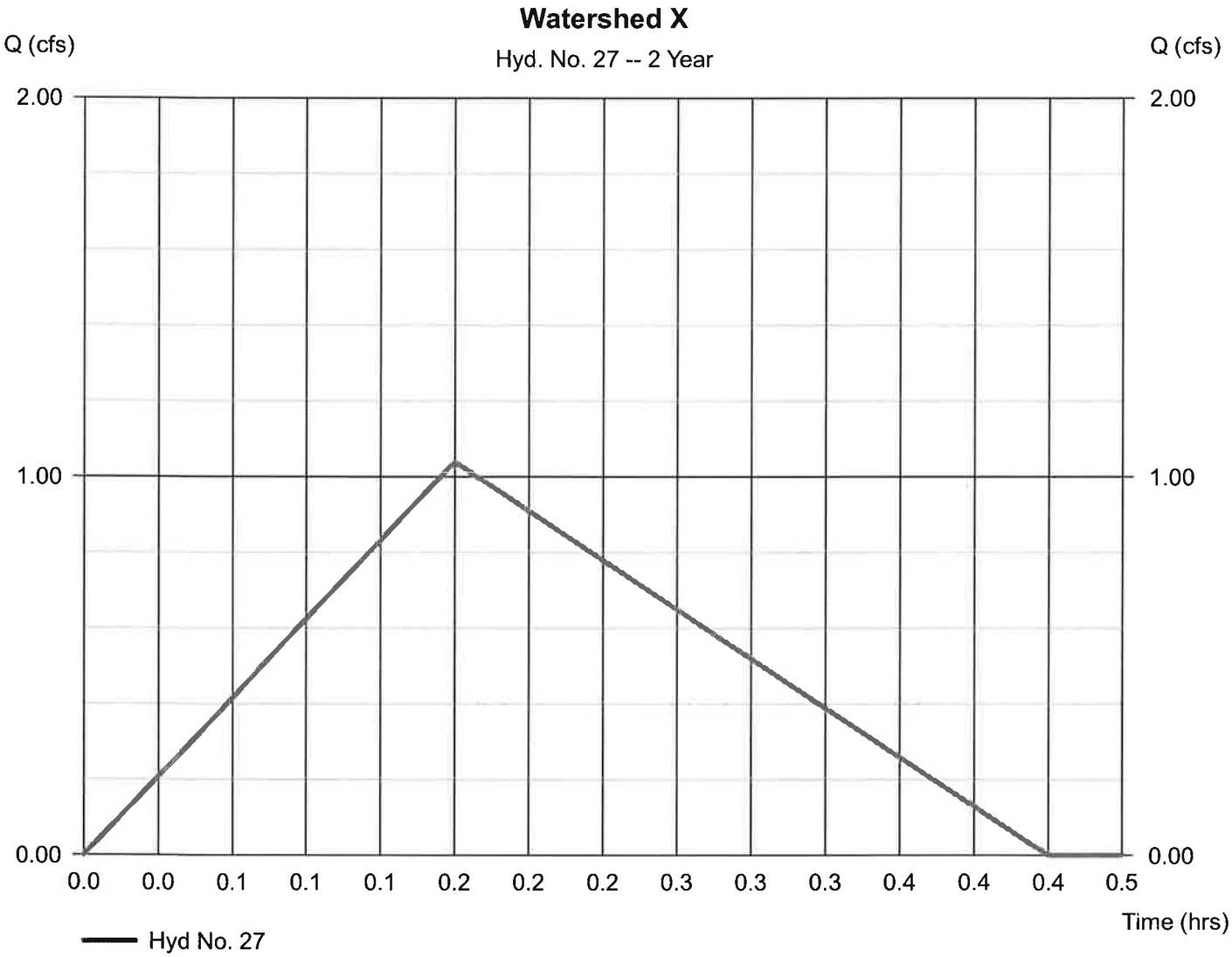
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 27

Watershed X

Hydrograph type	= Rational	Peak discharge	= 1.037 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 831 cuft
Drainage area	= 0.930 ac	Runoff coeff.	= 0.32*
Intensity	= 3.486 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.100 x 0.90) + (0.410 x 0.30) + (0.420 x 0.20)] / 0.930



Hydrograph Report

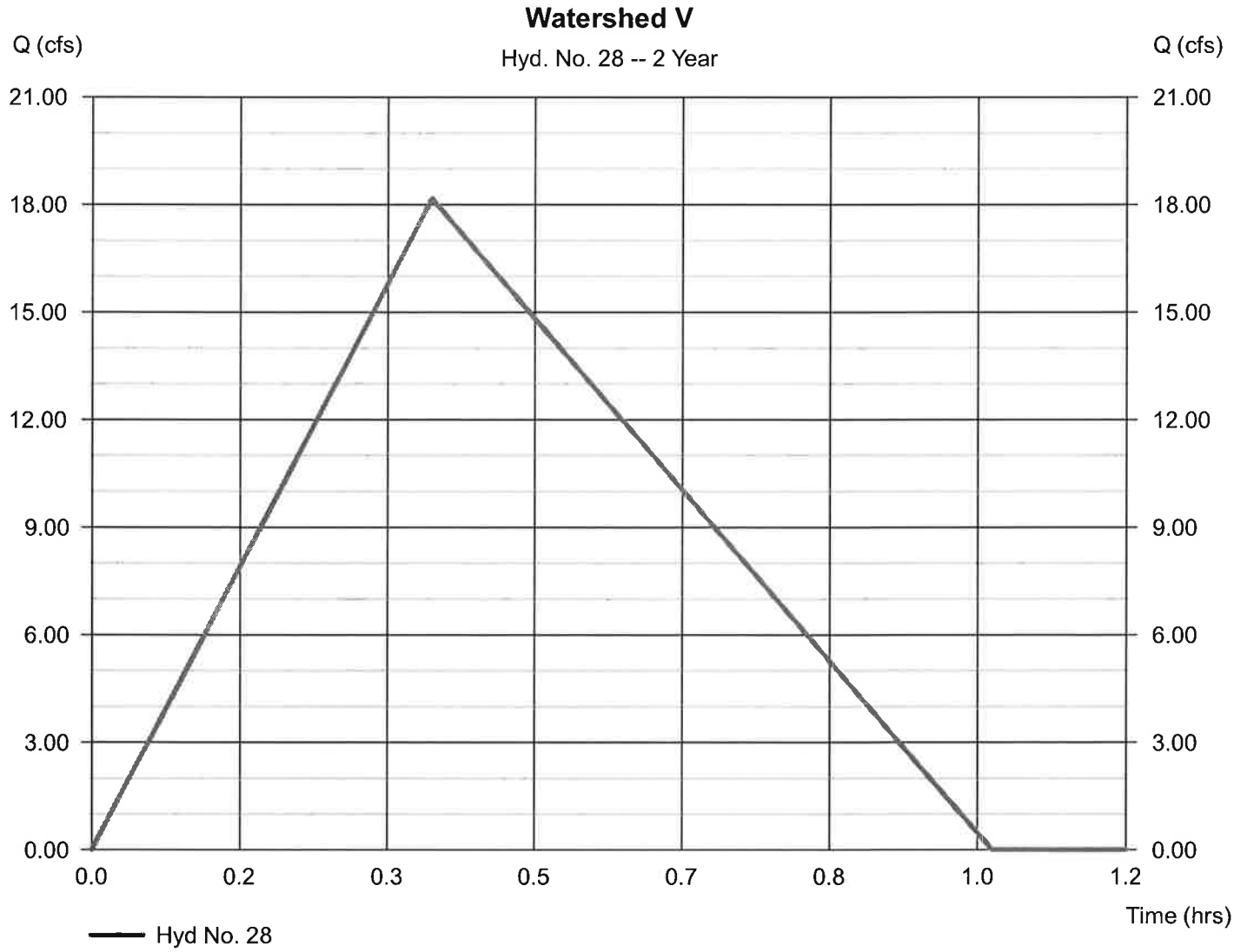
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 28

Watershed V

Hydrograph type	= Rational	Peak discharge	= 18.16 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.38 hrs
Time interval	= 1 min	Hyd. volume	= 33,461 cuft
Drainage area	= 26.200 ac	Runoff coeff.	= 0.31*
Intensity	= 2.236 in/hr	Tc by TR55	= 23.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(2.500 x 0.90) + (10.640 x 0.30) + (13.060 x 0.20)] / 26.200



TR55 Tc Worksheet

Hyd. No. 28

Watershed V

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.240		0.011		0.011		
Flow length (ft)	=	100.0		0.0		0.0		
Two-year 24-hr precip. (in)	=	3.20		0.00		0.00		
Land slope (%)	=	4.50		0.00		0.00		
Travel Time (min)	**=**	**10.32**	**+**	**0.00**	**+**	**0.00**	**=**	**10.32**
Shallow Concentrated Flow								
Flow length (ft)	=	248.00		0.00		0.00		
Watercourse slope (%)	=	5.20		0.00		0.00		
Surface description	=	Unpaved		Paved		Paved		
Average velocity (ft/s)	=	3.68		0.00		0.00		
Travel Time (min)	**=**	**1.12**	**+**	**0.00**	**+**	**0.00**	**=**	**1.12**
Channel Flow								
X sectional flow area (sqft)	=	0.63		2.00		0.00		
Wetted perimeter (ft)	=	3.12		5.24		0.00		
Channel slope (%)	=	2.50		1.21		0.00		
Manning's n-value	=	0.040		0.040		0.015		
Velocity (ft/s)	=	2.01		2.15		0.00		
Flow length (ft)	=	623.0		797.0		0.0		
Travel Time (min)	**=**	**5.17**	**+**	**6.18**	**+**	**0.00**	**=**	**11.35**

Total Travel Time, Tc ..... 23.00 min

Hydrograph Report

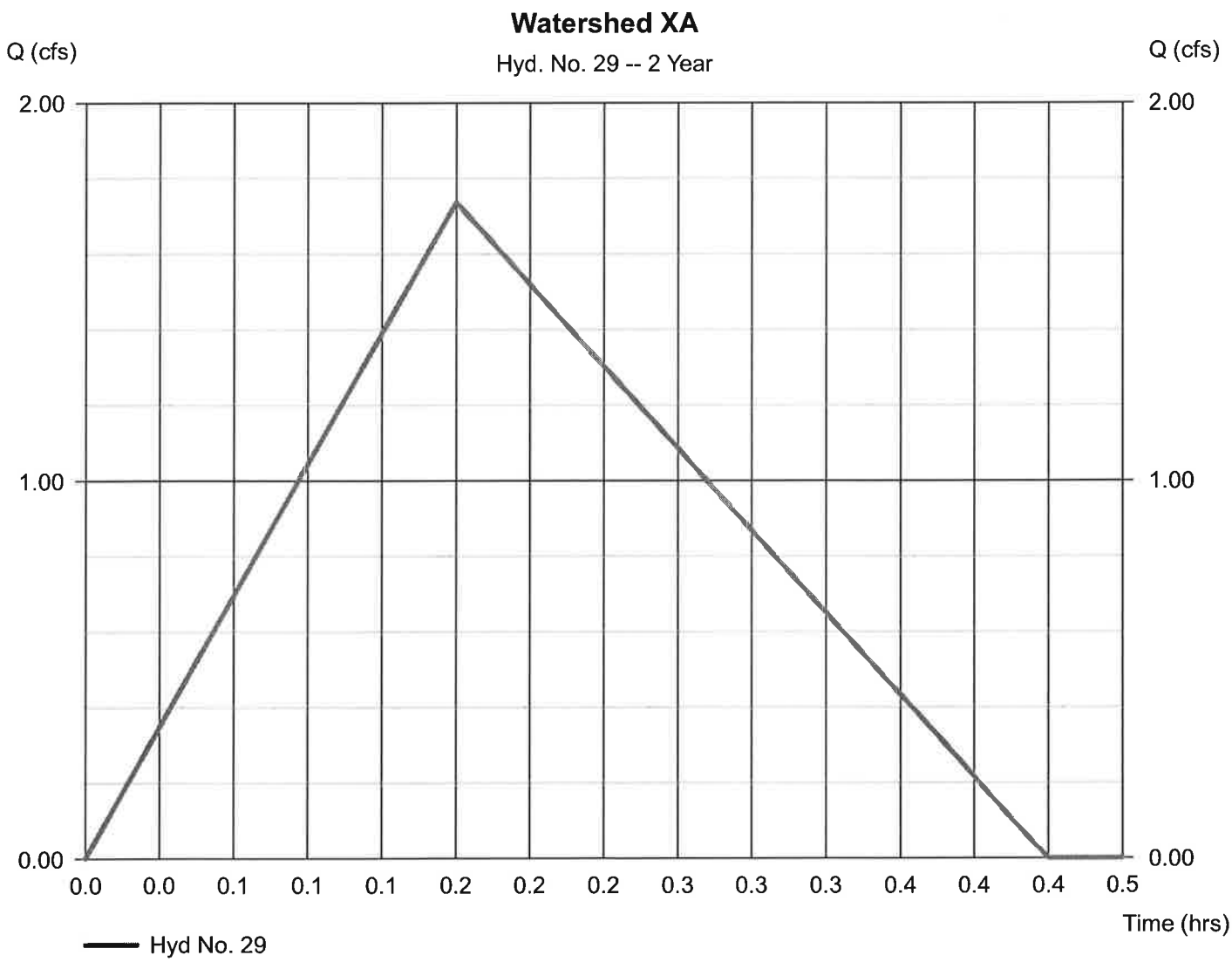
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 29

Watershed XA

Hydrograph type	= Rational	Peak discharge	= 1.737 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 1,391 cuft
Drainage area	= 0.940 ac	Runoff coeff.	= 0.53*
Intensity	= 3.486 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.390 x 0.90) + (0.350 x 0.30) + (0.200 x 0.20)] / 0.940



Hydrograph Report

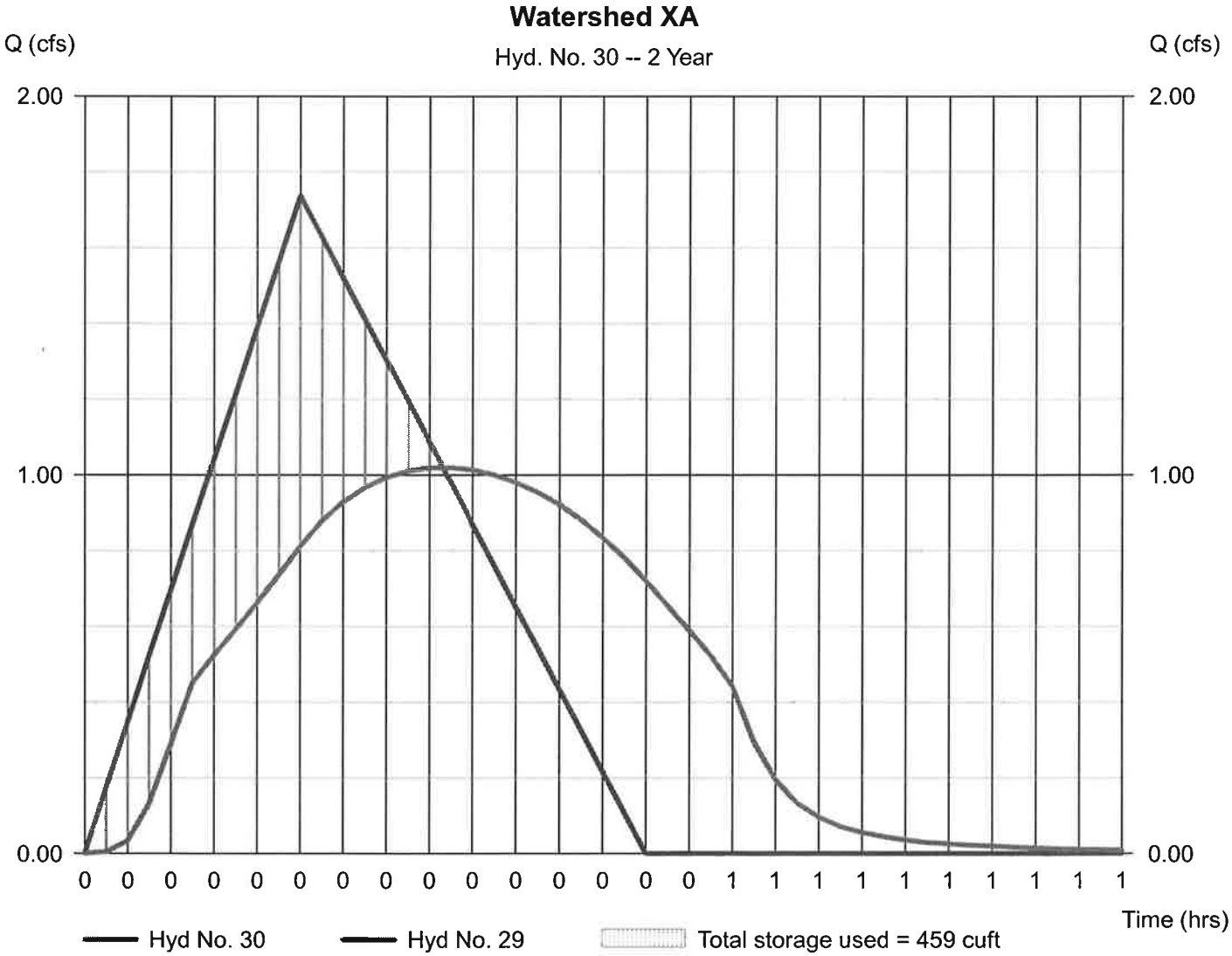
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 30

Watershed XA

Hydrograph type	= Reservoir	Peak discharge	= 1.019 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.28 hrs
Time interval	= 1 min	Hyd. volume	= 1,353 cuft
Inflow hyd. No.	= 29 - Watershed XA	Max. Elevation	= 556.92 ft
Reservoir name	= Watershed XA	Max. Storage	= 459 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Pond No. 23 - Watershed XA

Pond Data

Pond storage is based on user-defined values.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	555.50	n/a	0	0
0.50	556.00	n/a	94	94
1.00	556.50	n/a	204	298
1.50	557.00	n/a	195	493
2.00	557.50	n/a	181	674
2.50	558.00	n/a	161	835
3.00	558.50	n/a	118	953
3.50	559.00	n/a	95	1,048

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 6.00	0.00	0.00	0.00
Span (in)	= 6.00	0.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 555.50	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)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 558.50	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	555.50	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.05	9	555.55	0.01 ic	---	---	---	0.00	---	---	---	---	---	0.01
0.10	19	555.60	0.03 ic	---	---	---	0.00	---	---	---	---	---	0.03
0.15	28	555.65	0.07 ic	---	---	---	0.00	---	---	---	---	---	0.07
0.20	38	555.70	0.11 ic	---	---	---	0.00	---	---	---	---	---	0.11
0.25	47	555.75	0.17 ic	---	---	---	0.00	---	---	---	---	---	0.17
0.30	56	555.80	0.23 ic	---	---	---	0.00	---	---	---	---	---	0.23
0.35	66	555.85	0.30 ic	---	---	---	0.00	---	---	---	---	---	0.30
0.40	75	555.90	0.36 ic	---	---	---	0.00	---	---	---	---	---	0.36
0.45	85	555.95	0.43 ic	---	---	---	0.00	---	---	---	---	---	0.43
0.50	94	556.00	0.47 ic	---	---	---	0.00	---	---	---	---	---	0.47
0.55	114	556.05	0.52 ic	---	---	---	0.00	---	---	---	---	---	0.52
0.60	135	556.10	0.56 ic	---	---	---	0.00	---	---	---	---	---	0.56
0.65	155	556.15	0.60 ic	---	---	---	0.00	---	---	---	---	---	0.60
0.70	176	556.20	0.63 ic	---	---	---	0.00	---	---	---	---	---	0.63
0.75	196	556.25	0.67 ic	---	---	---	0.00	---	---	---	---	---	0.67
0.80	216	556.30	0.70 ic	---	---	---	0.00	---	---	---	---	---	0.70
0.85	237	556.35	0.73 ic	---	---	---	0.00	---	---	---	---	---	0.73
0.90	257	556.40	0.76 ic	---	---	---	0.00	---	---	---	---	---	0.76
0.95	278	556.45	0.79 ic	---	---	---	0.00	---	---	---	---	---	0.79
1.00	298	556.50	0.82 ic	---	---	---	0.00	---	---	---	---	---	0.82
1.05	318	556.55	0.85 ic	---	---	---	0.00	---	---	---	---	---	0.85
1.10	337	556.60	0.87 ic	---	---	---	0.00	---	---	---	---	---	0.87
1.15	357	556.65	0.90 ic	---	---	---	0.00	---	---	---	---	---	0.90
1.20	376	556.70	0.92 ic	---	---	---	0.00	---	---	---	---	---	0.92
1.25	396	556.75	0.95 ic	---	---	---	0.00	---	---	---	---	---	0.95
1.30	415	556.80	0.97 ic	---	---	---	0.00	---	---	---	---	---	0.97
1.35	435	556.85	0.99 ic	---	---	---	0.00	---	---	---	---	---	0.99
1.40	454	556.90	1.01 ic	---	---	---	0.00	---	---	---	---	---	1.01
1.45	474	556.95	1.04 ic	---	---	---	0.00	---	---	---	---	---	1.04
1.50	493	557.00	1.06 ic	---	---	---	0.00	---	---	---	---	---	1.06
1.55	511	557.05	1.08 ic	---	---	---	0.00	---	---	---	---	---	1.08
1.60	529	557.10	1.10 ic	---	---	---	0.00	---	---	---	---	---	1.10
1.65	547	557.15	1.12 ic	---	---	---	0.00	---	---	---	---	---	1.12

Continues on next page...

Watershed XA

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
1.70	565	557.20	1.14 ic	---	---	---	0.00	---	---	---	---	---	1.14
1.75	583	557.25	1.16 ic	---	---	---	0.00	---	---	---	---	---	1.16
1.80	602	557.30	1.18 ic	---	---	---	0.00	---	---	---	---	---	1.18
1.85	620	557.35	1.20 ic	---	---	---	0.00	---	---	---	---	---	1.20
1.90	638	557.40	1.21 ic	---	---	---	0.00	---	---	---	---	---	1.21
1.95	656	557.45	1.23 ic	---	---	---	0.00	---	---	---	---	---	1.23
2.00	674	557.50	1.25 ic	---	---	---	0.00	---	---	---	---	---	1.25
2.05	690	557.55	1.27 ic	---	---	---	0.00	---	---	---	---	---	1.27
2.10	706	557.60	1.29 ic	---	---	---	0.00	---	---	---	---	---	1.29
2.15	722	557.65	1.30 ic	---	---	---	0.00	---	---	---	---	---	1.30
2.20	738	557.70	1.32 ic	---	---	---	0.00	---	---	---	---	---	1.32
2.25	754	557.75	1.34 ic	---	---	---	0.00	---	---	---	---	---	1.34
2.30	771	557.80	1.35 ic	---	---	---	0.00	---	---	---	---	---	1.35
2.35	787	557.85	1.37 ic	---	---	---	0.00	---	---	---	---	---	1.37
2.40	803	557.90	1.39 ic	---	---	---	0.00	---	---	---	---	---	1.39
2.45	819	557.95	1.40 ic	---	---	---	0.00	---	---	---	---	---	1.40
2.50	835	558.00	1.42 ic	---	---	---	0.00	---	---	---	---	---	1.42
2.55	847	558.05	1.43 ic	---	---	---	0.00	---	---	---	---	---	1.43
2.60	859	558.10	1.45 ic	---	---	---	0.00	---	---	---	---	---	1.45
2.65	870	558.15	1.46 ic	---	---	---	0.00	---	---	---	---	---	1.46
2.70	882	558.20	1.48 ic	---	---	---	0.00	---	---	---	---	---	1.48
2.75	894	558.25	1.49 ic	---	---	---	0.00	---	---	---	---	---	1.49
2.80	906	558.30	1.51 ic	---	---	---	0.00	---	---	---	---	---	1.51
2.85	918	558.35	1.52 ic	---	---	---	0.00	---	---	---	---	---	1.52
2.90	929	558.40	1.54 ic	---	---	---	0.00	---	---	---	---	---	1.54
2.95	941	558.45	1.55 ic	---	---	---	0.00	---	---	---	---	---	1.55
3.00	953	558.50	1.57 ic	---	---	---	0.00	---	---	---	---	---	1.57
3.05	963	558.55	1.58 ic	---	---	---	0.19	---	---	---	---	---	1.77
3.10	972	558.60	1.60 ic	---	---	---	0.53	---	---	---	---	---	2.12
3.15	982	558.65	1.61 ic	---	---	---	0.97	---	---	---	---	---	2.58
3.20	991	558.70	1.62 ic	---	---	---	1.49	---	---	---	---	---	3.11
3.25	1,001	558.75	1.64 ic	---	---	---	2.08	---	---	---	---	---	3.72
3.30	1,010	558.80	1.65 ic	---	---	---	2.73	---	---	---	---	---	4.39
3.35	1,020	558.85	1.66 ic	---	---	---	3.45	---	---	---	---	---	5.11
3.40	1,029	558.90	1.68 ic	---	---	---	4.21	---	---	---	---	---	5.89
3.45	1,039	558.95	1.69 ic	---	---	---	5.02	---	---	---	---	---	6.72
3.50	1,048	559.00	1.70 ic	---	---	---	5.89	---	---	---	---	---	7.59

...End

Hydrograph Report

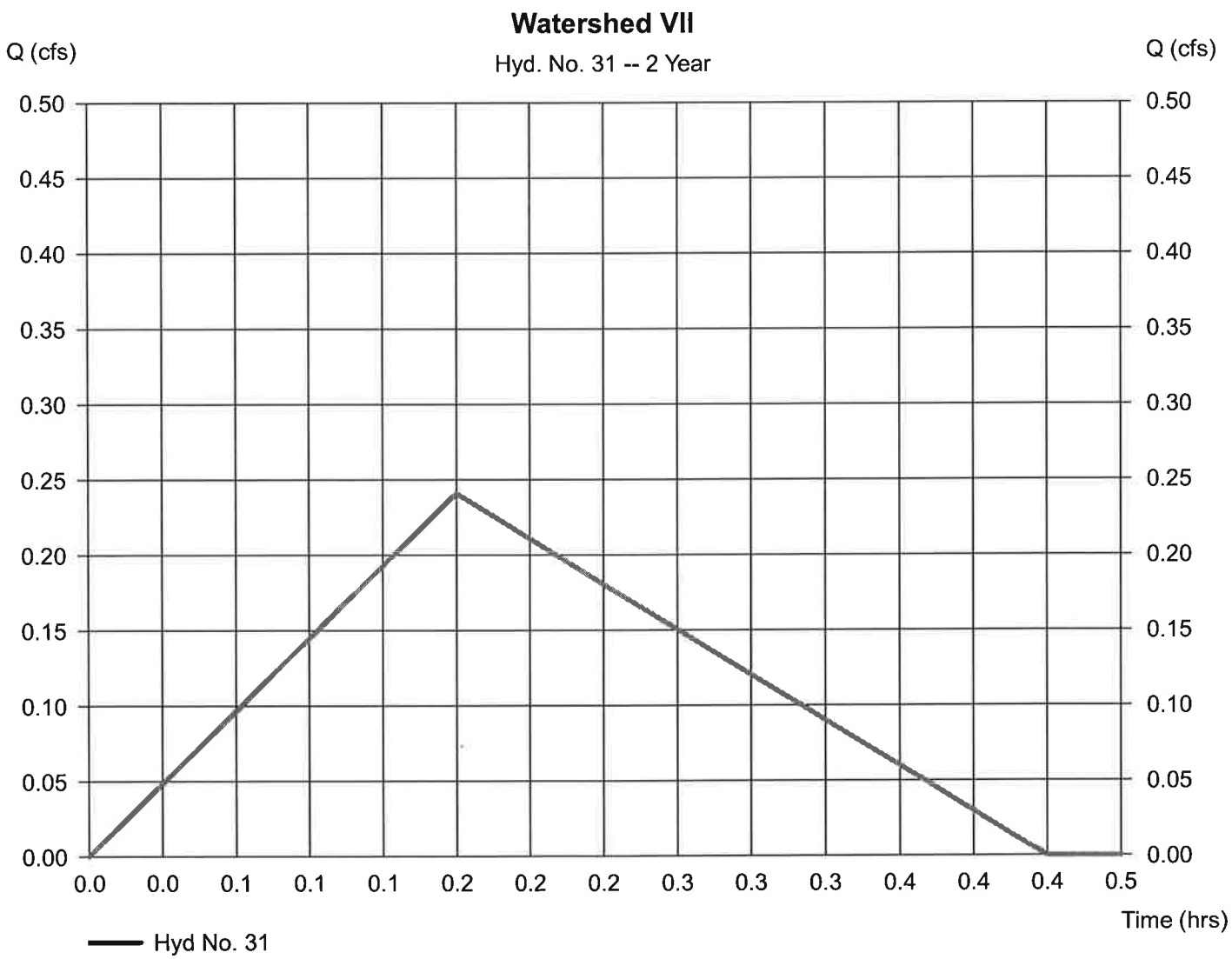
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 31

Watershed VII

Hydrograph type	= Rational	Peak discharge	= 0.241 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 193 cuft
Drainage area	= 0.230 ac	Runoff coeff.	= 0.3*
Intensity	= 3.486 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.230 x 0.30)] / 0.230



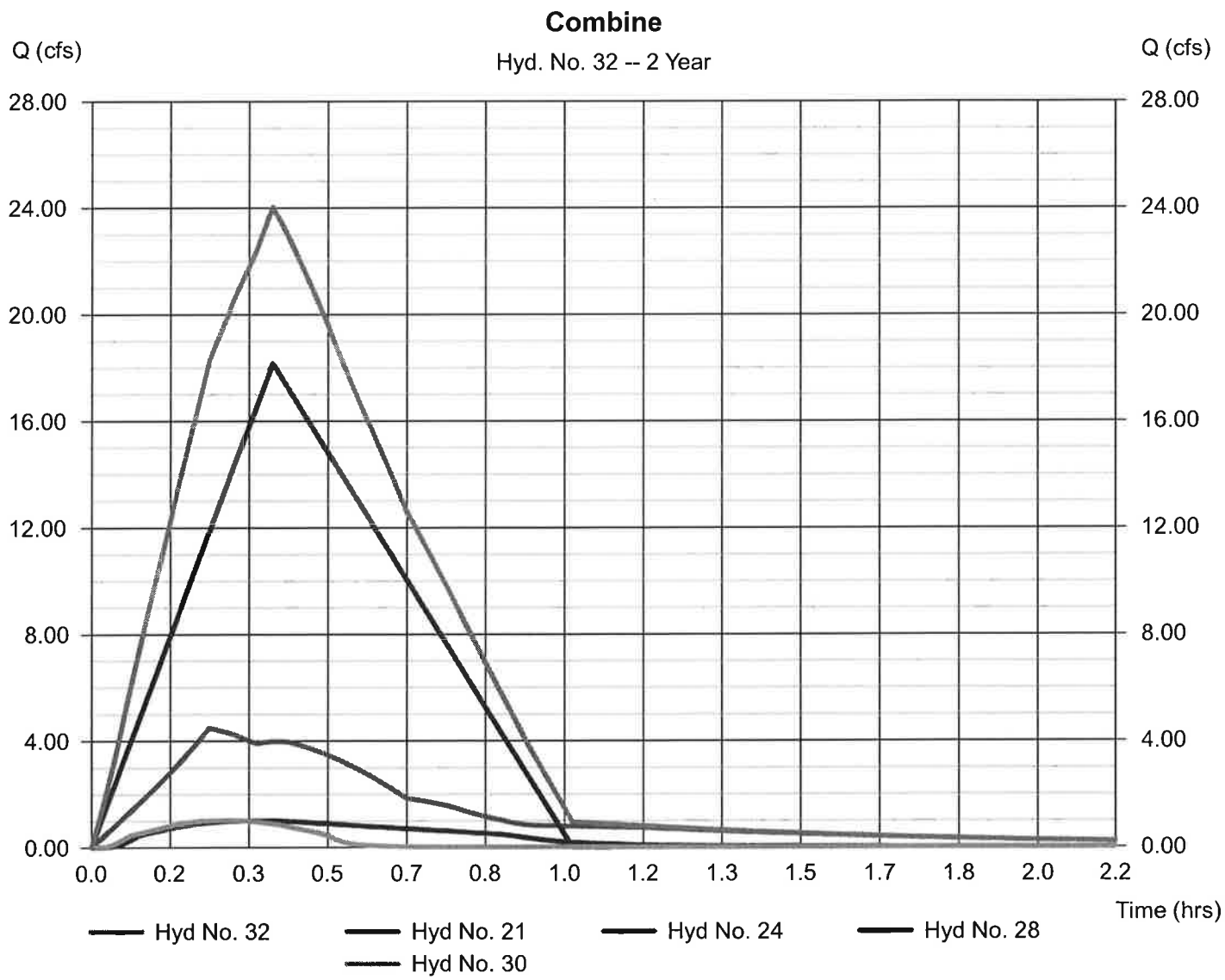
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 32

Combine

Hydrograph type	= Combine	Peak discharge	= 24.03 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.38 hrs
Time interval	= 1 min	Hyd. volume	= 48,805 cuft
Inflow hyds.	= 21, 24, 28, 30	Contrib. drain. area	= 26.200 ac



Hydrograph Report

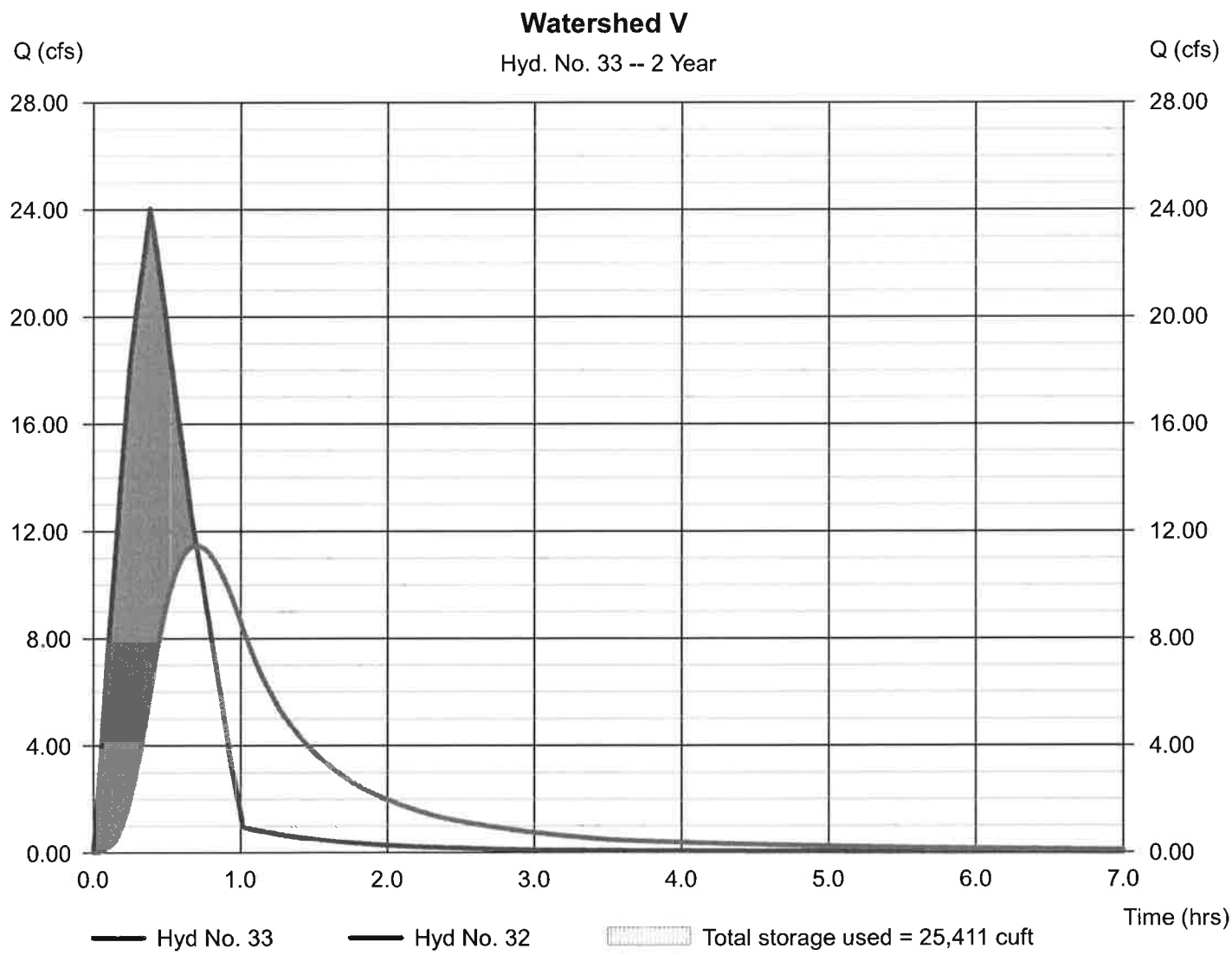
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 33

Watershed V

Hydrograph type	= Reservoir	Peak discharge	= 11.45 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.70 hrs
Time interval	= 1 min	Hyd. volume	= 48,798 cuft
Inflow hyd. No.	= 32 - Combine	Max. Elevation	= 543.69 ft
Reservoir name	= Watershed X	Max. Storage	= 25,411 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Pond No. 8 - Watershed X

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 542.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	542.00	12,381	0	0
2.00	544.00	17,842	30,054	30,054
4.00	546.00	50,278	65,374	95,428

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)	= 2.00	11.00	156.00	0.00
Crest El. (ft)	= 542.00	544.00	546.00	0.00
Weir Coeff.	= 2.60	2.60	2.60	3.33
Weir Type	= Broad	Broad	Broad	---
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	542.00	---	---	---	---	0.00	0.00	0.00	---	---	---	0.00
0.20	3,005	542.20	---	---	---	---	0.47	0.00	0.00	---	---	---	0.47
0.40	6,011	542.40	---	---	---	---	1.32	0.00	0.00	---	---	---	1.32
0.60	9,016	542.60	---	---	---	---	2.42	0.00	0.00	---	---	---	2.42
0.80	12,022	542.80	---	---	---	---	3.72	0.00	0.00	---	---	---	3.72
1.00	15,027	543.00	---	---	---	---	5.20	0.00	0.00	---	---	---	5.20
1.20	18,033	543.20	---	---	---	---	6.84	0.00	0.00	---	---	---	6.84
1.40	21,038	543.40	---	---	---	---	8.61	0.00	0.00	---	---	---	8.61
1.60	24,043	543.60	---	---	---	---	10.53	0.00	0.00	---	---	---	10.53
1.80	27,049	543.80	---	---	---	---	12.56	0.00	0.00	---	---	---	12.56
2.00	30,054	544.00	---	---	---	---	14.71	0.00	0.00	---	---	---	14.71
2.20	36,592	544.20	---	---	---	---	16.97	2.56	0.00	---	---	---	19.53
2.40	43,129	544.40	---	---	---	---	19.33	7.24	0.00	---	---	---	26.57
2.60	49,666	544.60	---	---	---	---	21.80	13.29	0.00	---	---	---	35.09
2.80	56,204	544.80	---	---	---	---	24.36	20.47	0.00	---	---	---	44.83
3.00	62,741	545.00	---	---	---	---	27.02	28.60	0.00	---	---	---	55.62
3.20	69,279	545.20	---	---	---	---	29.77	37.60	0.00	---	---	---	67.37
3.40	75,816	545.40	---	---	---	---	32.60	47.38	0.00	---	---	---	79.98
3.60	82,353	545.60	---	---	---	---	35.52	57.89	0.00	---	---	---	93.41
3.80	88,891	545.80	---	---	---	---	38.52	69.07	0.00	---	---	---	107.60
4.00	95,428	546.00	---	---	---	---	41.60	80.89	0.00	---	---	---	122.49

Hydrograph Report

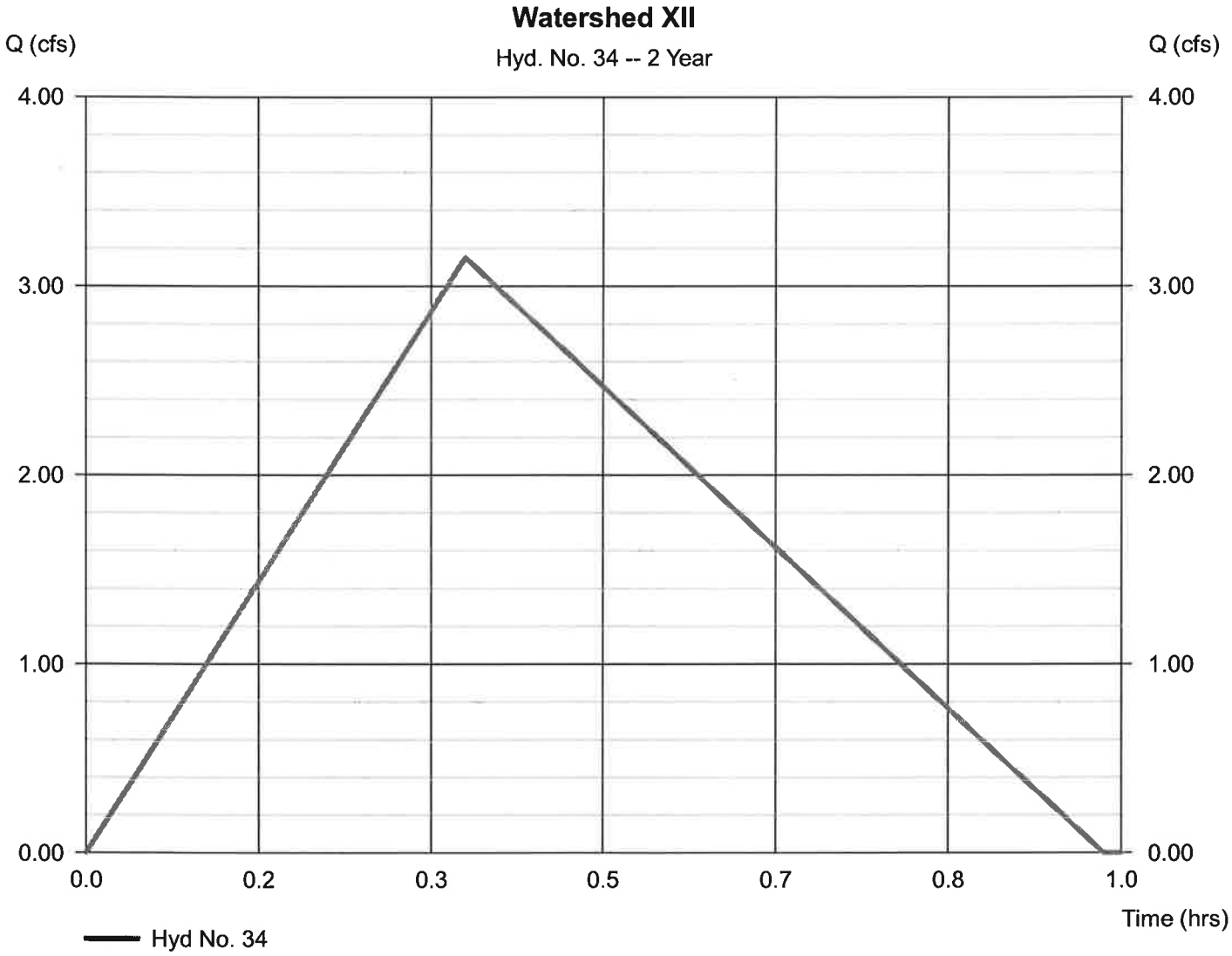
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 34

Watershed XII

Hydrograph type	= Rational	Peak discharge	= 3.150 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.37 hrs
Time interval	= 1 min	Hyd. volume	= 5,668 cuft
Drainage area	= 4.630 ac	Runoff coeff.	= 0.3*
Intensity	= 2.268 in/hr	Tc by TR55	= 22.47 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.490 x 0.90) + (1.430 x 0.30) + (2.710 x 0.20)] / 4.630



TR55 Tc Worksheet

Hyd. No. 34

Watershed XII

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.240		0.011		0.011		
Flow length (ft)	=	100.0		0.0		0.0		
Two-year 24-hr precip. (in)	=	3.20		0.00		0.00		
Land slope (%)	=	0.80		0.00		0.00		
Travel Time (min)	**=**	**20.59**	**+**	**0.00**	**+**	**0.00**	**=**	**20.59**
Shallow Concentrated Flow								
Flow length (ft)	=	244.00		0.00		0.00		
Watercourse slope (%)	=	1.80		0.00		0.00		
Surface description	=	Unpaved		Paved		Paved		
Average velocity (ft/s)	=	2.16		0.00		0.00		
Travel Time (min)	**=**	**1.88**	**+**	**0.00**	**+**	**0.00**	**=**	**1.88**
Channel Flow								
X sectional flow area (sqft)	=	0.00		0.00		0.00		
Wetted perimeter (ft)	=	0.00		0.00		0.00		
Channel slope (%)	=	0.00		0.00		0.00		
Manning's n-value	=	0.015		0.015		0.015		
Velocity (ft/s)	=	0.00		0.00		0.00		
Flow length (ft)	=	0.0		0.0		0.0		
Travel Time (min)	**=**	**0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... **22.47 min**

Hydrograph Report

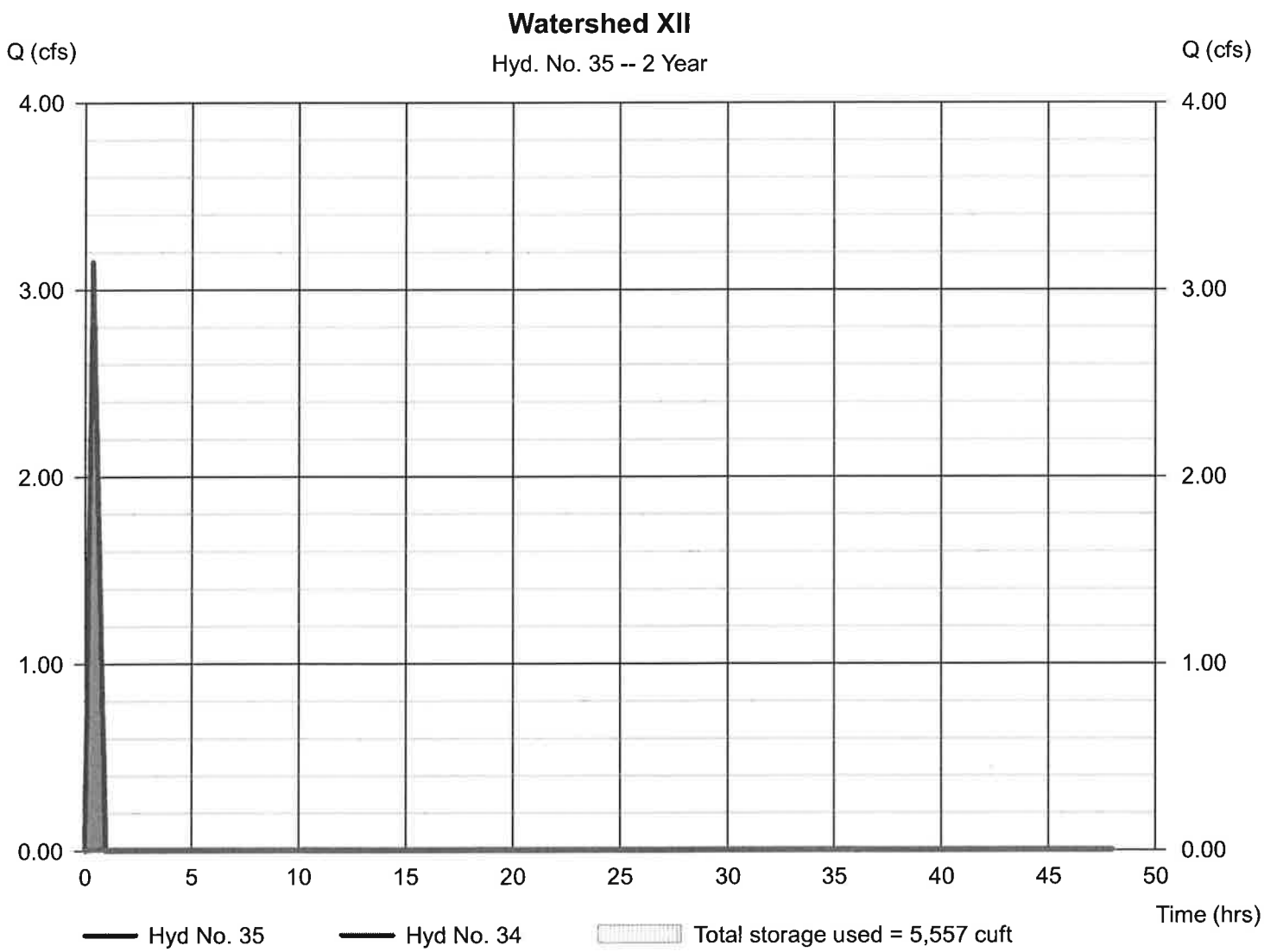
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 35

Watershed XII

Hydrograph type	= Reservoir	Peak discharge	= 0.006 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.98 hrs
Time interval	= 1 min	Hyd. volume	= 1,072 cuft
Inflow hyd. No.	= 34 - Watershed XII	Max. Elevation	= 546.14 ft
Reservoir name	= Watershed XII	Max. Storage	= 5,557 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Pond No. 10 - Watershed XII

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 545.20 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	545.20	00	0	0
0.80	546.00	5,000	1,333	1,333
2.80	548.00	67,000	60,196	61,529

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.50	0.00	0.00	0.00
Span (in)	= 0.50	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 545.20	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)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
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	545.20	0.00	---	---	---	---	---	---	---	---	---	0.00
0.08	133	545.28	0.00 ic	---	---	---	---	---	---	---	---	---	0.00
0.16	267	545.36	0.00 ic	---	---	---	---	---	---	---	---	---	0.00
0.24	400	545.44	0.00 ic	---	---	---	---	---	---	---	---	---	0.00
0.32	533	545.52	0.00 ic	---	---	---	---	---	---	---	---	---	0.00
0.40	667	545.60	0.00 ic	---	---	---	---	---	---	---	---	---	0.00
0.48	800	545.68	0.00 ic	---	---	---	---	---	---	---	---	---	0.00
0.56	933	545.76	0.00 ic	---	---	---	---	---	---	---	---	---	0.00
0.64	1,067	545.84	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
0.72	1,200	545.92	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
0.80	1,333	546.00	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
1.00	7,353	546.20	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
1.20	13,372	546.40	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
1.40	19,392	546.60	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
1.60	25,412	546.80	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
1.80	31,431	547.00	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
2.00	37,451	547.20	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
2.20	43,470	547.40	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
2.40	49,490	547.60	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
2.60	55,510	547.80	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
2.80	61,529	548.00	0.01 ic	---	---	---	---	---	---	---	---	---	0.01

Hydrograph Report

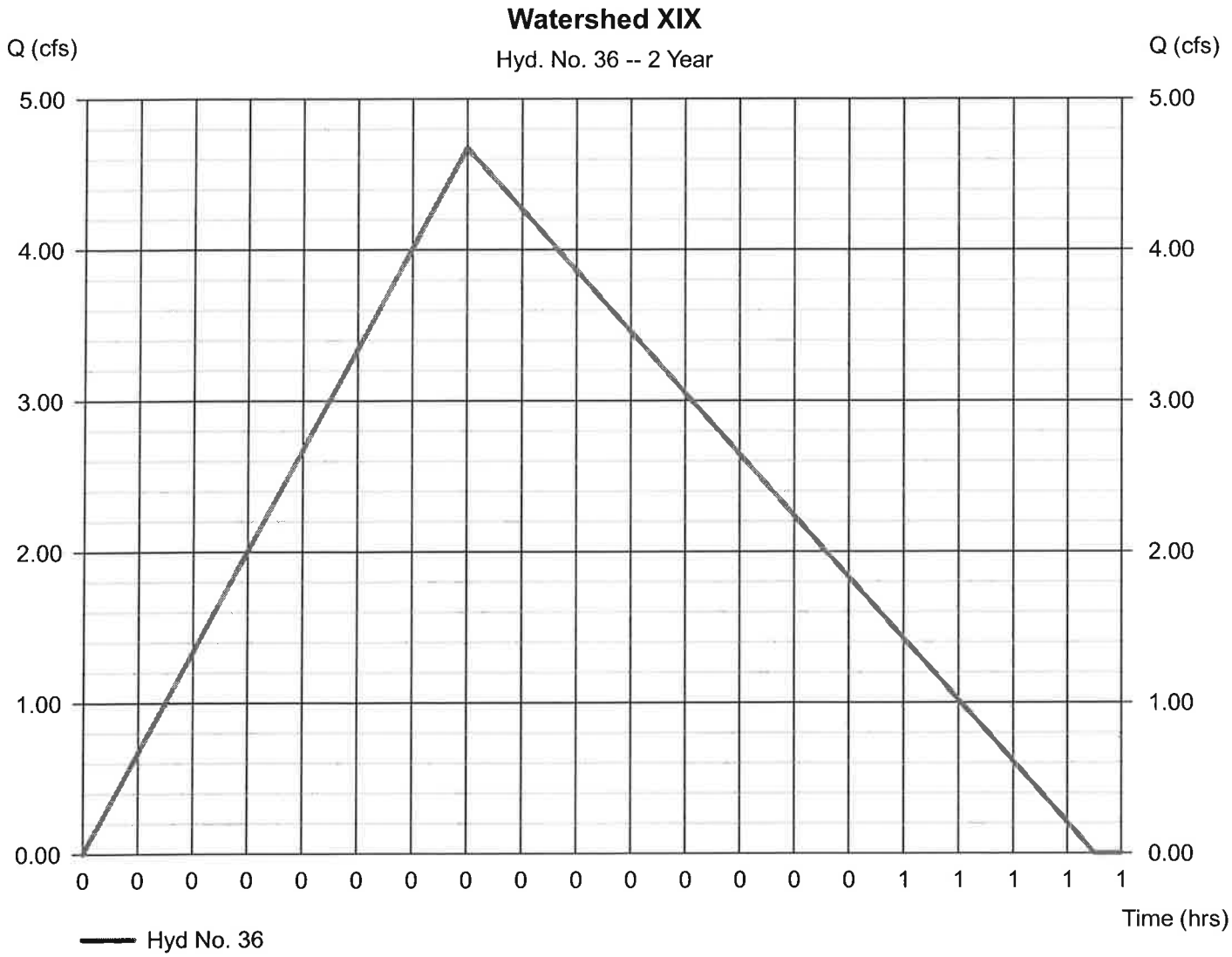
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 36

Watershed XIX

Hydrograph type	= Rational	Peak discharge	= 4.673 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.23 hrs
Time interval	= 1 min	Hyd. volume	= 5,241 cuft
Drainage area	= 5.860 ac	Runoff coeff.	= 0.27*
Intensity	= 2.954 in/hr	Tc by TR55	= 14.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.400 x 0.90) + (1.500 x 0.30) + (3.960 x 0.20)] / 5.860



TR55 Tc Worksheet

Hydraflow Hydrographs by Intelisolve v9.1

Hyd. No. 36

Watershed XIX

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.240		0.400		0.011		
Flow length (ft)	=	100.0		0.0		0.0		
Two-year 24-hr precip. (in)	=	3.20		0.00		0.00		
Land slope (%)	=	6.90		0.00		0.00		
Travel Time (min)	**=**	**8.70**	**+**	**0.00**	**+**	**0.00**	**=**	**8.70**
Shallow Concentrated Flow								
Flow length (ft)	=	332.00		0.00		0.00		
Watercourse slope (%)	=	6.50		0.00		0.00		
Surface description	=	Unpaved		Paved		Paved		
Average velocity (ft/s)	=	4.11		0.00		0.00		
Travel Time (min)	**=**	**1.35**	**+**	**0.00**	**+**	**0.00**	**=**	**1.35**
Channel Flow								
X sectional flow area (sqft)	=	5.00		0.00		0.00		
Wetted perimeter (ft)	=	7.47		0.00		0.00		
Channel slope (%)	=	0.30		0.00		0.00		
Manning's n-value	=	0.040		0.015		0.015		
Velocity (ft/s)	=	1.56		0.00		0.00		
Flow length (ft)	=	394.0		0.0		0.0		
Travel Time (min)	**=**	**4.21**	**+**	**0.00**	**+**	**0.00**	**=**	**4.21**

Total Travel Time, Tc ..... 14.00 min

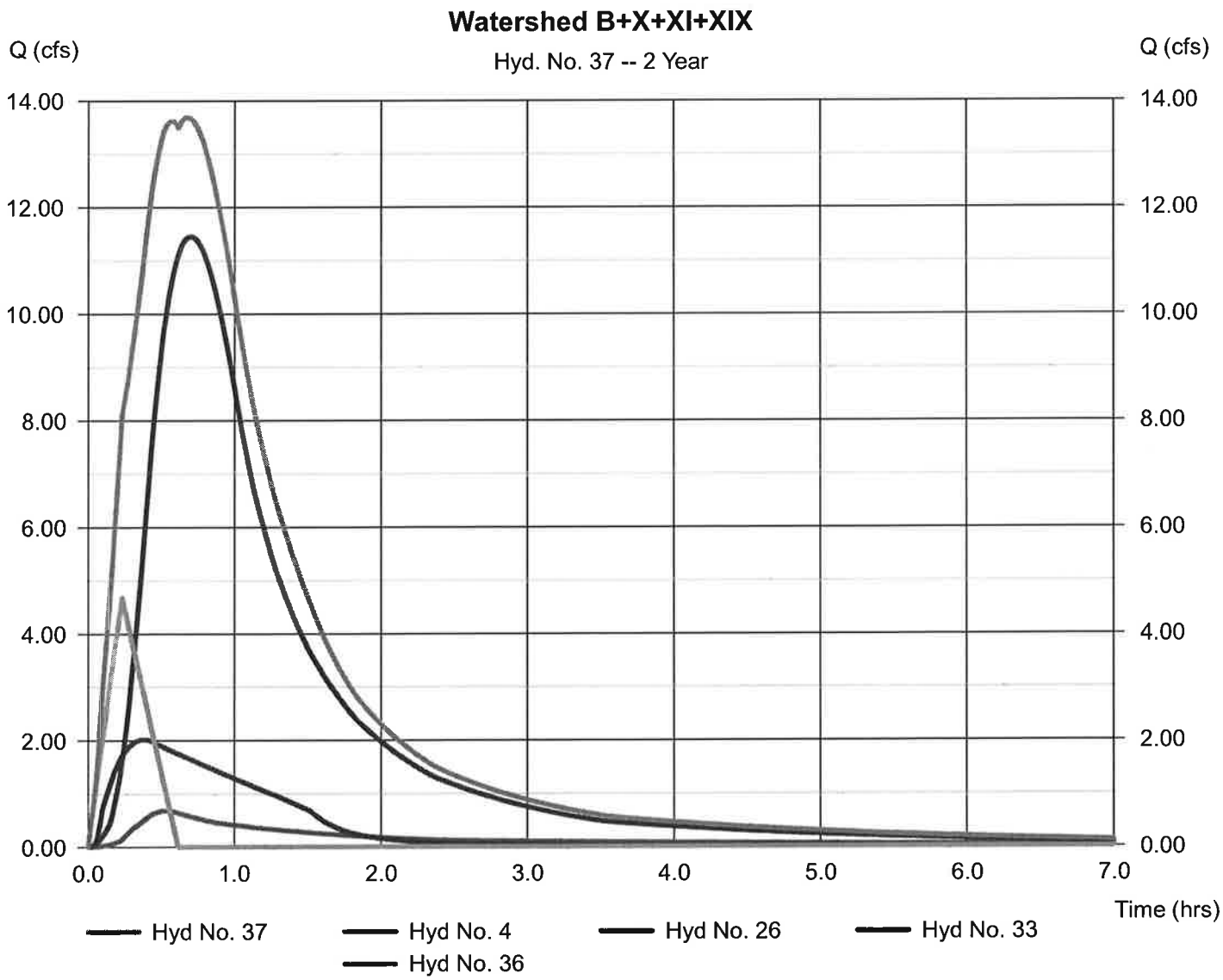
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 37

Watershed B+X+XI+XIX

Hydrograph type	= Combine	Peak discharge	= 13.69 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.68 hrs
Time interval	= 1 min	Hyd. volume	= 66,294 cuft
Inflow hyds.	= 4, 26, 33, 36	Contrib. drain. area	= 5.860 ac



Hydrograph Report

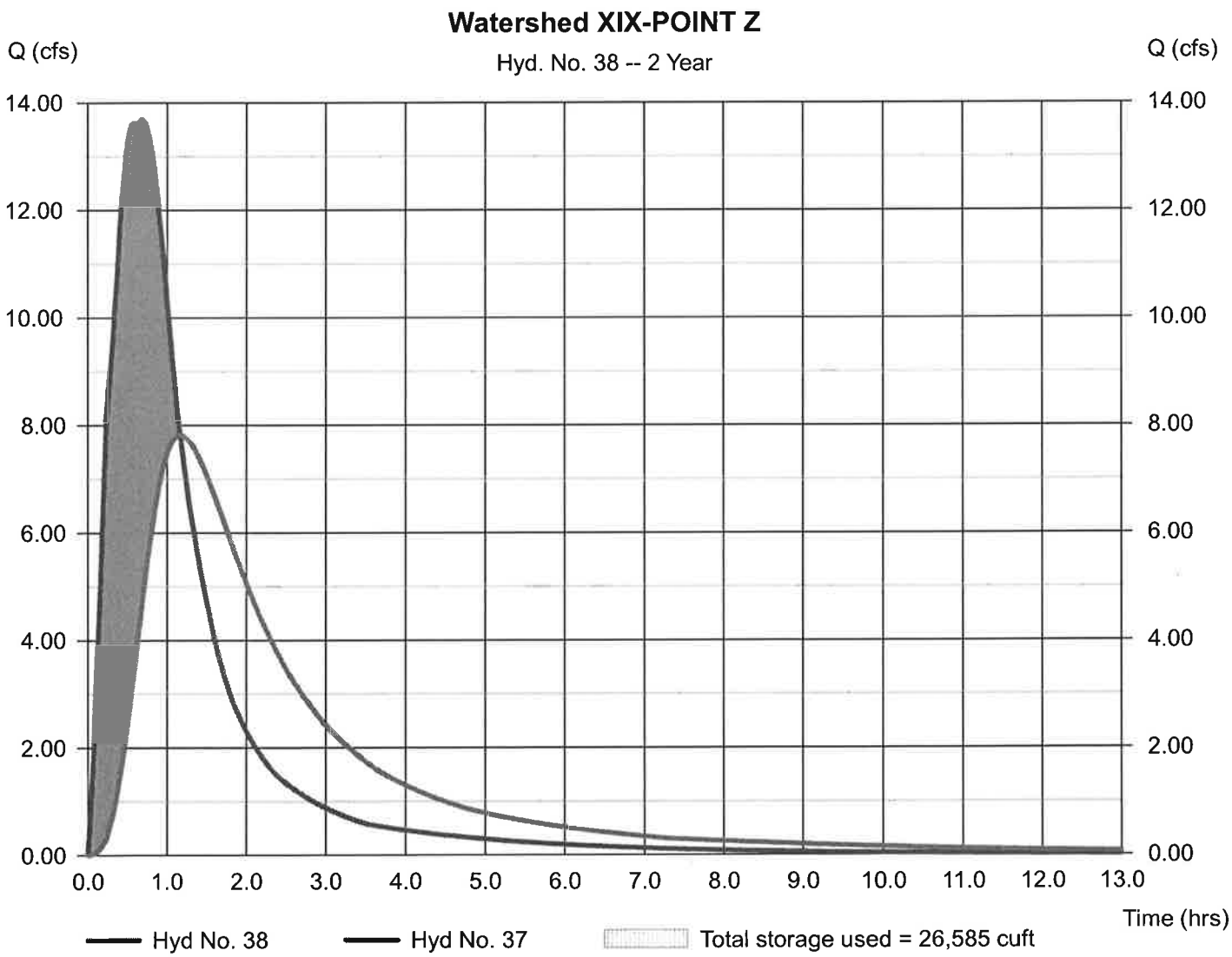
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 38

Watershed XIX-POINT Z

Hydrograph type	= Reservoir	Peak discharge	= 7.807 cfs
Storm frequency	= 2 yrs	Time to peak	= 1.17 hrs
Time interval	= 1 min	Hyd. volume	= 66,284 cuft
Inflow hyd. No.	= 37 - Watershed B+X+XI+XIX	Max. Elevation	= 541.81 ft
Reservoir name	= Watershed XIX	Max. Storage	= 26,585 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Pond No. 19 - Watershed XIX

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 540.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	540.50	00	0	0
1.50	542.00	60,882	30,438	30,438
3.50	544.00	108,902	167,457	197,895

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)	= 2.00	52.50	149.00	0.00
Crest El. (ft)	= 540.50	542.00	544.00	0.00
Weir Coeff.	= 2.60	2.60	2.60	3.33
Weir Type	= Broad	Broad	Broad	---
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	540.50	---	---	---	---	0.00	0.00	0.00	---	---	---	0.00
0.15	3,044	540.65	---	---	---	---	0.30	0.00	0.00	---	---	---	0.30
0.30	6,088	540.80	---	---	---	---	0.85	0.00	0.00	---	---	---	0.85
0.45	9,131	540.95	---	---	---	---	1.57	0.00	0.00	---	---	---	1.57
0.60	12,175	541.10	---	---	---	---	2.42	0.00	0.00	---	---	---	2.42
0.75	15,219	541.25	---	---	---	---	3.38	0.00	0.00	---	---	---	3.38
0.90	18,263	541.40	---	---	---	---	4.44	0.00	0.00	---	---	---	4.44
1.05	21,307	541.55	---	---	---	---	5.60	0.00	0.00	---	---	---	5.60
1.20	24,350	541.70	---	---	---	---	6.84	0.00	0.00	---	---	---	6.84
1.35	27,394	541.85	---	---	---	---	8.16	0.00	0.00	---	---	---	8.16
1.50	30,438	542.00	---	---	---	---	9.55	0.00	0.00	---	---	---	9.55
1.70	47,184	542.20	---	---	---	---	11.53	12.21	0.00	---	---	---	23.74
1.90	63,929	542.40	---	---	---	---	13.62	34.54	0.00	---	---	---	48.15
2.10	80,675	542.60	---	---	---	---	15.82	63.44	0.00	---	---	---	79.26
2.30	97,421	542.80	---	---	---	---	18.14	97.67	0.00	---	---	---	115.81
2.50	114,166	543.00	---	---	---	---	20.56	136.53	0.00	---	---	---	157.08
2.70	130,912	543.20	---	---	---	---	23.07	179.45	0.00	---	---	---	202.52
2.90	147,658	543.40	---	---	---	---	25.68	226.13	0.00	---	---	---	251.81
3.10	164,403	543.60	---	---	---	---	28.38	276.28	0.00	---	---	---	304.67
3.30	181,149	543.80	---	---	---	---	31.17	329.67	0.00	---	---	---	360.85
3.50	197,895	544.00	---	---	---	---	34.05	386.08	0.00	---	---	---	420.13

Hydrograph Report

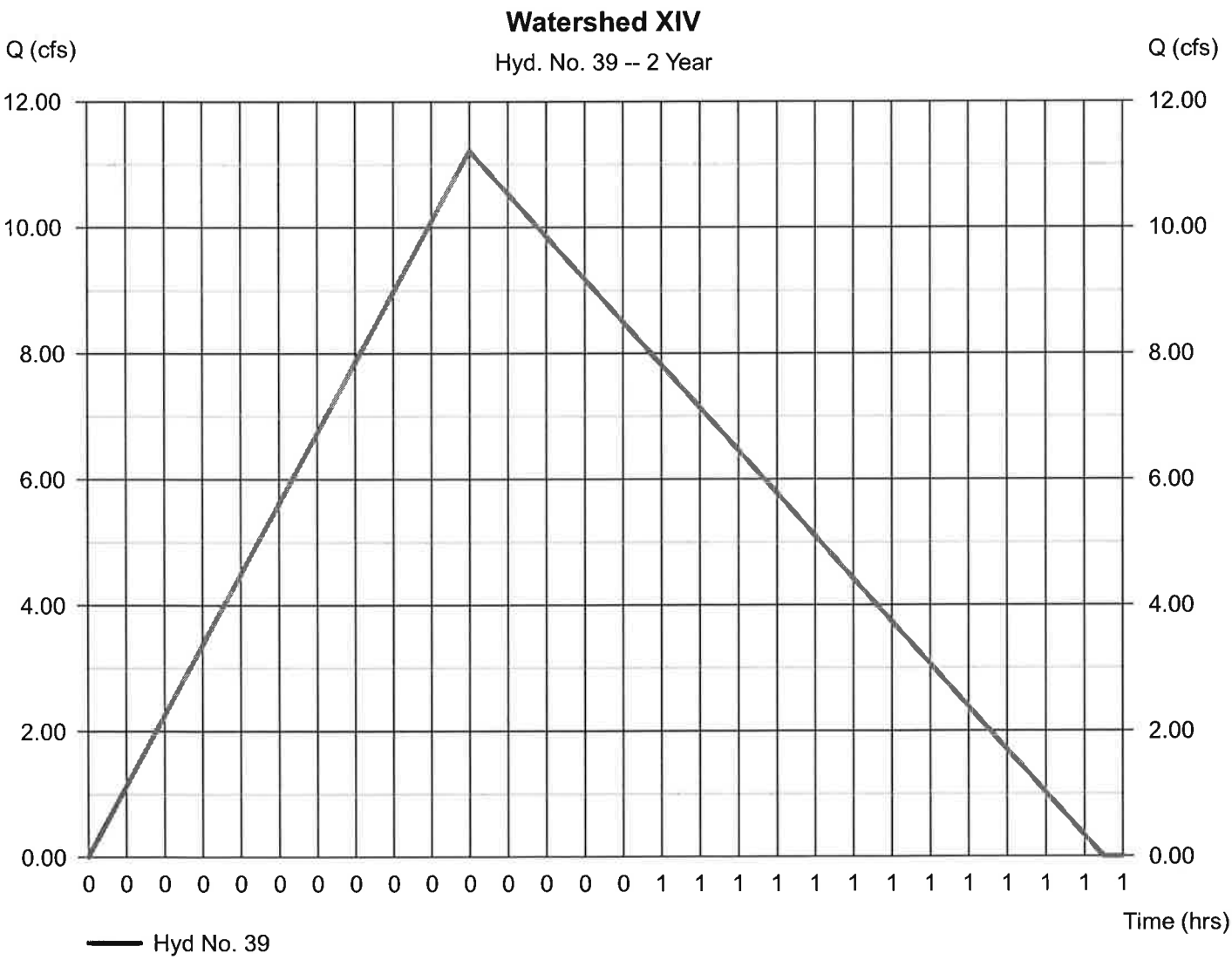
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 39

Watershed XIV

Hydrograph type	= Rational	Peak discharge	= 11.21 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 17,966 cuft
Drainage area	= 15.400 ac	Runoff coeff.	= 0.3*
Intensity	= 2.427 in/hr	Tc by TR55	= 20.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.000 x 0.90) + (5.100 x 0.30) + (8.800 x 0.20) + (0.500 x 1.00)] / 15.400



TR55 Tc Worksheet

Hydraflow Hydrographs by Intelisolve v9.1

Hyd. No. 39

Watershed XIV

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.400		0.011		0.011		
Flow length (ft)	=	100.0		0.0		0.0		
Two-year 24-hr precip. (in)	=	3.20		0.00		0.00		
Land slope (%)	=	3.50		0.00		0.00		
Travel Time (min)	**=**	**17.17**	**+**	**0.00**	**+**	**0.00**	**=**	**17.17**
Shallow Concentrated Flow								
Flow length (ft)	=	613.00		0.00		0.00		
Watercourse slope (%)	=	3.67		0.00		0.00		
Surface description	=	Unpaved		Paved		Paved		
Average velocity (ft/s)	=	3.09		0.00		0.00		
Travel Time (min)	**=**	**3.31**	**+**	**0.00**	**+**	**0.00**	**=**	**3.31**
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	=	0.040		0.015		0.015		
Velocity (ft/s)	=	0.00		0.00		0.00		
Flow length (ft)	=	0.0		0.0		0.0		
Travel Time (min)	**=**	**0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... 20.00 min

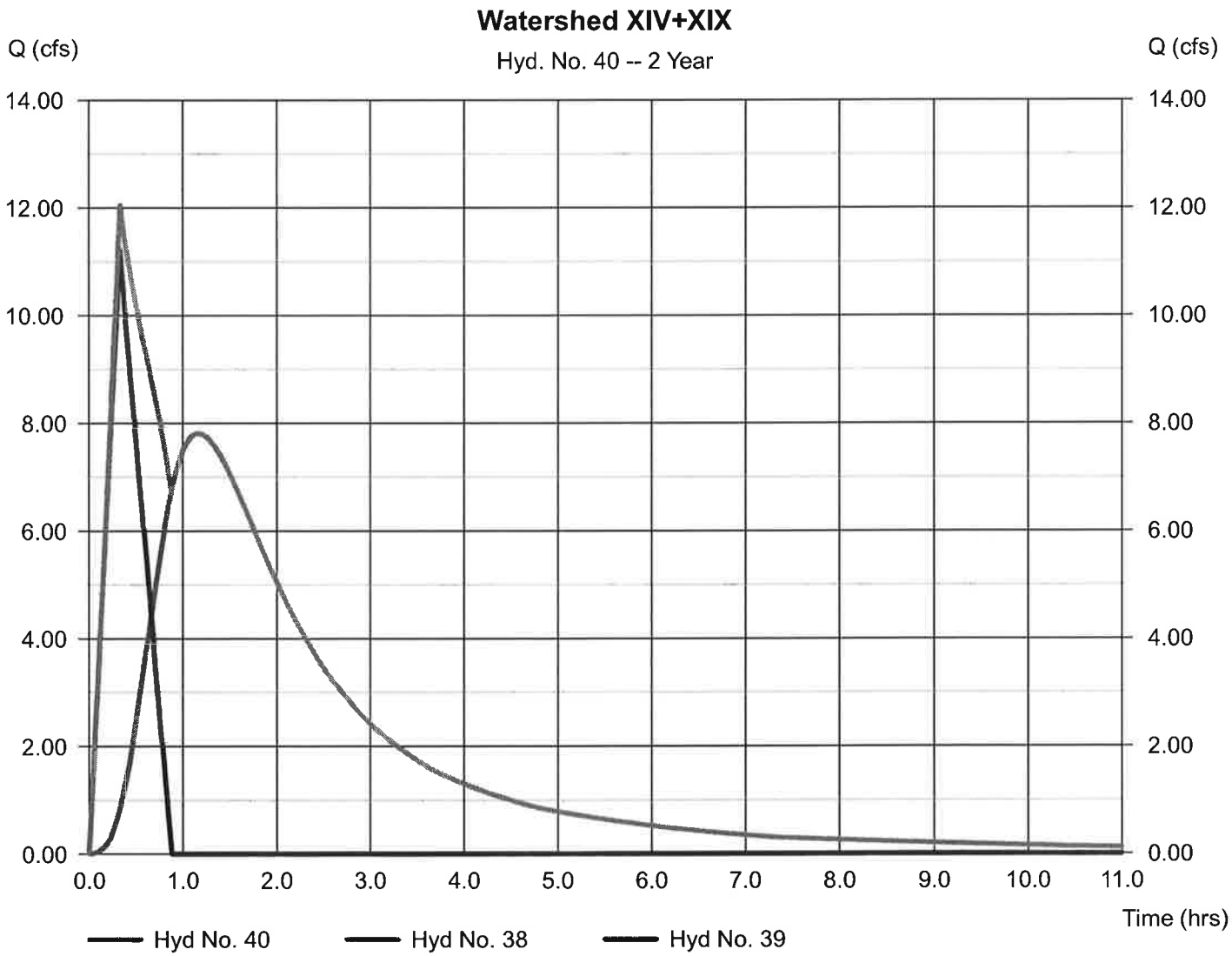
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 40

Watershed XIV+XIX

Hydrograph type	= Combine	Peak discharge	= 12.05 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 84,115 cuft
Inflow hyds.	= 38, 39	Contrib. drain. area	= 15.400 ac



Hydrograph Report

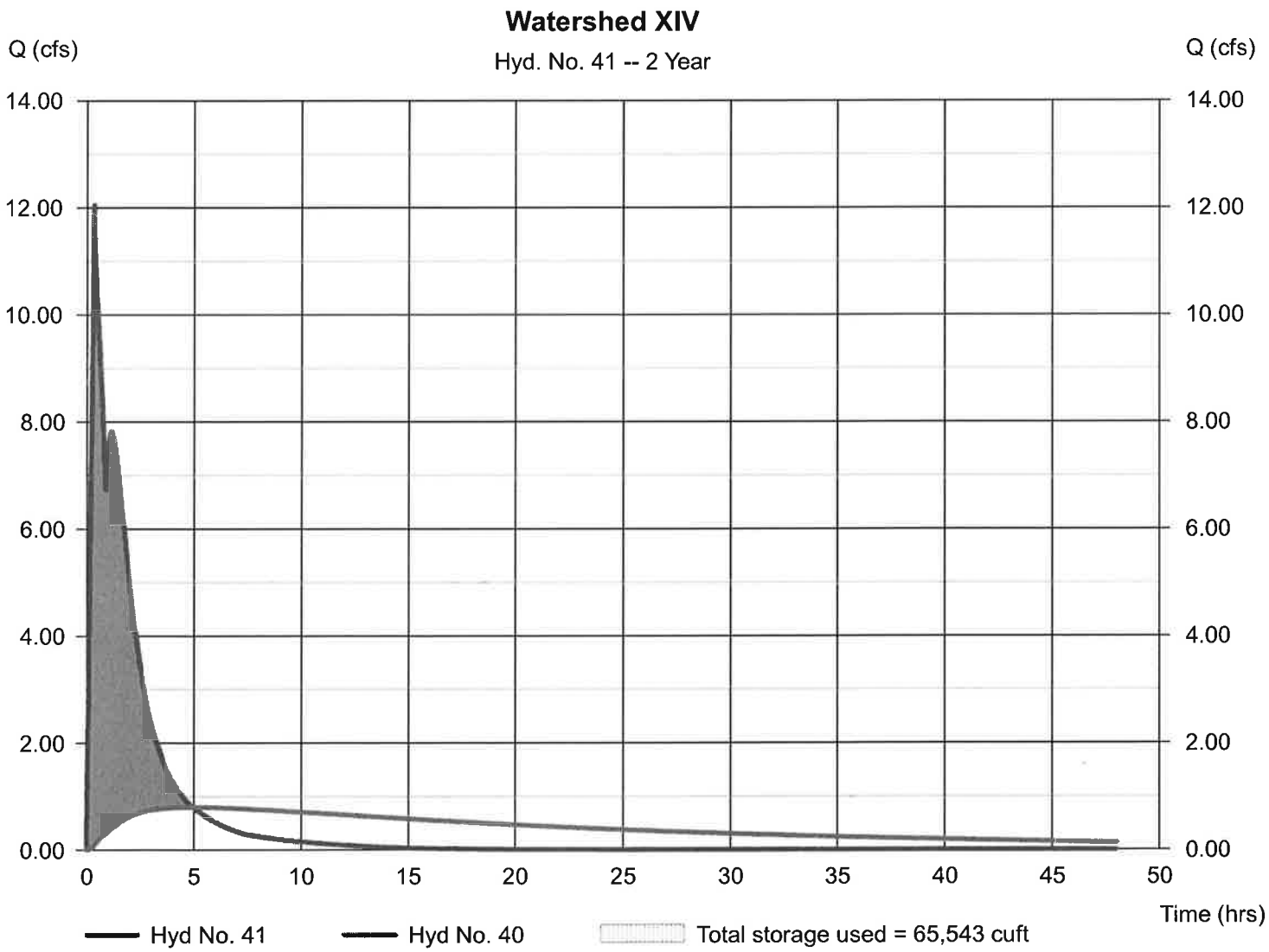
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 41

Watershed XIV

Hydrograph type	= Reservoir	Peak discharge	= 0.797 cfs
Storm frequency	= 2 yrs	Time to peak	= 4.95 hrs
Time interval	= 1 min	Hyd. volume	= 71,972 cuft
Inflow hyd. No.	= 40 - Watershed XIV+XIX	Max. Elevation	= 539.00 ft
Reservoir name	= Watershed XIV	Max. Storage	= 65,543 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Pond No. 3 - Watershed XIV

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 538.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	538.00	46,741	0	0
2.00	540.00	86,762	131,443	131,443
4.00	542.00	100,000	186,587	318,030

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	0.00	0.00	0.00
Span (in)	= 20.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	1
Invert El. (ft)	= 538.00	0.00	0.00	0.00
Length (ft)	= 5.75	0.00	0.00	0.00
Slope (%)	= 0.10	0.00	0.00	n/a
N-Value	= .015	.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)	= 67.00	0.00	0.00	0.00
Crest El. (ft)	= 540.00	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 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	538.00	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.20	13,144	538.20	0.15 oc	---	---	---	0.00	---	---	---	---	---	0.15
0.40	26,289	538.40	0.31 oc	---	---	---	0.00	---	---	---	---	---	0.31
0.60	39,433	538.60	0.47 oc	---	---	---	0.00	---	---	---	---	---	0.47
0.80	52,577	538.80	0.64 oc	---	---	---	0.00	---	---	---	---	---	0.64
1.00	65,722	539.00	0.80 oc	---	---	---	0.00	---	---	---	---	---	0.80
1.20	78,866	539.20	0.96 oc	---	---	---	0.00	---	---	---	---	---	0.96
1.40	92,010	539.40	1.13 oc	---	---	---	0.00	---	---	---	---	---	1.13
1.60	105,155	539.60	5.11 oc	---	---	---	0.00	---	---	---	---	---	5.11
1.80	118,299	539.80	8.69 oc	---	---	---	0.00	---	---	---	---	---	8.69
2.00	131,443	540.00	11.18 oc	---	---	---	0.00	---	---	---	---	---	11.18
2.20	150,102	540.20	13.20 oc	---	---	---	15.58	---	---	---	---	---	28.79
2.40	168,761	540.40	14.96 oc	---	---	---	44.07	---	---	---	---	---	59.03
2.60	187,419	540.60	16.37 ic	---	---	---	80.97	---	---	---	---	---	97.34
2.80	206,078	540.80	17.24 ic	---	---	---	124.66	---	---	---	---	---	141.89
3.00	224,737	541.00	18.06 ic	---	---	---	174.22	---	---	---	---	---	192.27
3.20	243,395	541.20	18.84 ic	---	---	---	229.01	---	---	---	---	---	247.85
3.40	262,054	541.40	19.60 ic	---	---	---	288.59	---	---	---	---	---	308.19
3.60	280,713	541.60	20.32 ic	---	---	---	352.59	---	---	---	---	---	372.91
3.80	299,371	541.80	21.02 ic	---	---	---	420.72	---	---	---	---	---	441.75
4.00	318,030	542.00	21.70 ic	---	---	---	492.71	---	---	---	---	---	514.41

Hydrograph Report

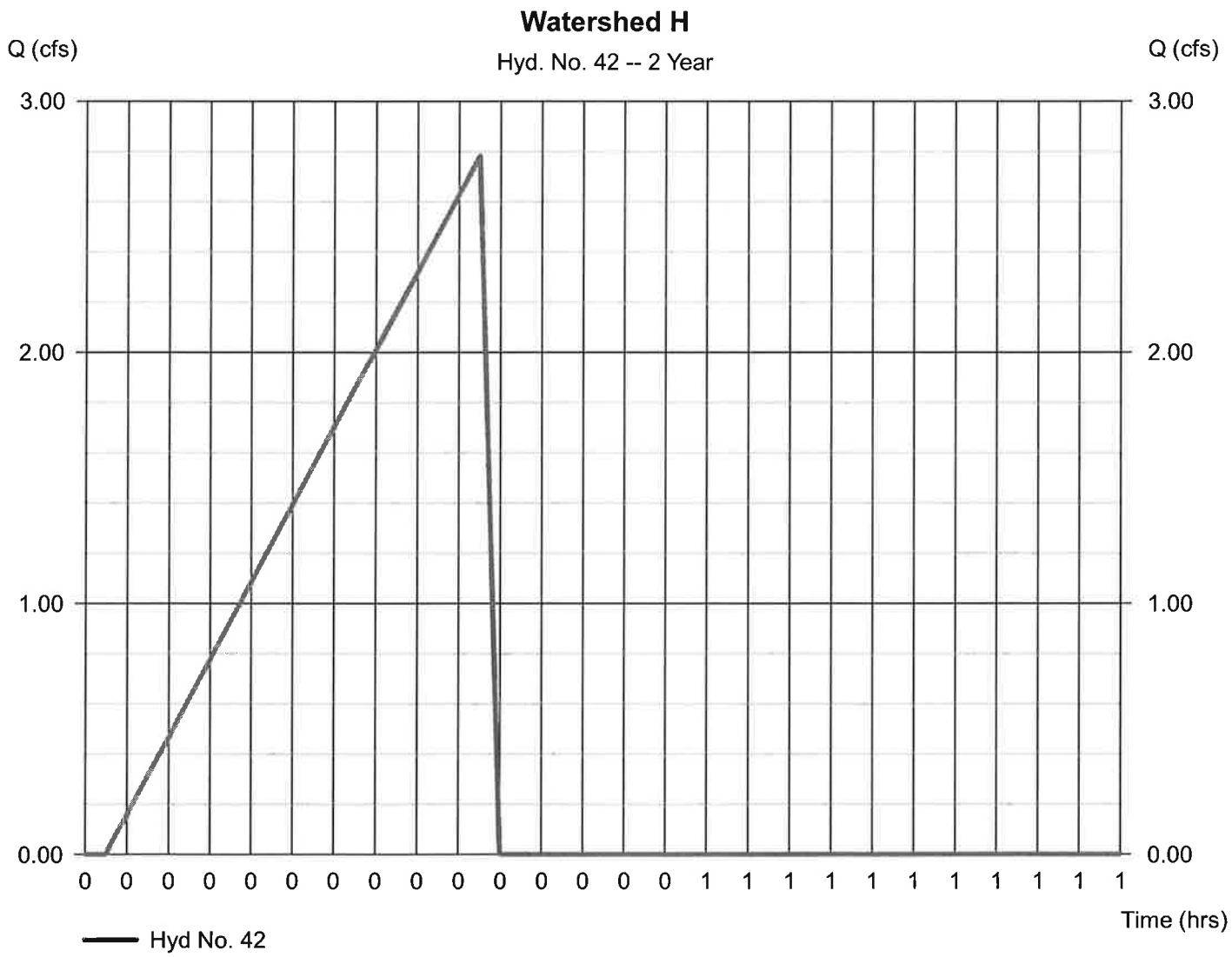
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 42

Watershed H

Hydrograph type	= Rational	Peak discharge	= 2.781 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 4,163 cuft
Drainage area	= 3.800 ac	Runoff coeff.	= 0.29*
Intensity	= 2.524 in/hr	Tc by TR55	= 18.69 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.200 x 0.90) + (0.100 x 0.30) + (2.500 x 0.20) + (0.800 x 0.25) + (0.200 x 1.00)] / 3.800



TR55 Tc Worksheet

Hydraflow Hydrographs by Intelisolve v9.1

Hyd. No. 42

Watershed H

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.400		0.240		0.011		
Flow length (ft)	=	60.0		40.0		0.0		
Two-year 24-hr precip. (in)	=	3.20		3.20		0.00		
Land slope (%)	=	5.30		5.00		0.00		
Travel Time (min)	**=**	**9.66**	**+**	**4.75**	**+**	**0.00**	**=**	**14.42**
Shallow Concentrated Flow								
Flow length (ft)	=	229.00		0.00		0.00		
Watercourse slope (%)	=	4.30		0.00		0.00		
Surface description	=	Unpaved		Paved		Paved		
Average velocity (ft/s)	=	3.35		0.00		0.00		
Travel Time (min)	**=**	**1.14**	**+**	**0.00**	**+**	**0.00**	**=**	**1.14**
Channel Flow								
X sectional flow area (sqft)	=	1.25		0.00		0.00		
Wetted perimeter (ft)	=	3.74		0.00		0.00		
Channel slope (%)	=	0.30		0.00		0.00		
Manning's n-value	=	0.040		0.015		0.015		
Velocity (ft/s)	=	0.98		0.00		0.00		
Flow length (ft)	=	184.0		0.0		0.0		
Travel Time (min)	**=**	**3.13**	**+**	**0.00**	**+**	**0.00**	**=**	**3.13**

Total Travel Time, Tc ..... **18.69 min**

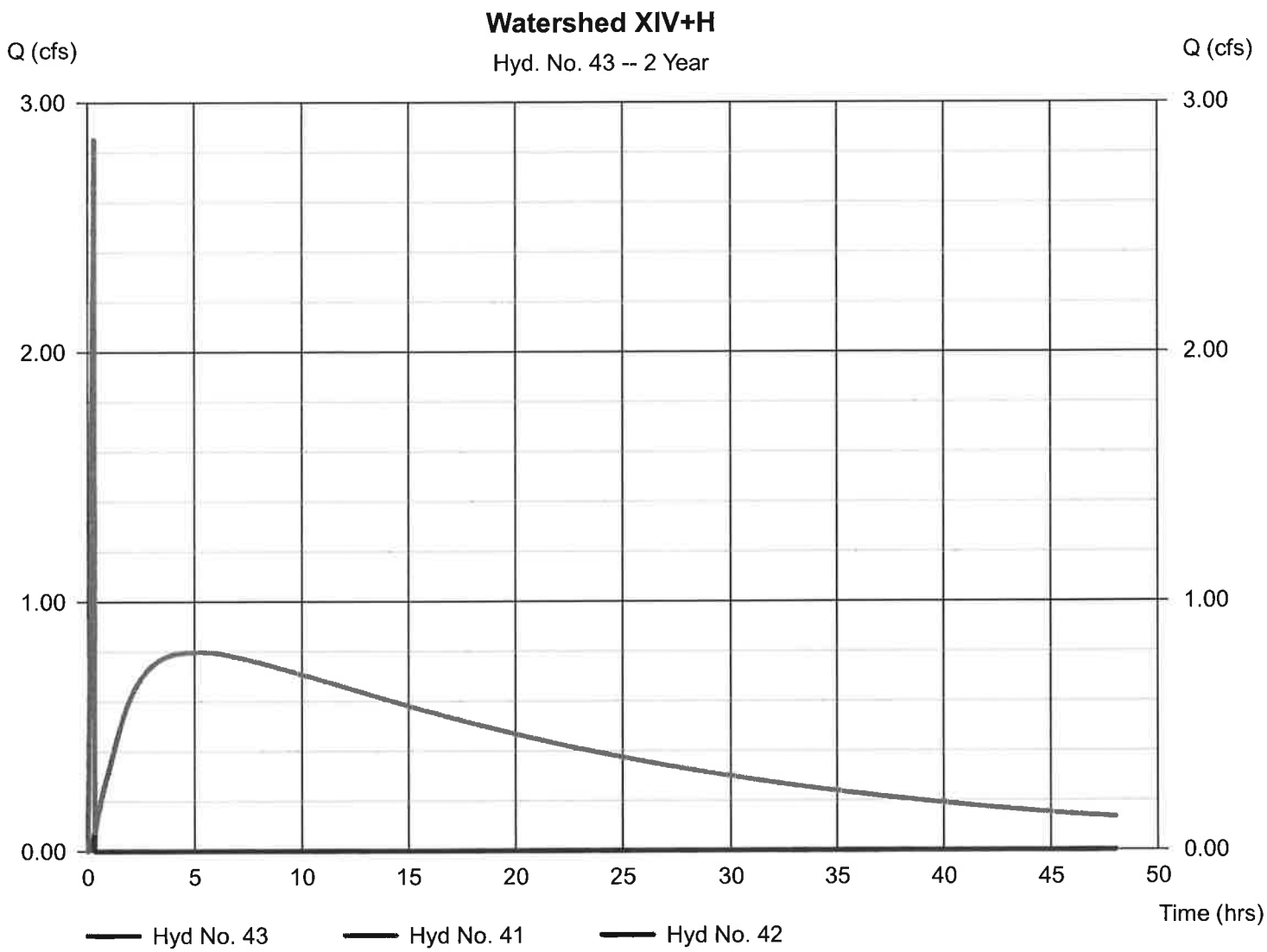
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 43

Watershed XIV+H

Hydrograph type	= Combine	Peak discharge	= 2.851 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 73,557 cuft
Inflow hyds.	= 41, 42	Contrib. drain. area	= 3.800 ac



Hydrograph Report

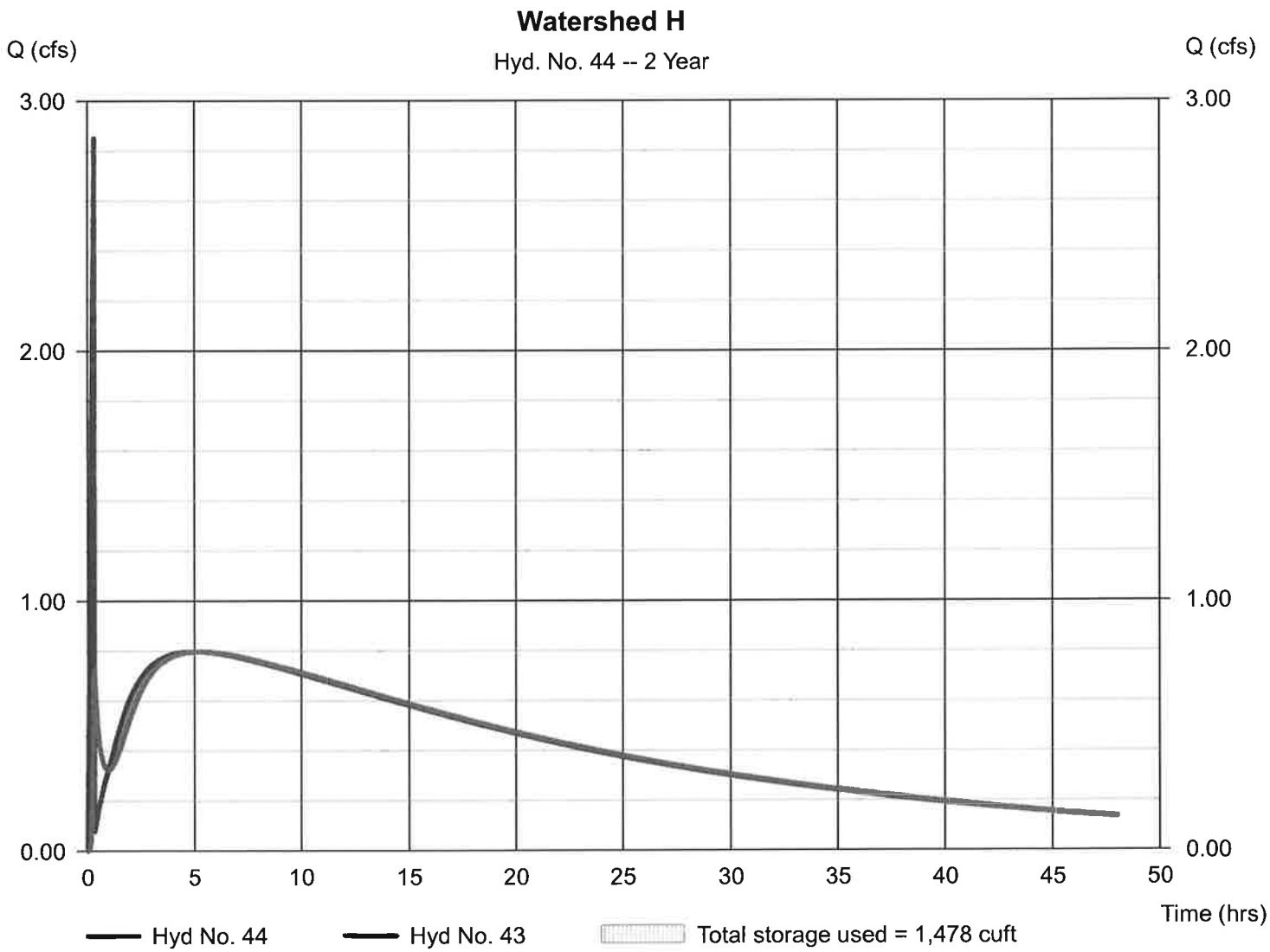
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 44

Watershed H

Hydrograph type	= Reservoir	Peak discharge	= 0.796 cfs
Storm frequency	= 2 yrs	Time to peak	= 5.30 hrs
Time interval	= 1 min	Hyd. volume	= 72,971 cuft
Inflow hyd. No.	= 43 - Watershed XIV+H	Max. Elevation	= 535.99 ft
Reservoir name	= Watershed H	Max. Storage	= 1,478 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Pond No. 13 - Watershed H

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 535.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	535.50	00	0	0
0.50	536.00	9,000	1,500	1,500
2.50	538.00	62,000	63,075	64,575

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	0.00	0.00	0.00
Span (in)	= 18.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 535.50	0.00	0.00	0.00
Length (ft)	= 40.00	0.00	0.00	0.00
Slope (%)	= 0.50	0.00	0.00	n/a
N-Value	= .024	.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)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
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	535.50	0.00	---	---	---	---	---	---	---	---	---	0.00
0.05	150	535.55	0.01 oc	---	---	---	---	---	---	---	---	---	0.01
0.10	300	535.60	0.04 oc	---	---	---	---	---	---	---	---	---	0.04
0.15	450	535.65	0.08 oc	---	---	---	---	---	---	---	---	---	0.08
0.20	600	535.70	0.14 oc	---	---	---	---	---	---	---	---	---	0.14
0.25	750	535.75	0.23 oc	---	---	---	---	---	---	---	---	---	0.23
0.30	900	535.80	0.32 oc	---	---	---	---	---	---	---	---	---	0.32
0.35	1,050	535.85	0.43 oc	---	---	---	---	---	---	---	---	---	0.43
0.40	1,200	535.90	0.55 oc	---	---	---	---	---	---	---	---	---	0.55
0.45	1,350	535.95	0.68 oc	---	---	---	---	---	---	---	---	---	0.68
0.50	1,500	536.00	0.82 oc	---	---	---	---	---	---	---	---	---	0.82
0.70	7,807	536.20	1.43 oc	---	---	---	---	---	---	---	---	---	1.43
0.90	14,115	536.40	2.08 oc	---	---	---	---	---	---	---	---	---	2.08
1.10	20,422	536.60	2.69 oc	---	---	---	---	---	---	---	---	---	2.69
1.30	26,730	536.80	3.16 oc	---	---	---	---	---	---	---	---	---	3.16
1.50	33,037	537.00	3.19 oc	---	---	---	---	---	---	---	---	---	3.19
1.70	39,345	537.20	4.51 oc	---	---	---	---	---	---	---	---	---	4.51
1.90	45,652	537.40	5.52 oc	---	---	---	---	---	---	---	---	---	5.52
2.10	51,960	537.60	6.37 oc	---	---	---	---	---	---	---	---	---	6.37
2.30	58,267	537.80	7.12 oc	---	---	---	---	---	---	---	---	---	7.12
2.50	64,575	538.00	7.80 oc	---	---	---	---	---	---	---	---	---	7.80

Hydrograph Report

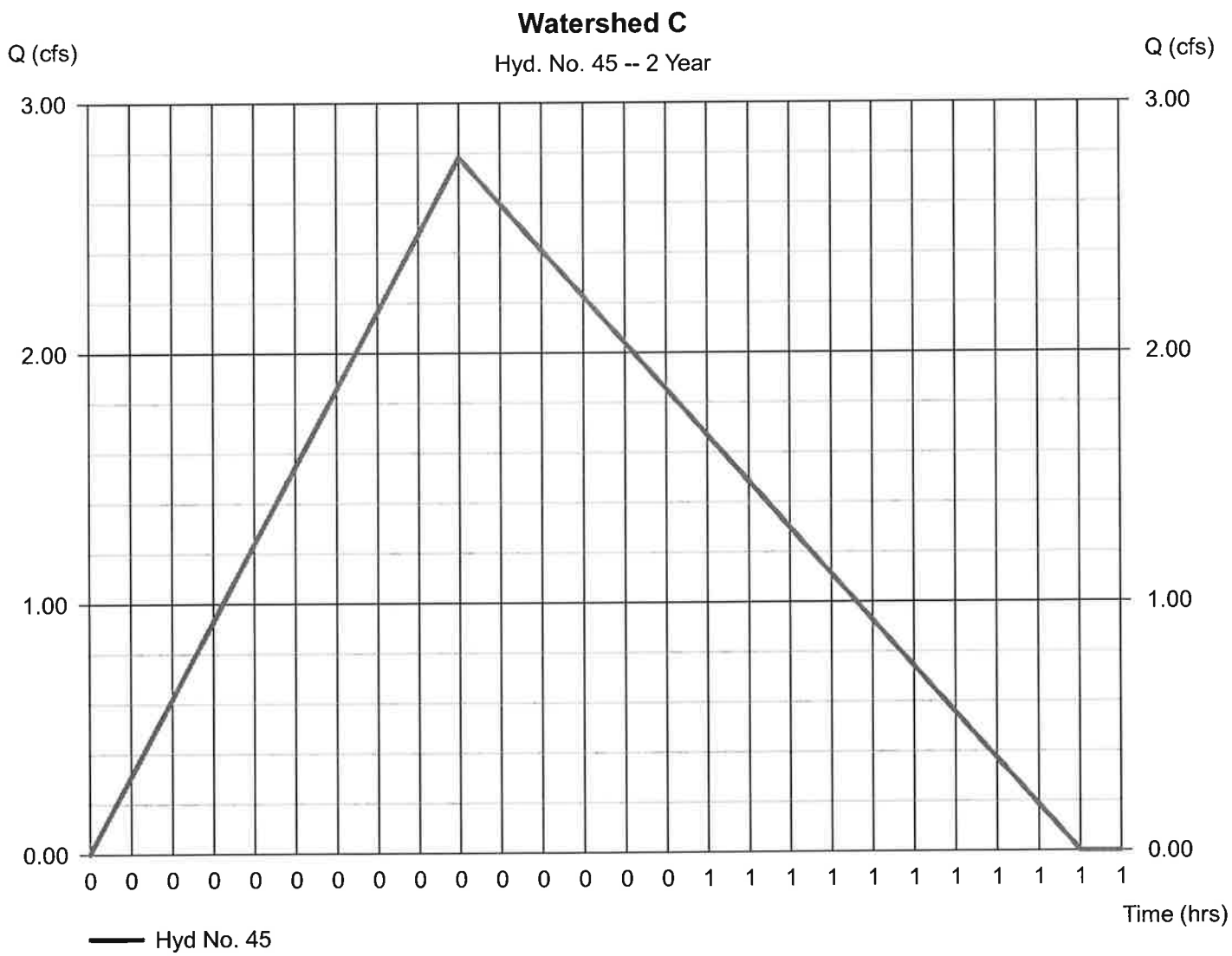
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 45

Watershed C

Hydrograph type	= Rational	Peak discharge	= 2.781 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.30 hrs
Time interval	= 1 min	Hyd. volume	= 4,076 cuft
Drainage area	= 3.300 ac	Runoff coeff.	= 0.33*
Intensity	= 2.554 in/hr	Tc by TR55	= 18.30 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.400 x 0.90) + (1.200 x 0.30) + (1.400 x 0.20) + (0.300 x 0.25)] / 3.300



TR55 Tc Worksheet

Hyd. No. 45

Watershed C

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.240		0.011		0.011		
Flow length (ft)	=	72.0		116.0		0.0		
Two-year 24-hr precip. (in)	=	3.20		3.20		0.00		
Land slope (%)	=	1.00		3.27		0.00		
Travel Time (min)	**=**	**14.48**	**+**	**1.12**	**+**	**0.00**	**=**	**15.60**
Shallow Concentrated Flow								
Flow length (ft)	=	175.00		0.00		0.00		
Watercourse slope (%)	=	8.00		0.00		0.00		
Surface description	=	Unpaved		Paved		Paved		
Average velocity (ft/s)	=	4.56		0.00		0.00		
Travel Time (min)	**=**	**0.64**	**+**	**0.00**	**+**	**0.00**	**=**	**0.64**
Channel Flow								
X sectional flow area (sqft)	=	5.00		0.00		0.00		
Wetted perimeter (ft)	=	7.47		0.00		0.00		
Channel slope (%)	=	0.90		0.00		0.00		
Manning's n-value	=	0.040		0.015		0.015		
Velocity (ft/s)	=	2.70		0.00		0.00		
Flow length (ft)	=	334.0		0.0		0.0		
Travel Time (min)	**=**	**2.06**	**+**	**0.00**	**+**	**0.00**	**=**	**2.06**

Total Travel Time, Tc ..... 18.30 min

Hydrograph Report

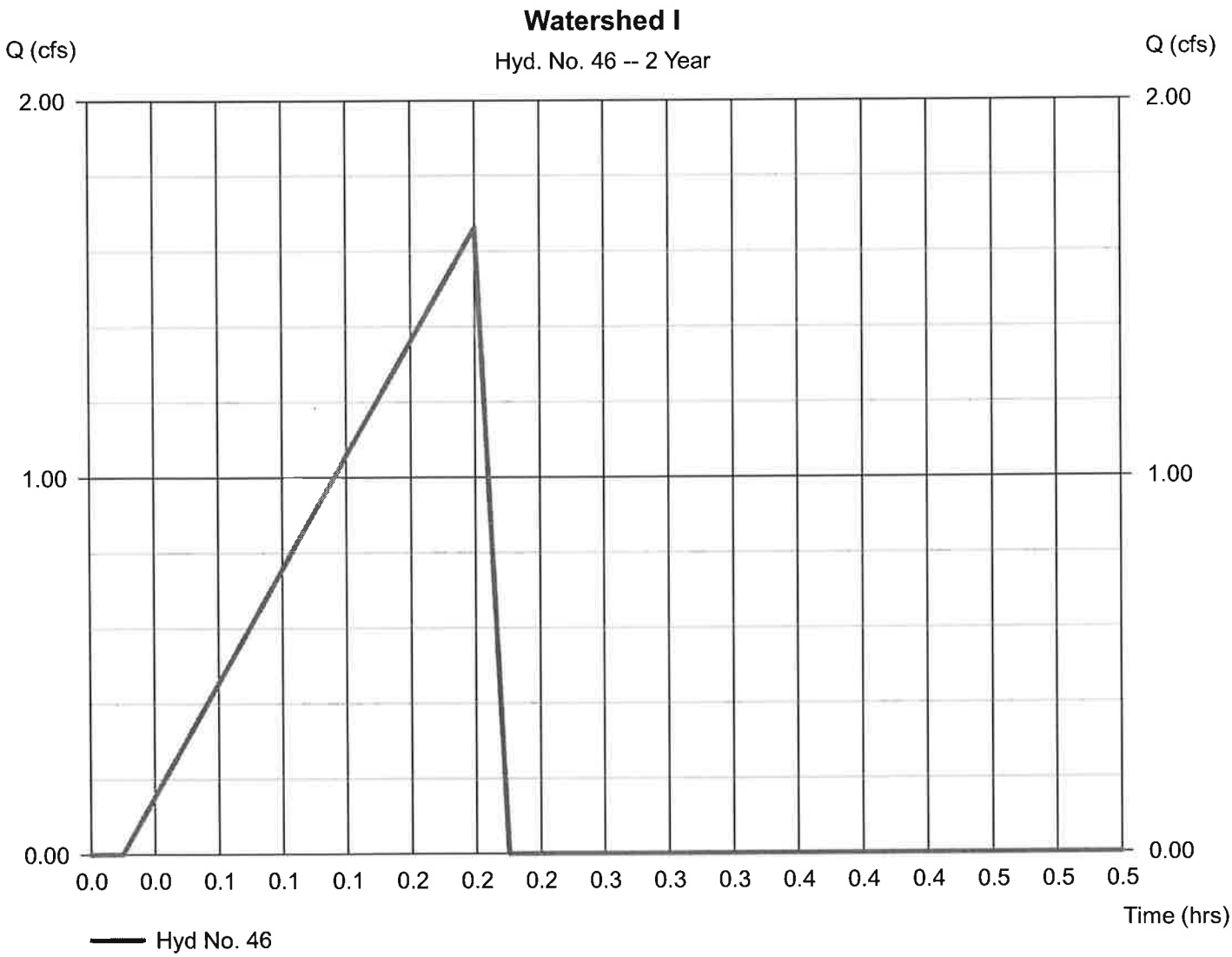
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 46

Watershed I

Hydrograph type	= Rational	Peak discharge	= 1.662 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 1,535 cuft
Drainage area	= 1.500 ac	Runoff coeff.	= 0.34*
Intensity	= 3.258 in/hr	Tc by TR55	= 11.53 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.200 x 0.90) + (0.700 x 0.30) + (0.600 x 0.20)] / 1.500



TR55 Tc Worksheet

Hydraflow Hydrographs by Intelisolve v9.1

Hyd. No. 46

Watershed I

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.240		0.011		0.011		
Flow length (ft)	=	100.0		0.0		0.0		
Two-year 24-hr precip. (in)	=	3.20		0.00		0.00		
Land slope (%)	=	6.00		0.00		0.00		
Travel Time (min)	**=**	**9.20**	**+**	**0.00**	**+**	**0.00**	**=**	**9.20**
Shallow Concentrated Flow								
Flow length (ft)	=	113.00		274.00		0.00		
Watercourse slope (%)	=	6.20		1.45		0.00		
Surface description	=	Unpaved		Paved		Paved		
Average velocity (ft/s)	=	4.02		2.45		0.00		
Travel Time (min)	**=**	**0.47**	**+**	**1.87**	**+**	**0.00**	**=**	**2.33**
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		
Travel Time (min)	**=**	**0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... 11.53 min

Hydrograph Report

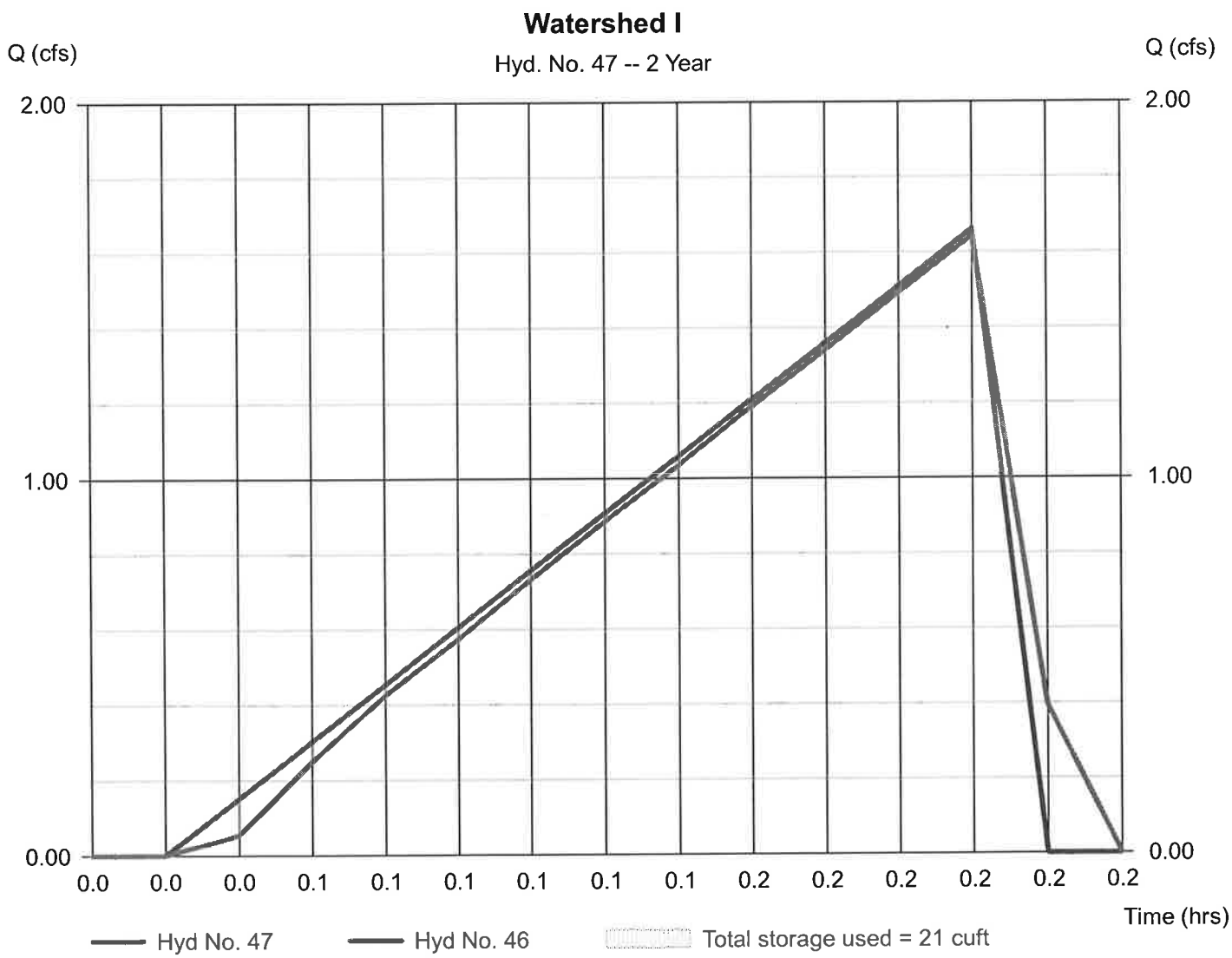
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 47

Watershed I

Hydrograph type	= Reservoir	Peak discharge	= 1.643 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 601 cuft
Inflow hyd. No.	= 46 - Watershed I	Max. Elevation	= 531.39 ft
Reservoir name	= Watershed I	Max. Storage	= 21 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Pond No. 15 - Watershed I

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 530.75 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	530.75	00	0	0
1.25	532.00	100	42	42
3.25	534.00	200	294	336

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 15.00	0.00	0.00	0.00
Span (in)	= 15.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 530.75	0.00	0.00	0.00
Length (ft)	= 36.65	0.00	0.00	0.00
Slope (%)	= 1.44	0.00	0.00	n/a
N-Value	= .015	.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)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
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	530.75	0.00	---	---	---	---	---	---	---	---	---	0.00
0.13	4	530.88	0.08 ic	---	---	---	---	---	---	---	---	---	0.08
0.25	8	531.00	0.30 ic	---	---	---	---	---	---	---	---	---	0.30
0.38	12	531.13	0.65 ic	---	---	---	---	---	---	---	---	---	0.65
0.50	17	531.25	1.10 ic	---	---	---	---	---	---	---	---	---	1.10
0.63	21	531.38	1.65 ic	---	---	---	---	---	---	---	---	---	1.65
0.75	25	531.50	2.27 ic	---	---	---	---	---	---	---	---	---	2.27
0.88	29	531.63	2.92 ic	---	---	---	---	---	---	---	---	---	2.92
1.00	33	531.75	3.58 ic	---	---	---	---	---	---	---	---	---	3.58
1.13	37	531.88	4.20 ic	---	---	---	---	---	---	---	---	---	4.20
1.25	42	532.00	4.42 oc	---	---	---	---	---	---	---	---	---	4.42
1.45	71	532.20	5.19 oc	---	---	---	---	---	---	---	---	---	5.19
1.65	101	532.40	5.86 oc	---	---	---	---	---	---	---	---	---	5.86
1.85	130	532.60	6.46 oc	---	---	---	---	---	---	---	---	---	6.46
2.05	159	532.80	7.01 oc	---	---	---	---	---	---	---	---	---	7.01
2.25	189	533.00	7.51 oc	---	---	---	---	---	---	---	---	---	7.51
2.45	218	533.20	7.98 ic	---	---	---	---	---	---	---	---	---	7.98
2.65	248	533.40	8.41 ic	---	---	---	---	---	---	---	---	---	8.41
2.85	277	533.60	8.81 ic	---	---	---	---	---	---	---	---	---	8.81
3.05	306	533.80	9.20 ic	---	---	---	---	---	---	---	---	---	9.20
3.25	336	534.00	9.57 ic	---	---	---	---	---	---	---	---	---	9.57

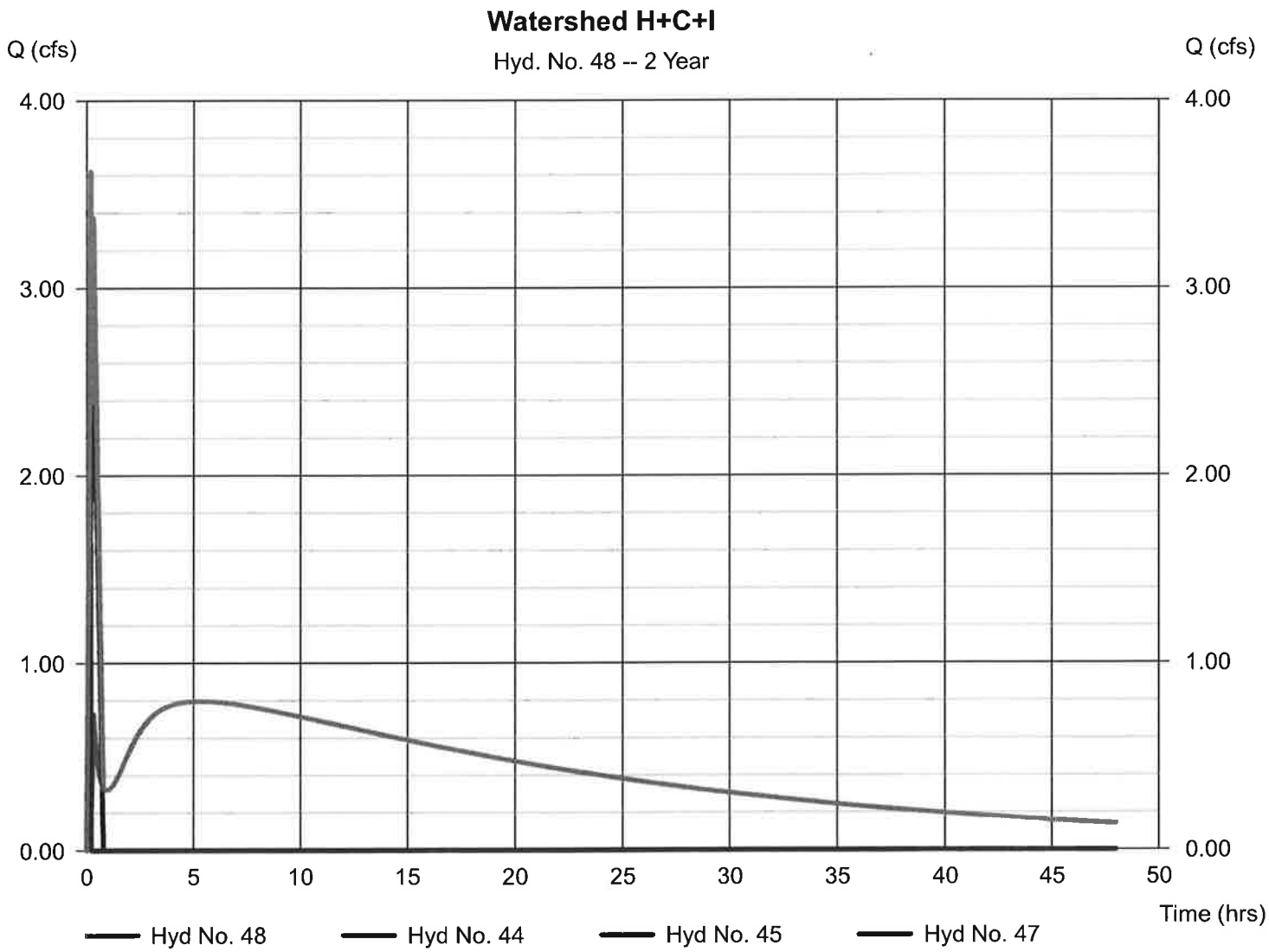
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 48

Watershed H+C+I

Hydrograph type	= Combine	Peak discharge	= 3.620 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 77,576 cuft
Inflow hyds.	= 44, 45, 47	Contrib. drain. area	= 3.300 ac



Hydrograph Report

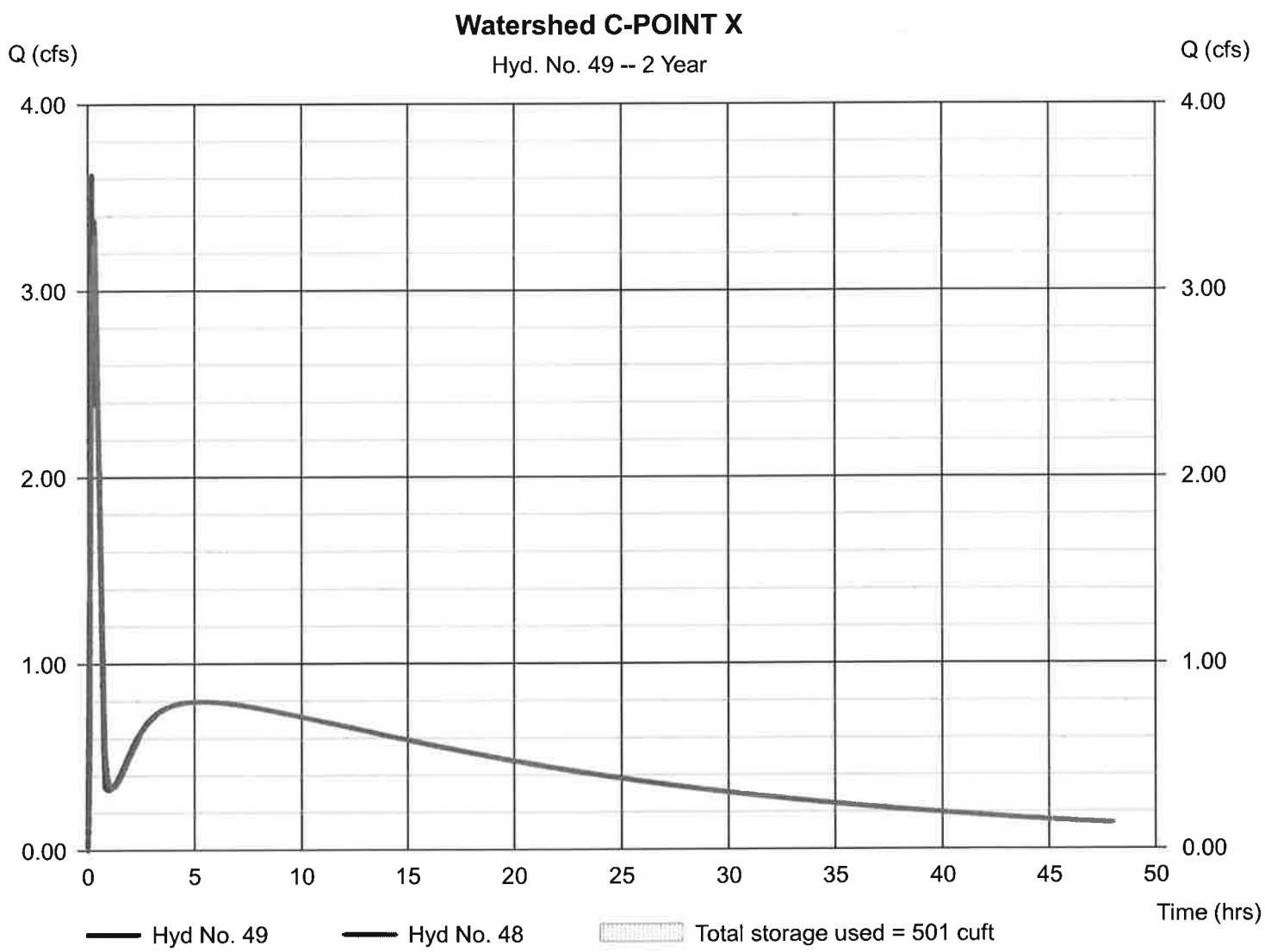
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 49

Watershed C-POINT X

Hydrograph type	= Reservoir	Peak discharge	= 3.285 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 77,528 cuft
Inflow hyd. No.	= 48 - Watershed H+C+I	Max. Elevation	= 529.64 ft
Reservoir name	= Watershed C	Max. Storage	= 501 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Pond No. 14 - Watershed C

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 528.89 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	528.89	00	0	0
3.11	532.00	2,000	2,073	2,073
5.11	534.00	25,000	22,712	24,785
7.11	536.00	36,000	60,661	85,446

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 24.00	0.00	0.00	0.00
Span (in)	= 24.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 528.89	0.00	0.00	0.00
Length (ft)	= 133.50	0.00	0.00	0.00
Slope (%)	= 1.24	0.00	0.00	n/a
N-Value	= .024	.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)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
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	528.89	0.00	---	---	---	---	---	---	---	---	---	0.00
0.31	207	529.20	0.59 ic	---	---	---	---	---	---	---	---	---	0.59
0.62	415	529.51	2.24 ic	---	---	---	---	---	---	---	---	---	2.24
0.93	622	529.82	4.73 ic	---	---	---	---	---	---	---	---	---	4.73
1.24	829	530.13	7.80 ic	---	---	---	---	---	---	---	---	---	7.80
1.56	1,037	530.44	11.13 ic	---	---	---	---	---	---	---	---	---	11.13
1.87	1,244	530.76	12.76 oc	---	---	---	---	---	---	---	---	---	12.76
2.18	1,451	531.07	12.78 oc	---	---	---	---	---	---	---	---	---	12.78
2.49	1,659	531.38	13.82 oc	---	---	---	---	---	---	---	---	---	13.82
2.80	1,866	531.69	14.79 oc	---	---	---	---	---	---	---	---	---	14.79
3.11	2,073	532.00	15.71 oc	---	---	---	---	---	---	---	---	---	15.71
3.31	4,344	532.20	16.26 oc	---	---	---	---	---	---	---	---	---	16.26
3.51	6,615	532.40	16.81 oc	---	---	---	---	---	---	---	---	---	16.81
3.71	8,887	532.60	17.33 oc	---	---	---	---	---	---	---	---	---	17.33
3.91	11,158	532.80	17.84 oc	---	---	---	---	---	---	---	---	---	17.84
4.11	13,429	533.00	18.33 oc	---	---	---	---	---	---	---	---	---	18.33
4.31	15,700	533.20	18.81 oc	---	---	---	---	---	---	---	---	---	18.81
4.51	17,971	533.40	19.28 oc	---	---	---	---	---	---	---	---	---	19.28
4.71	20,243	533.60	19.74 oc	---	---	---	---	---	---	---	---	---	19.74
4.91	22,514	533.80	20.19 oc	---	---	---	---	---	---	---	---	---	20.19
5.11	24,785	534.00	20.63 oc	---	---	---	---	---	---	---	---	---	20.63
5.31	30,851	534.20	21.06 oc	---	---	---	---	---	---	---	---	---	21.06
5.51	36,917	534.40	21.48 oc	---	---	---	---	---	---	---	---	---	21.48
5.71	42,983	534.60	21.89 oc	---	---	---	---	---	---	---	---	---	21.89
5.91	49,049	534.80	22.29 oc	---	---	---	---	---	---	---	---	---	22.29
6.11	55,115	535.00	22.69 oc	---	---	---	---	---	---	---	---	---	22.69
6.31	61,181	535.20	23.08 oc	---	---	---	---	---	---	---	---	---	23.08
6.51	67,247	535.40	23.47 oc	---	---	---	---	---	---	---	---	---	23.47
6.71	73,313	535.60	23.84 oc	---	---	---	---	---	---	---	---	---	23.84
6.91	79,379	535.80	24.22 oc	---	---	---	---	---	---	---	---	---	24.22
7.11	85,446	536.00	24.58 oc	---	---	---	---	---	---	---	---	---	24.58

Hydrograph Report

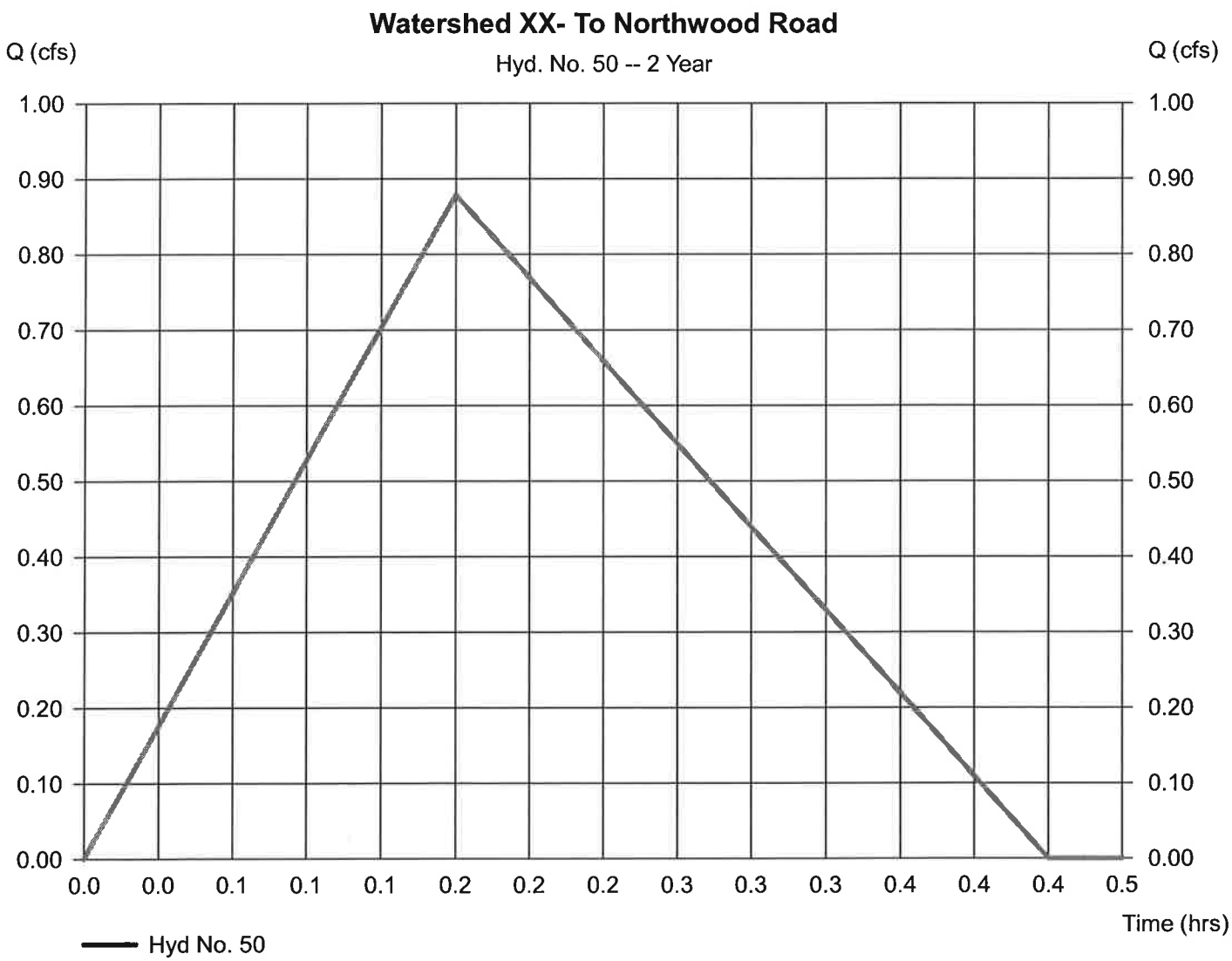
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 50

Watershed XX- To Northwood Road

Hydrograph type	= Rational	Peak discharge	= 0.878 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 704 cuft
Drainage area	= 0.720 ac	Runoff coeff.	= 0.35*
Intensity	= 3.486 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.100 x 0.90) + (0.360 x 0.30) + (0.260 x 0.20)] / 0.720



Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.1

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	Rational	7.312	1	17	9,956	----	------	------	Watershed A
2	Reservoir	2.822	1	34	9,848	1	565.88	6,257	Watershed A
3	Rational	5.507	1	14	5,974	----	------	------	Watershed B
4	Reservoir	1.167	1	31	5,770	3	566.95	4,695	Watershed B
5	Rational	3.097	1	21	5,158	----	------	------	Watershed I(1)
6	Rational	4.213	1	19	6,432	----	------	------	Wateshed II
7	Rational	5.808	1	10	4,652	----	------	------	Watershed IIA
8	Reservoir	1.244	1	23	4,524	7	562.48	3,341	Wateshed IIA
9	Rational	4.205	1	13	4,379	----	------	------	Watershed VIII
10	Rational	6.845	1	10	5,483	----	------	------	Watershed VIIIA
11	Reservoir	1.224	1	23	5,331	10	559.43	4,163	Watershed VIIIA
12	Rational	0.012	1	10	10	----	------	------	Watershed IX
13	Rational	2.537	1	10	2,032	----	------	------	Watershed IXA
14	Reservoir	1.202	1	18	1,977	13	554.04	894	Watershed IXA
15	Combine	9.491	1	21	21,192	5, 6, 8, 11,	------	------	Combine
16	Combine	13.62	1	19	27,468	9, 12, 14, 15	------	------	Watershed-Point Y
17	Rational	5.676	1	15	6,820	----	------	------	Watershed III
18	Rational	1.845	1	10	1,478	----	------	------	Watershed IV
19	Rational	8.541	1	10	6,841	----	------	------	Watershed IVA
20	Reservoir	0.000	1	n/a	0	19	553.41	6,662	Watershed IVA
21	Combine	6.410	1	15	16,660	2, 17, 20	------	------	Watershed A+III+VI
22	Rational	3.293	1	10	2,638	----	------	------	Watershed VI
23	Rational	4.498	1	10	3,603	----	------	------	Watershed VIA
24	Reservoir	1.233	1	22	3,504	23	550.45	2,345	Watershed VIA
25	Rational	14.54	1	10	11,649	----	------	------	Watershed VIIA
26	Reservoir	2.487	1	23	11,333	25	547.03	9,007	Watershed VIIA
27	Rational	1.430	1	10	1,145	----	------	------	Watershed X
28	Rational	26.45	1	23	48,720	----	------	------	Watershed V
29	Rational	2.394	1	10	1,918	----	------	------	Watershed XA
30	Reservoir	1.297	1	17	1,866	29	557.64	717	Watershed XA
31	Rational	0.332	1	10	266	----	------	------	Watershed VII
32	Combine	34.98	1	23	70,424	21, 24, 28, 30,	------	------	Combine
33	Reservoir	17.96	1	40	70,418	32	544.14	34,464	Watershed V

Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.1

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
34	Rational	4.581	1	22	8,243	----	------	------	Watershed XII
35	Reservoir	0.007	1	59	1,122	34	546.22	8,089	Watershed XII
36	Rational	6.603	1	14	7,405	----	------	------	Watershed XIX
37	Combine	21.24	1	34	94,850	4, 26, 33, 36	------	------	Watershed B+X+XI+XIX
38	Reservoir	14.06	1	62	94,840	37	542.06	35,765	Watershed XIX-POINT Z
39	Rational	16.21	1	20	25,963	----	------	------	Watershed XIV
40	Combine	17.63	1	20	120,608	38, 39	------	------	Watershed XIV+XIX
41	Reservoir	1.782	1	225	104,393	40	539.43	94,176	Watershed XIV
42	Rational	4.003	1	19	5,992	----	------	------	Watershed H
43	Combine	4.104	1	19	106,674	41, 42	------	------	Watershed XIV+H
44	Reservoir	1.248	1	309	105,993	43	536.14	5,922	Watershed H
45	Rational	3.998	1	18	5,860	----	------	------	Watershed C
46	Rational	2.315	1	12	2,138	----	------	------	Watershed I
47	Reservoir	2.292	1	12	838	46	531.52	25.1	Watershed I
48	Combine	5.203	1	12	112,588	44, 45, 47	------	------	Watershed H+C+I
49	Reservoir	4.650	1	20	112,521	48	529.83	615	Watershed C-POINT X
50	Rational	1.211	1	10	970	----	------	------	Watershed XX- To Northwood Roa

Hydrograph Report

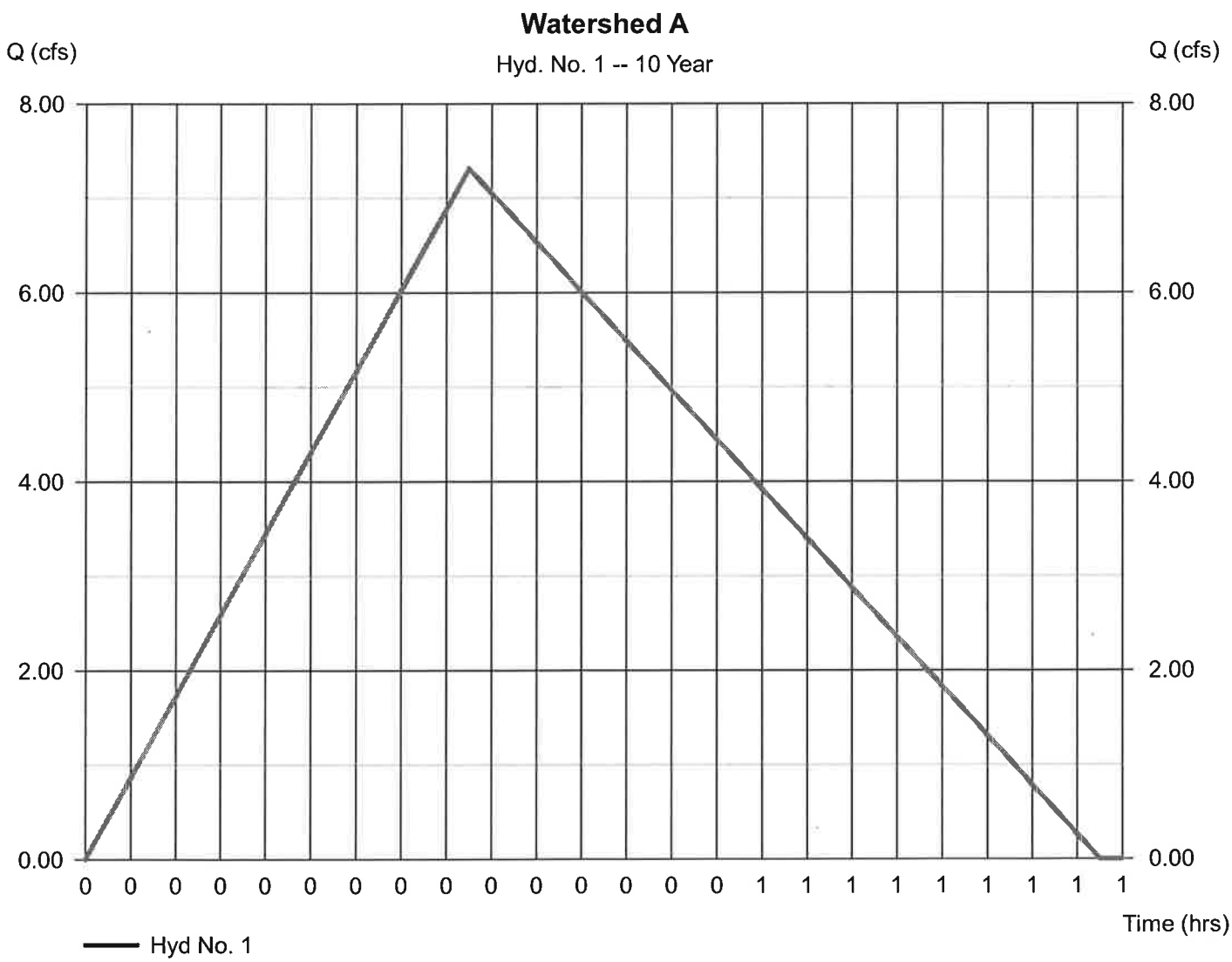
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 1

Watershed A

Hydrograph type	= Rational	Peak discharge	= 7.312 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.28 hrs
Time interval	= 1 min	Hyd. volume	= 9,956 cuft
Drainage area	= 8.000 ac	Runoff coeff.	= 0.24*
Intensity	= 3.808 in/hr	Tc by TR55	= 17.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.400 x 0.90) + (0.500 x 0.30) + (7.100 x 0.20)] / 8.000



Hydrograph Report

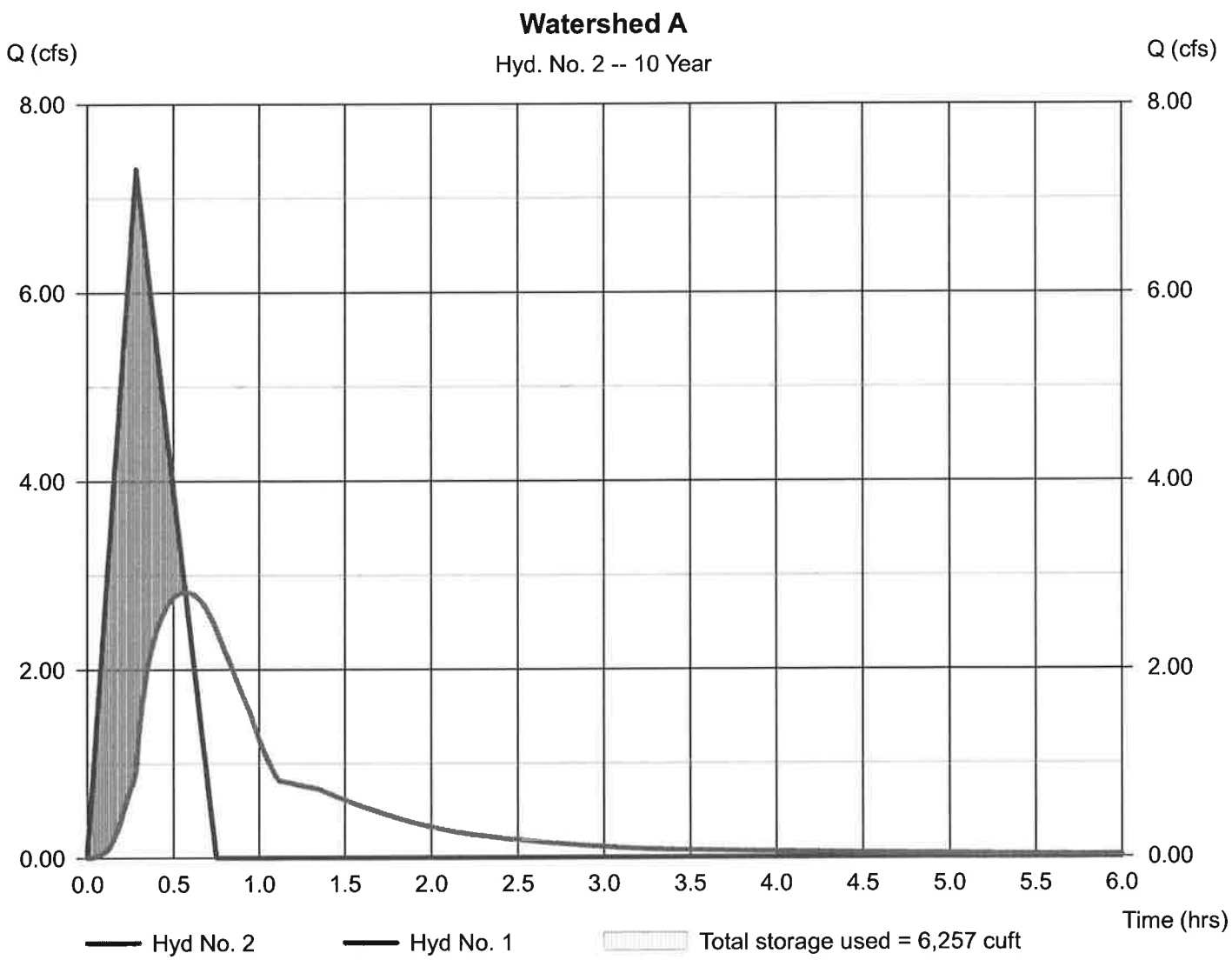
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 2

Watershed A

Hydrograph type	= Reservoir	Peak discharge	= 2.822 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.57 hrs
Time interval	= 1 min	Hyd. volume	= 9,848 cuft
Inflow hyd. No.	= 1 - Watershed A	Max. Elevation	= 565.88 ft
Reservoir name	= Watershed A	Max. Storage	= 6,257 cuft

Storage Indication method used.



Hydrograph Report

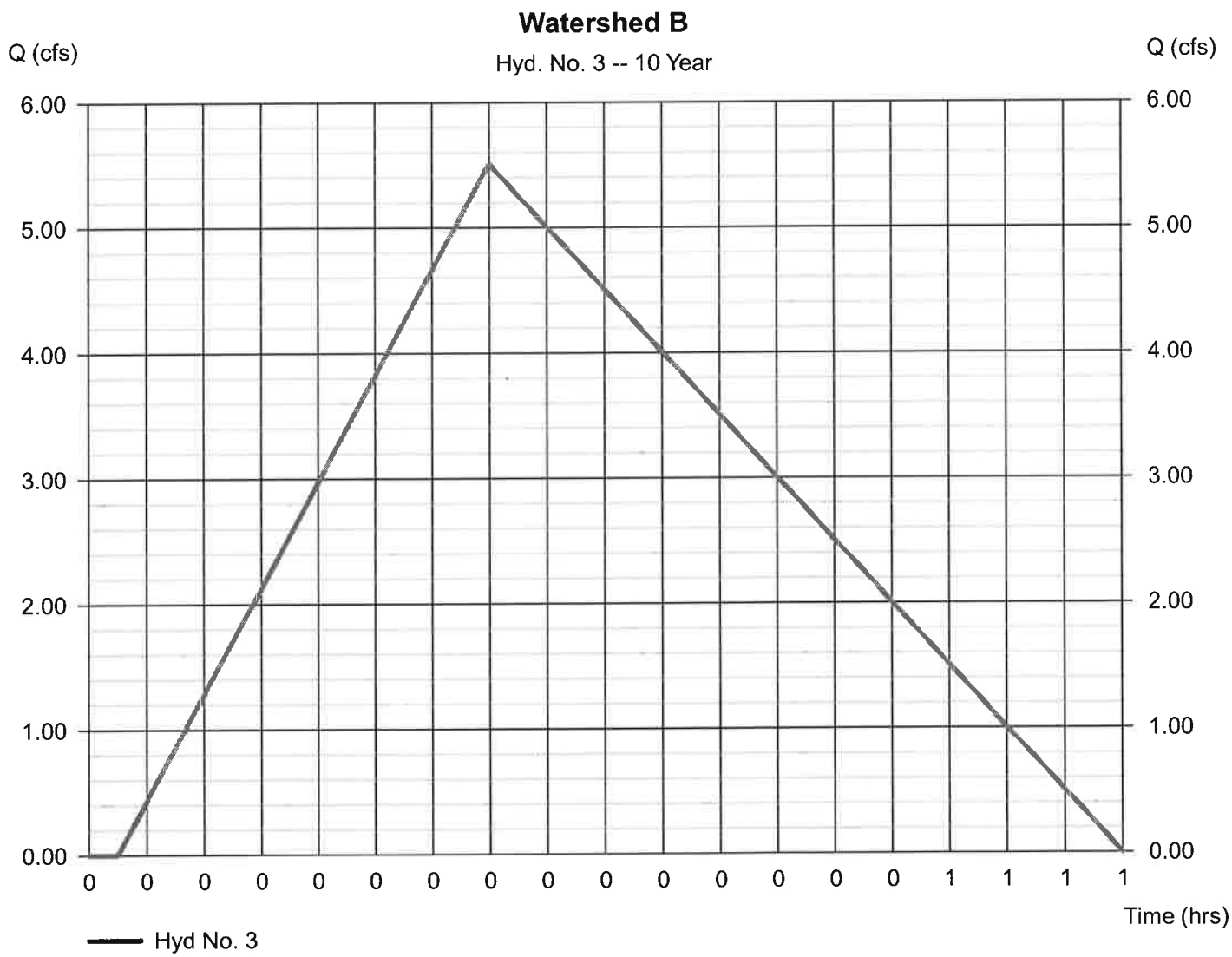
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 3

Watershed B

Hydrograph type	= Rational	Peak discharge	= 5.507 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.23 hrs
Time interval	= 1 min	Hyd. volume	= 5,974 cuft
Drainage area	= 5.200 ac	Runoff coeff.	= 0.25*
Intensity	= 4.236 in/hr	Tc by TR55	= 13.54 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.300 x 0.90) + (0.500 x 0.30) + (4.400 x 0.20)] / 5.200



Hydrograph Report

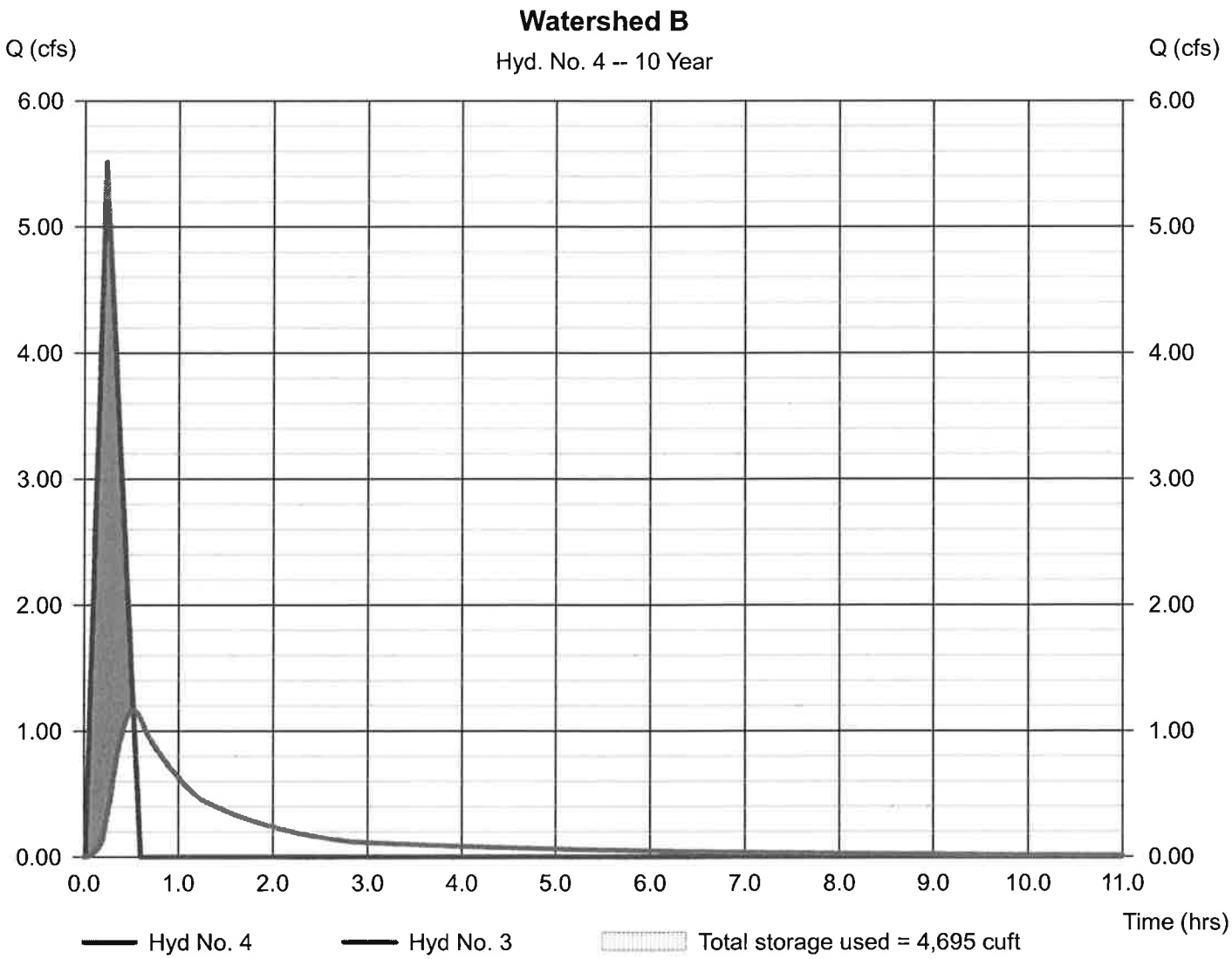
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 4

Watershed B

Hydrograph type	= Reservoir	Peak discharge	= 1.167 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.52 hrs
Time interval	= 1 min	Hyd. volume	= 5,770 cuft
Inflow hyd. No.	= 3 - Watershed B	Max. Elevation	= 566.95 ft
Reservoir name	= Watershed B	Max. Storage	= 4,695 cuft

Storage Indication method used.



Hydrograph Report

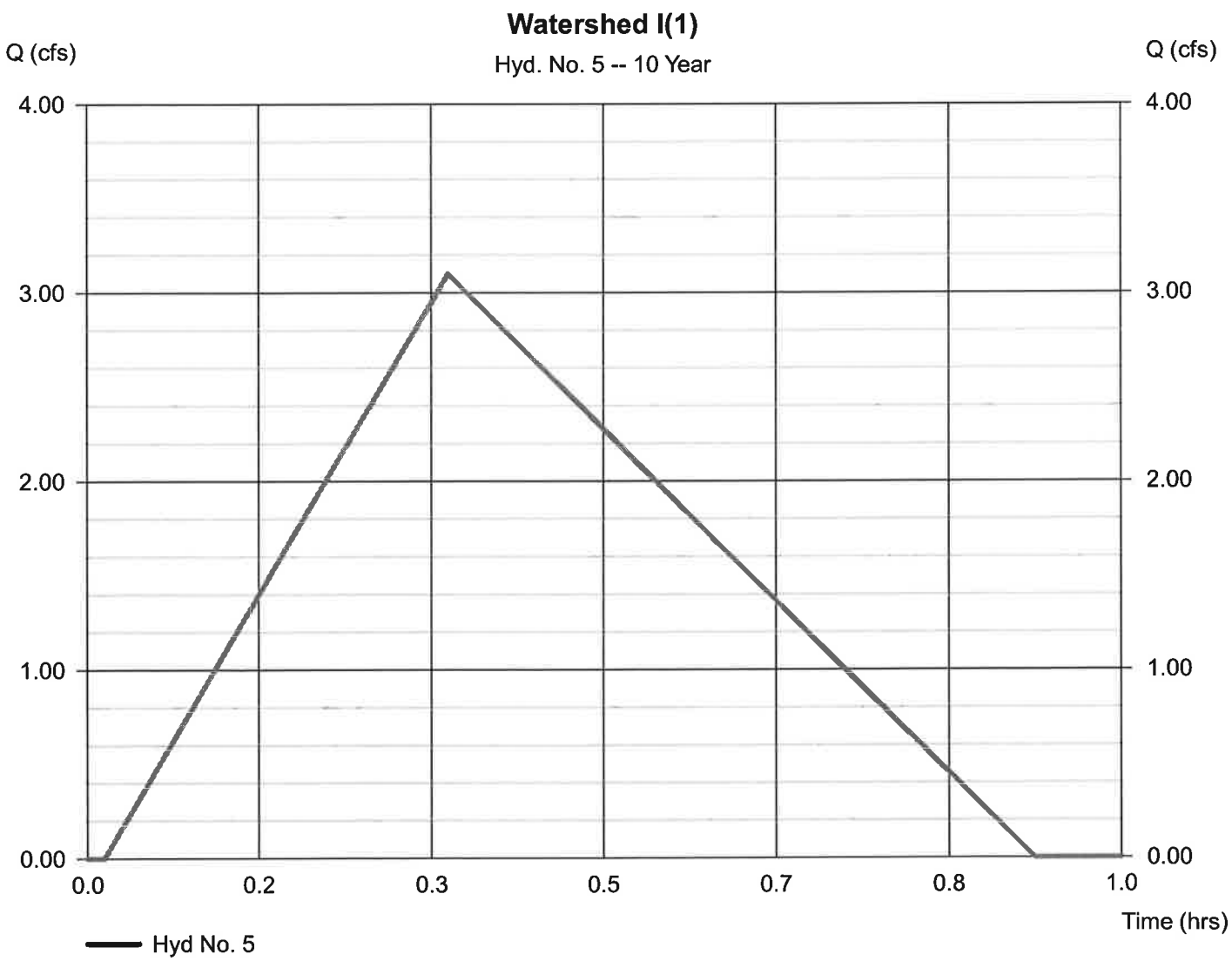
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 5

Watershed I(1)

Hydrograph type	= Rational	Peak discharge	= 3.097 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.35 hrs
Time interval	= 1 min	Hyd. volume	= 5,158 cuft
Drainage area	= 1.700 ac	Runoff coeff.	= 0.53*
Intensity	= 3.437 in/hr	Tc by TR55	= 20.80 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.700 x 0.90) + (0.700 x 0.30) + (0.300 x 0.20)] / 1.700



Hydrograph Report

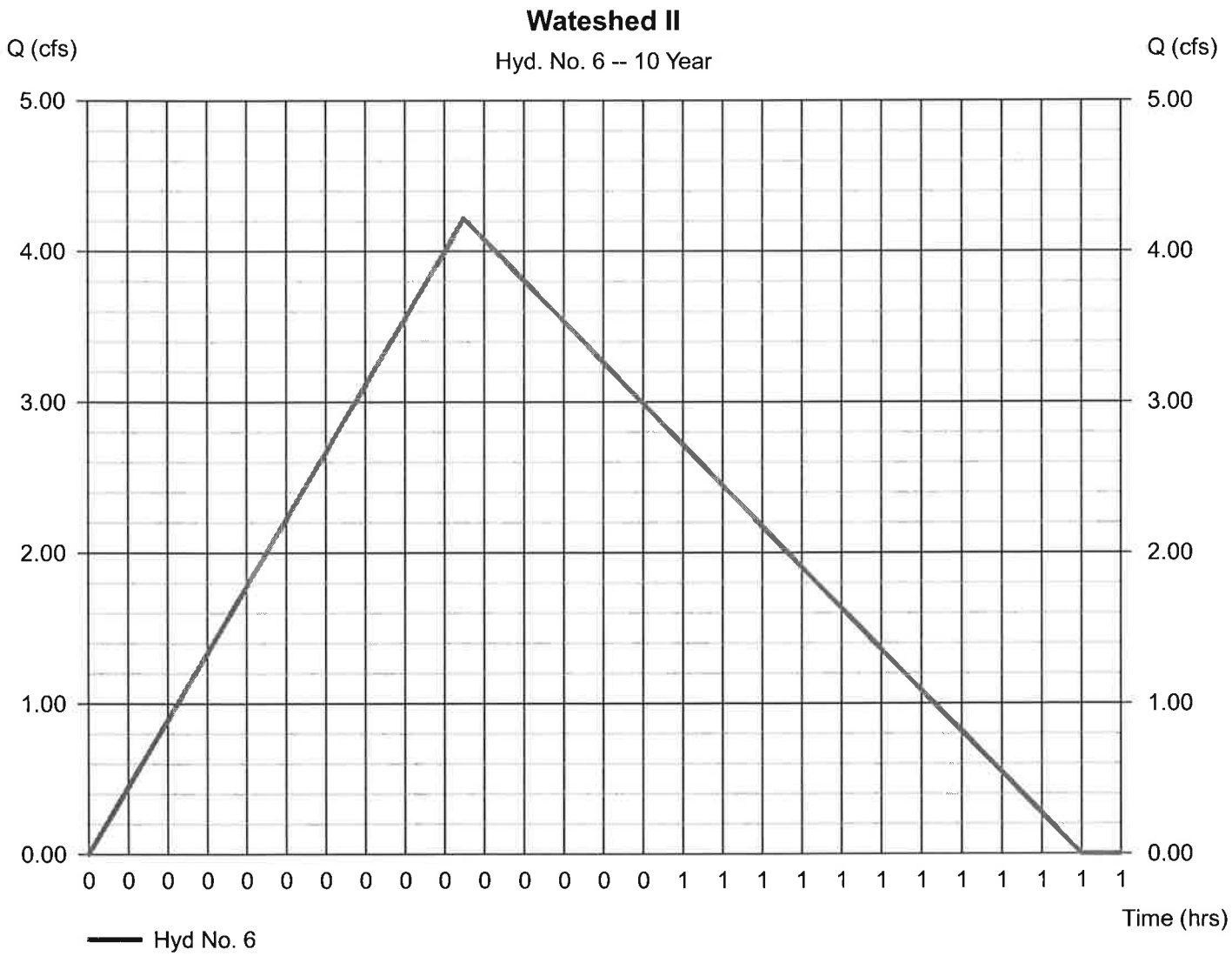
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 6

Wateshed II

Hydrograph type	= Rational	Peak discharge	= 4.213 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 6,432 cuft
Drainage area	= 4.040 ac	Runoff coeff.	= 0.29*
Intensity	= 3.596 in/hr	Tc by TR55	= 19.06 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.230 x 0.90) + (1.940 x 0.30) + (1.870 x 0.20)] / 4.040



Hydrograph Report

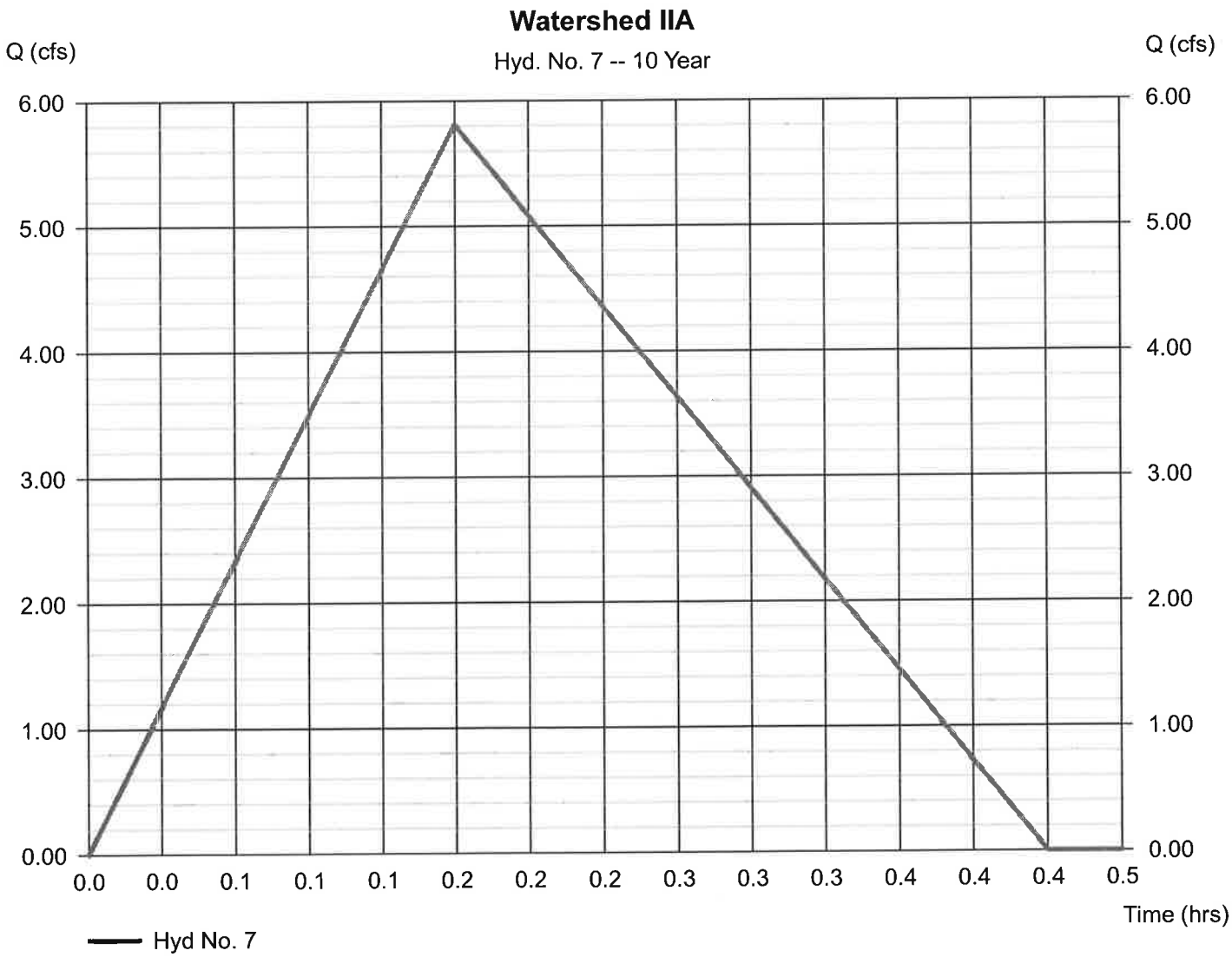
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 7

Watershed IIA

Hydrograph type	= Rational	Peak discharge	= 5.808 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 4,652 cuft
Drainage area	= 1.530 ac	Runoff coeff.	= 0.79*
Intensity	= 4.805 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.250 x 0.90) + (0.280 x 0.30)] / 1.530



Hydrograph Report

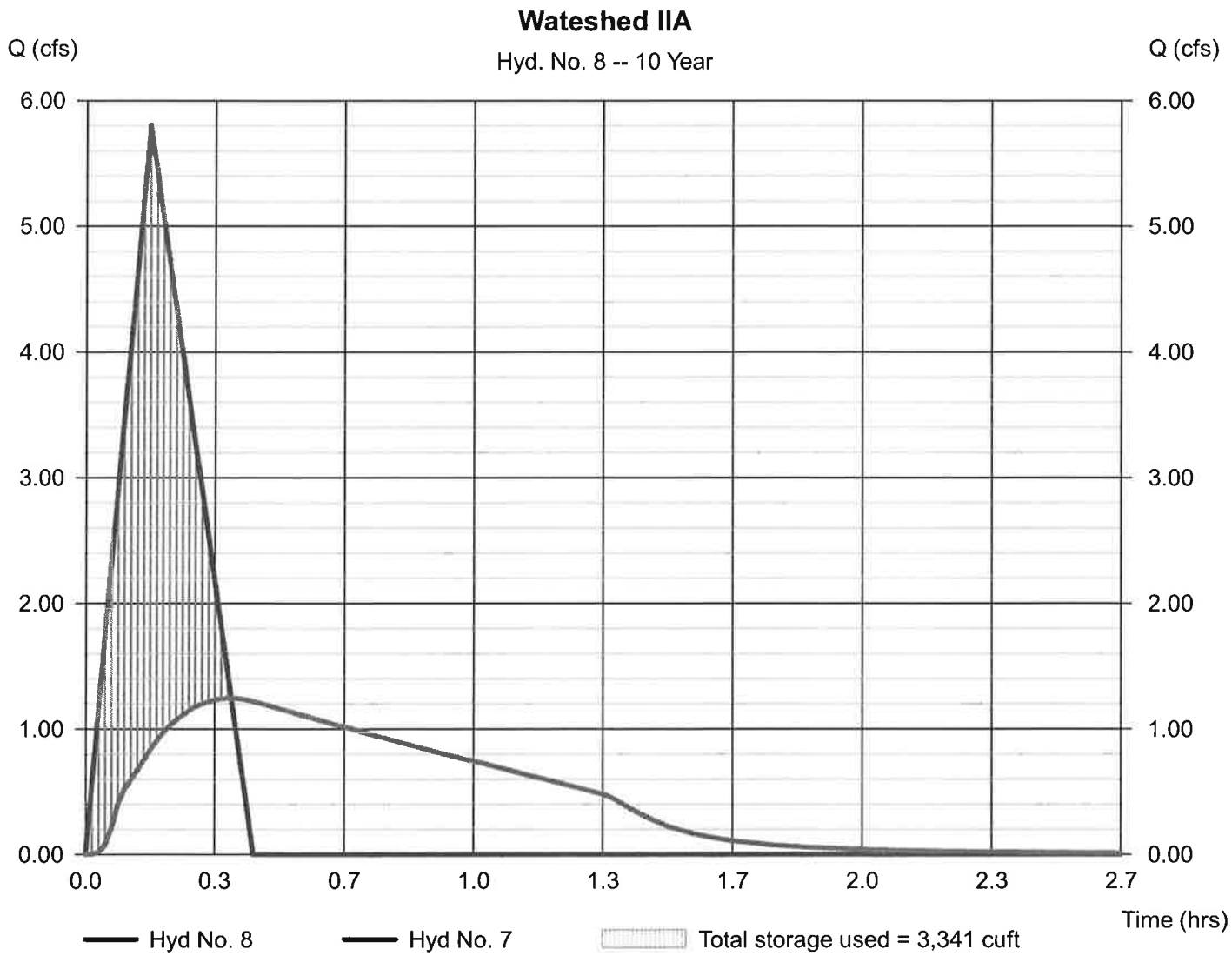
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 8

Wateshed IIA

Hydrograph type	= Reservoir	Peak discharge	= 1.244 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.38 hrs
Time interval	= 1 min	Hyd. volume	= 4,524 cuft
Inflow hyd. No.	= 7 - Watershed IIA	Max. Elevation	= 562.48 ft
Reservoir name	= Watershed IIA	Max. Storage	= 3,341 cuft

Storage Indication method used.



Hydrograph Report

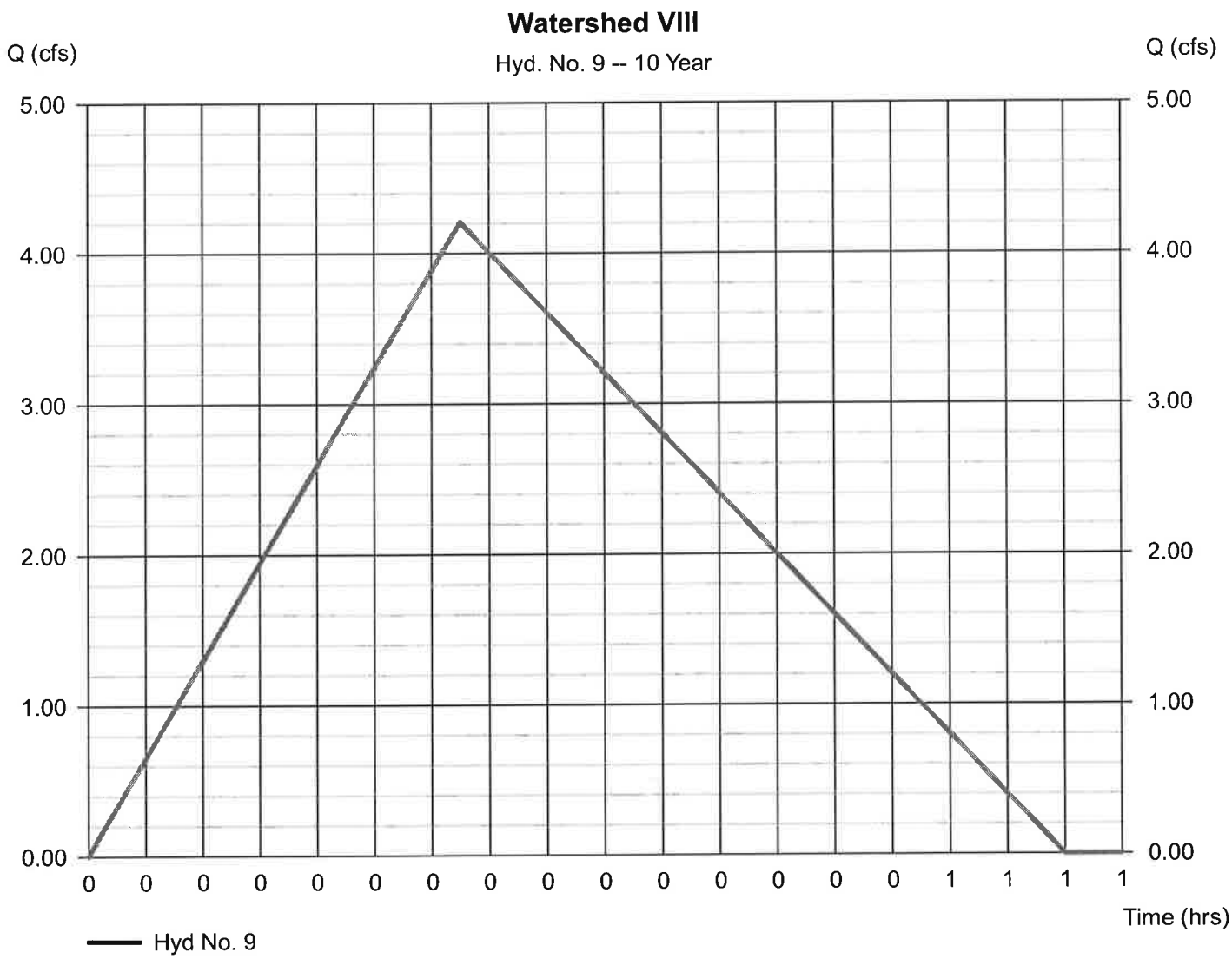
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 9

Watershed VIII

Hydrograph type	= Rational	Peak discharge	= 4.205 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.22 hrs
Time interval	= 1 min	Hyd. volume	= 4,379 cuft
Drainage area	= 3.250 ac	Runoff coeff.	= 0.3*
Intensity	= 4.313 in/hr	Tc by TR55	= 13.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.320 x 0.90) + (1.120 x 0.30) + (1.810 x 0.20)] / 3.250



Hydrograph Report

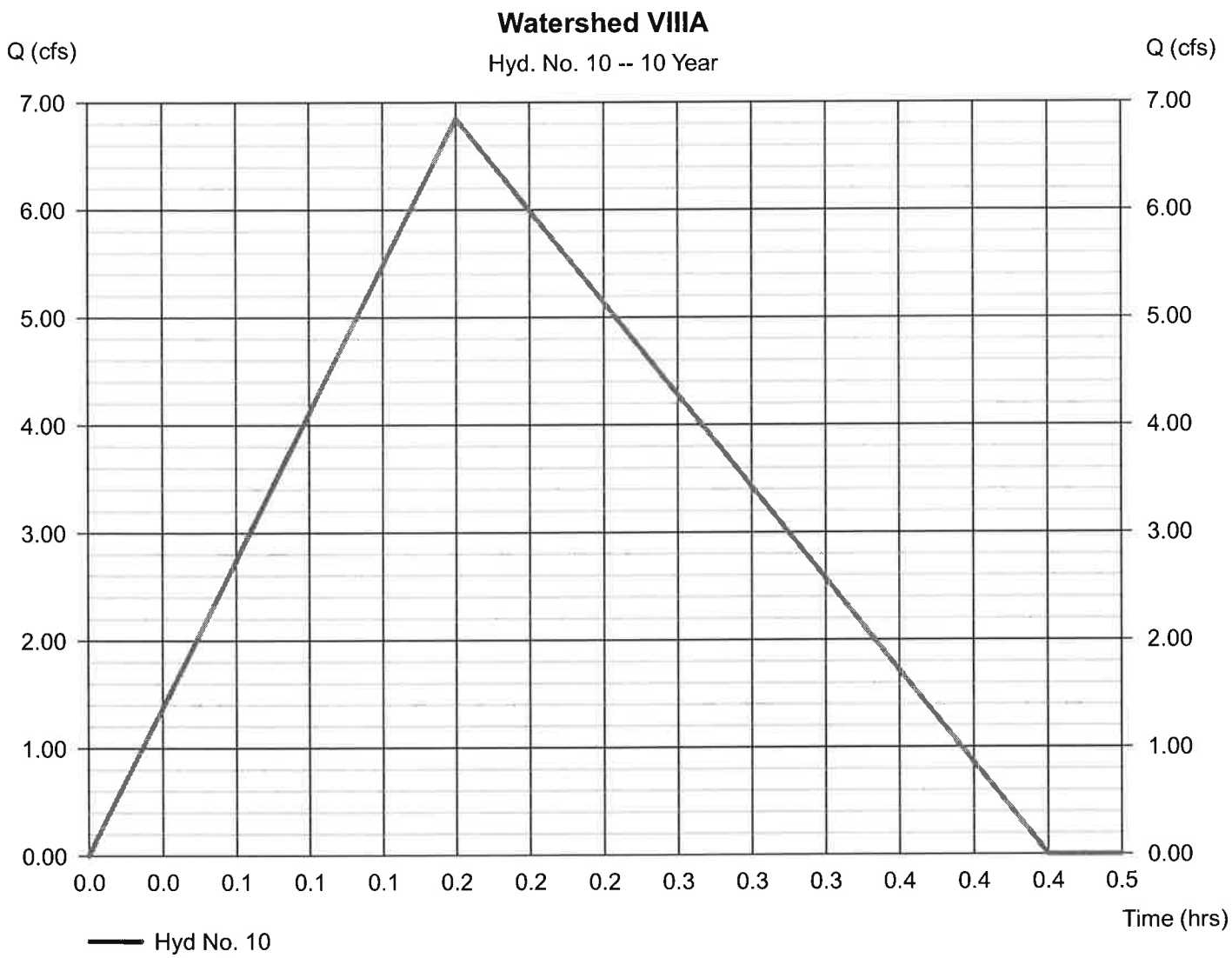
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 10

Watershed VIIIA

Hydrograph type	= Rational	Peak discharge	= 6.845 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 5,483 cuft
Drainage area	= 1.850 ac	Runoff coeff.	= 0.77*
Intensity	= 4.805 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.460 x 0.90) + (0.390 x 0.30)] / 1.850



Hydrograph Report

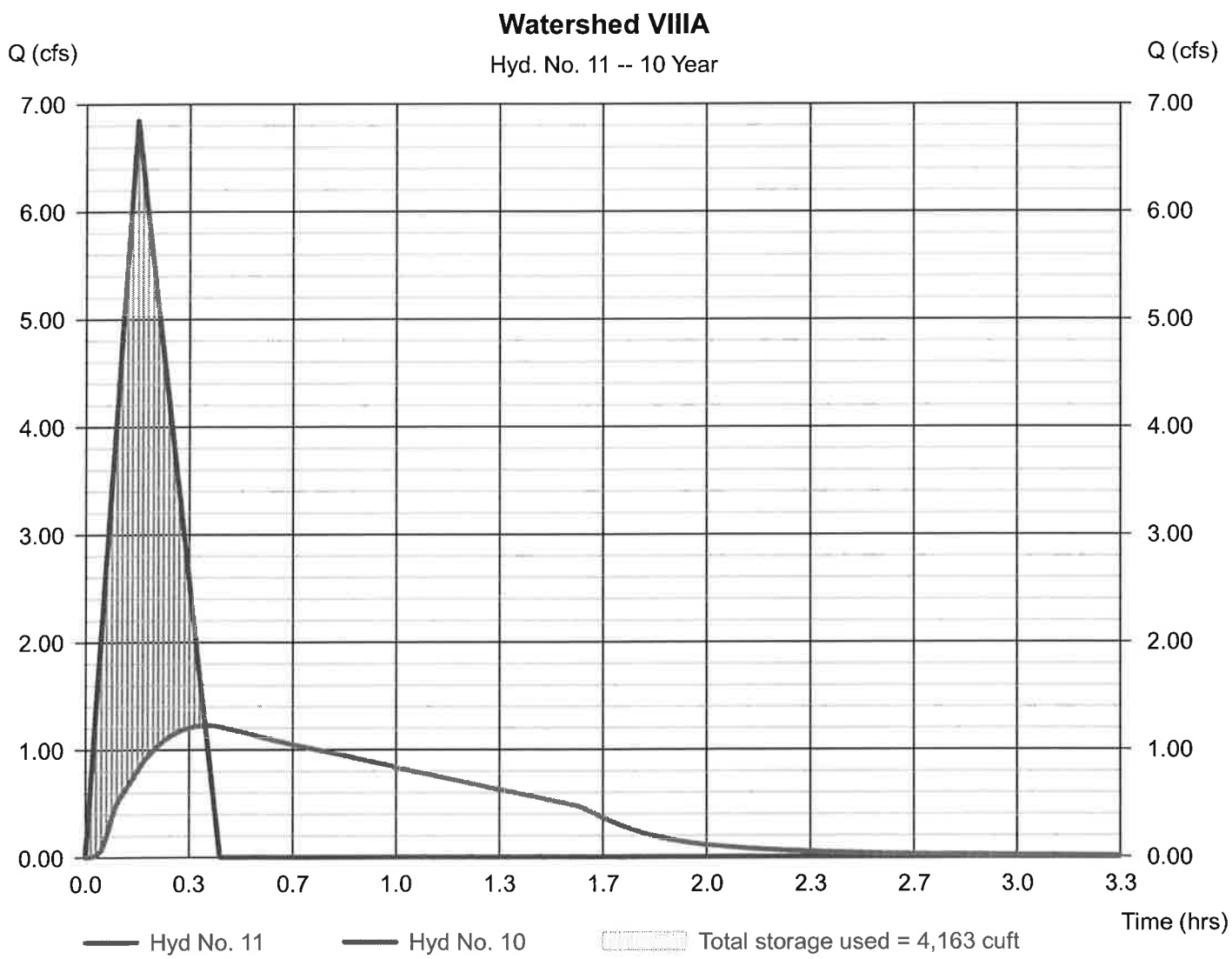
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 11

Watershed VIIIA

Hydrograph type	= Reservoir	Peak discharge	= 1.224 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.38 hrs
Time interval	= 1 min	Hyd. volume	= 5,331 cuft
Inflow hyd. No.	= 10 - Watershed VIIIA	Max. Elevation	= 559.43 ft
Reservoir name	= Watershed VIIIA	Max. Storage	= 4,163 cuft

Storage Indication method used.



Hydrograph Report

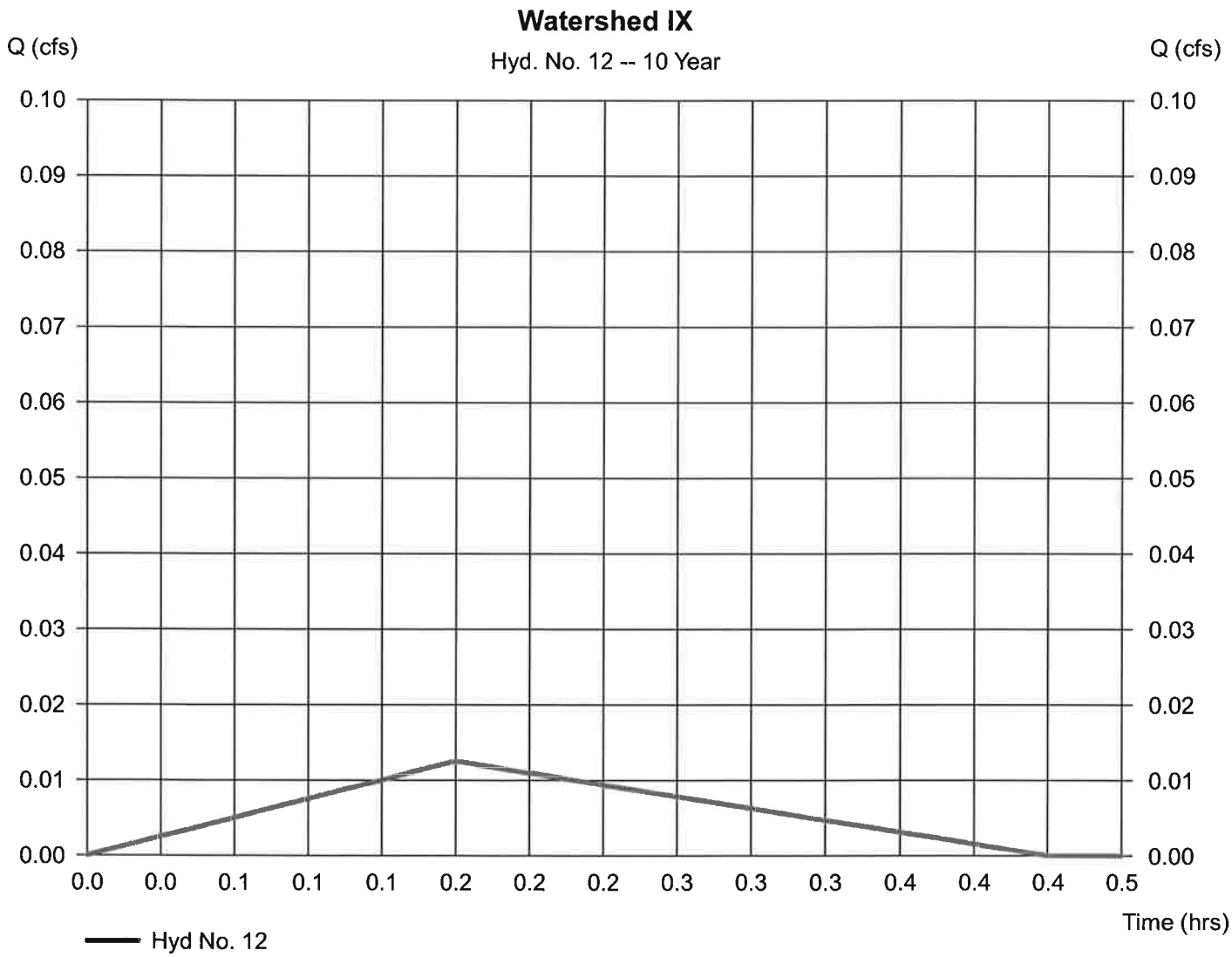
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 12

Watershed IX

Hydrograph type	= Rational	Peak discharge	= 0.012 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 10 cuft
Drainage area	= 0.260 ac	Runoff coeff.	= 0.01*
Intensity	= 4.805 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.010 x 0.30)] / 0.260



Hydrograph Report

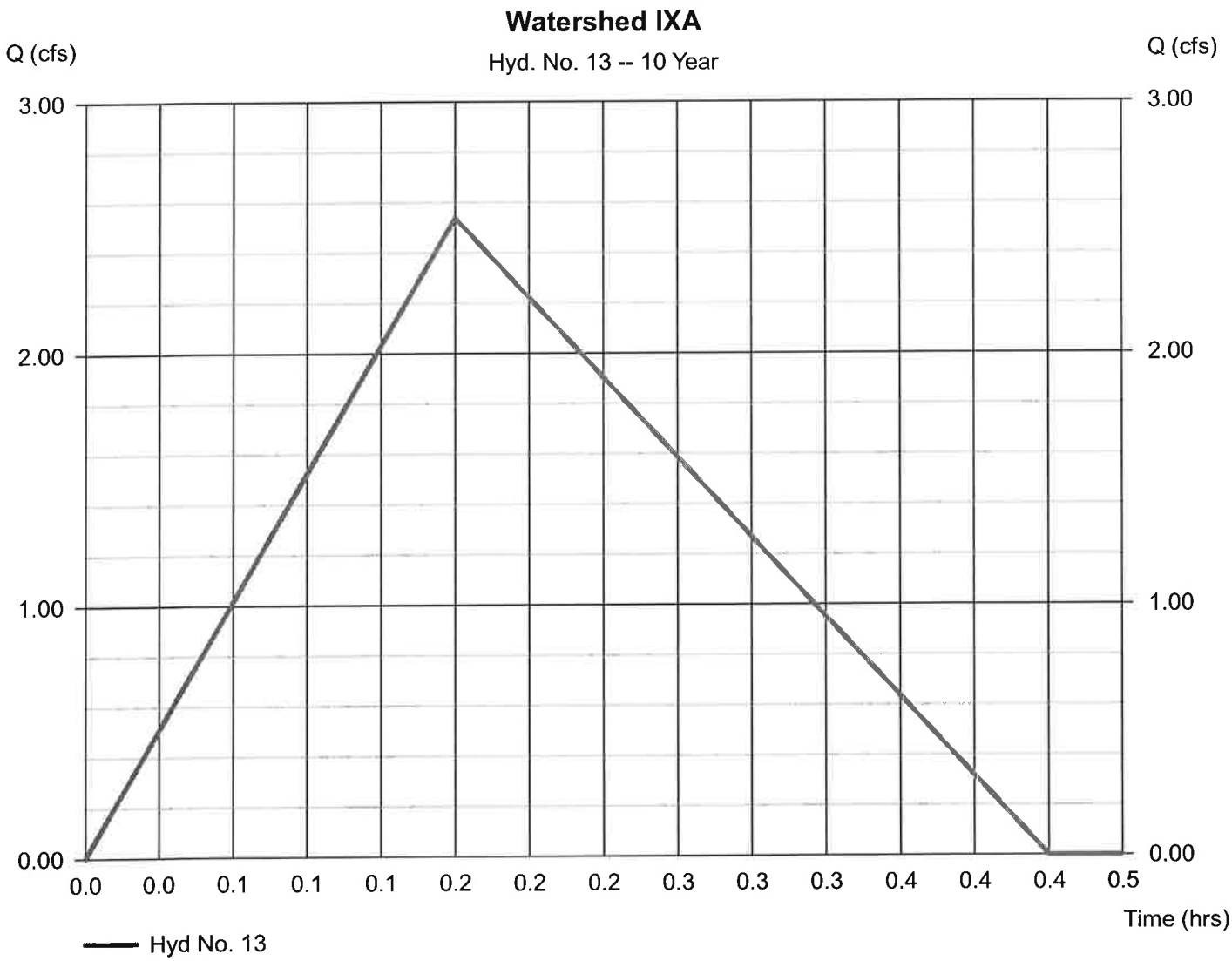
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 13

Watershed IXA

Hydrograph type	= Rational	Peak discharge	= 2.537 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 2,032 cuft
Drainage area	= 0.880 ac	Runoff coeff.	= 0.6*
Intensity	= 4.805 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.460 x 0.90) + (0.260 x 0.30) + (0.160 x 0.20)] / 0.880



Hydrograph Report

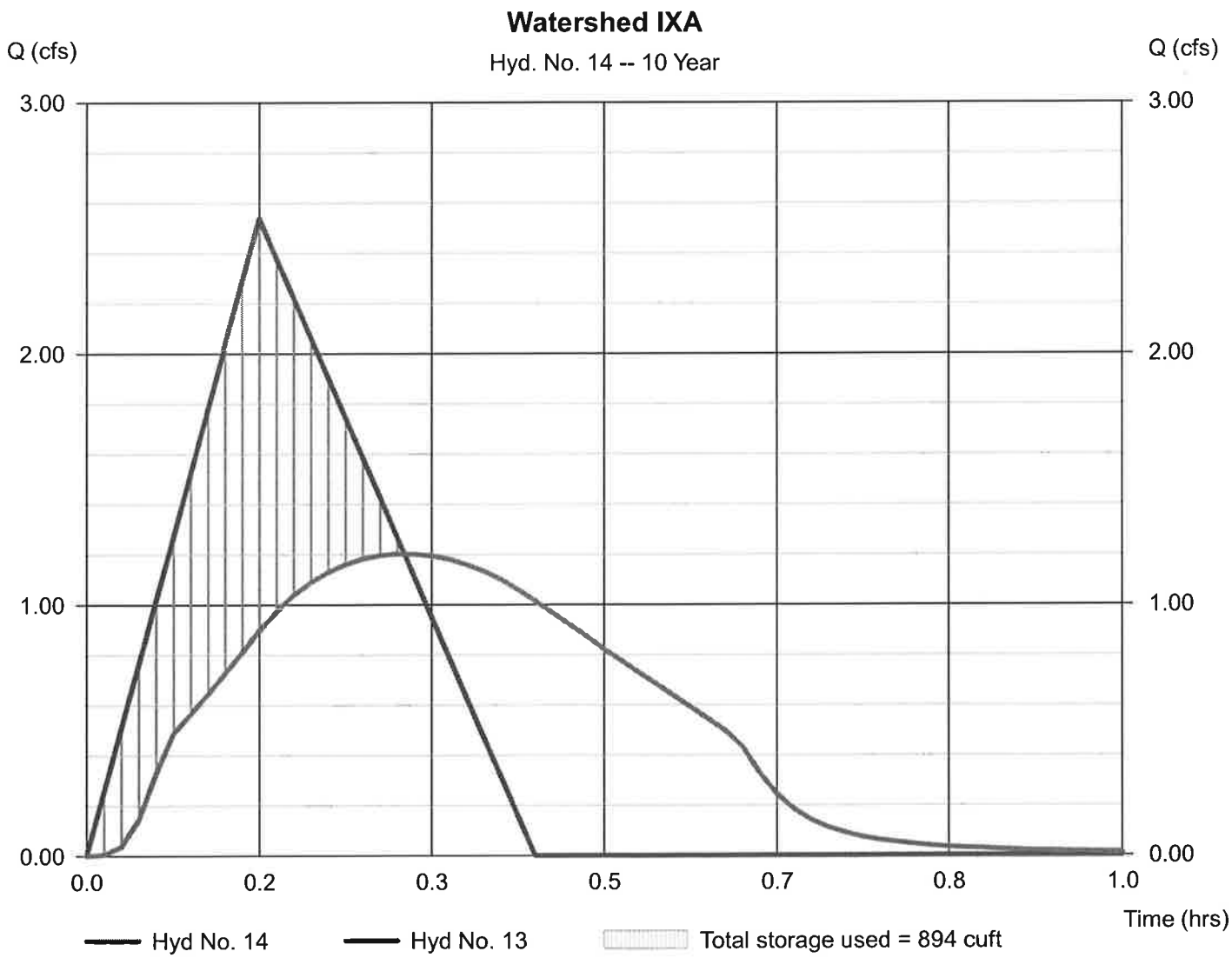
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 14

Watershed IXA

Hydrograph type	= Reservoir	Peak discharge	= 1.202 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.30 hrs
Time interval	= 1 min	Hyd. volume	= 1,977 cuft
Inflow hyd. No.	= 13 - Watershed IXA	Max. Elevation	= 554.04 ft
Reservoir name	= Waatershed IXA	Max. Storage	= 894 cuft

Storage Indication method used.



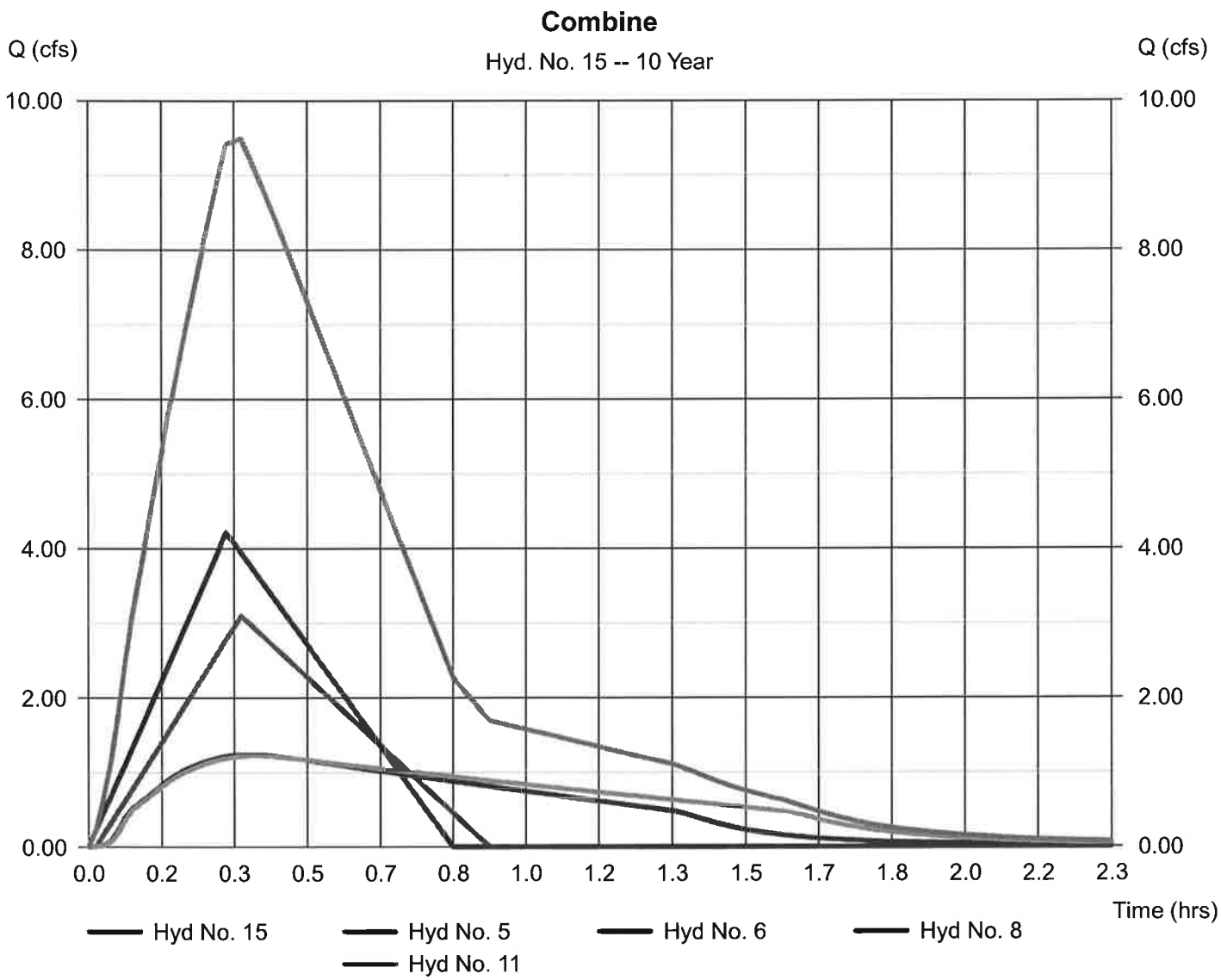
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 15

Combine

Hydrograph type	= Combine	Peak discharge	= 9.491 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.35 hrs
Time interval	= 1 min	Hyd. volume	= 21,192 cuft
Inflow hyds.	= 5, 6, 8, 11	Contrib. drain. area	= 5.740 ac



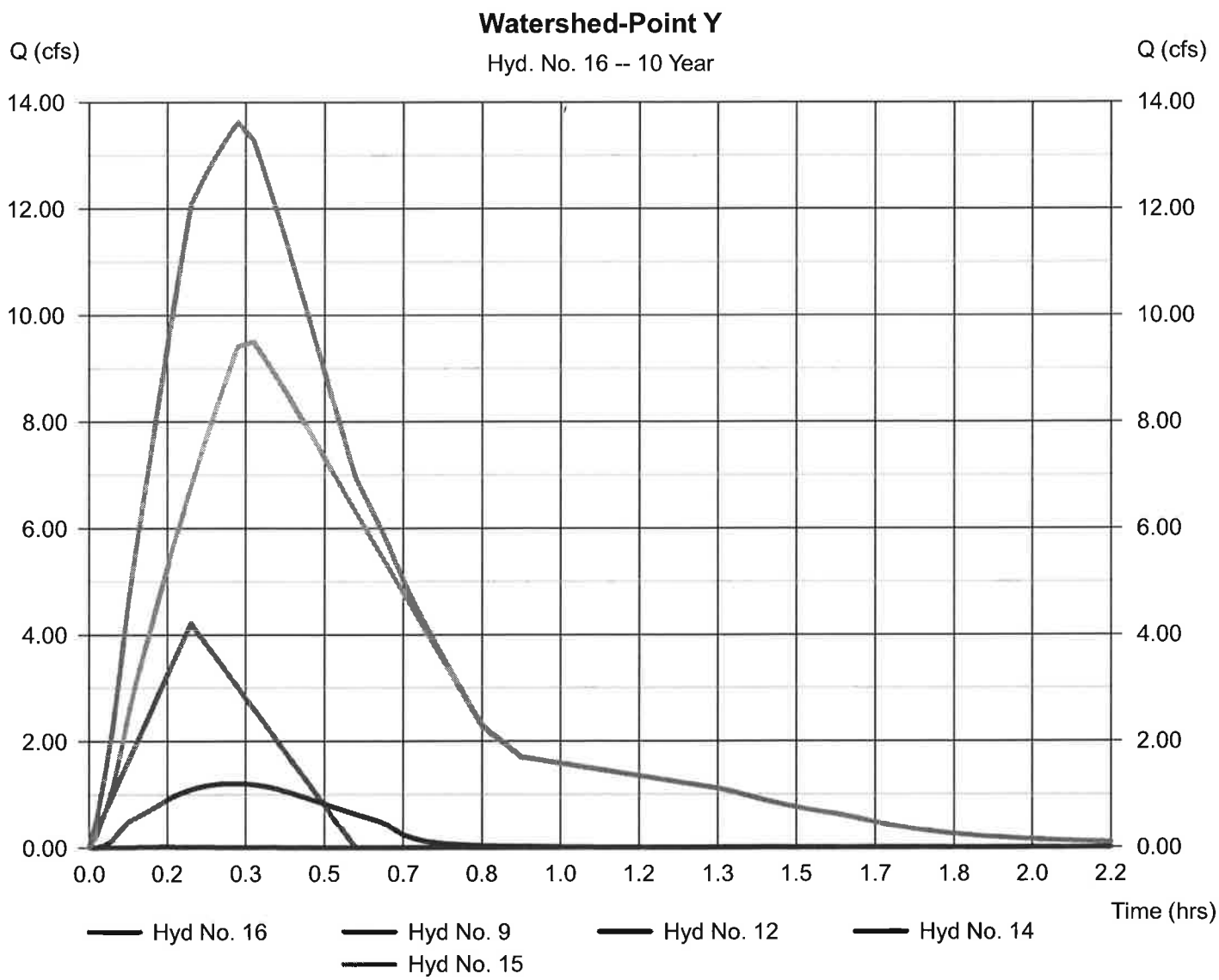
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 16

Watershed-Point Y

Hydrograph type	= Combine	Peak discharge	= 13.62 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 27,468 cuft
Inflow hyds.	= 9, 12, 14, 15	Contrib. drain. area	= 3.510 ac



Hydrograph Report

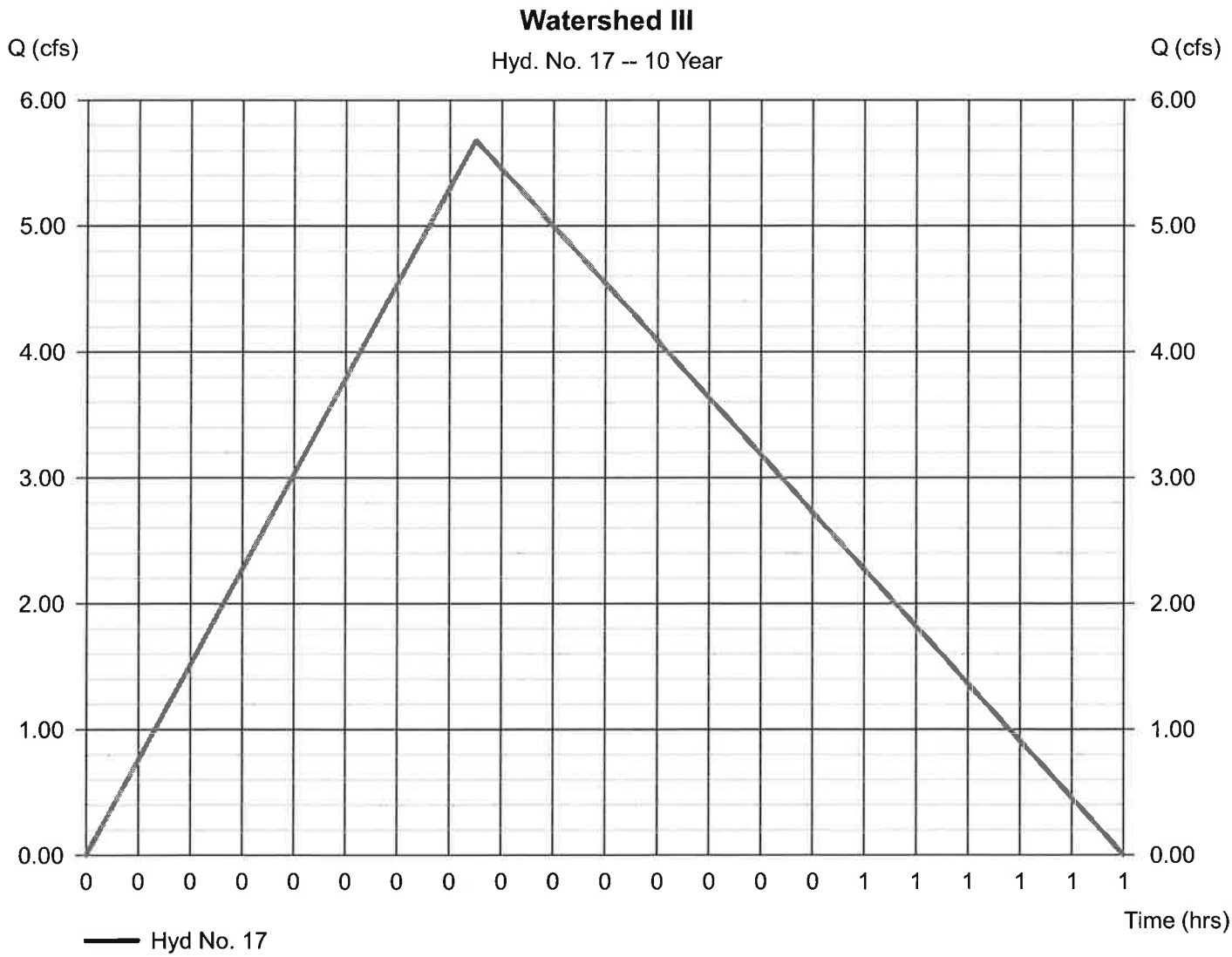
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 17

Watershed III

Hydrograph type	= Rational	Peak discharge	= 5.676 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.25 hrs
Time interval	= 1 min	Hyd. volume	= 6,820 cuft
Drainage area	= 2.700 ac	Runoff coeff.	= 0.52*
Intensity	= 4.043 in/hr	Tc by TR55	= 15.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.000 x 0.90) + (1.700 x 0.30)] / 2.700



Hydrograph Report

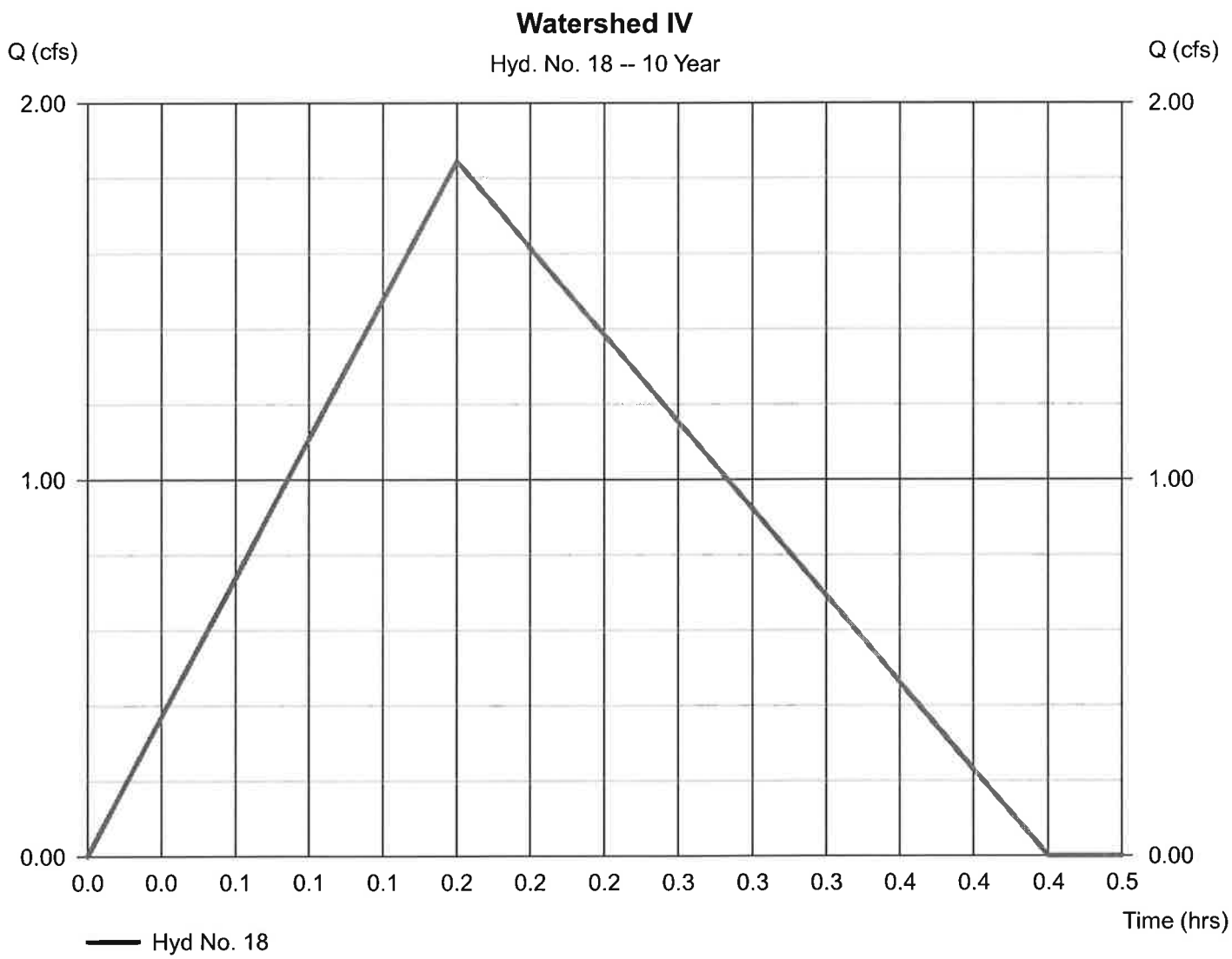
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 18

Watershed IV

Hydrograph type	= Rational	Peak discharge	= 1.845 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 1,478 cuft
Drainage area	= 0.800 ac	Runoff coeff.	= 0.48*
Intensity	= 4.805 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.260 x 0.90) + (0.440 x 0.30) + (0.100 x 0.20)] / 0.800



Hydrograph Report

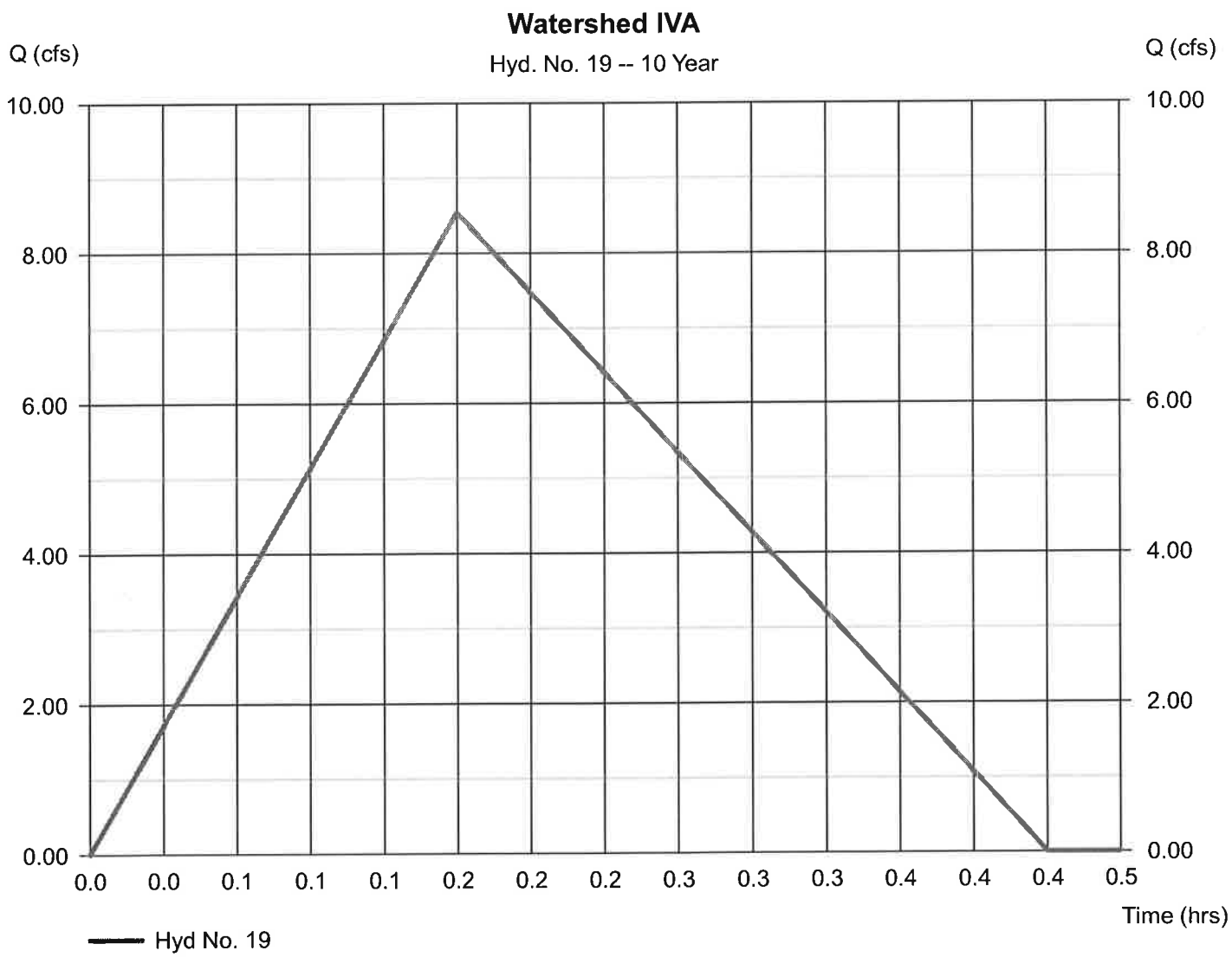
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 19

Watershed IVA

Hydrograph type	= Rational	Peak discharge	= 8.541 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 6,841 cuft
Drainage area	= 2.370 ac	Runoff coeff.	= 0.75*
Intensity	= 4.805 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.770 x 0.90) + (0.600 x 0.30)] / 2.370



Hydrograph Report

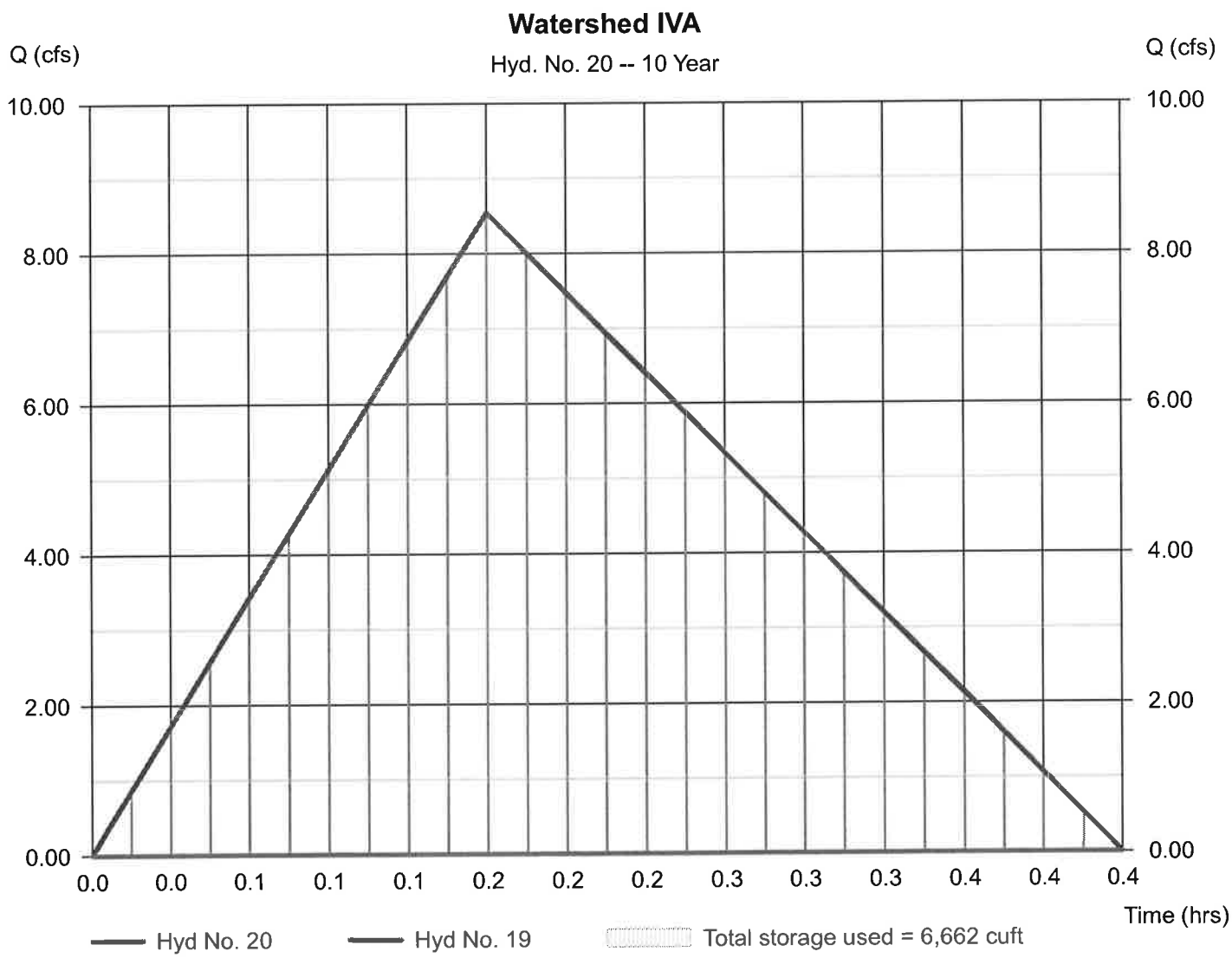
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 20

Watershed IVA

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 10 yrs	Time to peak	= n/a
Time interval	= 1 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 19 - Watershed IVA	Max. Elevation	= 553.41 ft
Reservoir name	= Watershed IVA	Max. Storage	= 6,662 cuft

Storage Indication method used.



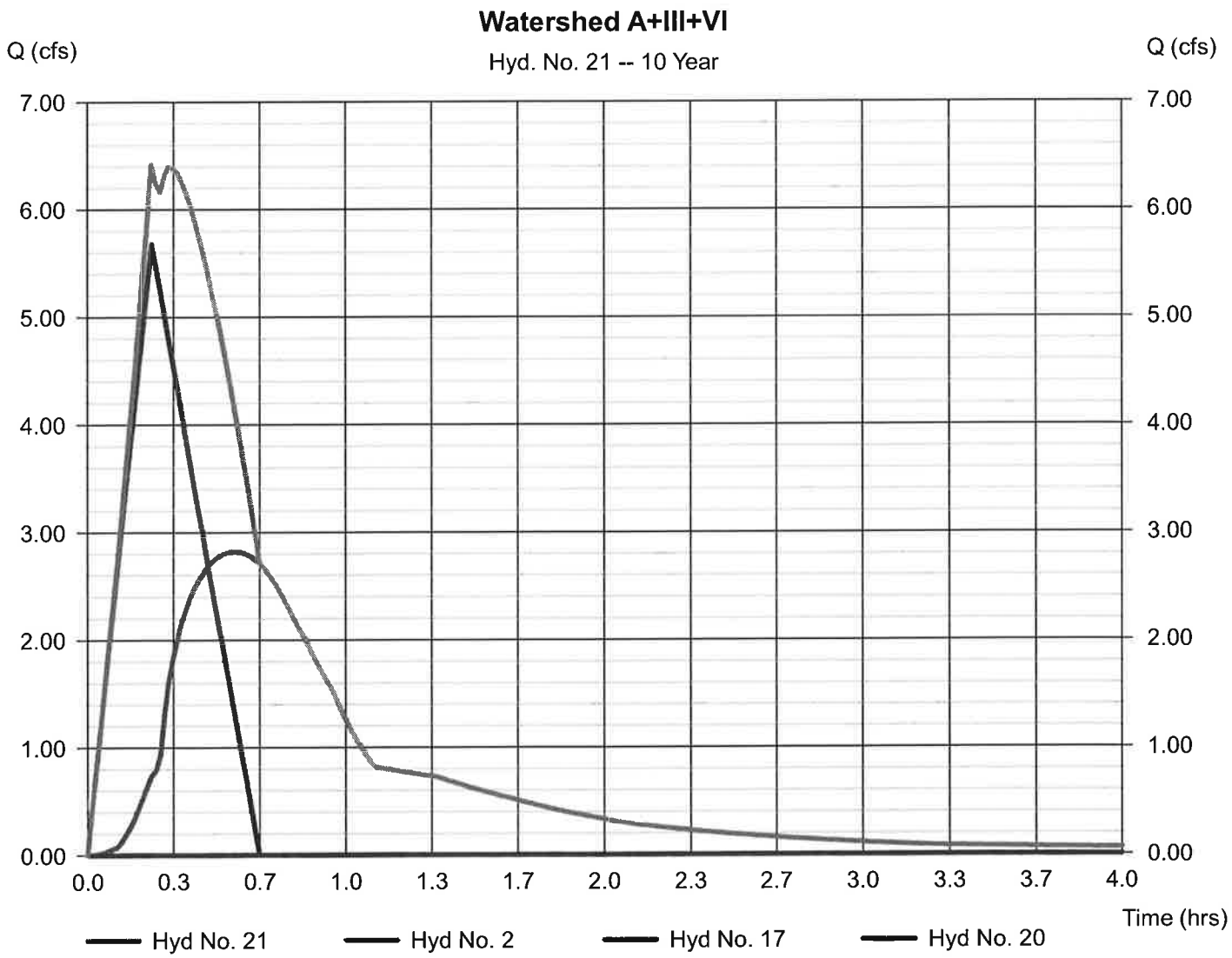
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 21

Watershed A+III+VI

Hydrograph type	= Combine	Peak discharge	= 6.410 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.25 hrs
Time interval	= 1 min	Hyd. volume	= 16,660 cuft
Inflow hyds.	= 2, 17, 20	Contrib. drain. area	= 2.700 ac



Hydrograph Report

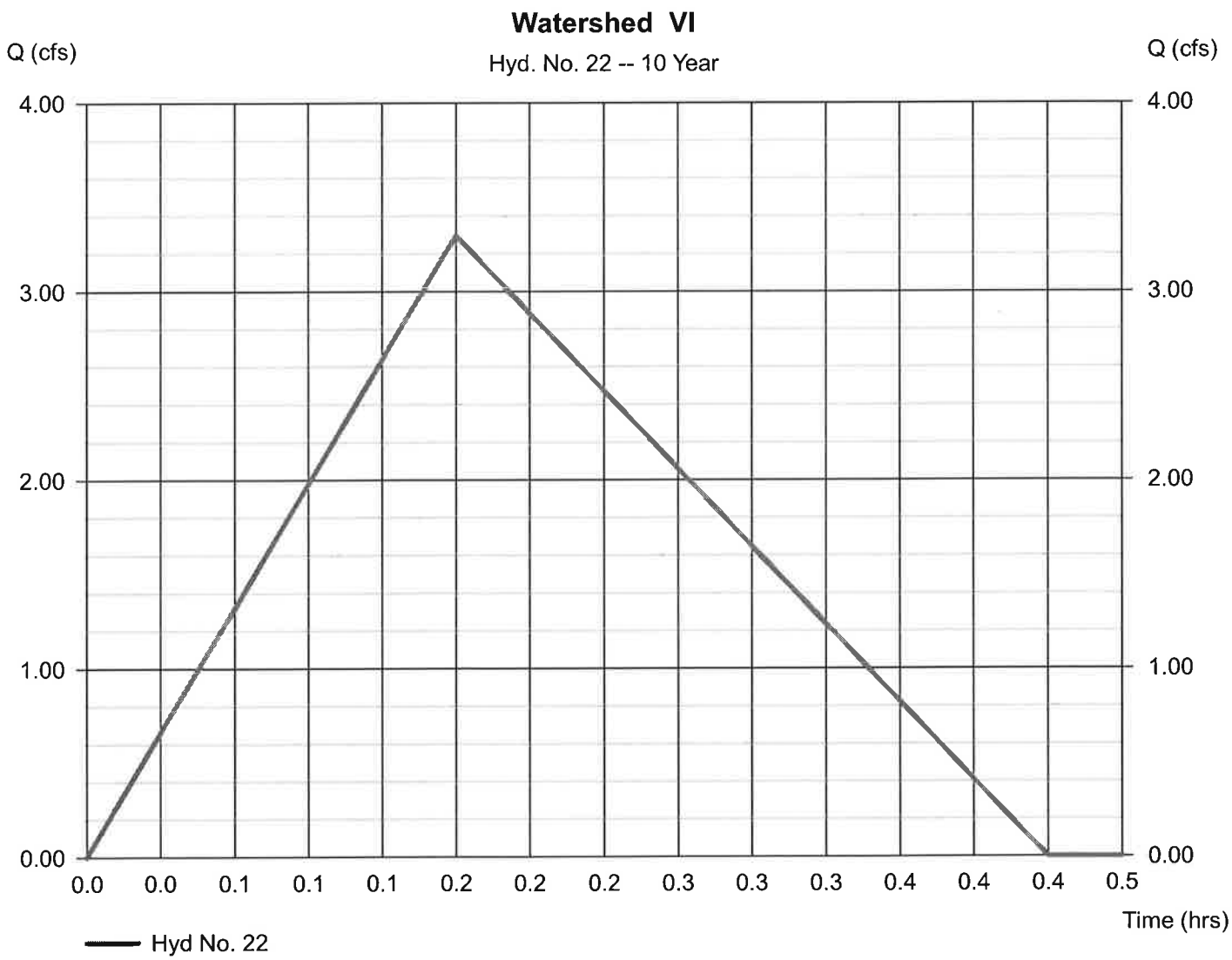
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 22

Watershed VI

Hydrograph type	= Rational	Peak discharge	= 3.293 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 2,638 cuft
Drainage area	= 1.490 ac	Runoff coeff.	= 0.46*
Intensity	= 4.805 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.400 x 0.90) + (1.090 x 0.30)] / 1.490



Hydrograph Report

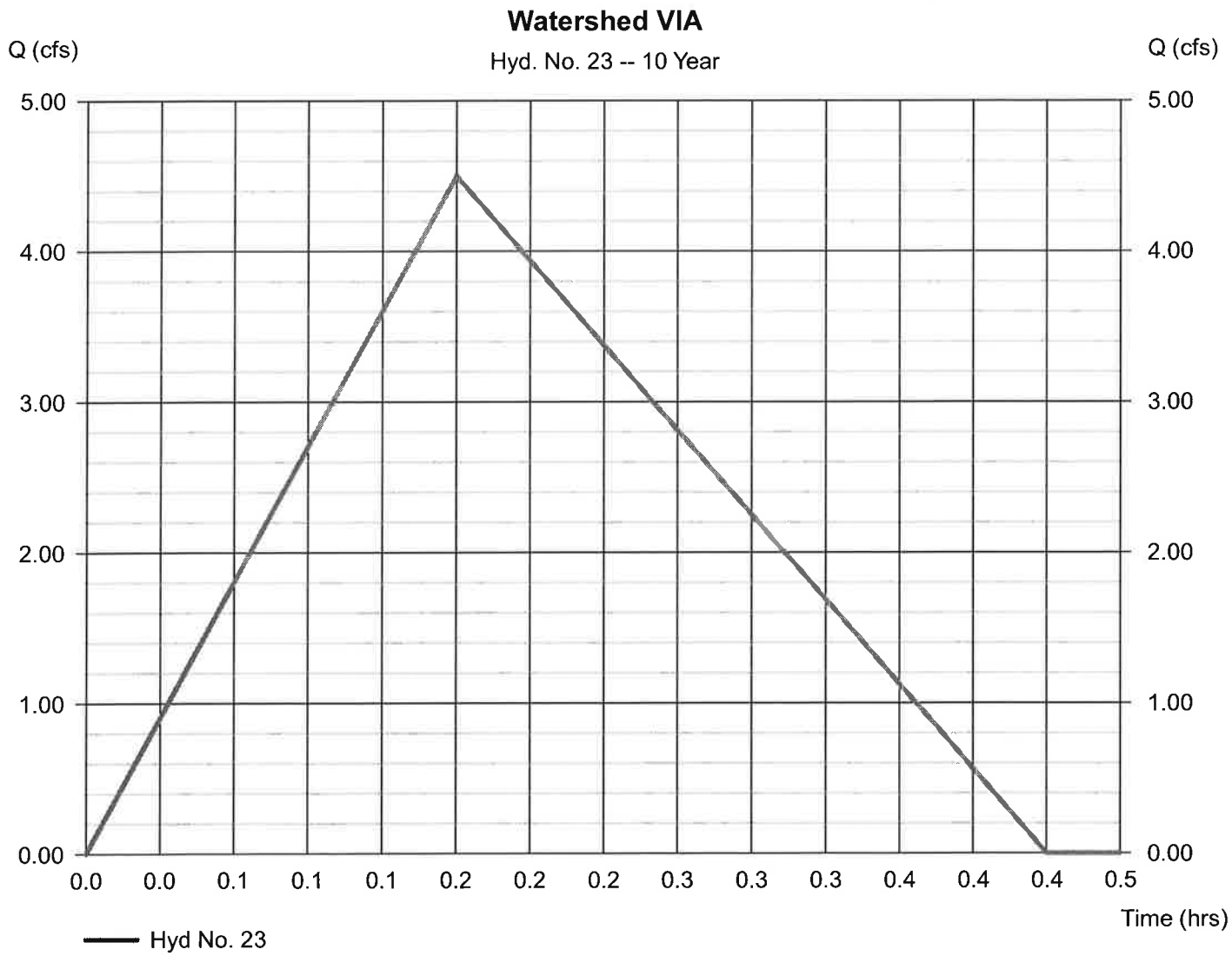
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 23

Watershed VIA

Hydrograph type	= Rational	Peak discharge	= 4.498 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 3,603 cuft
Drainage area	= 1.170 ac	Runoff coeff.	= 0.8*
Intensity	= 4.805 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.970 x 0.90) + (0.200 x 0.30)] / 1.170



Hydrograph Report

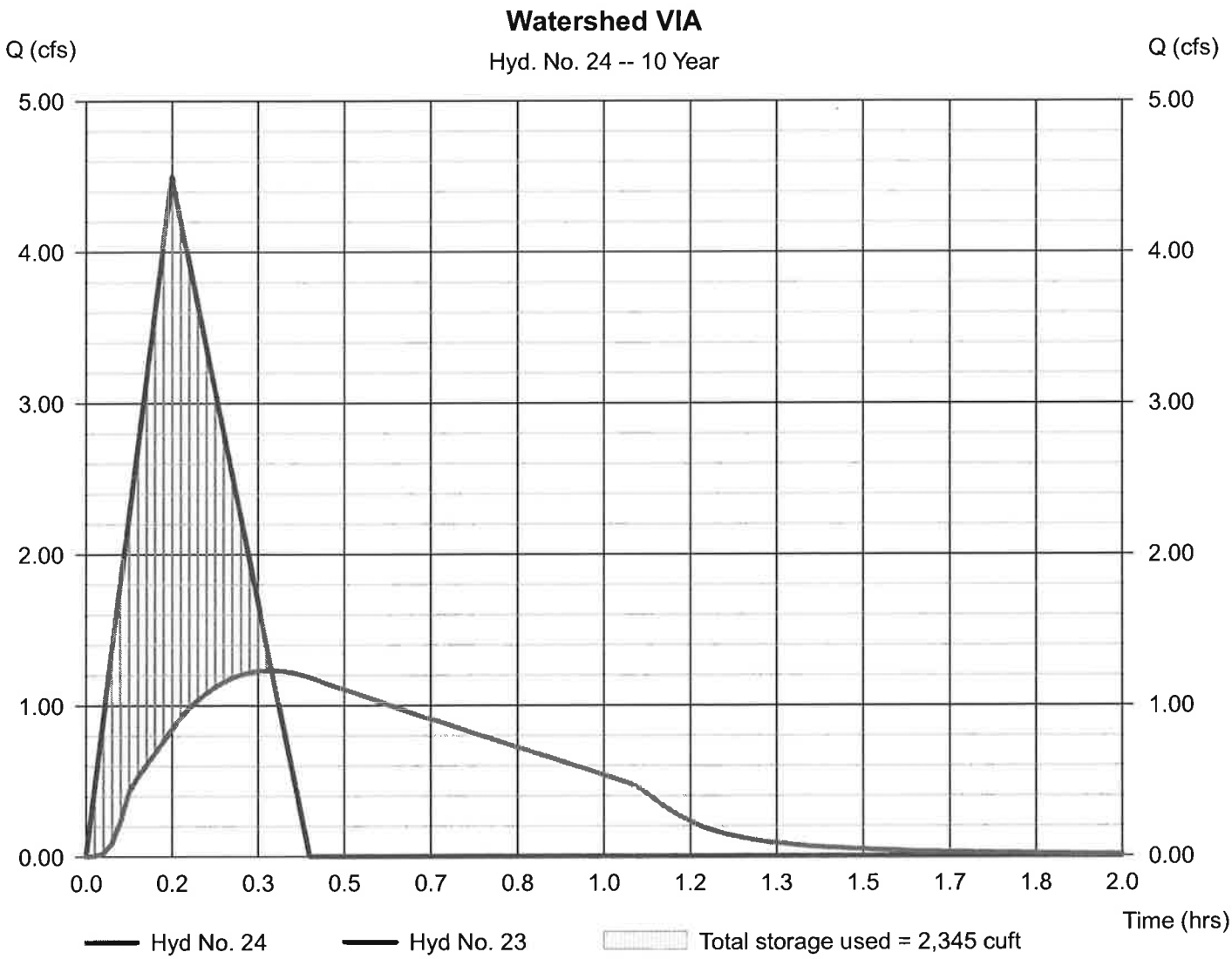
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 24

Watershed VIA

Hydrograph type	= Reservoir	Peak discharge	= 1.233 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.37 hrs
Time interval	= 1 min	Hyd. volume	= 3,504 cuft
Inflow hyd. No.	= 23 - Watershed VIA	Max. Elevation	= 550.45 ft
Reservoir name	= Watershed VIA	Max. Storage	= 2,345 cuft

Storage Indication method used.



Hydrograph Report

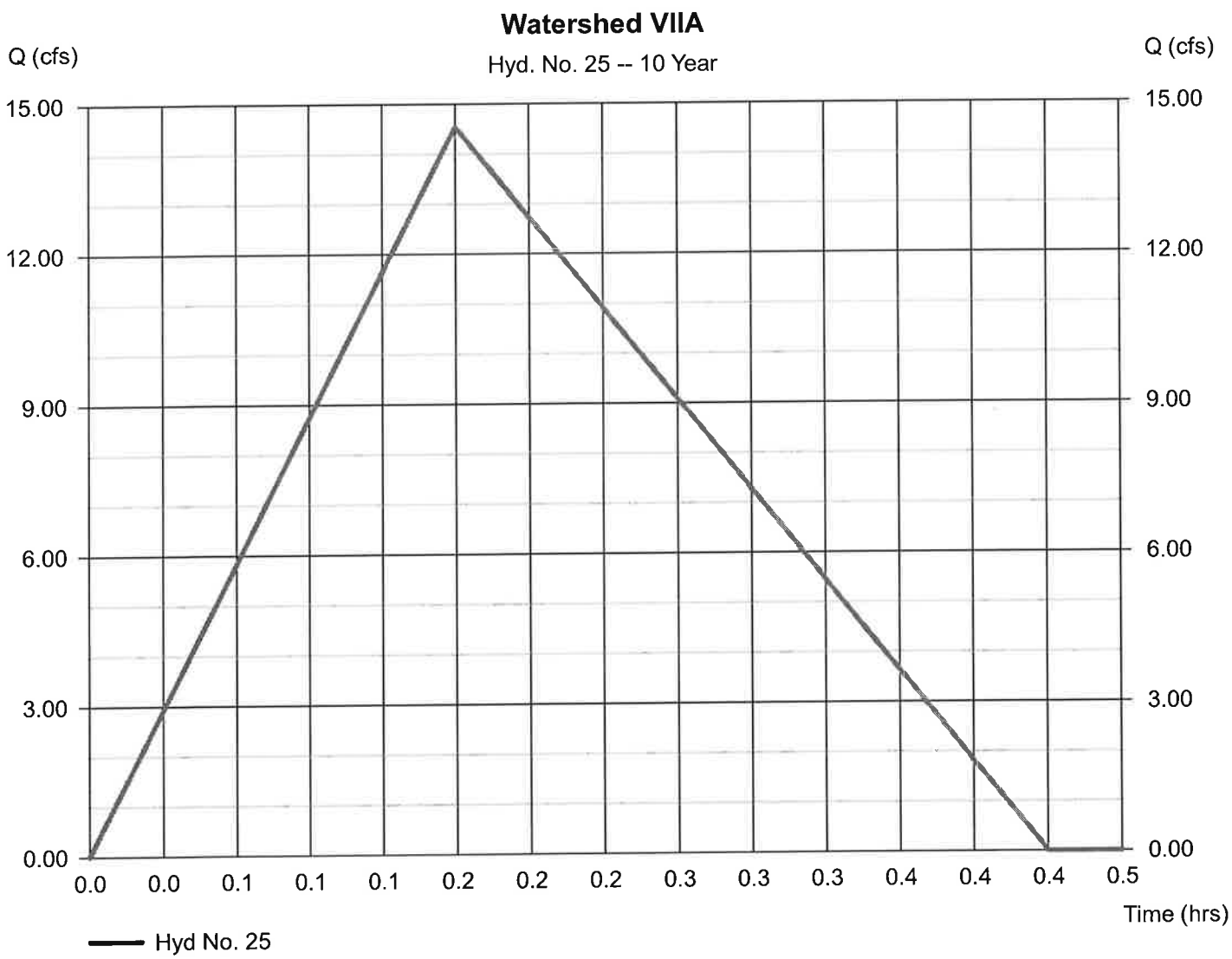
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 25

Watershed VIIA

Hydrograph type	= Rational	Peak discharge	= 14.54 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 11,649 cuft
Drainage area	= 4.090 ac	Runoff coeff.	= 0.74*
Intensity	= 4.805 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(3.020 x 0.90) + (1.070 x 0.30)] / 4.090



Hydrograph Report

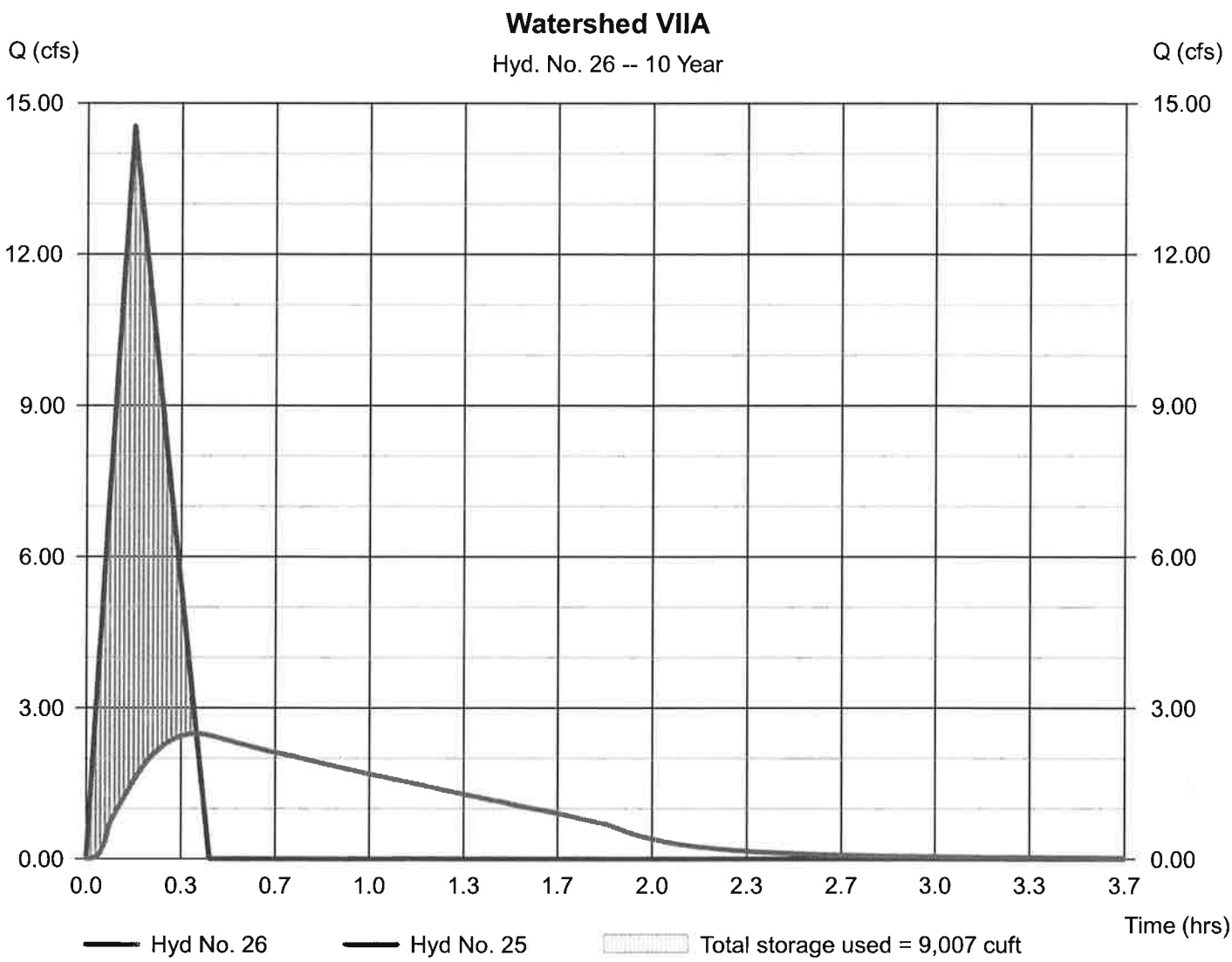
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 26

Watershed VIIA

Hydrograph type	= Reservoir	Peak discharge	= 2.487 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.38 hrs
Time interval	= 1 min	Hyd. volume	= 11,333 cuft
Inflow hyd. No.	= 25 - Watershed VIIA	Max. Elevation	= 547.03 ft
Reservoir name	= Watershed VIIA	Max. Storage	= 9,007 cuft

Storage Indication method used.



Hydrograph Report

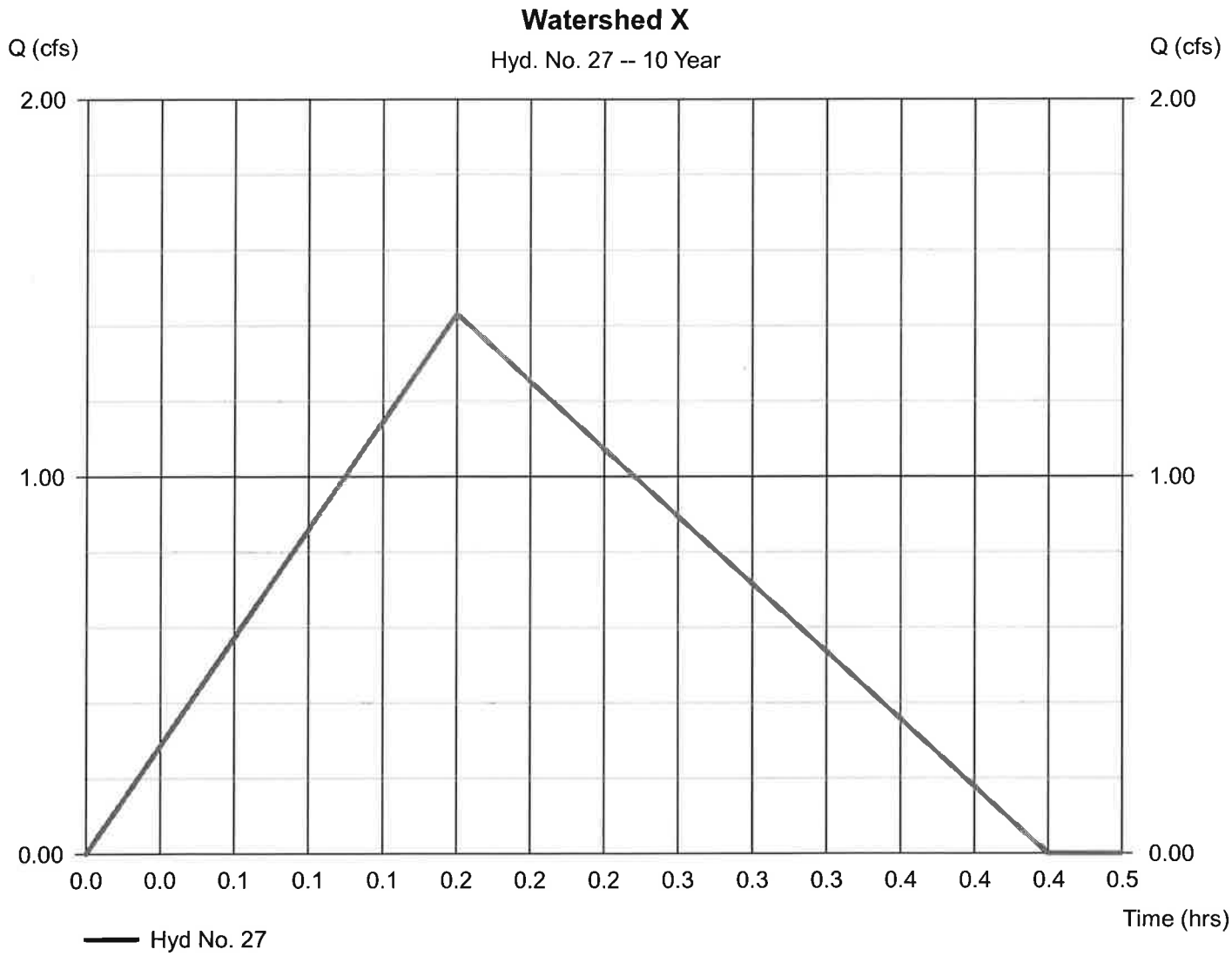
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 27

Watershed X

Hydrograph type	= Rational	Peak discharge	= 1.430 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 1,145 cuft
Drainage area	= 0.930 ac	Runoff coeff.	= 0.32*
Intensity	= 4.805 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.100 x 0.90) + (0.410 x 0.30) + (0.420 x 0.20)] / 0.930



Hydrograph Report

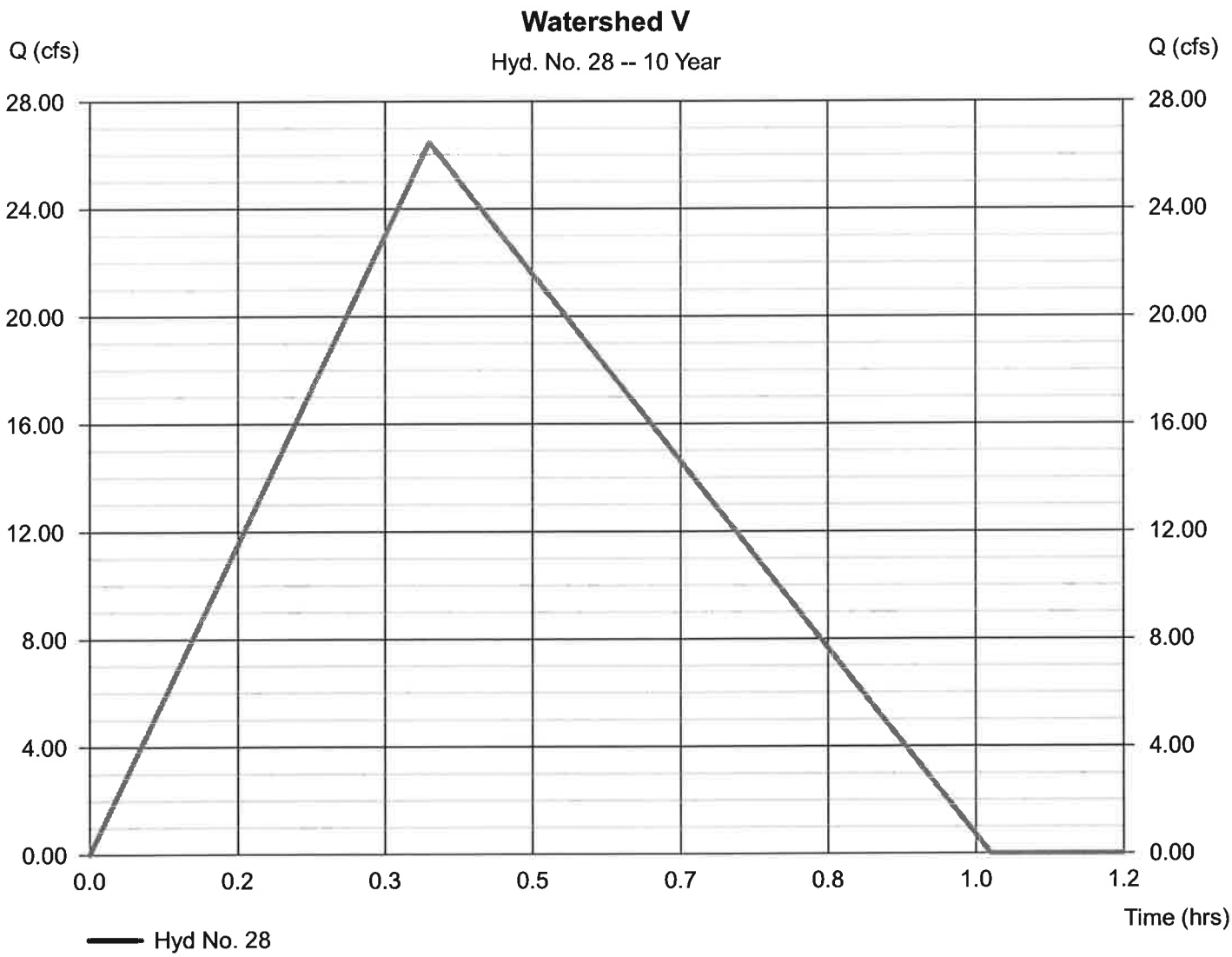
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 28

Watershed V

Hydrograph type	= Rational	Peak discharge	= 26.45 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.38 hrs
Time interval	= 1 min	Hyd. volume	= 48,720 cuft
Drainage area	= 26.200 ac	Runoff coeff.	= 0.31*
Intensity	= 3.256 in/hr	Tc by TR55	= 23.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(2.500 x 0.90) + (10.640 x 0.30) + (13.060 x 0.20)] / 26.200



Hydrograph Report

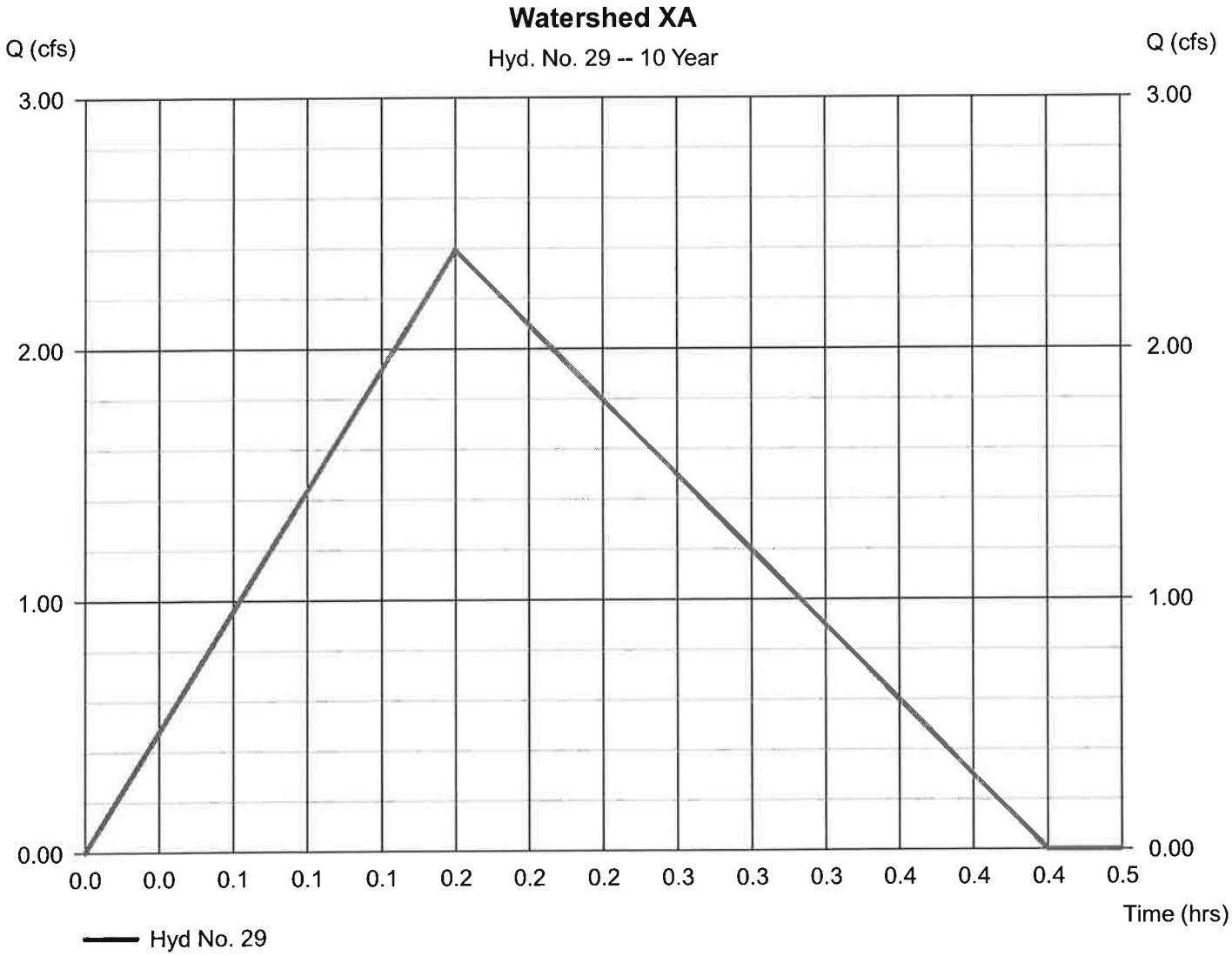
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 29

Watershed XA

Hydrograph type	= Rational	Peak discharge	= 2.394 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 1,918 cuft
Drainage area	= 0.940 ac	Runoff coeff.	= 0.53*
Intensity	= 4.805 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.390 x 0.90) + (0.350 x 0.30) + (0.200 x 0.20)] / 0.940



Hydrograph Report

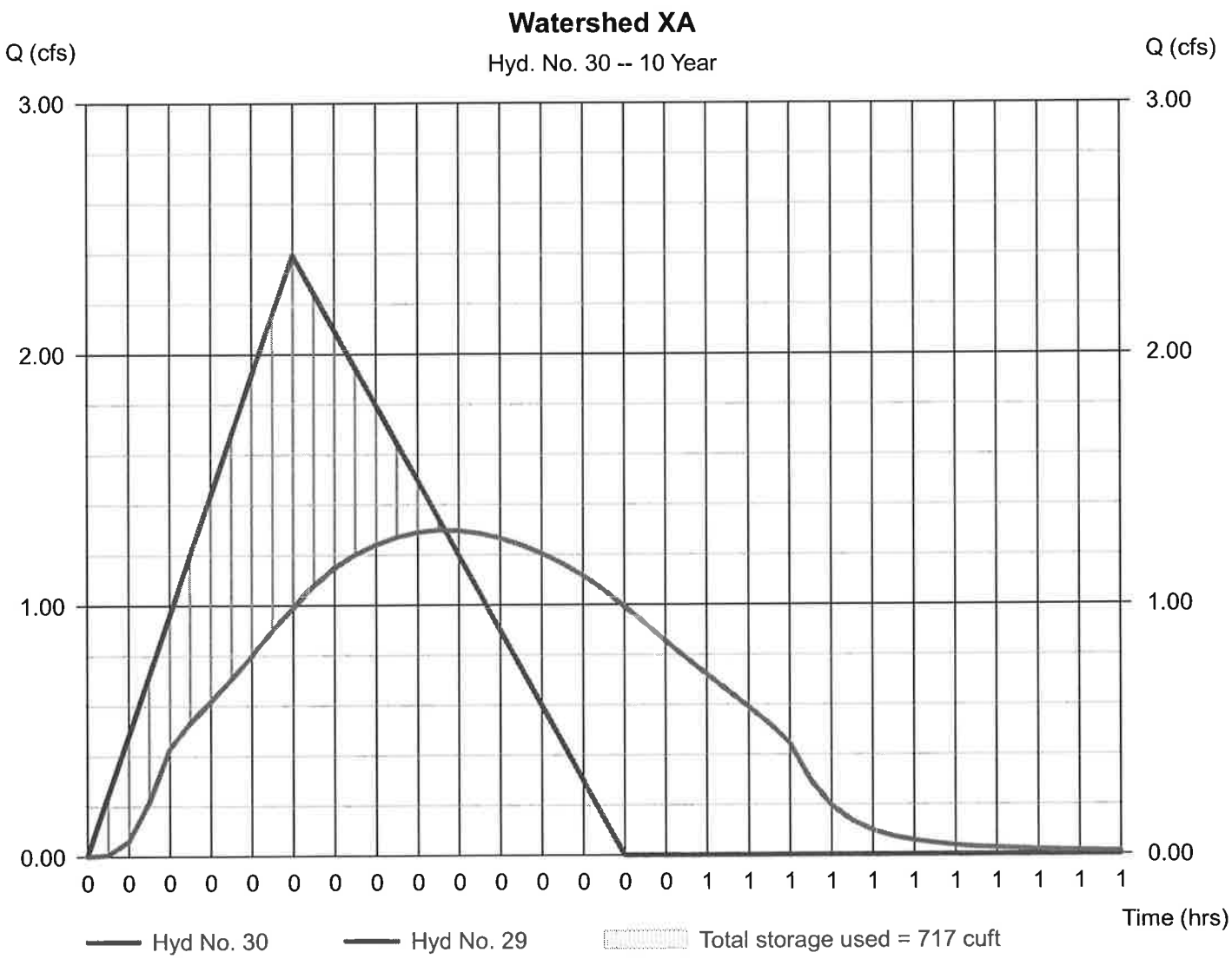
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 30

Watershed XA

Hydrograph type	= Reservoir	Peak discharge	= 1.297 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.28 hrs
Time interval	= 1 min	Hyd. volume	= 1,866 cuft
Inflow hyd. No.	= 29 - Watershed XA	Max. Elevation	= 557.64 ft
Reservoir name	= Watershed XA	Max. Storage	= 717 cuft

Storage Indication method used.



Hydrograph Report

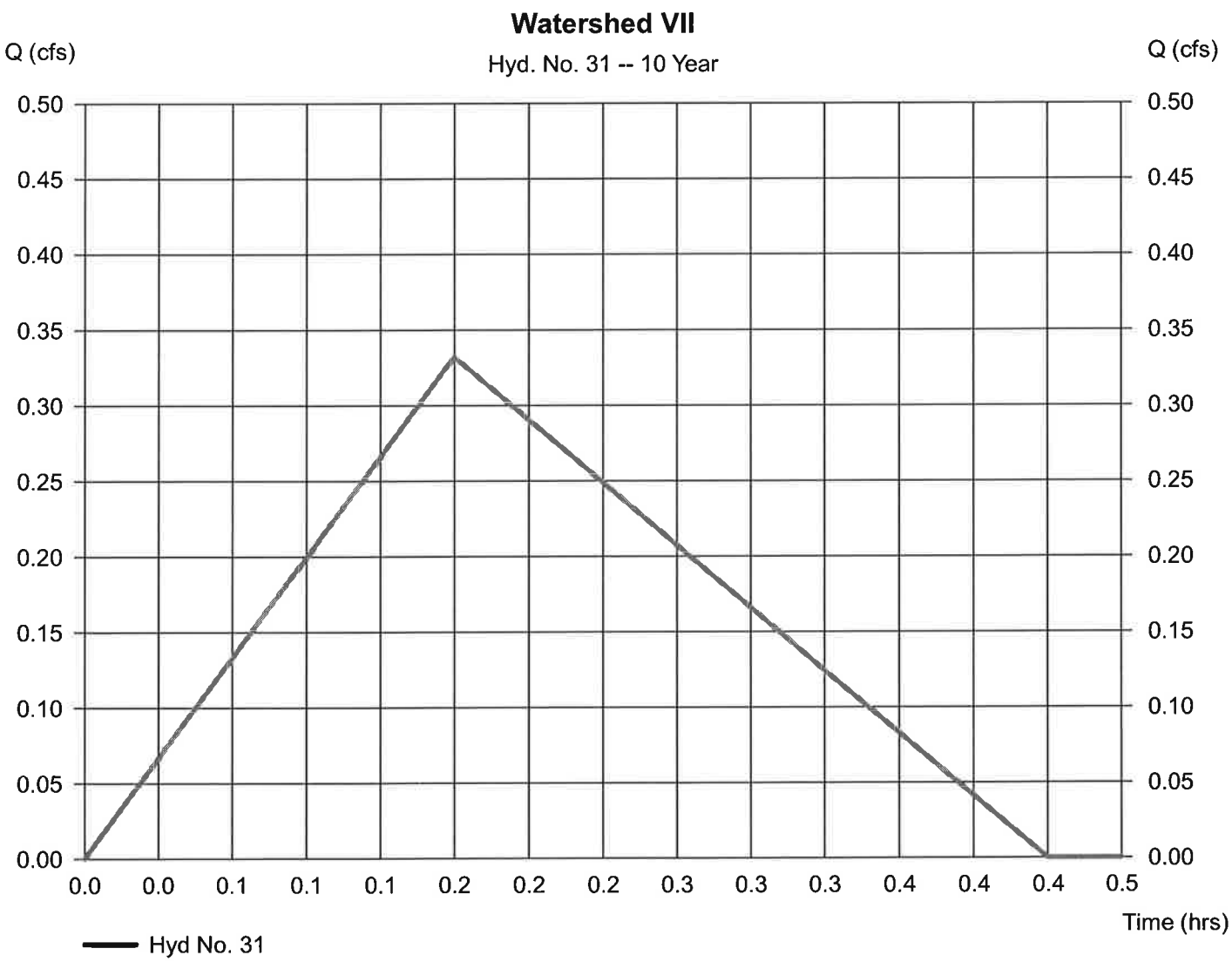
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 31

Watershed VII

Hydrograph type	= Rational	Peak discharge	= 0.332 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 266 cuft
Drainage area	= 0.230 ac	Runoff coeff.	= 0.3*
Intensity	= 4.805 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.230 x 0.30)] / 0.230



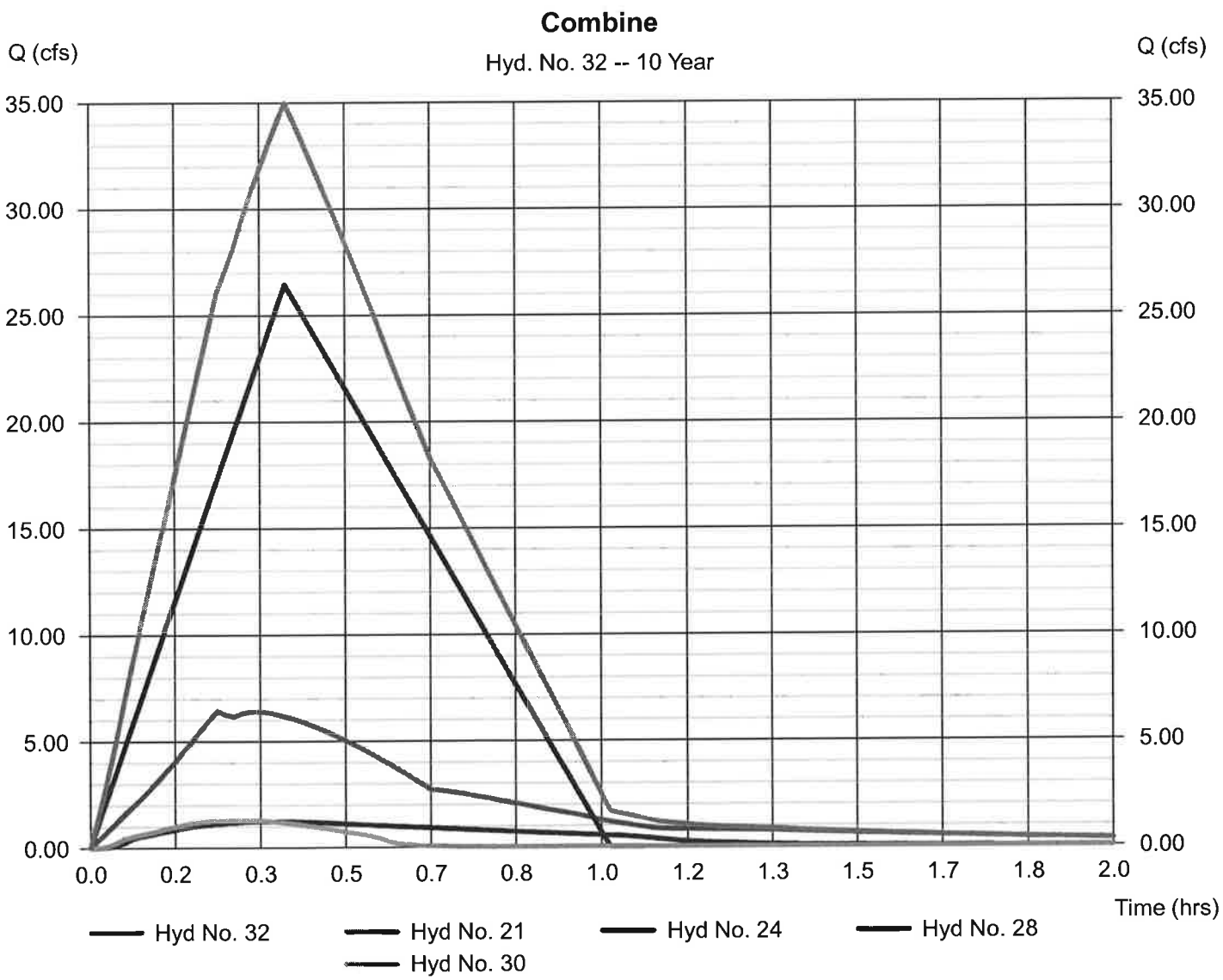
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 32

Combine

Hydrograph type	= Combine	Peak discharge	= 34.98 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.38 hrs
Time interval	= 1 min	Hyd. volume	= 70,424 cuft
Inflow hyds.	= 21, 24, 28, 30	Contrib. drain. area	= 26.200 ac



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

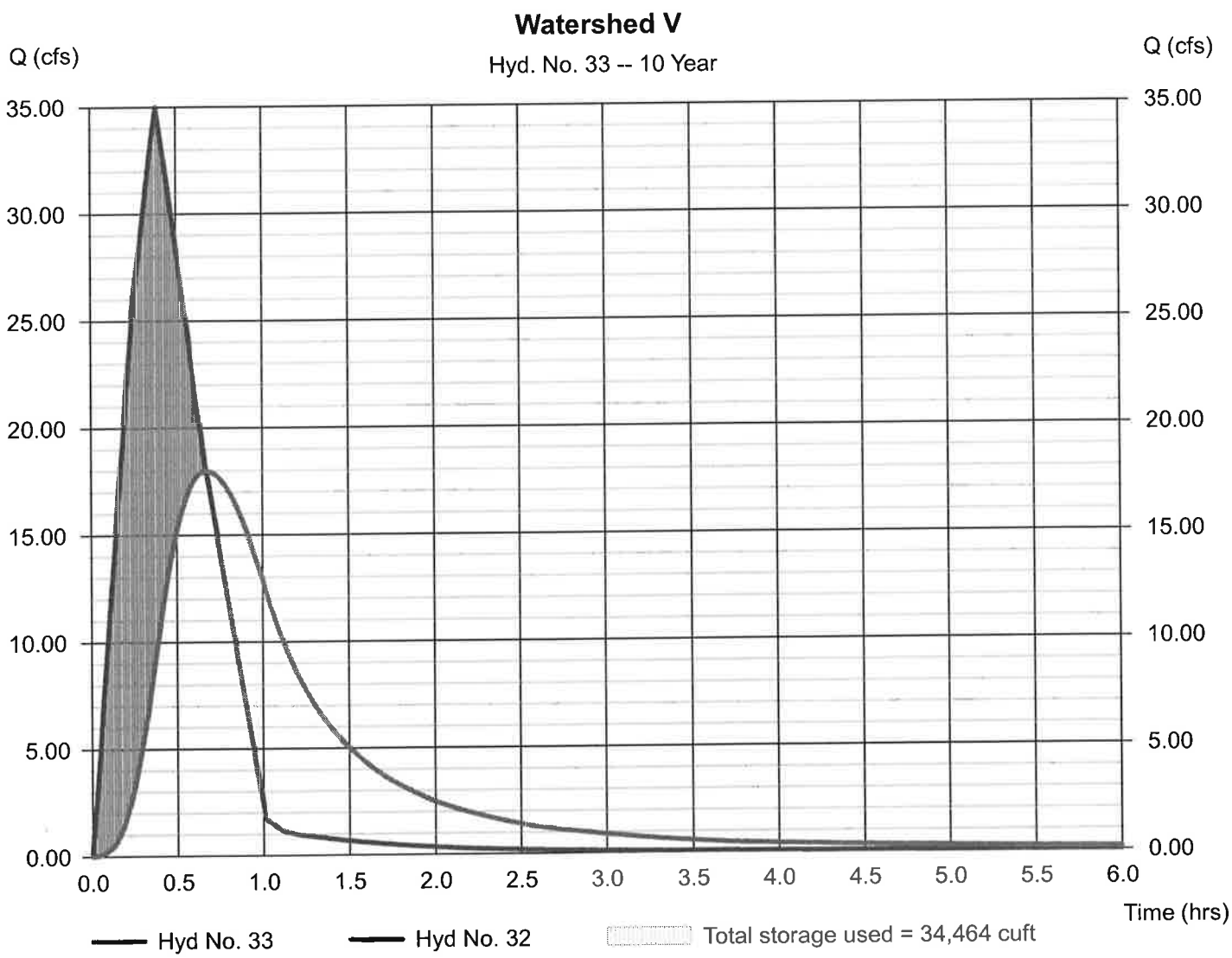
Wednesday, Mar 30, 2016

Hyd. No. 33

Watershed V

Hydrograph type	= Reservoir	Peak discharge	= 17.96 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.67 hrs
Time interval	= 1 min	Hyd. volume	= 70,418 cuft
Inflow hyd. No.	= 32 - Combine	Max. Elevation	= 544.14 ft
Reservoir name	= Watershed X	Max. Storage	= 34,464 cuft

Storage Indication method used.



Hydrograph Report

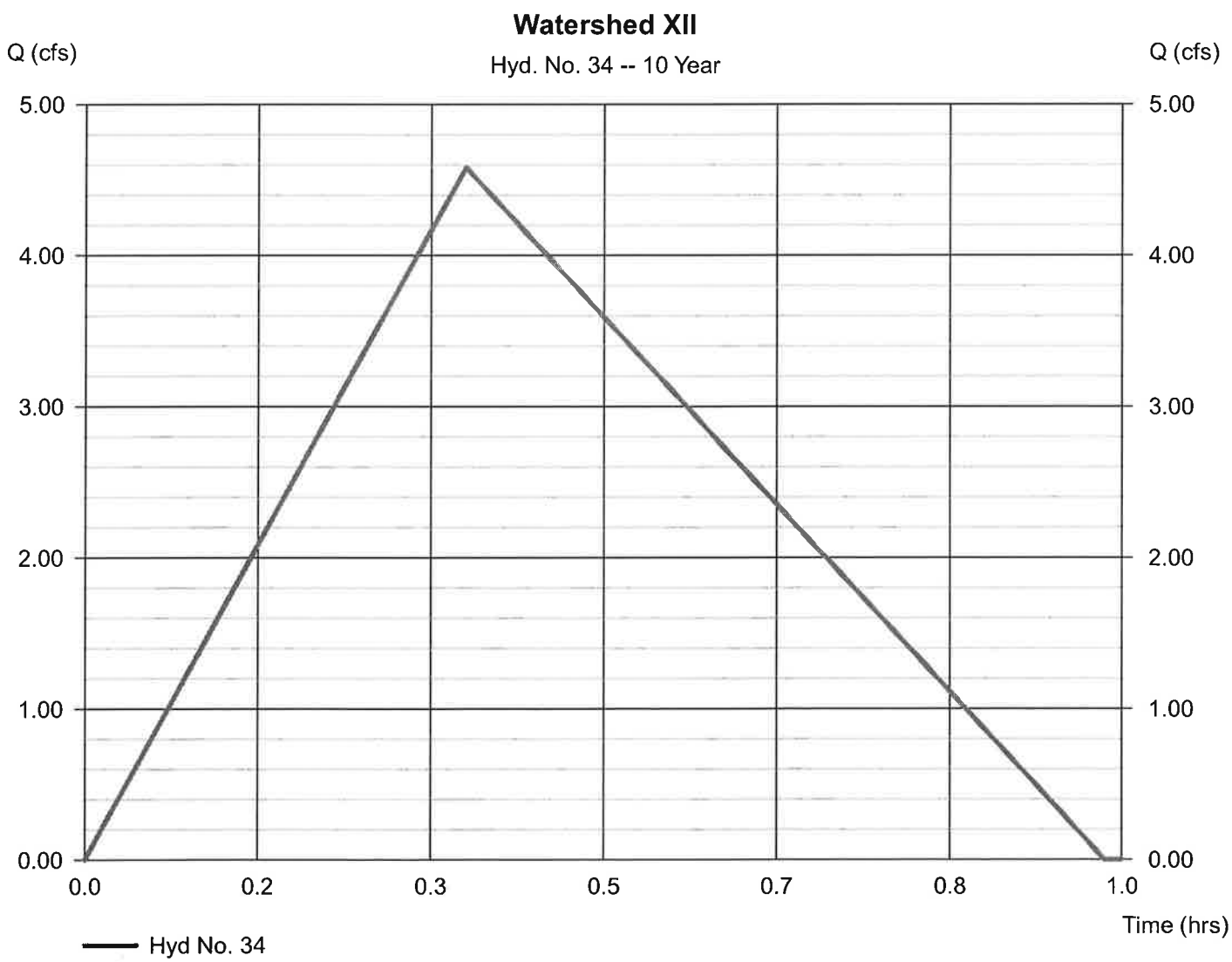
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 34

Watershed XII

Hydrograph type	= Rational	Peak discharge	= 4.581 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.37 hrs
Time interval	= 1 min	Hyd. volume	= 8,243 cuft
Drainage area	= 4.630 ac	Runoff coeff.	= 0.3*
Intensity	= 3.298 in/hr	Tc by TR55	= 22.47 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.490 x 0.90) + (1.430 x 0.30) + (2.710 x 0.20)] / 4.630



Hydrograph Report

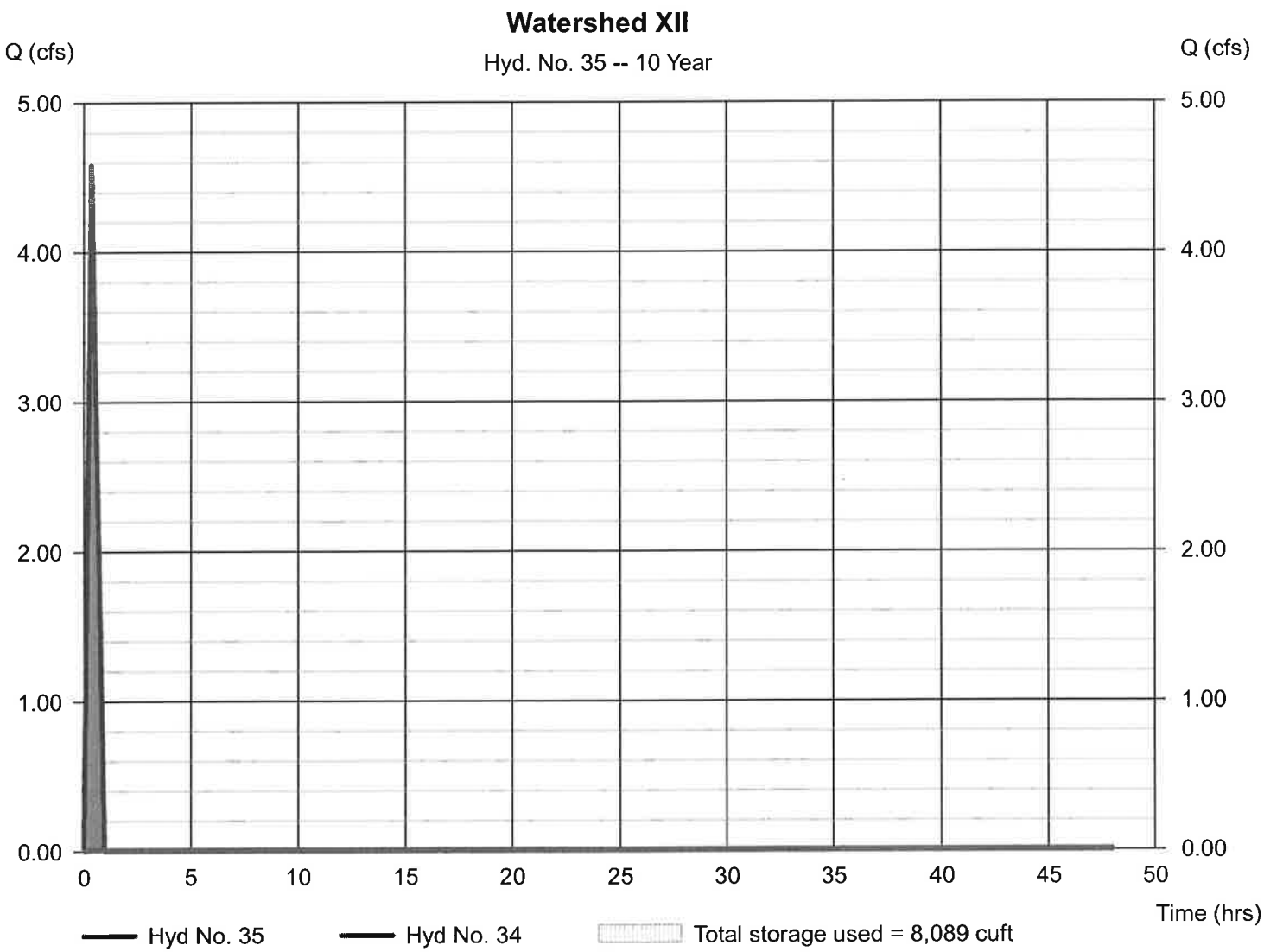
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 35

Watershed XII

Hydrograph type	= Reservoir	Peak discharge	= 0.007 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.98 hrs
Time interval	= 1 min	Hyd. volume	= 1,122 cuft
Inflow hyd. No.	= 34 - Watershed XII	Max. Elevation	= 546.22 ft
Reservoir name	= Watershed XII	Max. Storage	= 8,089 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

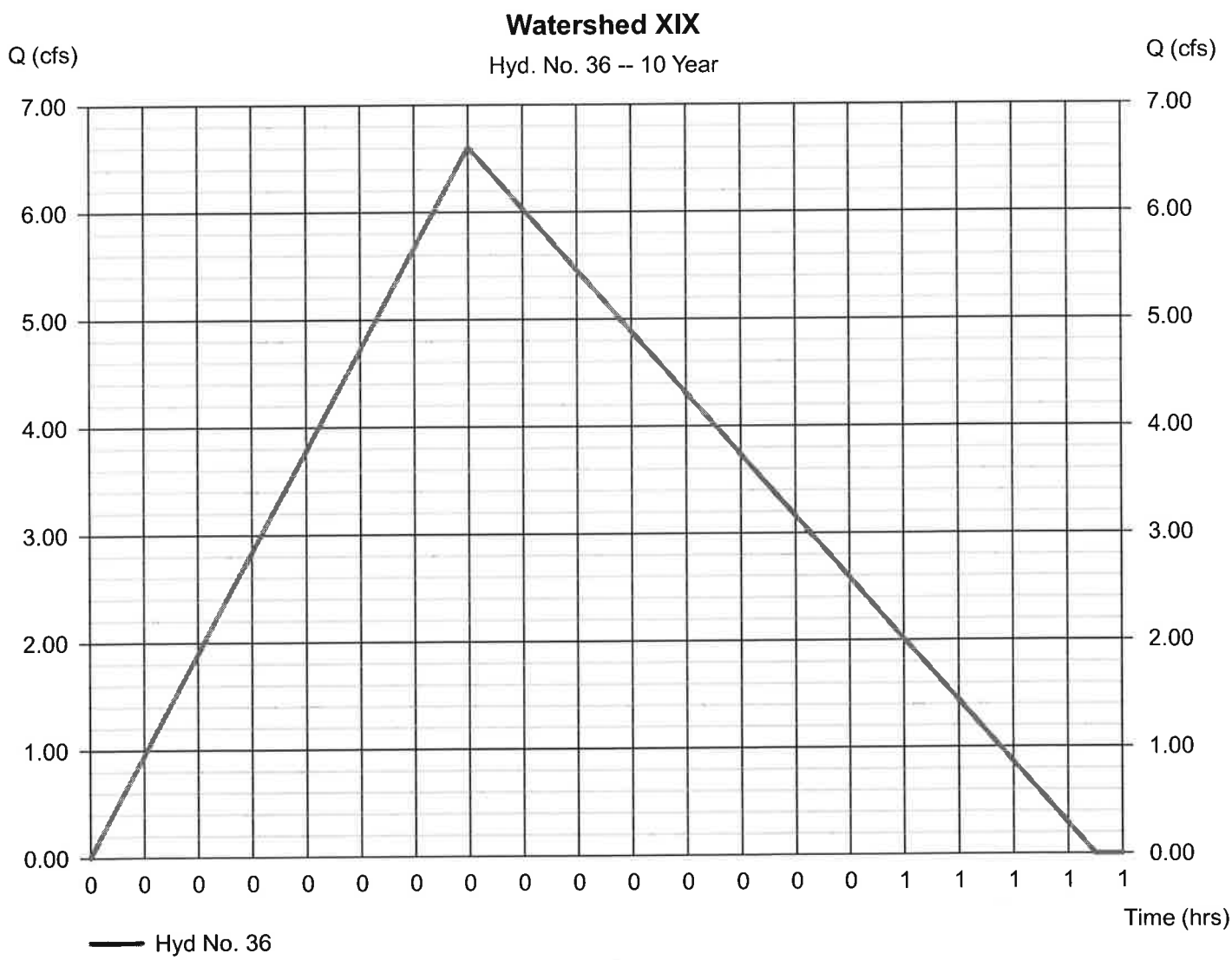
Wednesday, Mar 30, 2016

Hyd. No. 36

Watershed XIX

Hydrograph type	= Rational	Peak discharge	= 6.603 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.23 hrs
Time interval	= 1 min	Hyd. volume	= 7,405 cuft
Drainage area	= 5.860 ac	Runoff coeff.	= 0.27*
Intensity	= 4.173 in/hr	Tc by TR55	= 14.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.400 x 0.90) + (1.500 x 0.30) + (3.960 x 0.20)] / 5.860



Hydrograph Report

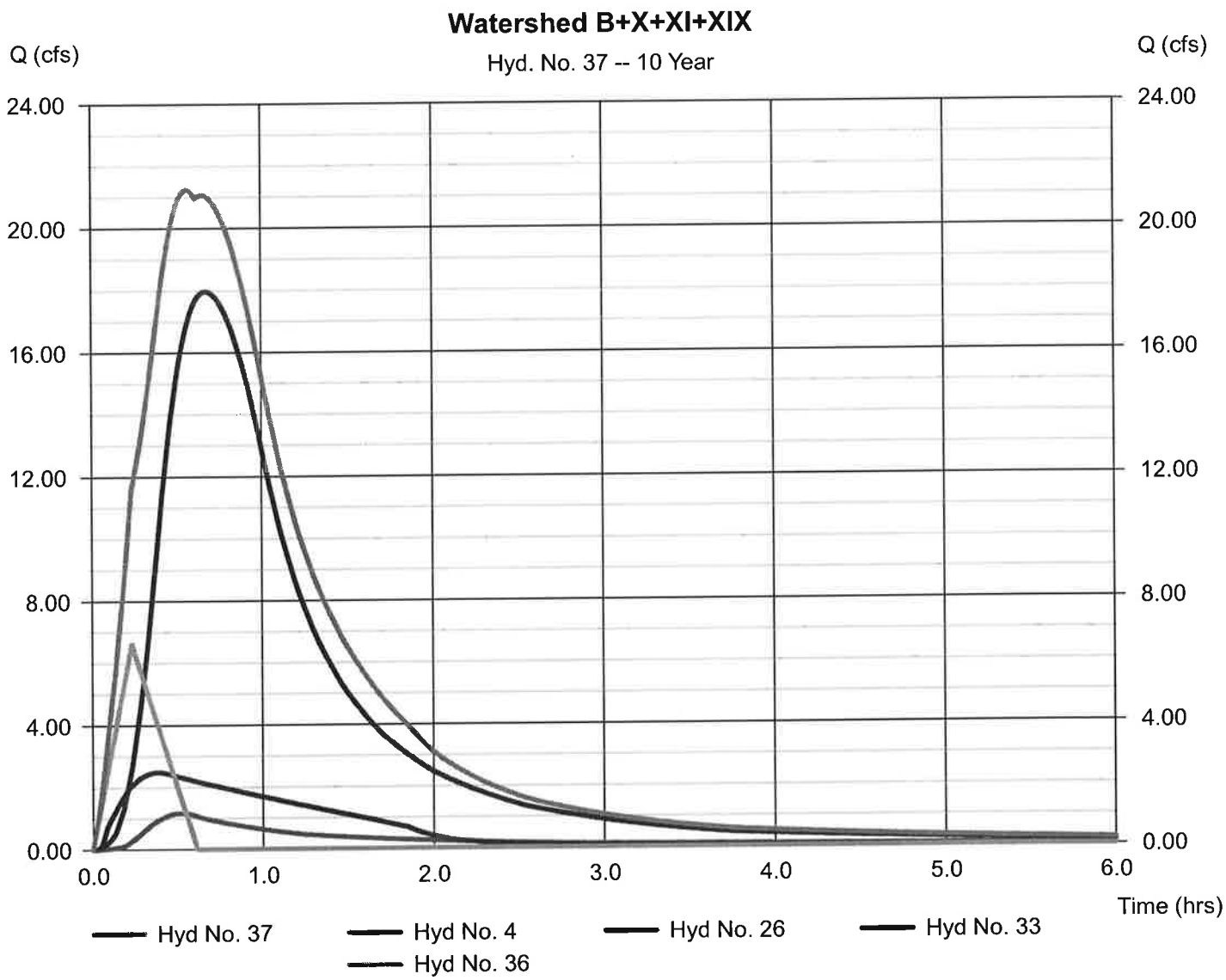
Hydraflow Hydrographs by Intelisolve v9.1

Wednesday, Mar 30, 2016

Hyd. No. 37

Watershed B+X+XI+XIX

Hydrograph type	= Combine	Peak discharge	= 21.24 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.57 hrs
Time interval	= 1 min	Hyd. volume	= 94,850 cuft
Inflow hyds.	= 4, 26, 33, 36	Contrib. drain. area	= 5.860 ac



Hydrograph Report

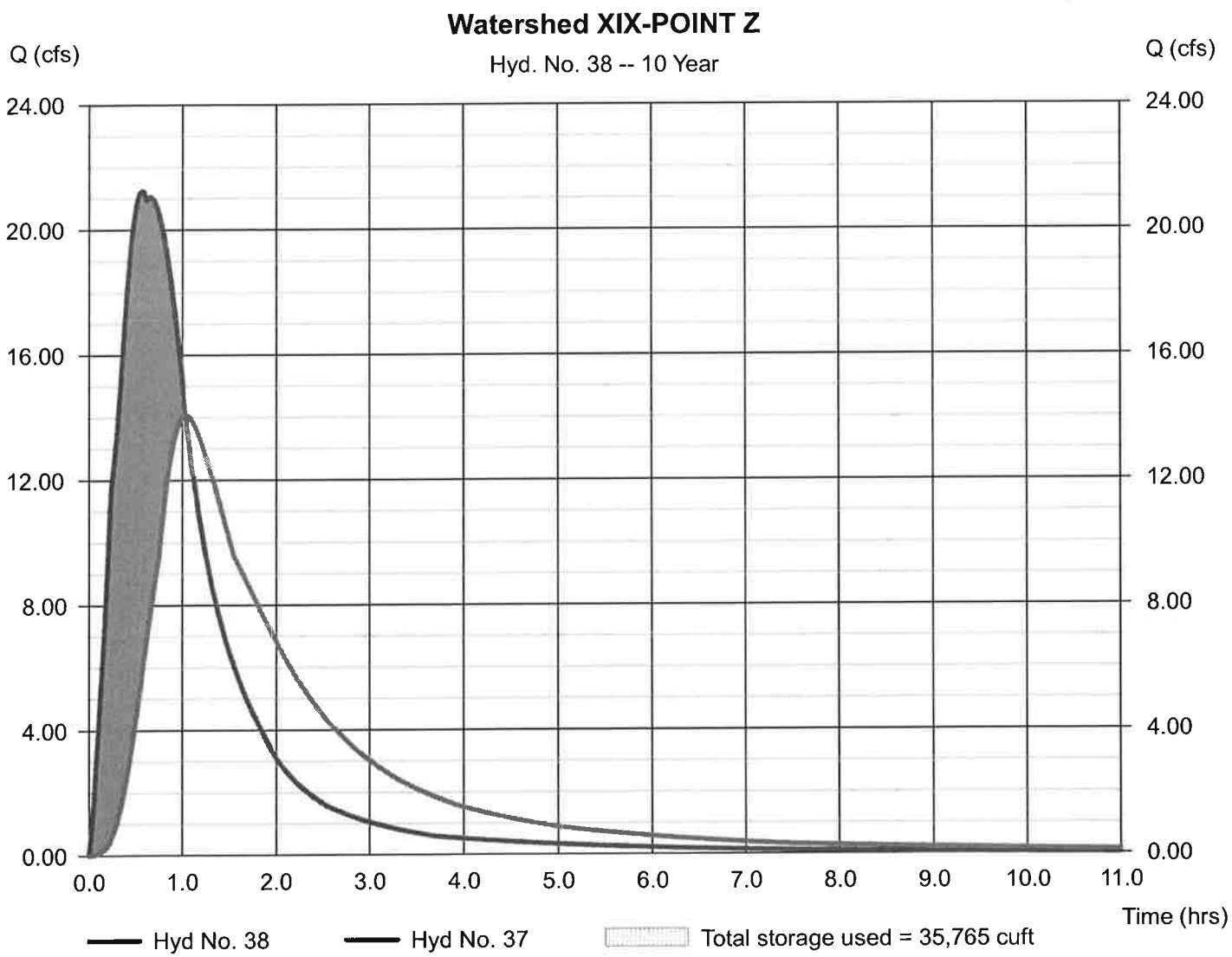
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 38

Watershed XIX-POINT Z

Hydrograph type	= Reservoir	Peak discharge	= 14.06 cfs
Storm frequency	= 10 yrs	Time to peak	= 1.03 hrs
Time interval	= 1 min	Hyd. volume	= 94,840 cuft
Inflow hyd. No.	= 37 - Watershed B+X+XI+XIX	Max. Elevation	= 542.06 ft
Reservoir name	= Watershed XIX	Max. Storage	= 35,765 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

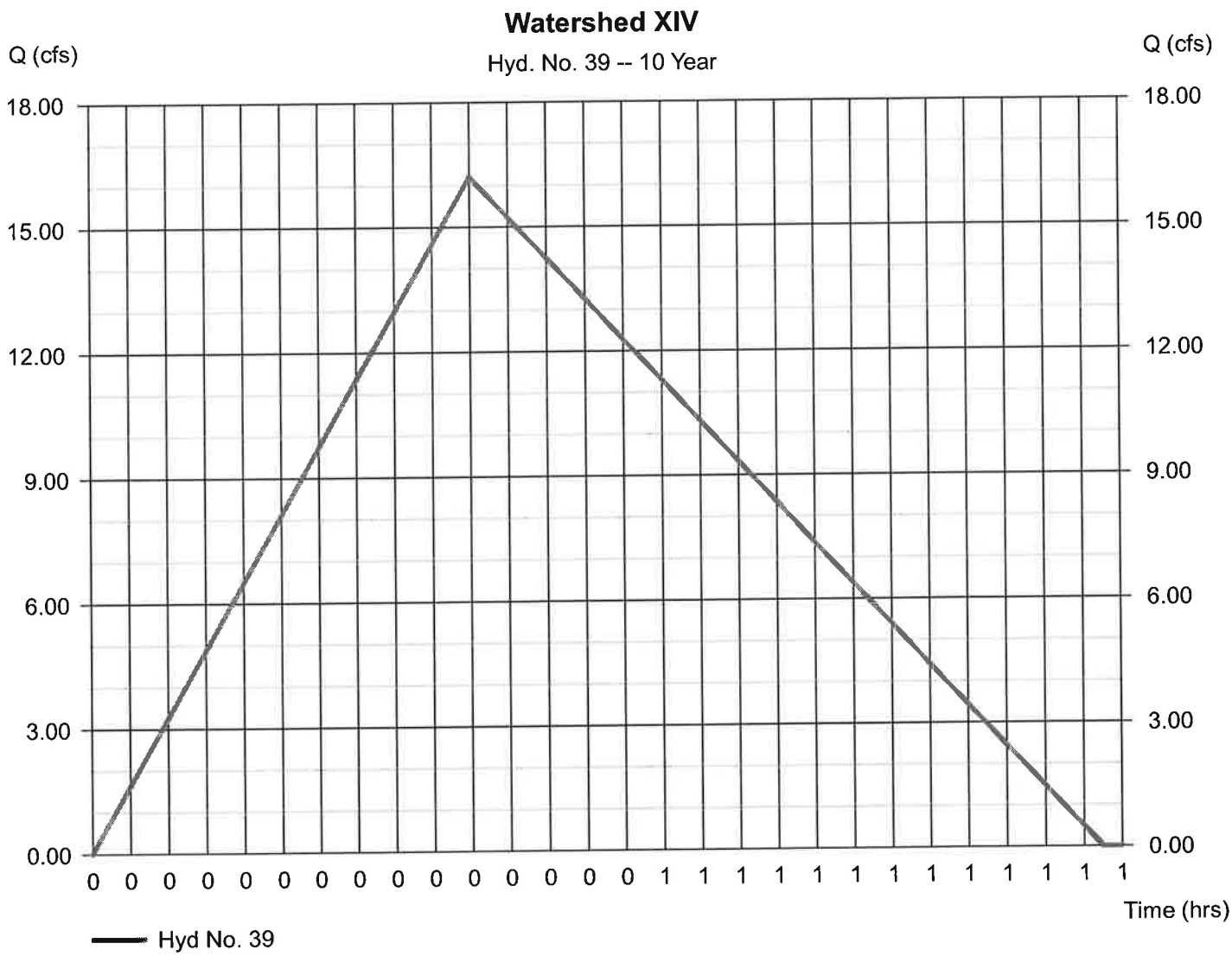
Wednesday, Mar 30, 2016

Hyd. No. 39

Watershed XIV

Hydrograph type	=	Rational	Peak discharge	=	16.21 cfs
Storm frequency	=	10 yrs	Time to peak	=	0.33 hrs
Time interval	=	1 min	Hyd. volume	=	25,963 cuft
Drainage area	=	15.400 ac	Runoff coeff.	=	0.3*
Intensity	=	3.508 in/hr	Tc by TR55	=	20.00 min
IDF Curve	=	Connecticut.IDF	Asc/Rec limb fact	=	1/1.67

* Composite (Area/C) = [(1.000 x 0.90) + (5.100 x 0.30) + (8.800 x 0.20) + (0.500 x 1.00)] / 15.400



Hydrograph Report

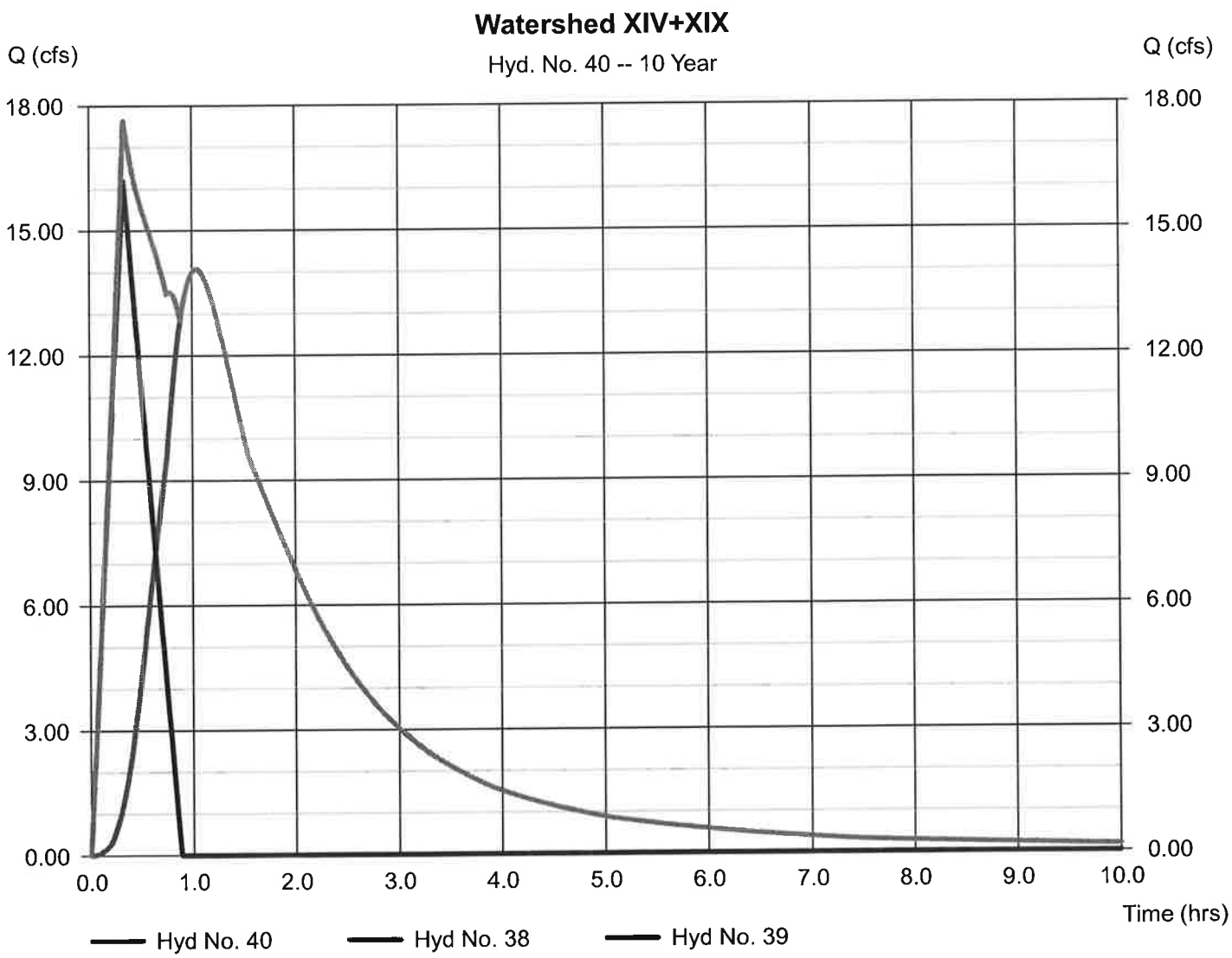
Hydraflow Hydrographs by Intelisolve v9.1

Wednesday, Mar 30, 2016

Hyd. No. 40

Watershed XIV+XIX

Hydrograph type	= Combine	Peak discharge	= 17.63 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 120,608 cuft
Inflow hyds.	= 38, 39	Contrib. drain. area	= 15.400 ac



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

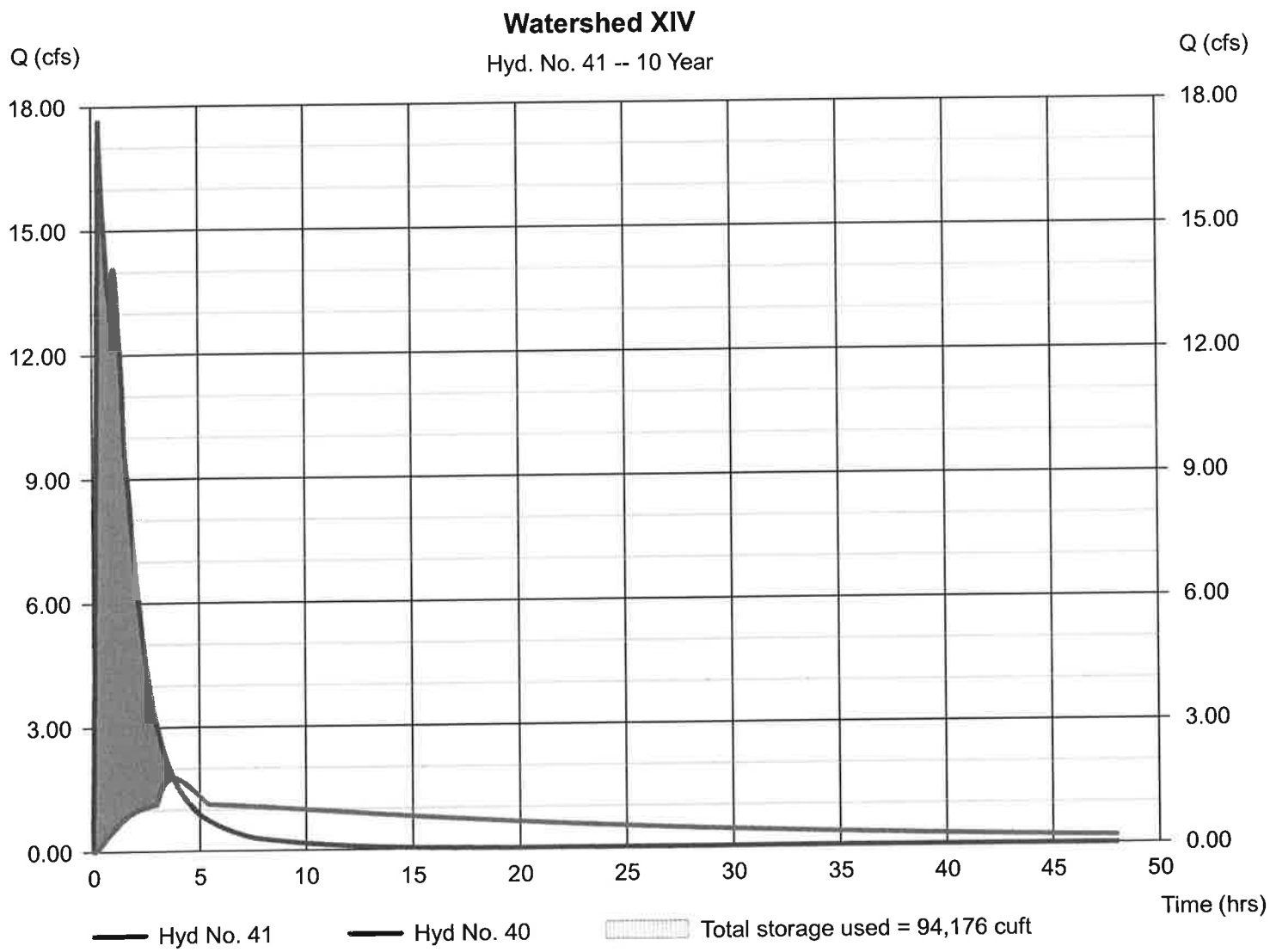
Wednesday, Mar 30, 2016

Hyd. No. 41

Watershed XIV

Hydrograph type	= Reservoir	Peak discharge	= 1.782 cfs
Storm frequency	= 10 yrs	Time to peak	= 3.75 hrs
Time interval	= 1 min	Hyd. volume	= 104,393 cuft
Inflow hyd. No.	= 40 - Watershed XIV+XIX	Max. Elevation	= 539.43 ft
Reservoir name	= Watershed XIV	Max. Storage	= 94,176 cuft

Storage Indication method used.



Hydrograph Report

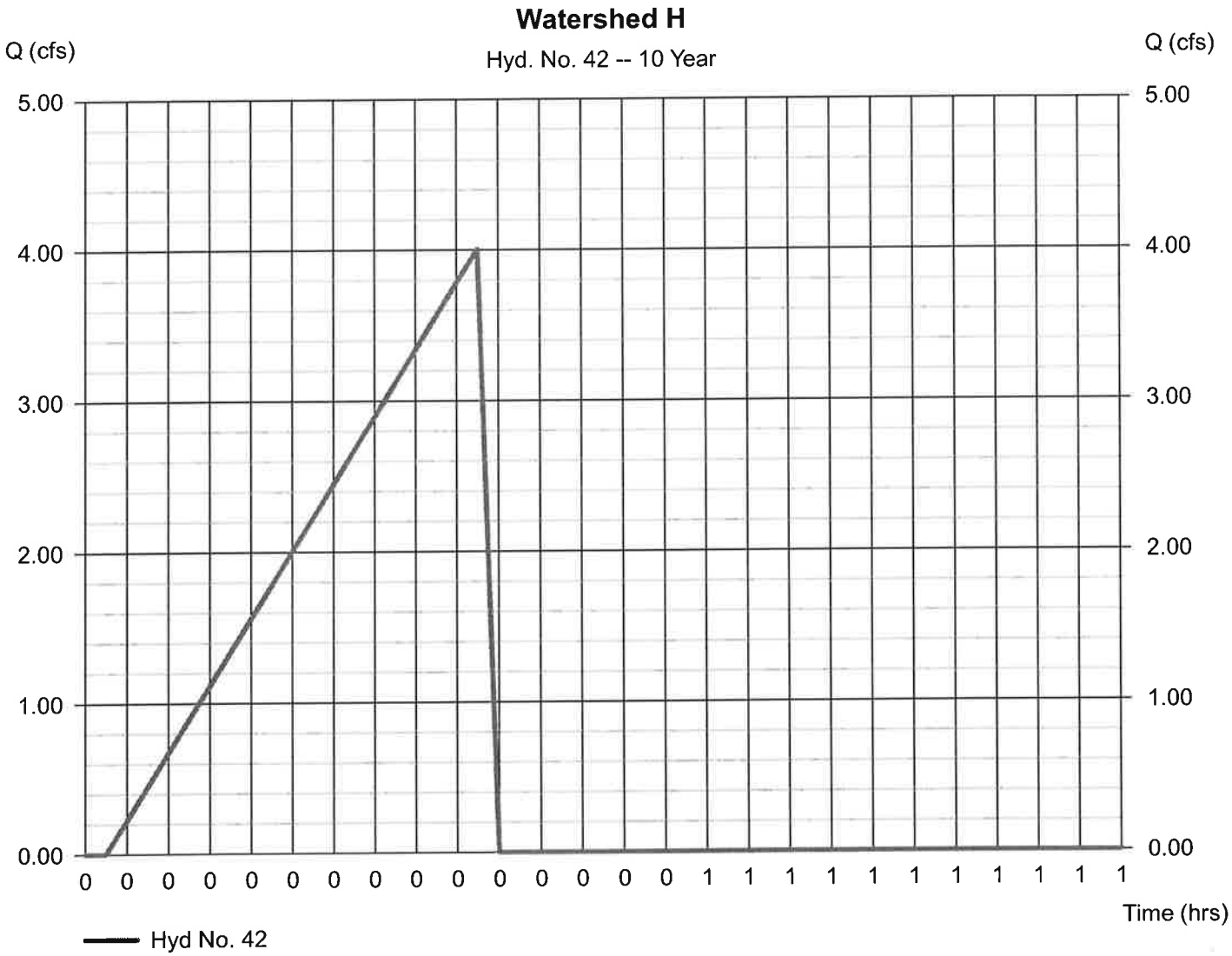
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 42

Watershed H

Hydrograph type	= Rational	Peak discharge	= 4.003 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 5,992 cuft
Drainage area	= 3.800 ac	Runoff coeff.	= 0.29*
Intensity	= 3.633 in/hr	Tc by TR55	= 18.69 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.200 x 0.90) + (0.100 x 0.30) + (2.500 x 0.20) + (0.800 x 0.25) + (0.200 x 1.00)] / 3.800



Hydrograph Report

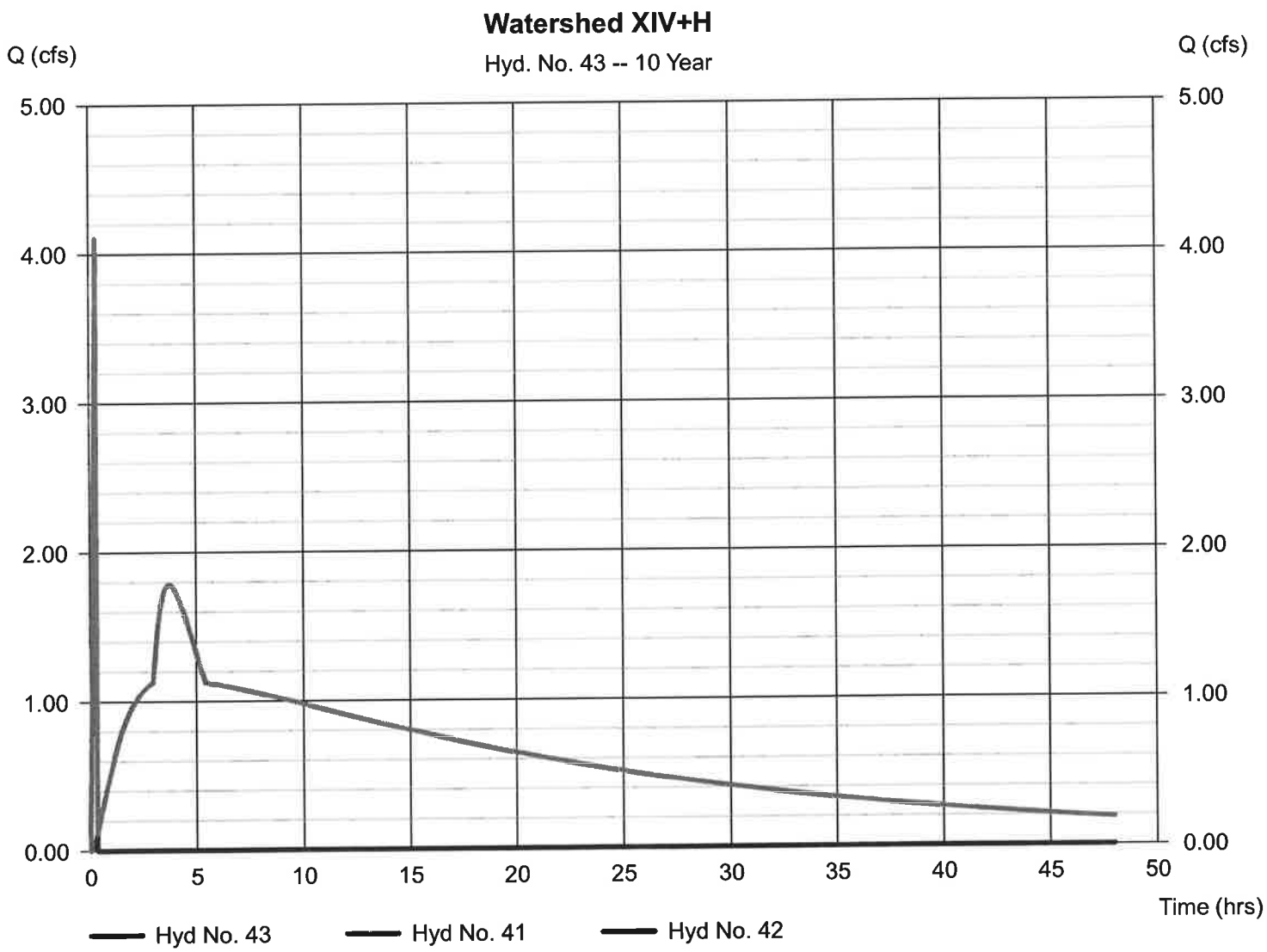
Hydraflow Hydrographs by Intelisolve v9.1

Wednesday, Mar 30, 2016

Hyd. No. 43

Watershed XIV+H

Hydrograph type	= Combine	Peak discharge	= 4.104 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 106,674 cuft
Inflow hyds.	= 41, 42	Contrib. drain. area	= 3.800 ac



Hydrograph Report

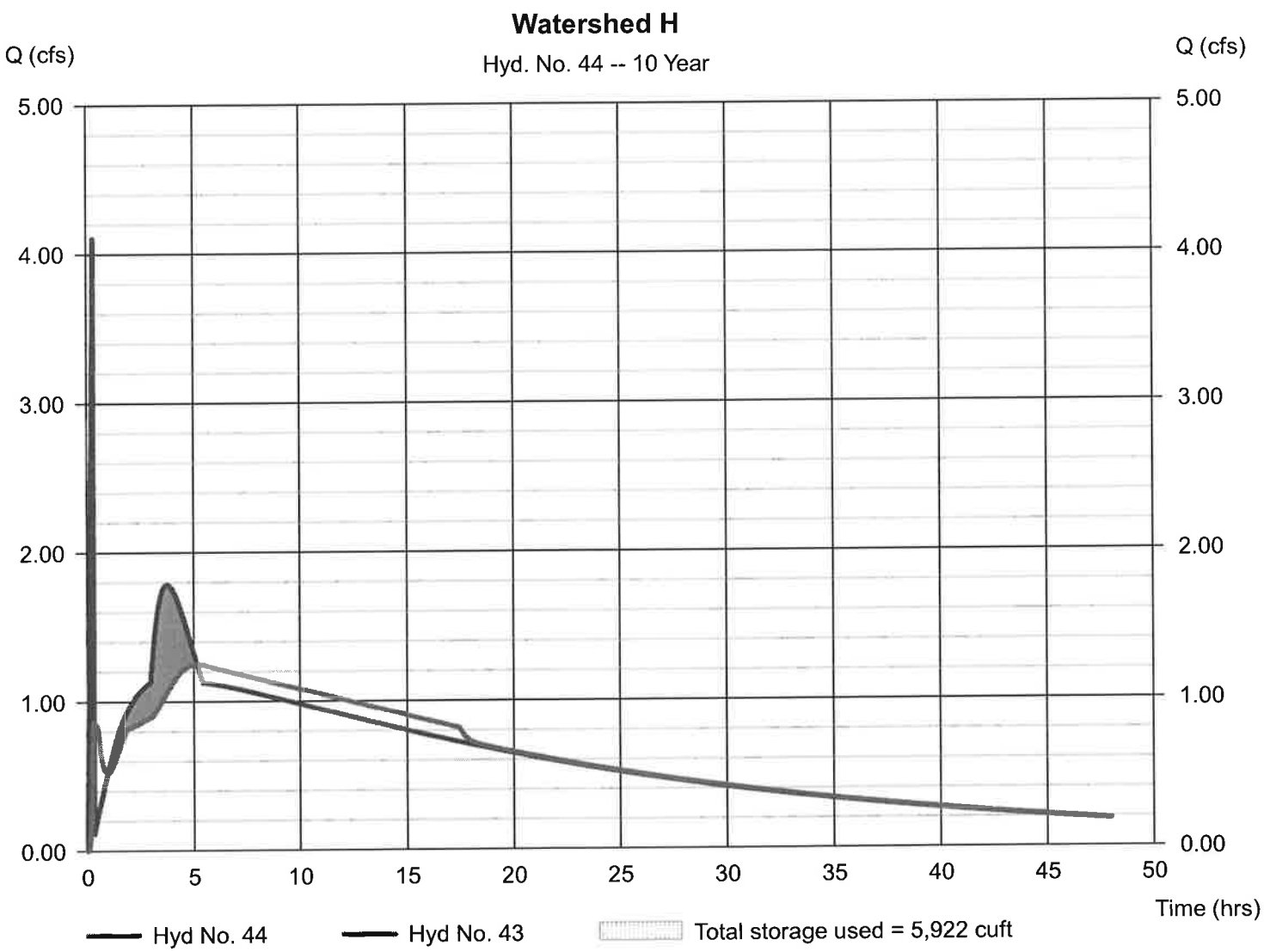
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 44

Watershed H

Hydrograph type	= Reservoir	Peak discharge	= 1.248 cfs
Storm frequency	= 10 yrs	Time to peak	= 5.15 hrs
Time interval	= 1 min	Hyd. volume	= 105,993 cuft
Inflow hyd. No.	= 43 - Watershed XIV+H	Max. Elevation	= 536.14 ft
Reservoir name	= Watershed H	Max. Storage	= 5,922 cuft

Storage Indication method used.



Hydrograph Report

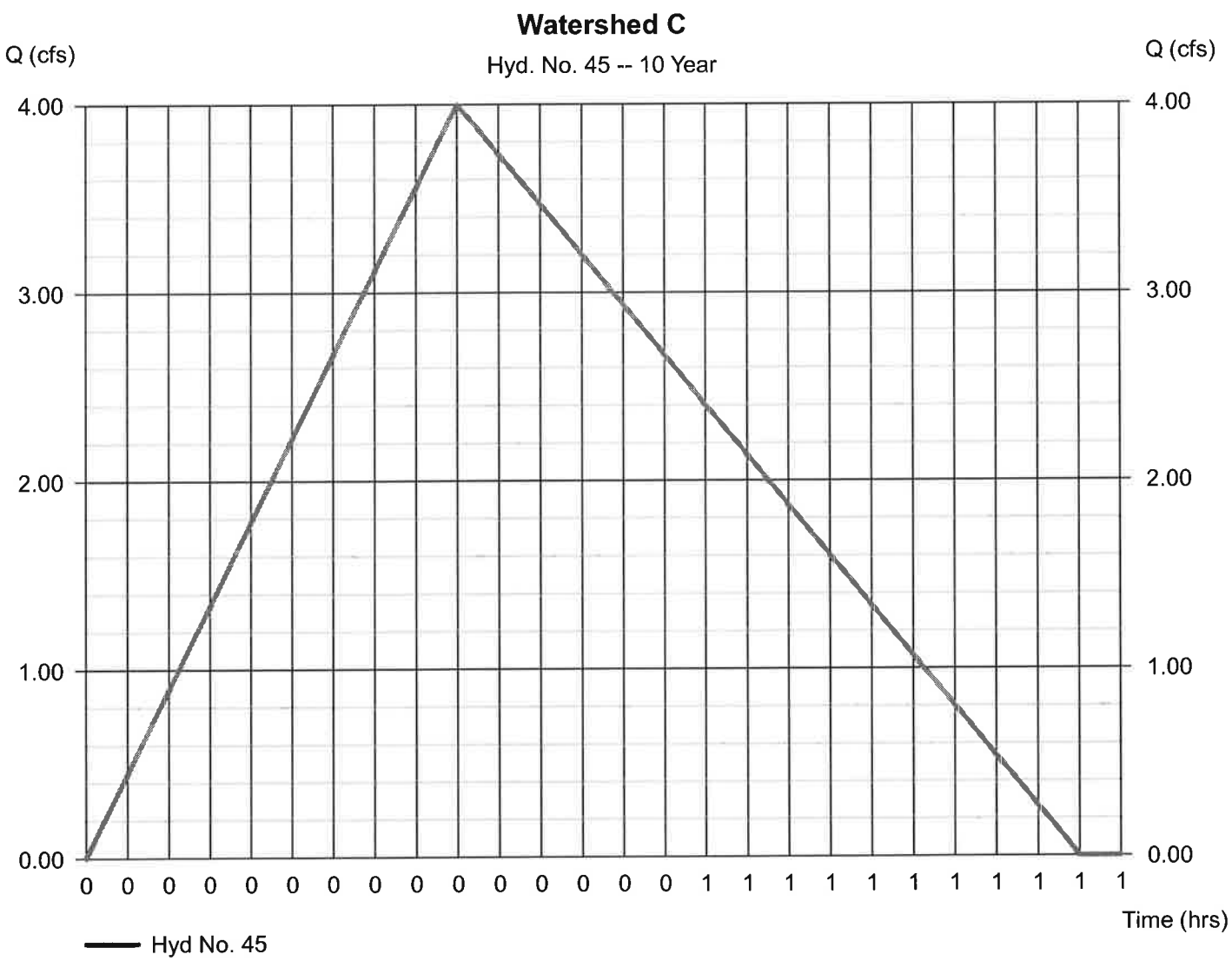
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 45

Watershed C

Hydrograph type	= Rational	Peak discharge	= 3.998 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.30 hrs
Time interval	= 1 min	Hyd. volume	= 5,860 cuft
Drainage area	= 3.300 ac	Runoff coeff.	= 0.33*
Intensity	= 3.671 in/hr	Tc by TR55	= 18.30 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.400 x 0.90) + (1.200 x 0.30) + (1.400 x 0.20) + (0.300 x 0.25)] / 3.300



Hydrograph Report

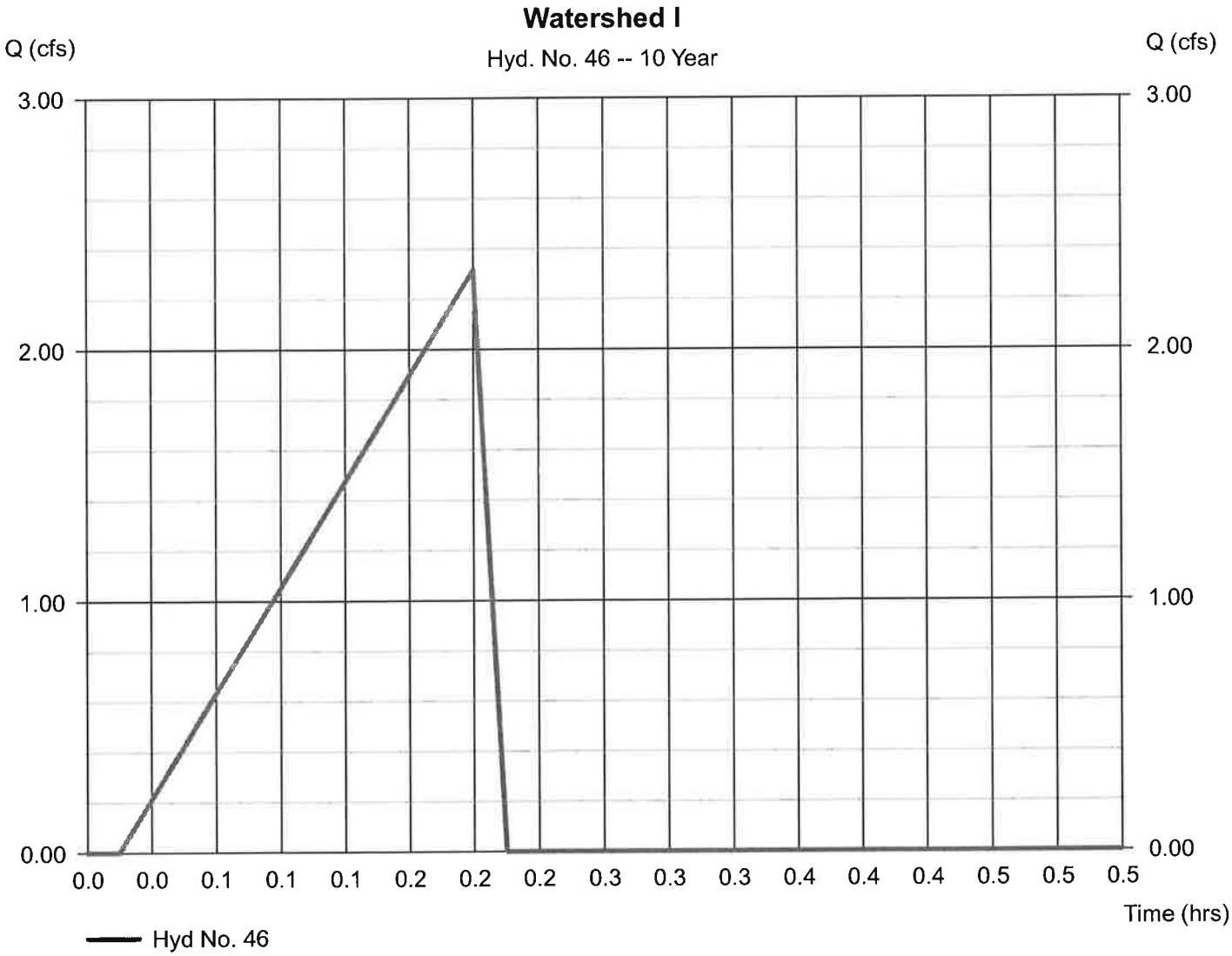
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 46

Watershed I

Hydrograph type	= Rational	Peak discharge	= 2.315 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 2,138 cuft
Drainage area	= 1.500 ac	Runoff coeff.	= 0.34*
Intensity	= 4.539 in/hr	Tc by TR55	= 11.53 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.200 x 0.90) + (0.700 x 0.30) + (0.600 x 0.20)] / 1.500



Hydrograph Report

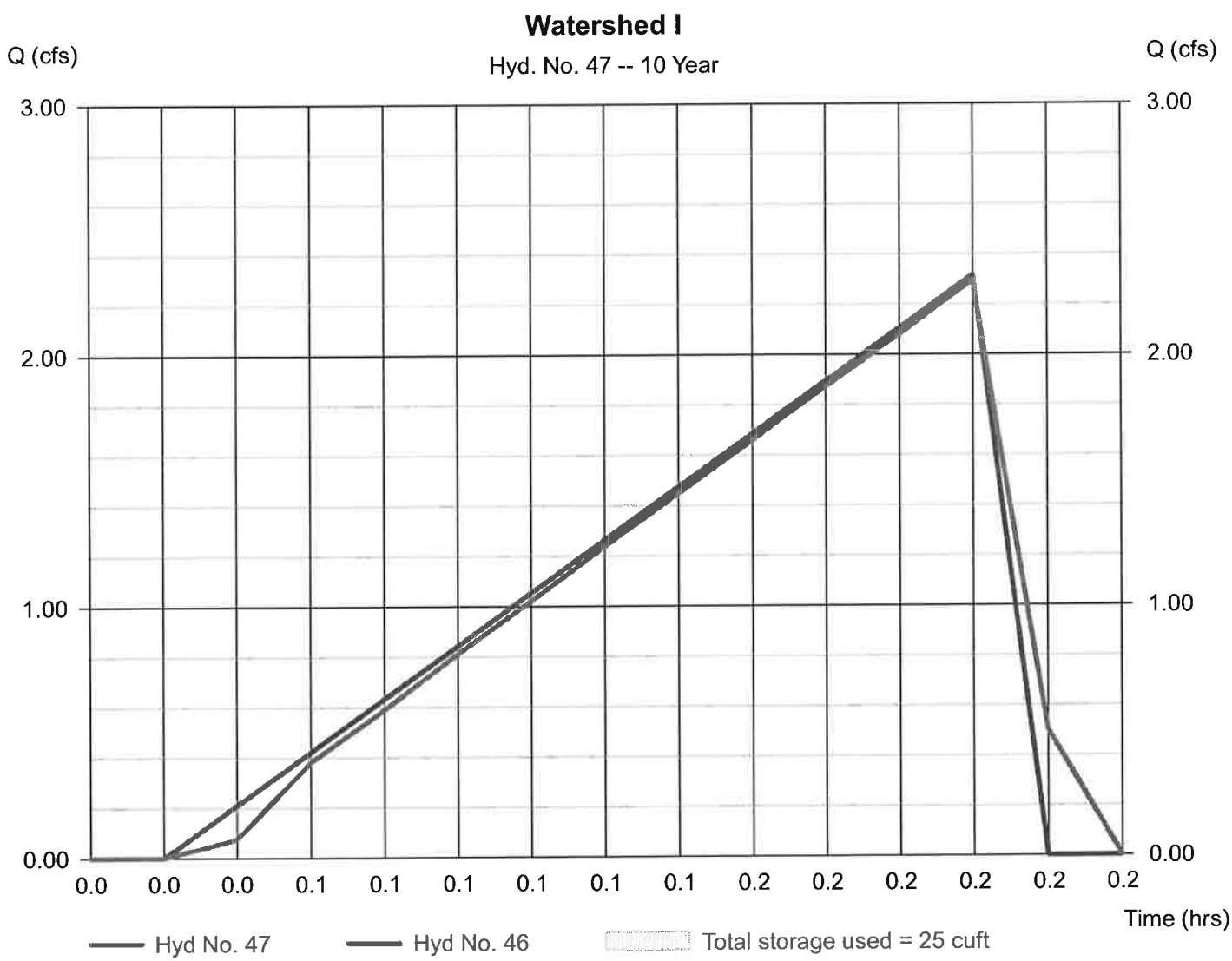
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 47

Watershed I

Hydrograph type	= Reservoir	Peak discharge	= 2.292 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 838 cuft
Inflow hyd. No.	= 46 - Watershed I	Max. Elevation	= 531.52 ft
Reservoir name	= Watershed I	Max. Storage	= 25 cuft

Storage Indication method used.



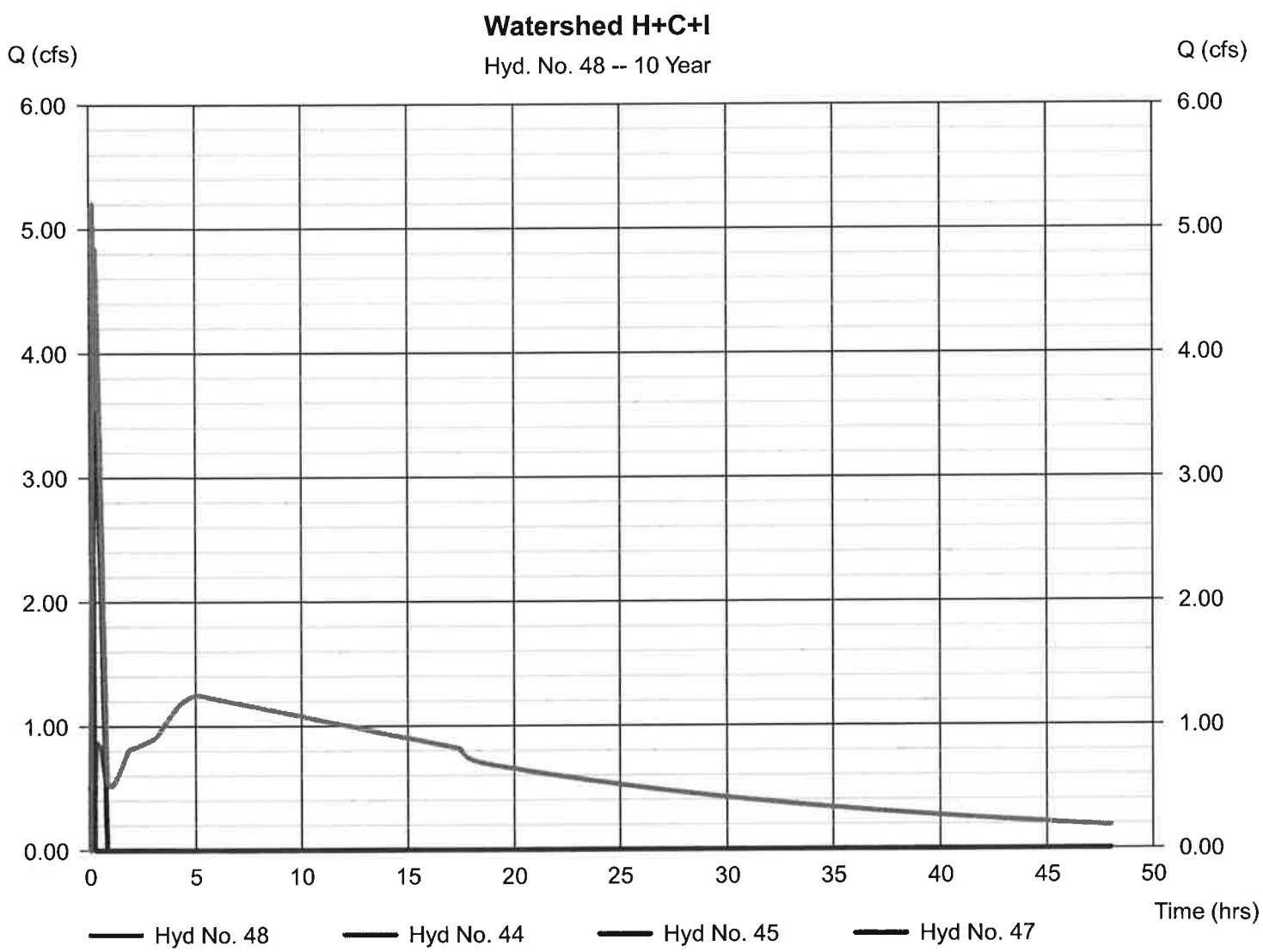
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 48

Watershed H+C+I

Hydrograph type	= Combine	Peak discharge	= 5.203 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 112,588 cuft
Inflow hyds.	= 44, 45, 47	Contrib. drain. area	= 3.300 ac



Hydrograph Report

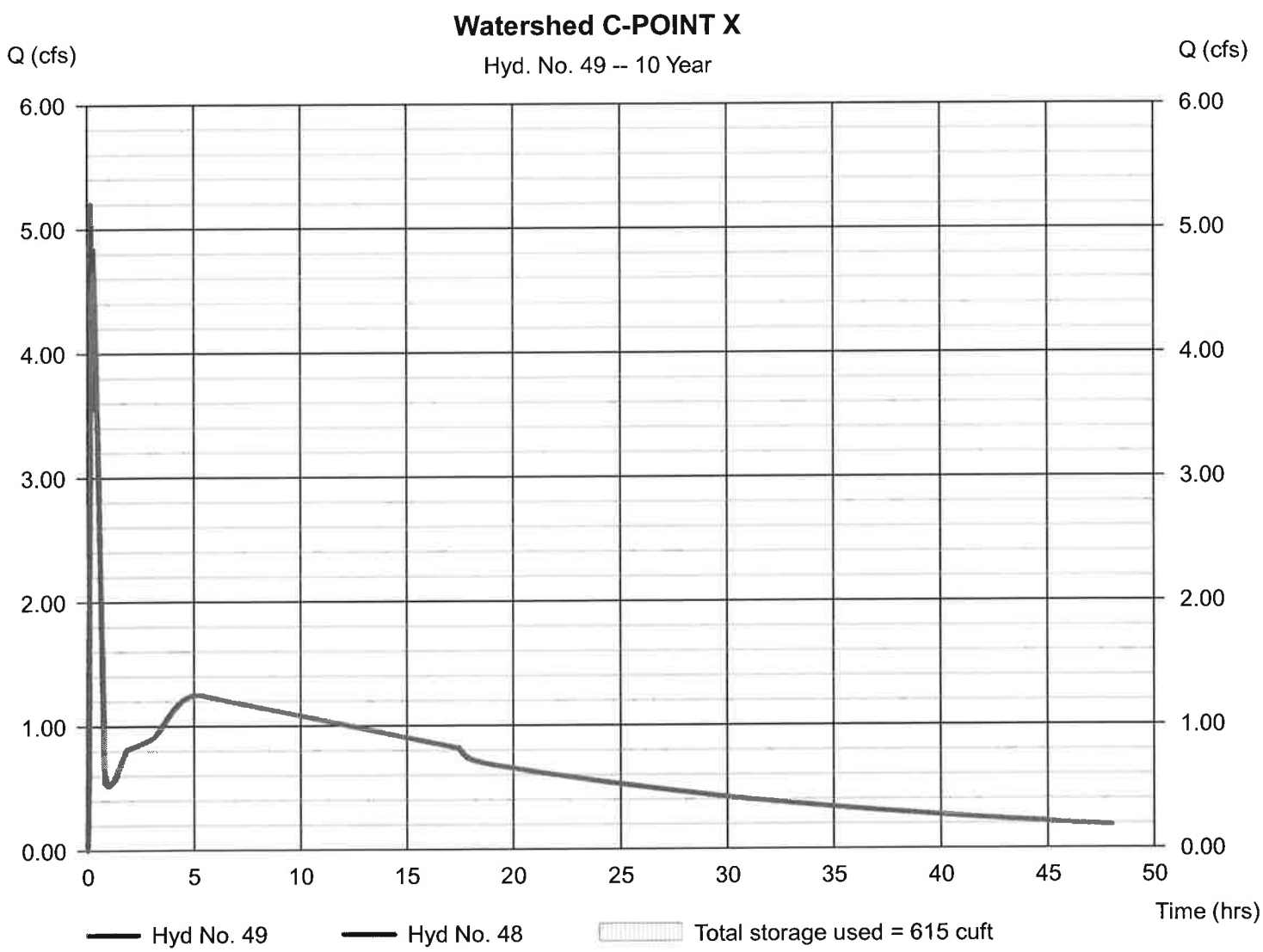
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 49

Watershed C-POINT X

Hydrograph type	= Reservoir	Peak discharge	= 4.650 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 112,521 cuft
Inflow hyd. No.	= 48 - Watershed H+C+I	Max. Elevation	= 529.83 ft
Reservoir name	= Watershed C	Max. Storage	= 615 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

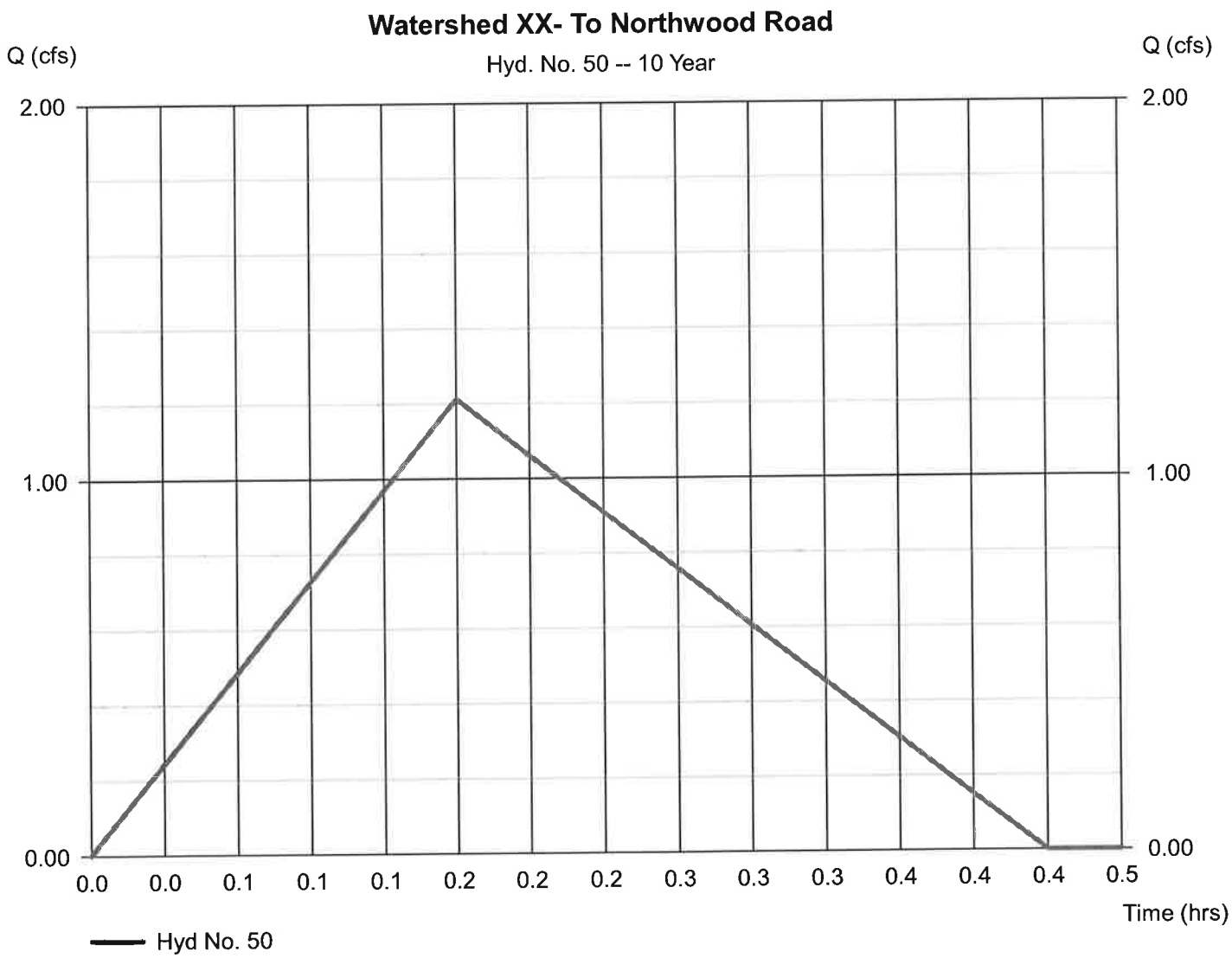
Wednesday, Mar 30, 2016

Hyd. No. 50

Watershed XX- To Northwood Road

Hydrograph type	= Rational	Peak discharge	= 1.211 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 970 cuft
Drainage area	= 0.720 ac	Runoff coeff.	= 0.35*
Intensity	= 4.805 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.100 x 0.90) + (0.360 x 0.30) + (0.260 x 0.20)] / 0.720



Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.1

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	Rational	8.549	1	17	11,641	----	------	------	Watershed A
2	Reservoir	3.158	1	35	11,518	1	566.11	7,290	Watershed A
3	Rational	6.396	1	14	6,939	----	------	------	Watershed B
4	Reservoir	1.471	1	31	6,704	3	567.02	5,343	Watershed B
5	Rational	3.636	1	21	6,057	----	------	------	Watershed I(1)
6	Rational	4.939	1	19	7,540	----	------	------	Wateshed II
7	Rational	6.675	1	10	5,347	----	------	------	Watershed IIA
8	Reservoir	1.364	1	23	5,200	7	562.83	3,905	Wateshed IIA
9	Rational	4.878	1	13	5,080	----	------	------	Watershed VIII
10	Rational	7.866	1	10	6,301	----	------	------	Watershed VIIIA
11	Reservoir	1.336	1	23	6,128	10	559.75	4,851	Watershed VIIIA
12	Rational	0.014	1	10	12	----	------	------	Watershed IX
13	Rational	2.916	1	10	2,336	----	------	------	Watershed IXA
14	Reservoir	1.332	1	19	2,273	13	554.41	1,071	Watershed IXA
15	Combine	10.94	1	21	24,627	5, 6, 8, 11,	------	------	Combine
16	Combine	15.65	1	19	31,887	9, 12, 14, 15	------	------	Watershed-Point Y
17	Rational	6.614	1	15	7,947	----	------	------	Watershed III
18	Rational	2.121	1	10	1,699	----	------	------	Watershed IV
19	Rational	9.816	1	10	7,863	----	------	------	Watershed IVA
20	Reservoir	2.136	1	23	842	19	553.76	7,158	Watershed IVA
21	Combine	9.452	1	22	20,297	2, 17, 20	------	------	Watershed A+III+VI
22	Rational	3.785	1	10	3,032	----	------	------	Watershed VI
23	Rational	5.169	1	10	4,140	----	------	------	Watershed VIA
24	Reservoir	1.354	1	22	4,027	23	550.80	2,756	Watershed VIA
25	Rational	16.71	1	10	13,388	----	------	------	Watershed VIIA
26	Reservoir	3.257	1	23	13,026	25	547.59	10,406	Watershed VIIA
27	Rational	1.643	1	10	1,316	----	------	------	Watershed X
28	Rational	31.10	1	23	57,301	----	------	------	Watershed V
29	Rational	2.751	1	10	2,204	----	------	------	Watershed XA
30	Reservoir	1.453	1	18	2,145	29	558.12	861	Watershed XA
31	Rational	0.381	1	10	305	----	------	------	Watershed VII
32	Combine	43.08	1	23	83,387	21, 24, 28, 30,	------	------	Combine
33	Reservoir	22.58	1	39	83,380	32	544.29	39,430	Watershed V

Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.1

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
34	Rational	5.386	1	22	9,692	----	------	------	Watershed XII
35	Reservoir	0.007	1	59	1,148	34	546.27	9,513	Watershed XII
36	Rational	7.678	1	14	8,610	----	------	------	Watershed XIX
37	Combine	26.41	1	35	111,632	4, 26, 33, 36	------	------	Watershed B+X+XI+XIX
38	Reservoir	17.92	1	60	111,622	37	542.12	40,317	Watershed XIX-POINT Z
39	Rational	19.02	1	20	30,465	----	------	------	Watershed XIV
40	Combine	20.83	1	20	141,858	38, 39	------	------	Watershed XIV+XIX
41	Reservoir	4.079	1	164	125,499	40	539.55	101,746	Watershed XIV
42	Rational	4.691	1	19	7,021	----	------	------	Watershed H
43	Combine	4.810	1	19	128,172	41, 42	------	------	Watershed XIV+H
44	Reservoir	2.295	1	264	127,487	43	536.47	16,293	Watershed H
45	Rational	4.682	1	18	6,864	----	------	------	Watershed C
46	Rational	2.674	1	12	2,470	----	------	------	Watershed I
47	Reservoir	2.648	1	12	968	46	531.60	27.4	Watershed I
48	Combine	6.098	1	12	135,198	44, 45, 47	------	------	Watershed H+C+I
49	Reservoir	5.386	1	19	135,131	48	529.92	666	Watershed C-POINT X
50	Rational	1.392	1	10	1,115	----	------	------	Watershed XX- To Northwood Roa

Hydrograph Report

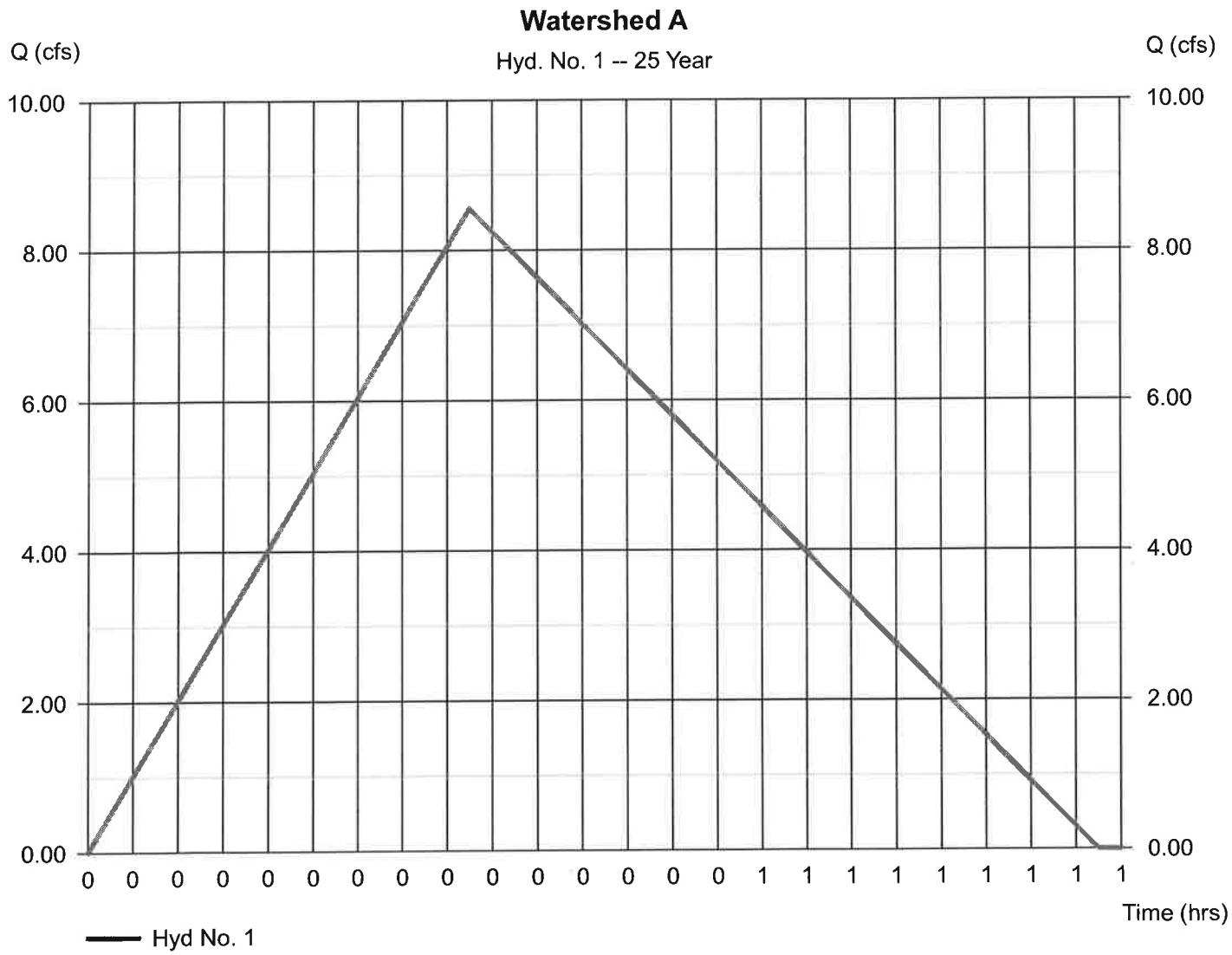
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 1

Watershed A

Hydrograph type	= Rational	Peak discharge	= 8.549 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.28 hrs
Time interval	= 1 min	Hyd. volume	= 11,641 cuft
Drainage area	= 8.000 ac	Runoff coeff.	= 0.24*
Intensity	= 4.452 in/hr	Tc by TR55	= 17.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.400 x 0.90) + (0.500 x 0.30) + (7.100 x 0.20)] / 8.000



Hydrograph Report

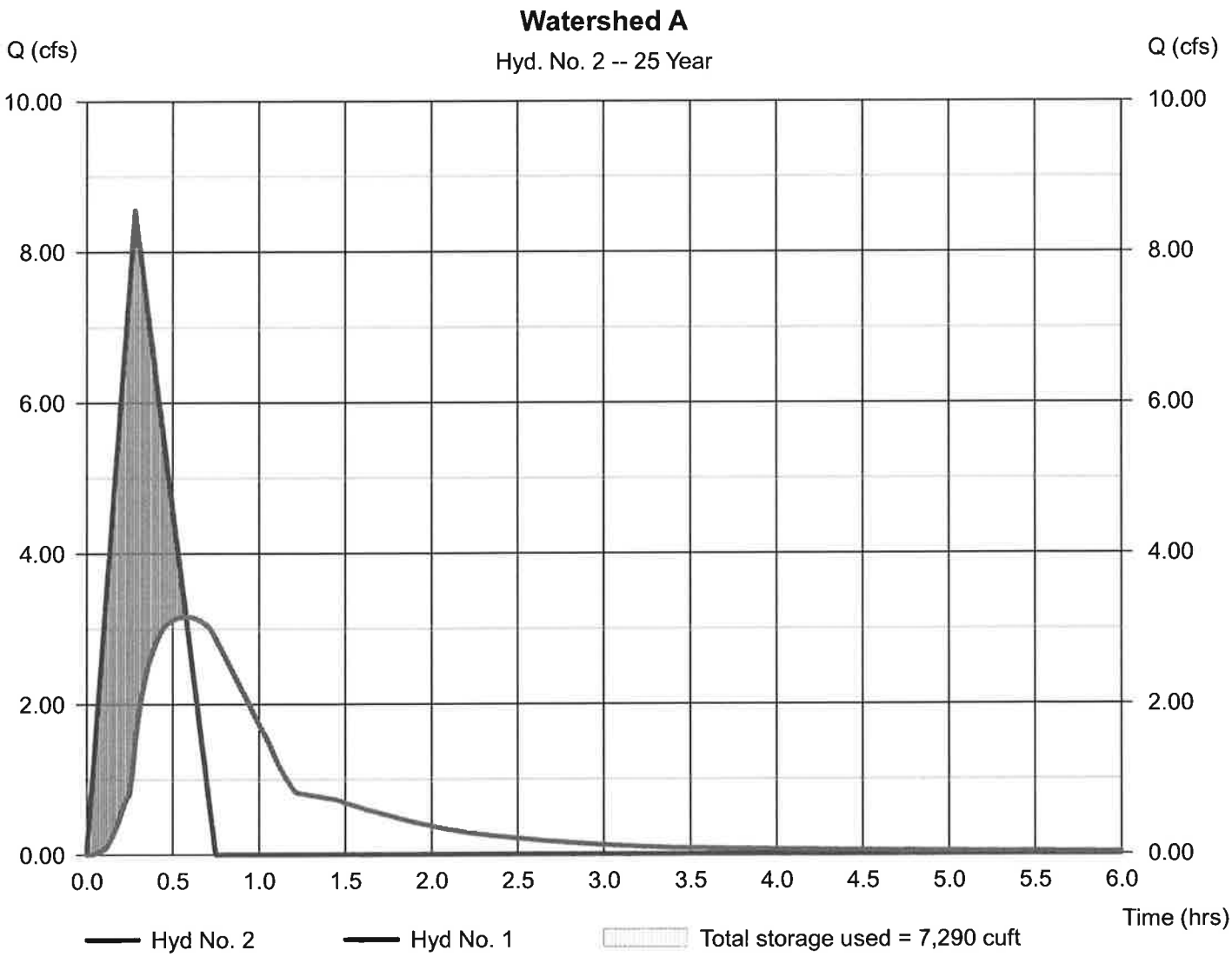
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 2

Watershed A

Hydrograph type	= Reservoir	Peak discharge	= 3.158 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.58 hrs
Time interval	= 1 min	Hyd. volume	= 11,518 cuft
Inflow hyd. No.	= 1 - Watershed A	Max. Elevation	= 566.11 ft
Reservoir name	= Watershed A	Max. Storage	= 7,290 cuft

Storage Indication method used.



Hydrograph Report

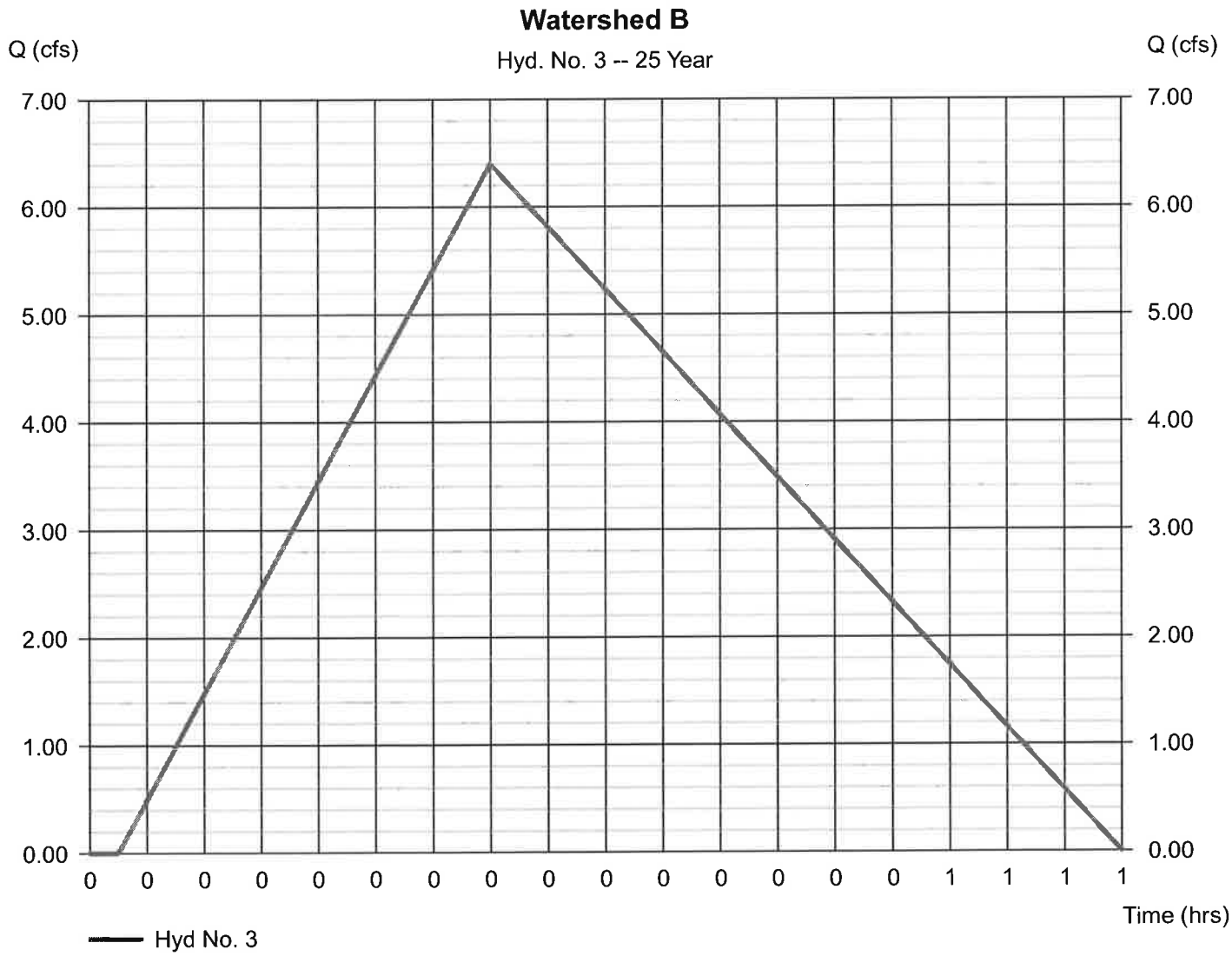
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 3

Watershed B

Hydrograph type	= Rational	Peak discharge	= 6.396 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.23 hrs
Time interval	= 1 min	Hyd. volume	= 6,939 cuft
Drainage area	= 5.200 ac	Runoff coeff.	= 0.25*
Intensity	= 4.920 in/hr	Tc by TR55	= 13.54 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.300 x 0.90) + (0.500 x 0.30) + (4.400 x 0.20)] / 5.200



Hydrograph Report

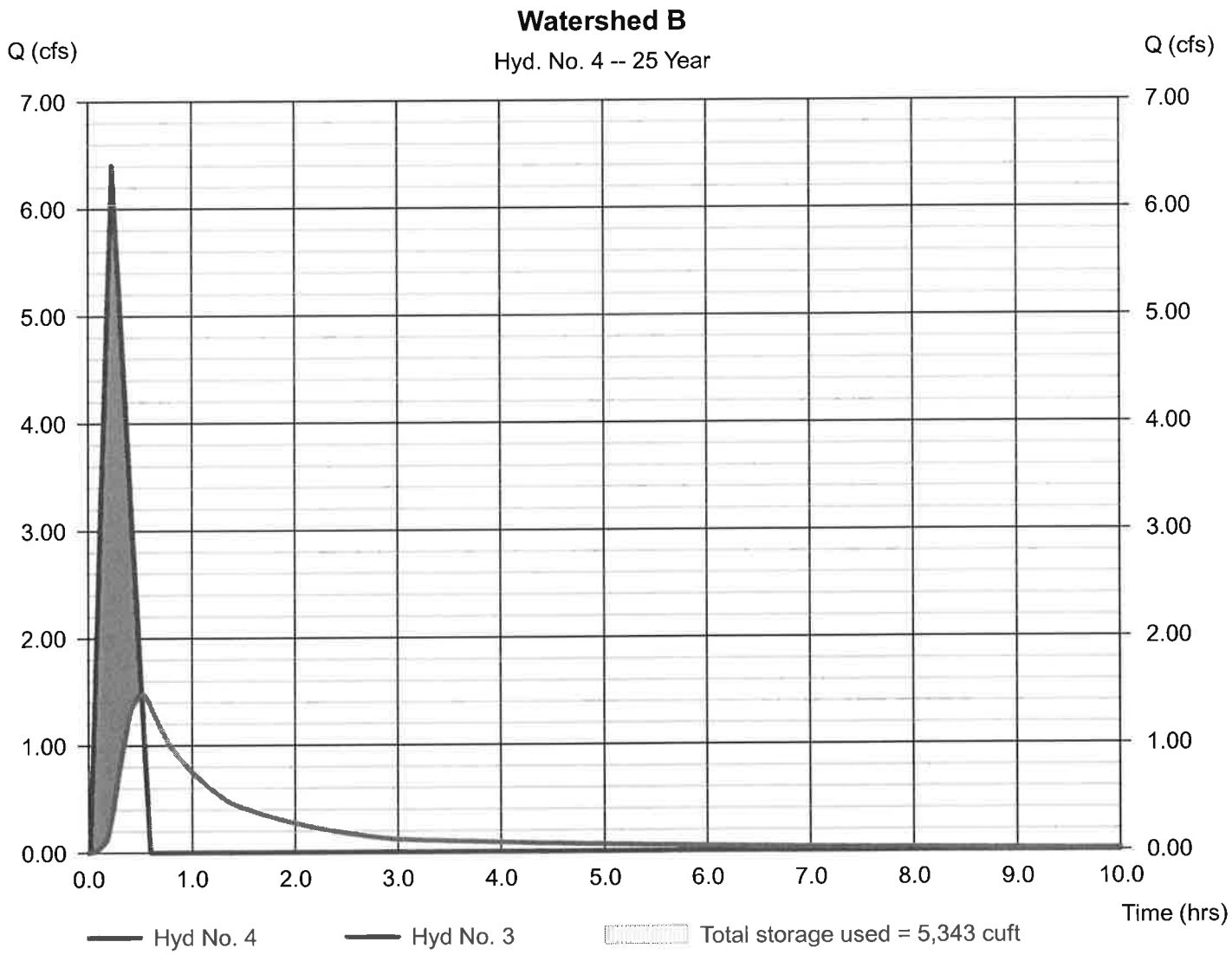
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 4

Watershed B

Hydrograph type	= Reservoir	Peak discharge	= 1.471 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.52 hrs
Time interval	= 1 min	Hyd. volume	= 6,704 cuft
Inflow hyd. No.	= 3 - Watershed B	Max. Elevation	= 567.02 ft
Reservoir name	= Watershed B	Max. Storage	= 5,343 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

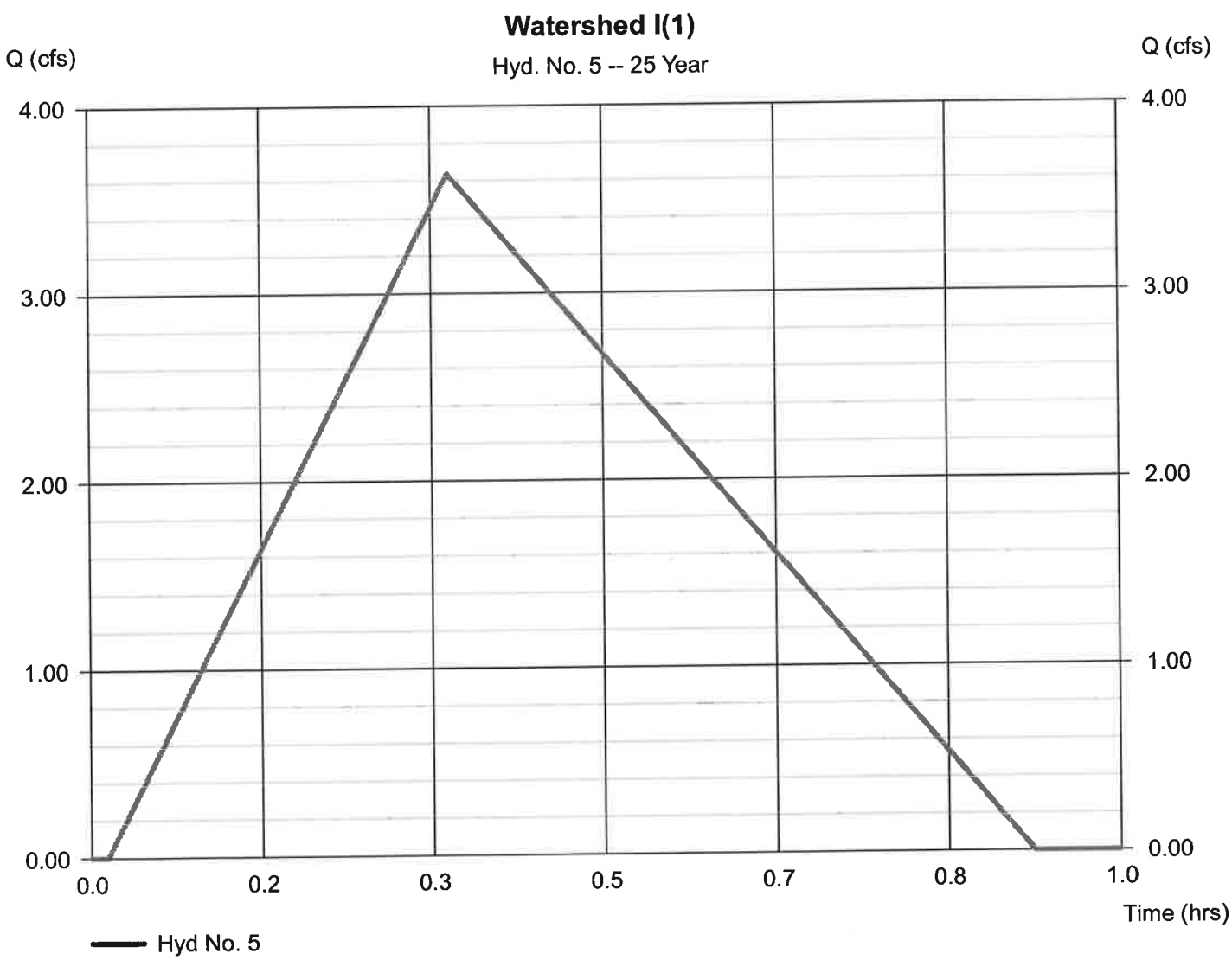
Wednesday, Mar 30, 2016

Hyd. No. 5

Watershed I(1)

Hydrograph type	= Rational	Peak discharge	= 3.636 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.35 hrs
Time interval	= 1 min	Hyd. volume	= 6,057 cuft
Drainage area	= 1.700 ac	Runoff coeff.	= 0.53*
Intensity	= 4.036 in/hr	Tc by TR55	= 20.80 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.700 x 0.90) + (0.700 x 0.30) + (0.300 x 0.20)] / 1.700



Hydrograph Report

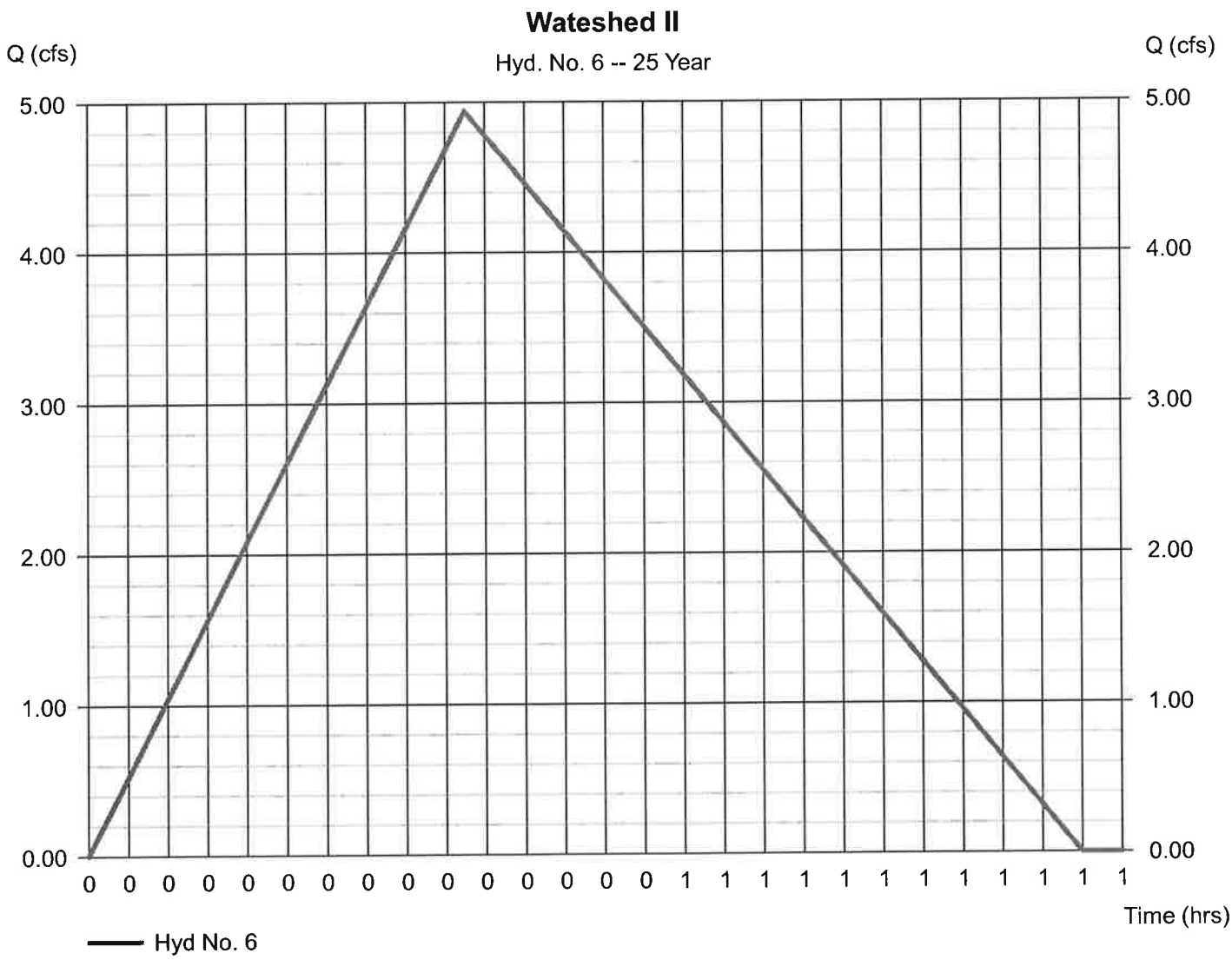
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 6

Wateshed II

Hydrograph type	= Rational	Peak discharge	= 4.939 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 7,540 cuft
Drainage area	= 4.040 ac	Runoff coeff.	= 0.29*
Intensity	= 4.216 in/hr	Tc by TR55	= 19.06 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.230 x 0.90) + (1.940 x 0.30) + (1.870 x 0.20)] / 4.040



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

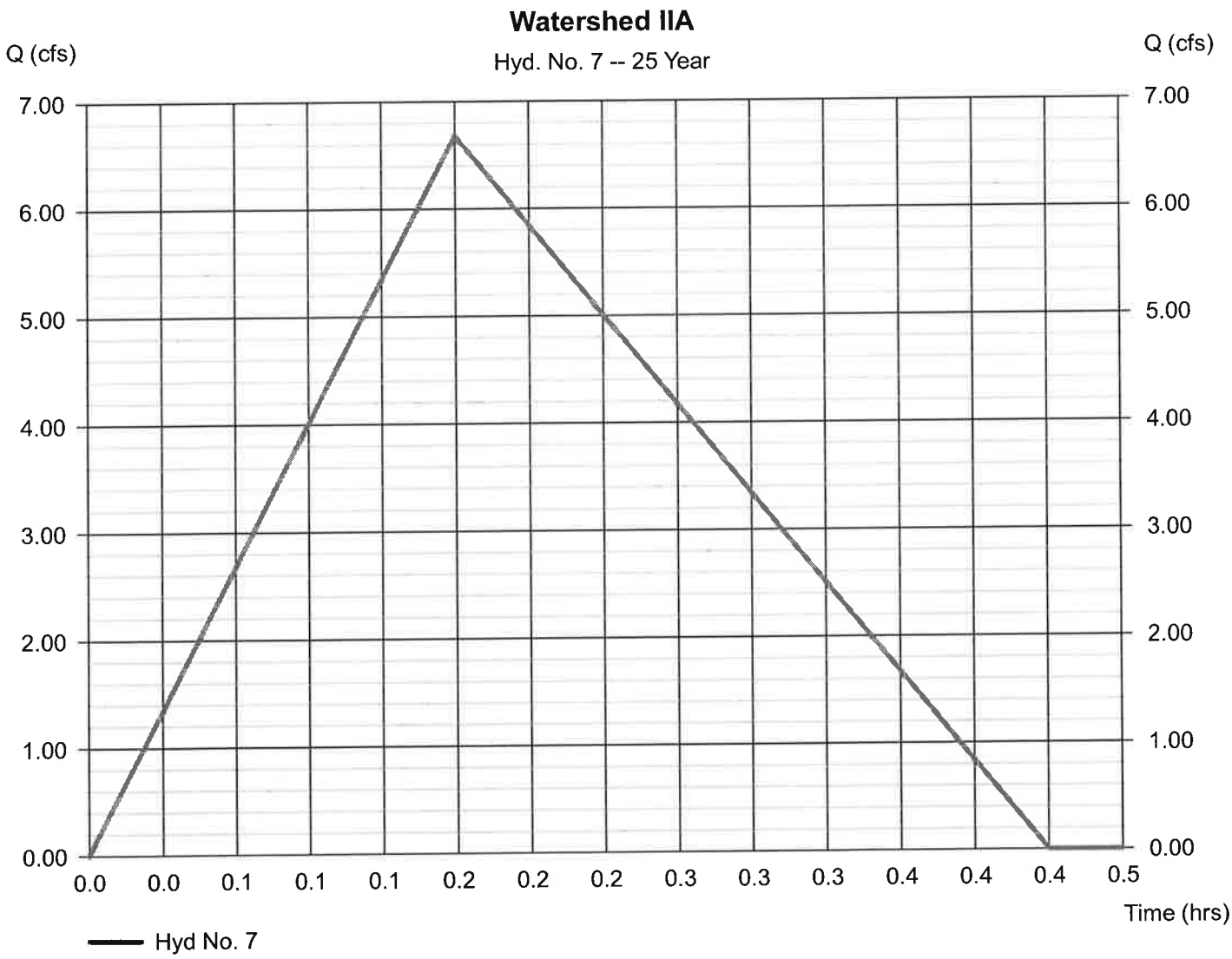
Wednesday, Mar 30, 2016

Hyd. No. 7

Watershed IIA

Hydrograph type	= Rational	Peak discharge	= 6.675 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 5,347 cuft
Drainage area	= 1.530 ac	Runoff coeff.	= 0.79*
Intensity	= 5.522 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.250 x 0.90) + (0.280 x 0.30)] / 1.530



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

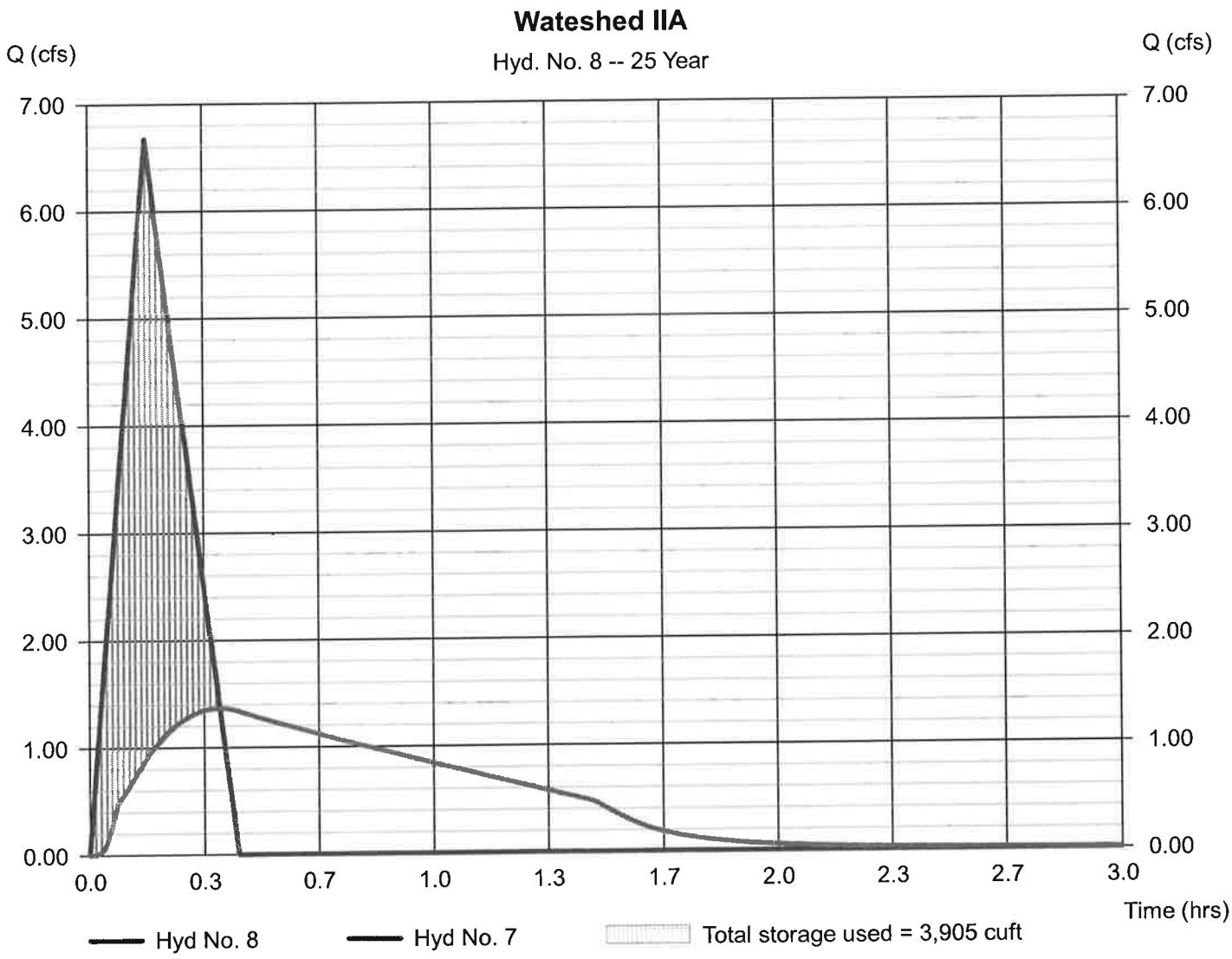
Wednesday, Mar 30, 2016

Hyd. No. 8

Wateshed IIA

Hydrograph type	= Reservoir	Peak discharge	= 1.364 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.38 hrs
Time interval	= 1 min	Hyd. volume	= 5,200 cuft
Inflow hyd. No.	= 7 - Watershed IIA	Max. Elevation	= 562.83 ft
Reservoir name	= Watershed IIA	Max. Storage	= 3,905 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

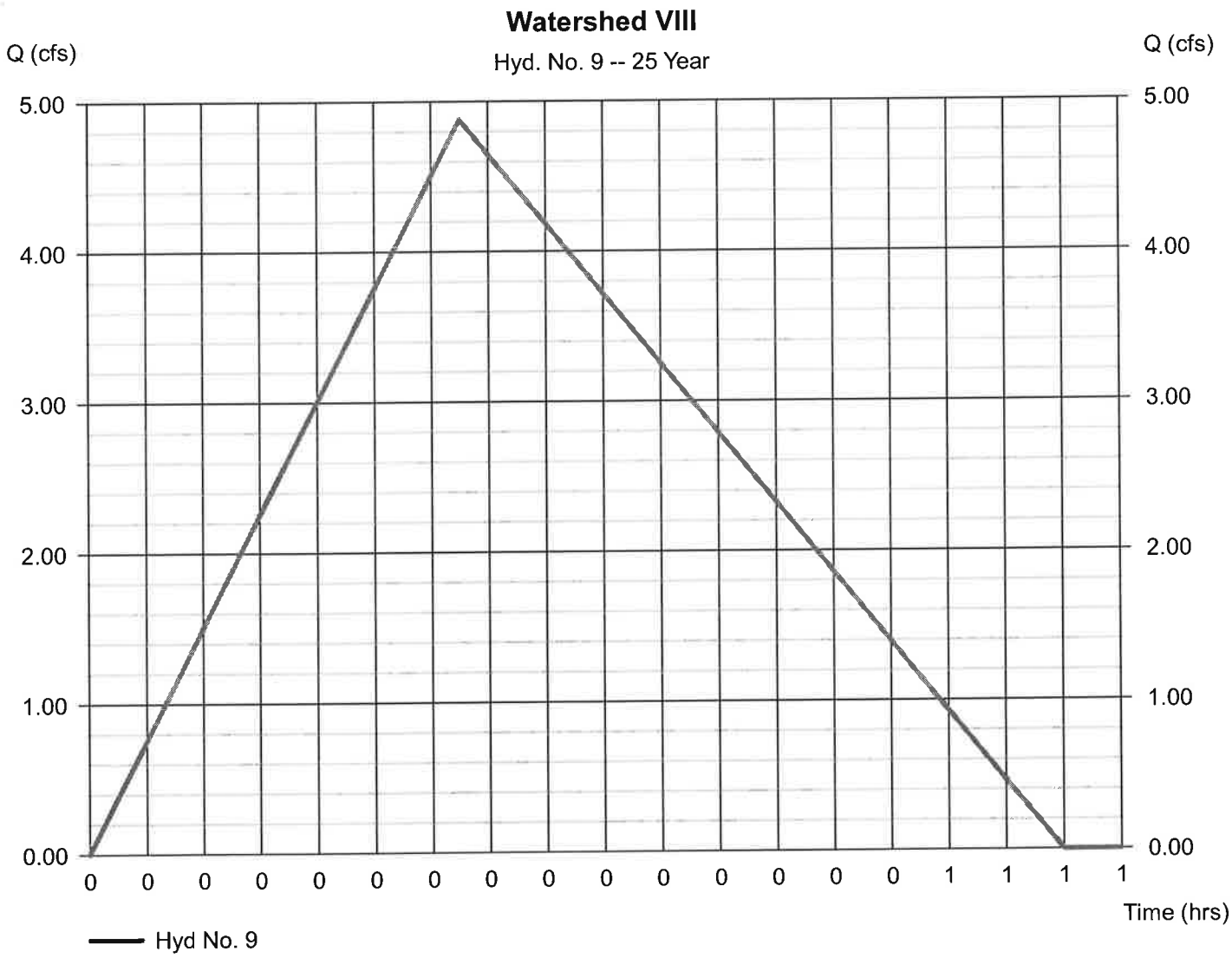
Wednesday, Mar 30, 2016

Hyd. No. 9

Watershed VIII

Hydrograph type	= Rational	Peak discharge	= 4.878 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.22 hrs
Time interval	= 1 min	Hyd. volume	= 5,080 cuft
Drainage area	= 3.250 ac	Runoff coeff.	= 0.3*
Intensity	= 5.003 in/hr	Tc by TR55	= 13.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.320 x 0.90) + (1.120 x 0.30) + (1.810 x 0.20)] / 3.250



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

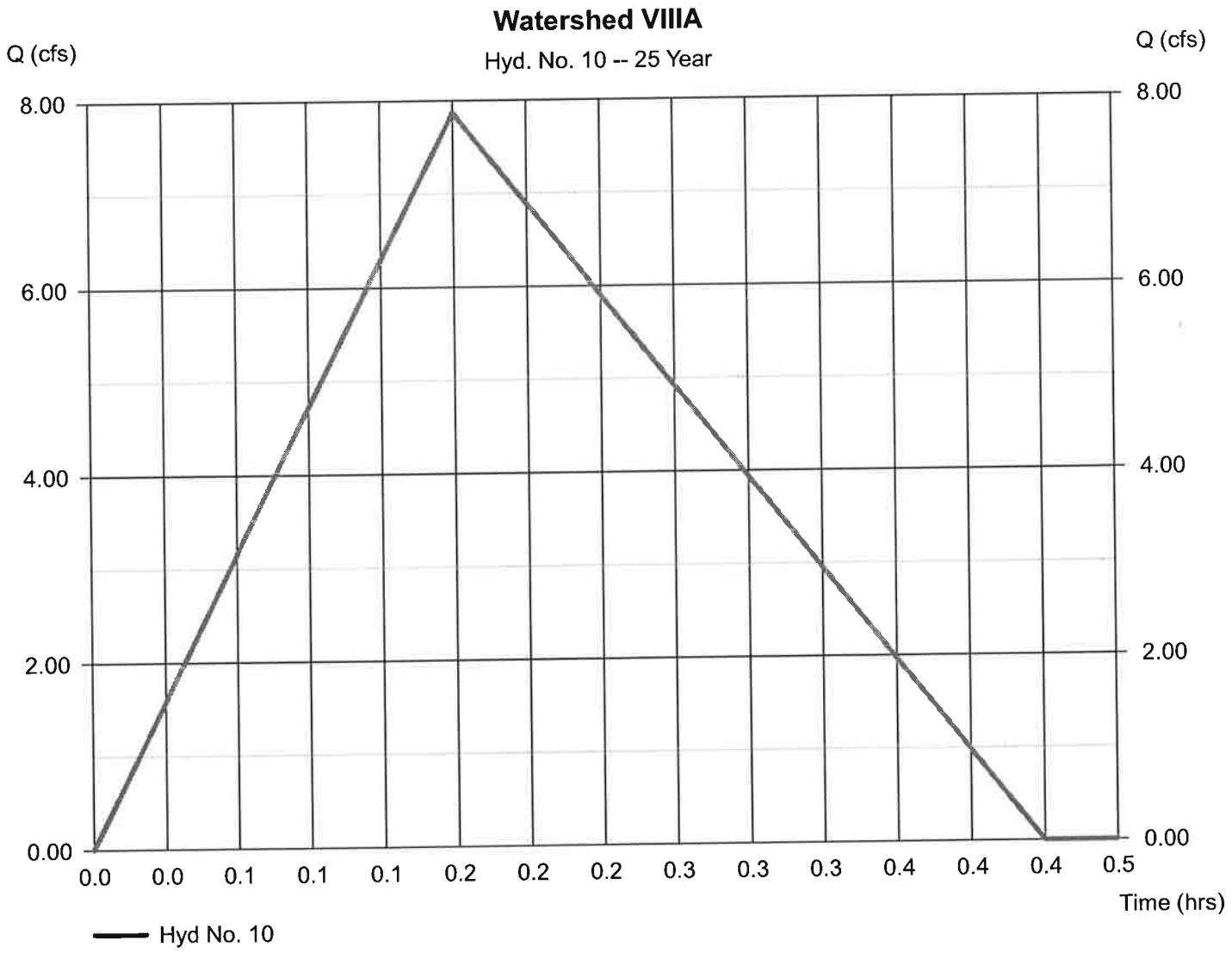
Wednesday, Mar 30, 2016

Hyd. No. 10

Watershed VIIIA

Hydrograph type	= Rational	Peak discharge	= 7.866 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 6,301 cuft
Drainage area	= 1.850 ac	Runoff coeff.	= 0.77*
Intensity	= 5.522 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.460 x 0.90) + (0.390 x 0.30)] / 1.850



Hydrograph Report

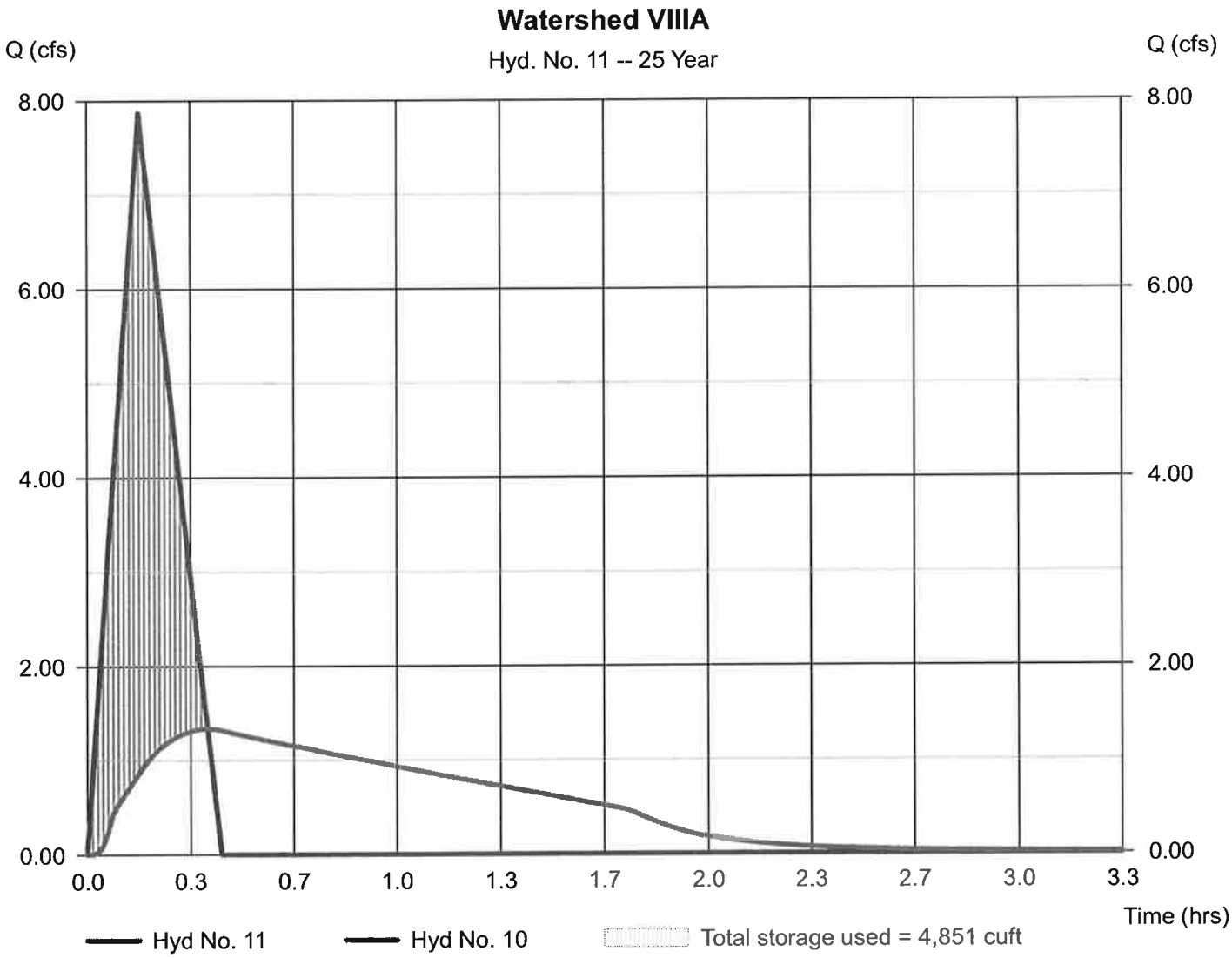
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 11

Watershed VIIIA

Hydrograph type	= Reservoir	Peak discharge	= 1.336 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.38 hrs
Time interval	= 1 min	Hyd. volume	= 6,128 cuft
Inflow hyd. No.	= 10 - Watershed VIIIA	Max. Elevation	= 559.75 ft
Reservoir name	= Watershed VIIIA	Max. Storage	= 4,851 cuft

Storage Indication method used.



Hydrograph Report

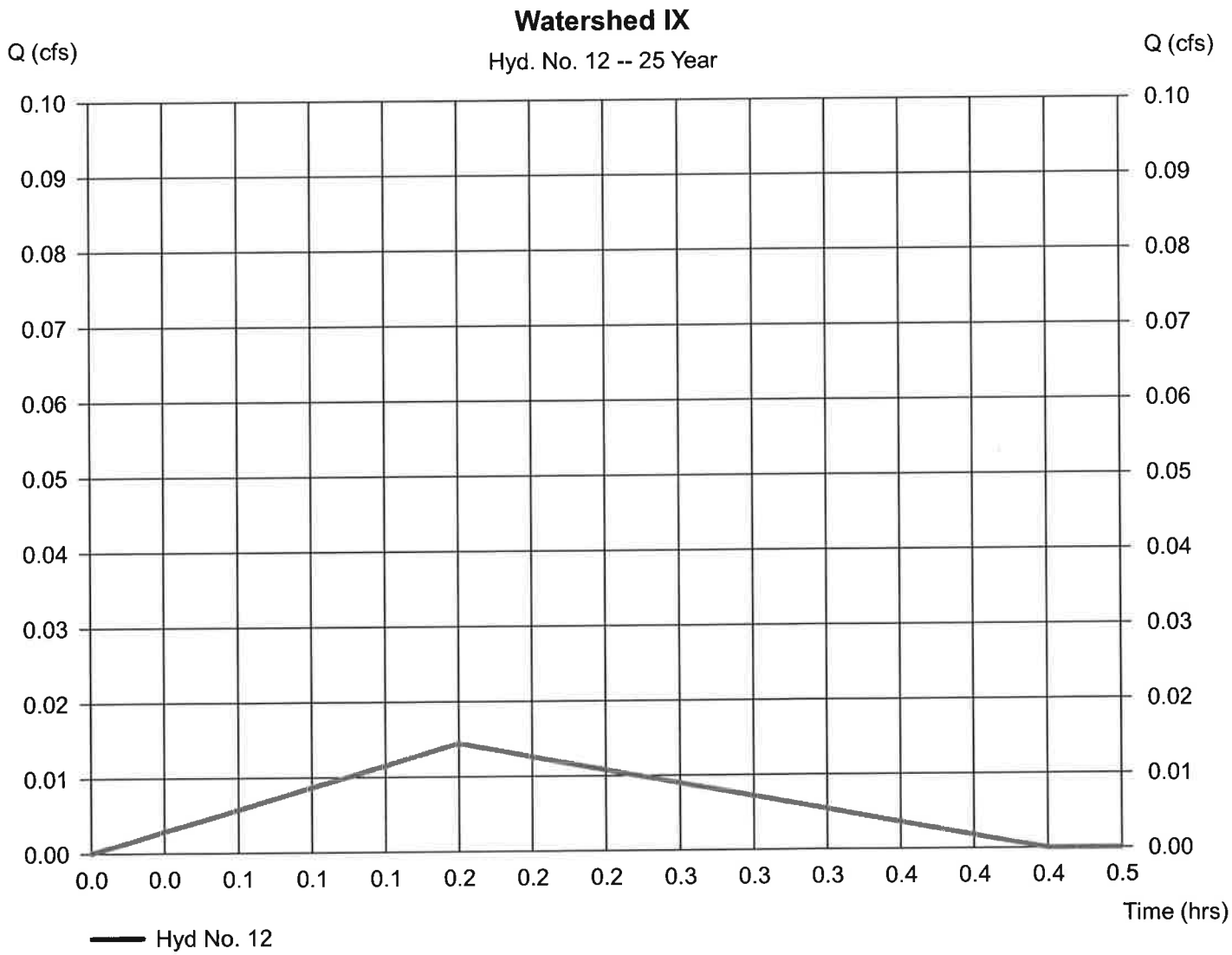
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 12

Watershed IX

Hydrograph type	= Rational	Peak discharge	= 0.014 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 12 cuft
Drainage area	= 0.260 ac	Runoff coeff.	= 0.01*
Intensity	= 5.522 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.010 x 0.30)] / 0.260



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

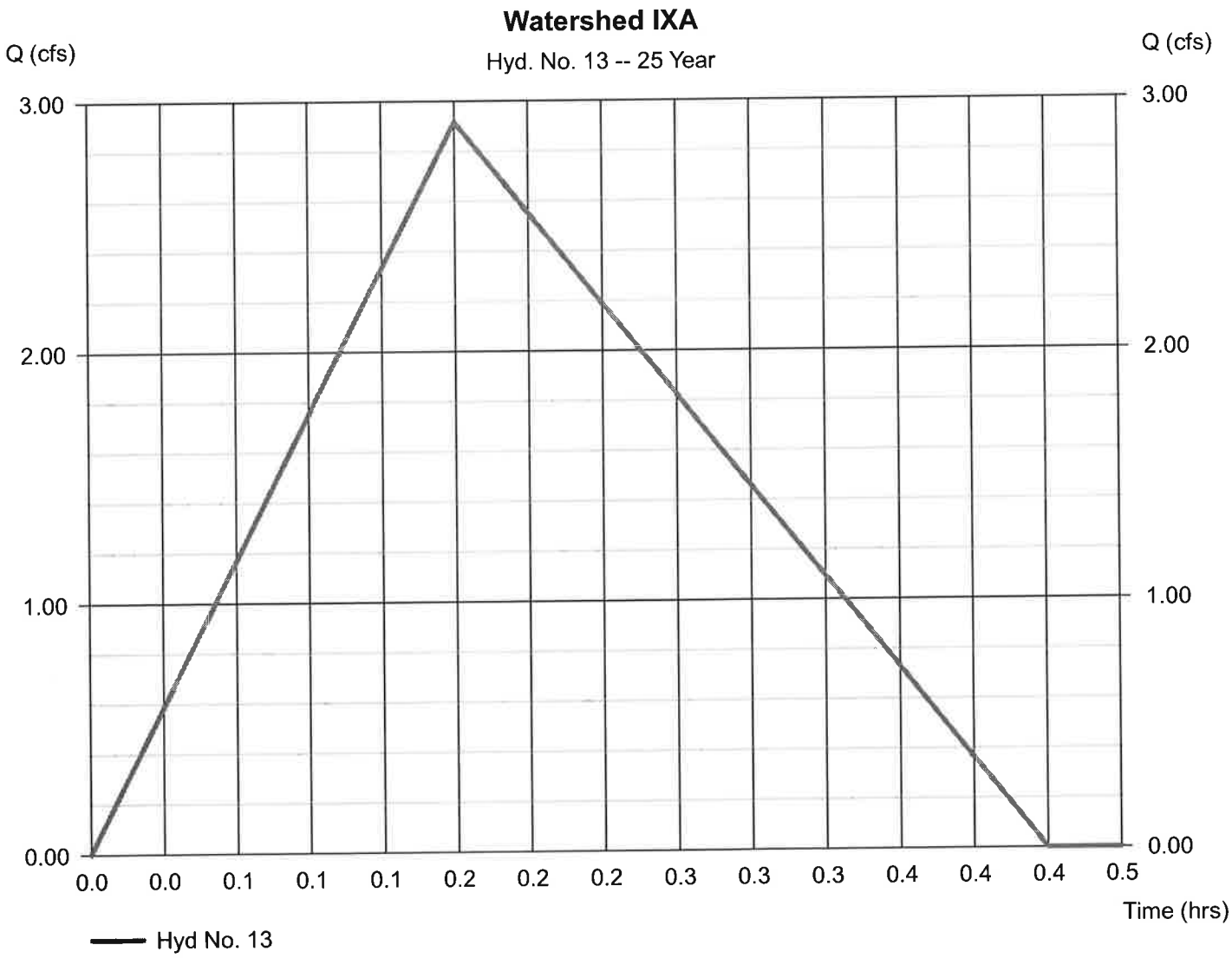
Wednesday, Mar 30, 2016

Hyd. No. 13

Watershed IXA

Hydrograph type	= Rational	Peak discharge	= 2.916 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 2,336 cuft
Drainage area	= 0.880 ac	Runoff coeff.	= 0.6*
Intensity	= 5.522 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.460 x 0.90) + (0.260 x 0.30) + (0.160 x 0.20)] / 0.880



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

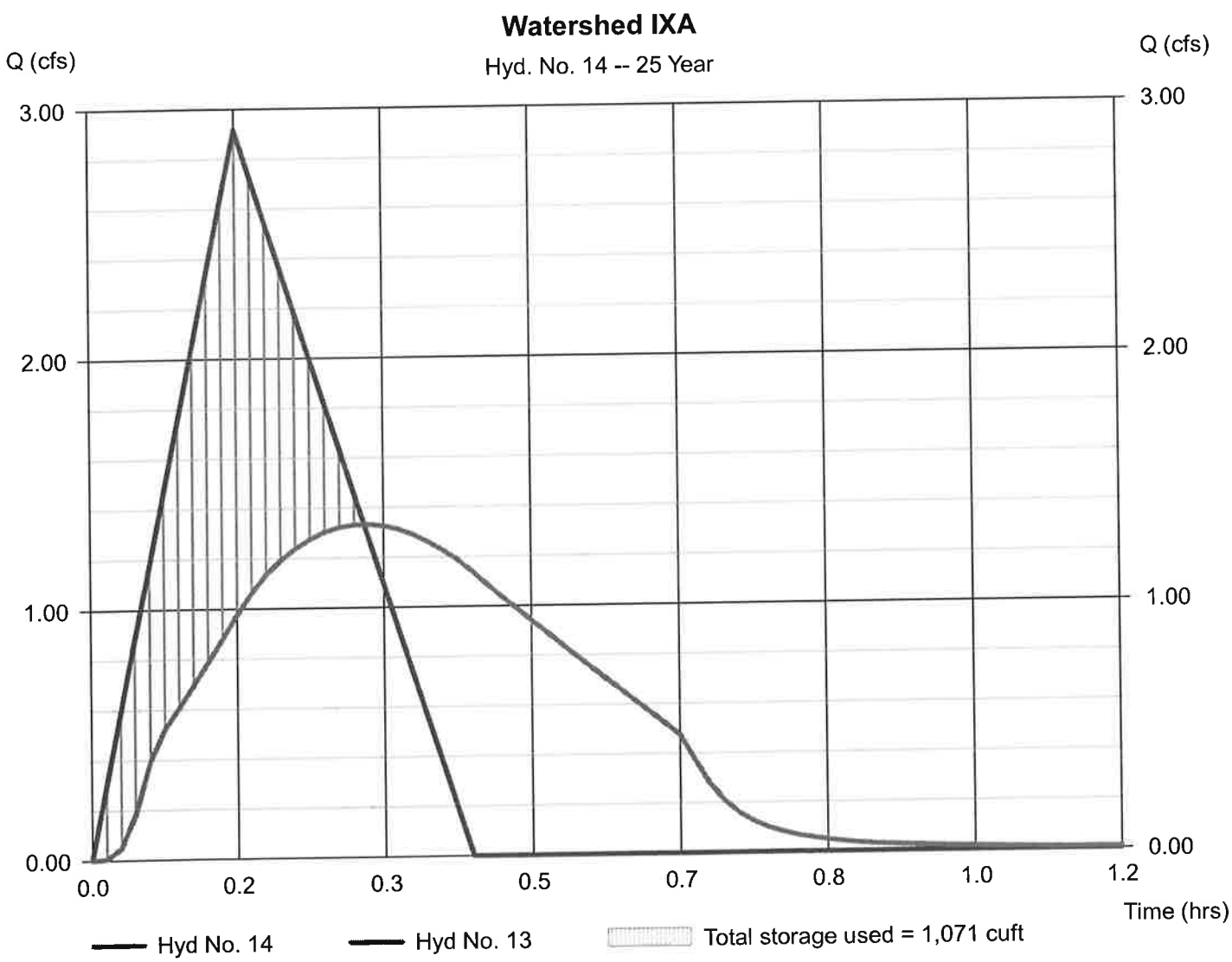
Wednesday, Mar 30, 2016

Hyd. No. 14

Watershed IXA

Hydrograph type	= Reservoir	Peak discharge	= 1.332 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 2,273 cuft
Inflow hyd. No.	= 13 - Watershed IXA	Max. Elevation	= 554.41 ft
Reservoir name	= Waatershed IXA	Max. Storage	= 1,071 cuft

Storage Indication method used.



Hydrograph Report

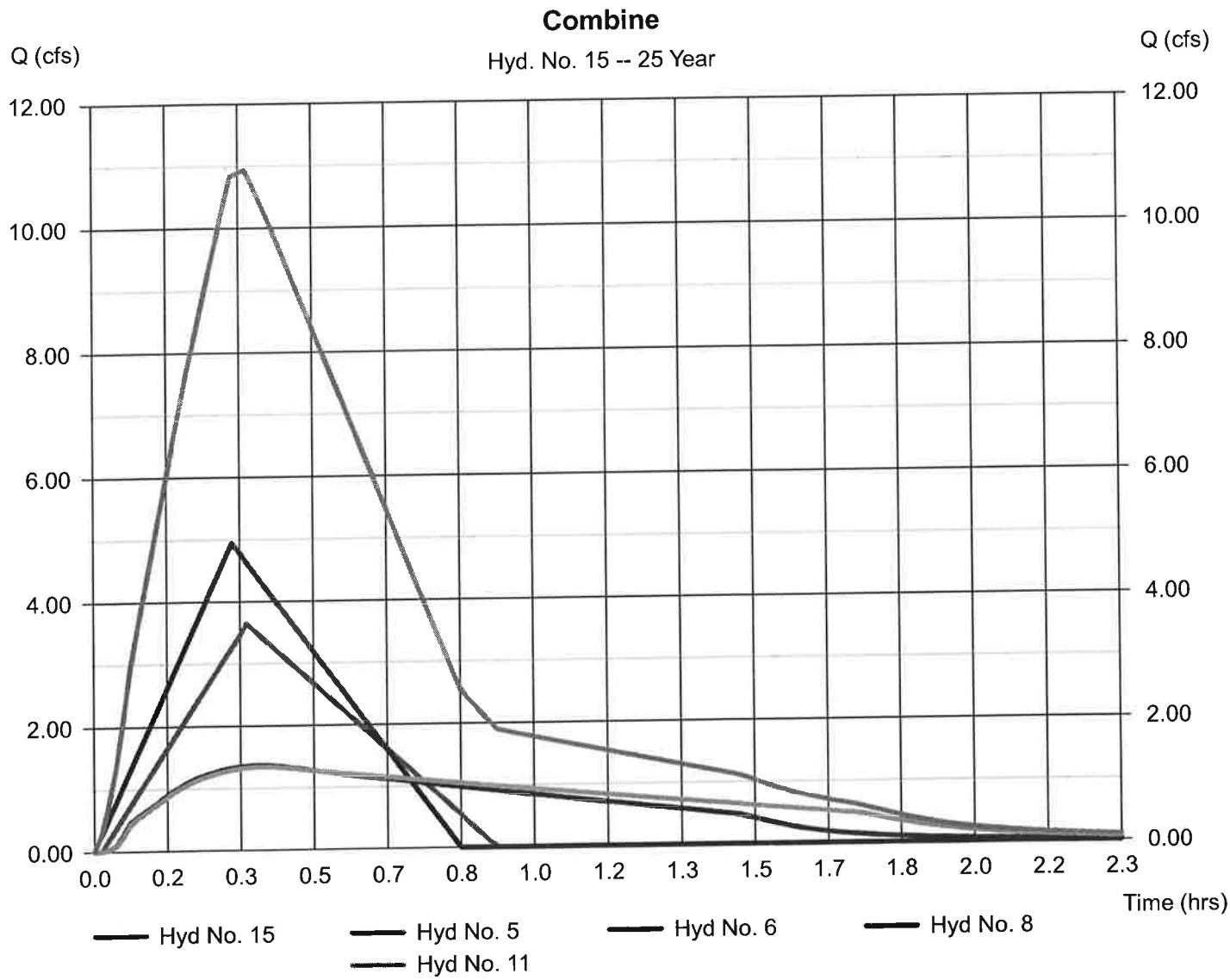
Hydraflow Hydrographs by Intelisolve v9.1

Wednesday, Mar 30, 2016

Hyd. No. 15

Combine

Hydrograph type	= Combine	Peak discharge	= 10.94 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.35 hrs
Time interval	= 1 min	Hyd. volume	= 24,627 cuft
Inflow hyds.	= 5, 6, 8, 11	Contrib. drain. area	= 5.740 ac



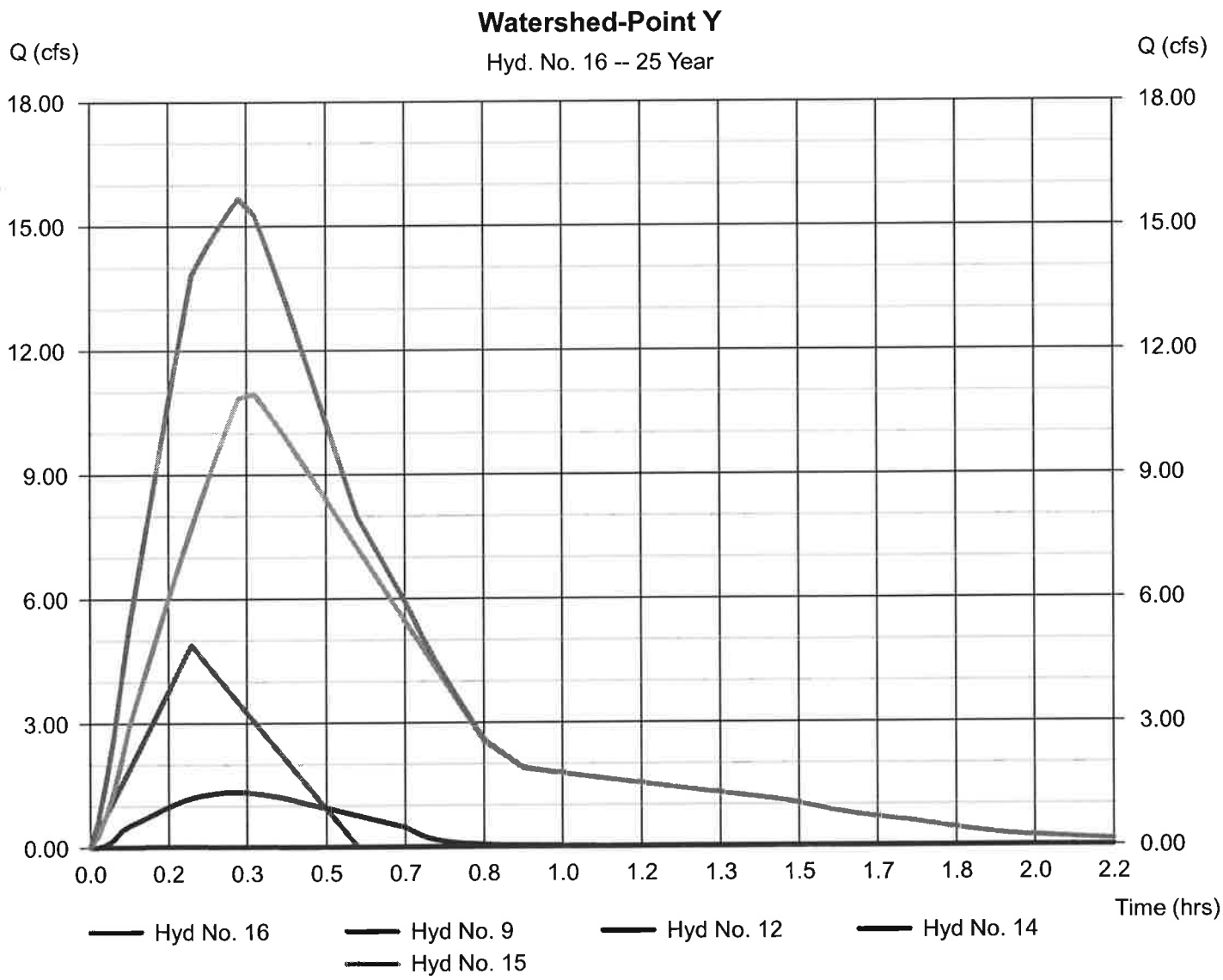
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 16

Watershed-Point Y

Hydrograph type	= Combine	Peak discharge	= 15.65 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 31,887 cuft
Inflow hyds.	= 9, 12, 14, 15	Contrib. drain. area	= 3.510 ac



Hydrograph Report

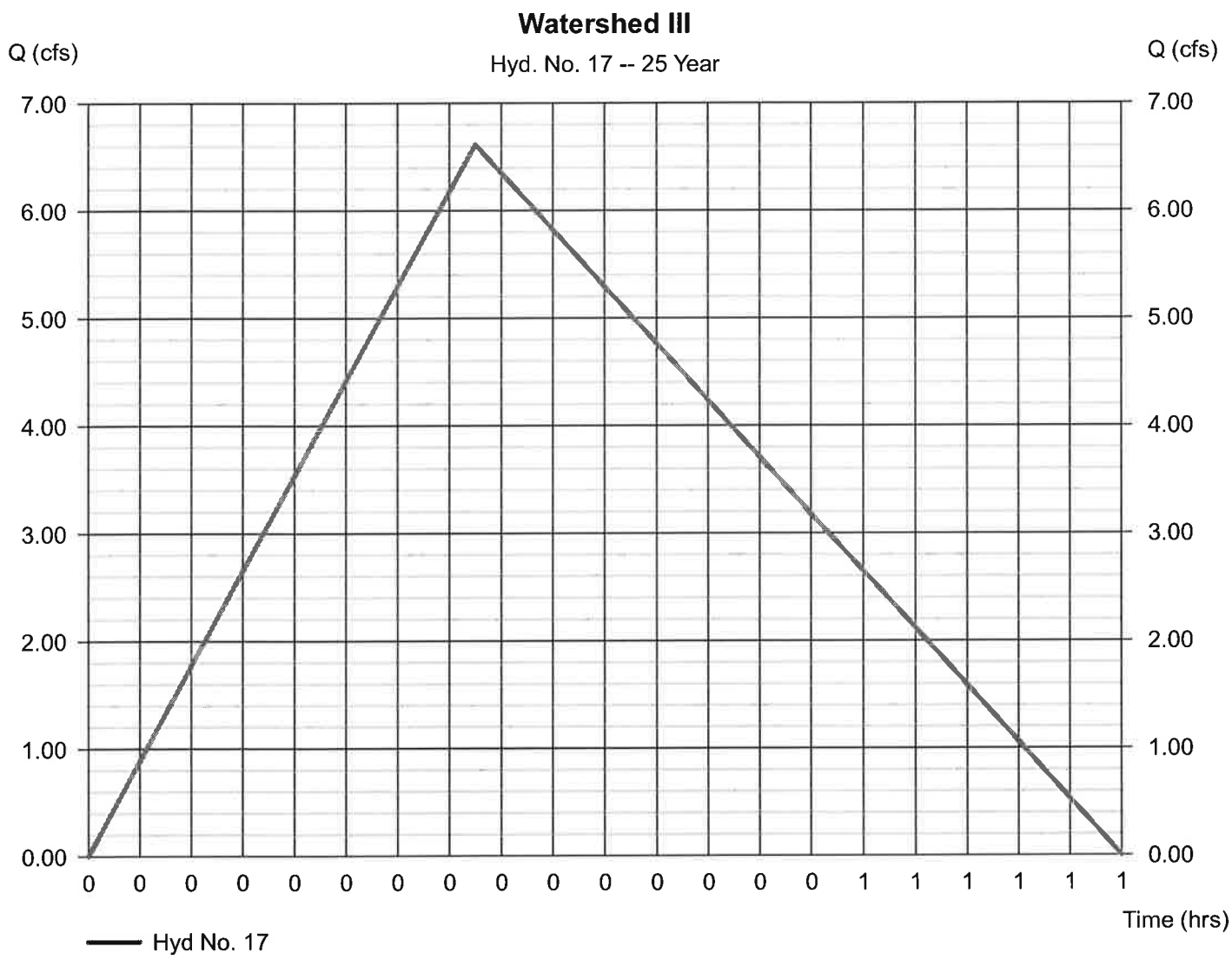
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 17

Watershed III

Hydrograph type	= Rational	Peak discharge	= 6.614 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.25 hrs
Time interval	= 1 min	Hyd. volume	= 7,947 cuft
Drainage area	= 2.700 ac	Runoff coeff.	= 0.52*
Intensity	= 4.711 in/hr	Tc by TR55	= 15.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.000 x 0.90) + (1.700 x 0.30)] / 2.700



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

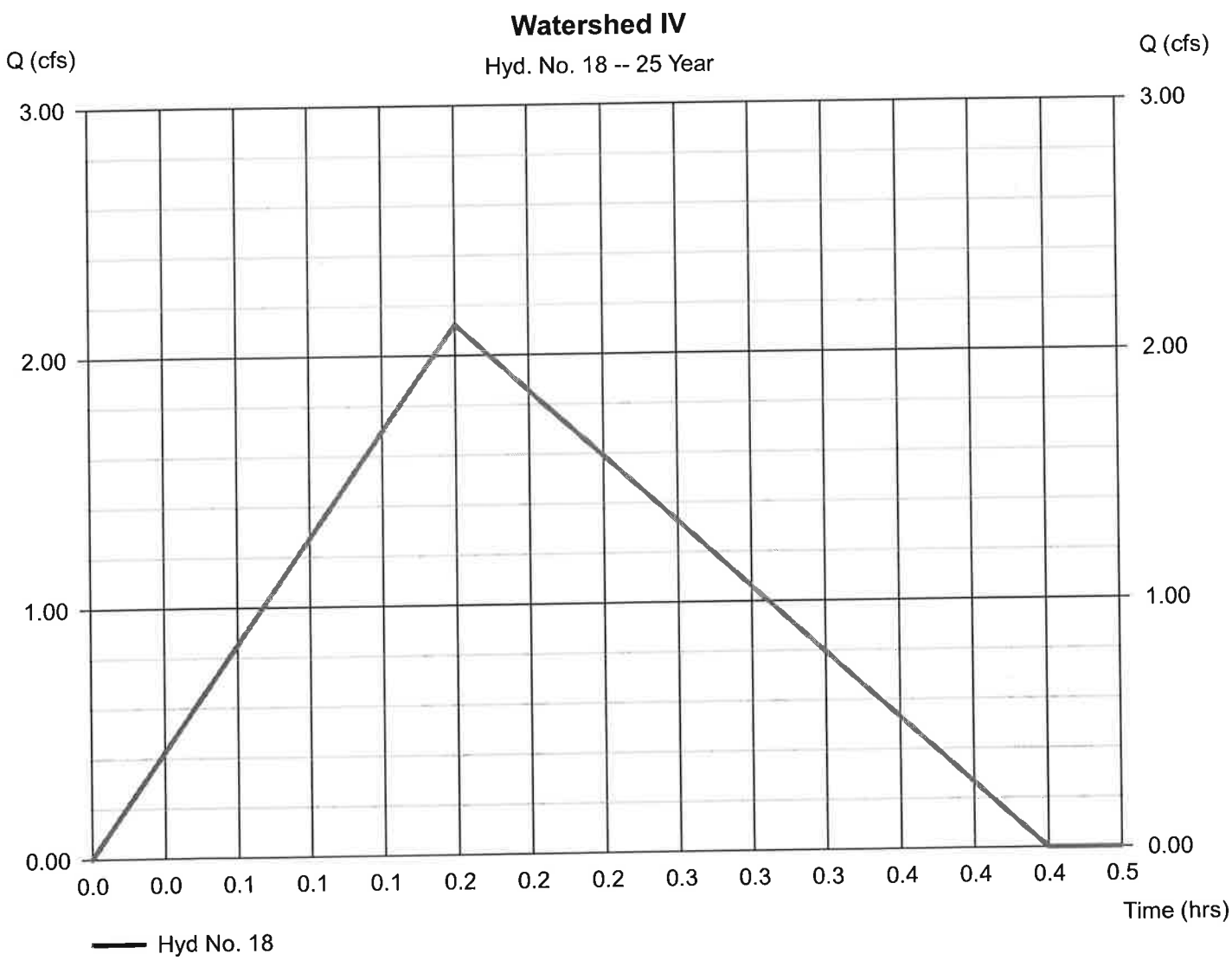
Wednesday, Mar 30, 2016

Hyd. No. 18

Watershed IV

Hydrograph type	= Rational	Peak discharge	= 2.121 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 1,699 cuft
Drainage area	= 0.800 ac	Runoff coeff.	= 0.48*
Intensity	= 5.522 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.260 x 0.90) + (0.440 x 0.30) + (0.100 x 0.20)] / 0.800



Hydrograph Report

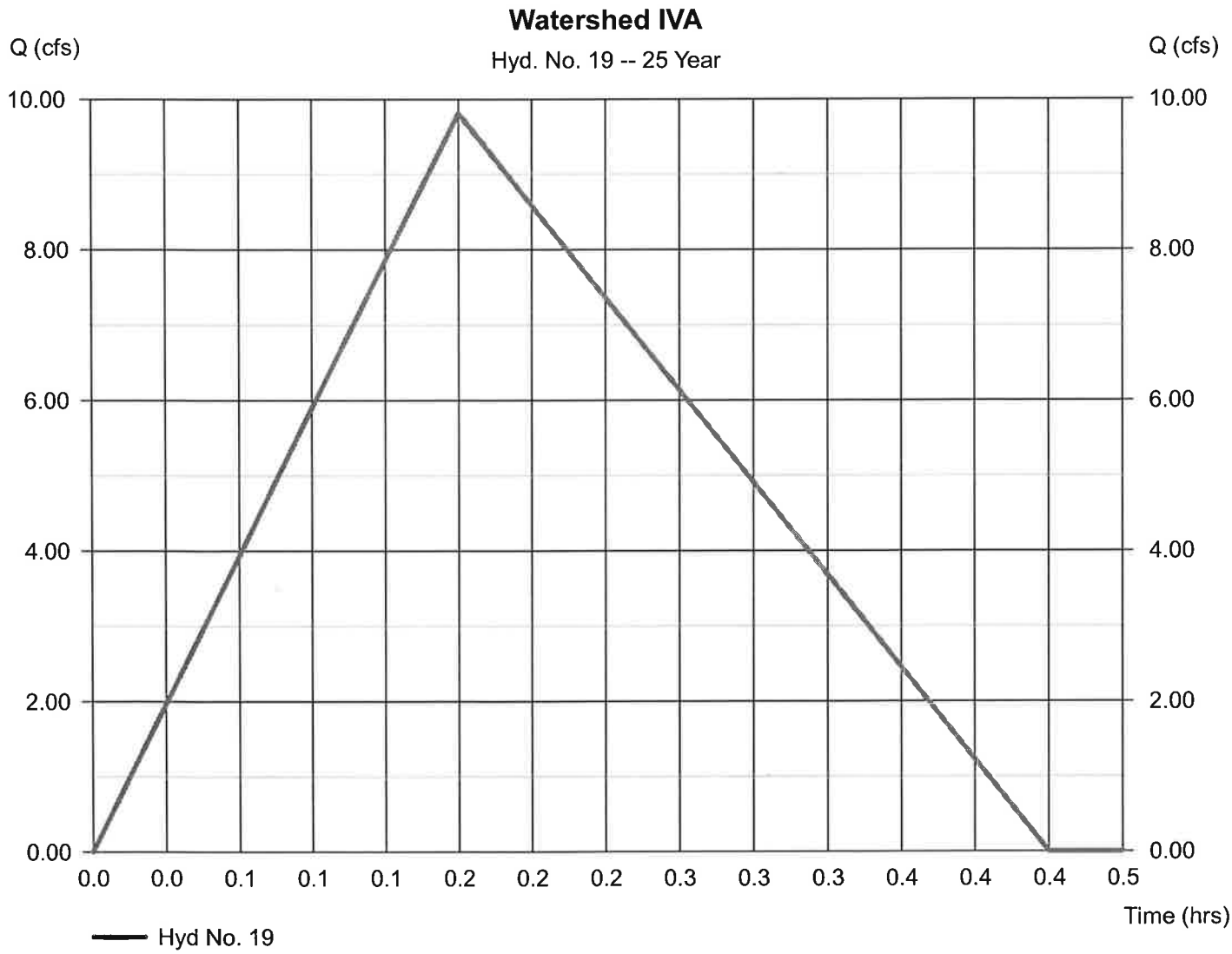
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 19

Watershed IVA

Hydrograph type	= Rational	Peak discharge	= 9.816 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 7,863 cuft
Drainage area	= 2.370 ac	Runoff coeff.	= 0.75*
Intensity	= 5.522 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.770 x 0.90) + (0.600 x 0.30)] / 2.370



Hydrograph Report

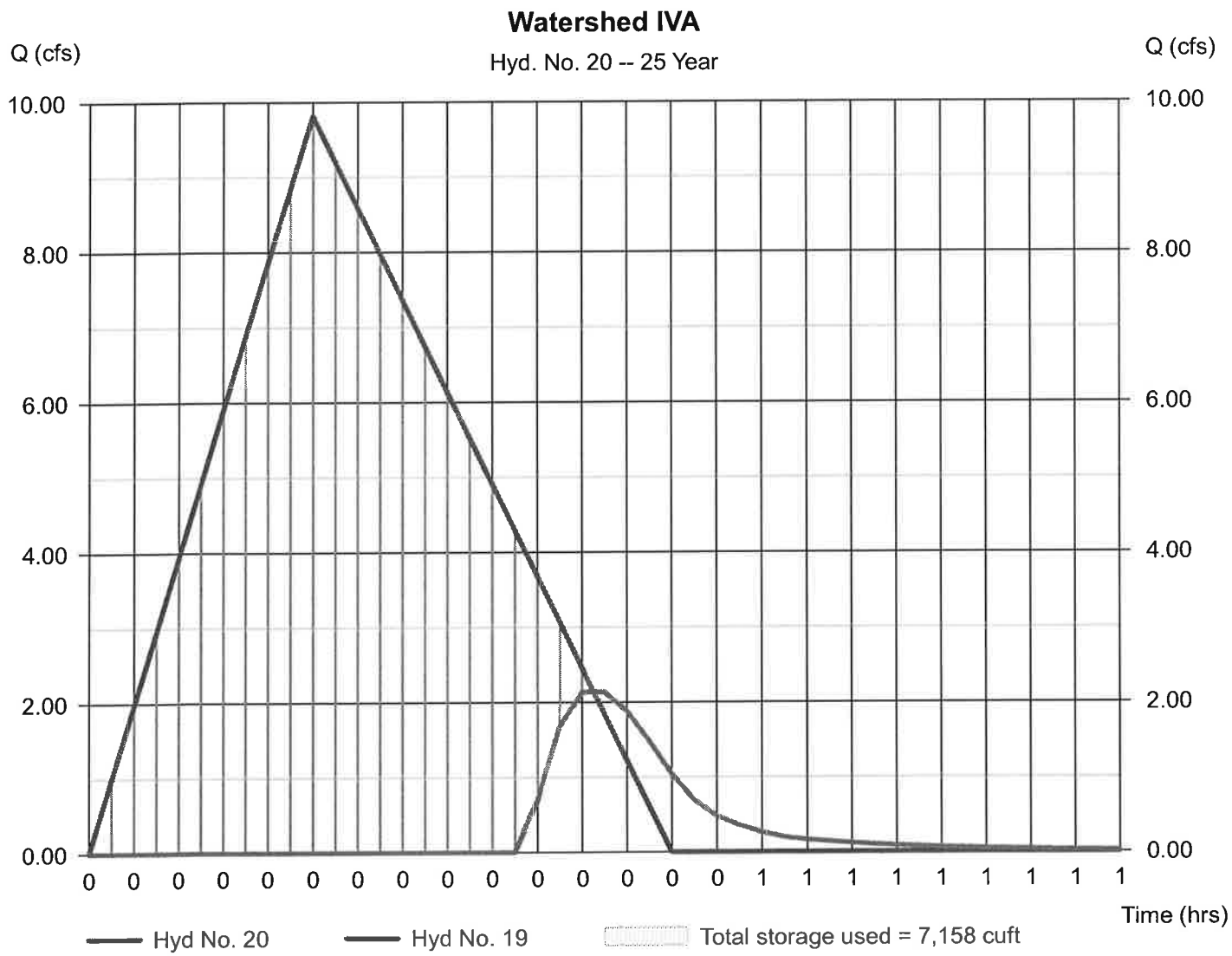
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 20

Watershed IVA

Hydrograph type	= Reservoir	Peak discharge	= 2.136 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.38 hrs
Time interval	= 1 min	Hyd. volume	= 842 cuft
Inflow hyd. No.	= 19 - Watershed IVA	Max. Elevation	= 553.76 ft
Reservoir name	= Watershed IVA	Max. Storage	= 7,158 cuft

Storage Indication method used.



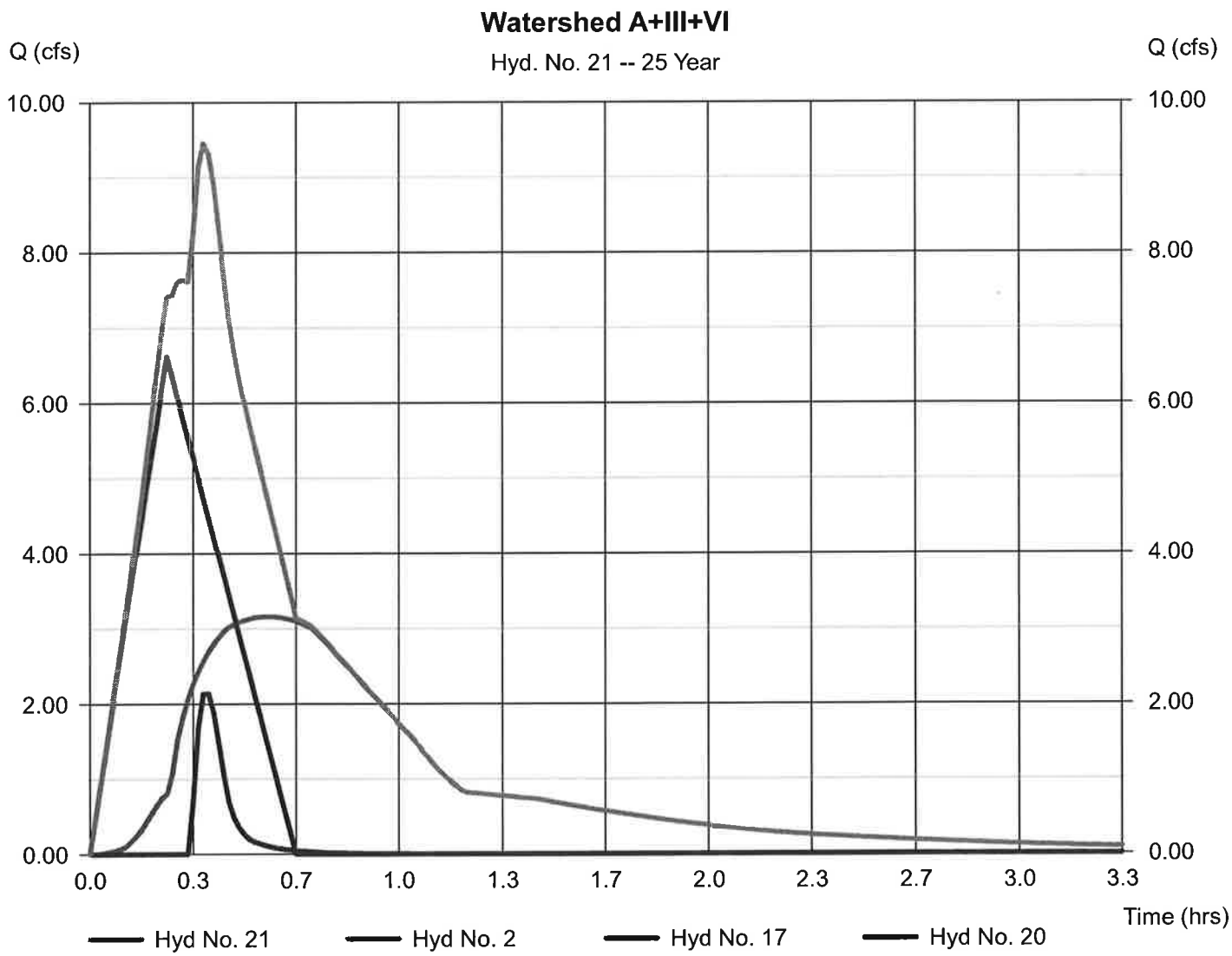
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 21

Watershed A+III+VI

Hydrograph type	= Combine	Peak discharge	= 9.452 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.37 hrs
Time interval	= 1 min	Hyd. volume	= 20,297 cuft
Inflow hyds.	= 2, 17, 20	Contrib. drain. area	= 2.700 ac



Hydrograph Report

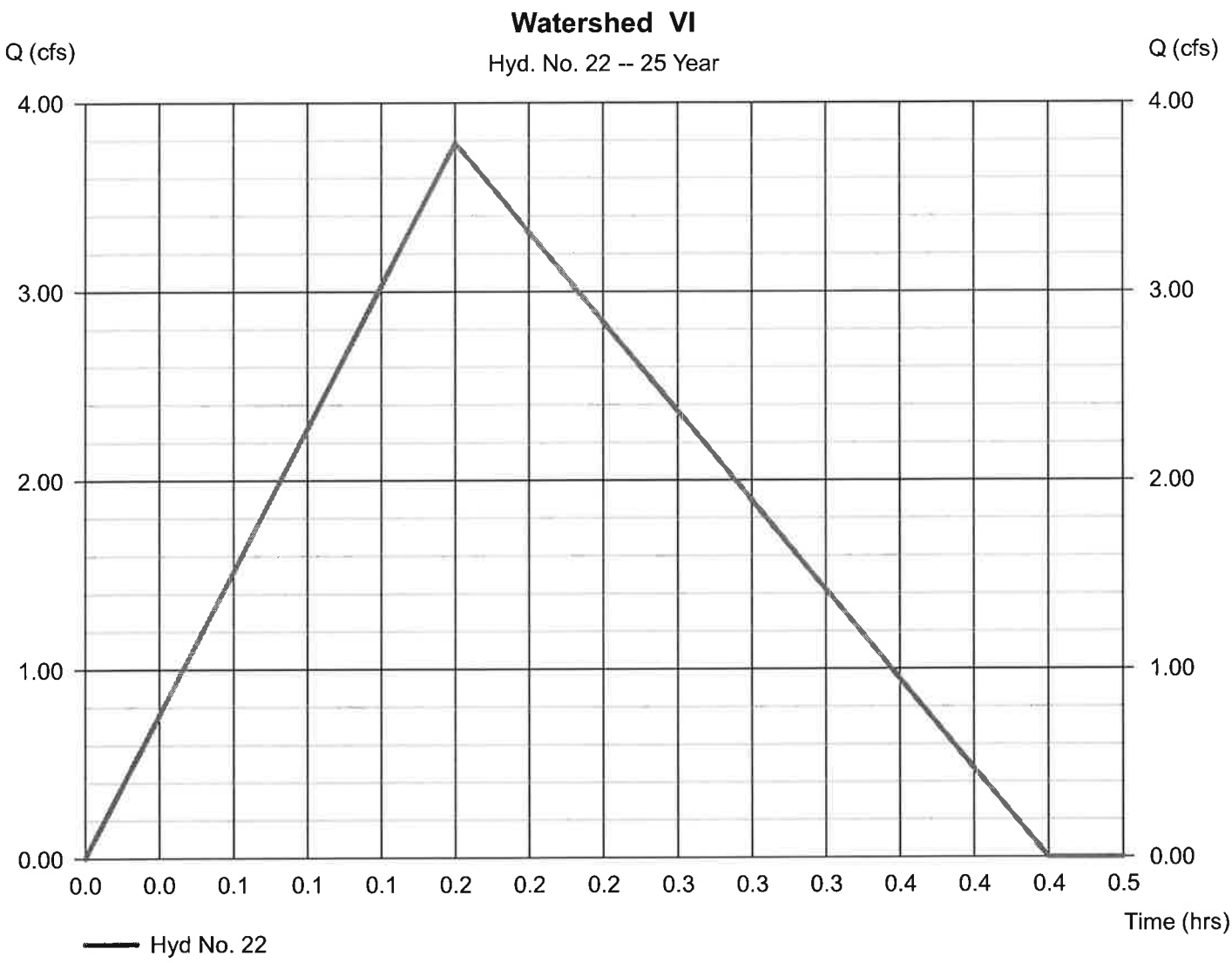
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 22

Watershed VI

Hydrograph type	= Rational	Peak discharge	= 3.785 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 3,032 cuft
Drainage area	= 1.490 ac	Runoff coeff.	= 0.46*
Intensity	= 5.522 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.400 x 0.90) + (1.090 x 0.30)] / 1.490



Hydrograph Report

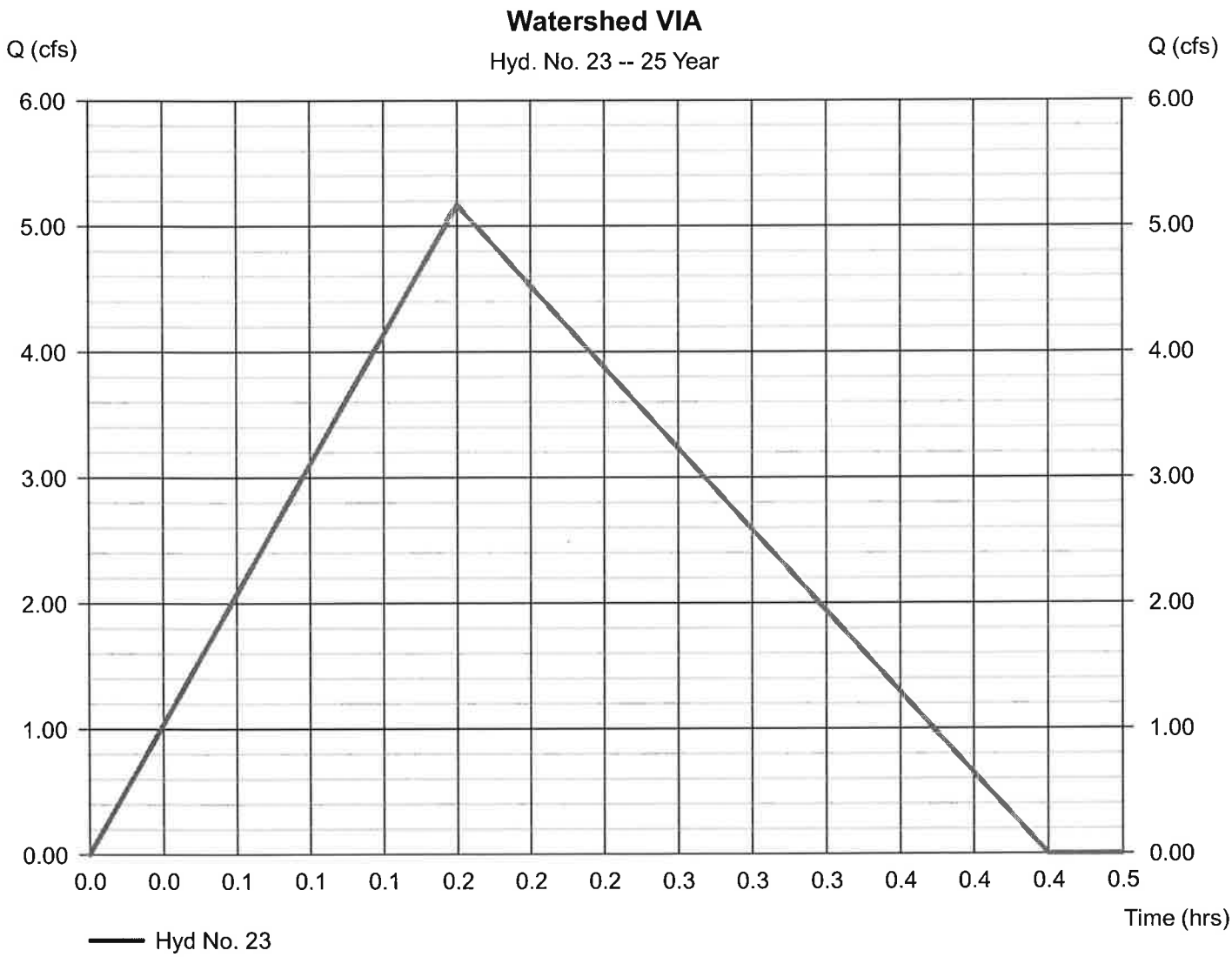
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 23

Watershed VIA

Hydrograph type	= Rational	Peak discharge	= 5.169 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 4,140 cuft
Drainage area	= 1.170 ac	Runoff coeff.	= 0.8*
Intensity	= 5.522 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.970 x 0.90) + (0.200 x 0.30)] / 1.170



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

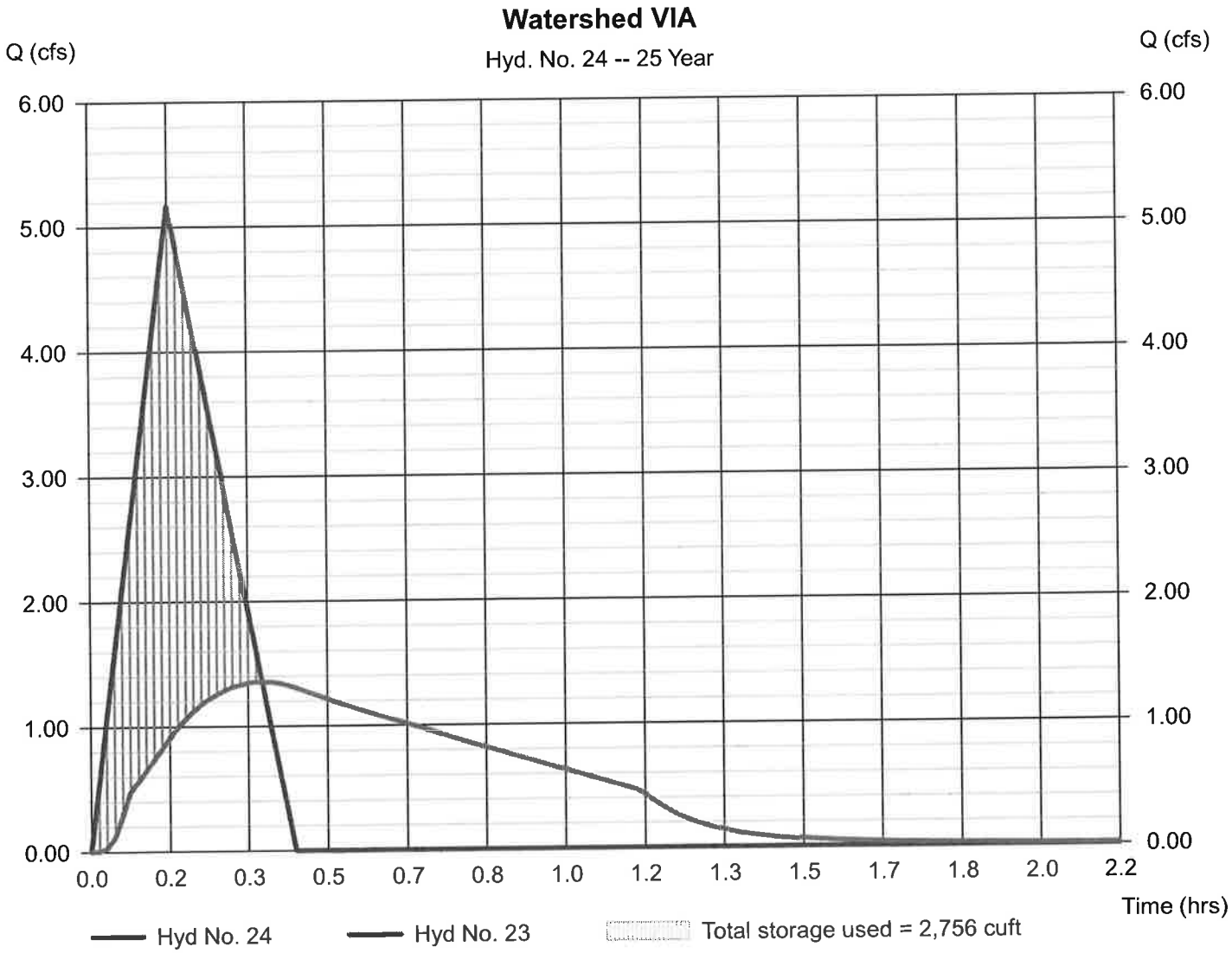
Wednesday, Mar 30, 2016

Hyd. No. 24

Watershed VIA

Hydrograph type	= Reservoir	Peak discharge	= 1.354 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.37 hrs
Time interval	= 1 min	Hyd. volume	= 4,027 cuft
Inflow hyd. No.	= 23 - Watershed VIA	Max. Elevation	= 550.80 ft
Reservoir name	= Watershed VIA	Max. Storage	= 2,756 cuft

Storage Indication method used.



Hydrograph Report

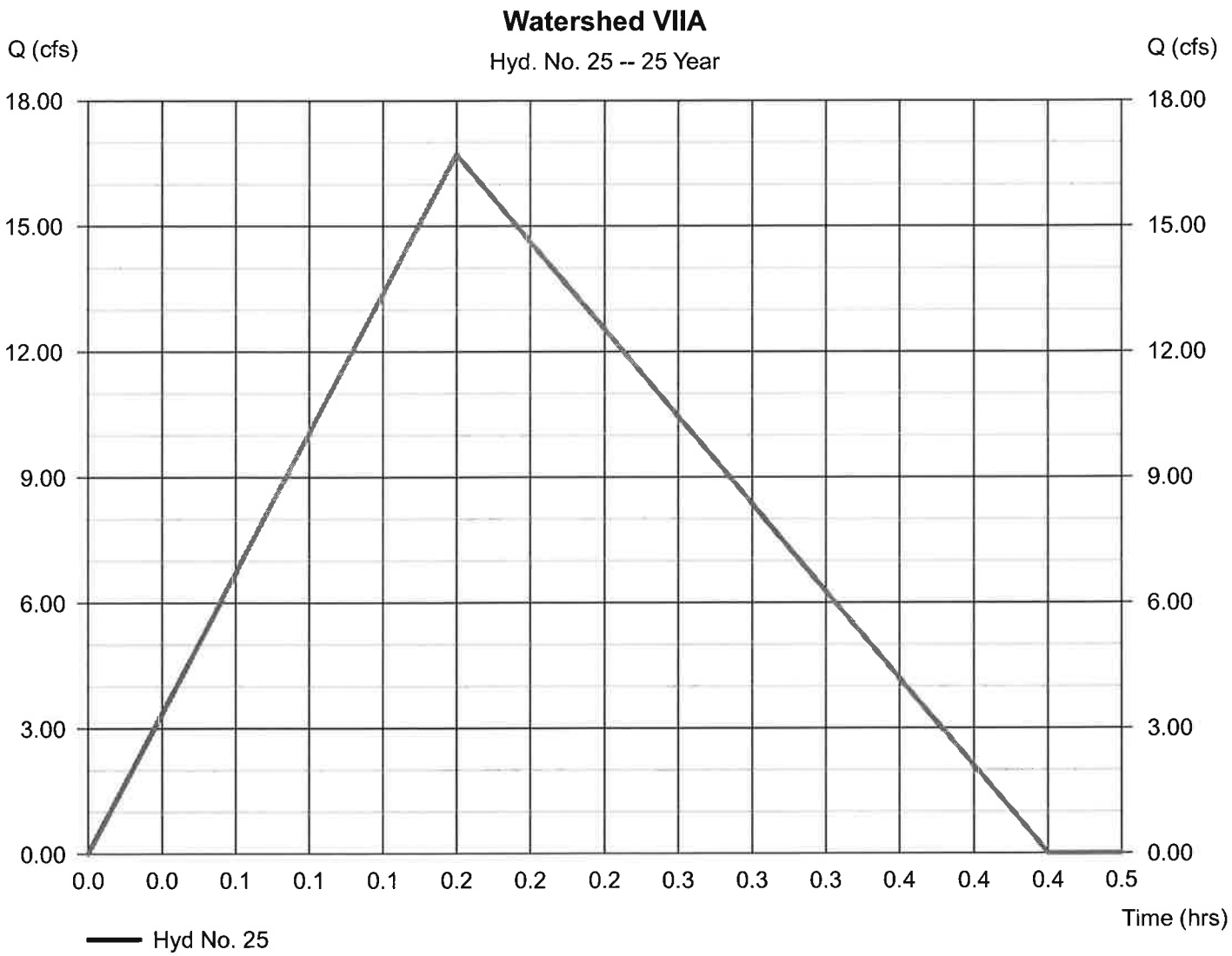
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 25

Watershed VIIA

Hydrograph type	= Rational	Peak discharge	= 16.71 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 13,388 cuft
Drainage area	= 4.090 ac	Runoff coeff.	= 0.74*
Intensity	= 5.522 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(3.020 x 0.90) + (1.070 x 0.30)] / 4.090



Hydrograph Report

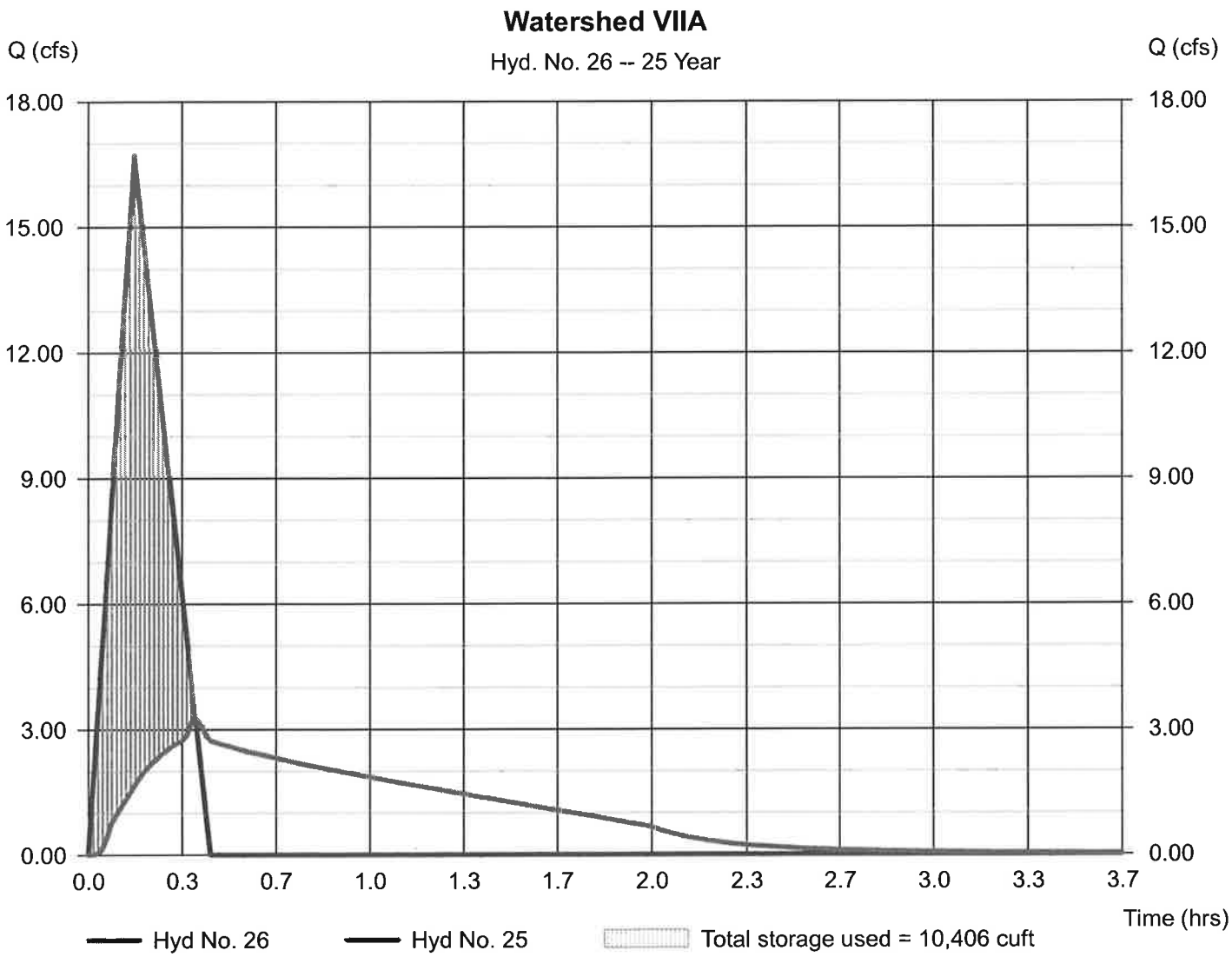
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 26

Watershed VIIA

Hydrograph type	= Reservoir	Peak discharge	= 3.257 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.38 hrs
Time interval	= 1 min	Hyd. volume	= 13,026 cuft
Inflow hyd. No.	= 25 - Watershed VIIA	Max. Elevation	= 547.59 ft
Reservoir name	= Watershed VIIA	Max. Storage	= 10,406 cuft

Storage Indication method used.



Hydrograph Report

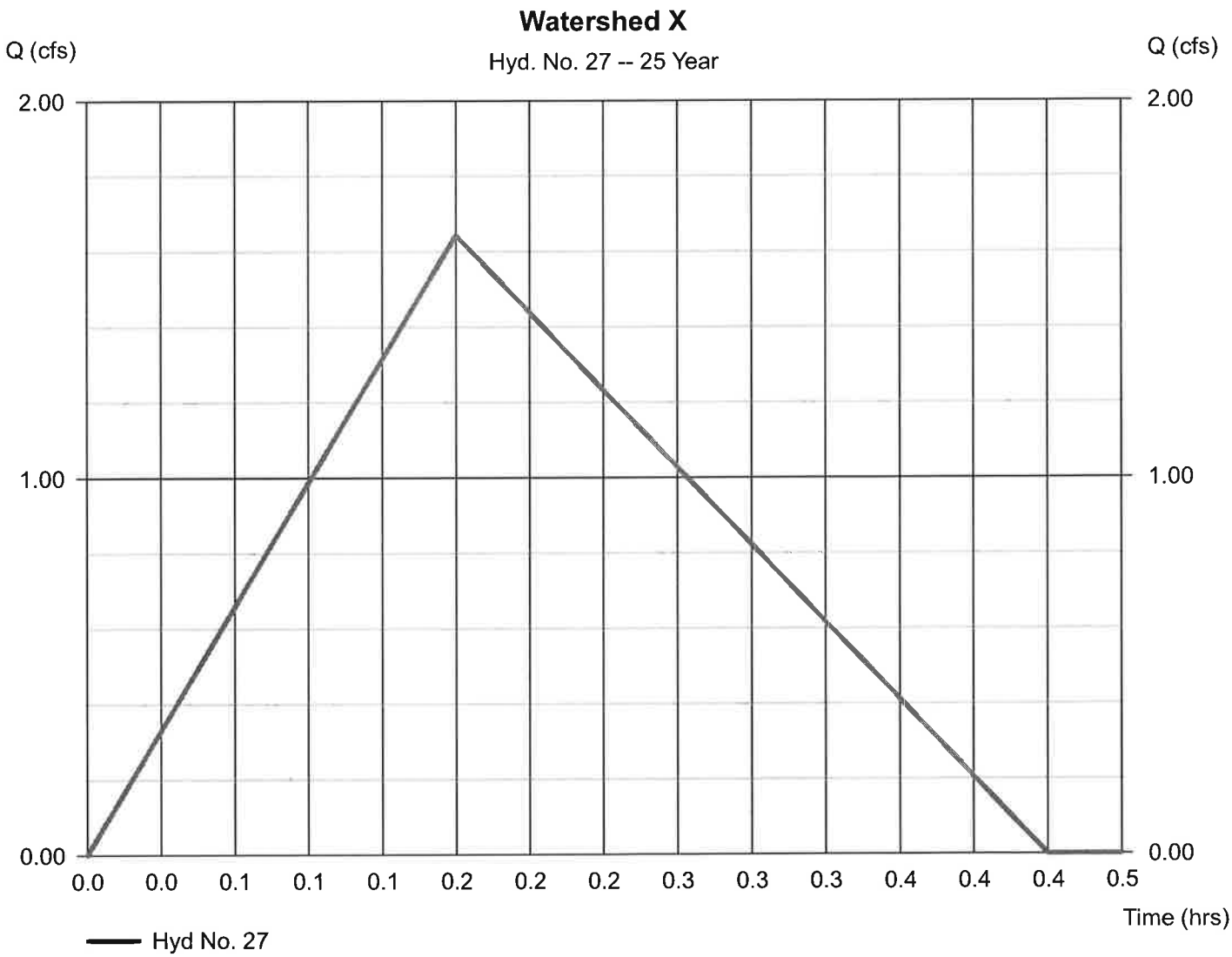
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 27

Watershed X

Hydrograph type	= Rational	Peak discharge	= 1.643 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 1,316 cuft
Drainage area	= 0.930 ac	Runoff coeff.	= 0.32*
Intensity	= 5.522 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.100 x 0.90) + (0.410 x 0.30) + (0.420 x 0.20)] / 0.930



Hydrograph Report

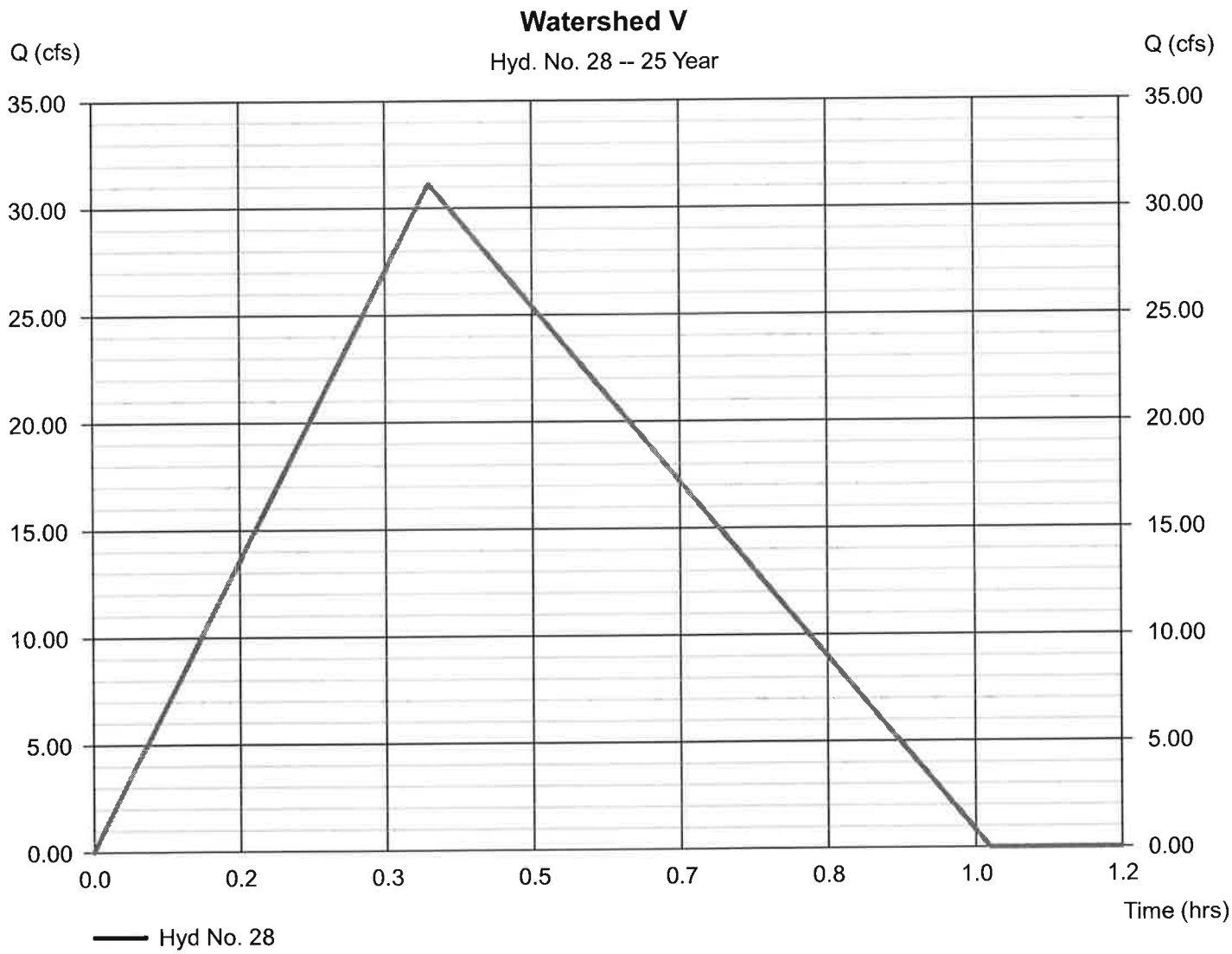
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 28

Watershed V

Hydrograph type	= Rational	Peak discharge	= 31.10 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.38 hrs
Time interval	= 1 min	Hyd. volume	= 57,301 cuft
Drainage area	= 26.200 ac	Runoff coeff.	= 0.31*
Intensity	= 3.829 in/hr	Tc by TR55	= 23.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(2.500 x 0.90) + (10.640 x 0.30) + (13.060 x 0.20)] / 26.200



Hydrograph Report

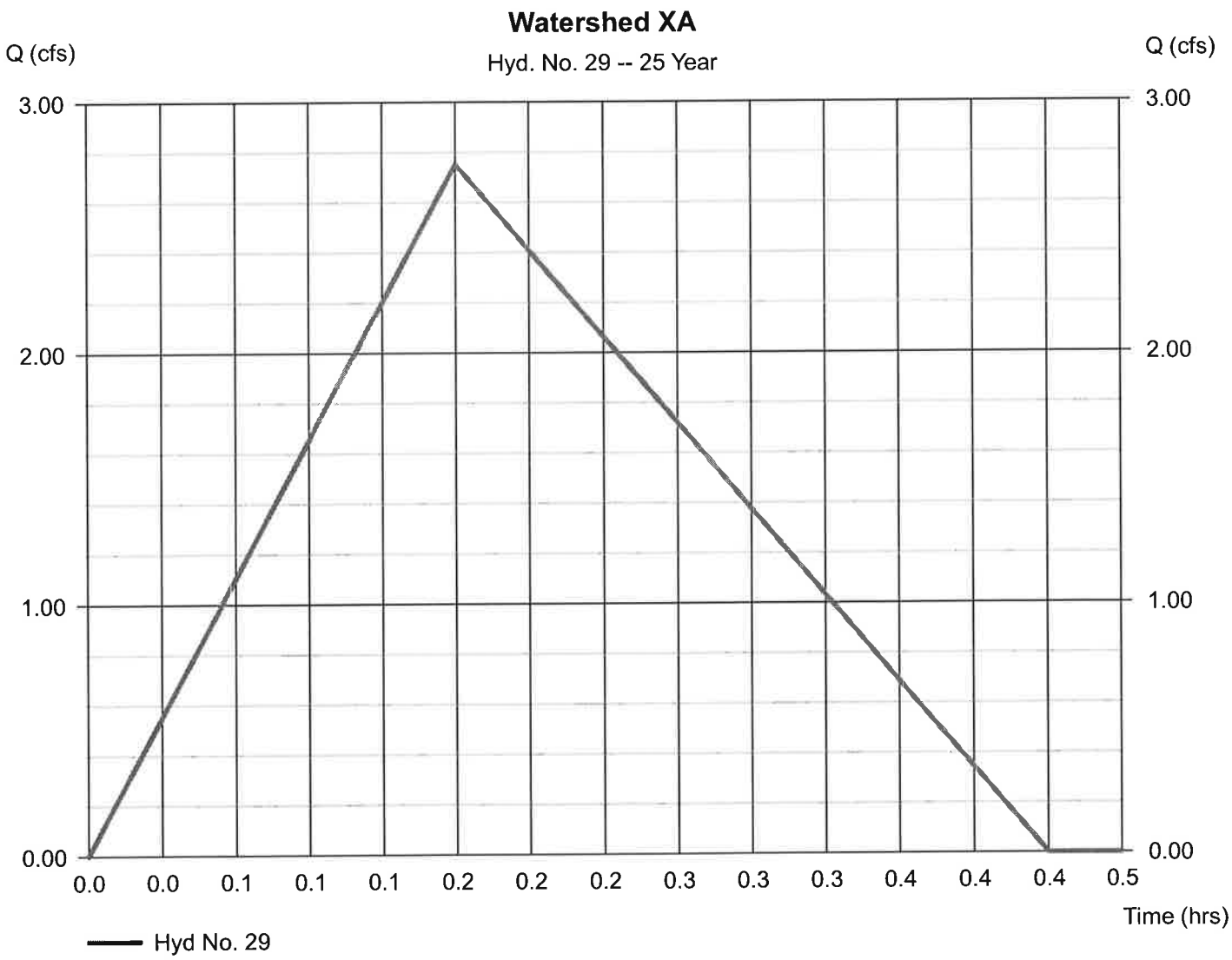
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 29

Watershed XA

Hydrograph type	= Rational	Peak discharge	= 2.751 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 2,204 cuft
Drainage area	= 0.940 ac	Runoff coeff.	= 0.53*
Intensity	= 5.522 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.390 x 0.90) + (0.350 x 0.30) + (0.200 x 0.20)] / 0.940



Hydrograph Report

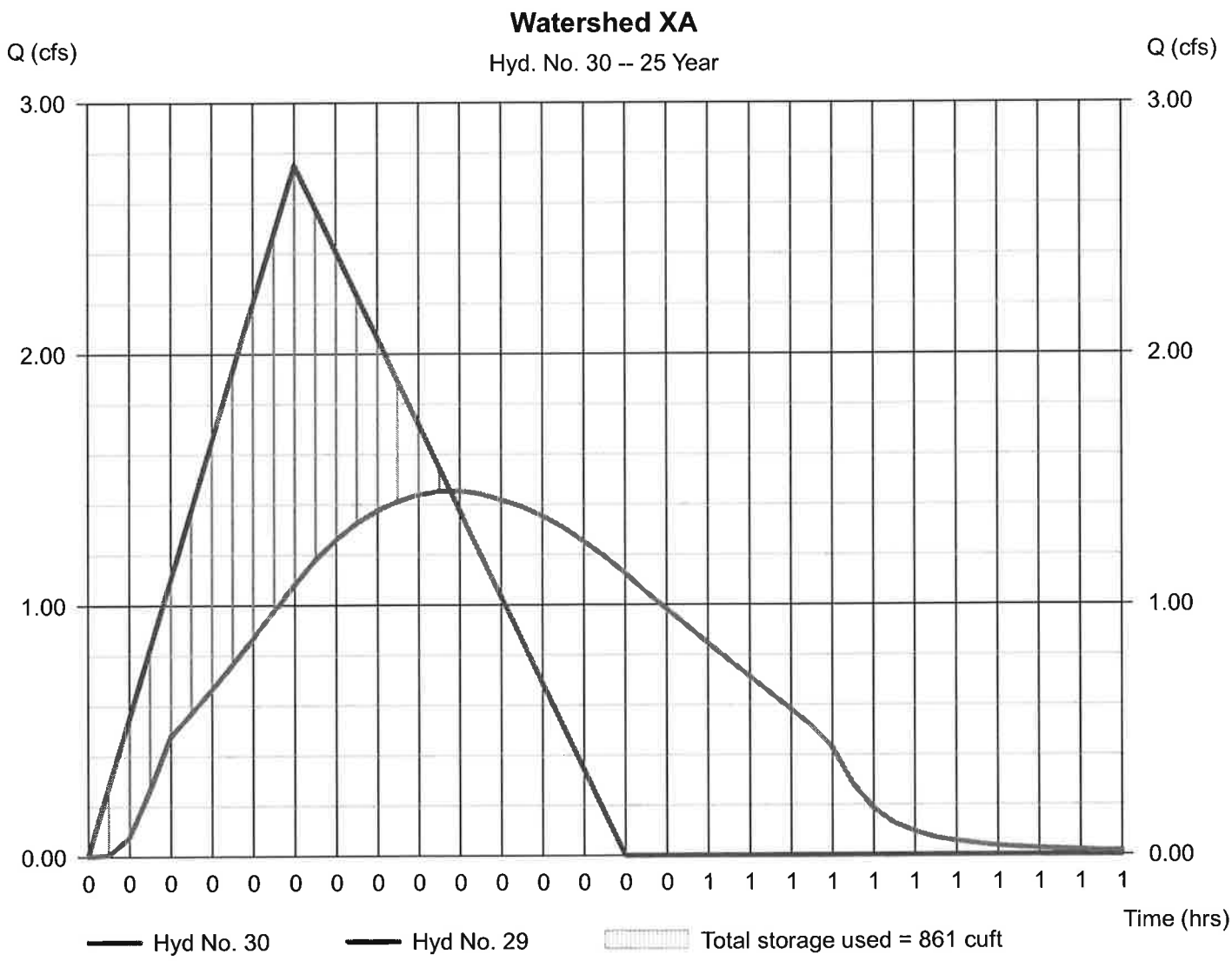
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 30

Watershed XA

Hydrograph type	= Reservoir	Peak discharge	= 1.453 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.30 hrs
Time interval	= 1 min	Hyd. volume	= 2,145 cuft
Inflow hyd. No.	= 29 - Watershed XA	Max. Elevation	= 558.12 ft
Reservoir name	= Watershed XA	Max. Storage	= 861 cuft

Storage Indication method used.



Hydrograph Report

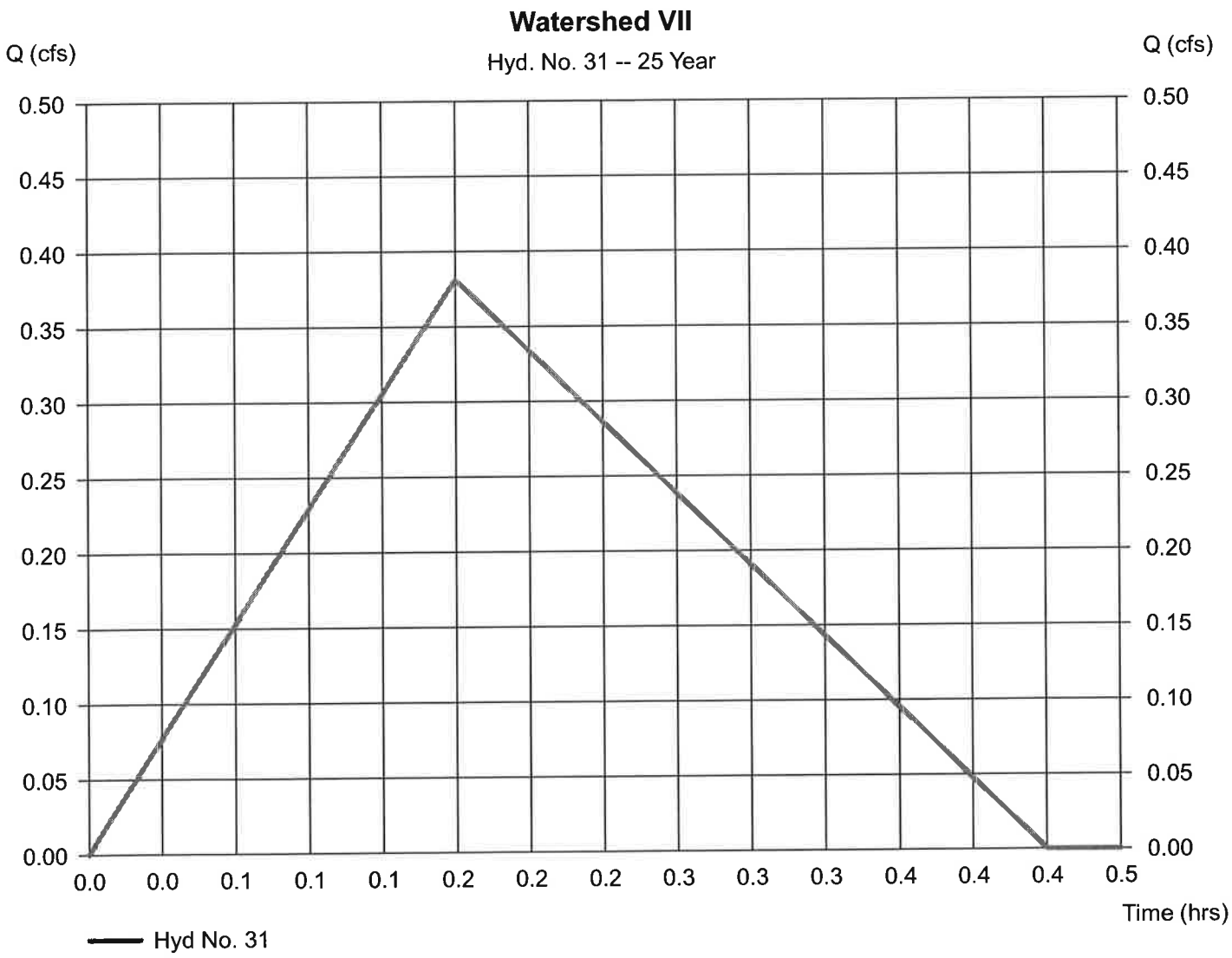
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 31

Watershed VII

Hydrograph type	= Rational	Peak discharge	= 0.381 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 305 cuft
Drainage area	= 0.230 ac	Runoff coeff.	= 0.3*
Intensity	= 5.522 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.230 x 0.30)] / 0.230



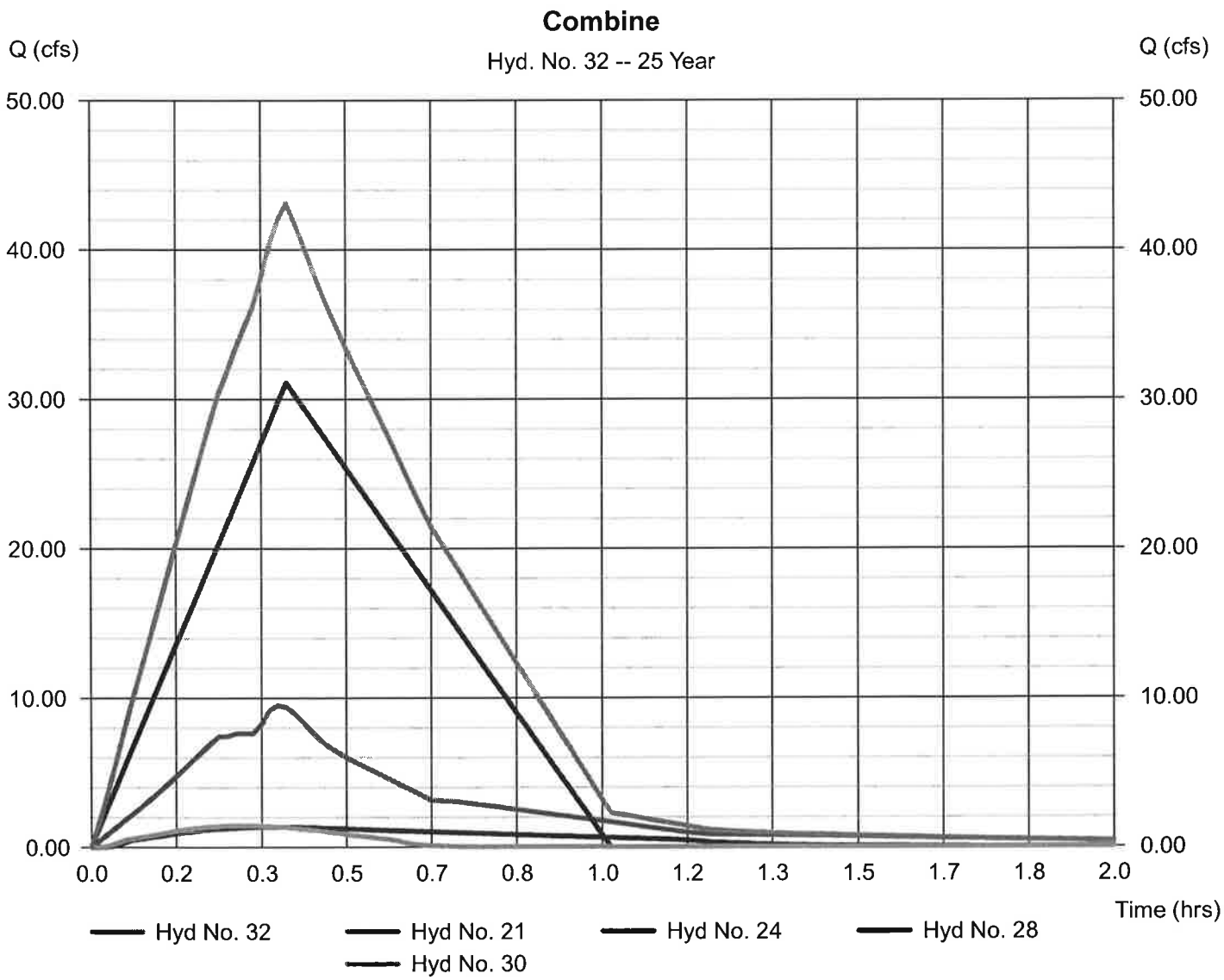
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 32

Combine

Hydrograph type	= Combine	Peak discharge	= 43.08 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.38 hrs
Time interval	= 1 min	Hyd. volume	= 83,387 cuft
Inflow hyds.	= 21, 24, 28, 30	Contrib. drain. area	= 26.200 ac



Hydrograph Report

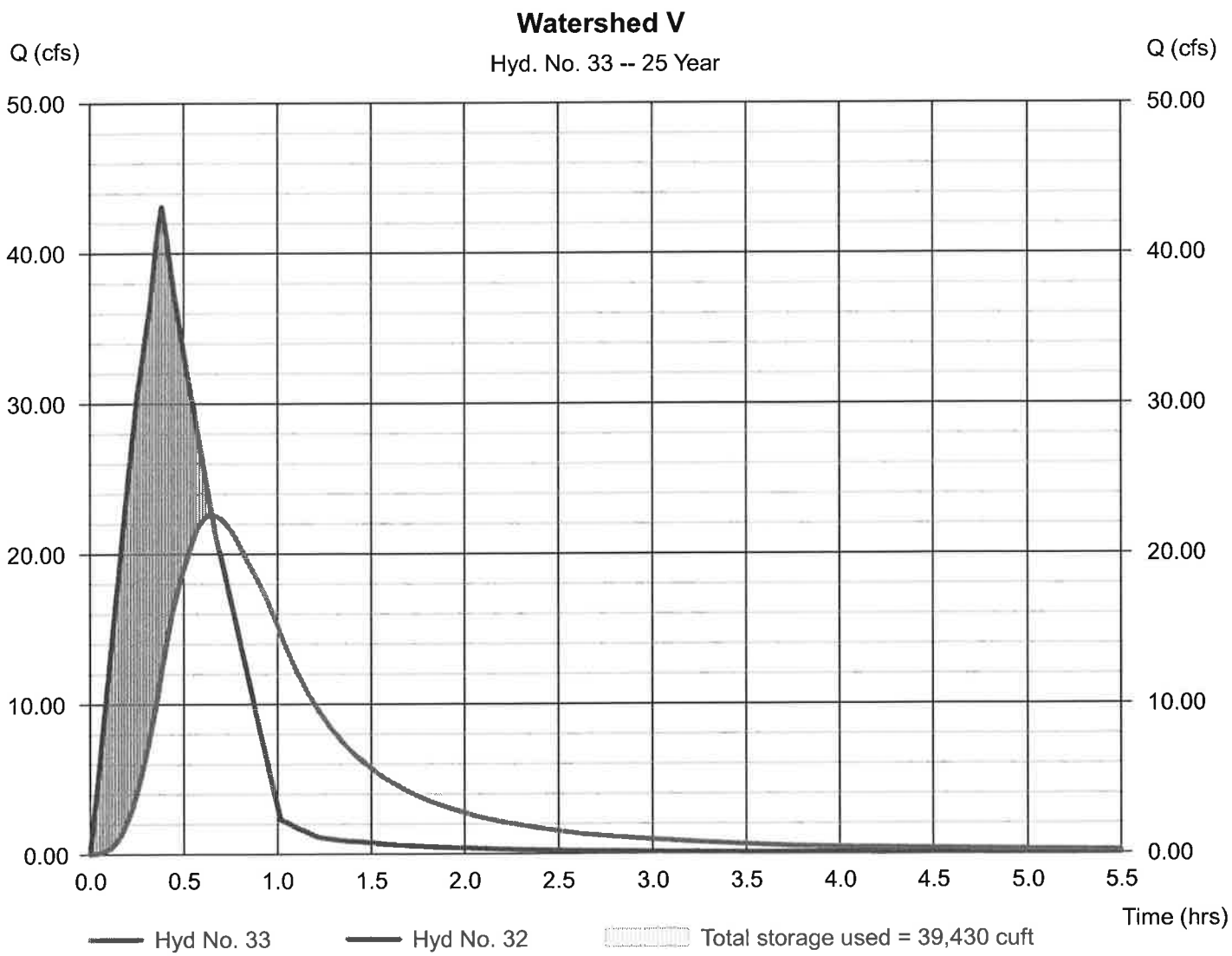
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 33

Watershed V

Hydrograph type	= Reservoir	Peak discharge	= 22.58 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.65 hrs
Time interval	= 1 min	Hyd. volume	= 83,380 cuft
Inflow hyd. No.	= 32 - Combine	Max. Elevation	= 544.29 ft
Reservoir name	= Watershed X	Max. Storage	= 39,430 cuft

Storage Indication method used.



Hydrograph Report

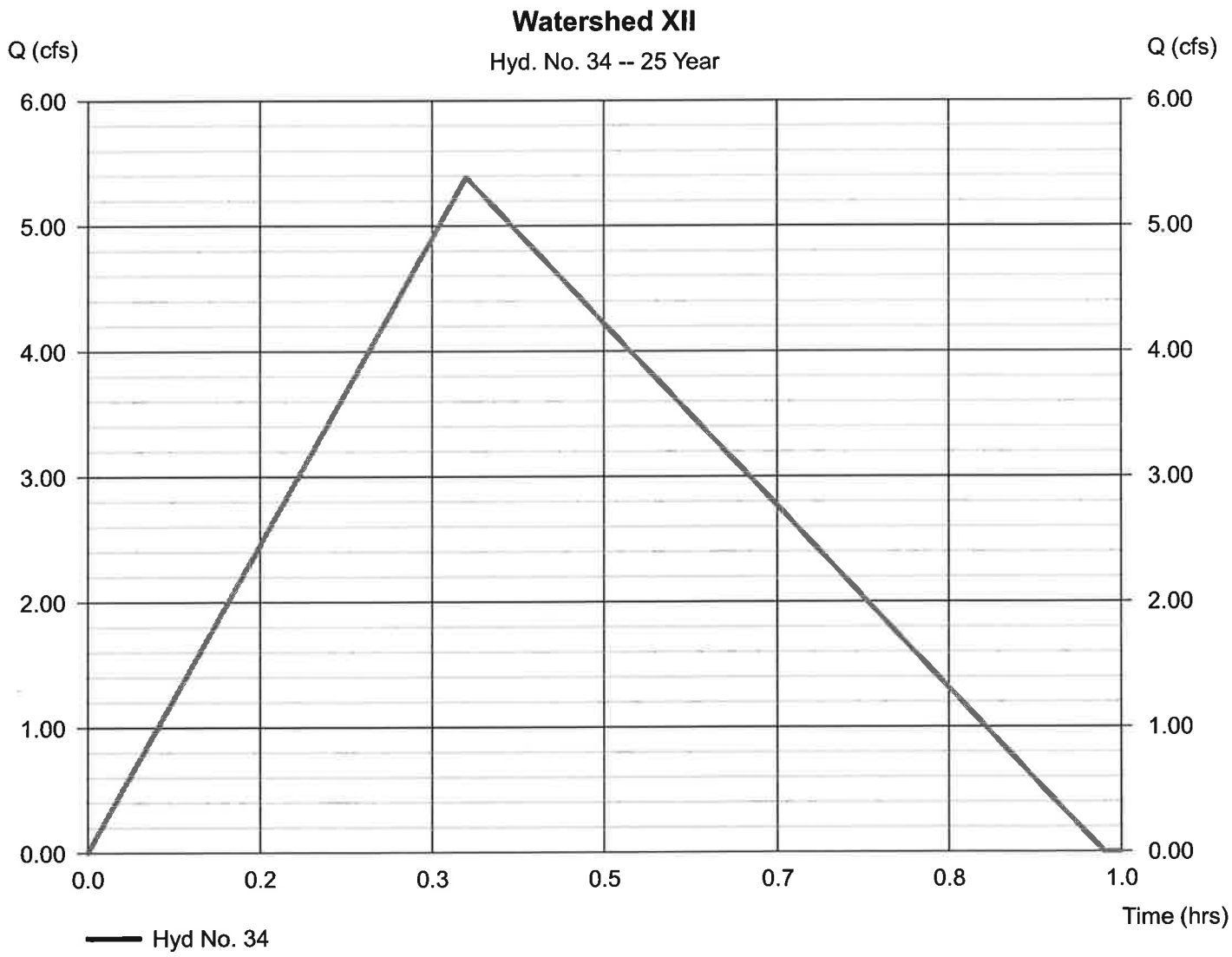
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 34

Watershed XII

Hydrograph type	= Rational	Peak discharge	= 5.386 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.37 hrs
Time interval	= 1 min	Hyd. volume	= 9,692 cuft
Drainage area	= 4.630 ac	Runoff coeff.	= 0.3*
Intensity	= 3.877 in/hr	Tc by TR55	= 22.47 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.490 x 0.90) + (1.430 x 0.30) + (2.710 x 0.20)] / 4.630



Hydrograph Report

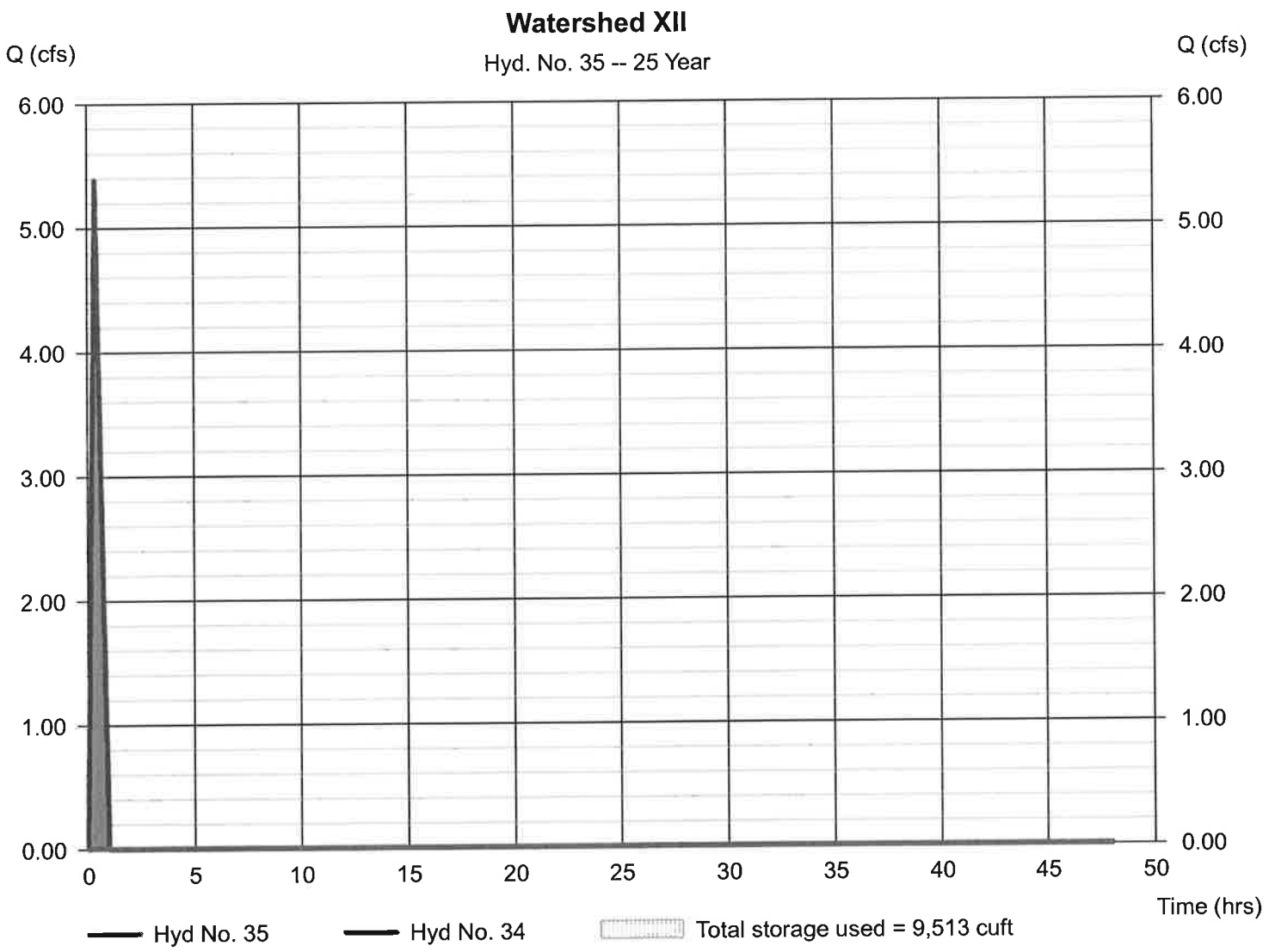
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 35

Watershed XII

Hydrograph type	= Reservoir	Peak discharge	= 0.007 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.98 hrs
Time interval	= 1 min	Hyd. volume	= 1,148 cuft
Inflow hyd. No.	= 34 - Watershed XII	Max. Elevation	= 546.27 ft
Reservoir name	= Watershed XII	Max. Storage	= 9,513 cuft

Storage Indication method used.



Hydrograph Report

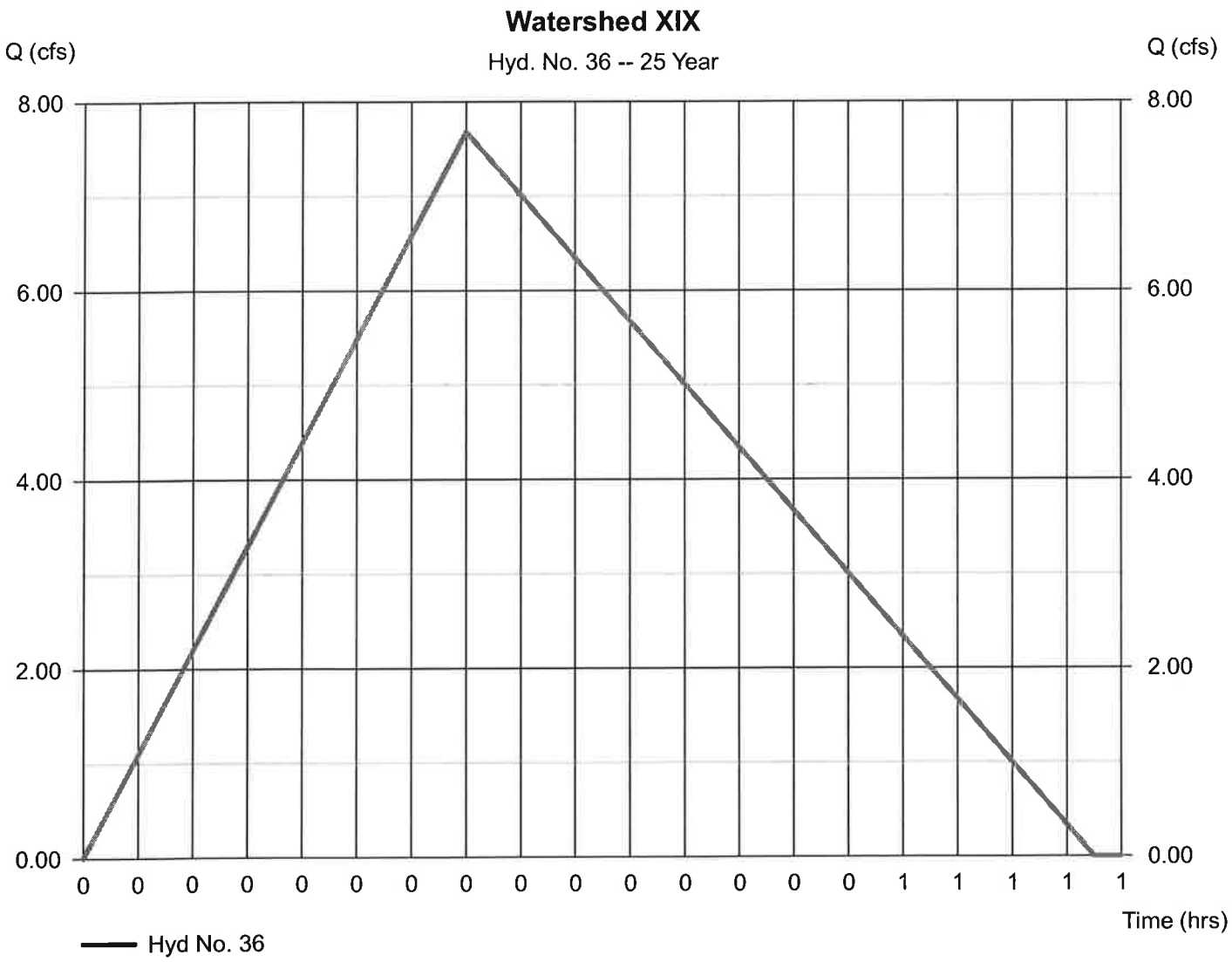
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 36

Watershed XIX

Hydrograph type	= Rational	Peak discharge	= 7.678 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.23 hrs
Time interval	= 1 min	Hyd. volume	= 8,610 cuft
Drainage area	= 5.860 ac	Runoff coeff.	= 0.27*
Intensity	= 4.852 in/hr	Tc by TR55	= 14.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.400 x 0.90) + (1.500 x 0.30) + (3.960 x 0.20)] / 5.860



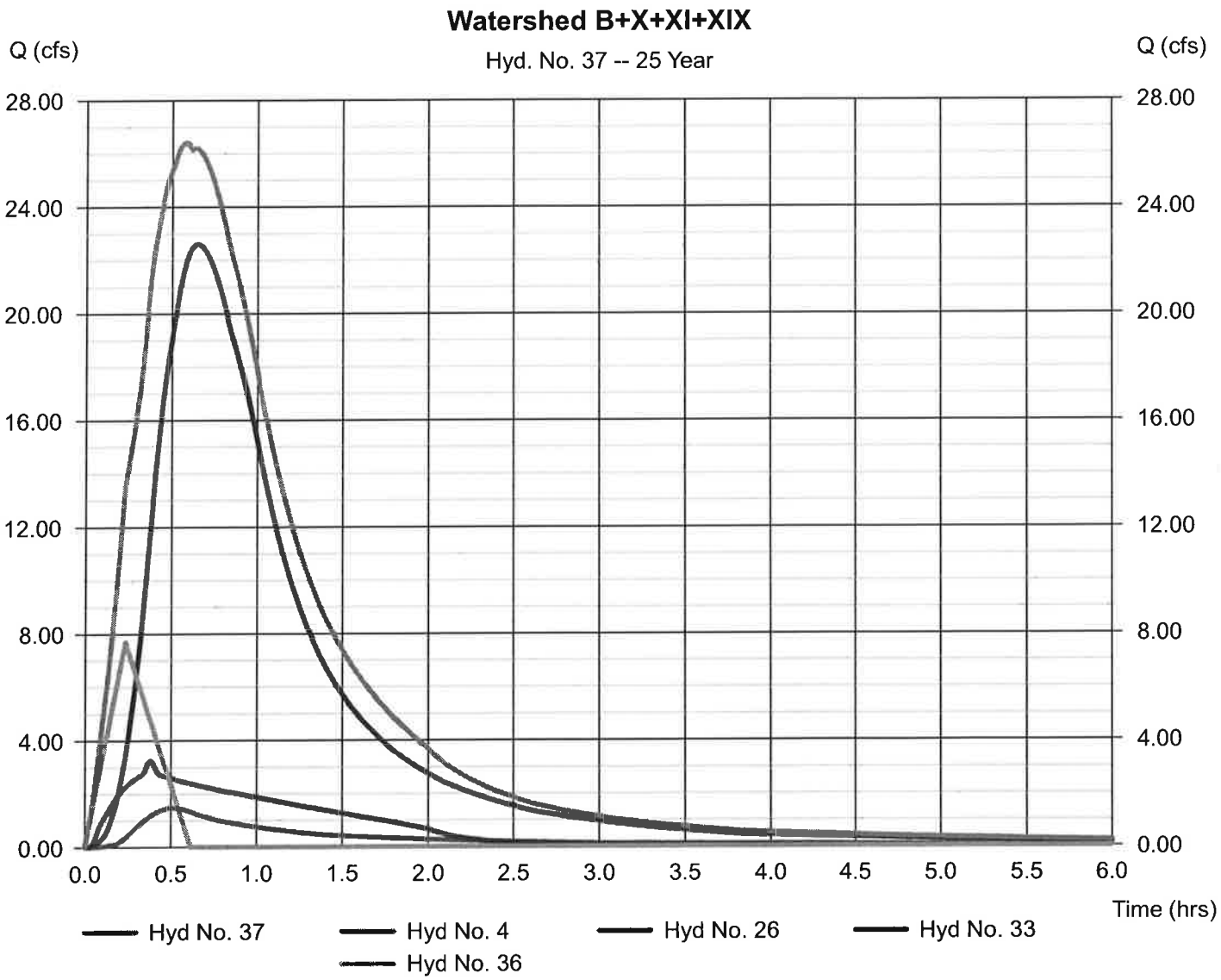
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 37

Watershed B+X+XI+XIX

Hydrograph type	= Combine	Peak discharge	= 26.41 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.58 hrs
Time interval	= 1 min	Hyd. volume	= 111,632 cuft
Inflow hyds.	= 4, 26, 33, 36	Contrib. drain. area	= 5.860 ac



Hydrograph Report

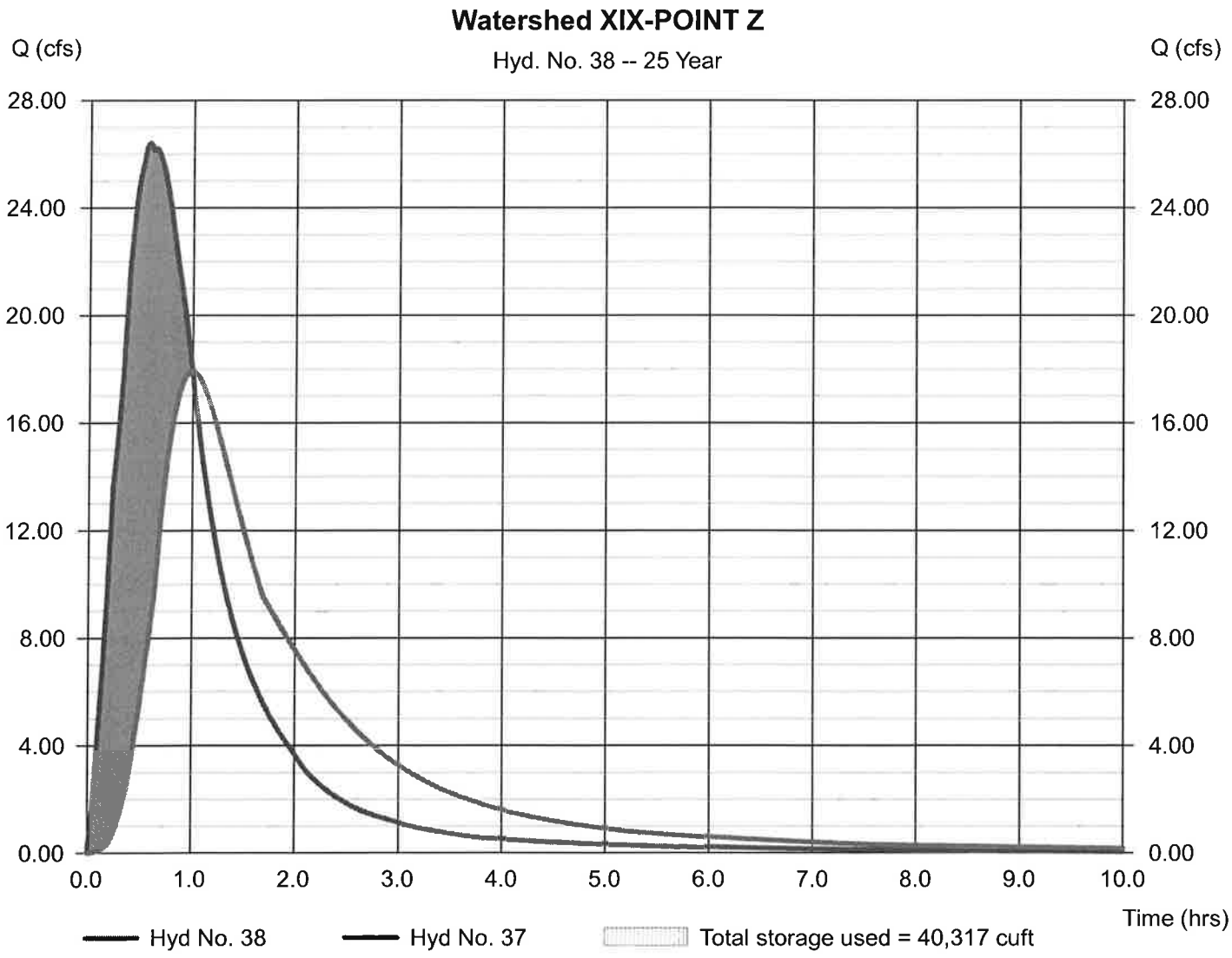
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 38

Watershed XIX-POINT Z

Hydrograph type	= Reservoir	Peak discharge	= 17.92 cfs
Storm frequency	= 25 yrs	Time to peak	= 1.00 hrs
Time interval	= 1 min	Hyd. volume	= 111,622 cuft
Inflow hyd. No.	= 37 - Watershed B+X+XI+XIX	Max. Elevation	= 542.12 ft
Reservoir name	= Watershed XIX	Max. Storage	= 40,317 cuft

Storage Indication method used.



Hydrograph Report

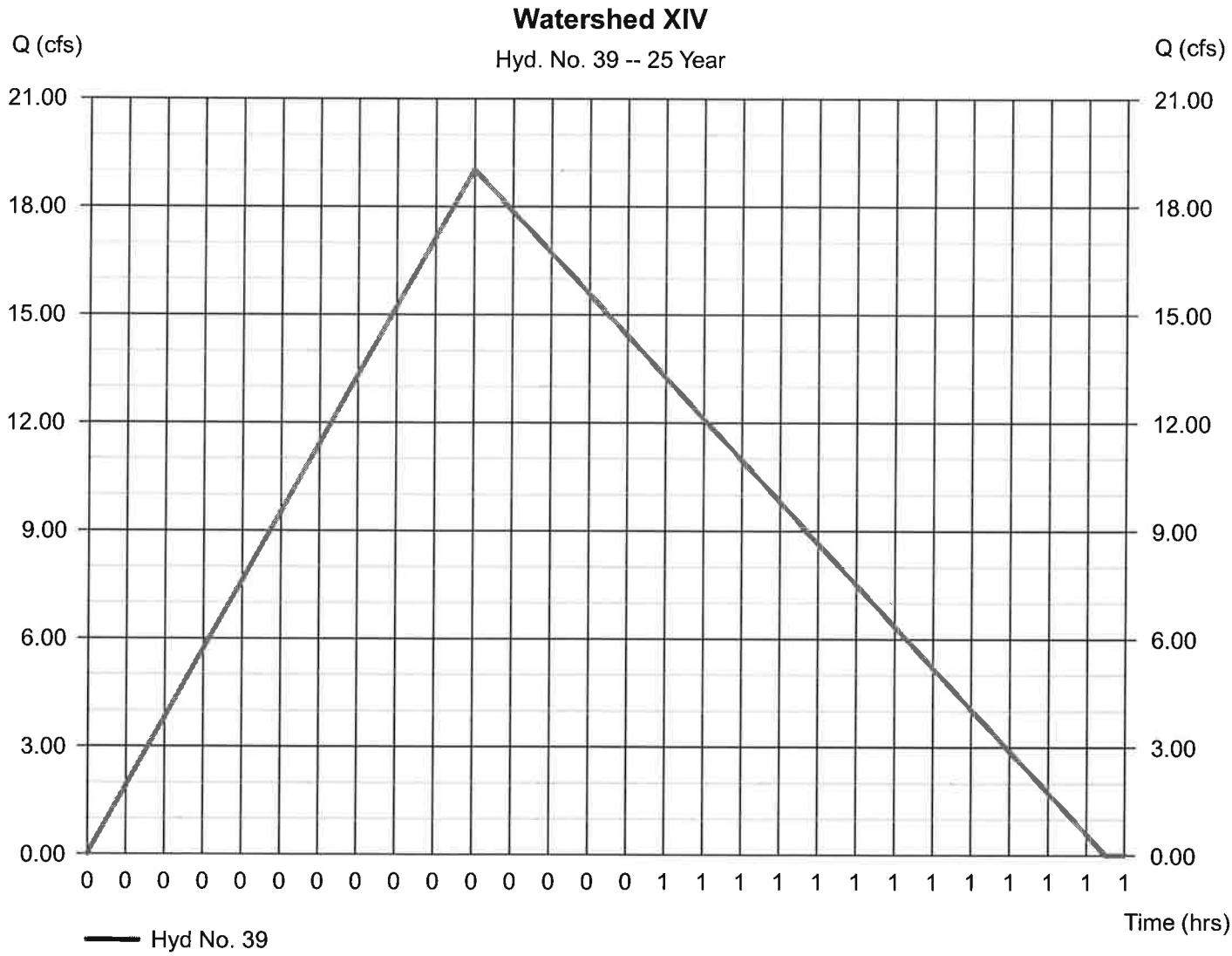
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 39

Watershed XIV

Hydrograph type	= Rational	Peak discharge	= 19.02 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 30,465 cuft
Drainage area	= 15.400 ac	Runoff coeff.	= 0.3*
Intensity	= 4.116 in/hr	Tc by TR55	= 20.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.000 x 0.90) + (5.100 x 0.30) + (8.800 x 0.20) + (0.500 x 1.00)] / 15.400



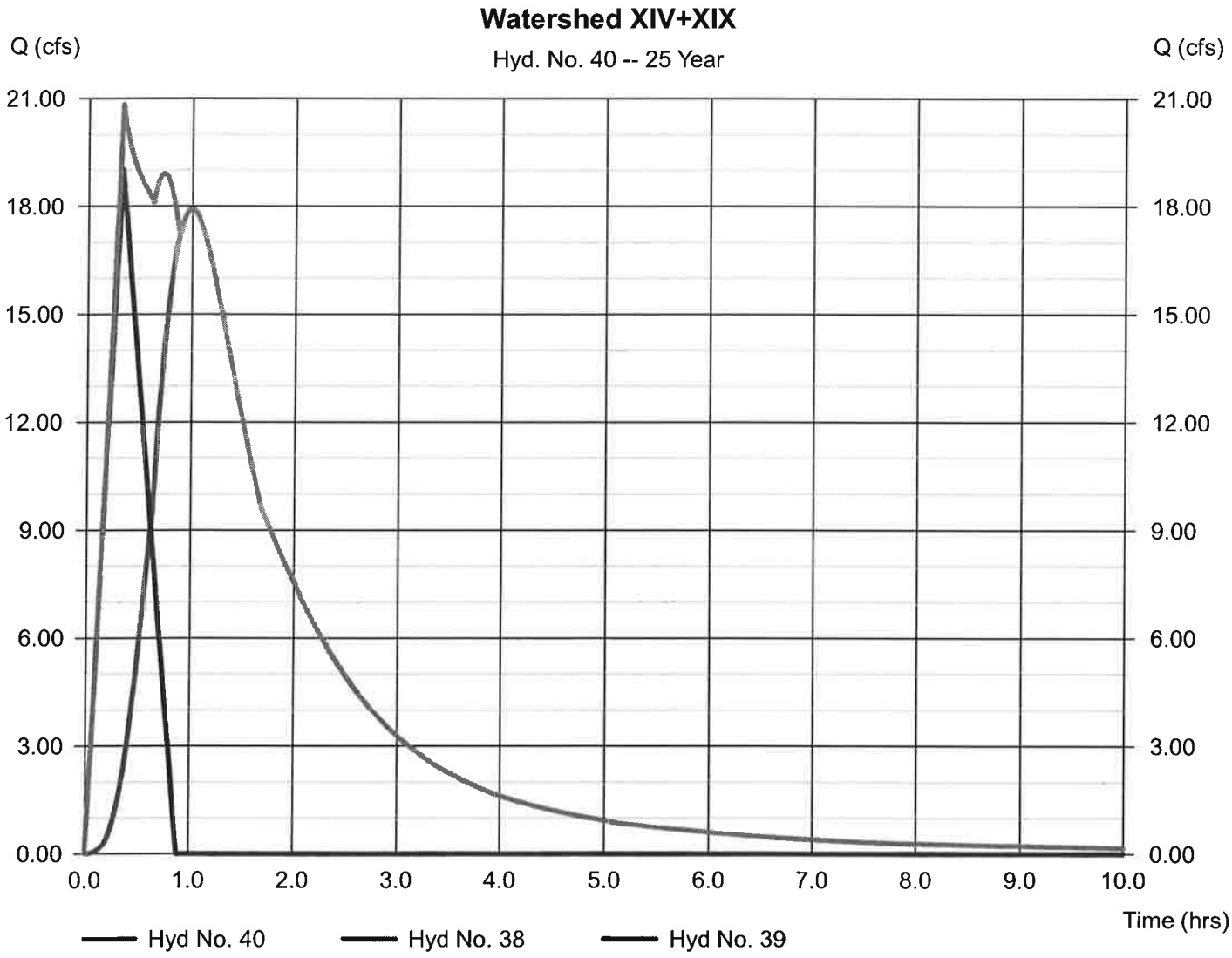
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 40

Watershed XIV+XIX

Hydrograph type	= Combine	Peak discharge	= 20.83 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 141,858 cuft
Inflow hyds.	= 38, 39	Contrib. drain. area	= 15.400 ac



Hydrograph Report

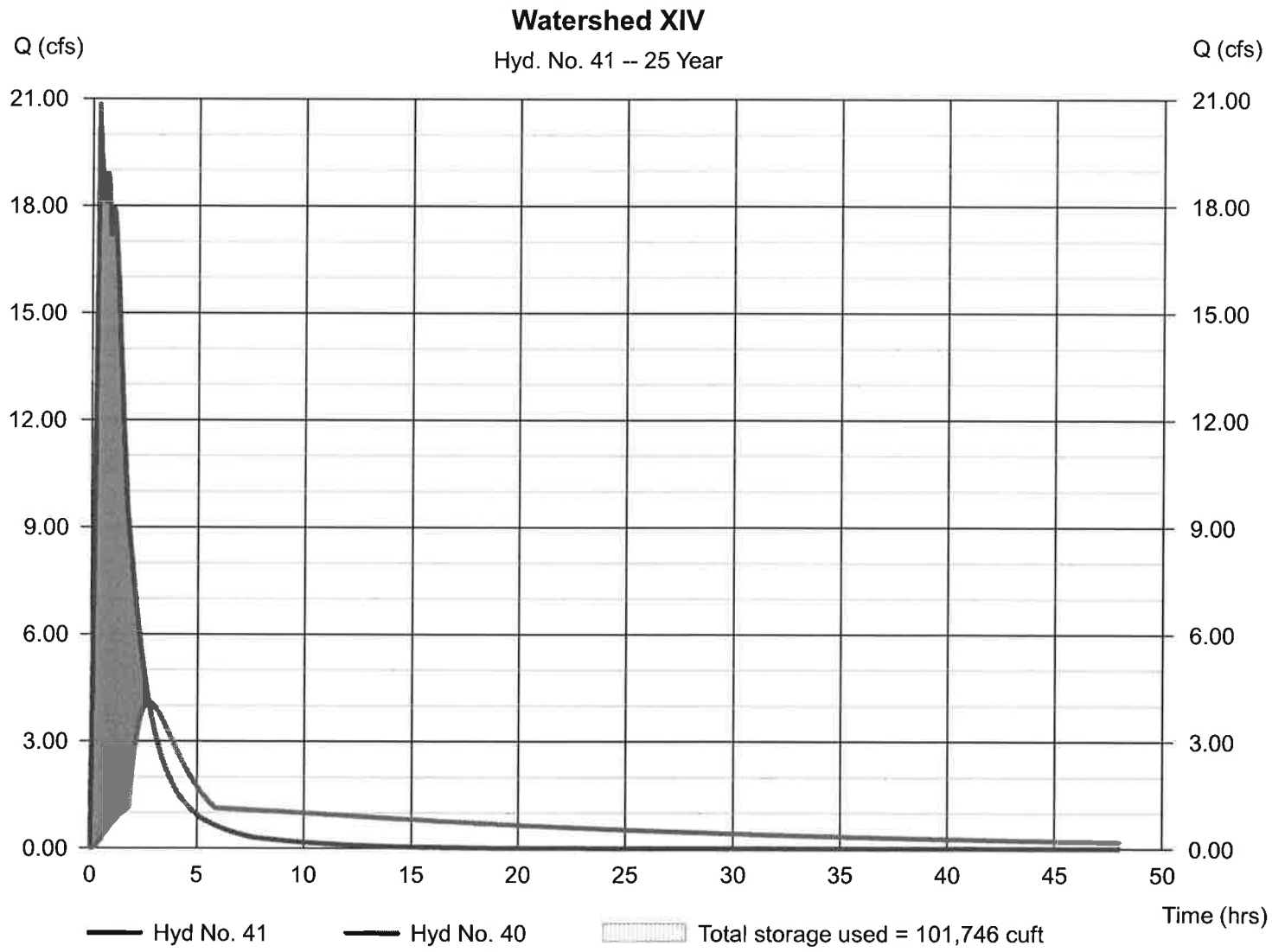
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 41

Watershed XIV

Hydrograph type	= Reservoir	Peak discharge	= 4.079 cfs
Storm frequency	= 25 yrs	Time to peak	= 2.73 hrs
Time interval	= 1 min	Hyd. volume	= 125,499 cuft
Inflow hyd. No.	= 40 - Watershed XIV+XIX	Max. Elevation	= 539.55 ft
Reservoir name	= Watershed XIV	Max. Storage	= 101,746 cuft

Storage Indication method used.



Hydrograph Report

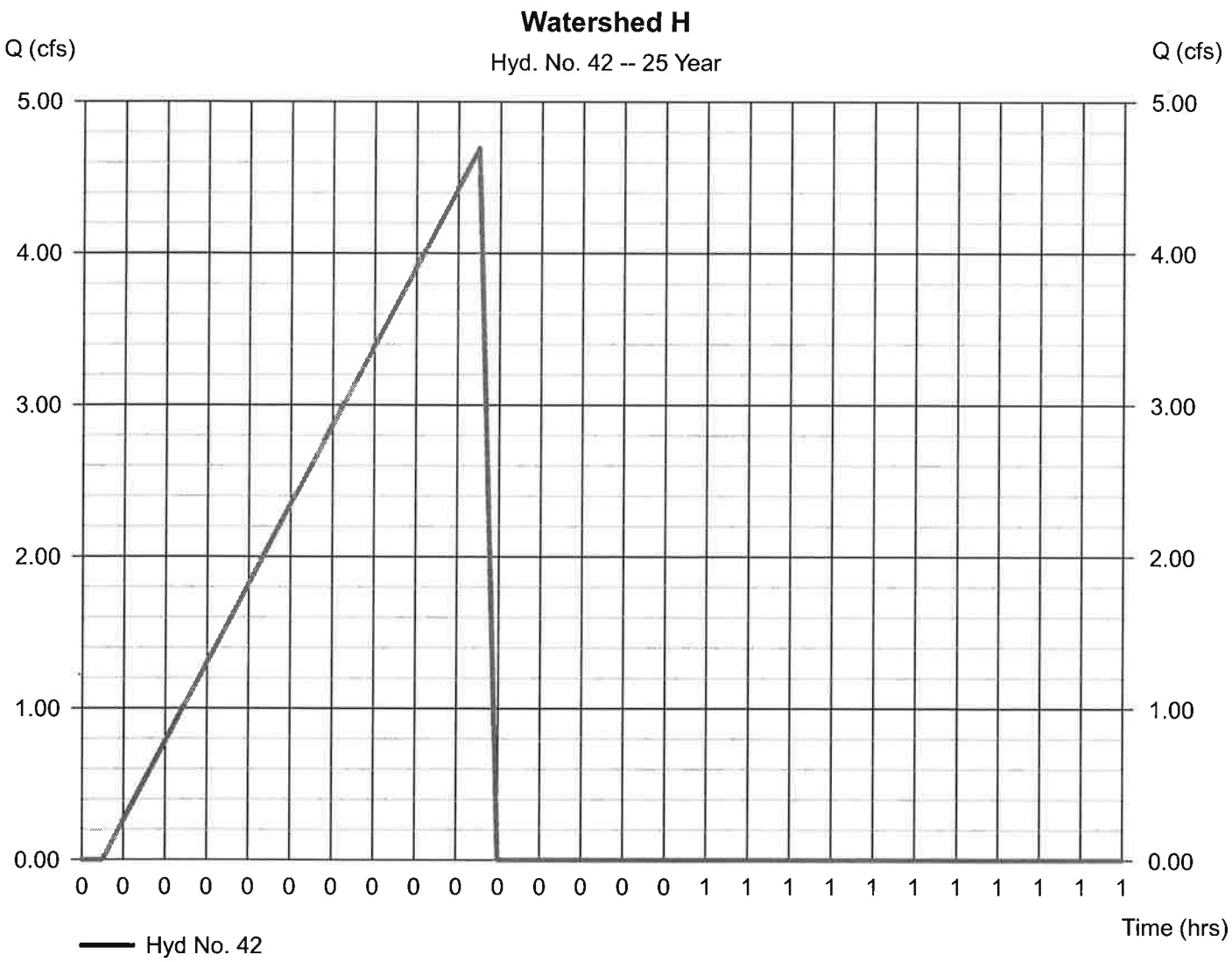
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 42

Watershed H

Hydrograph type	= Rational	Peak discharge	= 4.691 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 7,021 cuft
Drainage area	= 3.800 ac	Runoff coeff.	= 0.29*
Intensity	= 4.257 in/hr	Tc by TR55	= 18.69 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.200 x 0.90) + (0.100 x 0.30) + (2.500 x 0.20) + (0.800 x 0.25) + (0.200 x 1.00)] / 3.800



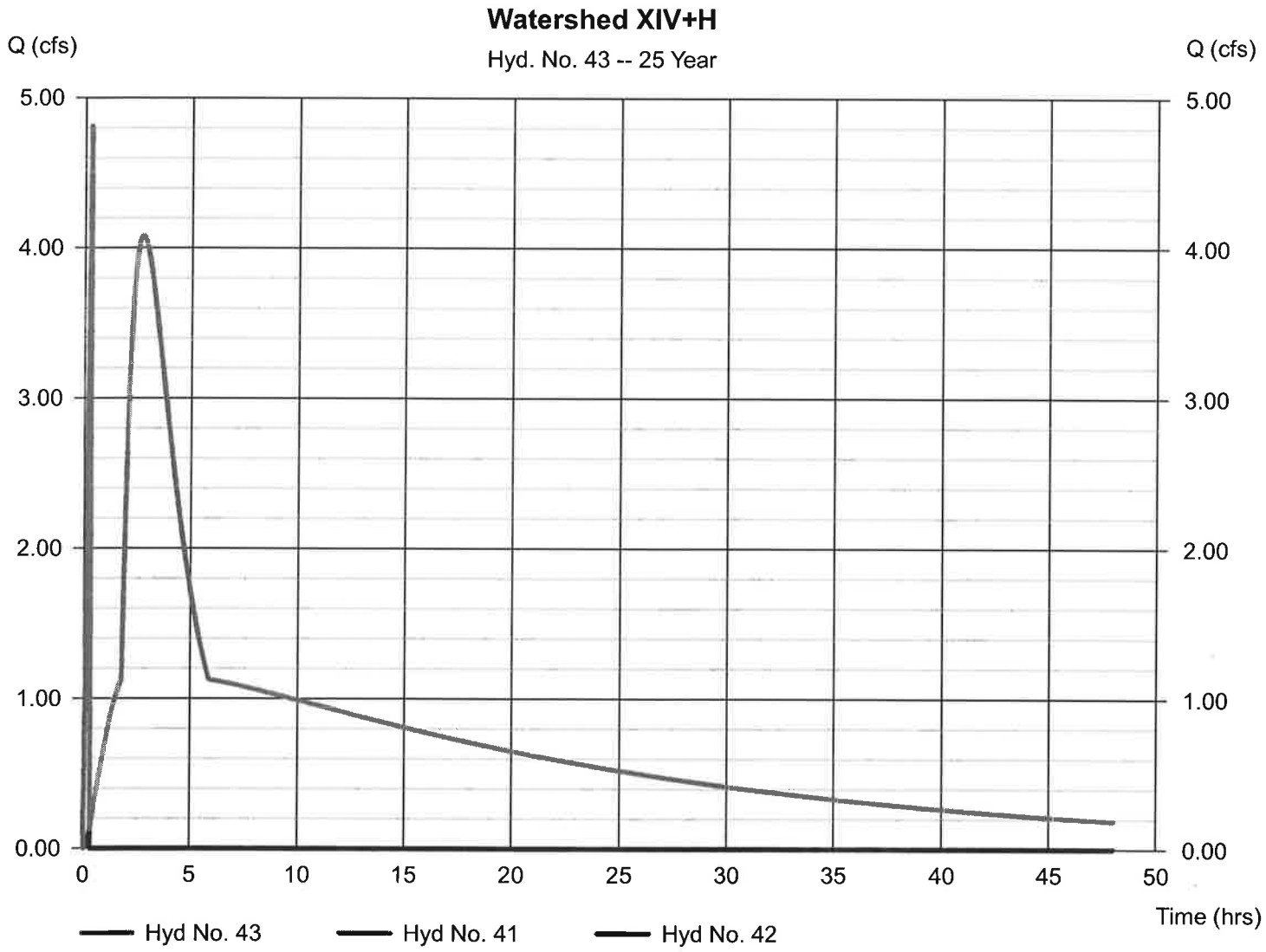
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 43

Watershed XIV+H

Hydrograph type	= Combine	Peak discharge	= 4.810 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 128,172 cuft
Inflow hyds.	= 41, 42	Contrib. drain. area	= 3.800 ac



Hydrograph Report

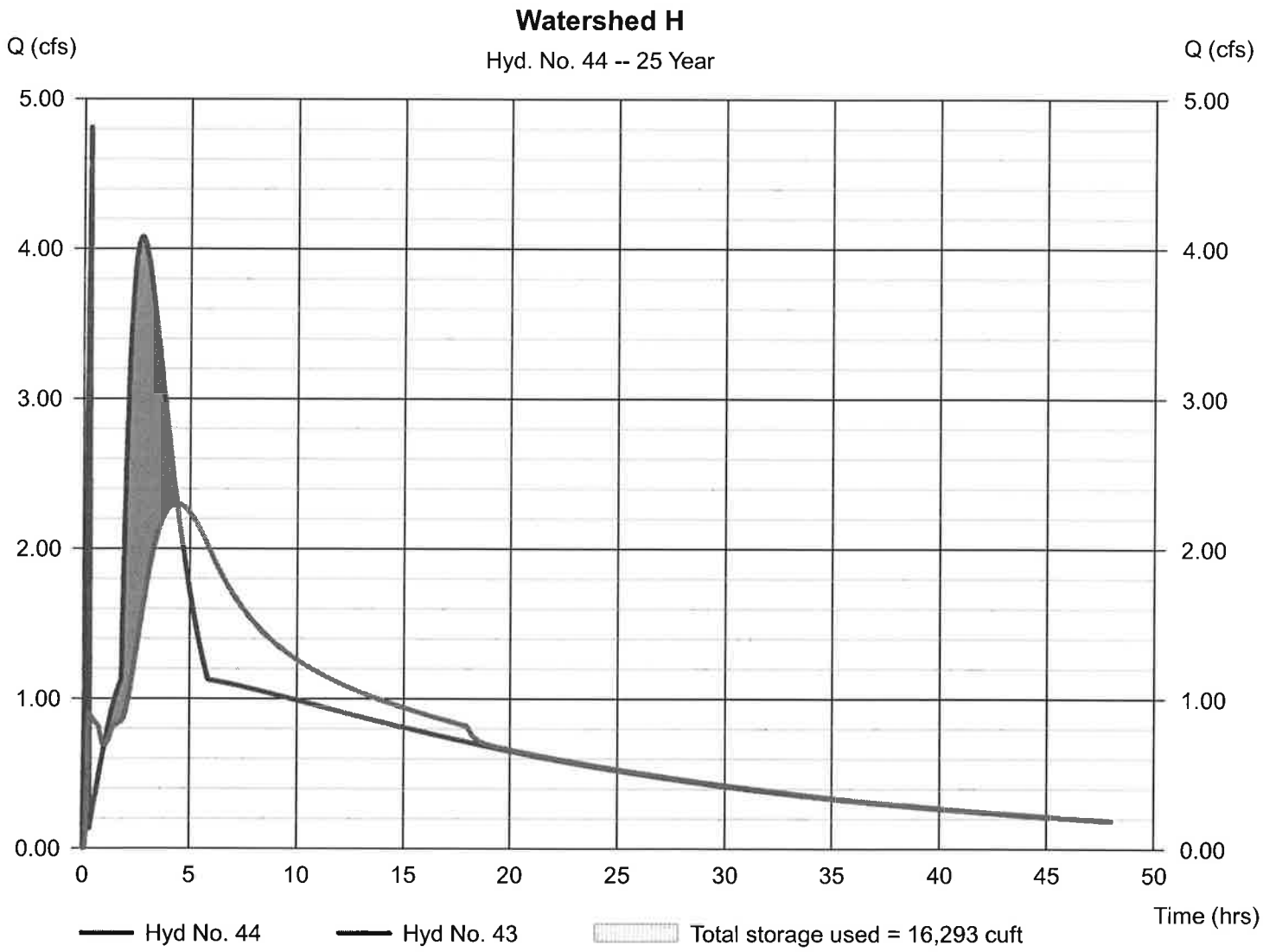
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 44

Watershed H

Hydrograph type	= Reservoir	Peak discharge	= 2.295 cfs
Storm frequency	= 25 yrs	Time to peak	= 4.40 hrs
Time interval	= 1 min	Hyd. volume	= 127,487 cuft
Inflow hyd. No.	= 43 - Watershed XIV+H	Max. Elevation	= 536.47 ft
Reservoir name	= Watershed H	Max. Storage	= 16,293 cuft

Storage Indication method used.



Hydrograph Report

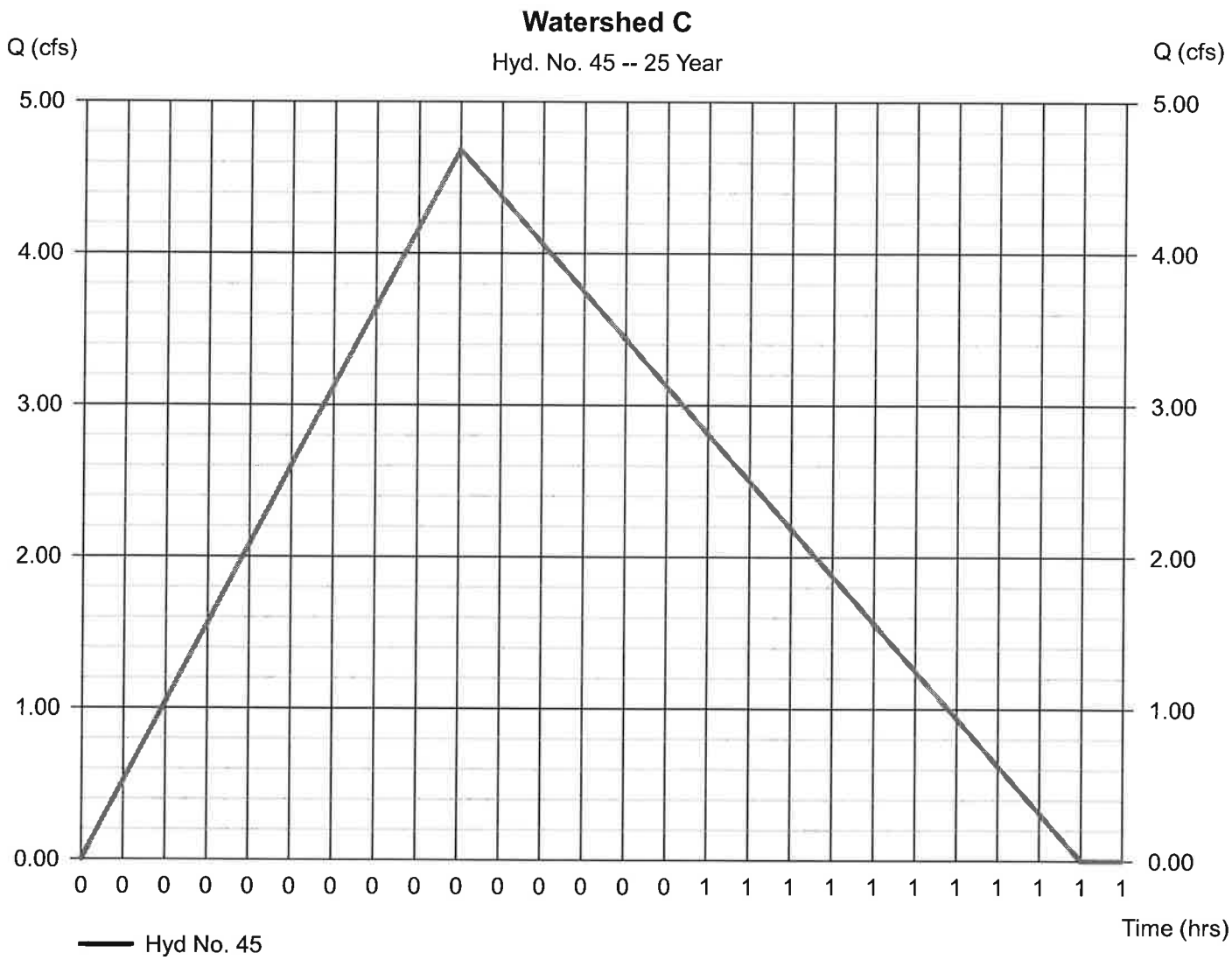
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 45

Watershed C

Hydrograph type	= Rational	Peak discharge	= 4.682 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.30 hrs
Time interval	= 1 min	Hyd. volume	= 6,864 cuft
Drainage area	= 3.300 ac	Runoff coeff.	= 0.33*
Intensity	= 4.300 in/hr	Tc by TR55	= 18.30 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.400 x 0.90) + (1.200 x 0.30) + (1.400 x 0.20) + (0.300 x 0.25)] / 3.300



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

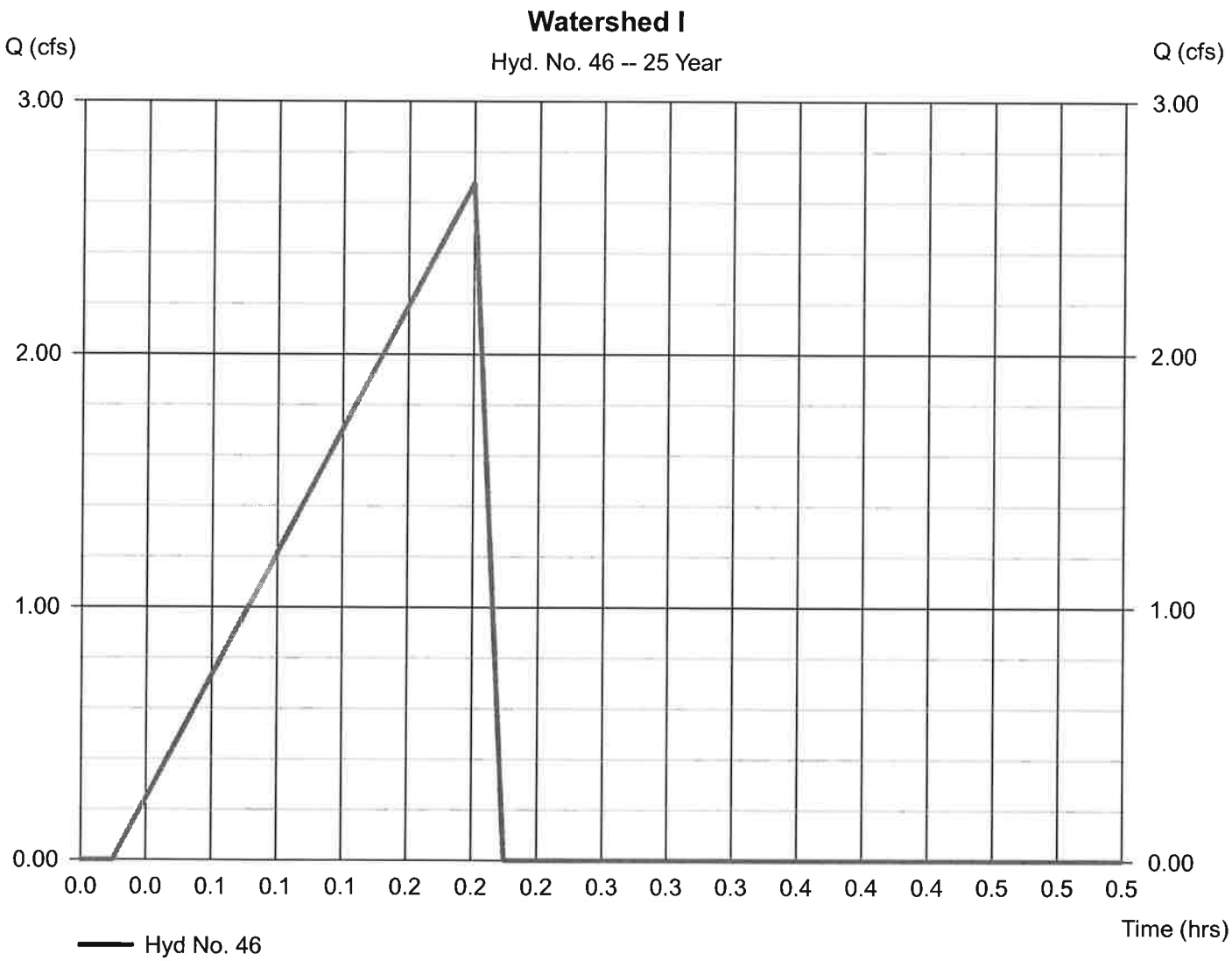
Wednesday, Mar 30, 2016

Hyd. No. 46

Watershed I

Hydrograph type	= Rational	Peak discharge	= 2.674 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 2,470 cuft
Drainage area	= 1.500 ac	Runoff coeff.	= 0.34*
Intensity	= 5.244 in/hr	Tc by TR55	= 11.53 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.200 x 0.90) + (0.700 x 0.30) + (0.600 x 0.20)] / 1.500



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

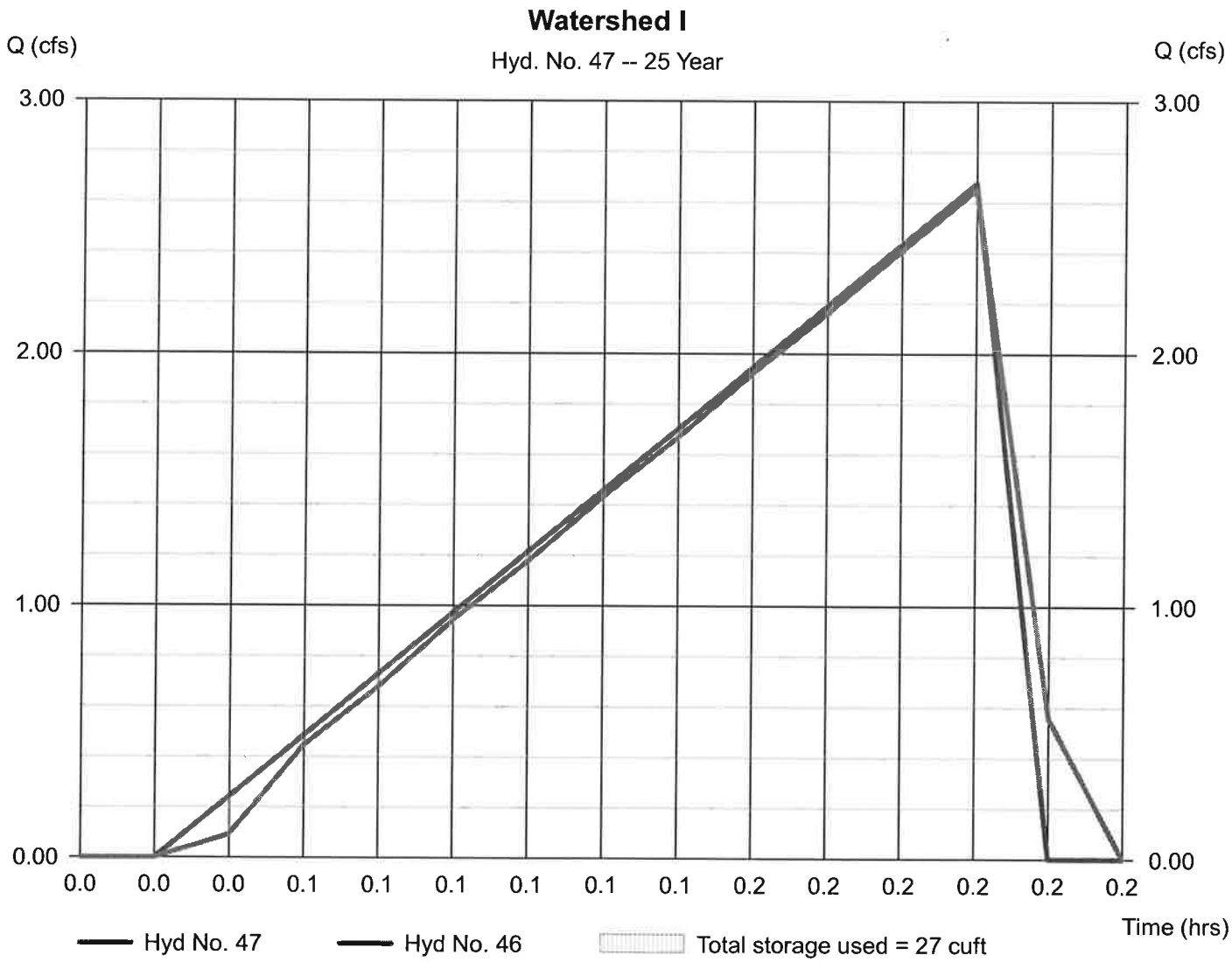
Wednesday, Mar 30, 2016

Hyd. No. 47

Watershed I

Hydrograph type	= Reservoir	Peak discharge	= 2.648 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 968 cuft
Inflow hyd. No.	= 46 - Watershed I	Max. Elevation	= 531.60 ft
Reservoir name	= Watershed I	Max. Storage	= 27 cuft

Storage Indication method used.



Hydrograph Report

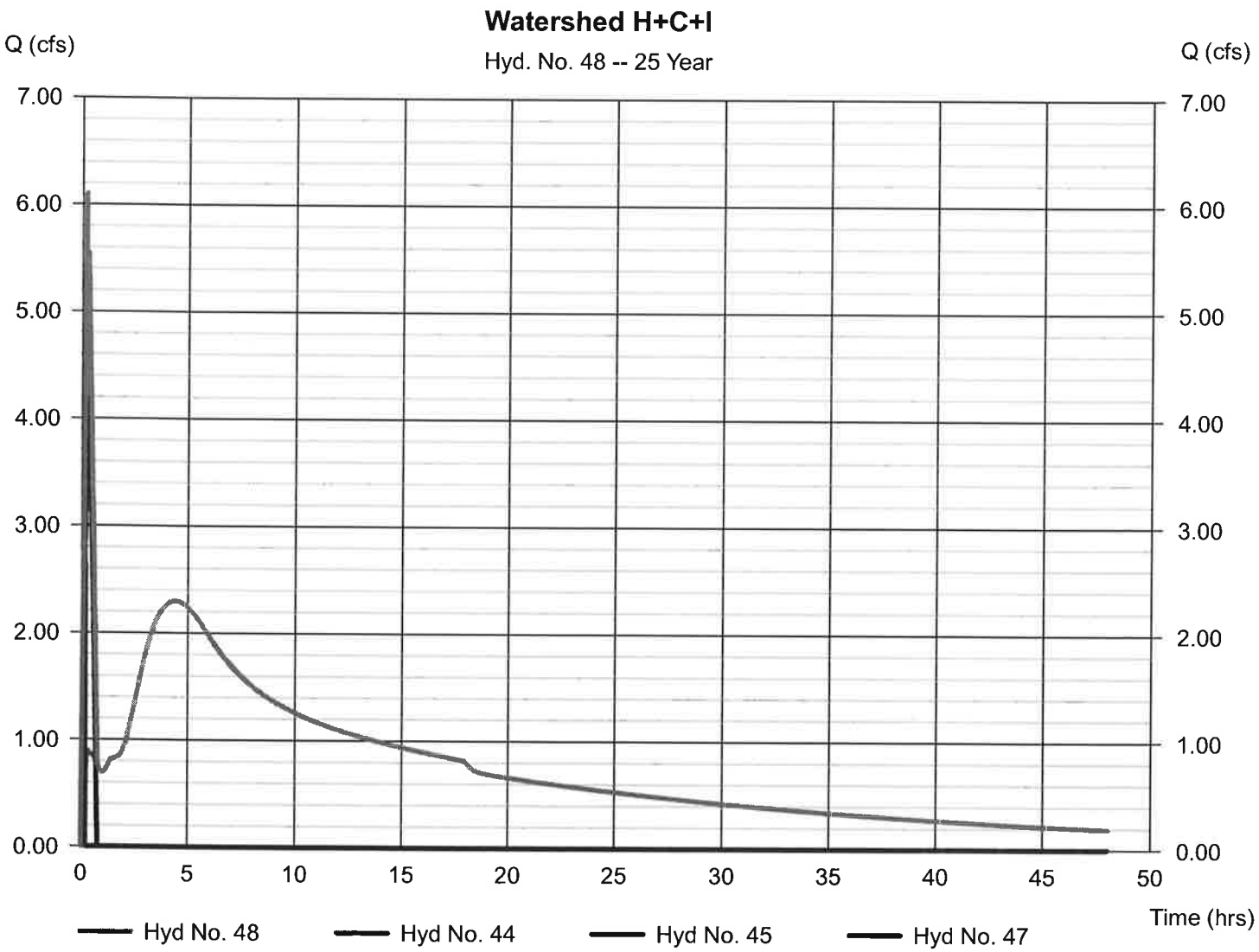
Hydraflow Hydrographs by Intelisolve v9.1

Wednesday, Mar 30, 2016

Hyd. No. 48

Watershed H+C+I

Hydrograph type	= Combine	Peak discharge	= 6.098 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 135,198 cuft
Inflow hyds.	= 44, 45, 47	Contrib. drain. area	= 3.300 ac



Hydrograph Report

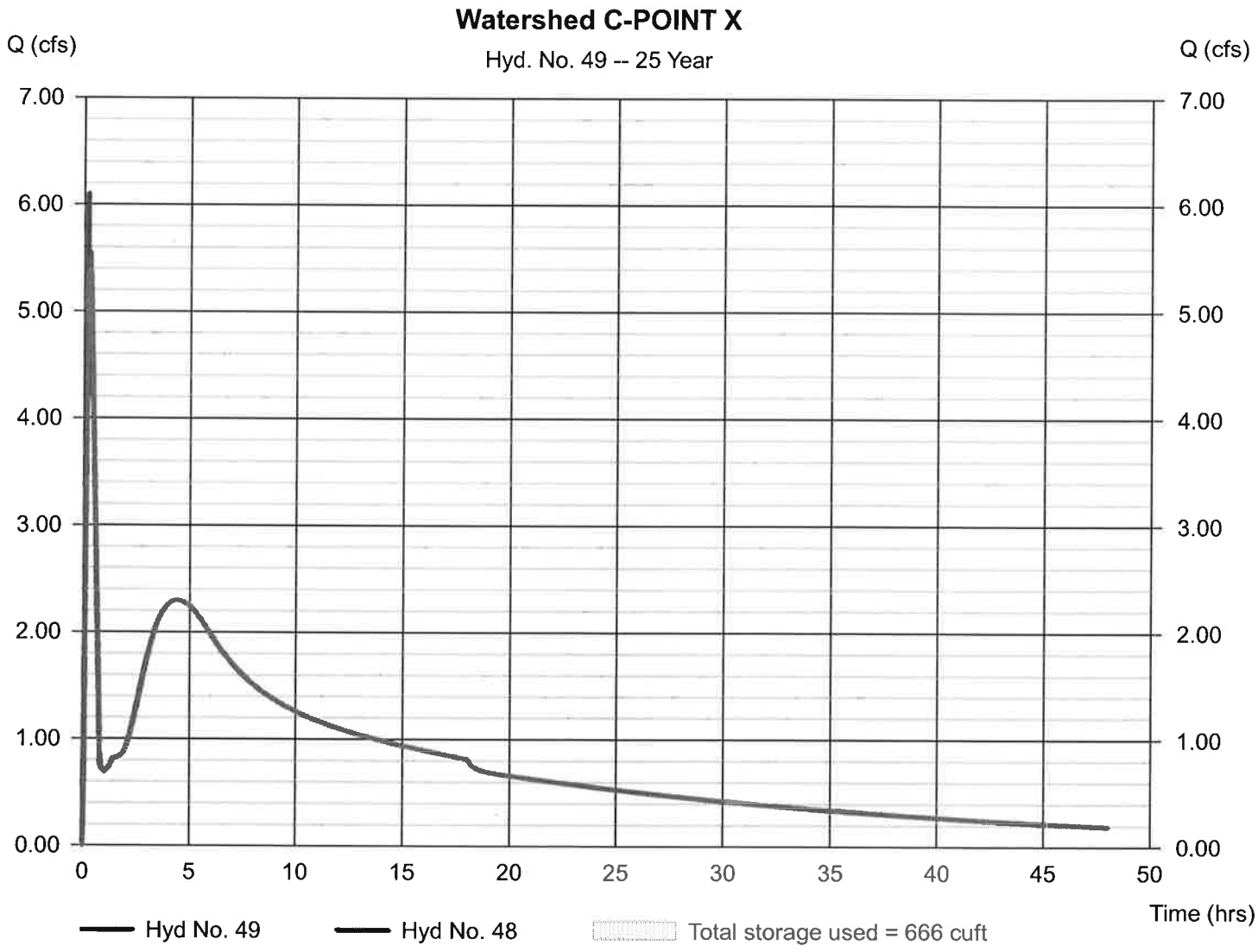
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 49

Watershed C-POINT X

Hydrograph type	= Reservoir	Peak discharge	= 5.386 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 135,131 cuft
Inflow hyd. No.	= 48 - Watershed H+C+I	Max. Elevation	= 529.92 ft
Reservoir name	= Watershed C	Max. Storage	= 666 cuft

Storage Indication method used.



Hydrograph Report

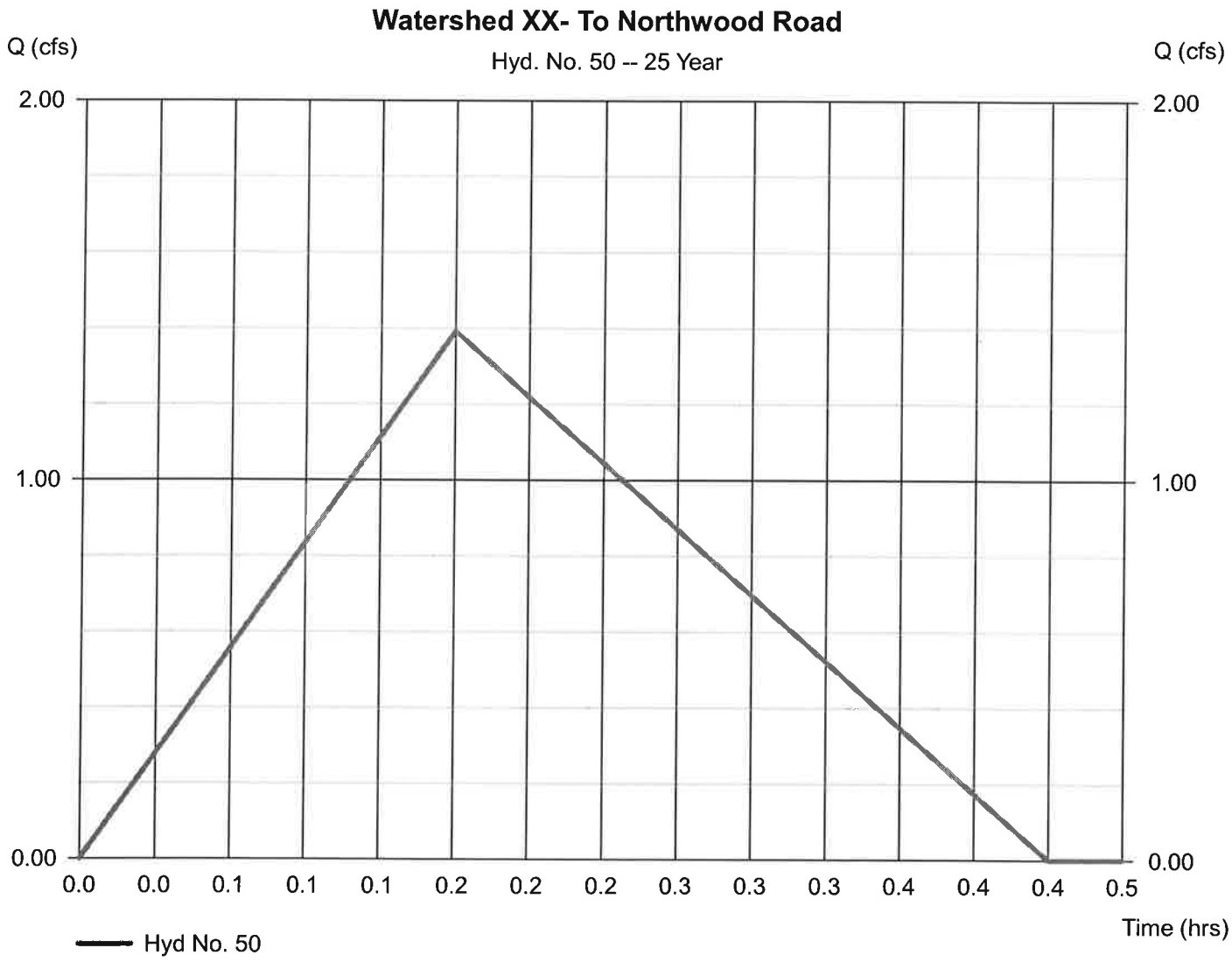
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 50

Watershed XX- To Northwood Road

Hydrograph type	= Rational	Peak discharge	= 1.392 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 1,115 cuft
Drainage area	= 0.720 ac	Runoff coeff.	= 0.35*
Intensity	= 5.522 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.100 x 0.90) + (0.360 x 0.30) + (0.260 x 0.20)] / 0.720



Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.1

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	Rational	9.466	1	17	12,890	----	------	------	Watershed A
2	Reservoir	3.353	1	35	12,757	1	566.26	8,123	Watershed A
3	Rational	7.054	1	14	7,653	----	------	------	Watershed B
4	Reservoir	1.698	1	31	7,395	3	567.07	5,814	Watershed B
5	Rational	4.043	1	21	6,735	----	------	------	Watershed I(1)
6	Rational	5.482	1	19	8,369	----	------	------	Wateshed II
7	Rational	7.327	1	10	5,869	----	------	------	Watershed IIA
8	Reservoir	1.459	1	23	5,709	7	563.13	4,331	Wateshed IIA
9	Rational	5.376	1	13	5,598	----	------	------	Watershed VIII
10	Rational	8.635	1	10	6,917	----	------	------	Watershed VIIIA
11	Reservoir	1.418	1	23	6,728	10	560.00	5,370	Watershed VIIIA
12	Rational	0.016	1	10	13	----	------	------	Watershed IX
13	Rational	3.201	1	10	2,564	----	------	------	Watershed IXA
14	Reservoir	1.430	1	19	2,495	13	554.71	1,206	Watershed IXA
15	Combine	12.02	1	21	27,209	5, 6, 8, 11,	------	------	Combine
16	Combine	17.18	1	19	35,200	9, 12, 14, 15	------	------	Watershed-Point Y
17	Rational	7.307	1	15	8,780	----	------	------	Watershed III
18	Rational	2.328	1	10	1,865	----	------	------	Watershed IV
19	Rational	10.78	1	10	8,631	----	------	------	Watershed IVA
20	Reservoir	3.682	1	21	1,590	19	553.87	7,308	Watershed IVA
21	Combine	12.03	1	20	23,116	2, 17, 20	------	------	Watershed A+III+VI
22	Rational	4.155	1	10	3,328	----	------	------	Watershed VI
23	Rational	5.674	1	10	4,545	----	------	------	Watershed VIA
24	Reservoir	1.449	1	22	4,421	23	551.10	3,066	Watershed VIA
25	Rational	18.35	1	10	14,696	----	------	------	Watershed VIIA
26	Reservoir	6.050	1	21	14,300	25	547.83	10,887	Watershed VIIA
27	Rational	1.804	1	10	1,445	----	------	------	Watershed X
28	Rational	34.66	1	23	63,849	----	------	------	Watershed V
29	Rational	3.020	1	10	2,419	----	------	------	Watershed XA
30	Reservoir	1.745	1	17	2,354	29	558.55	961	Watershed XA
31	Rational	0.418	1	10	335	----	------	------	Watershed VII
32	Combine	48.30	1	23	93,315	21, 24, 28, 30,	------	------	Combine
33	Reservoir	26.20	1	38	93,308	32	544.39	42,788	Watershed V

Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.1

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
34	Rational	5.998	1	22	10,794	----	------	------	Watershed XII
35	Reservoir	0.007	1	59	1,167	34	546.31	10,597	Watershed XII
36	Rational	8.472	1	14	9,501	----	------	------	Watershed XIX
37	Combine	30.63	1	34	124,406	4, 26, 33, 36	------	------	Watershed B+X+XI+XIX
38	Reservoir	20.92	1	57	124,396	37	542.16	43,855	Watershed XIX-POINT Z
39	Rational	21.13	1	20	33,845	----	------	------	Watershed XIV
40	Combine	23.33	1	20	157,988	38, 39	------	------	Watershed XIV+XIX
41	Reservoir	5.719	1	143	141,568	40	539.63	107,377	Watershed XIV
42	Rational	5.204	1	19	7,789	----	------	------	Watershed H
43	Combine	5.719	1	143	144,535	41, 42	------	------	Watershed XIV+H
44	Reservoir	2.988	1	248	143,848	43	536.73	24,391	Watershed H
45	Rational	5.193	1	18	7,612	----	------	------	Watershed C
46	Rational	2.942	1	12	2,717	----	------	------	Watershed I
47	Reservoir	2.913	1	12	1,065	46	531.65	29.1	Watershed I
48	Combine	6.771	1	12	152,391	44, 45, 47	------	------	Watershed H+C+I
49	Reservoir	5.990	1	12	152,324	48	529.99	707	Watershed C-POINT X
50	Rational	1.528	1	10	1,224	----	------	------	Watershed XX- To Northwood Roa

Hydrograph Report

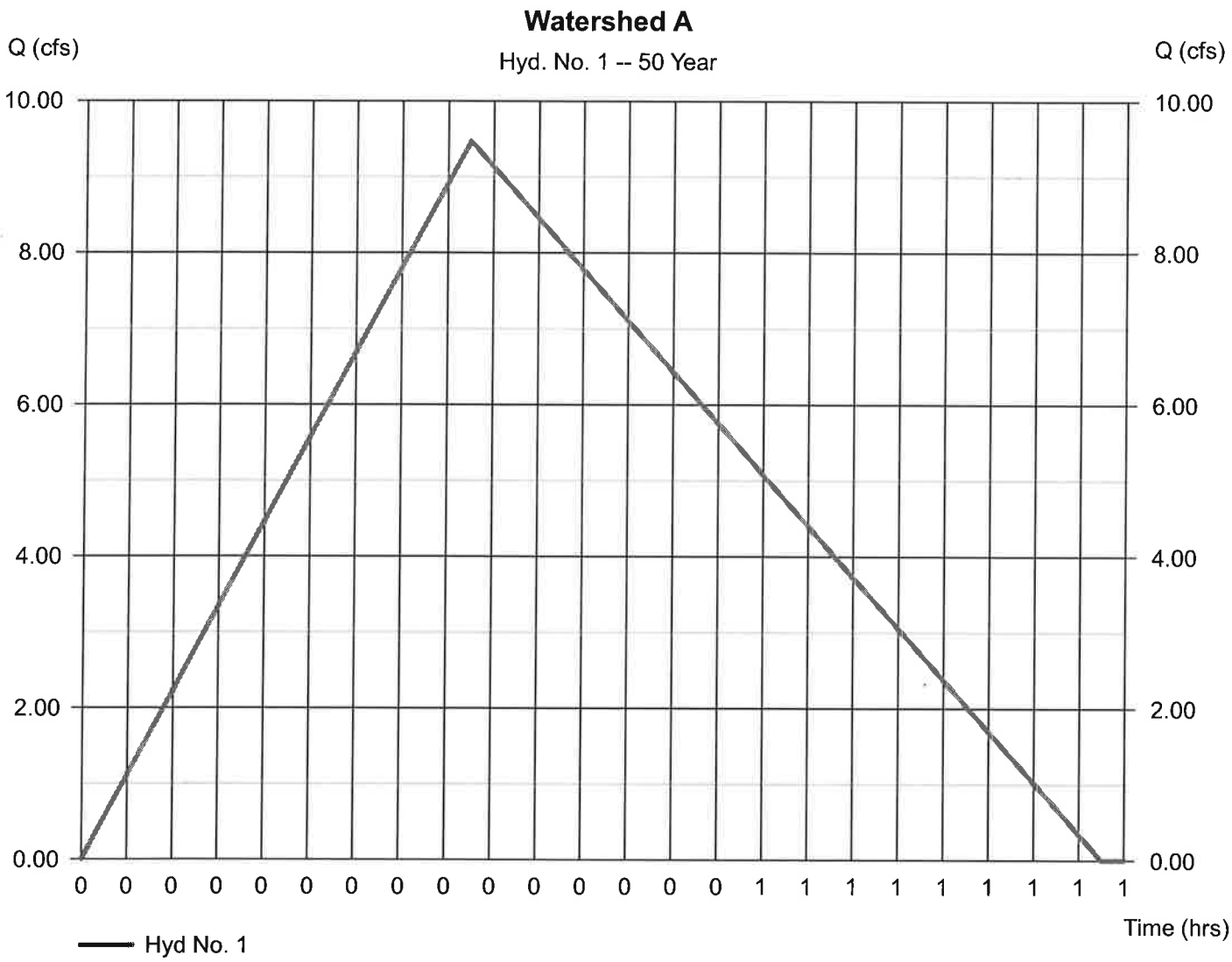
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 1

Watershed A

Hydrograph type	= Rational	Peak discharge	= 9.466 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.28 hrs
Time interval	= 1 min	Hyd. volume	= 12,890 cuft
Drainage area	= 8.000 ac	Runoff coeff.	= 0.24*
Intensity	= 4.930 in/hr	Tc by TR55	= 17.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.400 x 0.90) + (0.500 x 0.30) + (7.100 x 0.20)] / 8.000



Hydrograph Report

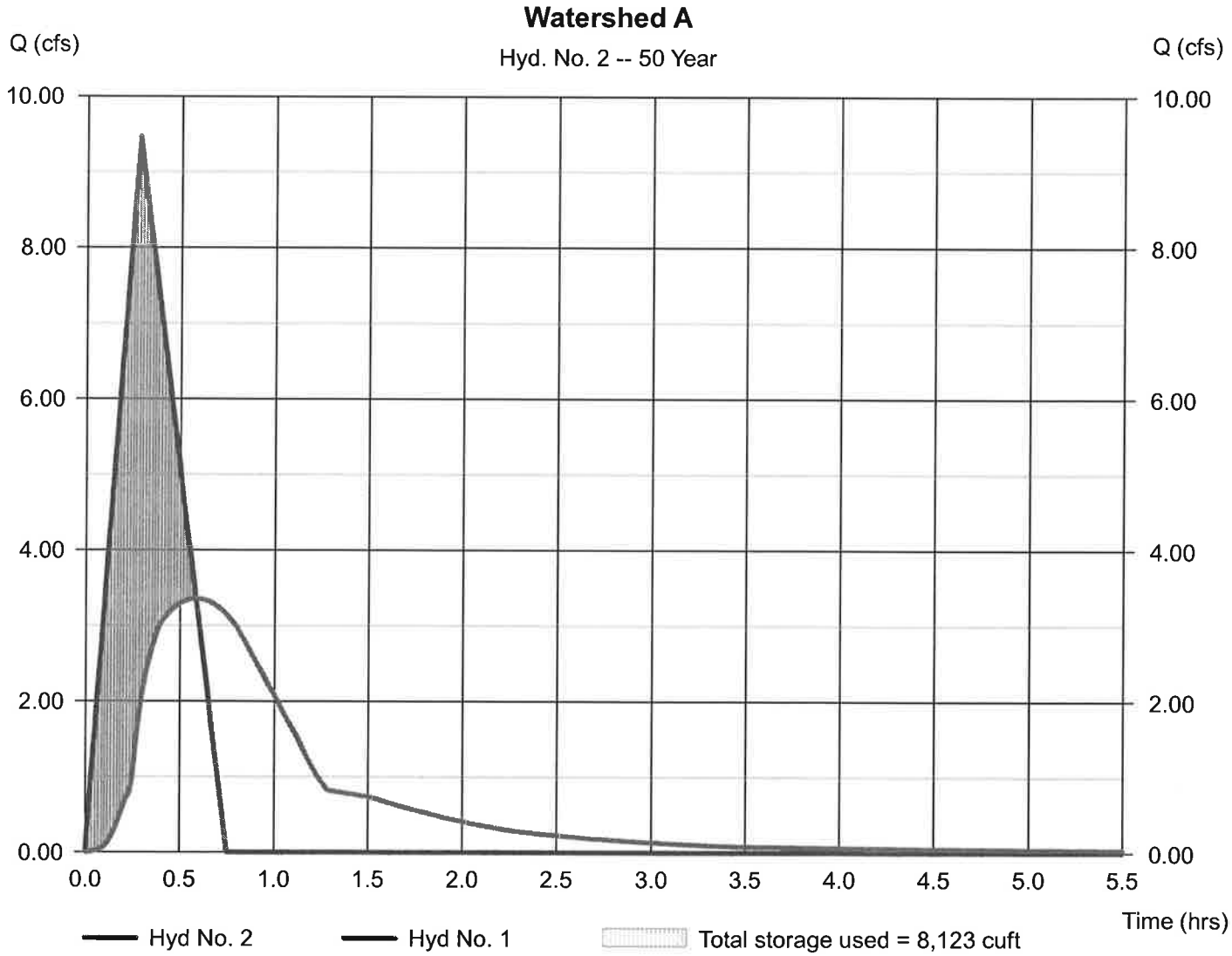
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 2

Watershed A

Hydrograph type	= Reservoir	Peak discharge	= 3.353 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.58 hrs
Time interval	= 1 min	Hyd. volume	= 12,757 cuft
Inflow hyd. No.	= 1 - Watershed A	Max. Elevation	= 566.26 ft
Reservoir name	= Watershed A	Max. Storage	= 8,123 cuft

Storage Indication method used.



Hydrograph Report

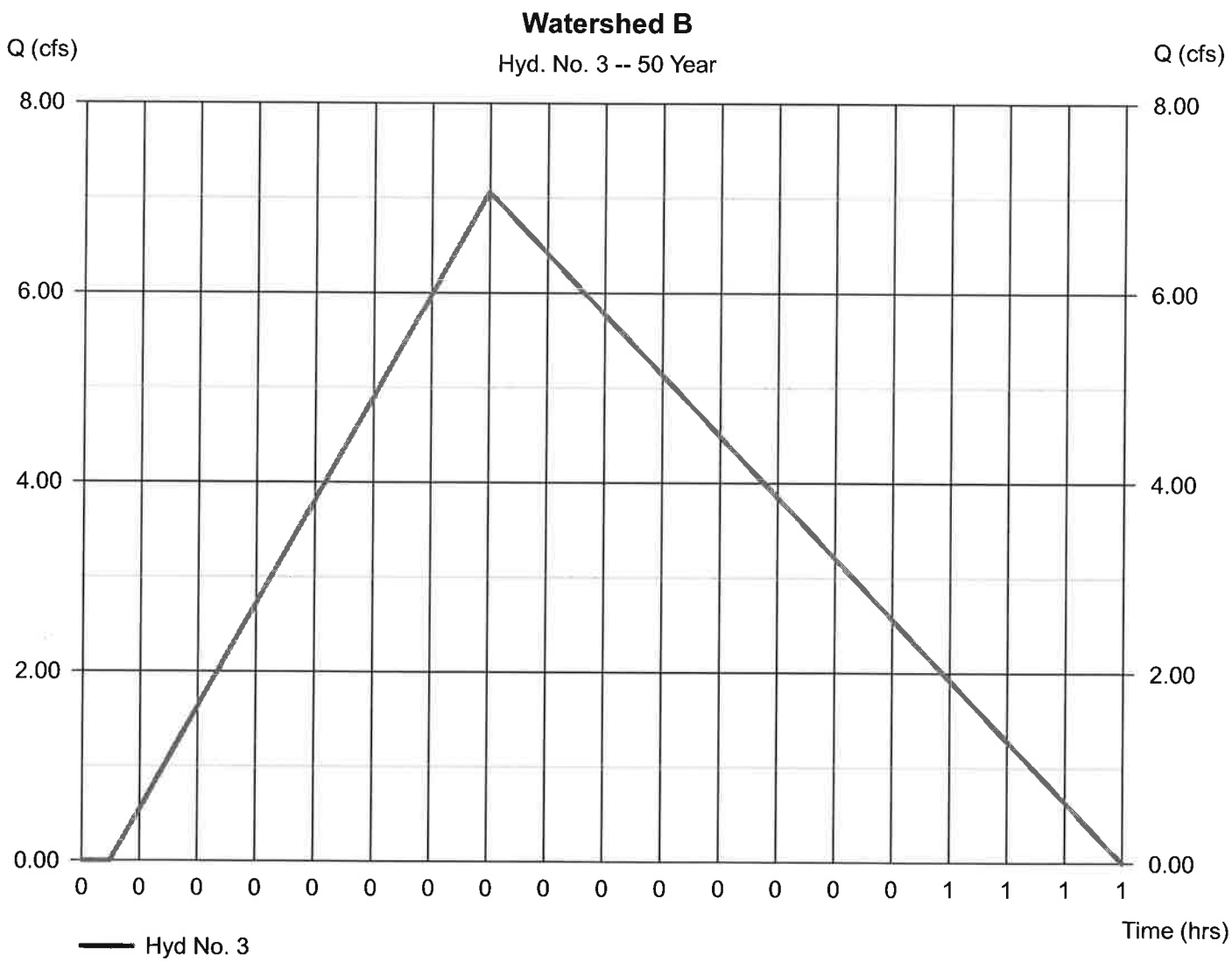
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 3

Watershed B

Hydrograph type	= Rational	Peak discharge	= 7.054 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.23 hrs
Time interval	= 1 min	Hyd. volume	= 7,653 cuft
Drainage area	= 5.200 ac	Runoff coeff.	= 0.25*
Intensity	= 5.426 in/hr	Tc by TR55	= 13.54 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.300 x 0.90) + (0.500 x 0.30) + (4.400 x 0.20)] / 5.200



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

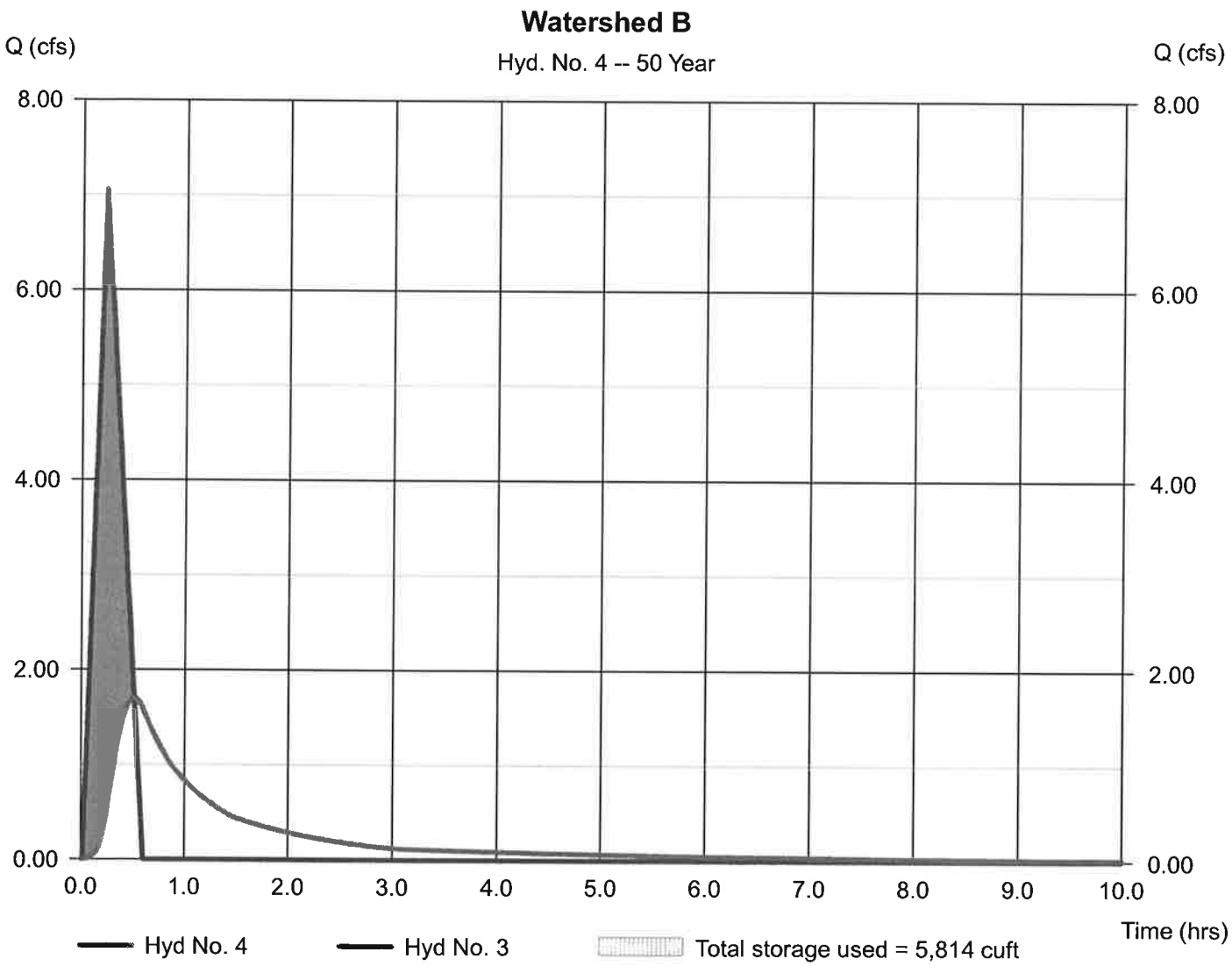
Wednesday, Mar 30, 2016

Hyd. No. 4

Watershed B

Hydrograph type	= Reservoir	Peak discharge	= 1.698 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.52 hrs
Time interval	= 1 min	Hyd. volume	= 7,395 cuft
Inflow hyd. No.	= 3 - Watershed B	Max. Elevation	= 567.07 ft
Reservoir name	= Watershed B	Max. Storage	= 5,814 cuft

Storage Indication method used.



Hydrograph Report

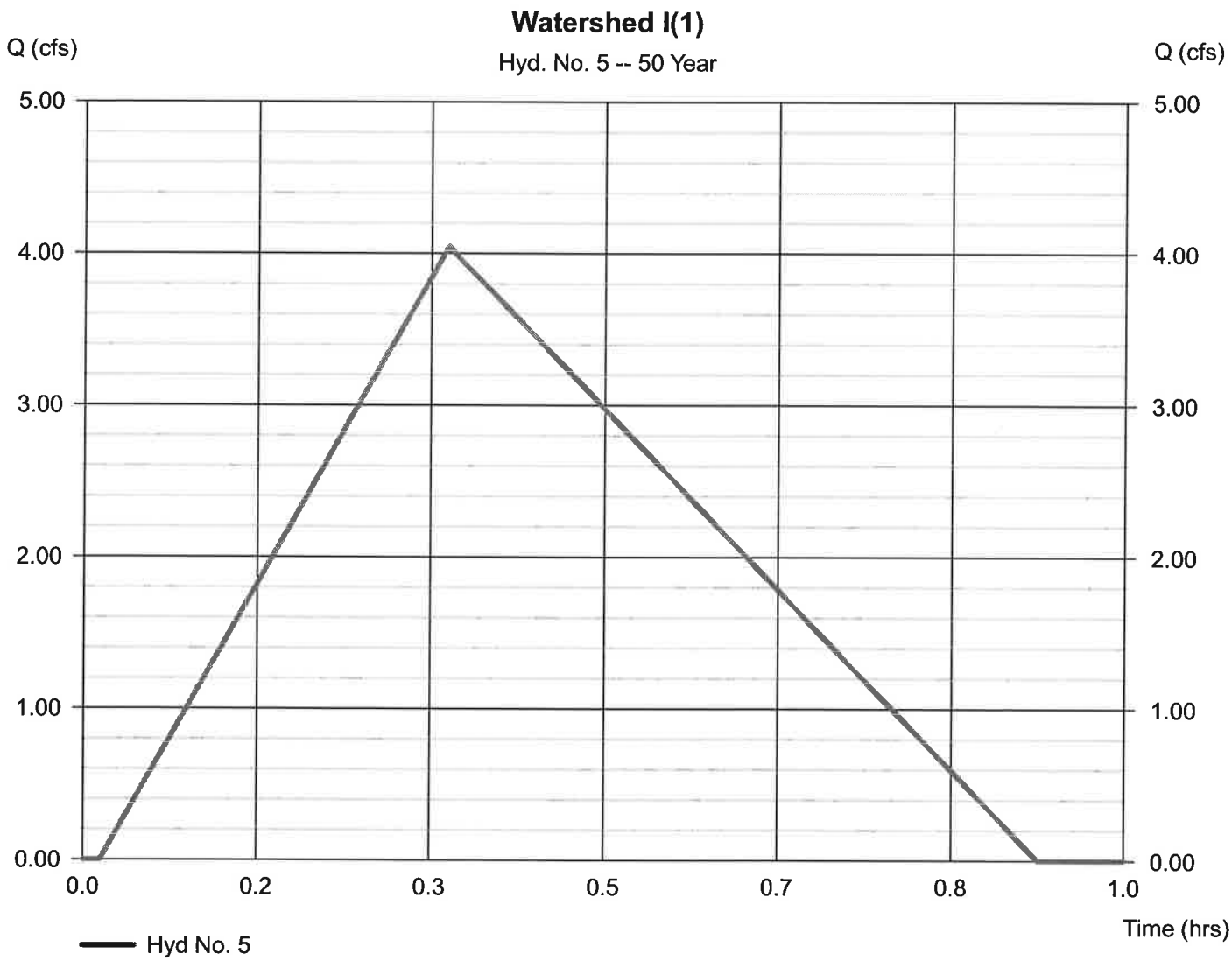
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 5

Watershed I(1)

Hydrograph type	= Rational	Peak discharge	= 4.043 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.35 hrs
Time interval	= 1 min	Hyd. volume	= 6,735 cuft
Drainage area	= 1.700 ac	Runoff coeff.	= 0.53*
Intensity	= 4.487 in/hr	Tc by TR55	= 20.80 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.700 x 0.90) + (0.700 x 0.30) + (0.300 x 0.20)] / 1.700



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

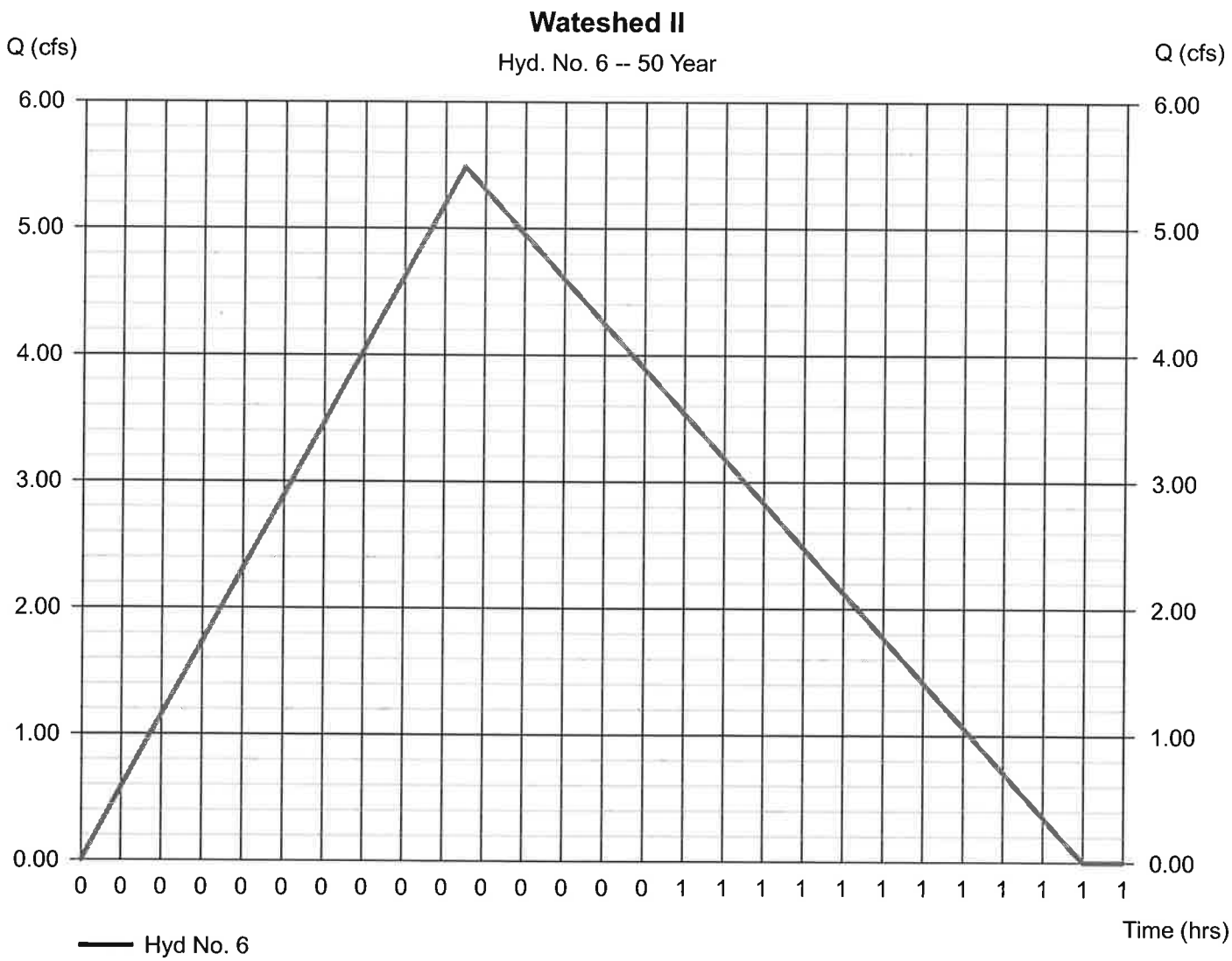
Wednesday, Mar 30, 2016

Hyd. No. 6

Wateshed II

Hydrograph type	= Rational	Peak discharge	= 5.482 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 8,369 cuft
Drainage area	= 4.040 ac	Runoff coeff.	= 0.29*
Intensity	= 4.679 in/hr	Tc by TR55	= 19.06 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.230 x 0.90) + (1.940 x 0.30) + (1.870 x 0.20)] / 4.040



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

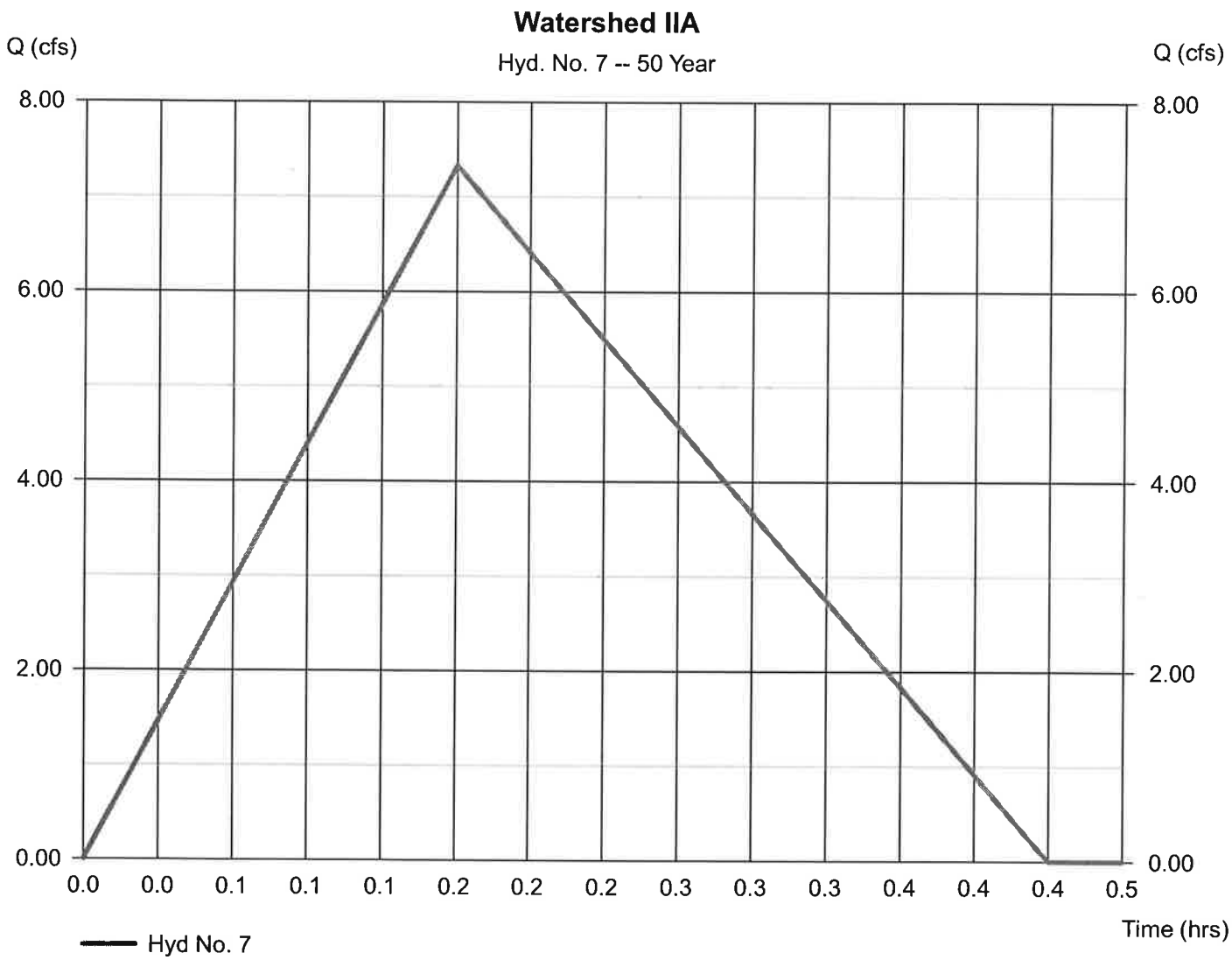
Wednesday, Mar 30, 2016

Hyd. No. 7

Watershed IIA

Hydrograph type	=	Rational	Peak discharge	=	7.327 cfs
Storm frequency	=	50 yrs	Time to peak	=	0.17 hrs
Time interval	=	1 min	Hyd. volume	=	5,869 cuft
Drainage area	=	1.530 ac	Runoff coeff.	=	0.79*
Intensity	=	6.062 in/hr	Tc by User	=	10.00 min
IDF Curve	=	Connecticut.IDF	Asc/Rec limb fact	=	1/1.67

* Composite (Area/C) = [(1.250 x 0.90) + (0.280 x 0.30)] / 1.530



Hydrograph Report

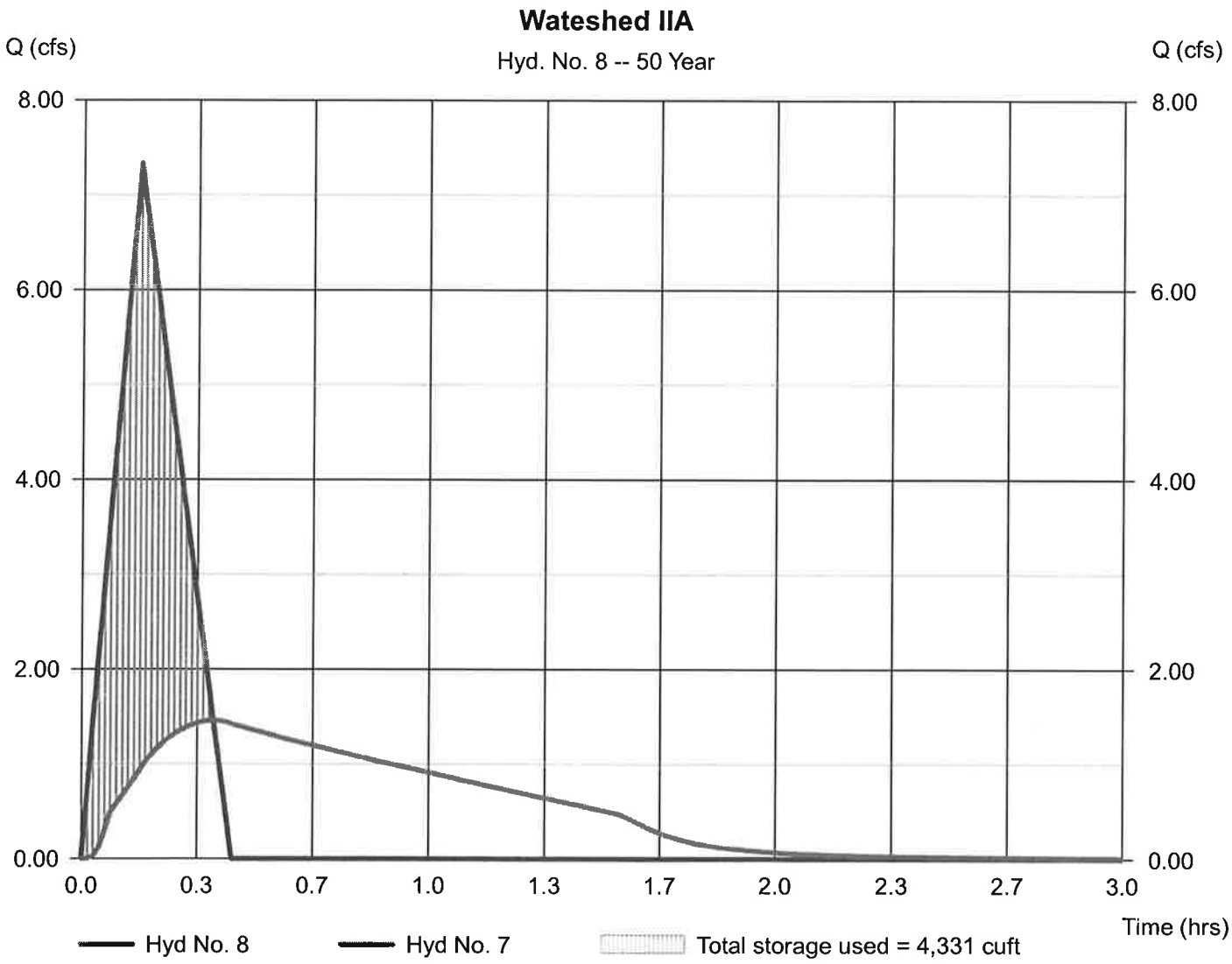
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 8

Wateshed IIA

Hydrograph type	= Reservoir	Peak discharge	= 1.459 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.38 hrs
Time interval	= 1 min	Hyd. volume	= 5,709 cuft
Inflow hyd. No.	= 7 - Watershed IIA	Max. Elevation	= 563.13 ft
Reservoir name	= Watershed IIA	Max. Storage	= 4,331 cuft

Storage Indication method used.



Hydrograph Report

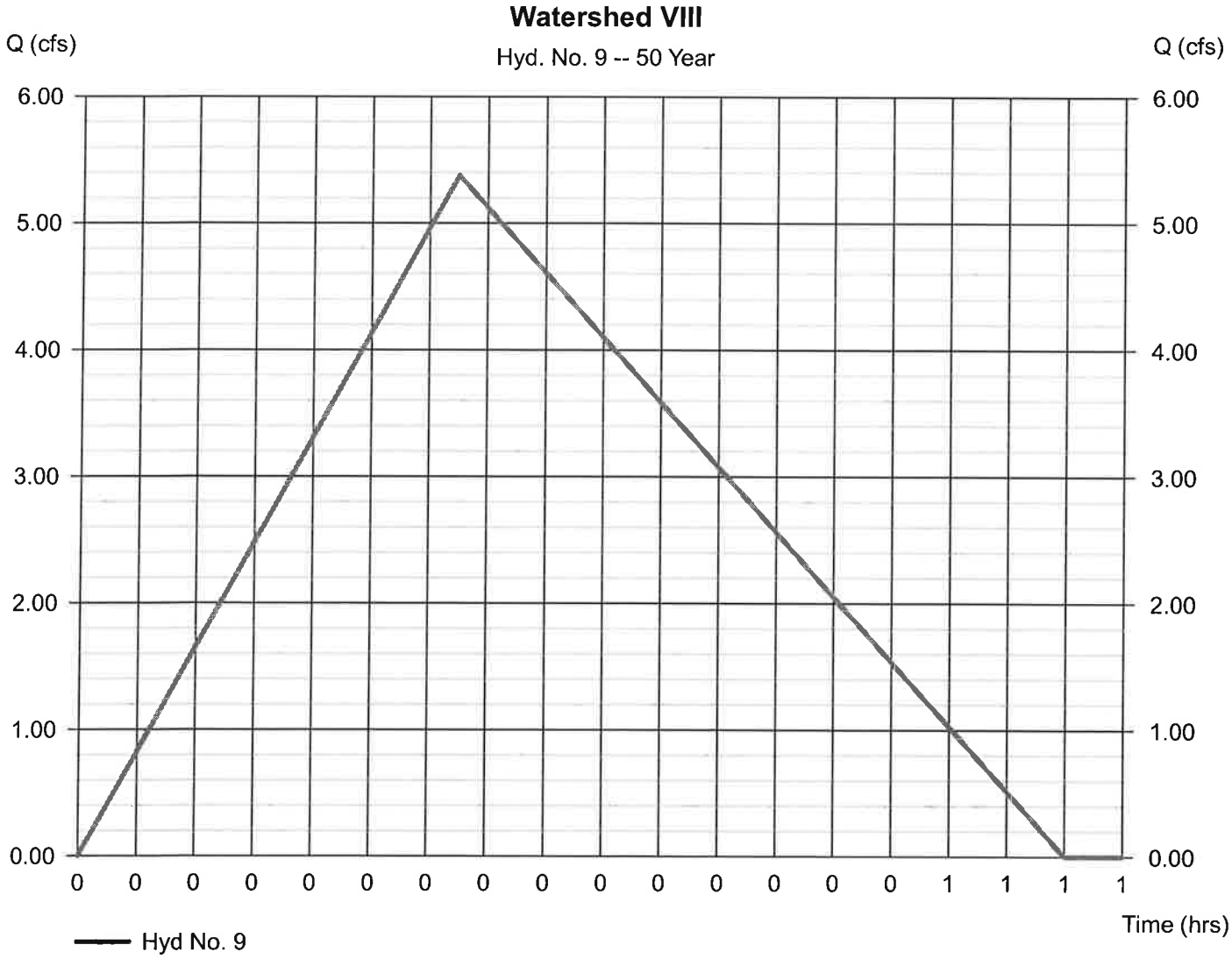
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 9

Watershed VIII

Hydrograph type	= Rational	Peak discharge	= 5.376 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.22 hrs
Time interval	= 1 min	Hyd. volume	= 5,598 cuft
Drainage area	= 3.250 ac	Runoff coeff.	= 0.3*
Intensity	= 5.514 in/hr	Tc by TR55	= 13.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.320 x 0.90) + (1.120 x 0.30) + (1.810 x 0.20)] / 3.250



Hydrograph Report

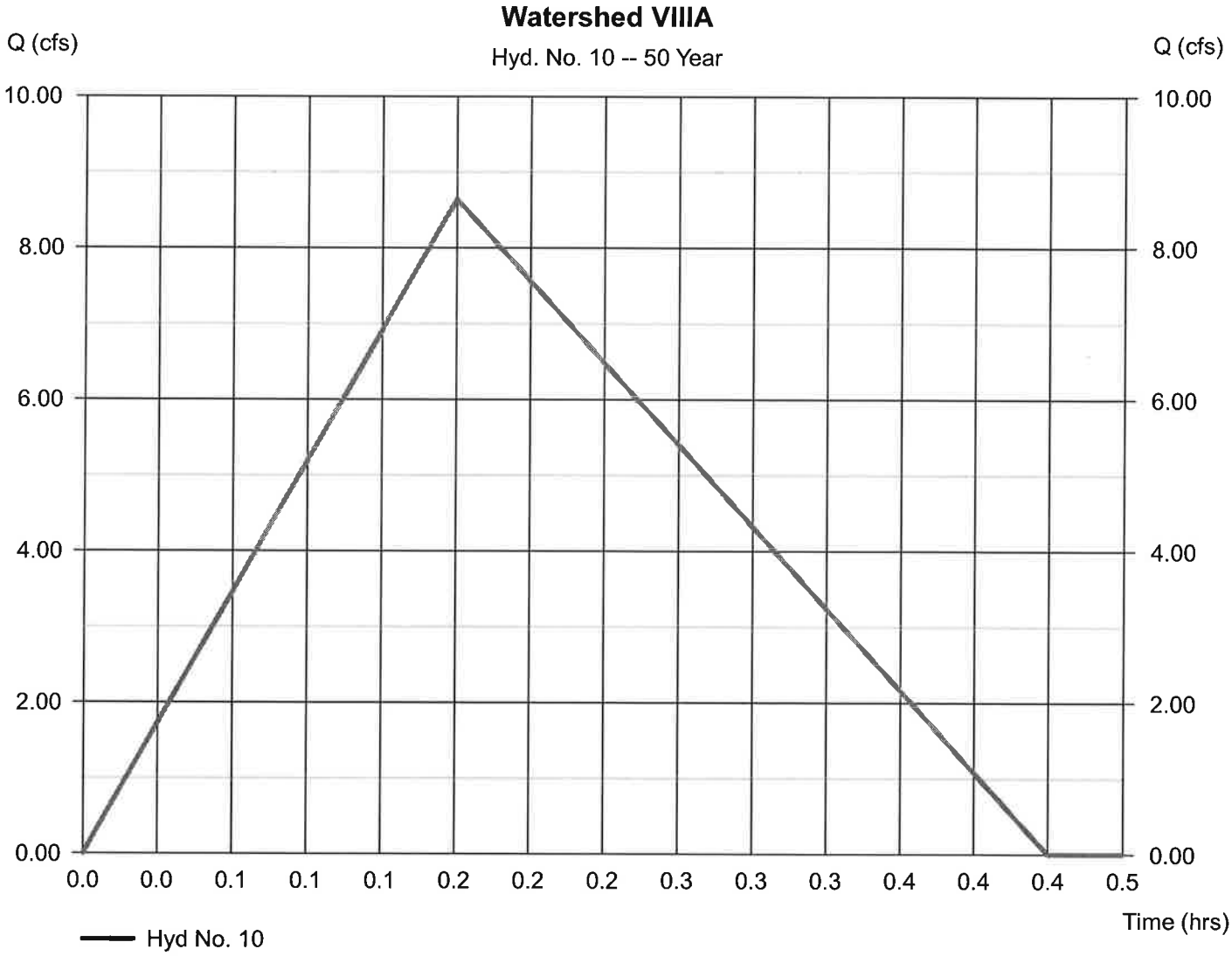
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 10

Watershed VIIIA

Hydrograph type	= Rational	Peak discharge	= 8.635 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 6,917 cuft
Drainage area	= 1.850 ac	Runoff coeff.	= 0.77*
Intensity	= 6.062 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.460 x 0.90) + (0.390 x 0.30)] / 1.850



Hydrograph Report

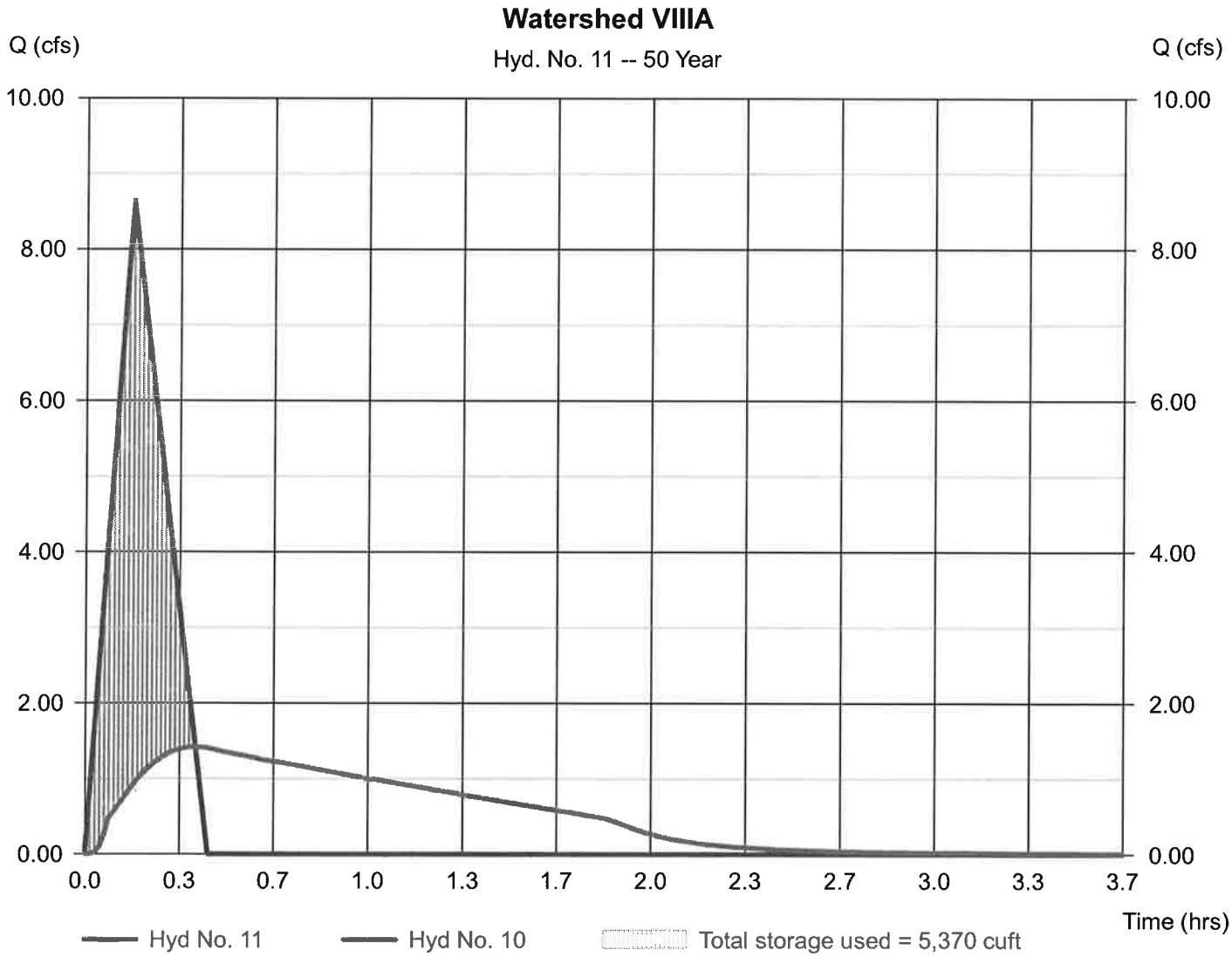
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 11

Watershed VIIIA

Hydrograph type	= Reservoir	Peak discharge	= 1.418 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.38 hrs
Time interval	= 1 min	Hyd. volume	= 6,728 cuft
Inflow hyd. No.	= 10 - Watershed VIIIA	Max. Elevation	= 560.00 ft
Reservoir name	= Watershed VIIIA	Max. Storage	= 5,370 cuft

Storage Indication method used.



Hydrograph Report

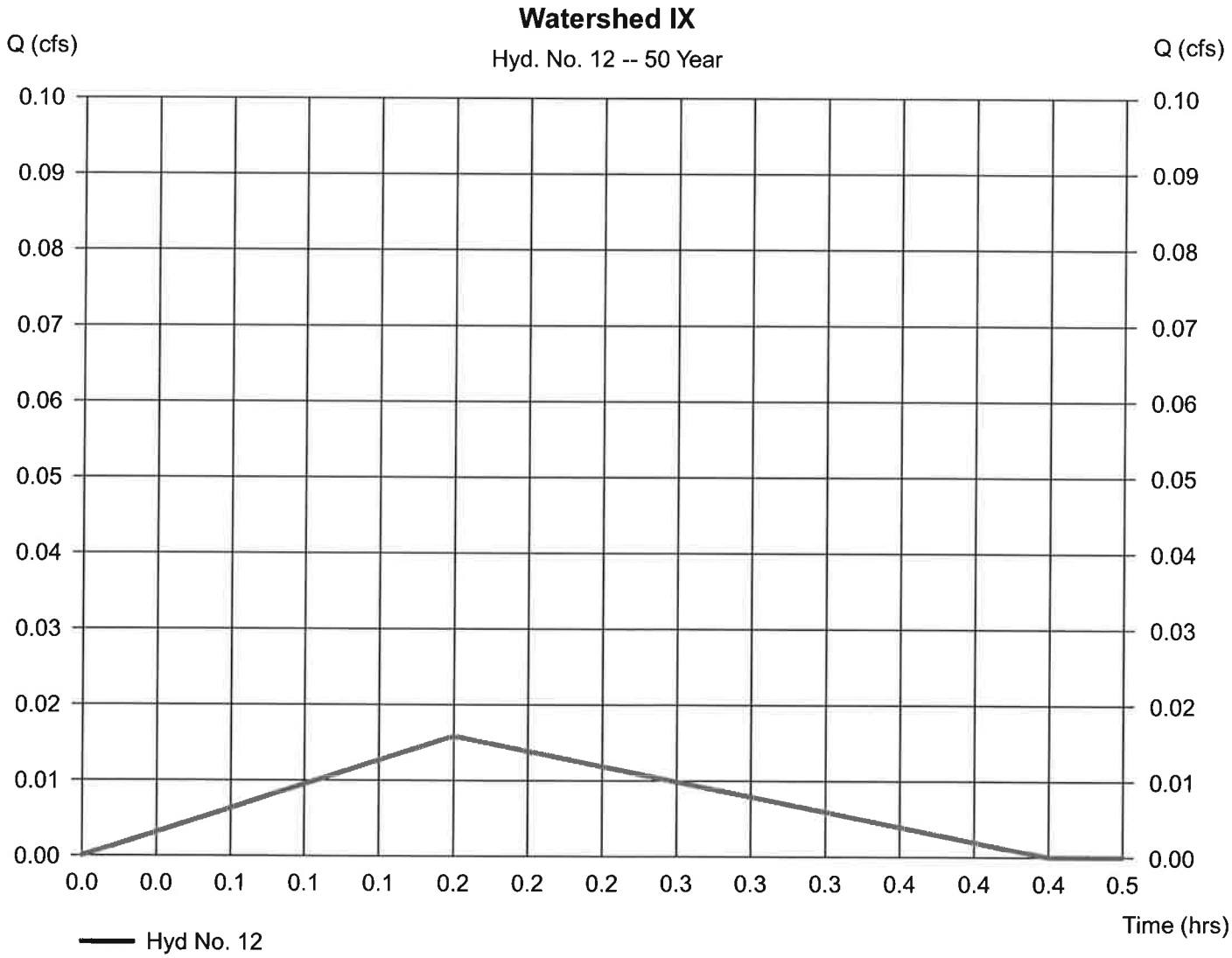
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 12

Watershed IX

Hydrograph type	= Rational	Peak discharge	= 0.016 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 13 cuft
Drainage area	= 0.260 ac	Runoff coeff.	= 0.01*
Intensity	= 6.062 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.010 x 0.30)] / 0.260



Hydrograph Report

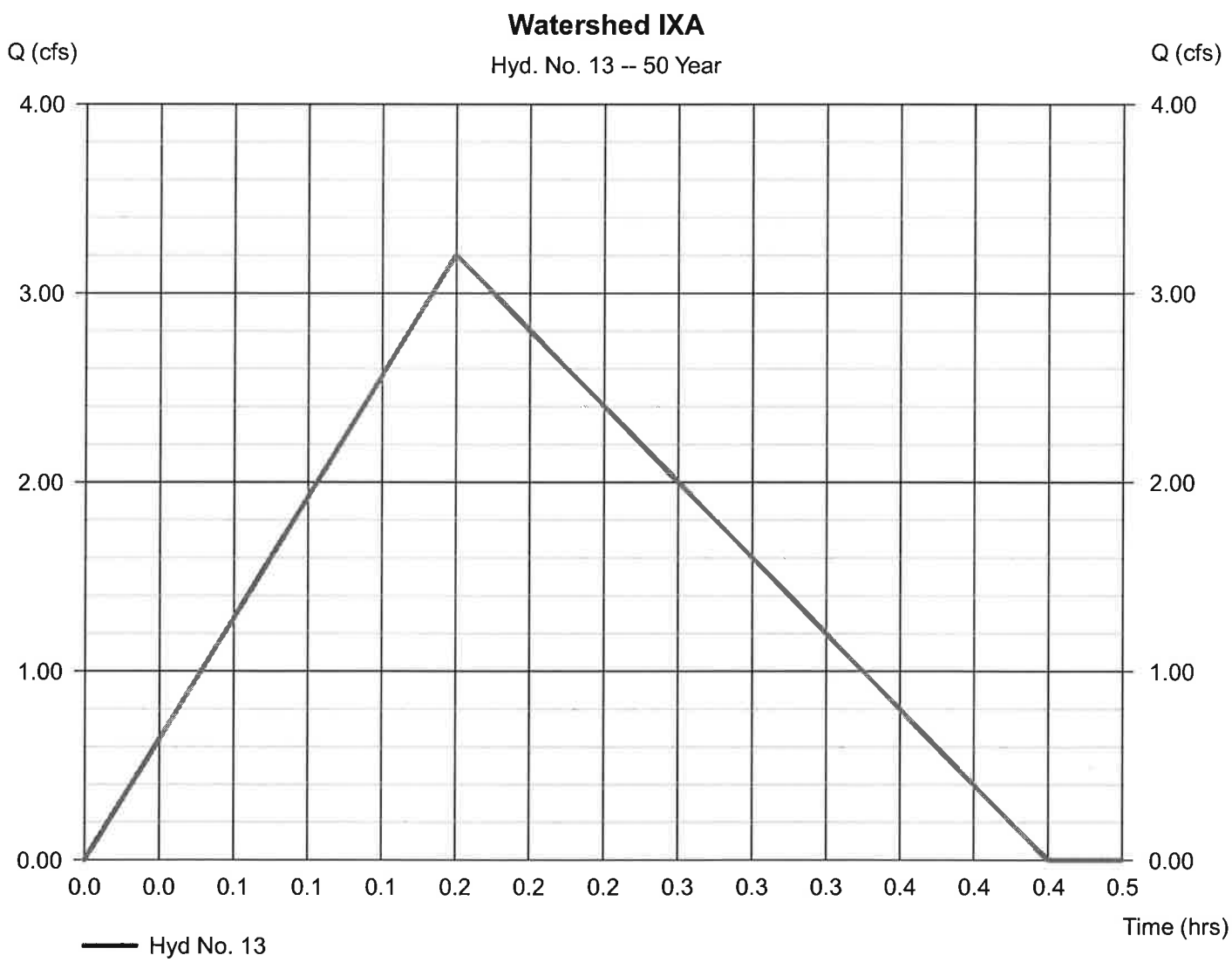
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 13

Watershed IXA

Hydrograph type	= Rational	Peak discharge	= 3.201 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 2,564 cuft
Drainage area	= 0.880 ac	Runoff coeff.	= 0.6*
Intensity	= 6.062 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.460 x 0.90) + (0.260 x 0.30) + (0.160 x 0.20)] / 0.880



Hydrograph Report

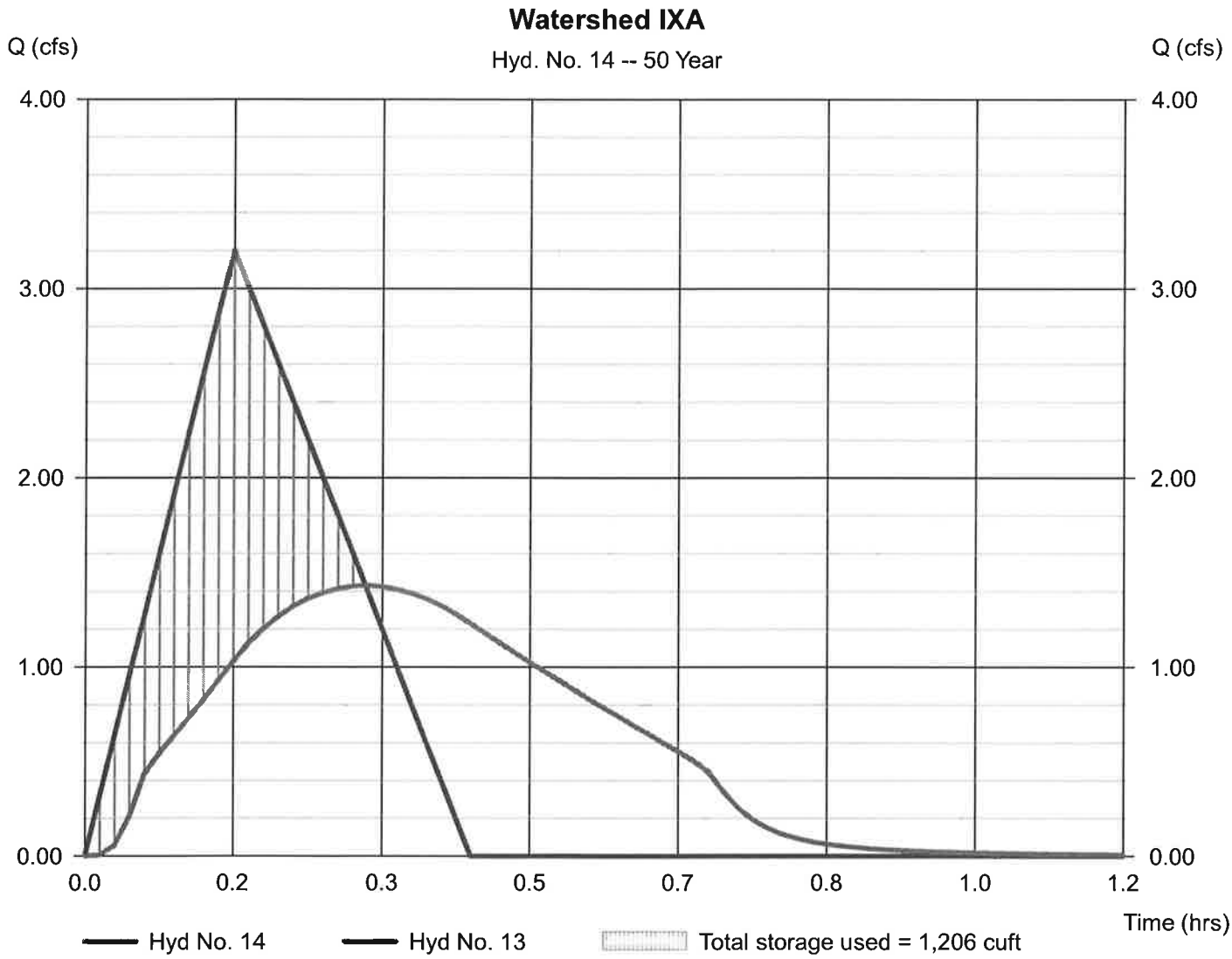
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 14

Watershed IXA

Hydrograph type	= Reservoir	Peak discharge	= 1.430 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 2,495 cuft
Inflow hyd. No.	= 13 - Watershed IXA	Max. Elevation	= 554.71 ft
Reservoir name	= Waatershed IXA	Max. Storage	= 1,206 cuft

Storage Indication method used.



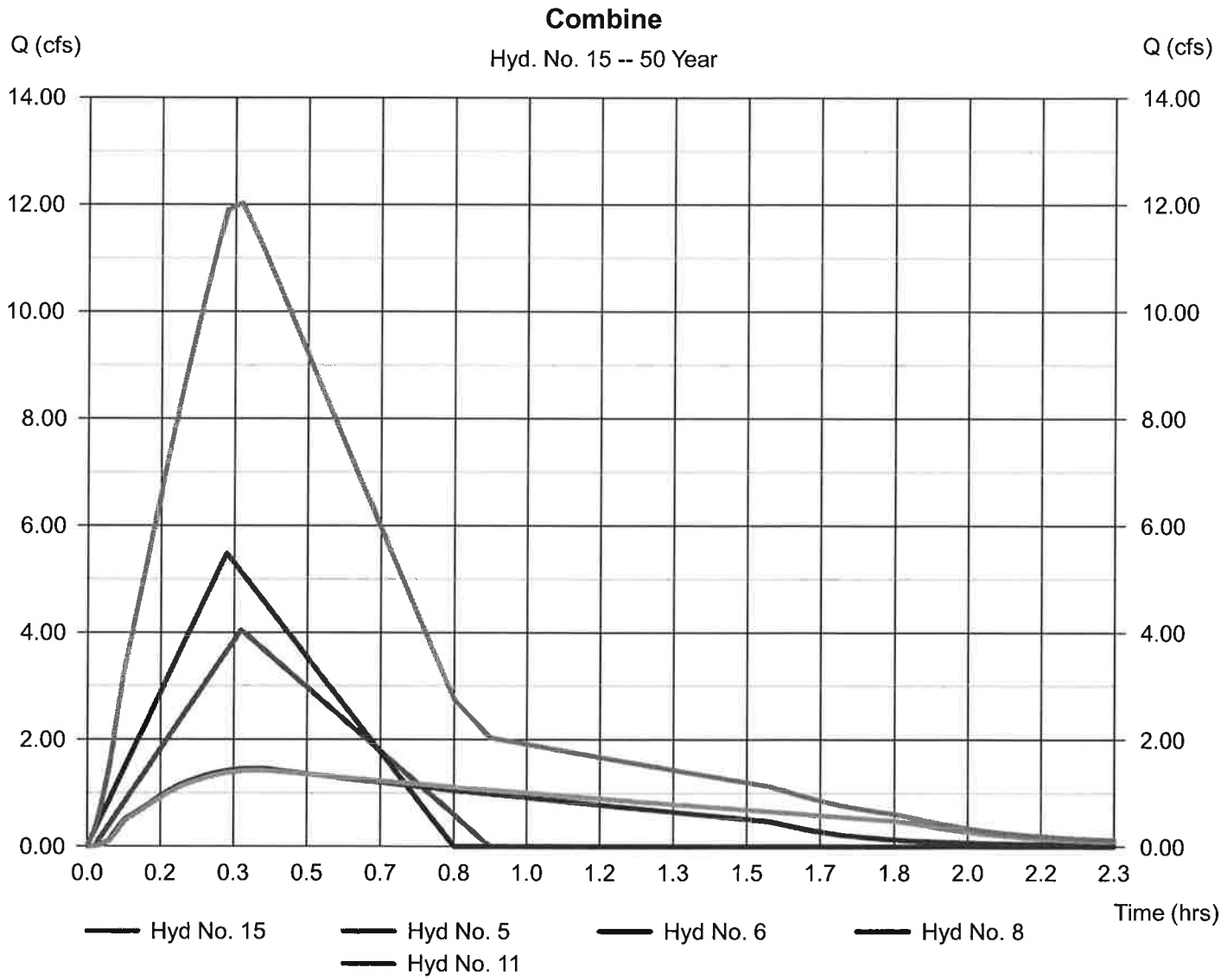
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 15

Combine

Hydrograph type	= Combine	Peak discharge	= 12.02 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.35 hrs
Time interval	= 1 min	Hyd. volume	= 27,209 cuft
Inflow hyds.	= 5, 6, 8, 11	Contrib. drain. area	= 5.740 ac



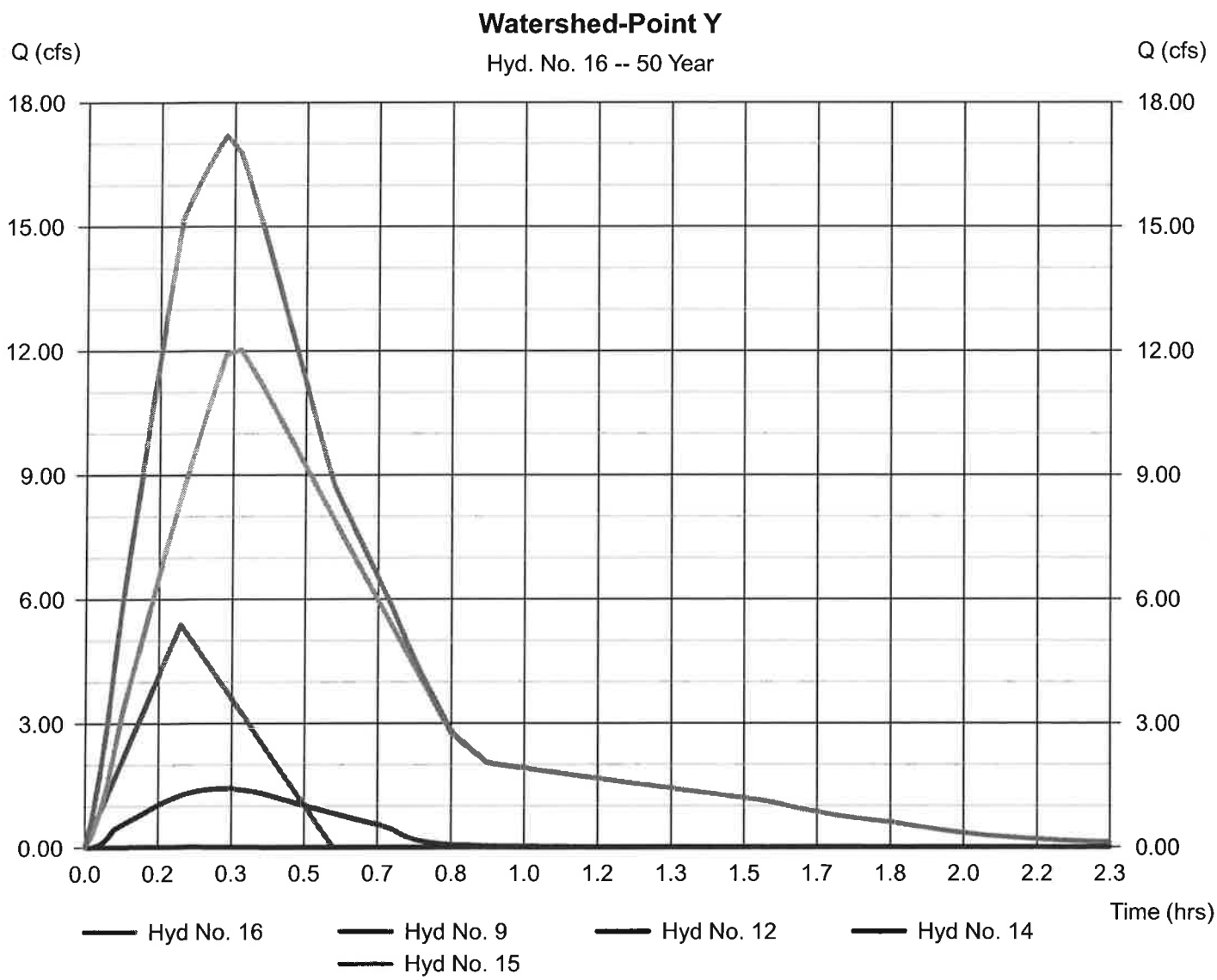
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 16

Watershed-Point Y

Hydrograph type	= Combine	Peak discharge	= 17.18 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 35,200 cuft
Inflow hyds.	= 9, 12, 14, 15	Contrib. drain. area	= 3.510 ac



Hydrograph Report

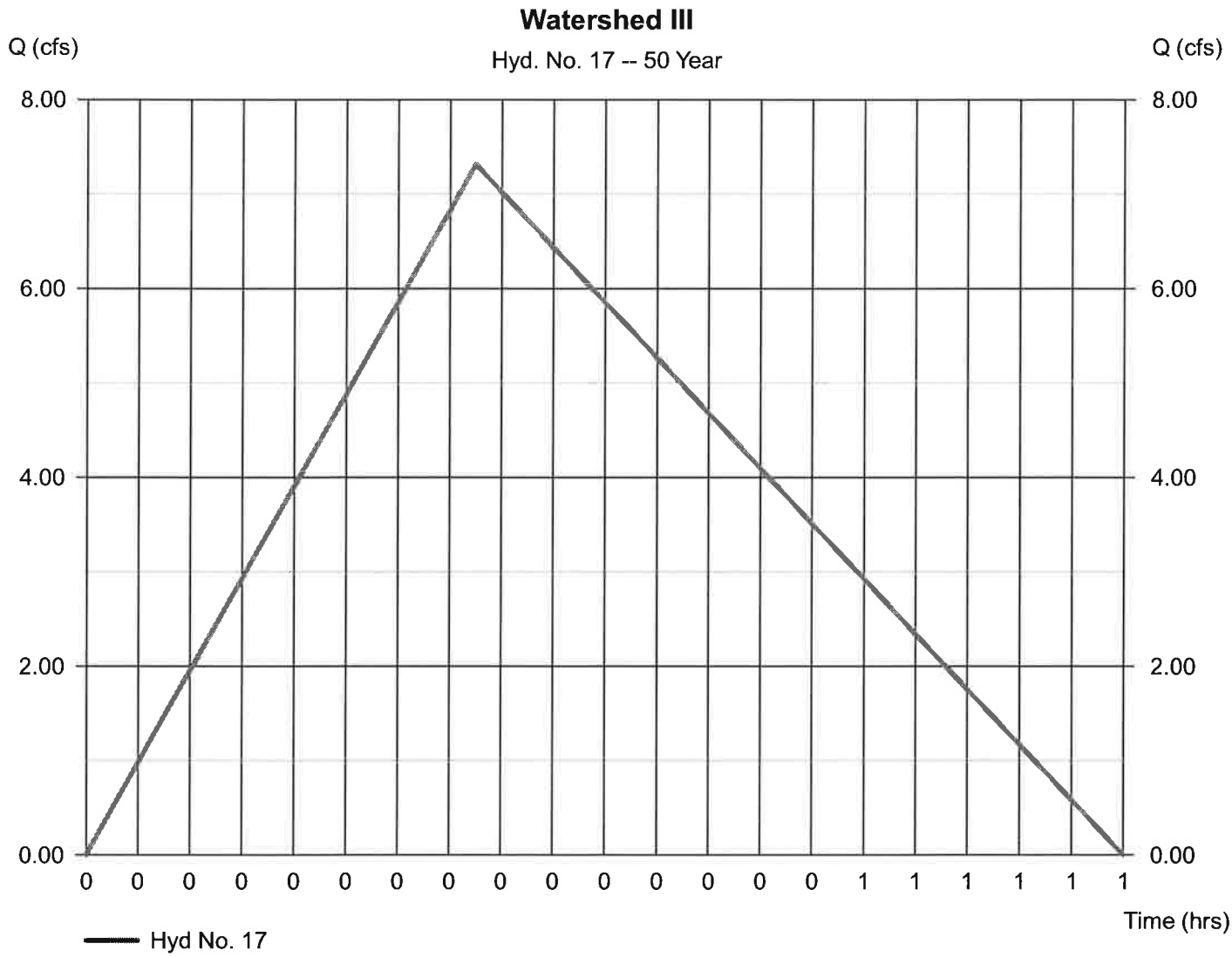
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 17

Watershed III

Hydrograph type	= Rational	Peak discharge	= 7.307 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.25 hrs
Time interval	= 1 min	Hyd. volume	= 8,780 cuft
Drainage area	= 2.700 ac	Runoff coeff.	= 0.52*
Intensity	= 5.205 in/hr	Tc by TR55	= 15.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.000 x 0.90) + (1.700 x 0.30)] / 2.700



Hydrograph Report

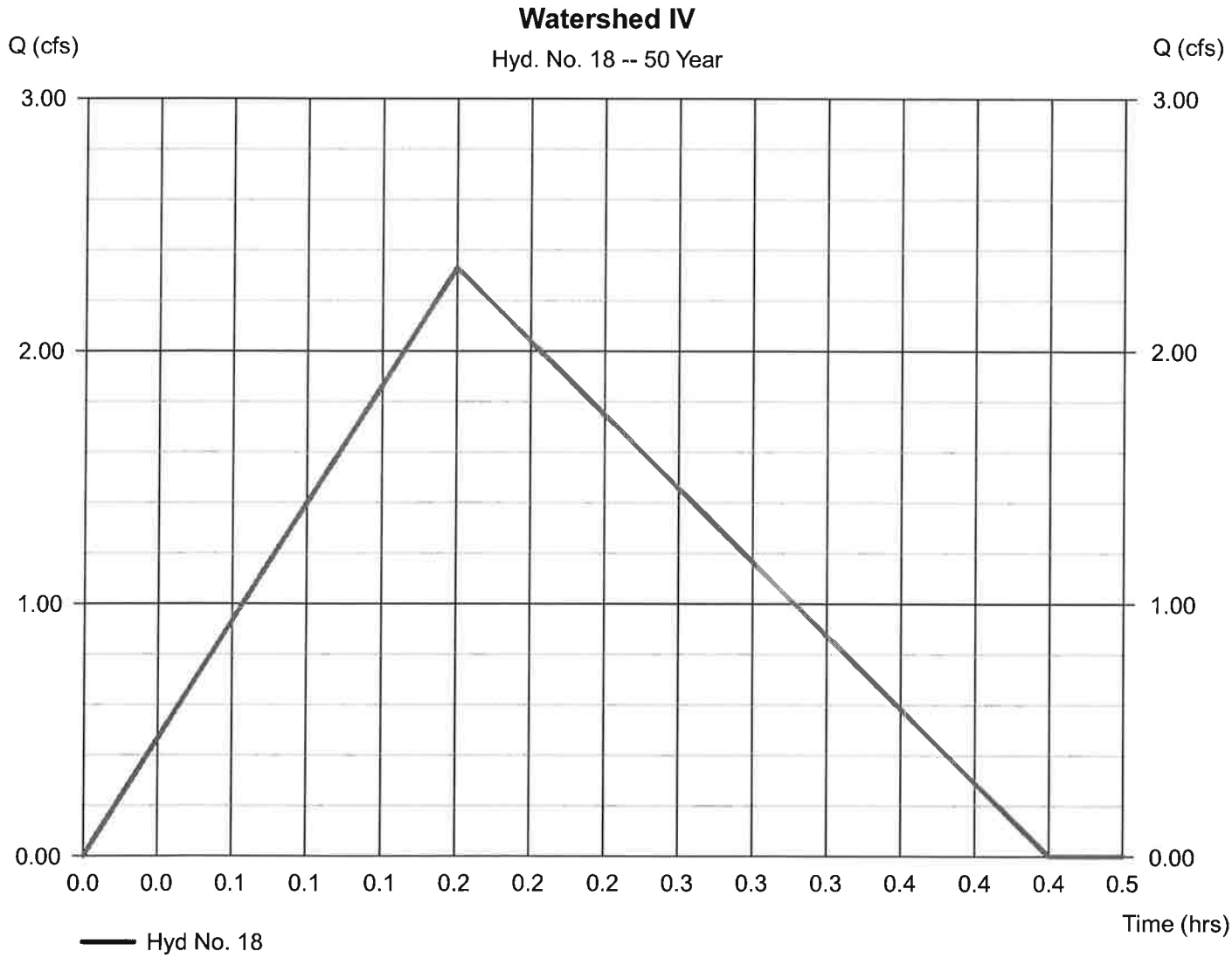
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 18

Watershed IV

Hydrograph type	= Rational	Peak discharge	= 2.328 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 1,865 cuft
Drainage area	= 0.800 ac	Runoff coeff.	= 0.48*
Intensity	= 6.062 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.260 x 0.90) + (0.440 x 0.30) + (0.100 x 0.20)] / 0.800



Hydrograph Report

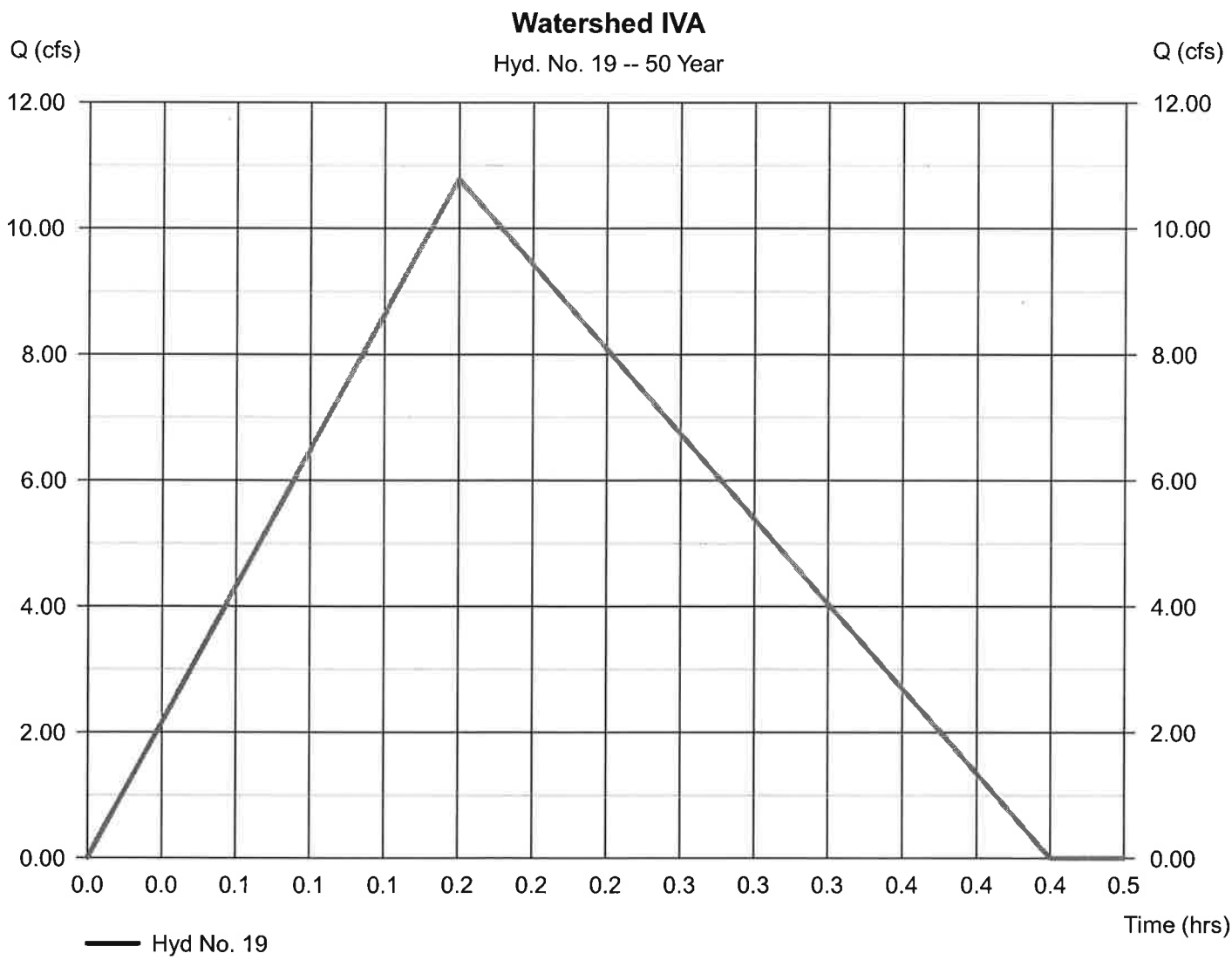
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 19

Watershed IVA

Hydrograph type	= Rational	Peak discharge	= 10.78 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 8,631 cuft
Drainage area	= 2.370 ac	Runoff coeff.	= 0.75*
Intensity	= 6.062 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.770 x 0.90) + (0.600 x 0.30)] / 2.370



Hydrograph Report

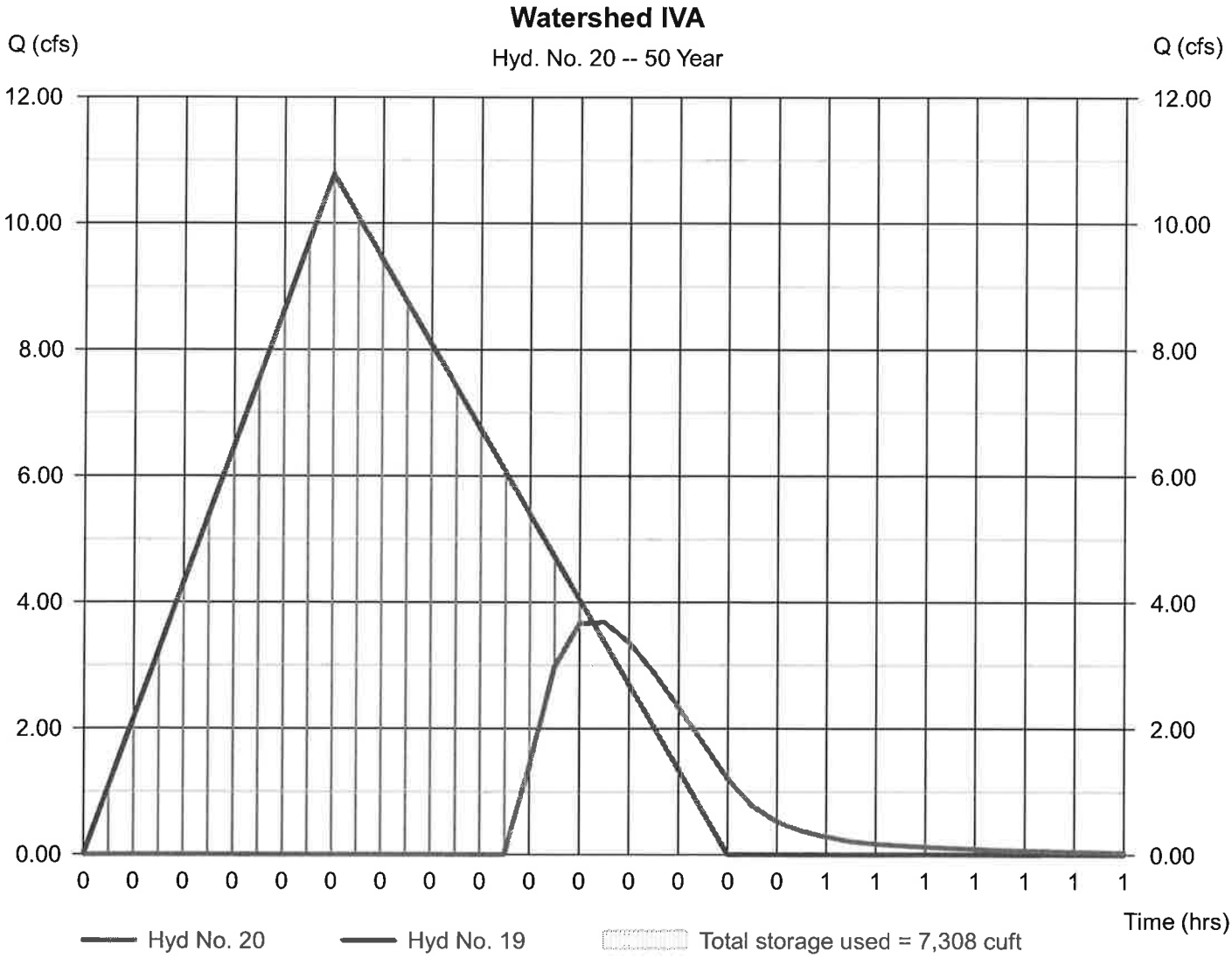
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 20

Watershed IVA

Hydrograph type	= Reservoir	Peak discharge	= 3.682 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.35 hrs
Time interval	= 1 min	Hyd. volume	= 1,590 cuft
Inflow hyd. No.	= 19 - Watershed IVA	Max. Elevation	= 553.87 ft
Reservoir name	= Watershed IVA	Max. Storage	= 7,308 cuft

Storage Indication method used.



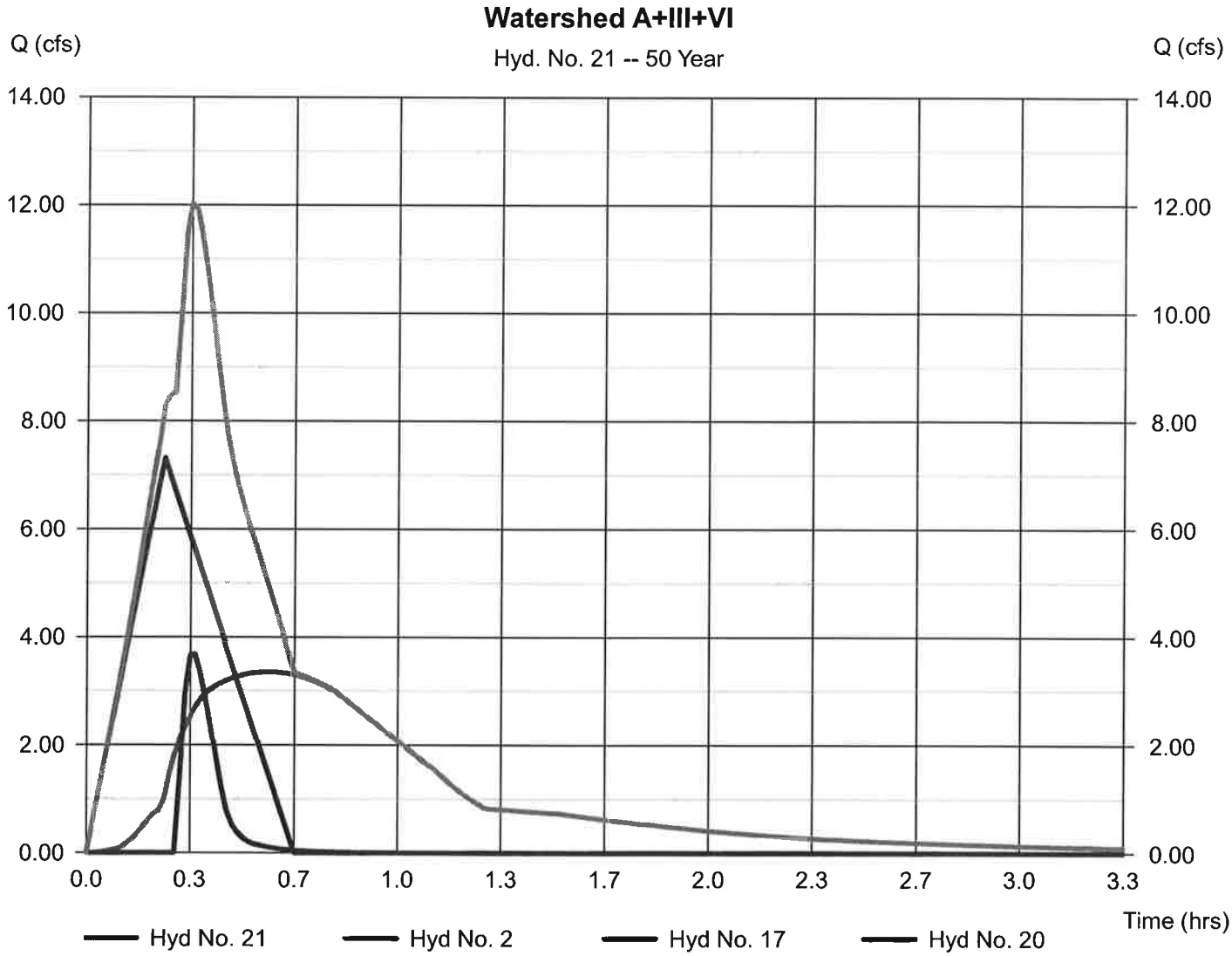
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 21

Watershed A+III+VI

Hydrograph type	= Combine	Peak discharge	= 12.03 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 23,116 cuft
Inflow hyds.	= 2, 17, 20	Contrib. drain. area	= 2.700 ac



Hydrograph Report

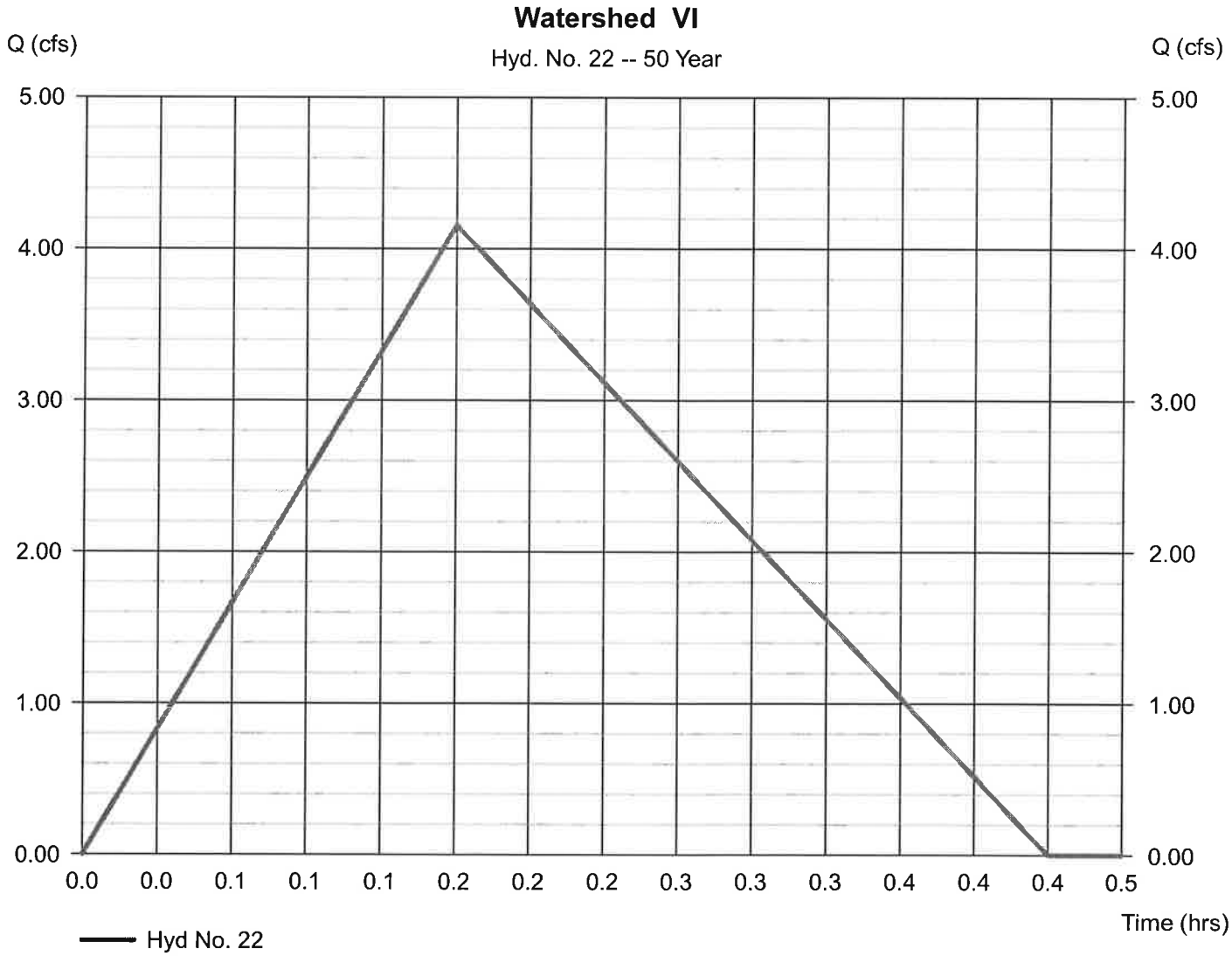
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 22

Watershed VI

Hydrograph type	= Rational	Peak discharge	= 4.155 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 3,328 cuft
Drainage area	= 1.490 ac	Runoff coeff.	= 0.46*
Intensity	= 6.062 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.400 x 0.90) + (1.090 x 0.30)] / 1.490



Hydrograph Report

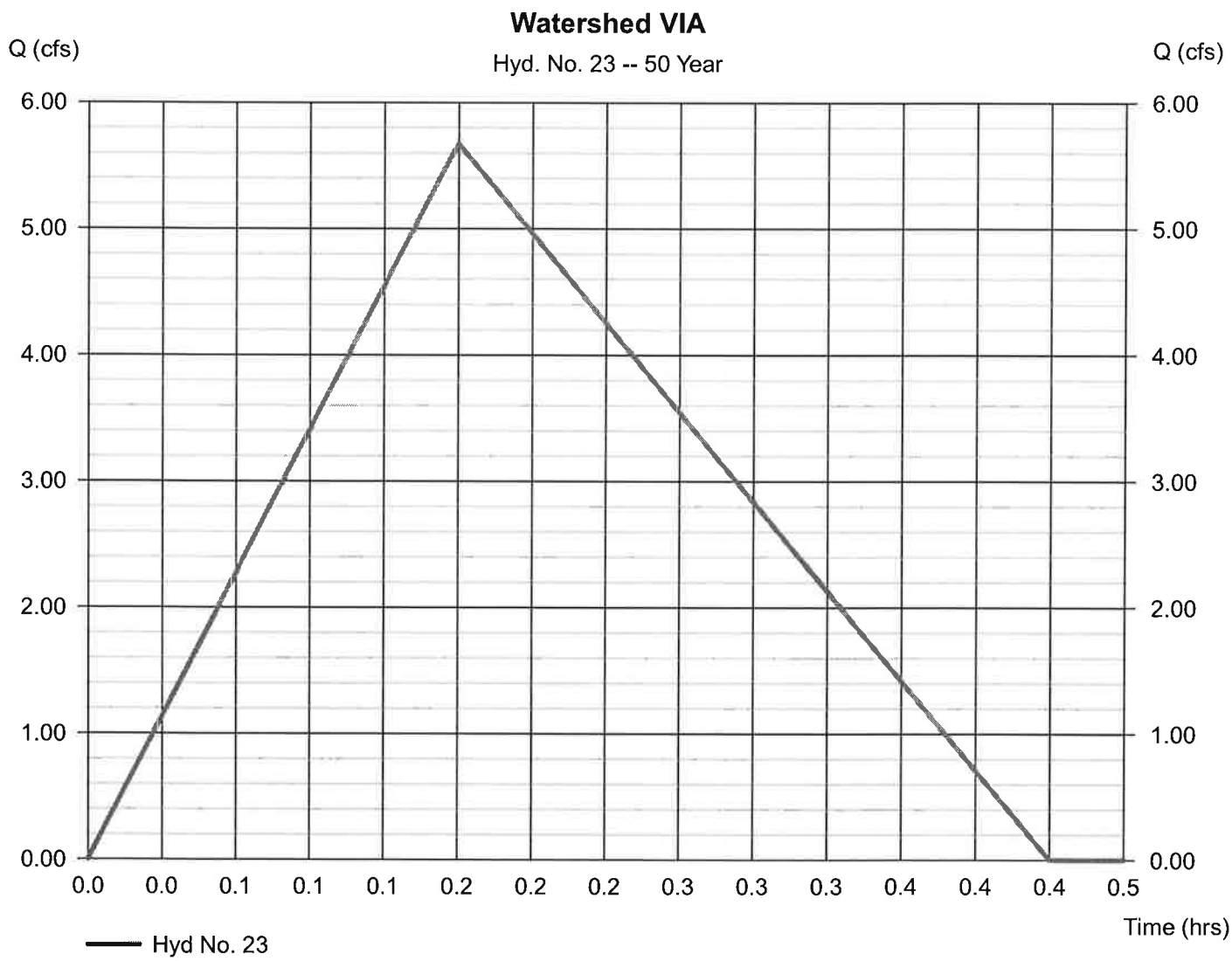
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 23

Watershed VIA

Hydrograph type	= Rational	Peak discharge	= 5.674 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 4,545 cuft
Drainage area	= 1.170 ac	Runoff coeff.	= 0.8*
Intensity	= 6.062 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.970 x 0.90) + (0.200 x 0.30)] / 1.170



Hydrograph Report

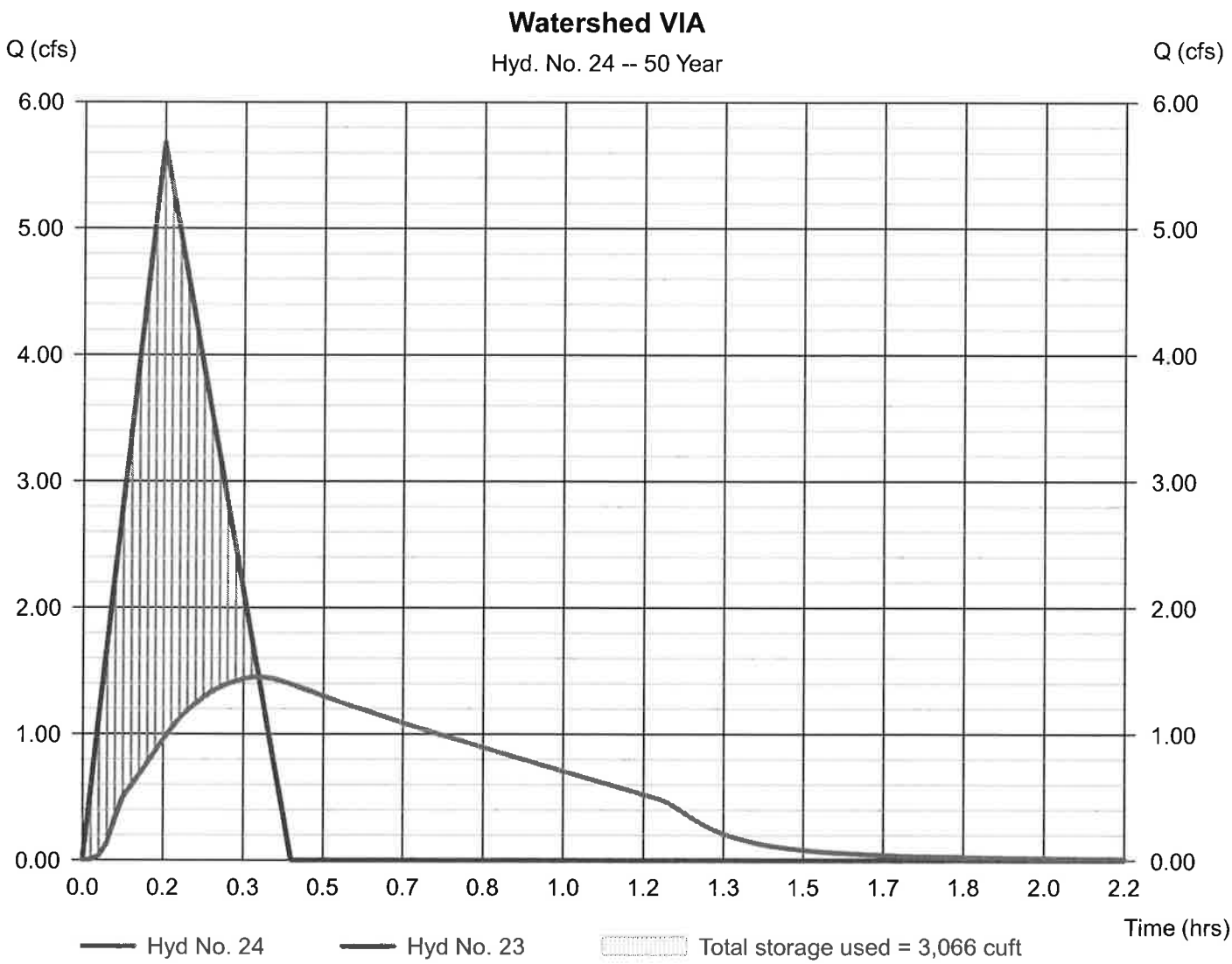
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 24

Watershed VIA

Hydrograph type	= Reservoir	Peak discharge	= 1.449 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.37 hrs
Time interval	= 1 min	Hyd. volume	= 4,421 cuft
Inflow hyd. No.	= 23 - Watershed VIA	Max. Elevation	= 551.10 ft
Reservoir name	= Watershed VIA	Max. Storage	= 3,066 cuft

Storage Indication method used.



Hydrograph Report

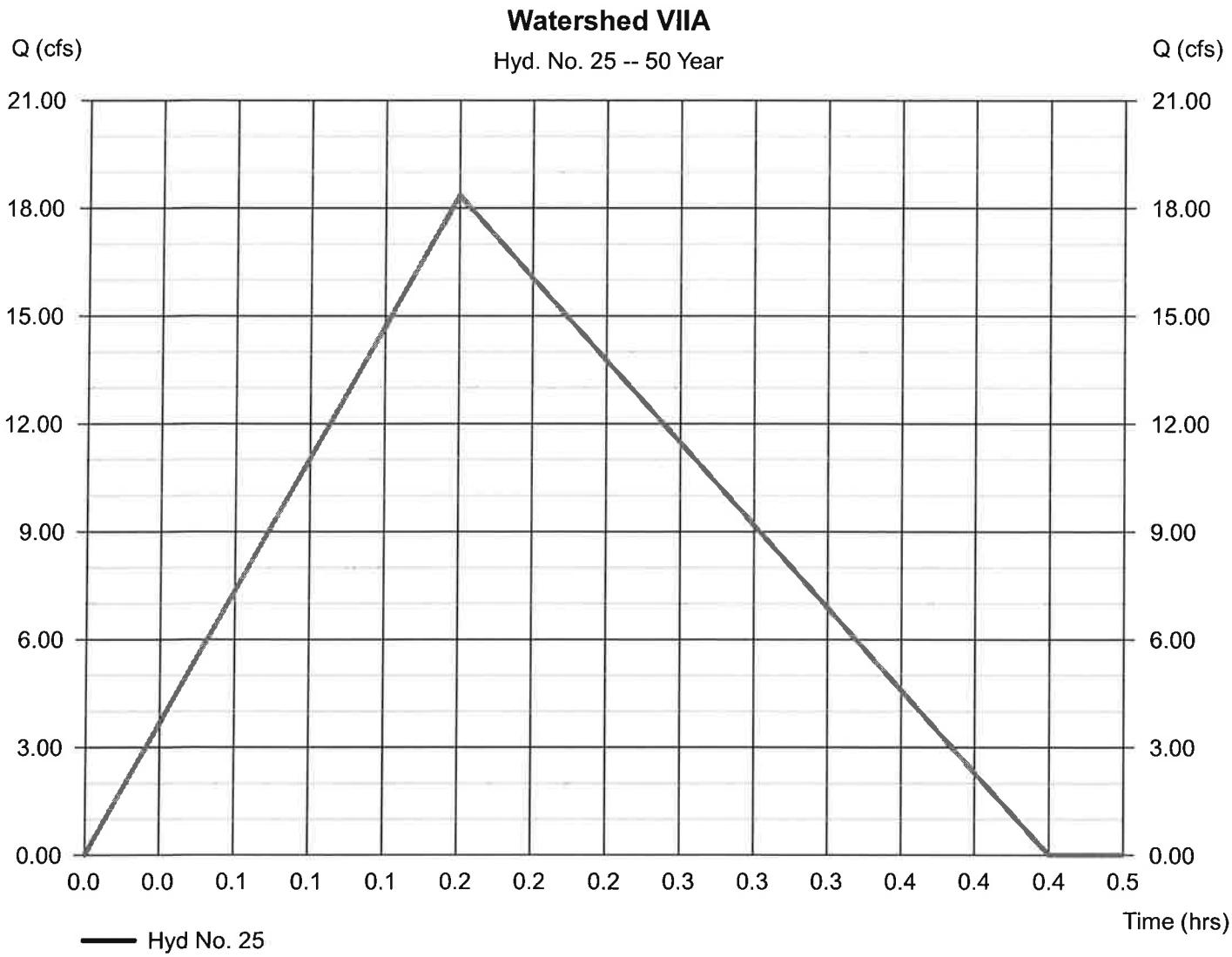
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 25

Watershed VIIA

Hydrograph type	= Rational	Peak discharge	= 18.35 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 14,696 cuft
Drainage area	= 4.090 ac	Runoff coeff.	= 0.74*
Intensity	= 6.062 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(3.020 x 0.90) + (1.070 x 0.30)] / 4.090



Hydrograph Report

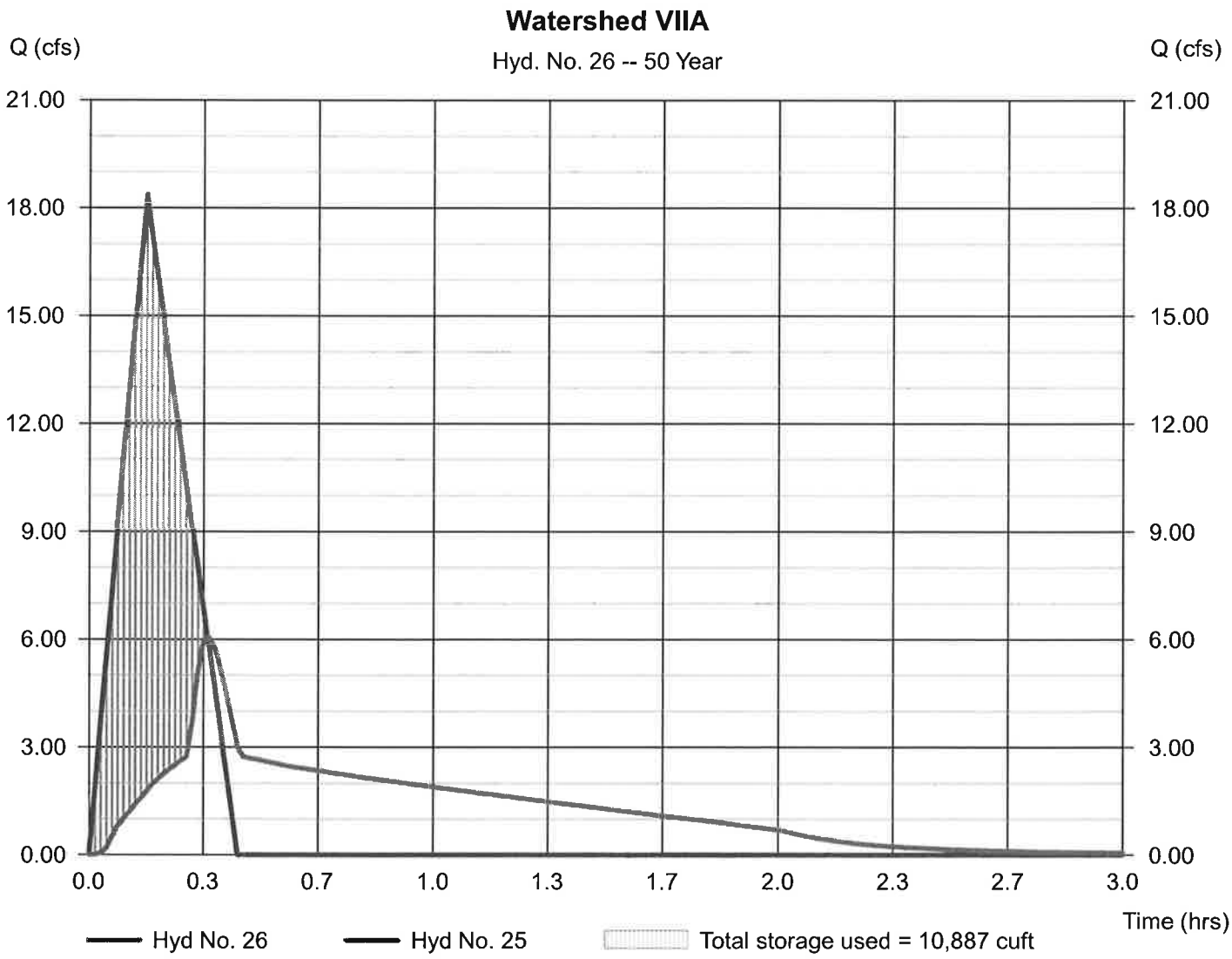
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 26

Watershed VIIA

Hydrograph type	= Reservoir	Peak discharge	= 6.050 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.35 hrs
Time interval	= 1 min	Hyd. volume	= 14,300 cuft
Inflow hyd. No.	= 25 - Watershed VIIA	Max. Elevation	= 547.83 ft
Reservoir name	= Watershed VIIA	Max. Storage	= 10,887 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 27

Watershed X

Hydrograph type	= Rational	Peak discharge	= 1.804 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 1,445 cuft
Drainage area	= 0.930 ac	Runoff coeff.	= 0.32*
Intensity	= 6.062 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.100 x 0.90) + (0.410 x 0.30) + (0.420 x 0.20)] / 0.930

Hydrograph Report

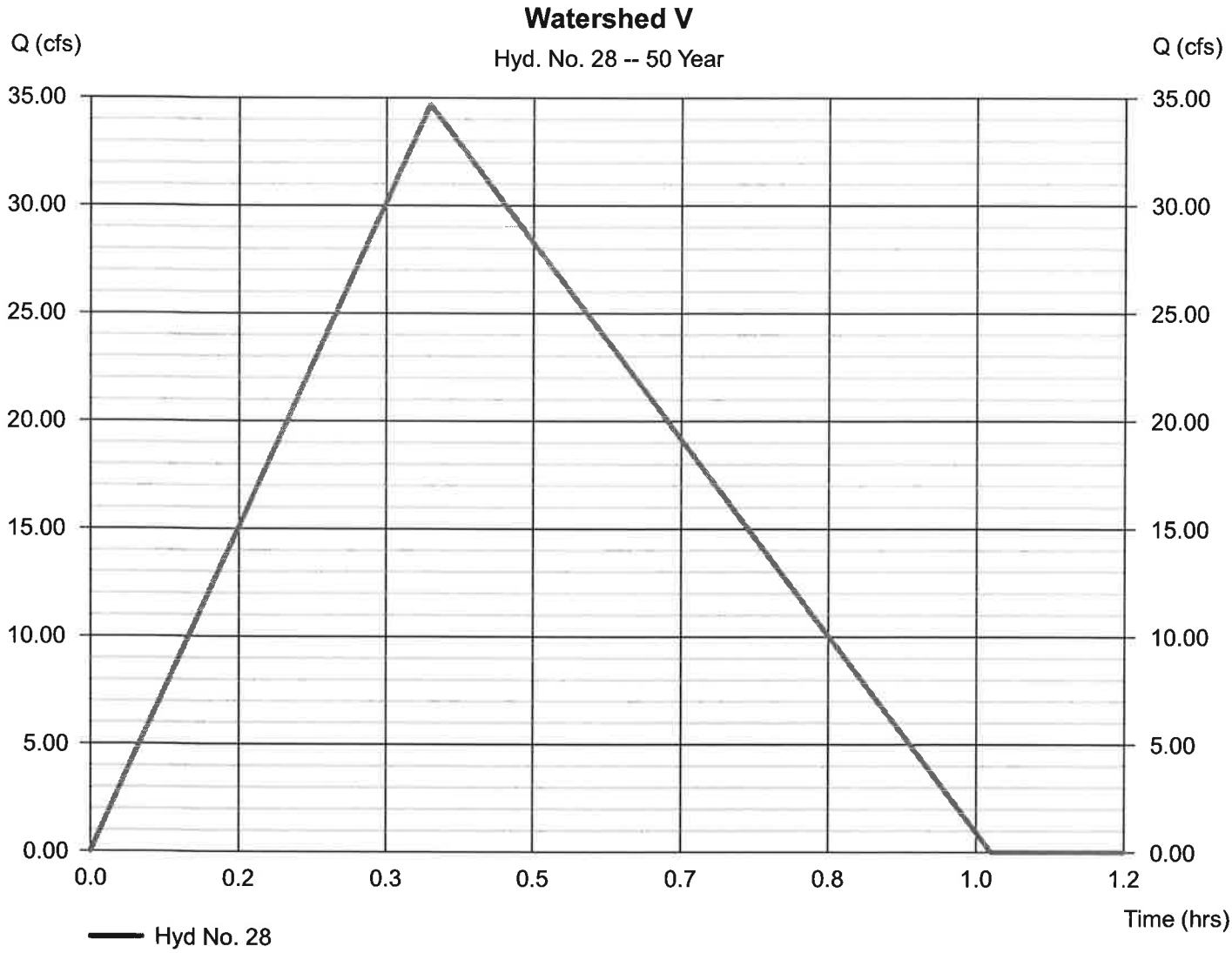
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 28

Watershed V

Hydrograph type	= Rational	Peak discharge	= 34.66 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.38 hrs
Time interval	= 1 min	Hyd. volume	= 63,849 cuft
Drainage area	= 26.200 ac	Runoff coeff.	= 0.31*
Intensity	= 4.267 in/hr	Tc by TR55	= 23.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(2.500 x 0.90) + (10.640 x 0.30) + (13.060 x 0.20)] / 26.200



Hydrograph Report

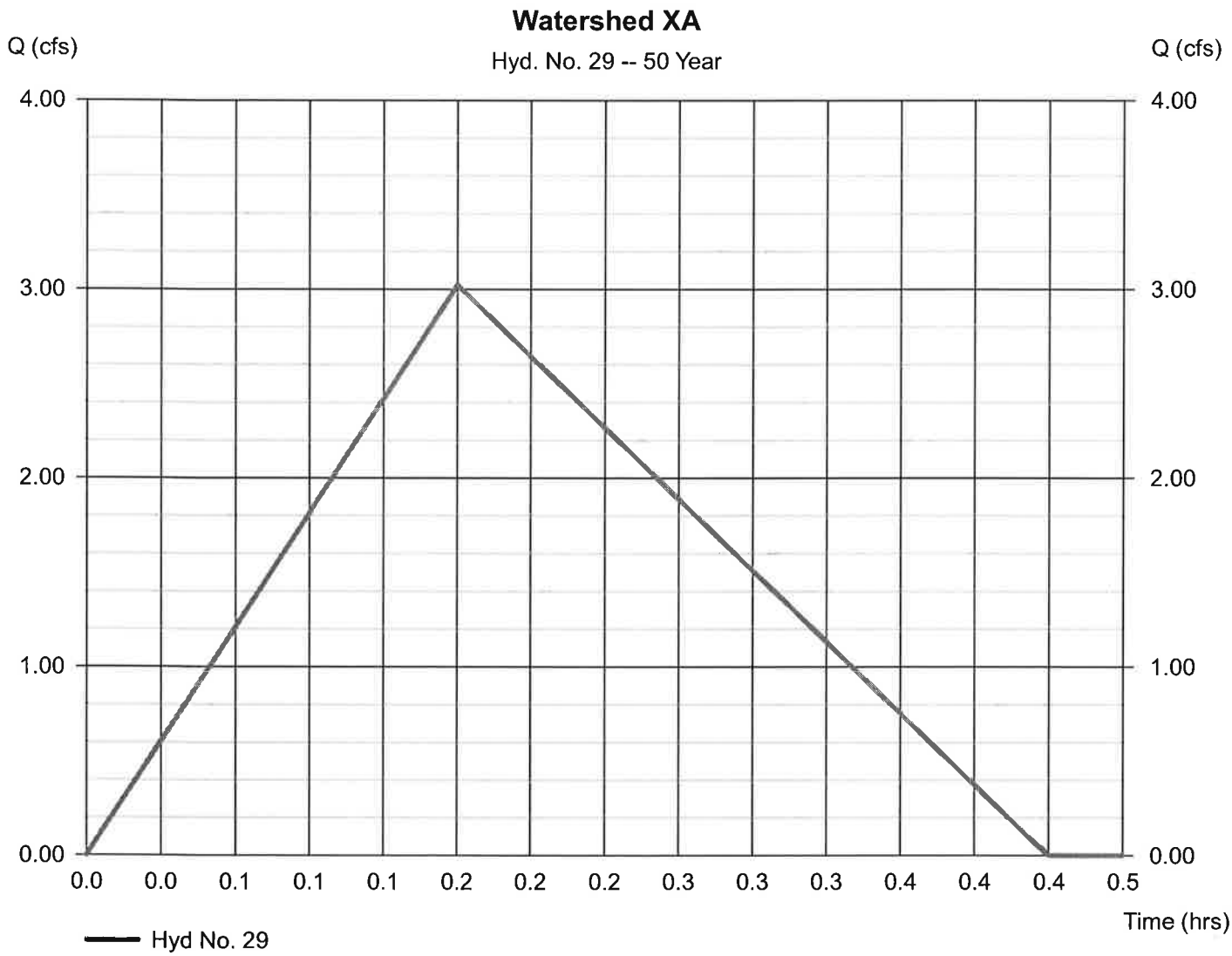
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 29

Watershed XA

Hydrograph type	= Rational	Peak discharge	= 3.020 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 2,419 cuft
Drainage area	= 0.940 ac	Runoff coeff.	= 0.53*
Intensity	= 6.062 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.390 x 0.90) + (0.350 x 0.30) + (0.200 x 0.20)] / 0.940



Hydrograph Report

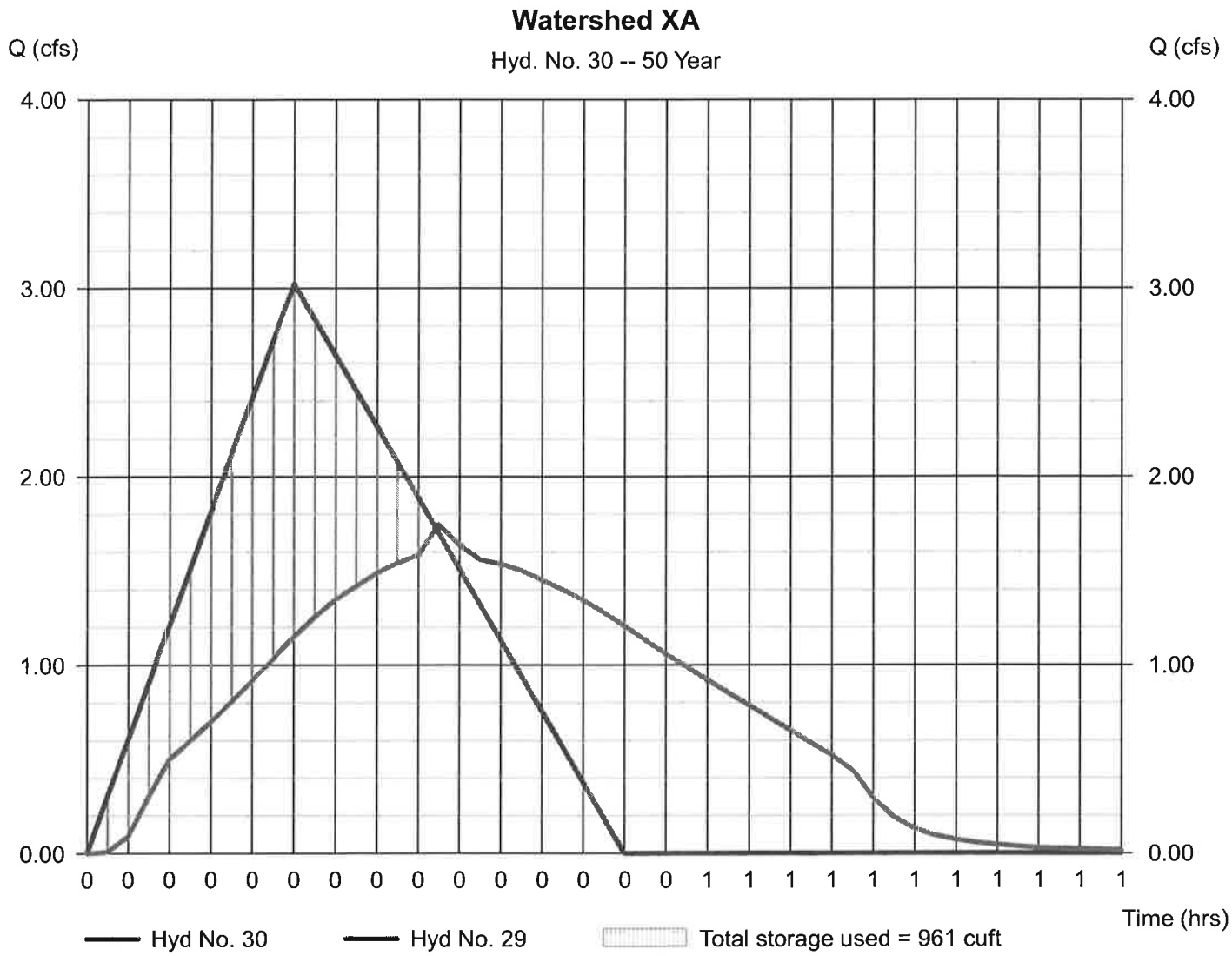
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 30

Watershed XA

Hydrograph type	= Reservoir	Peak discharge	= 1.745 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.28 hrs
Time interval	= 1 min	Hyd. volume	= 2,354 cuft
Inflow hyd. No.	= 29 - Watershed XA	Max. Elevation	= 558.55 ft
Reservoir name	= Watershed XA	Max. Storage	= 961 cuft

Storage Indication method used.



Hydrograph Report

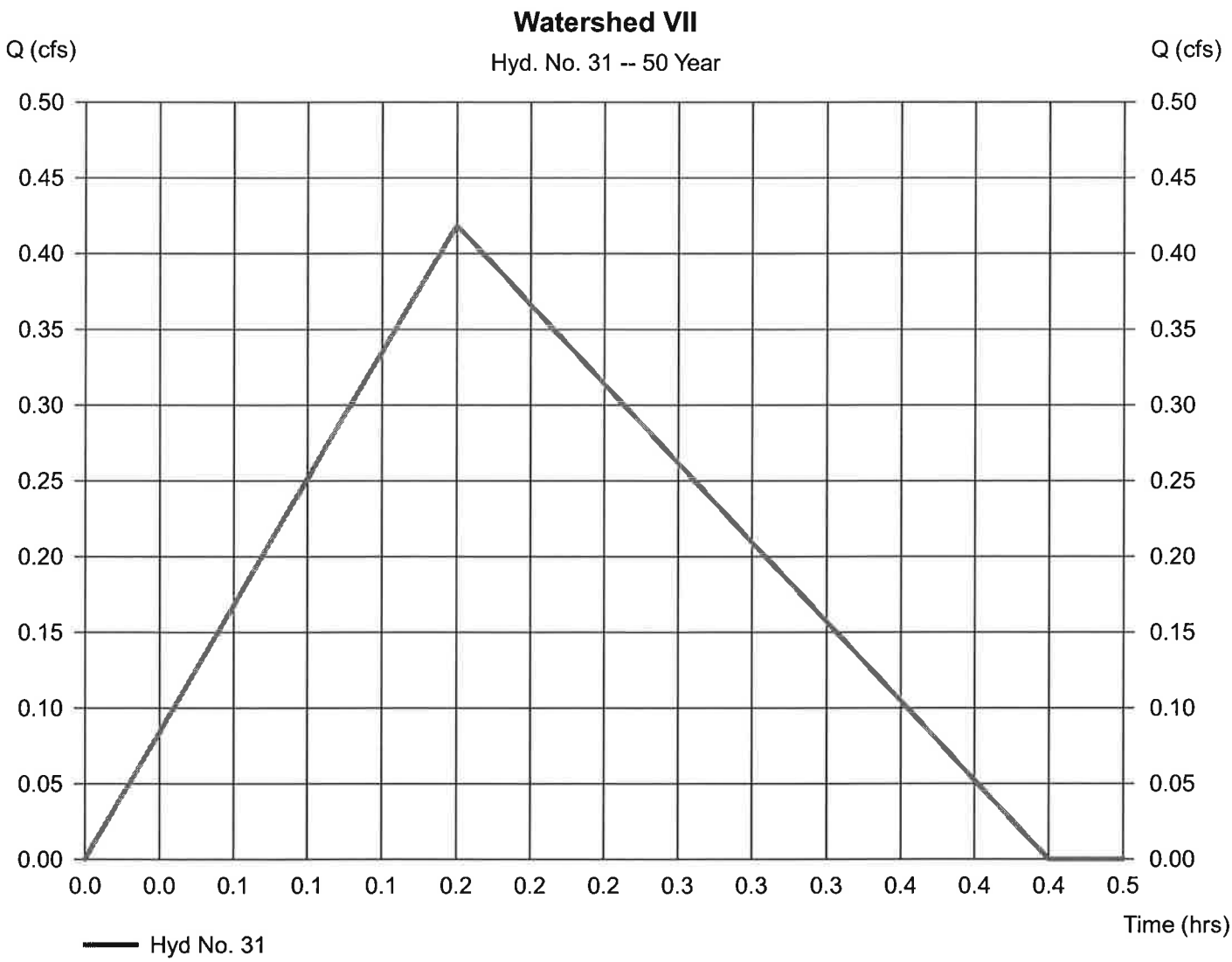
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 31

Watershed VII

Hydrograph type	= Rational	Peak discharge	= 0.418 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 335 cuft
Drainage area	= 0.230 ac	Runoff coeff.	= 0.3*
Intensity	= 6.062 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.230 x 0.30)] / 0.230



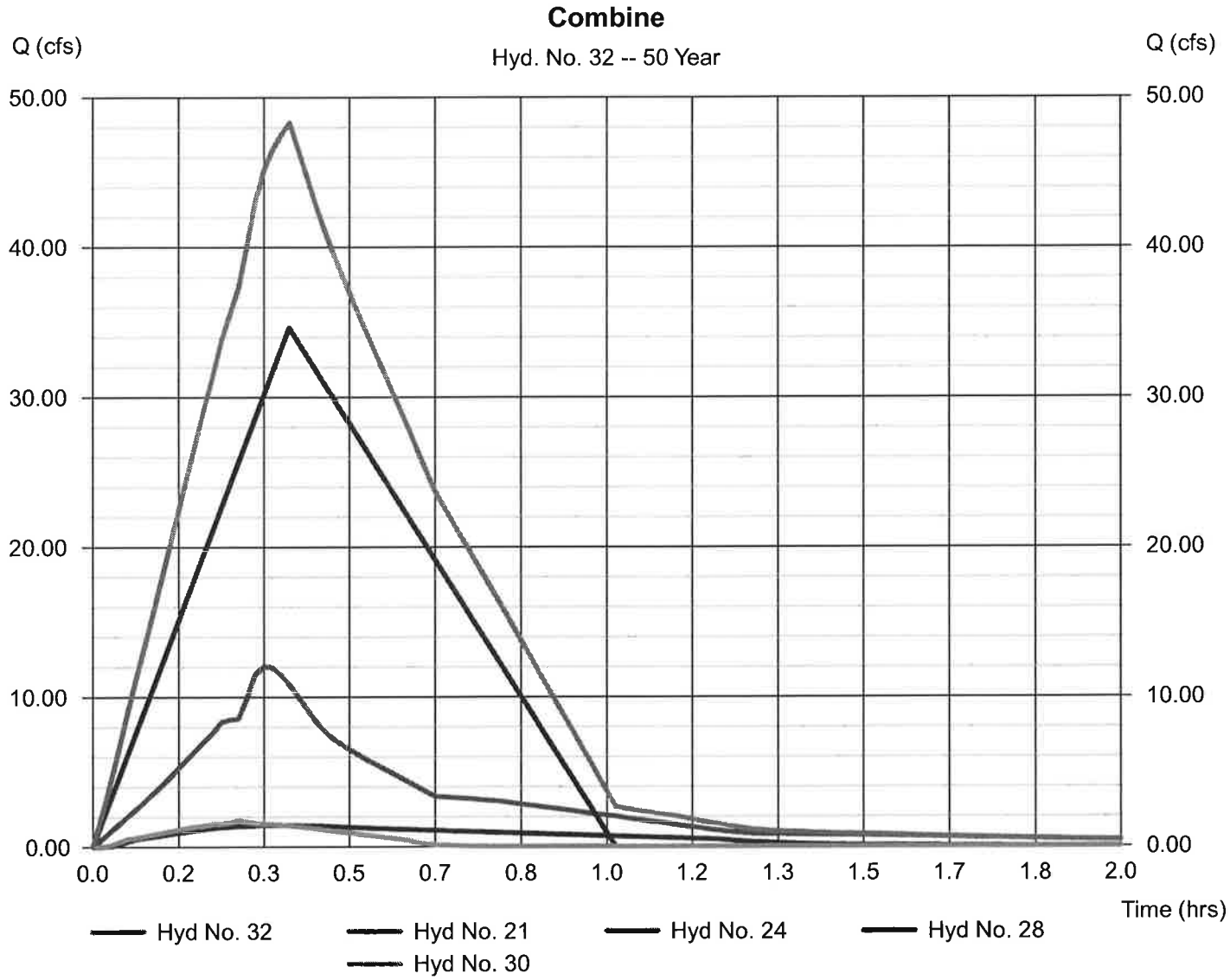
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 32

Combine

Hydrograph type	= Combine	Peak discharge	= 48.30 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.38 hrs
Time interval	= 1 min	Hyd. volume	= 93,315 cuft
Inflow hyds.	= 21, 24, 28, 30	Contrib. drain. area	= 26.200 ac



Hydrograph Report

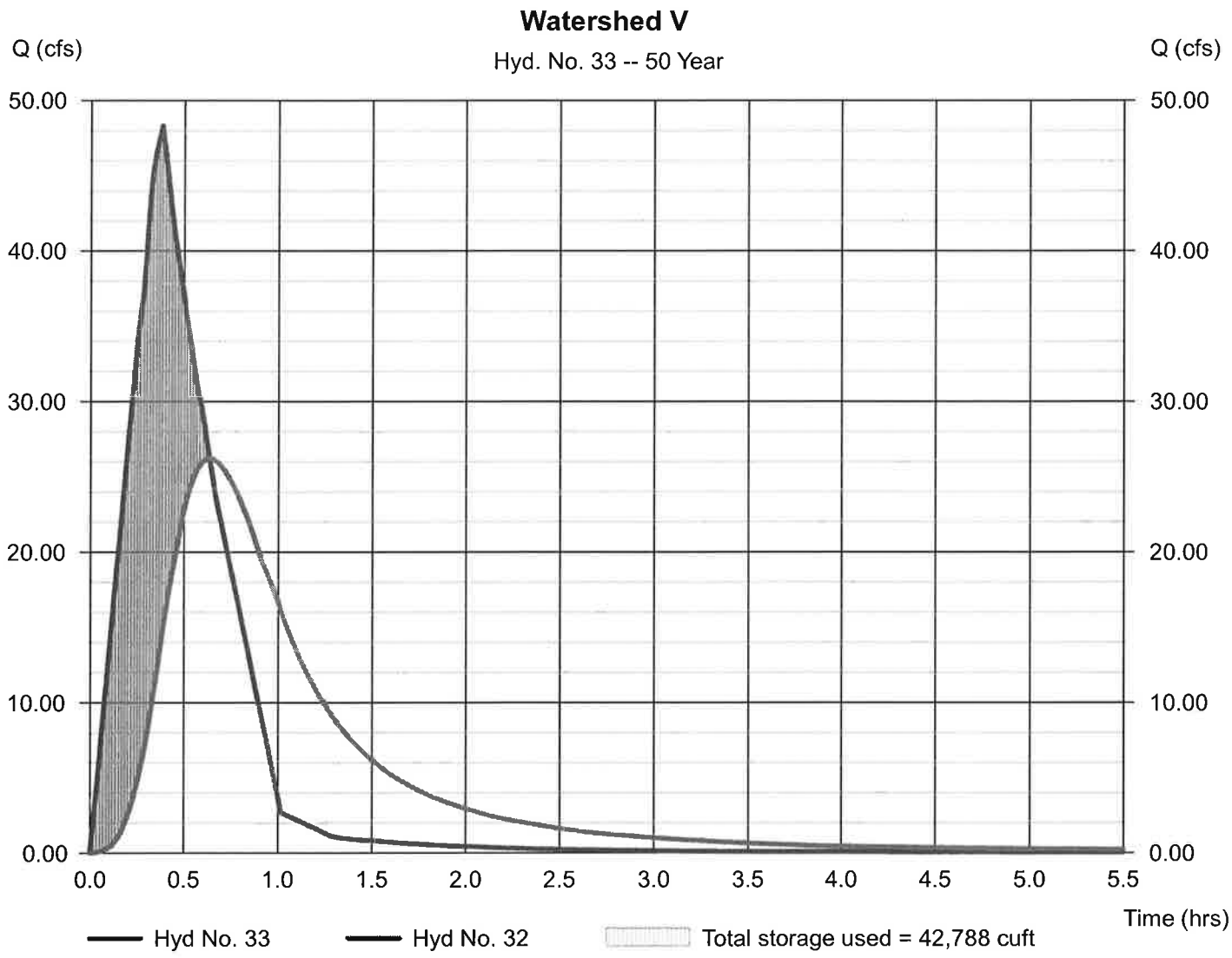
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 33

Watershed V

Hydrograph type	= Reservoir	Peak discharge	= 26.20 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.63 hrs
Time interval	= 1 min	Hyd. volume	= 93,308 cuft
Inflow hyd. No.	= 32 - Combine	Max. Elevation	= 544.39 ft
Reservoir name	= Watershed X	Max. Storage	= 42,788 cuft

Storage Indication method used.



Hydrograph Report

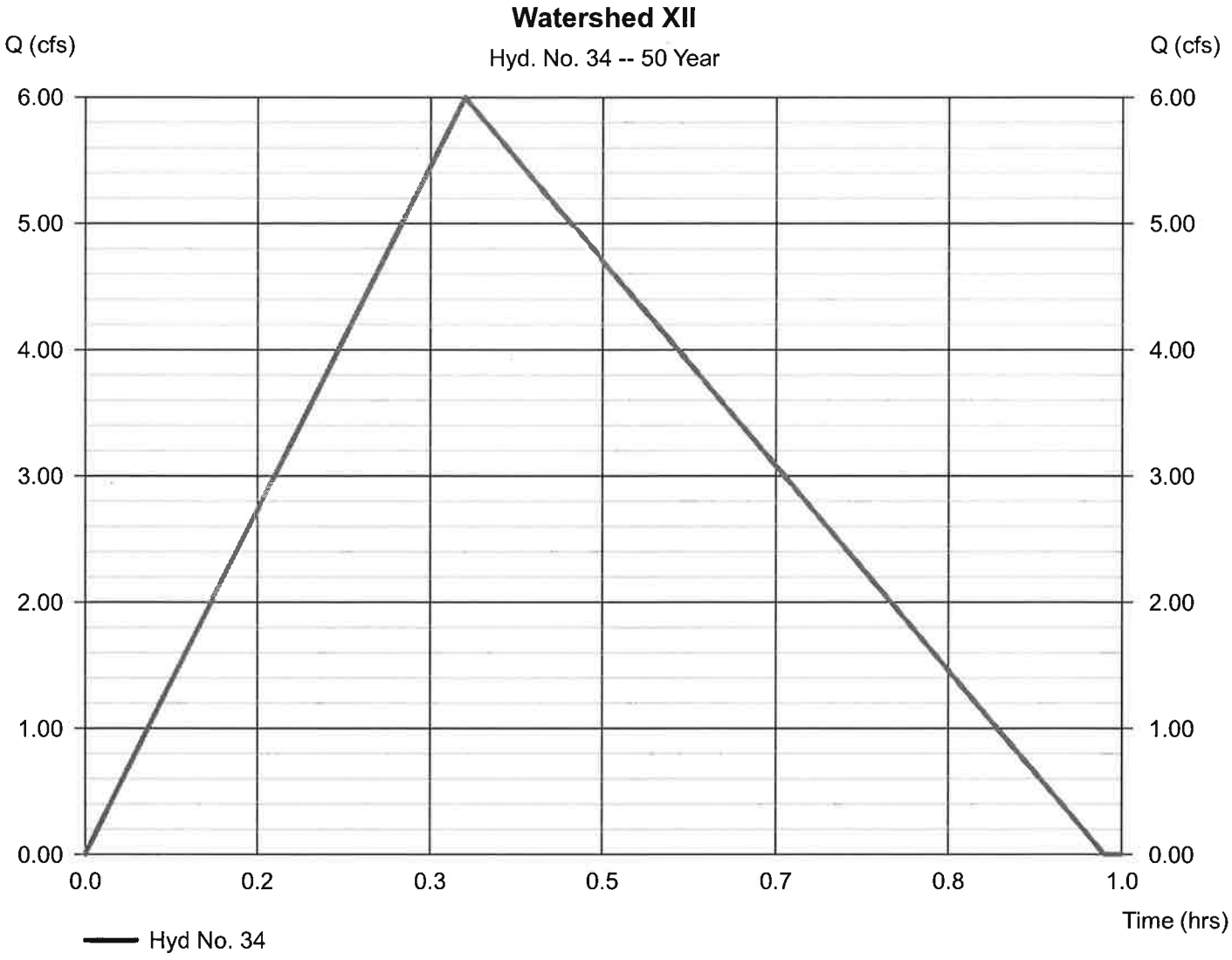
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 34

Watershed XII

Hydrograph type	= Rational	Peak discharge	= 5.998 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.37 hrs
Time interval	= 1 min	Hyd. volume	= 10,794 cuft
Drainage area	= 4.630 ac	Runoff coeff.	= 0.3*
Intensity	= 4.318 in/hr	Tc by TR55	= 22.47 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.490 x 0.90) + (1.430 x 0.30) + (2.710 x 0.20)] / 4.630



Hydrograph Report

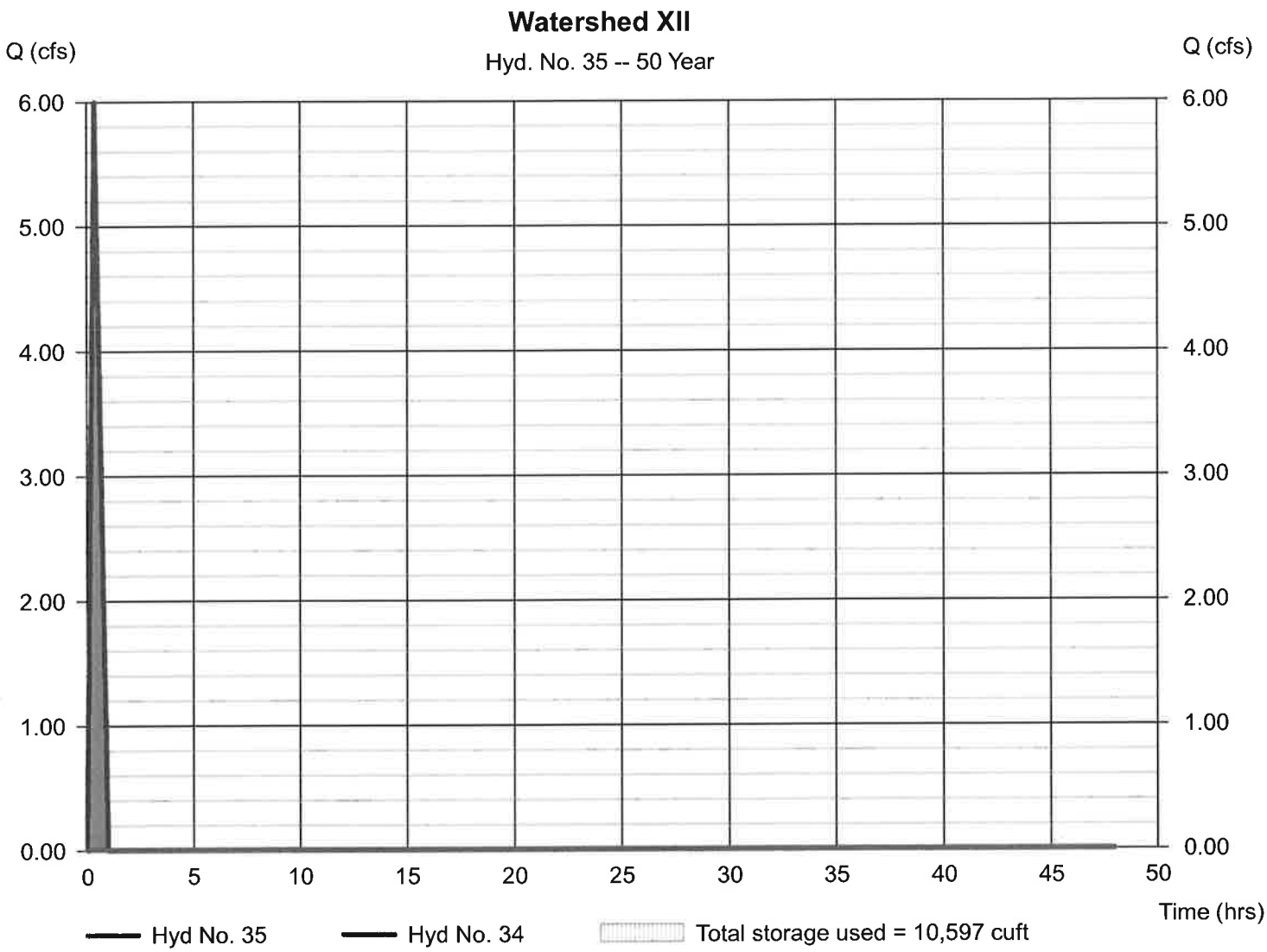
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 35

Watershed XII

Hydrograph type	= Reservoir	Peak discharge	= 0.007 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.98 hrs
Time interval	= 1 min	Hyd. volume	= 1,167 cuft
Inflow hyd. No.	= 34 - Watershed XII	Max. Elevation	= 546.31 ft
Reservoir name	= Watershed XII	Max. Storage	= 10,597 cuft

Storage Indication method used.



Hydrograph Report

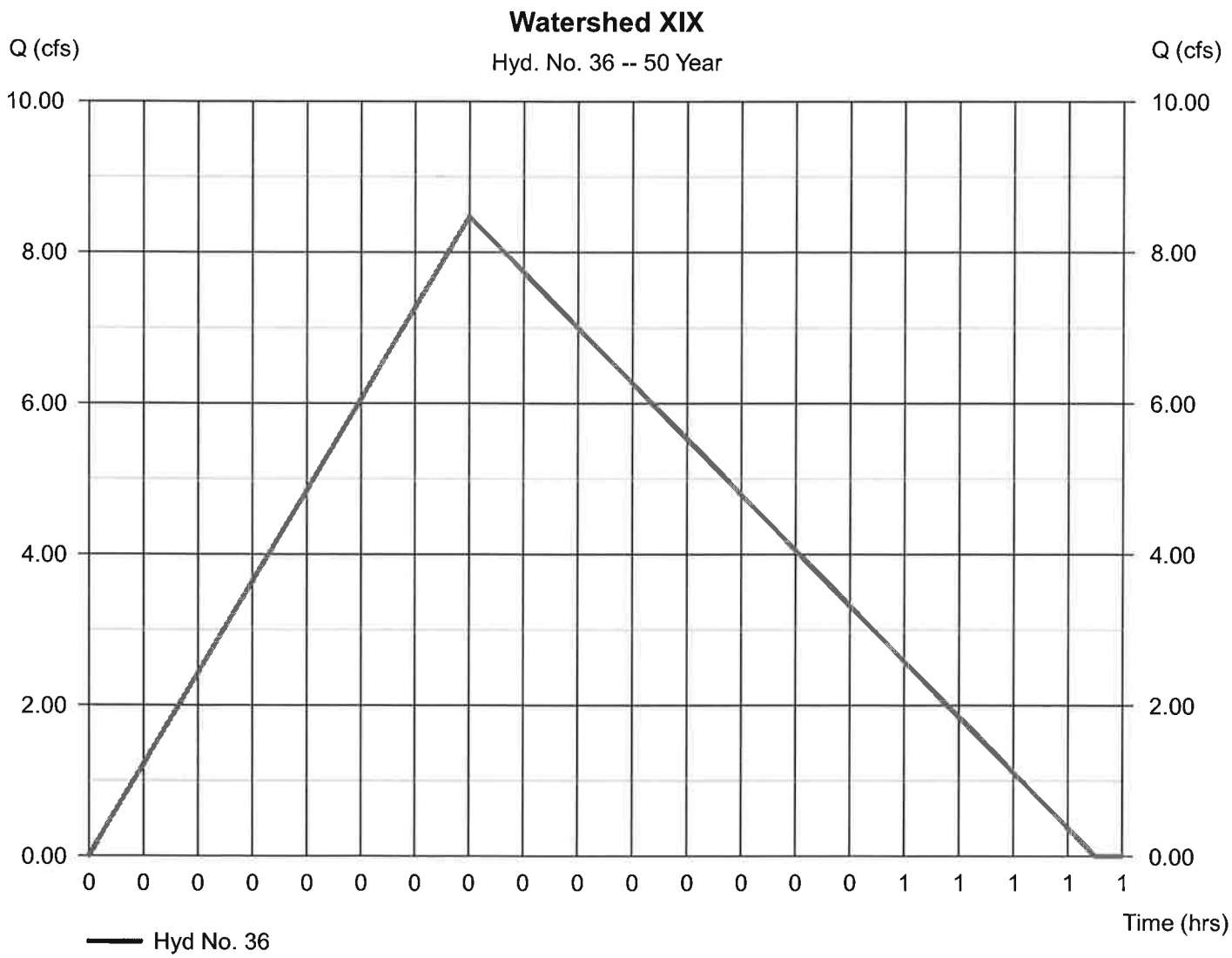
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 36

Watershed XIX

Hydrograph type	= Rational	Peak discharge	= 8.472 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.23 hrs
Time interval	= 1 min	Hyd. volume	= 9,501 cuft
Drainage area	= 5.860 ac	Runoff coeff.	= 0.27*
Intensity	= 5.355 in/hr	Tc by TR55	= 14.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.400 x 0.90) + (1.500 x 0.30) + (3.960 x 0.20)] / 5.860



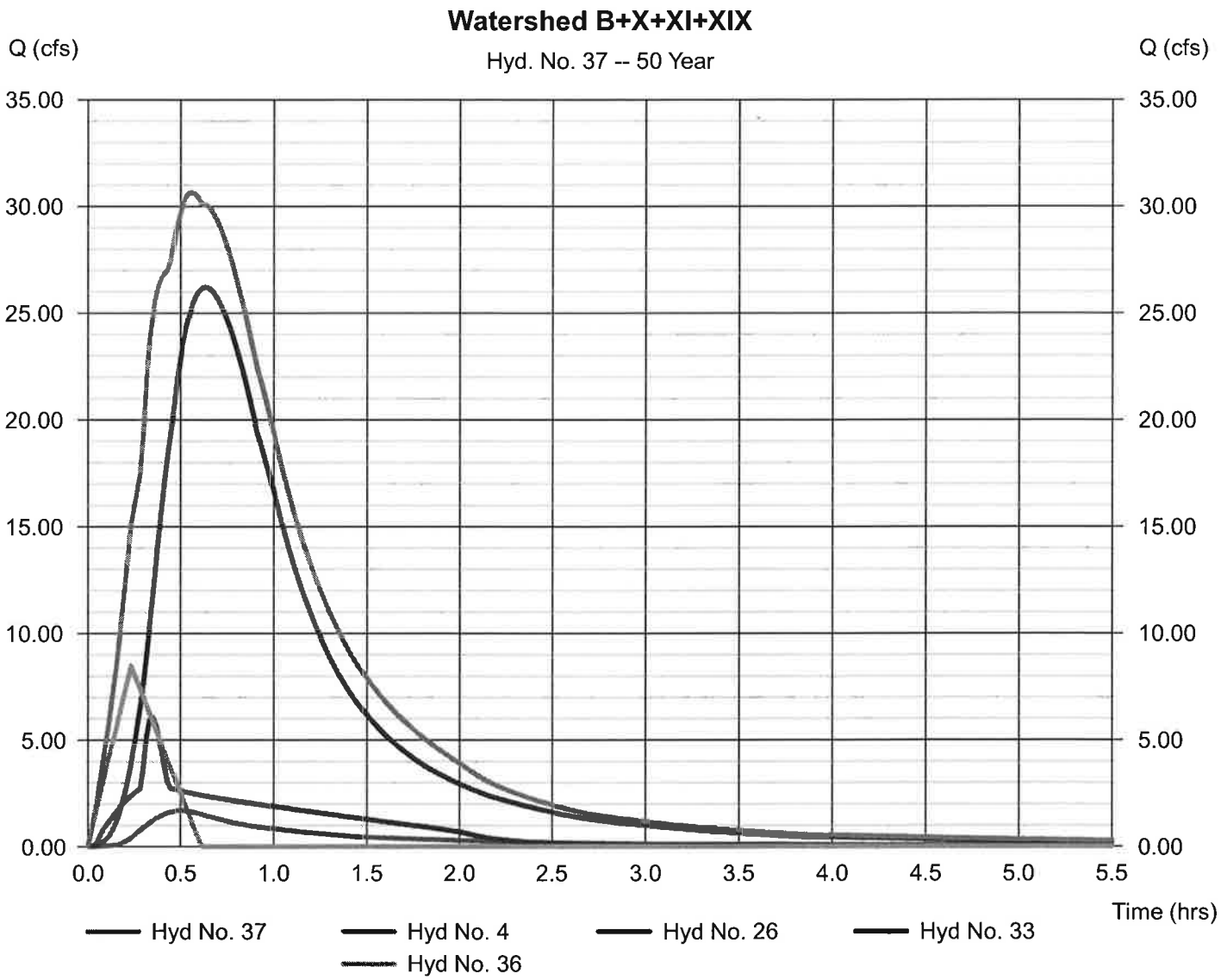
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 | Wednesday, Mar 30, 2016

Hyd. No. 37

Watershed B+X+XI+XIX

Hydrograph type	= Combine	Peak discharge	= 30.63 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.57 hrs
Time interval	= 1 min	Hyd. volume	= 124,406 cuft
Inflow hyds.	= 4, 26, 33, 36	Contrib. drain. area	= 5.860 ac



Hydrograph Report

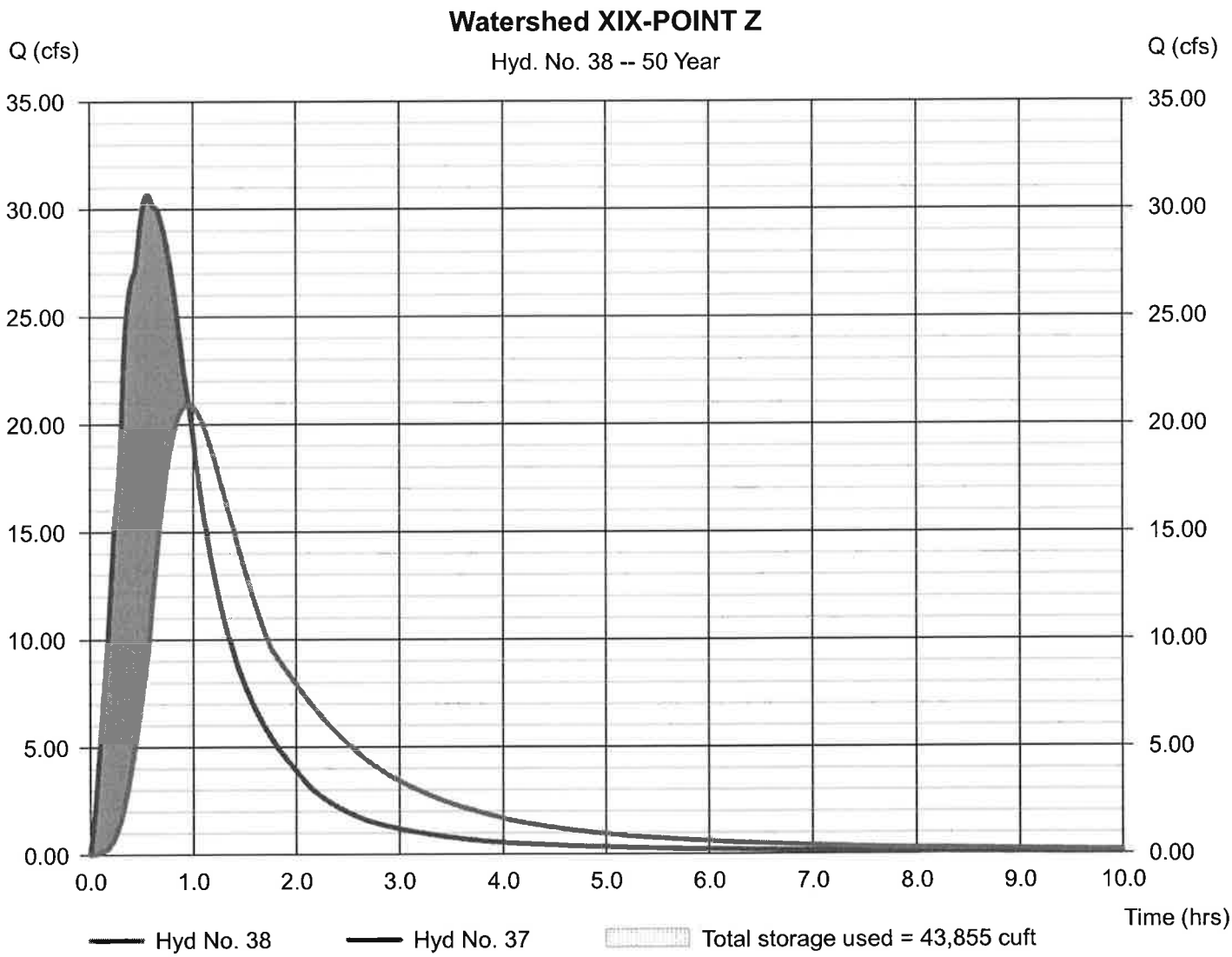
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 38

Watershed XIX-POINT Z

Hydrograph type	= Reservoir	Peak discharge	= 20.92 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.95 hrs
Time interval	= 1 min	Hyd. volume	= 124,396 cuft
Inflow hyd. No.	= 37 - Watershed B+X+XI+XIX	Max. Elevation	= 542.16 ft
Reservoir name	= Watershed XIX	Max. Storage	= 43,855 cuft

Storage Indication method used.



Hydrograph Report

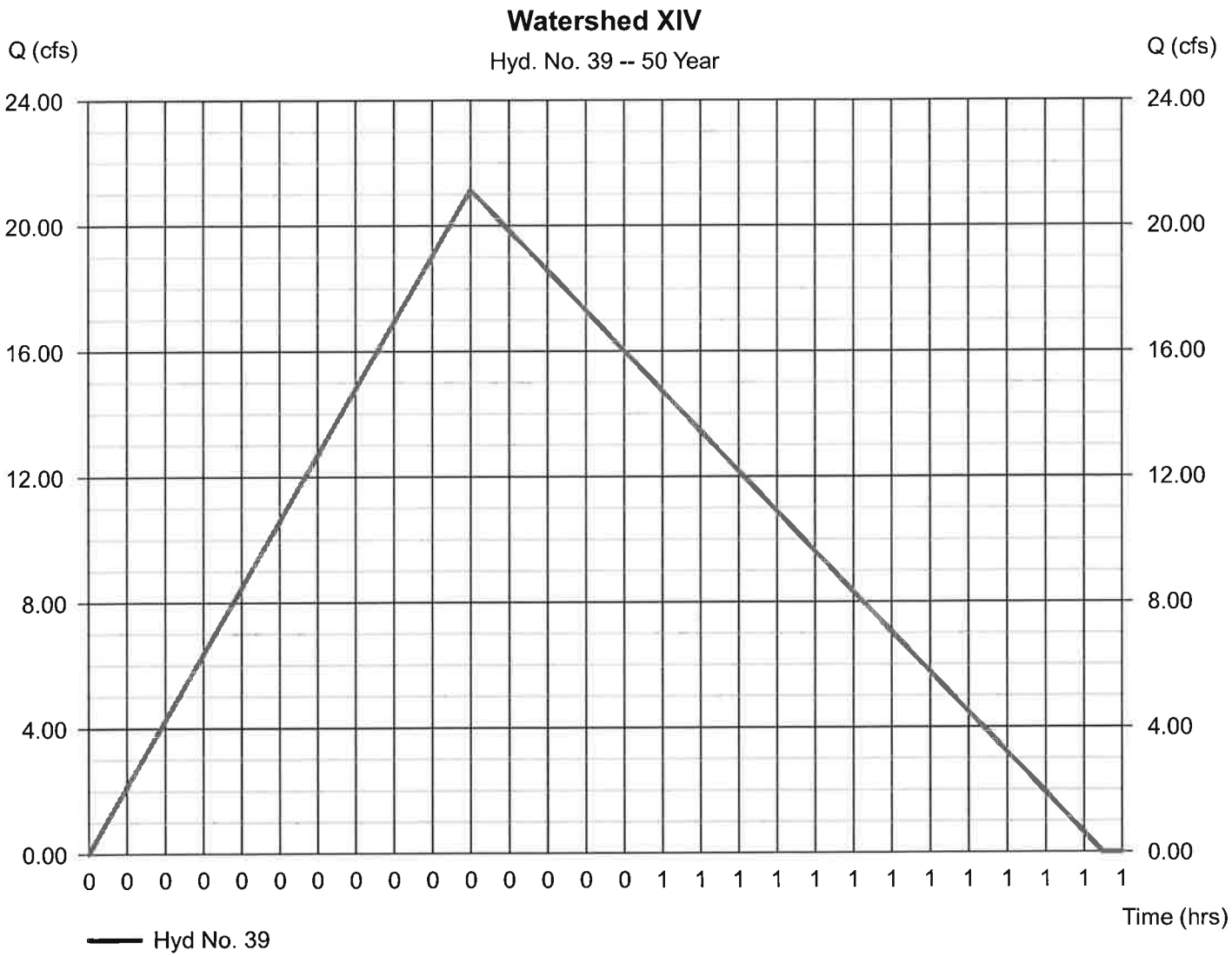
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 39

Watershed XIV

Hydrograph type	= Rational	Peak discharge	= 21.13 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 33,845 cuft
Drainage area	= 15.400 ac	Runoff coeff.	= 0.3*
Intensity	= 4.573 in/hr	Tc by TR55	= 20.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.000 x 0.90) + (5.100 x 0.30) + (8.800 x 0.20) + (0.500 x 1.00)] / 15.400



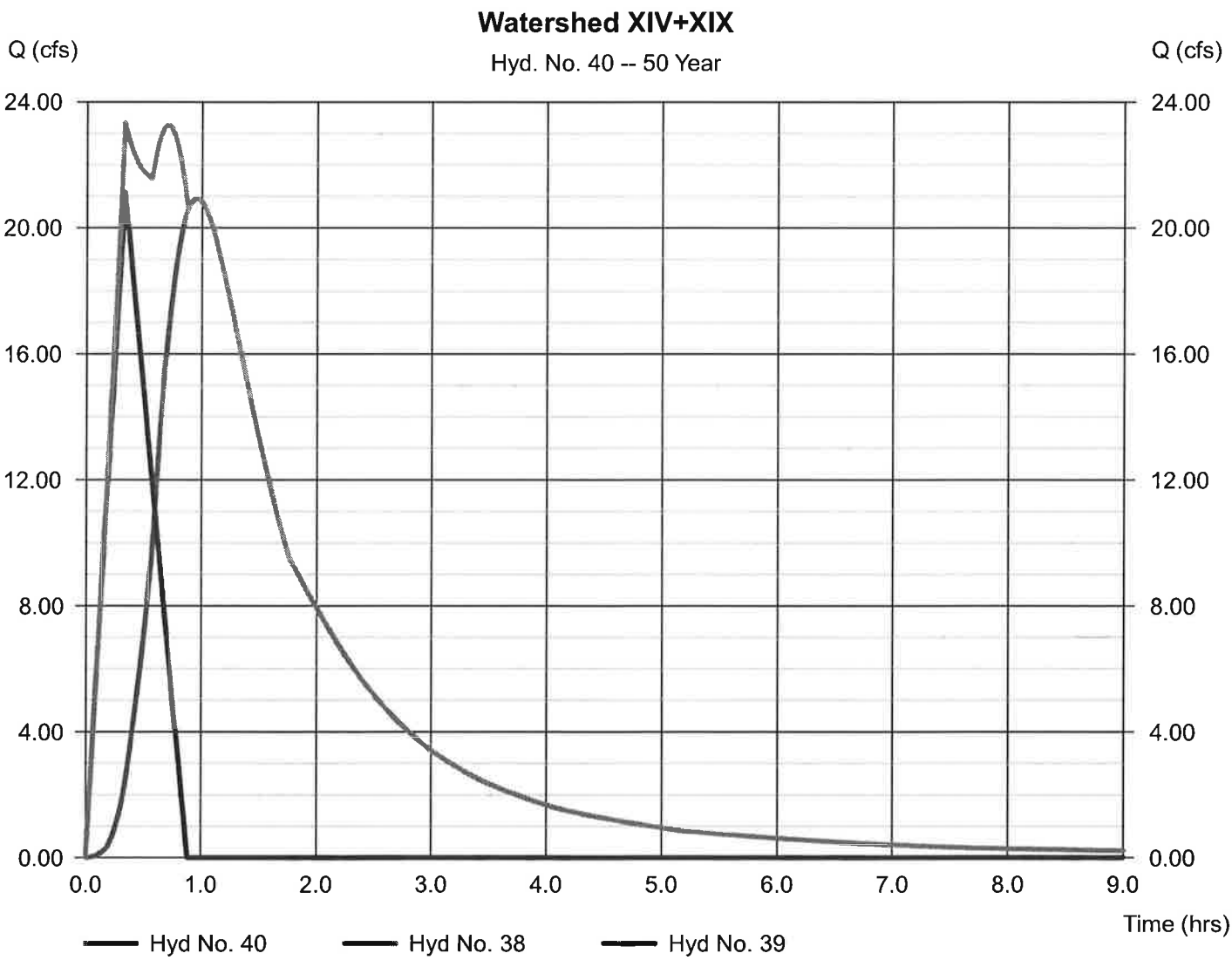
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 40

Watershed XIV+XIX

Hydrograph type	= Combine	Peak discharge	= 23.33 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 157,988 cuft
Inflow hyds.	= 38, 39	Contrib. drain. area	= 15.400 ac



Hydrograph Report

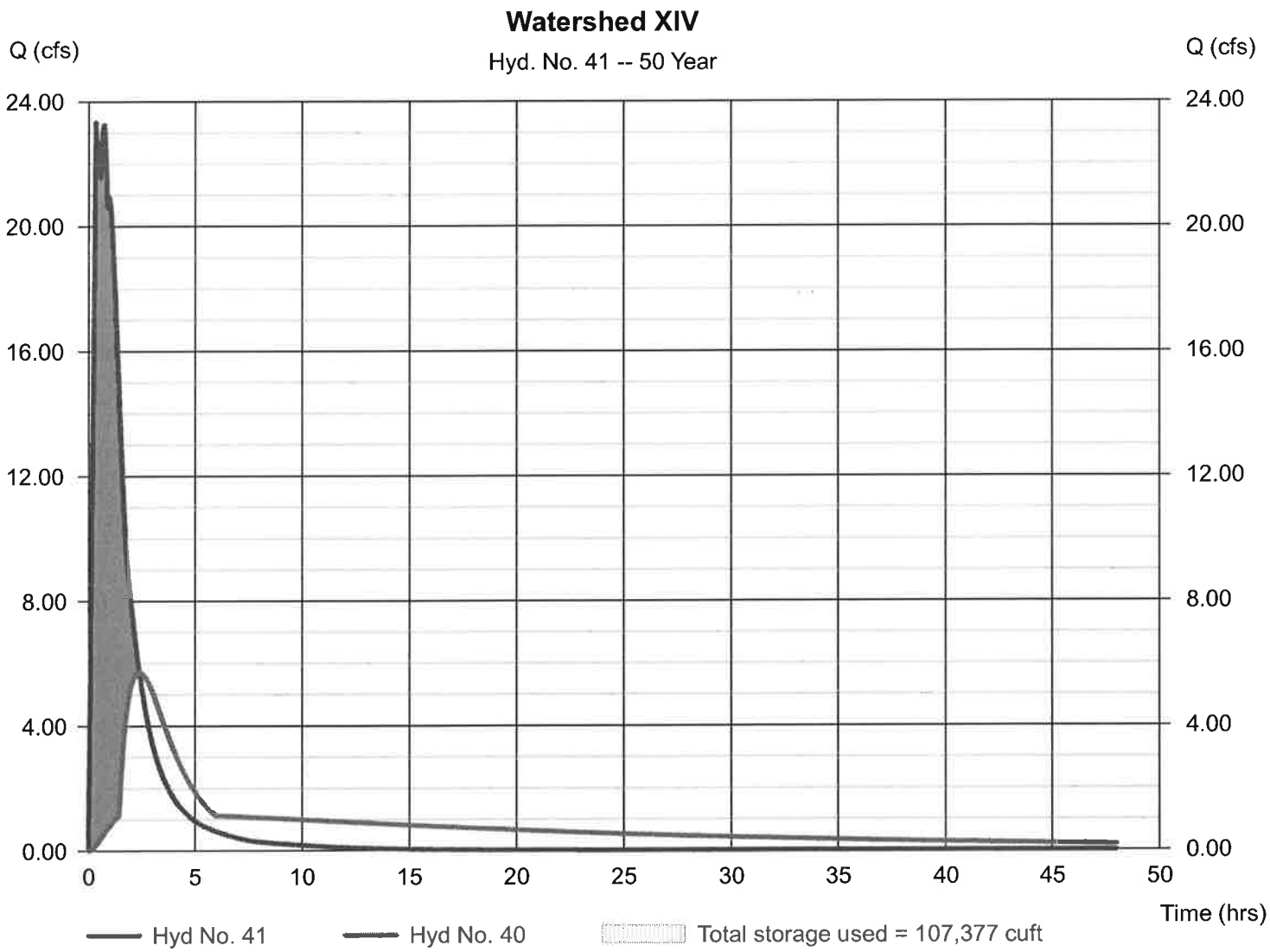
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 41

Watershed XIV

Hydrograph type	= Reservoir	Peak discharge	= 5.719 cfs
Storm frequency	= 50 yrs	Time to peak	= 2.38 hrs
Time interval	= 1 min	Hyd. volume	= 141,568 cuft
Inflow hyd. No.	= 40 - Watershed XIV+XIX	Max. Elevation	= 539.63 ft
Reservoir name	= Watershed XIV	Max. Storage	= 107,377 cuft

Storage Indication method used.



Hydrograph Report

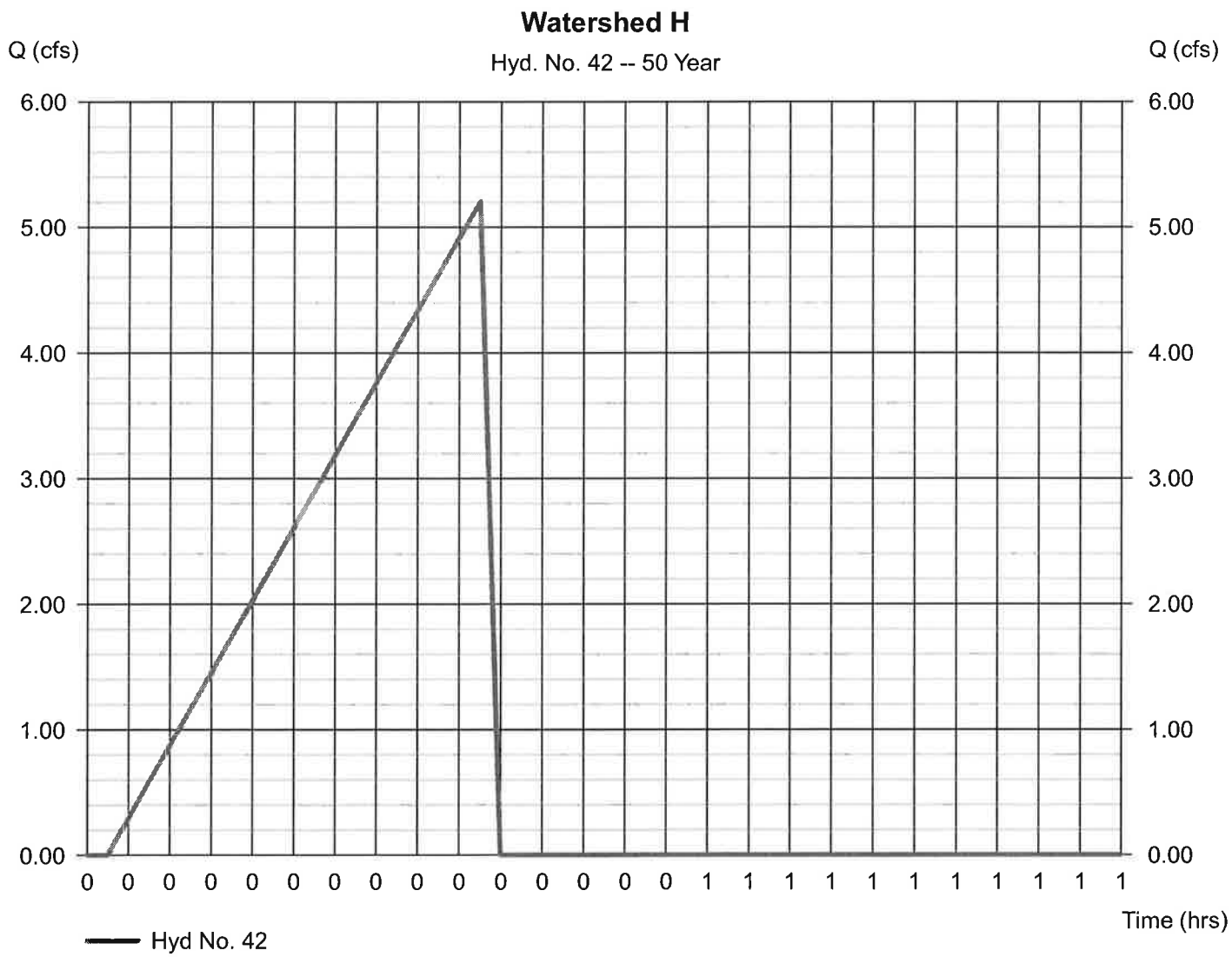
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 42

Watershed H

Hydrograph type	= Rational	Peak discharge	= 5.204 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 7,789 cuft
Drainage area	= 3.800 ac	Runoff coeff.	= 0.29*
Intensity	= 4.722 in/hr	Tc by TR55	= 18.69 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.200 x 0.90) + (0.100 x 0.30) + (2.500 x 0.20) + (0.800 x 0.25) + (0.200 x 1.00)] / 3.800



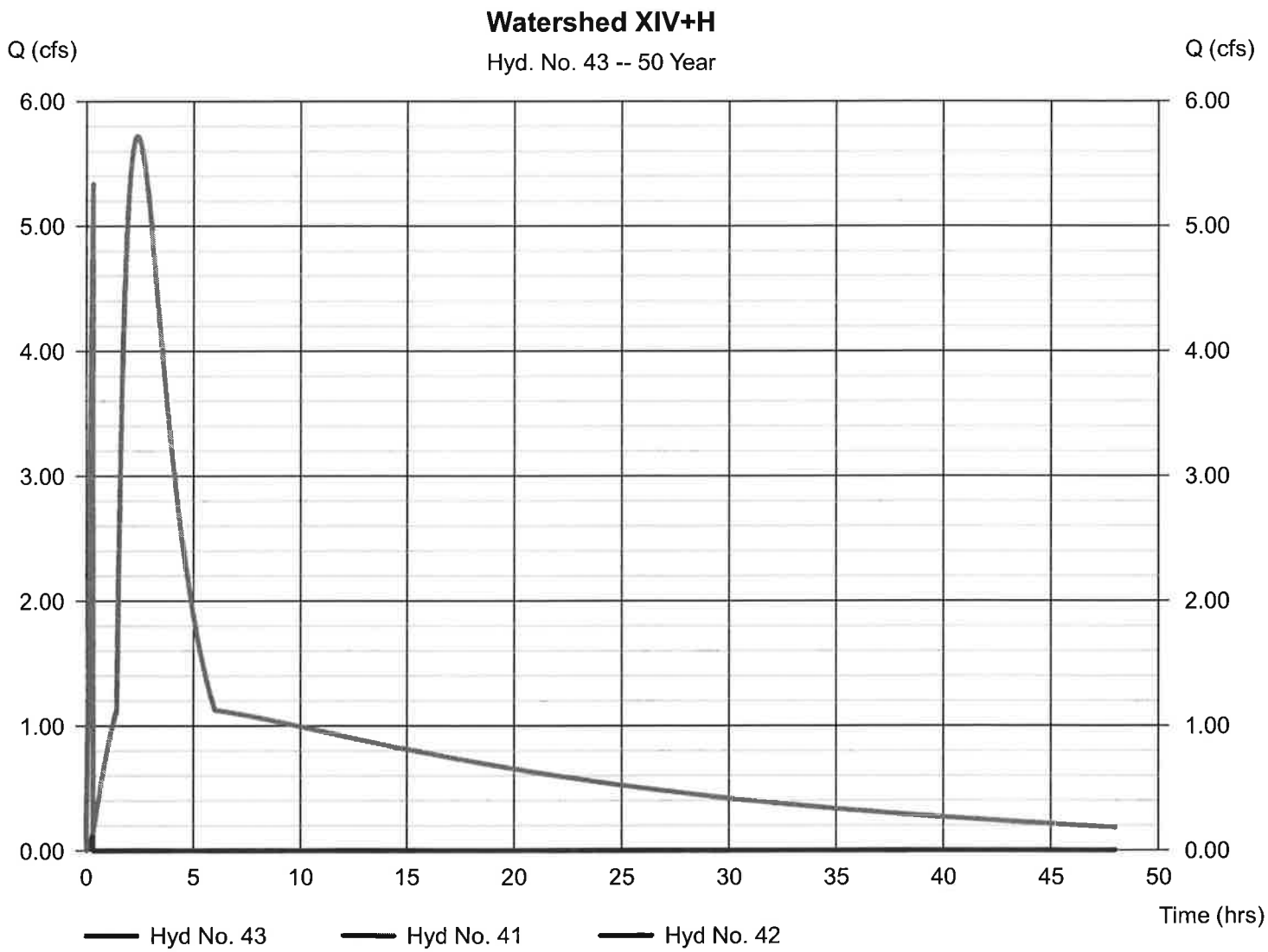
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 43

Watershed XIV+H

Hydrograph type	= Combine	Peak discharge	= 5.719 cfs
Storm frequency	= 50 yrs	Time to peak	= 2.38 hrs
Time interval	= 1 min	Hyd. volume	= 144,535 cuft
Inflow hyds.	= 41, 42	Contrib. drain. area	= 3.800 ac



Hydrograph Report

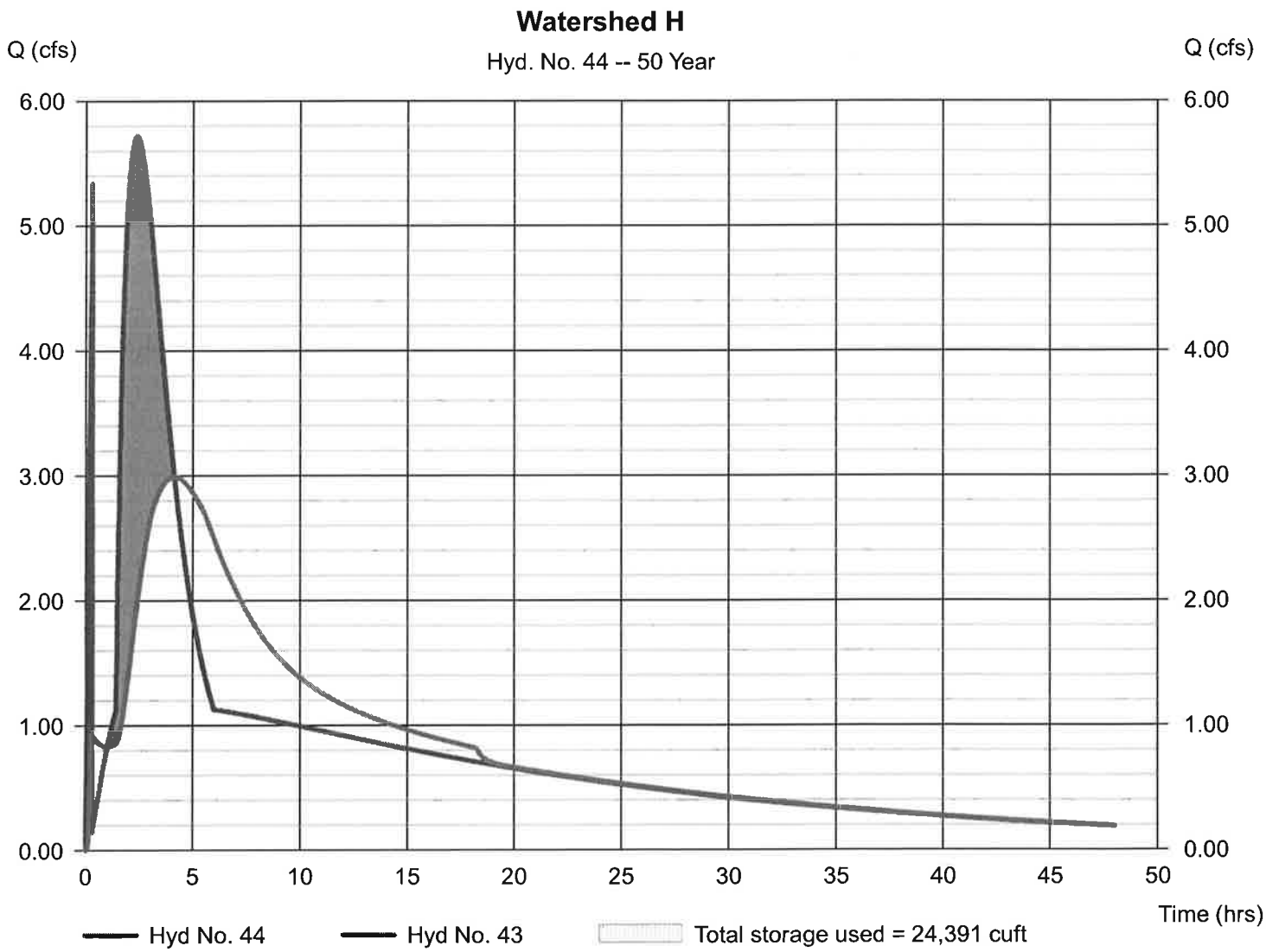
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 44

Watershed H

Hydrograph type	= Reservoir	Peak discharge	= 2.988 cfs
Storm frequency	= 50 yrs	Time to peak	= 4.13 hrs
Time interval	= 1 min	Hyd. volume	= 143,848 cuft
Inflow hyd. No.	= 43 - Watershed XIV+H	Max. Elevation	= 536.73 ft
Reservoir name	= Watershed H	Max. Storage	= 24,391 cuft

Storage Indication method used.



Hydrograph Report

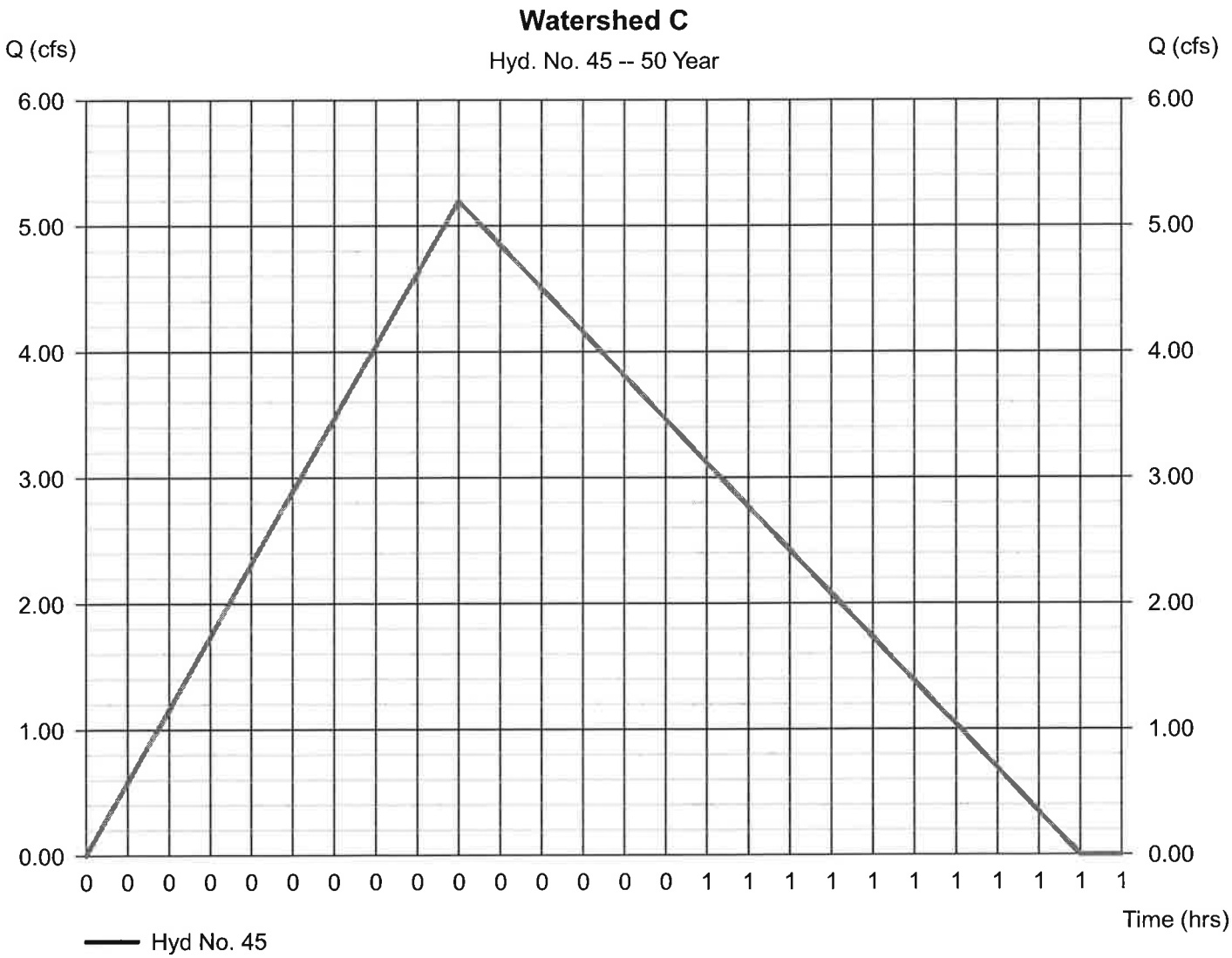
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 45

Watershed C

Hydrograph type	= Rational	Peak discharge	= 5.193 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.30 hrs
Time interval	= 1 min	Hyd. volume	= 7,612 cuft
Drainage area	= 3.300 ac	Runoff coeff.	= 0.33*
Intensity	= 4.768 in/hr	Tc by TR55	= 18.30 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.400 x 0.90) + (1.200 x 0.30) + (1.400 x 0.20) + (0.300 x 0.25)] / 3.300



Hydrograph Report

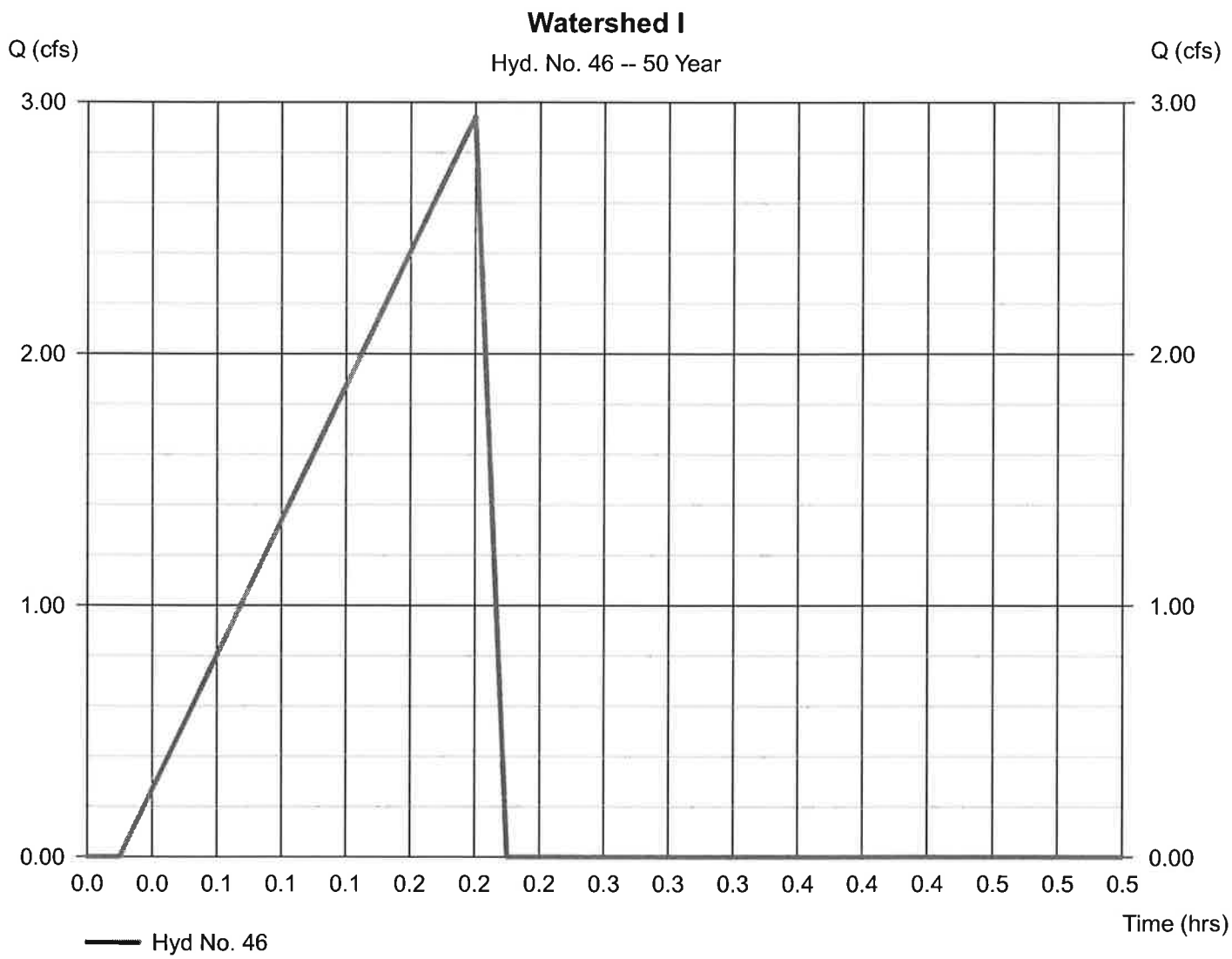
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 46

Watershed I

Hydrograph type	= Rational	Peak discharge	= 2.942 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 2,717 cuft
Drainage area	= 1.500 ac	Runoff coeff.	= 0.34*
Intensity	= 5.769 in/hr	Tc by TR55	= 11.53 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.200 x 0.90) + (0.700 x 0.30) + (0.600 x 0.20)] / 1.500



Hydrograph Report

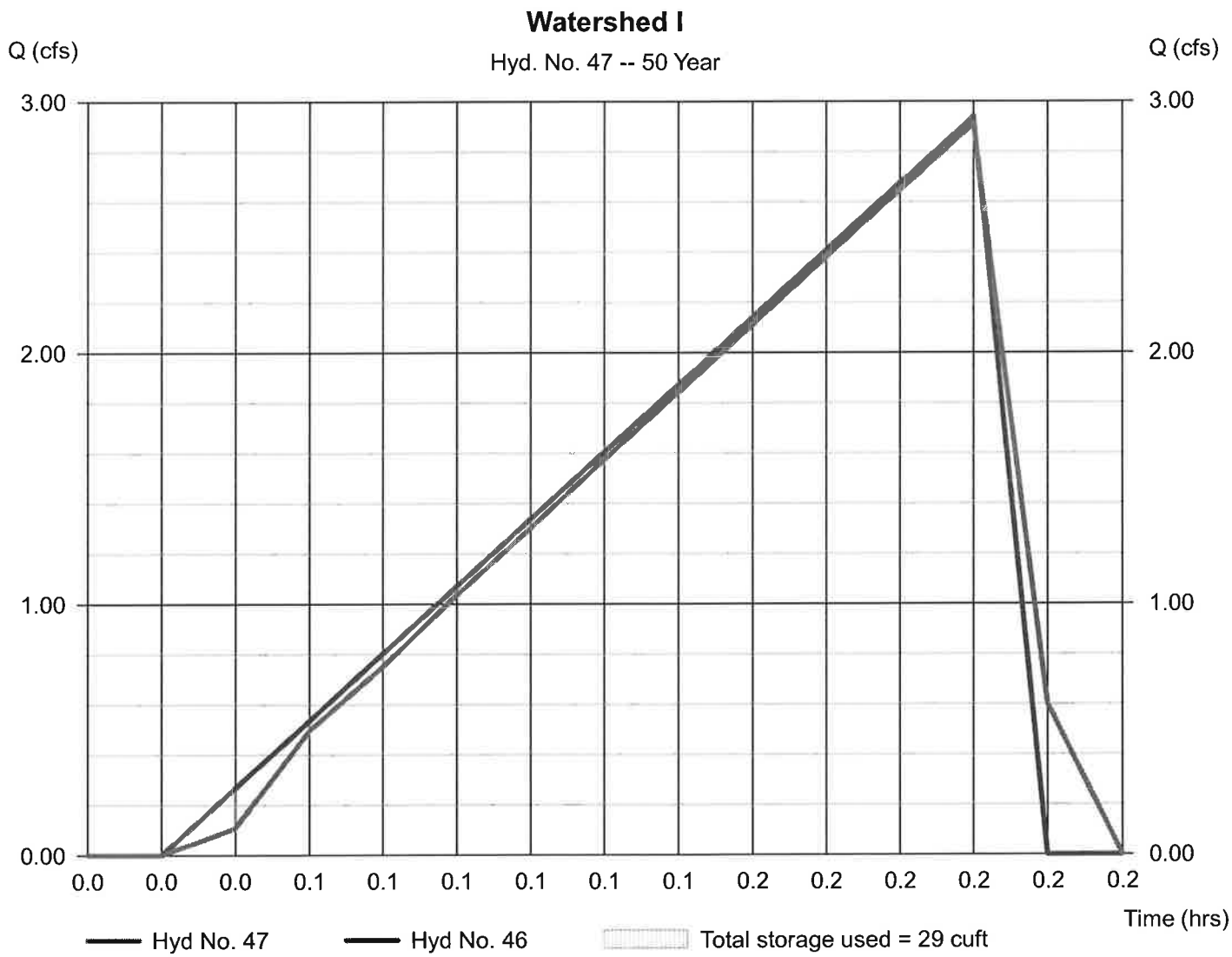
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 47

Watershed I

Hydrograph type	= Reservoir	Peak discharge	= 2.913 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 1,065 cuft
Inflow hyd. No.	= 46 - Watershed I	Max. Elevation	= 531.65 ft
Reservoir name	= Watershed I	Max. Storage	= 29 cuft

Storage Indication method used.



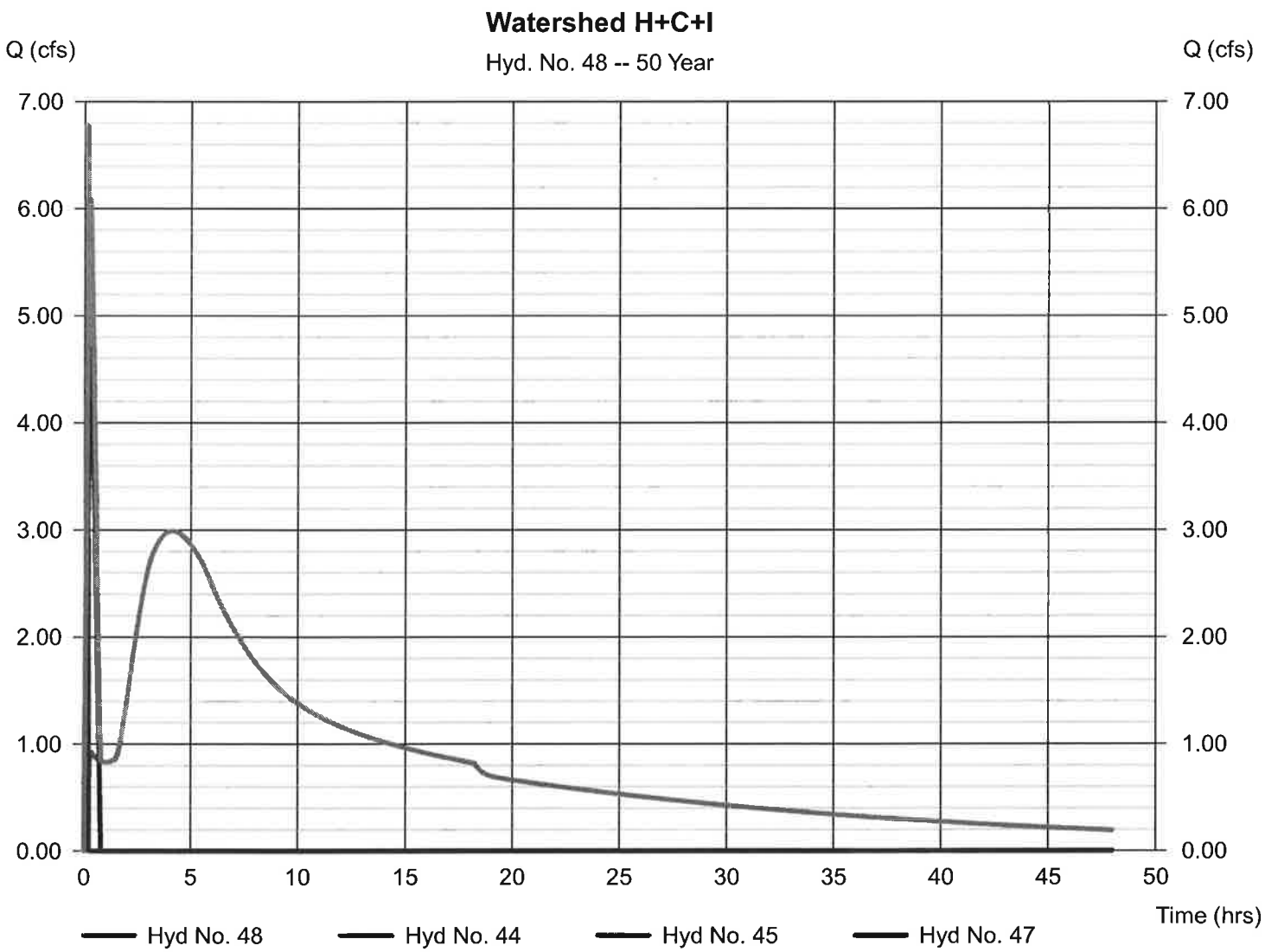
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 48

Watershed H+C+I

Hydrograph type	= Combine	Peak discharge	= 6.771 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 152,391 cuft
Inflow hyds.	= 44, 45, 47	Contrib. drain. area	= 3.300 ac



Hydrograph Report

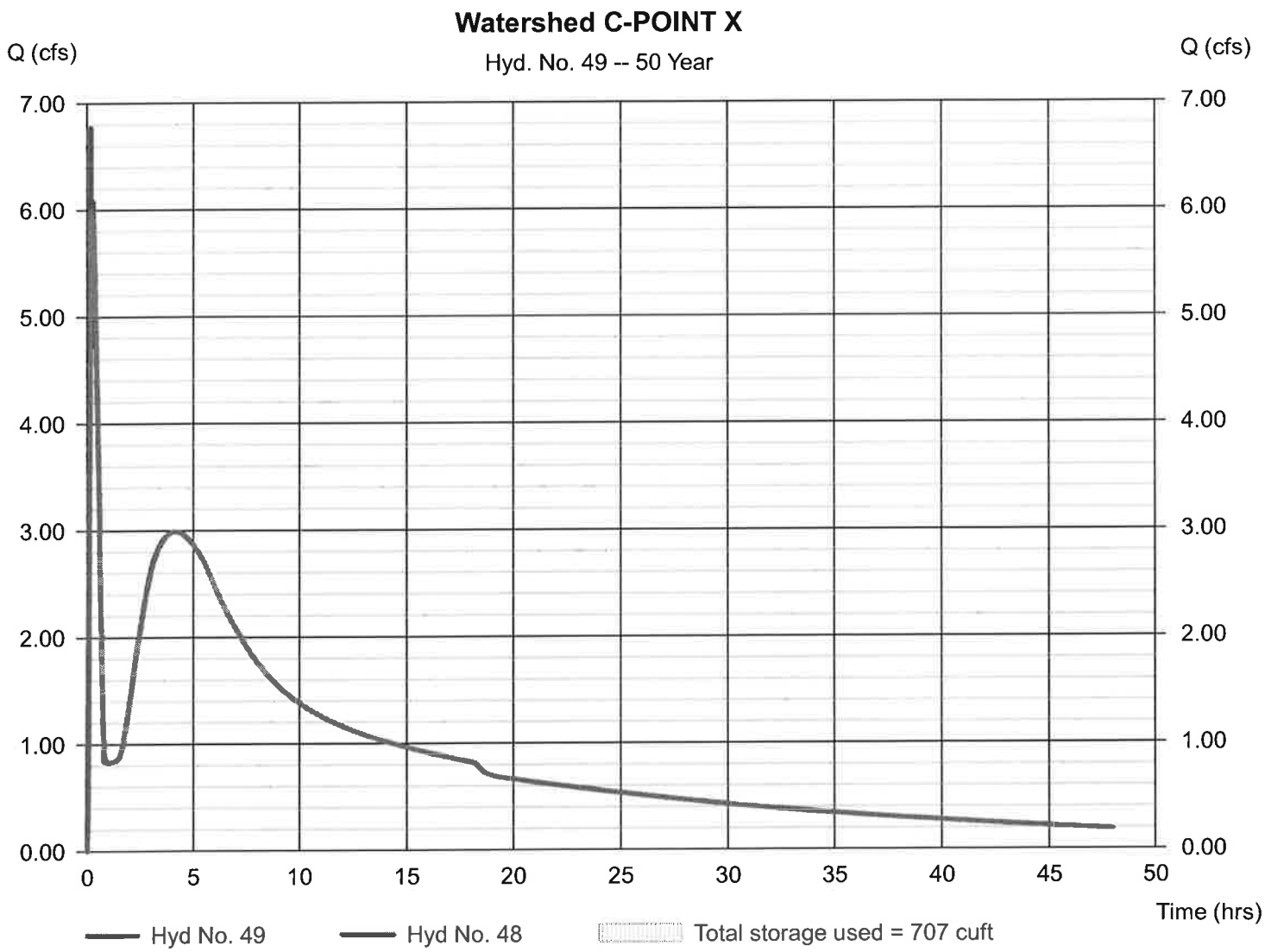
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 49

Watershed C-POINT X

Hydrograph type	= Reservoir	Peak discharge	= 5.990 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 152,324 cuft
Inflow hyd. No.	= 48 - Watershed H+C+I	Max. Elevation	= 529.99 ft
Reservoir name	= Watershed C	Max. Storage	= 707 cuft

Storage Indication method used.



Hydrograph Report

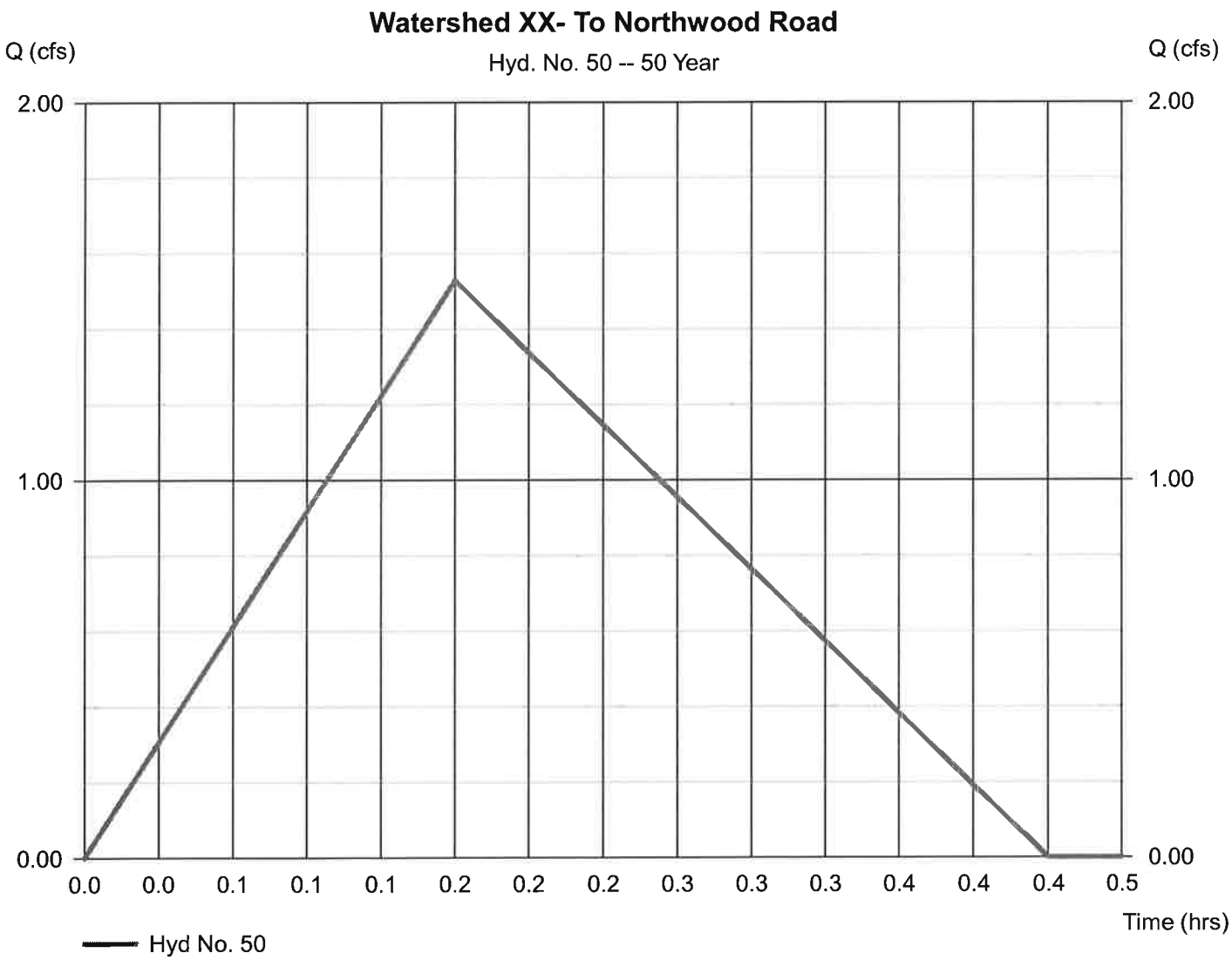
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 50

Watershed XX- To Northwood Road

Hydrograph type	= Rational	Peak discharge	= 1.528 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 1,224 cuft
Drainage area	= 0.720 ac	Runoff coeff.	= 0.35*
Intensity	= 6.062 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.100 x 0.90) + (0.360 x 0.30) + (0.260 x 0.20)] / 0.720



Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.1

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	Rational	10.35	1	17	14,098	----	------	------	Watershed A
2	Reservoir	3.537	1	35	13,954	1	566.42	8,954	Watershed A
3	Rational	7.676	1	14	8,327	----	------	------	Watershed B
4	Reservoir	1.932	1	30	8,047	3	567.12	6,247	Watershed B
5	Rational	4.442	1	21	7,400	----	------	------	Watershed I(1)
6	Rational	6.011	1	19	9,177	----	------	------	Wateshed II
7	Rational	7.922	1	10	6,345	----	------	------	Watershed IIA
8	Reservoir	1.555	1	23	6,173	7	563.46	4,717	Wateshed IIA
9	Rational	5.845	1	13	6,086	----	------	------	Watershed VIII
10	Rational	9.336	1	10	7,478	----	------	------	Watershed VIIIA
11	Reservoir	1.512	1	23	7,274	10	560.31	5,842	Watershed VIIIA
12	Rational	0.017	1	10	14	----	------	------	Watershed IX
13	Rational	3.460	1	10	2,772	----	------	------	Watershed IXA
14	Reservoir	1.537	1	19	2,697	13	555.07	1,326	Watershed IXA
15	Combine	13.10	1	21	29,659	5, 6, 8, 11,	------	------	Combine
16	Combine	18.67	1	19	38,332	9, 12, 14, 15	------	------	Watershed-Point Y
17	Rational	7.969	1	15	9,575	----	------	------	Watershed III
18	Rational	2.517	1	10	2,016	----	------	------	Watershed IV
19	Rational	11.65	1	10	9,331	----	------	------	Watershed IVA
20	Reservoir	4.990	1	19	2,272	19	553.95	7,420	Watershed IVA
21	Combine	14.25	1	19	25,789	2, 17, 20	------	------	Watershed A+III+VI
22	Rational	4.492	1	10	3,598	----	------	------	Watershed VI
23	Rational	6.134	1	10	4,914	----	------	------	Watershed VIA
24	Reservoir	1.547	1	22	4,780	23	551.43	3,346	Watershed VIA
25	Rational	19.84	1	10	15,888	----	------	------	Watershed VIIA
26	Reservoir	8.250	1	19	15,461	25	547.97	11,163	Watershed VIIA
27	Rational	1.950	1	10	1,562	----	------	------	Watershed X
28	Rational	38.17	1	23	70,319	----	------	------	Watershed V
29	Rational	3.265	1	10	2,615	----	------	------	Watershed XA
30	Reservoir	2.400	1	15	2,546	29	558.65	978	Watershed XA
31	Rational	0.452	1	10	362	----	------	------	Watershed VII
32	Combine	52.86	1	23	102,965	21, 24, 28, 30,	------	------	Combine
33	Reservoir	30.03	1	37	102,959	32	544.48	45,783	Watershed V

Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.1

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
34	Rational	6.602	1	22	11,881	----	------	------	Watershed XII
35	Reservoir	0.007	1	59	1,186	34	546.34	11,666	Watershed XII
36	Rational	9.225	1	14	10,345	----	------	------	Watershed XIX
37	Combine	34.97	1	34	136,707	4, 26, 33, 36	------	------	Watershed B+X+XI+XIX
38	Reservoir	24.04	1	55	136,697	37	542.20	47,394	Watershed XIX-POINT Z
39	Rational	23.19	1	20	37,154	----	------	------	Watershed XIV
40	Combine	27.56	1	41	173,573	38, 39	------	------	Watershed XIV+XIX
41	Reservoir	7.315	1	129	157,105	40	539.72	113,241	Watershed XIV
42	Rational	5.704	1	19	8,537	----	------	------	Watershed H
43	Combine	7.315	1	129	160,356	41, 42	------	------	Watershed XIV+H
44	Reservoir	3.366	1	247	159,668	43	537.03	33,900	Watershed H
45	Rational	5.689	1	18	8,339	----	------	------	Watershed C
46	Rational	3.190	1	12	2,946	----	------	------	Watershed I
47	Reservoir	3.161	1	12	1,155	46	531.70	30.7	Watershed I
48	Combine	7.419	1	12	169,015	44, 45, 47	------	------	Watershed H+C+I
49	Reservoir	6.577	1	12	168,948	48	530.05	747	Watershed C-POINT X
50	Rational	1.652	1	10	1,323	----	------	------	Watershed XX- To Northwood Roa

Hydrograph Report

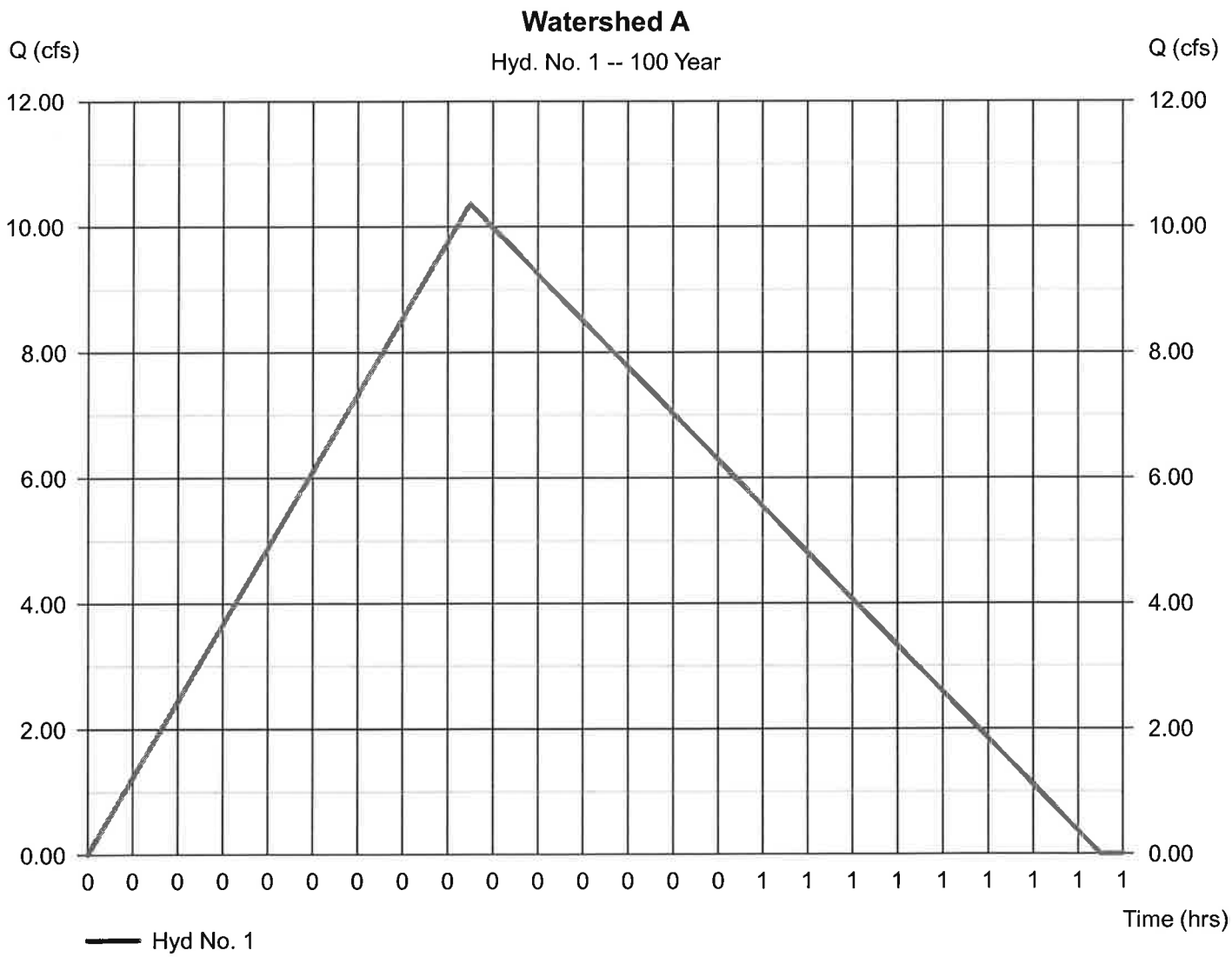
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 1

Watershed A

Hydrograph type	= Rational	Peak discharge	= 10.35 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.28 hrs
Time interval	= 1 min	Hyd. volume	= 14,098 cuft
Drainage area	= 8.000 ac	Runoff coeff.	= 0.24*
Intensity	= 5.392 in/hr	Tc by TR55	= 17.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.400 x 0.90) + (0.500 x 0.30) + (7.100 x 0.20)] / 8.000



Hydrograph Report

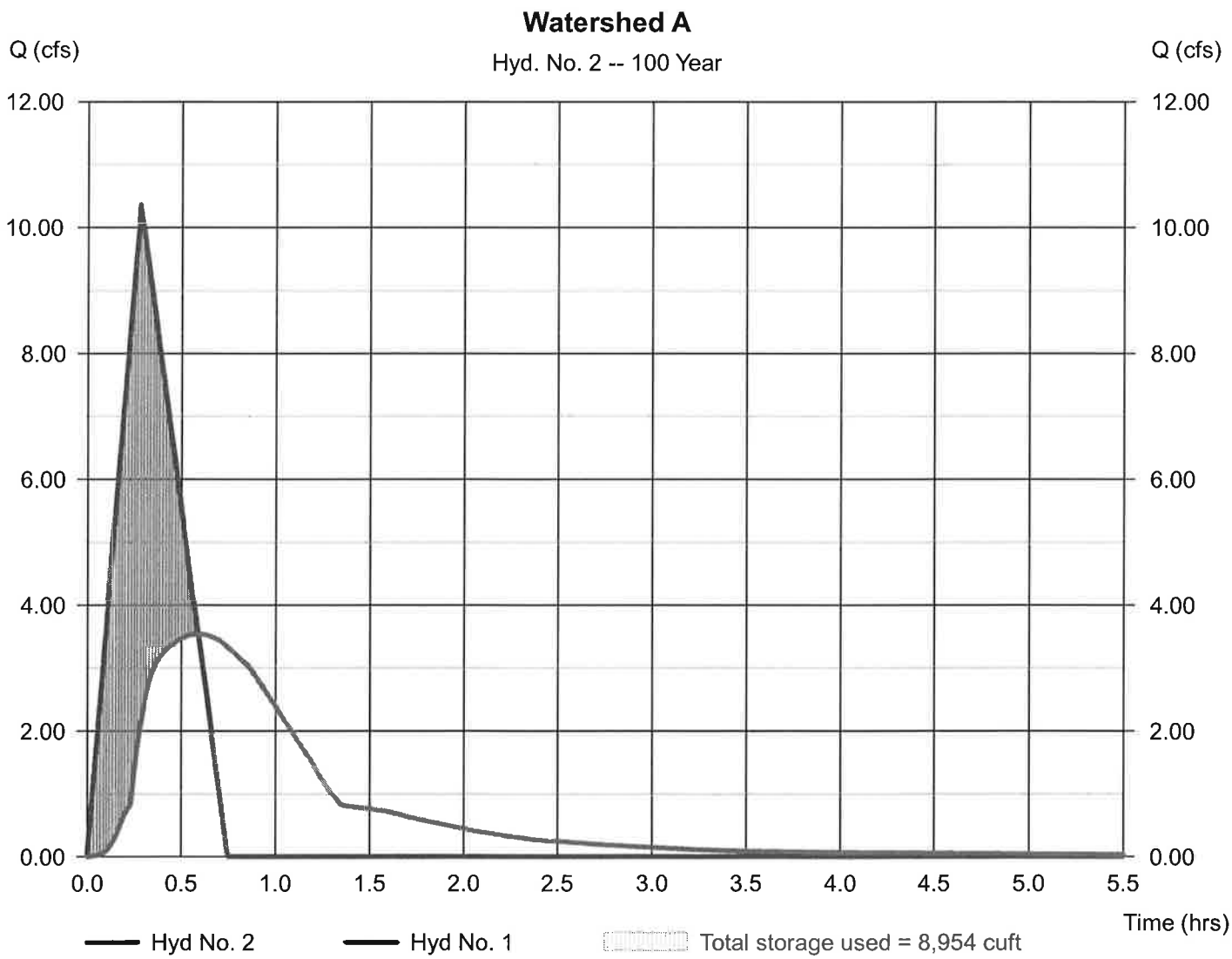
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 2

Watershed A

Hydrograph type	= Reservoir	Peak discharge	= 3.537 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.58 hrs
Time interval	= 1 min	Hyd. volume	= 13,954 cuft
Inflow hyd. No.	= 1 - Watershed A	Max. Elevation	= 566.42 ft
Reservoir name	= Watershed A	Max. Storage	= 8,954 cuft

Storage Indication method used.



Hydrograph Report

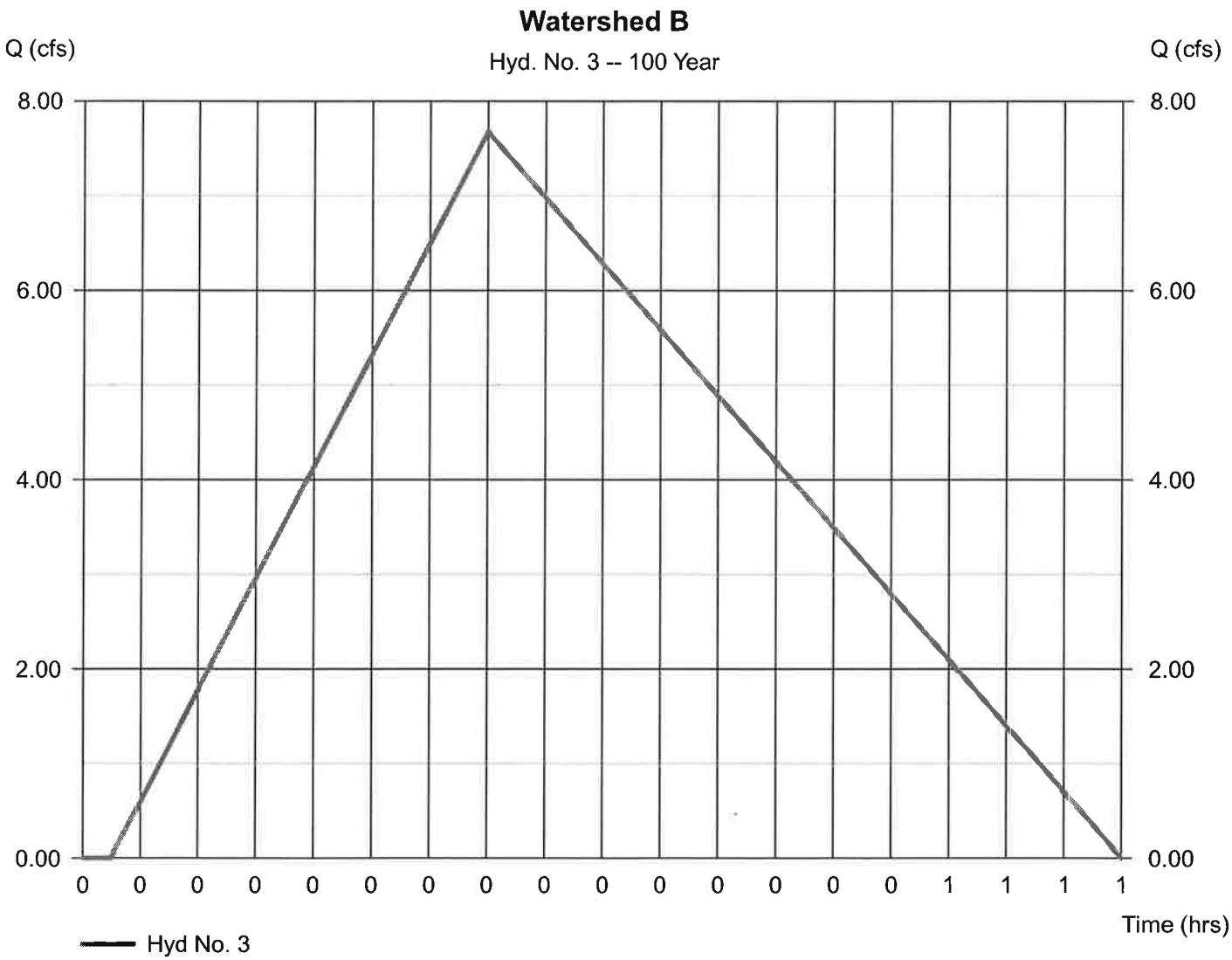
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 3

Watershed B

Hydrograph type	= Rational	Peak discharge	= 7.676 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.23 hrs
Time interval	= 1 min	Hyd. volume	= 8,327 cuft
Drainage area	= 5.200 ac	Runoff coeff.	= 0.25*
Intensity	= 5.904 in/hr	Tc by TR55	= 13.54 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.300 x 0.90) + (0.500 x 0.30) + (4.400 x 0.20)] / 5.200



Hydrograph Report

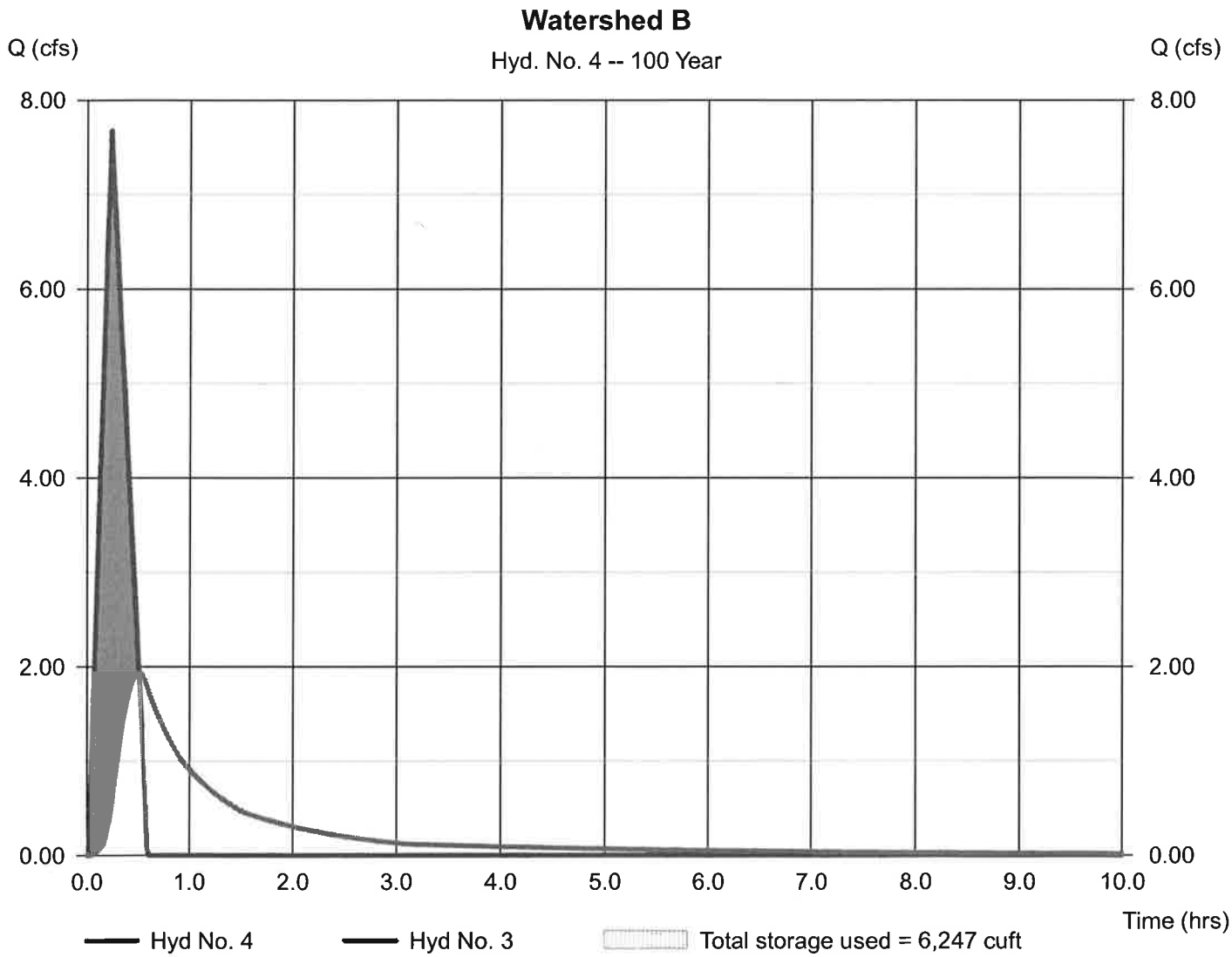
Hydraflow Hydrographs by Intelisolve v9.1 | Wednesday, Mar 30, 2016

Hyd. No. 4

Watershed B

Hydrograph type	= Reservoir	Peak discharge	= 1.932 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.50 hrs
Time interval	= 1 min	Hyd. volume	= 8,047 cuft
Inflow hyd. No.	= 3 - Watershed B	Max. Elevation	= 567.12 ft
Reservoir name	= Watershed B	Max. Storage	= 6,247 cuft

Storage Indication method used.



Hydrograph Report

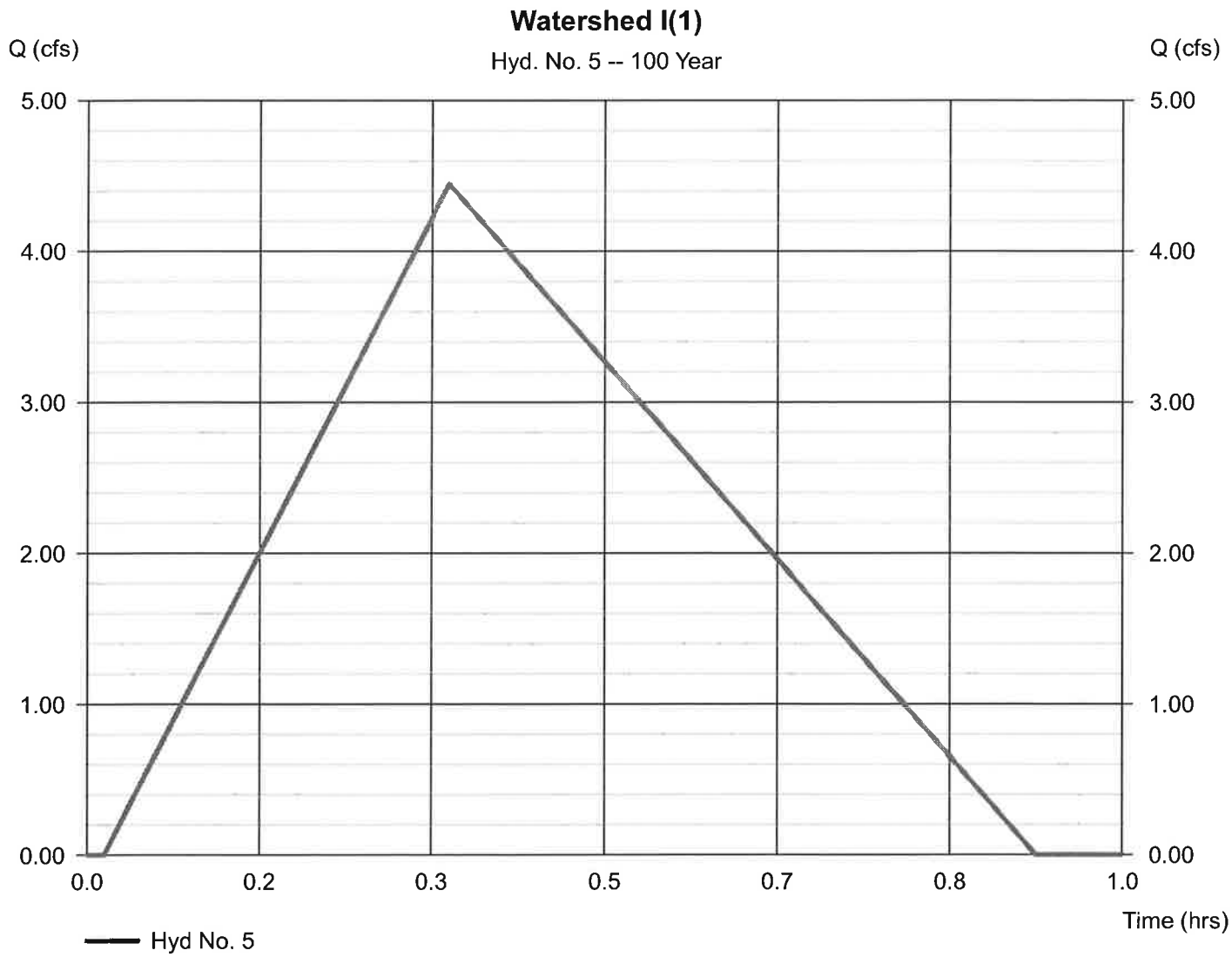
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 5

Watershed I(1)

Hydrograph type	= Rational	Peak discharge	= 4.442 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.35 hrs
Time interval	= 1 min	Hyd. volume	= 7,400 cuft
Drainage area	= 1.700 ac	Runoff coeff.	= 0.53*
Intensity	= 4.930 in/hr	Tc by TR55	= 20.80 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.700 x 0.90) + (0.700 x 0.30) + (0.300 x 0.20)] / 1.700



Hydrograph Report

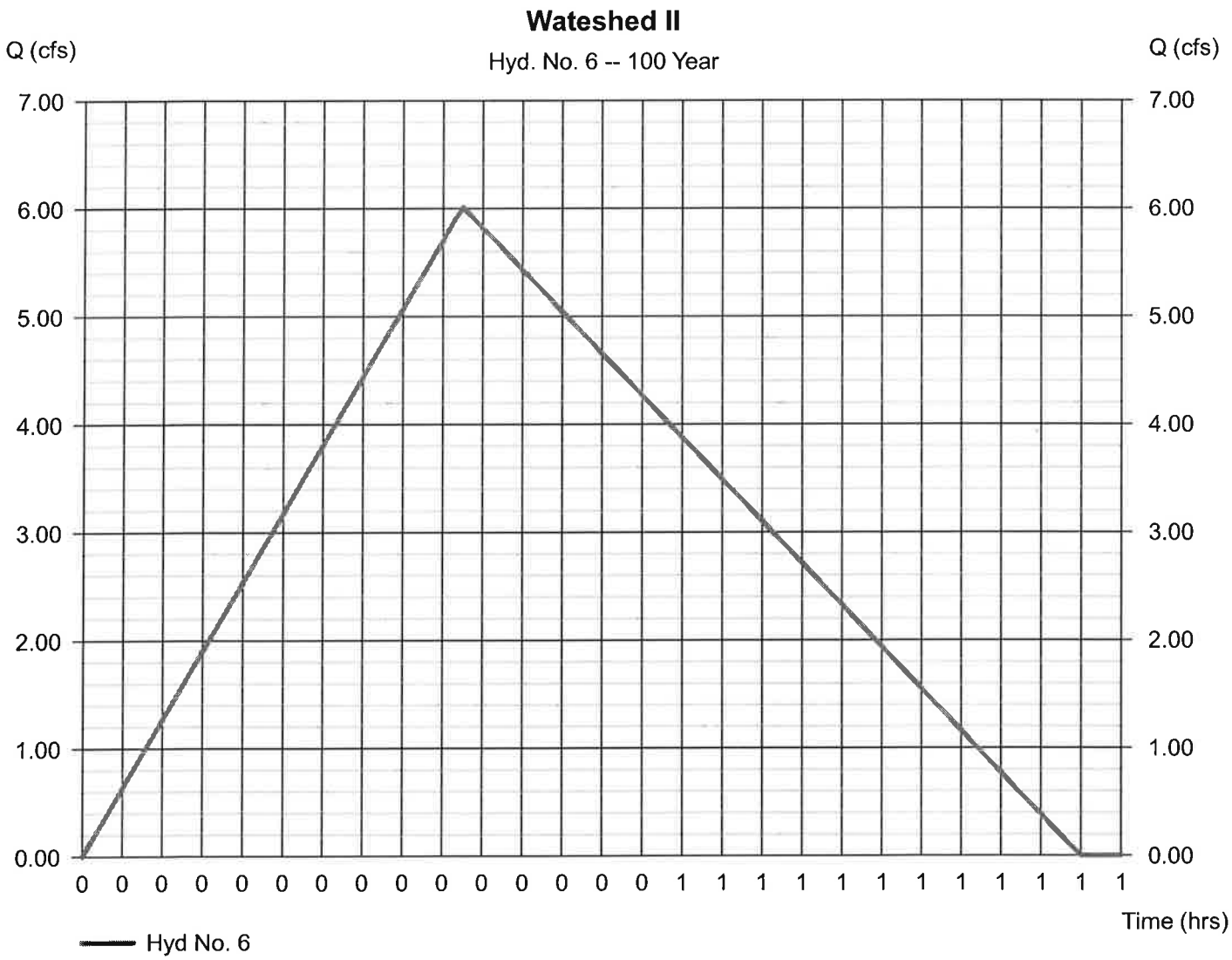
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 6

Wateshed II

Hydrograph type	= Rational	Peak discharge	= 6.011 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 9,177 cuft
Drainage area	= 4.040 ac	Runoff coeff.	= 0.29*
Intensity	= 5.130 in/hr	Tc by TR55	= 19.06 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.230 x 0.90) + (1.940 x 0.30) + (1.870 x 0.20)] / 4.040



Hydrograph Report

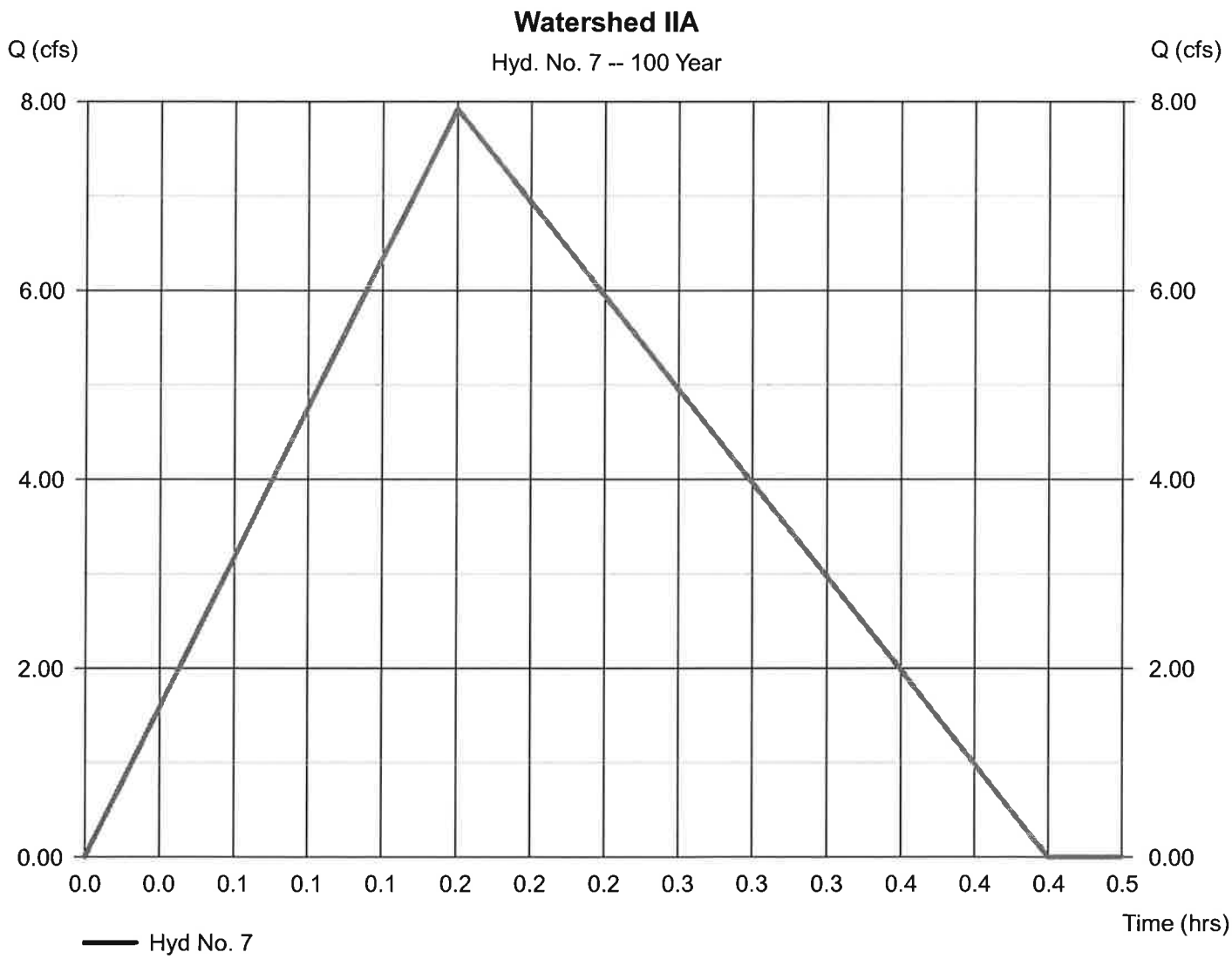
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 7

Watershed IIA

Hydrograph type	= Rational	Peak discharge	= 7.922 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 6,345 cuft
Drainage area	= 1.530 ac	Runoff coeff.	= 0.79*
Intensity	= 6.554 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.250 x 0.90) + (0.280 x 0.30)] / 1.530



Hydrograph Report

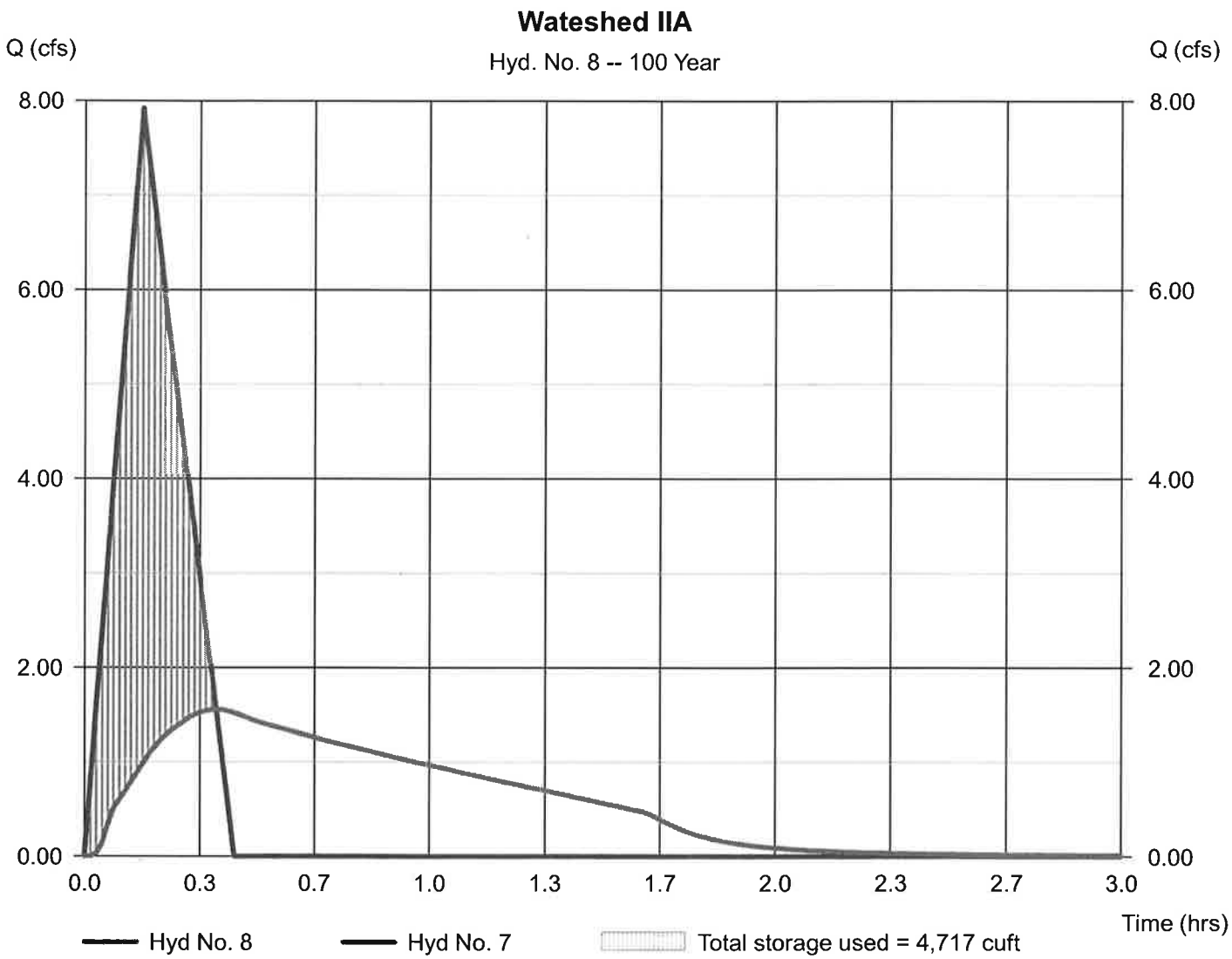
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 8

Wateshed IIA

Hydrograph type	= Reservoir	Peak discharge	= 1.555 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.38 hrs
Time interval	= 1 min	Hyd. volume	= 6,173 cuft
Inflow hyd. No.	= 7 - Watershed IIA	Max. Elevation	= 563.46 ft
Reservoir name	= Watershed IIA	Max. Storage	= 4,717 cuft

Storage Indication method used.



Hydrograph Report

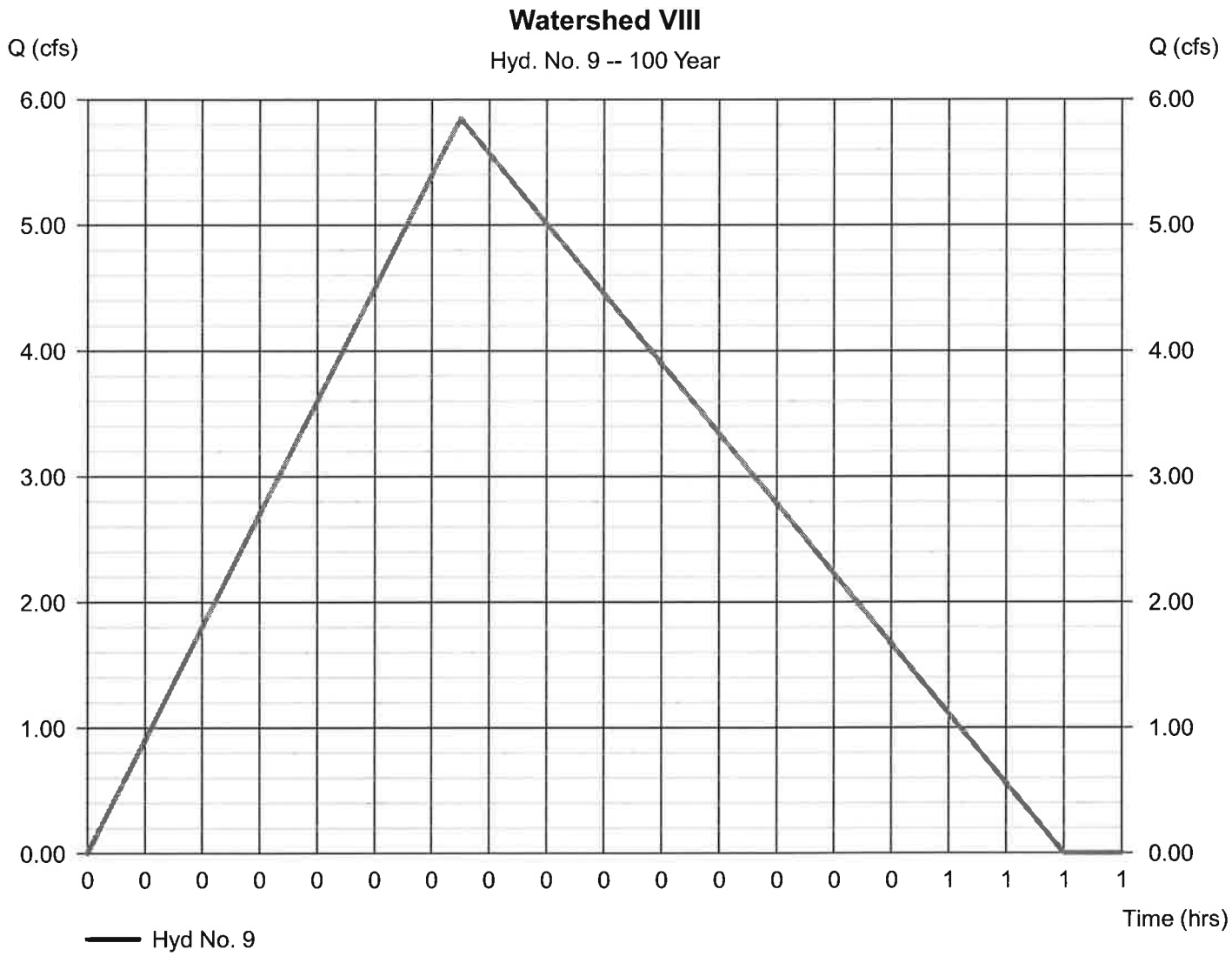
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 9

Watershed VIII

Hydrograph type	= Rational	Peak discharge	= 5.845 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.22 hrs
Time interval	= 1 min	Hyd. volume	= 6,086 cuft
Drainage area	= 3.250 ac	Runoff coeff.	= 0.3*
Intensity	= 5.995 in/hr	Tc by TR55	= 13.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.320 x 0.90) + (1.120 x 0.30) + (1.810 x 0.20)] / 3.250



Hydrograph Report

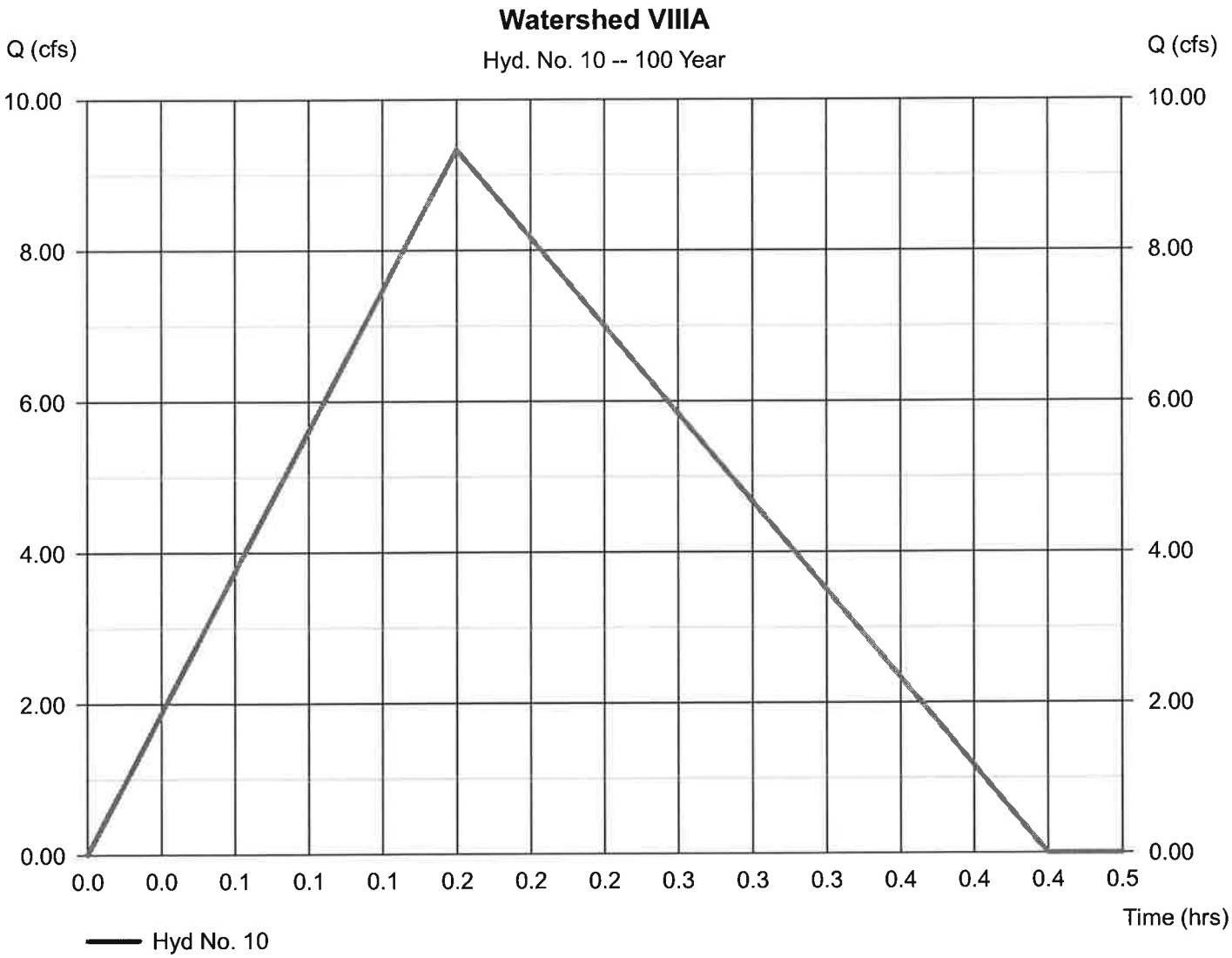
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 10

Watershed VIIIA

Hydrograph type	= Rational	Peak discharge	= 9.336 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 7,478 cuft
Drainage area	= 1.850 ac	Runoff coeff.	= 0.77*
Intensity	= 6.554 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.460 x 0.90) + (0.390 x 0.30)] / 1.850



Hydrograph Report

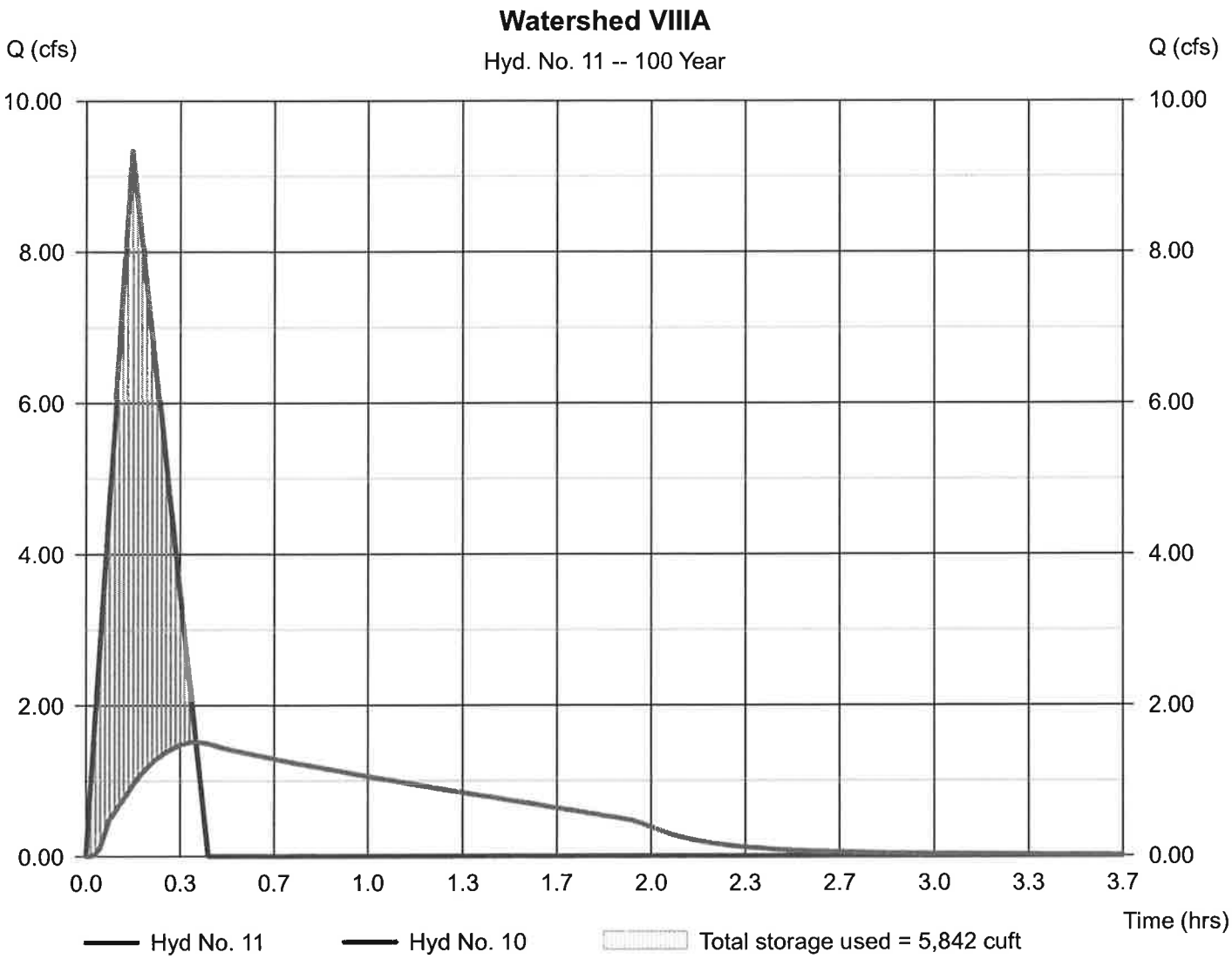
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 11

Watershed VIIIA

Hydrograph type	= Reservoir	Peak discharge	= 1.512 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.38 hrs
Time interval	= 1 min	Hyd. volume	= 7,274 cuft
Inflow hyd. No.	= 10 - Watershed VIIIA	Max. Elevation	= 560.31 ft
Reservoir name	= Watershed VIIIA	Max. Storage	= 5,842 cuft

Storage Indication method used.



Hydrograph Report

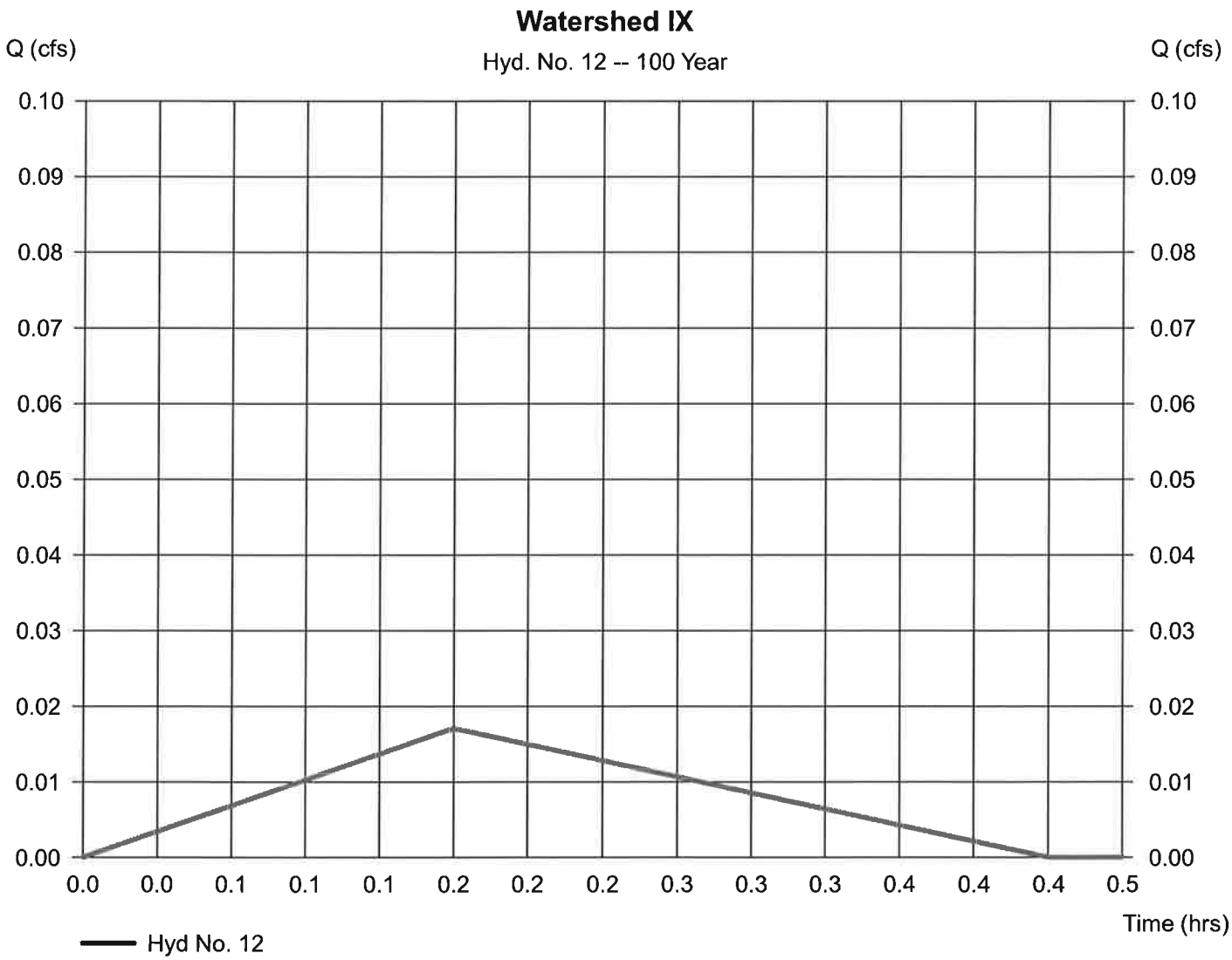
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 12

Watershed IX

Hydrograph type	= Rational	Peak discharge	= 0.017 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 14 cuft
Drainage area	= 0.260 ac	Runoff coeff.	= 0.01*
Intensity	= 6.554 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.010 x 0.30)] / 0.260



Hydrograph Report

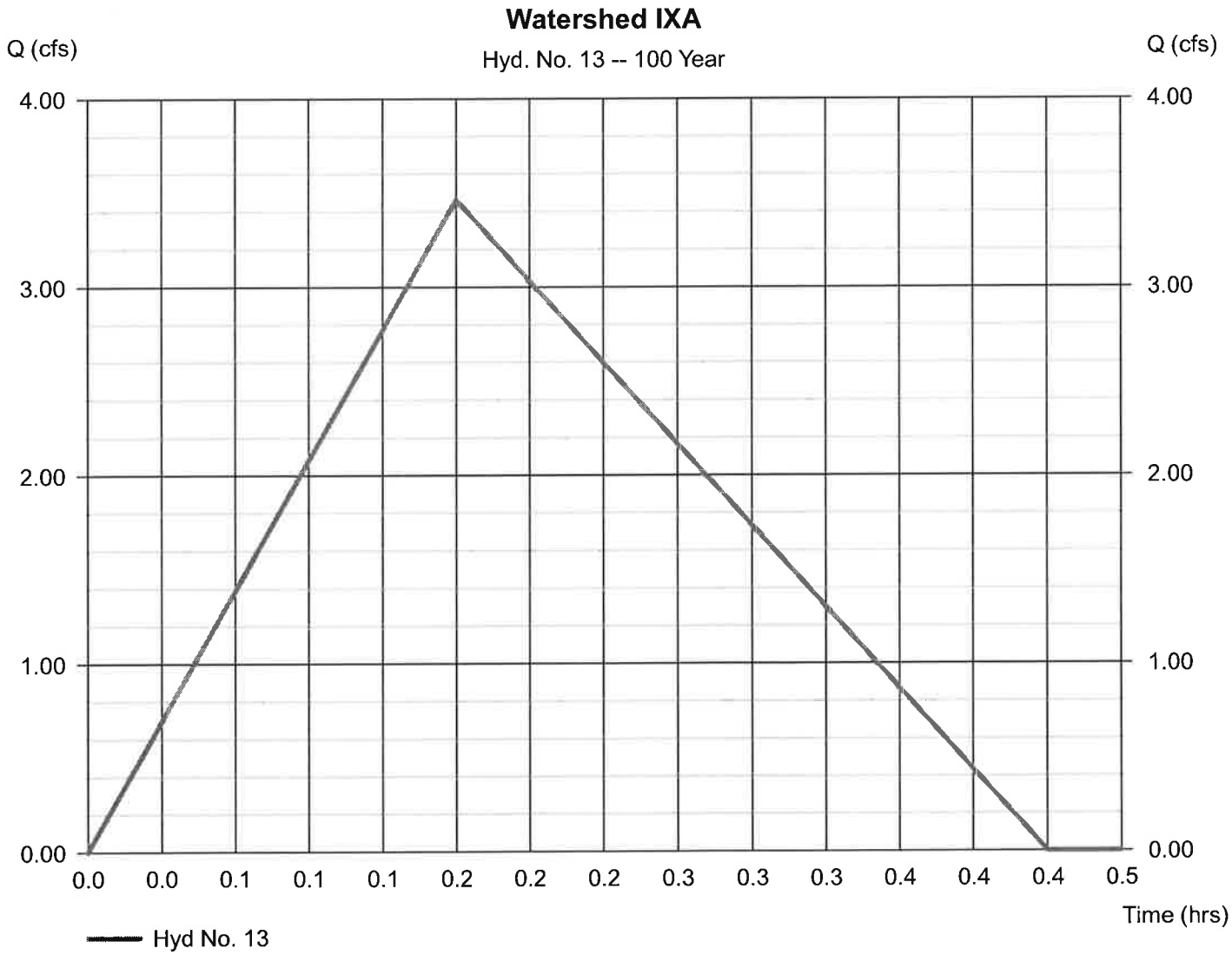
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 13

Watershed IXA

Hydrograph type	= Rational	Peak discharge	= 3.460 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 2,772 cuft
Drainage area	= 0.880 ac	Runoff coeff.	= 0.6*
Intensity	= 6.554 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.460 x 0.90) + (0.260 x 0.30) + (0.160 x 0.20)] / 0.880



Hydrograph Report

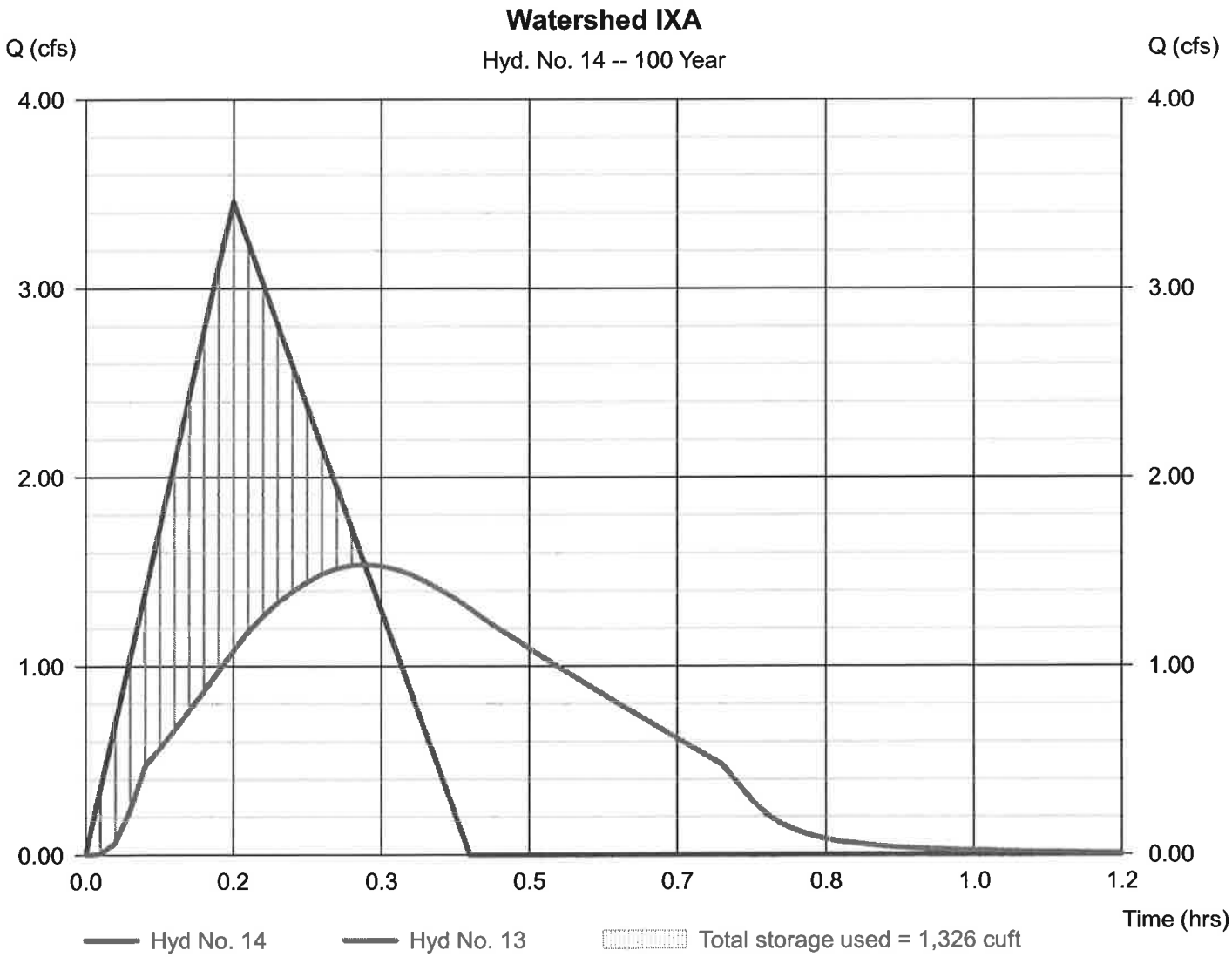
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 14

Watershed IXA

Hydrograph type	= Reservoir	Peak discharge	= 1.537 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 2,697 cuft
Inflow hyd. No.	= 13 - Watershed IXA	Max. Elevation	= 555.07 ft
Reservoir name	= Waatershed IXA	Max. Storage	= 1,326 cuft

Storage Indication method used.



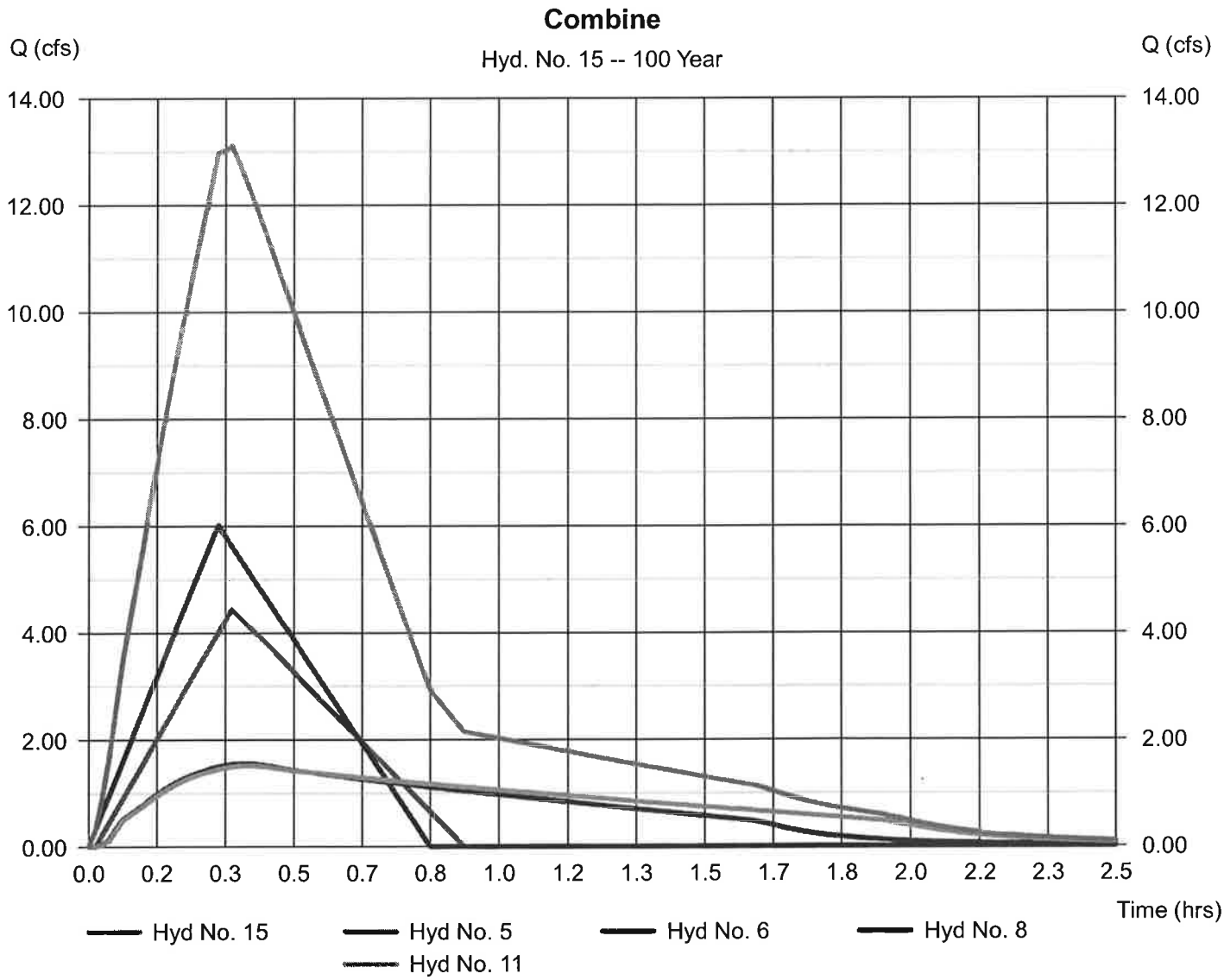
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 15

Combine

Hydrograph type	= Combine	Peak discharge	= 13.10 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.35 hrs
Time interval	= 1 min	Hyd. volume	= 29,659 cuft
Inflow hyds.	= 5, 6, 8, 11	Contrib. drain. area	= 5.740 ac



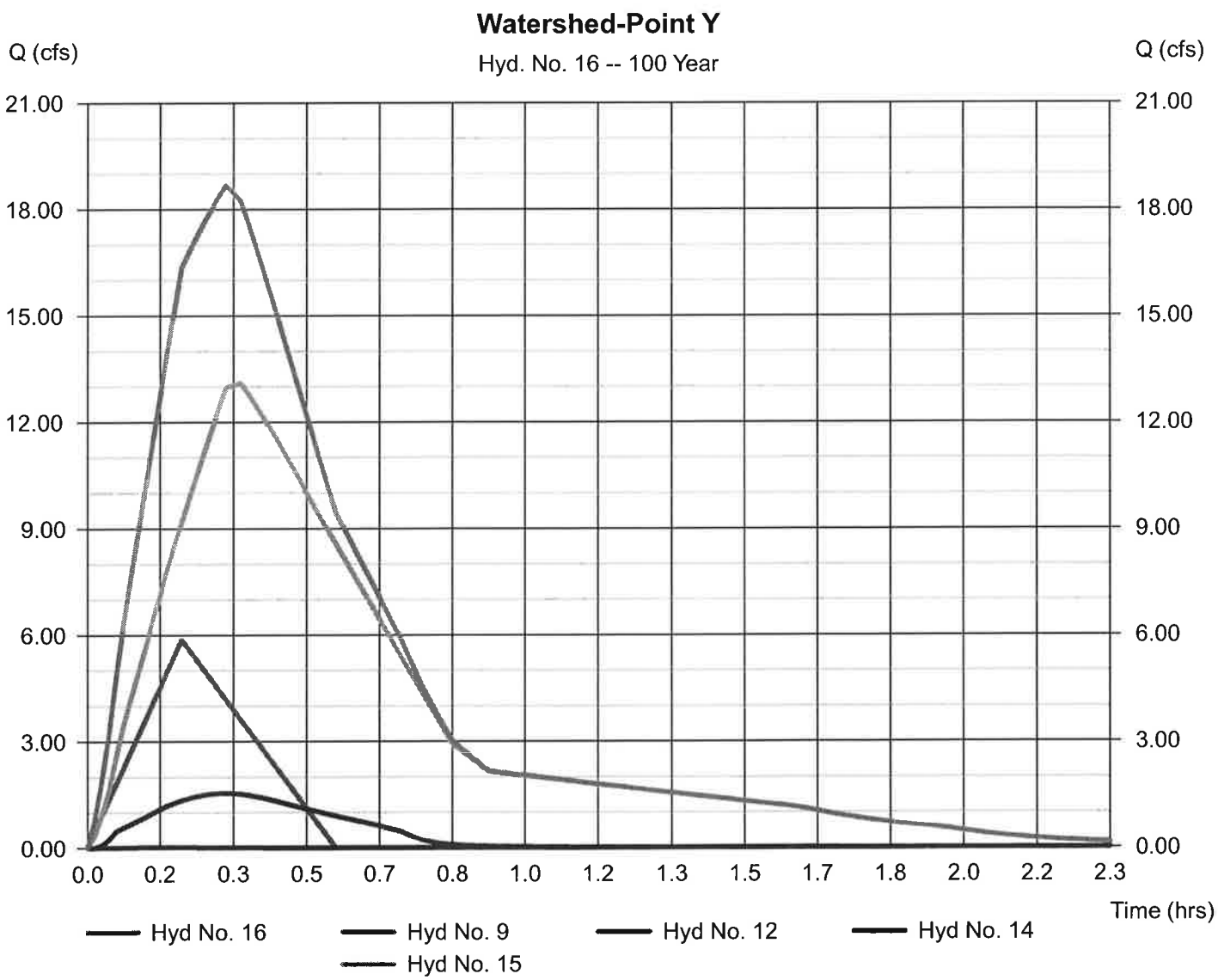
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 16

Watershed-Point Y

Hydrograph type	= Combine	Peak discharge	= 18.67 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 38,332 cuft
Inflow hyds.	= 9, 12, 14, 15	Contrib. drain. area	= 3.510 ac



Hydrograph Report

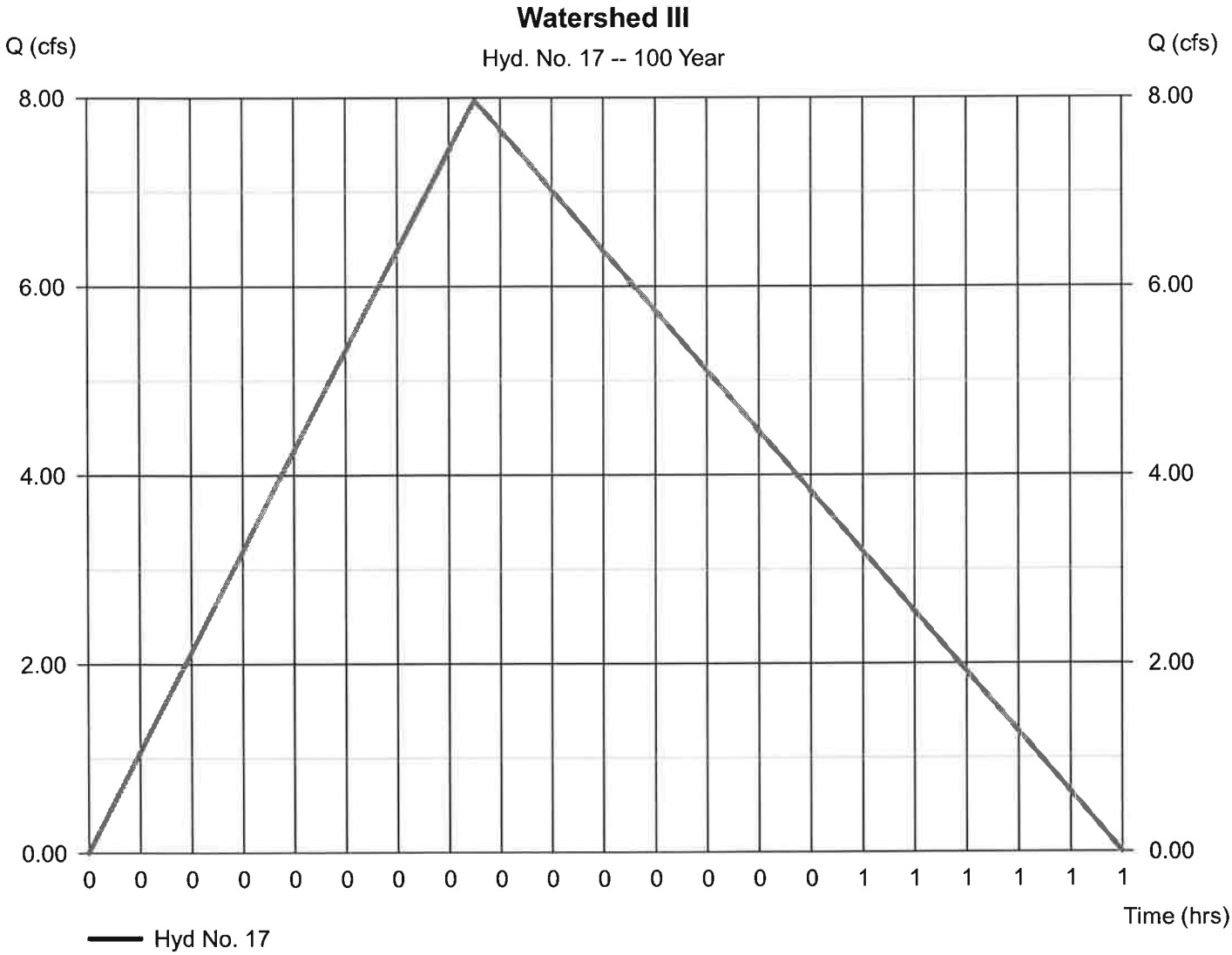
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 17

Watershed III

Hydrograph type	= Rational	Peak discharge	= 7.969 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.25 hrs
Time interval	= 1 min	Hyd. volume	= 9,575 cuft
Drainage area	= 2.700 ac	Runoff coeff.	= 0.52*
Intensity	= 5.676 in/hr	Tc by TR55	= 15.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.000 x 0.90) + (1.700 x 0.30)] / 2.700



Hydrograph Report

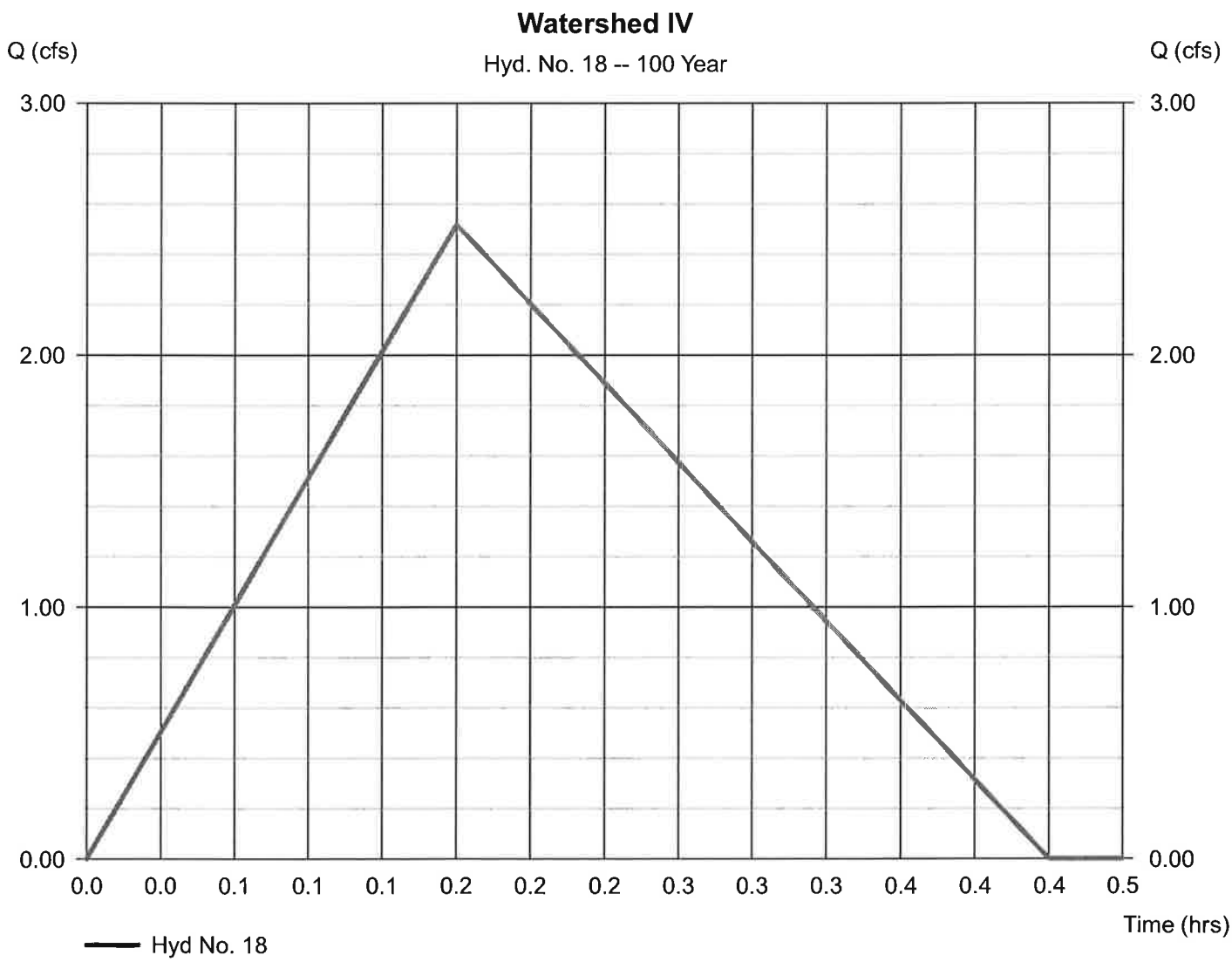
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 18

Watershed IV

Hydrograph type	= Rational	Peak discharge	= 2.517 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 2,016 cuft
Drainage area	= 0.800 ac	Runoff coeff.	= 0.48*
Intensity	= 6.554 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.260 x 0.90) + (0.440 x 0.30) + (0.100 x 0.20)] / 0.800



Hydrograph Report

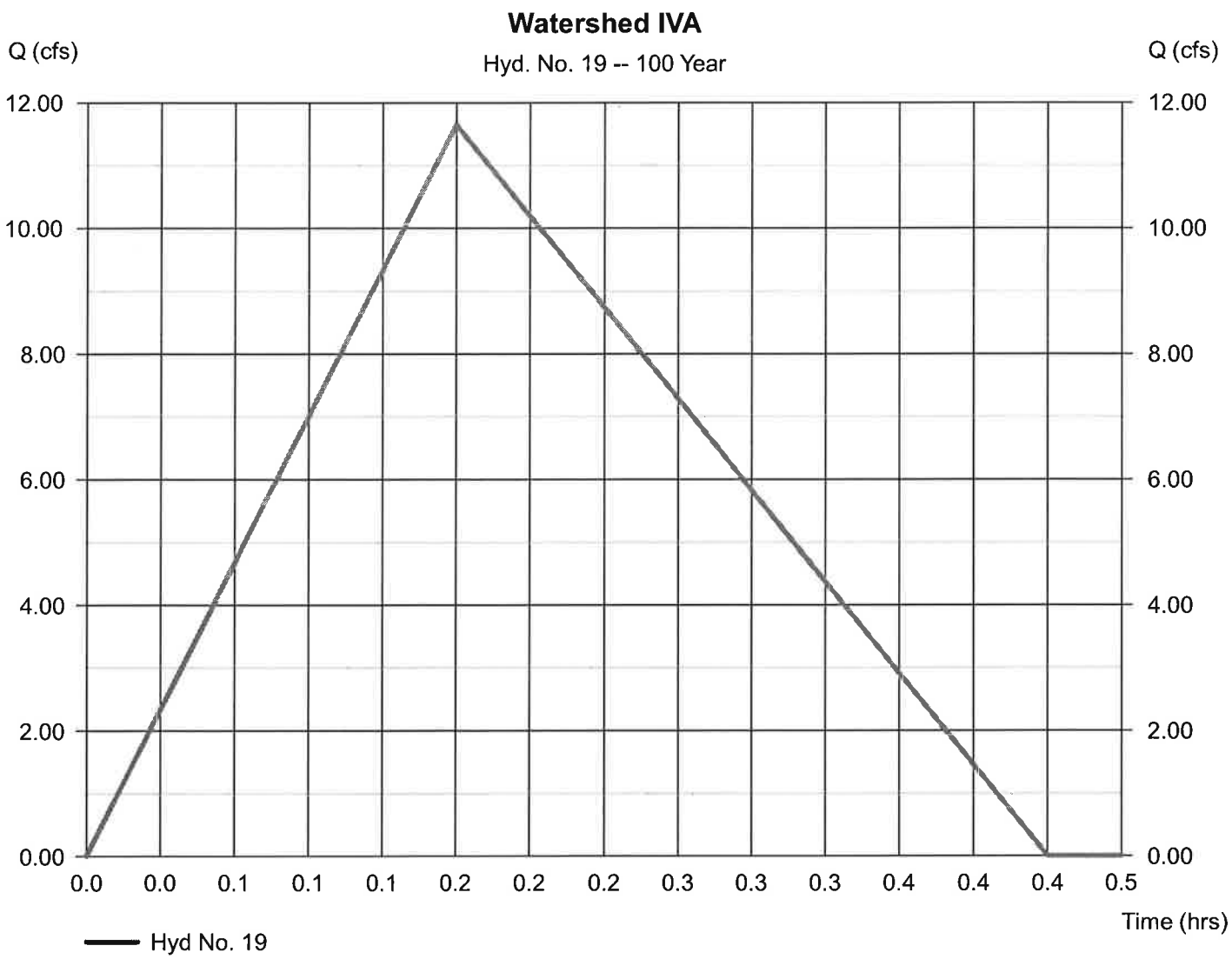
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 19

Watershed IVA

Hydrograph type	= Rational	Peak discharge	= 11.65 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 9,331 cuft
Drainage area	= 2.370 ac	Runoff coeff.	= 0.75*
Intensity	= 6.554 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.770 x 0.90) + (0.600 x 0.30)] / 2.370



Hydrograph Report

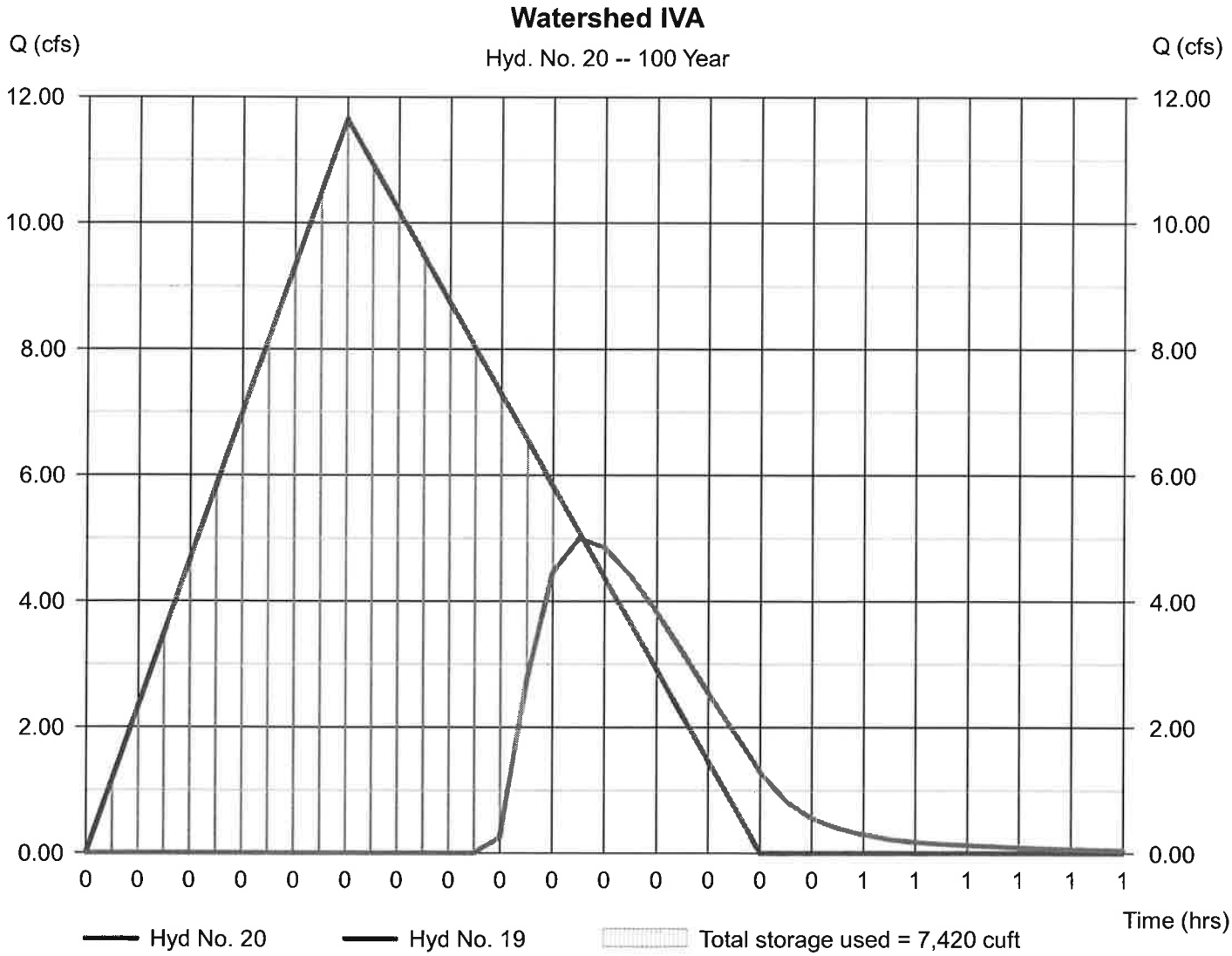
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 20

Watershed IVA

Hydrograph type	= Reservoir	Peak discharge	= 4.990 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 2,272 cuft
Inflow hyd. No.	= 19 - Watershed IVA	Max. Elevation	= 553.95 ft
Reservoir name	= Watershed IVA	Max. Storage	= 7,420 cuft

Storage Indication method used.



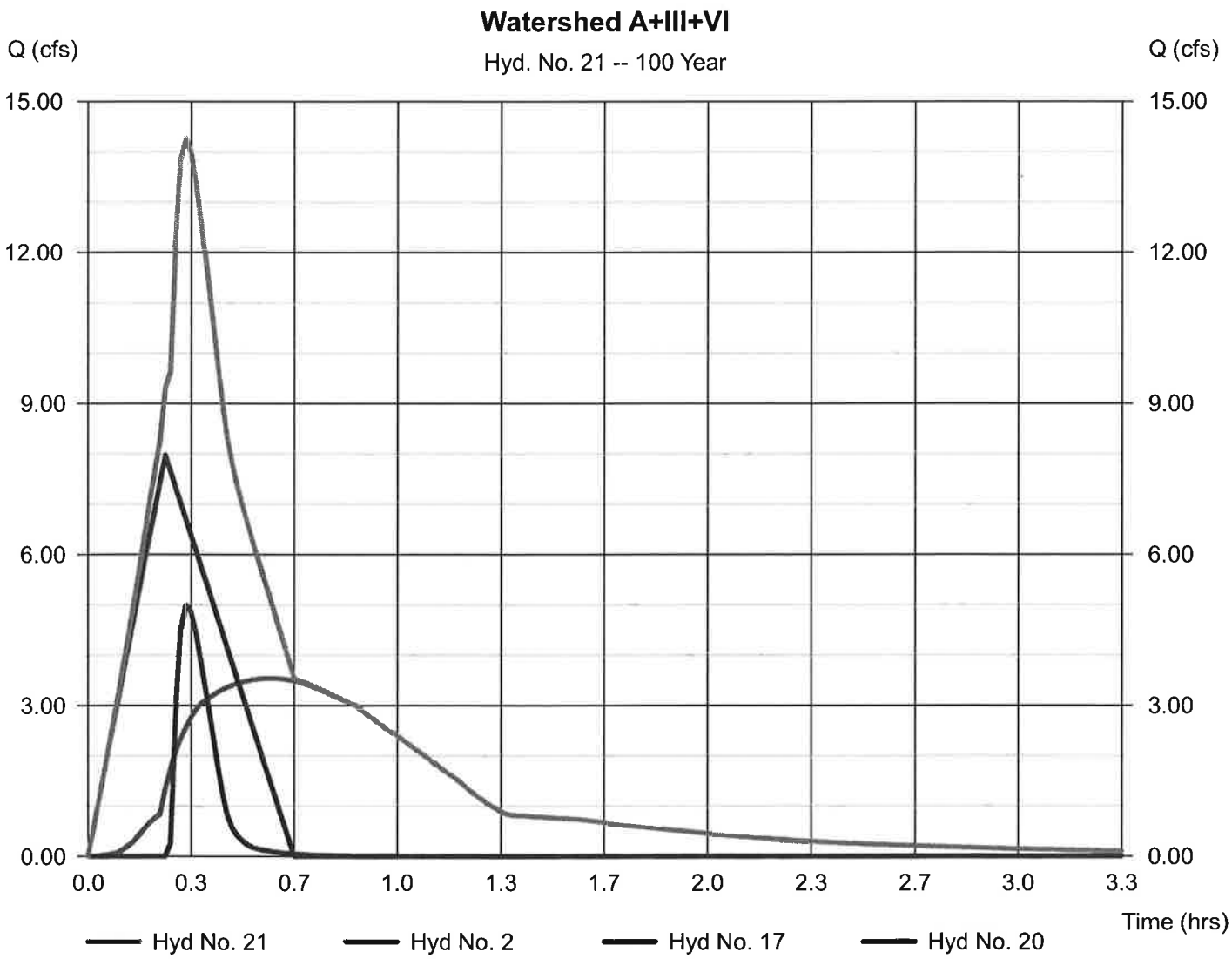
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 21

Watershed A+III+VI

Hydrograph type	= Combine	Peak discharge	= 14.25 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 25,789 cuft
Inflow hyds.	= 2, 17, 20	Contrib. drain. area	= 2.700 ac



Hydrograph Report

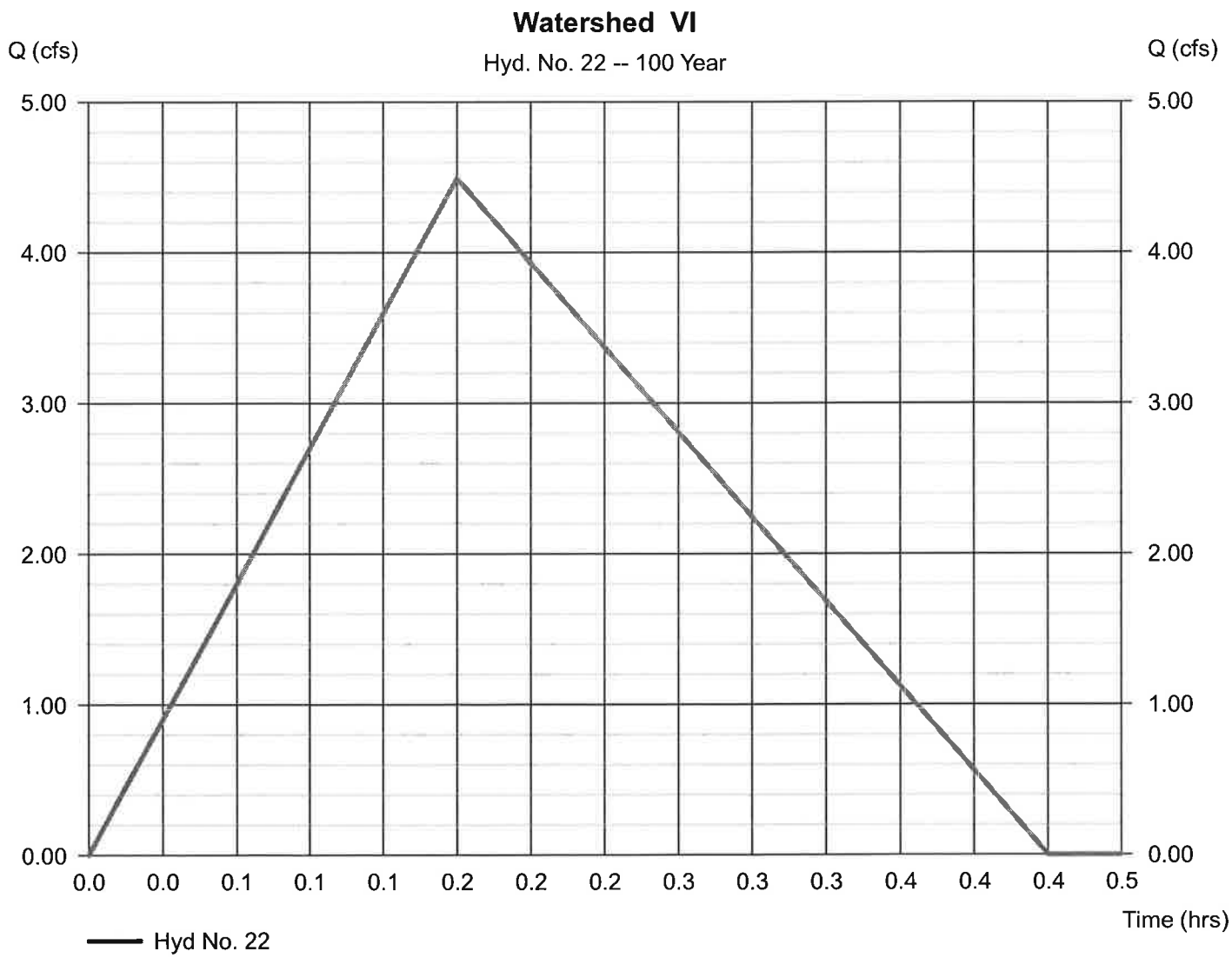
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 22

Watershed VI

Hydrograph type	= Rational	Peak discharge	= 4.492 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 3,598 cuft
Drainage area	= 1.490 ac	Runoff coeff.	= 0.46*
Intensity	= 6.554 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.400 x 0.90) + (1.090 x 0.30)] / 1.490



Hydrograph Report

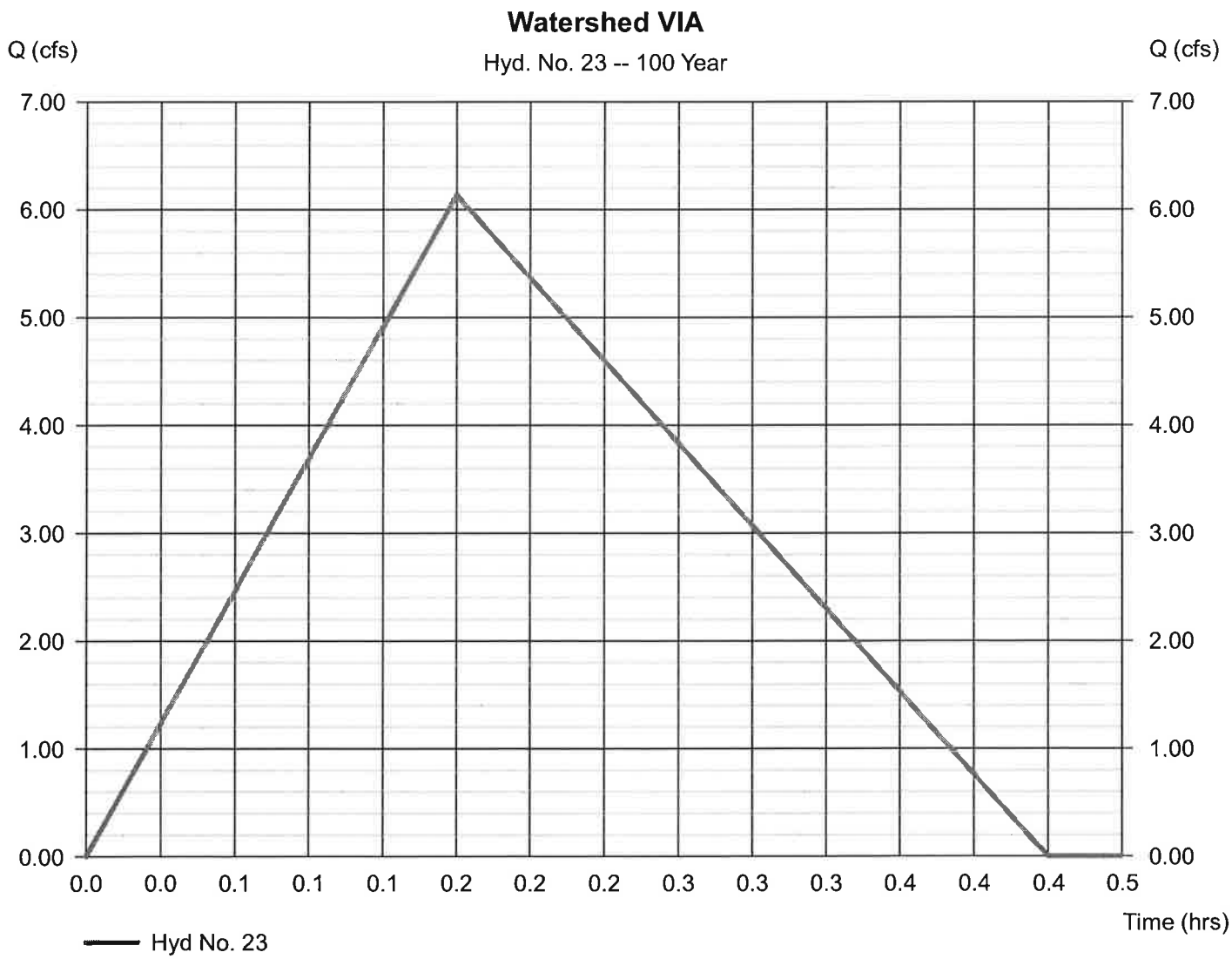
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 23

Watershed VIA

Hydrograph type	= Rational	Peak discharge	= 6.134 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 4,914 cuft
Drainage area	= 1.170 ac	Runoff coeff.	= 0.8*
Intensity	= 6.554 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.970 x 0.90) + (0.200 x 0.30)] / 1.170



Hydrograph Report

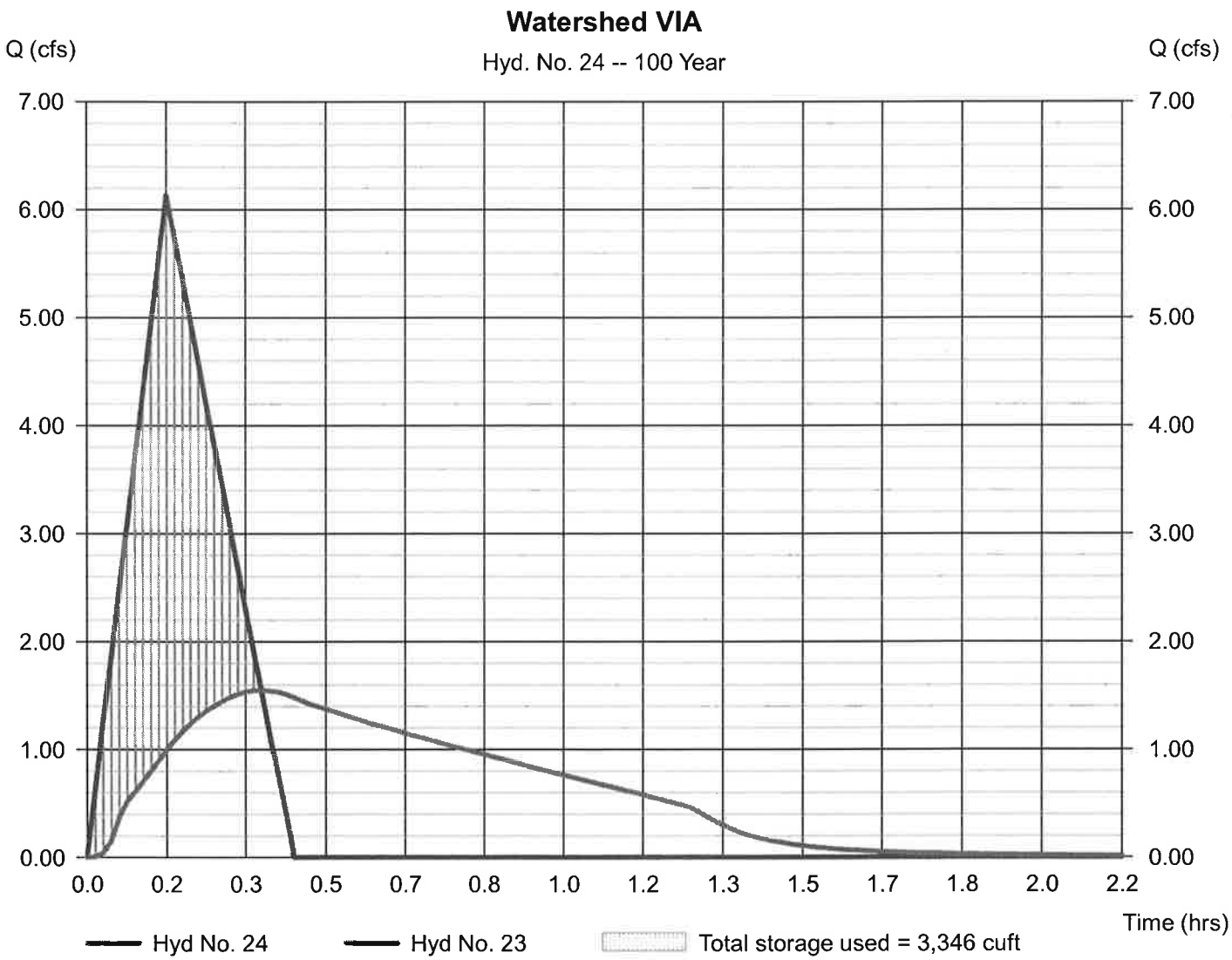
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 24

Watershed VIA

Hydrograph type	= Reservoir	Peak discharge	= 1.547 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.37 hrs
Time interval	= 1 min	Hyd. volume	= 4,780 cuft
Inflow hyd. No.	= 23 - Watershed VIA	Max. Elevation	= 551.43 ft
Reservoir name	= Watershed VIA	Max. Storage	= 3,346 cuft

Storage Indication method used.



Hydrograph Report

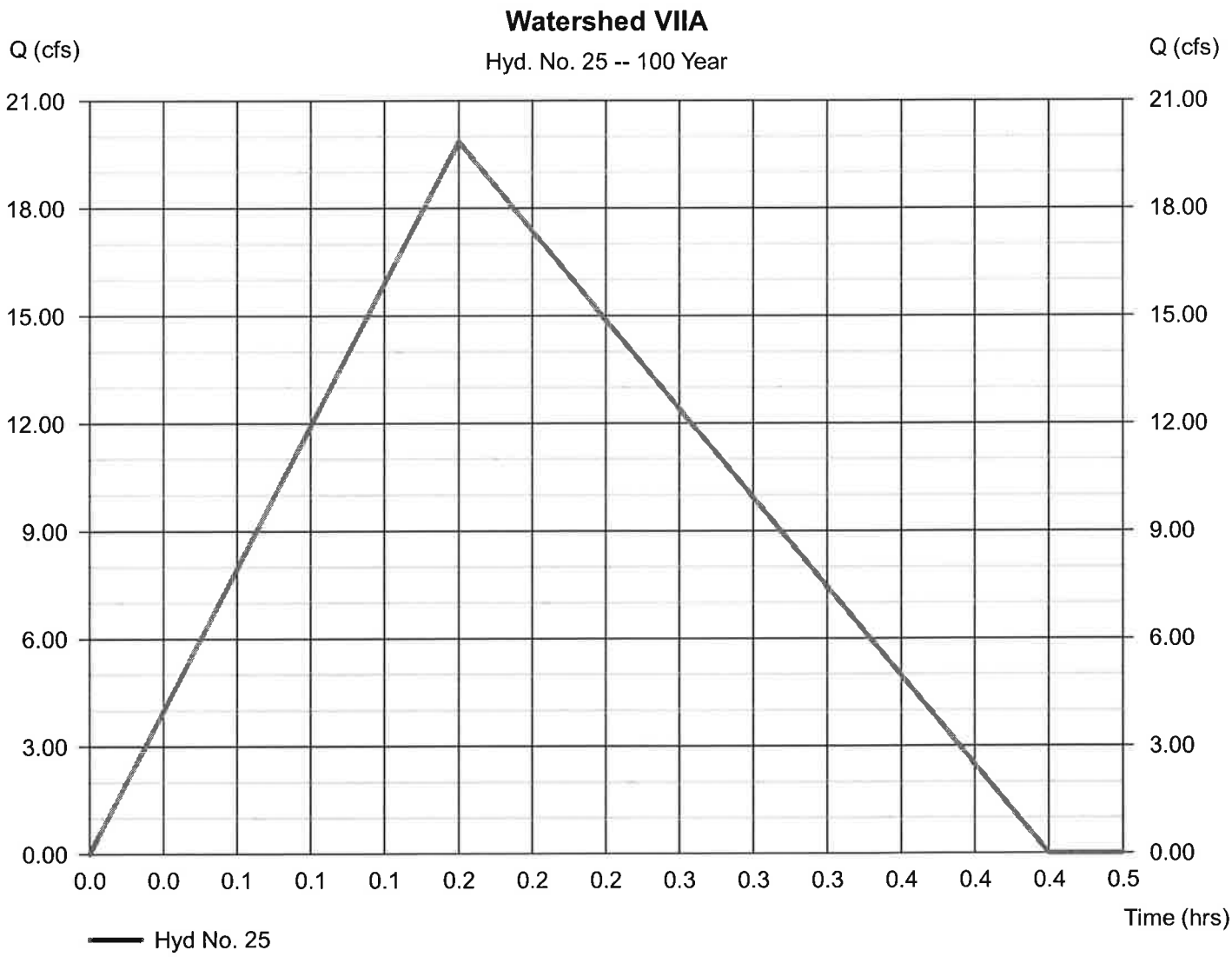
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 25

Watershed VIIA

Hydrograph type	= Rational	Peak discharge	= 19.84 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 15,888 cuft
Drainage area	= 4.090 ac	Runoff coeff.	= 0.74*
Intensity	= 6.554 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(3.020 x 0.90) + (1.070 x 0.30)] / 4.090



Hydrograph Report

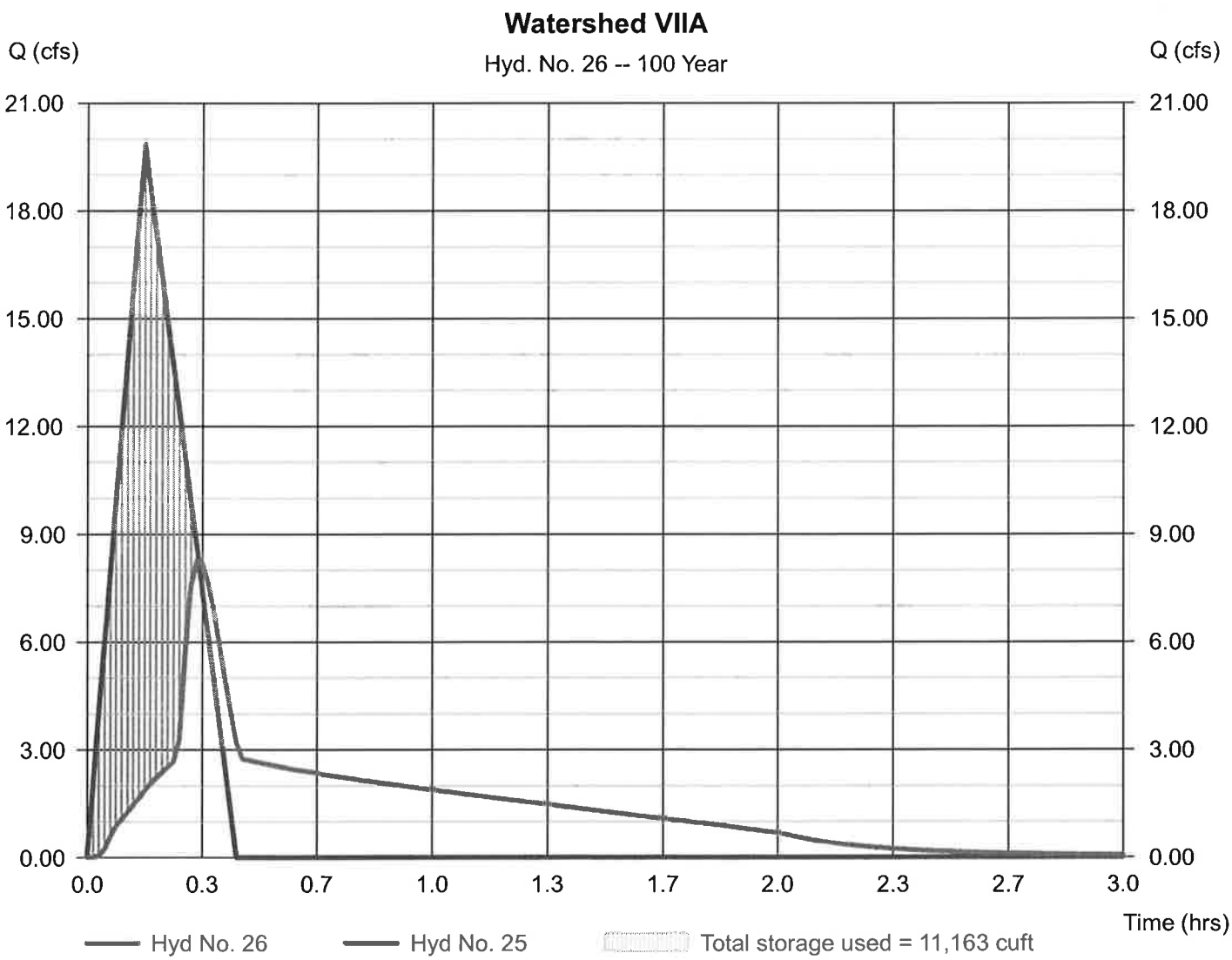
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 26

Watershed VIIA

Hydrograph type	= Reservoir	Peak discharge	= 8.250 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 15,461 cuft
Inflow hyd. No.	= 25 - Watershed VIIA	Max. Elevation	= 547.97 ft
Reservoir name	= Watershed VIIA	Max. Storage	= 11,163 cuft

Storage Indication method used.



Hydrograph Report

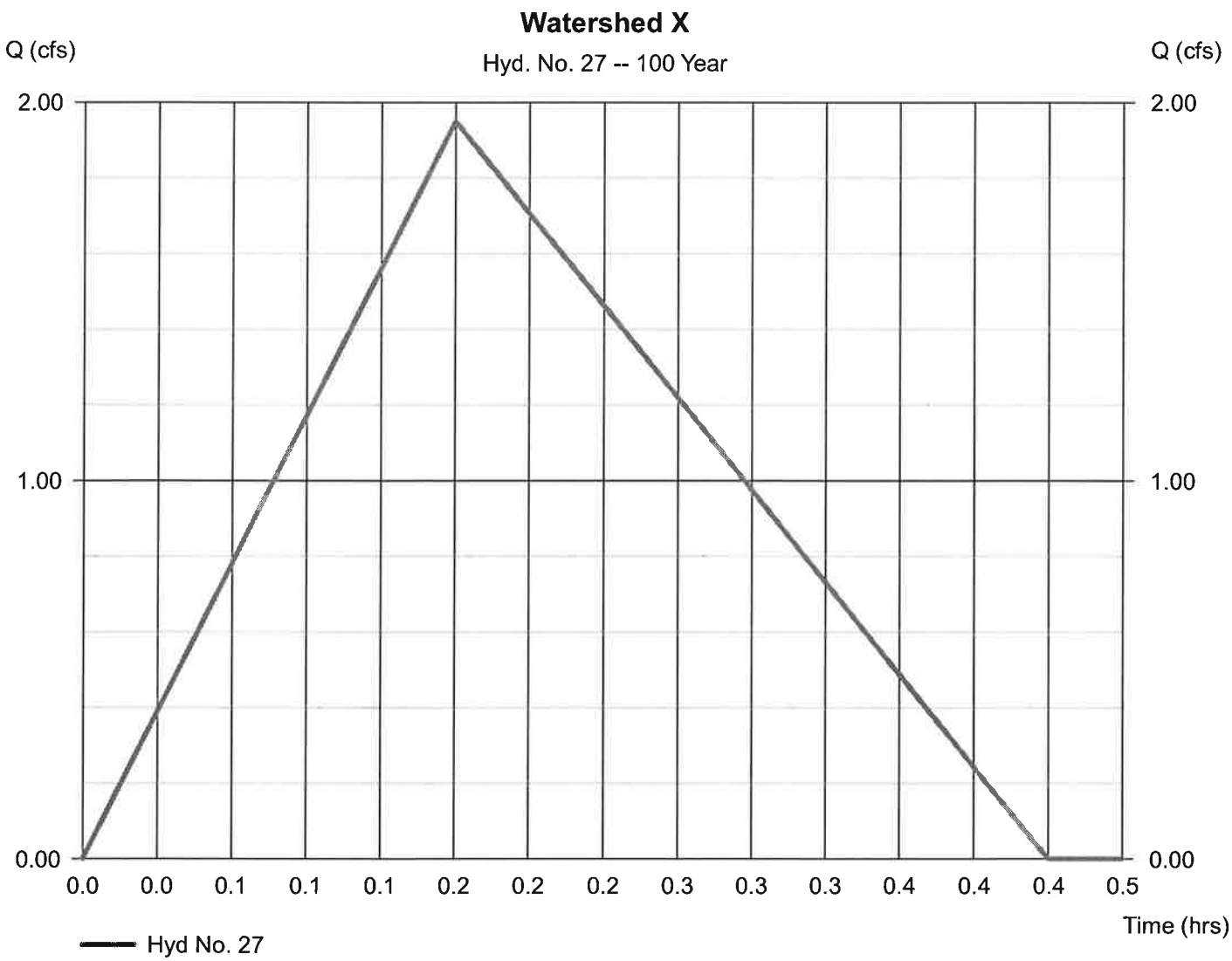
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 27

Watershed X

Hydrograph type	= Rational	Peak discharge	= 1.950 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 1,562 cuft
Drainage area	= 0.930 ac	Runoff coeff.	= 0.32*
Intensity	= 6.554 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.100 x 0.90) + (0.410 x 0.30) + (0.420 x 0.20)] / 0.930



Hydrograph Report

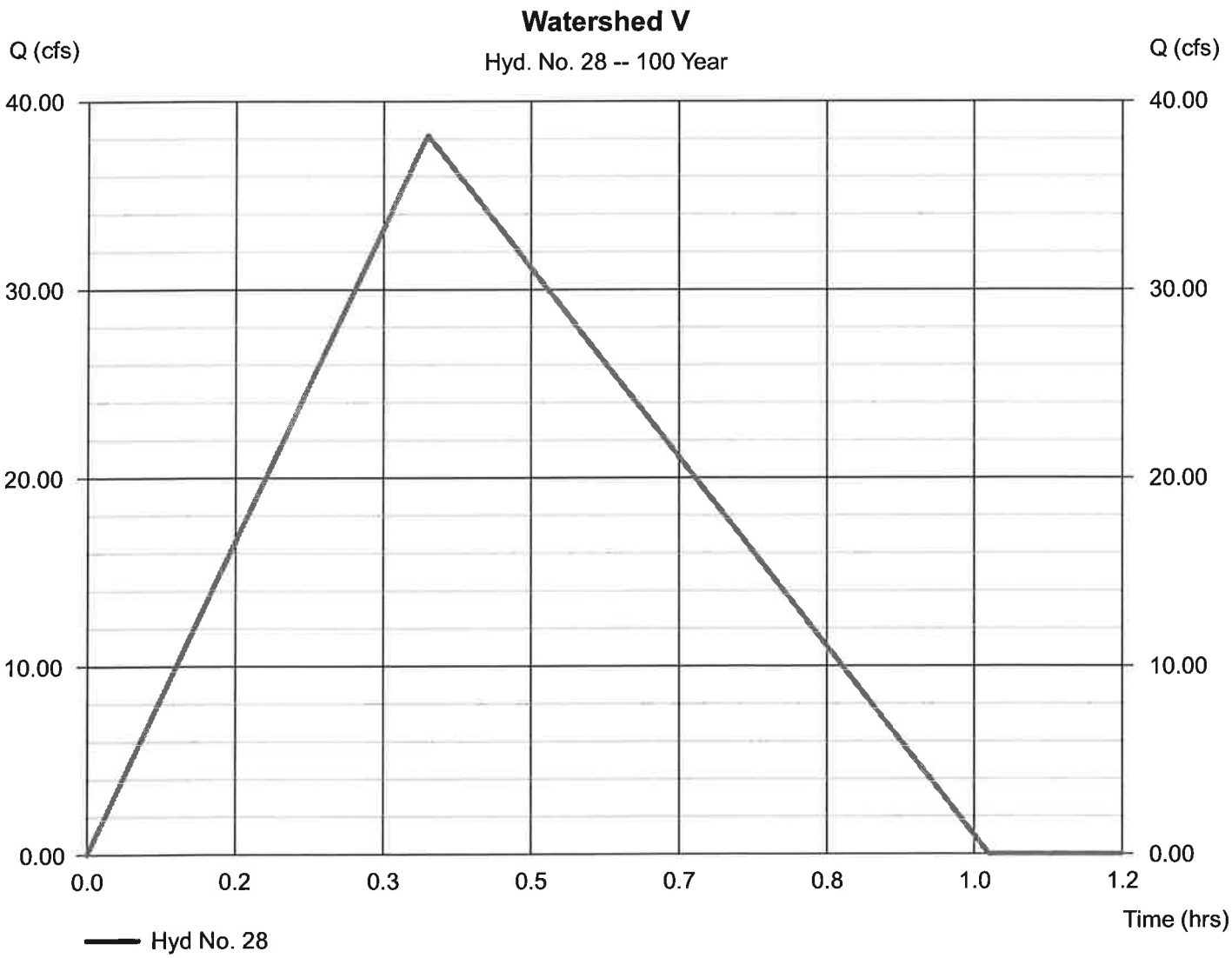
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 28

Watershed V

Hydrograph type	= Rational	Peak discharge	= 38.17 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.38 hrs
Time interval	= 1 min	Hyd. volume	= 70,319 cuft
Drainage area	= 26.200 ac	Runoff coeff.	= 0.31*
Intensity	= 4.699 in/hr	Tc by TR55	= 23.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(2.500 x 0.90) + (10.640 x 0.30) + (13.060 x 0.20)] / 26.200



Hydrograph Report

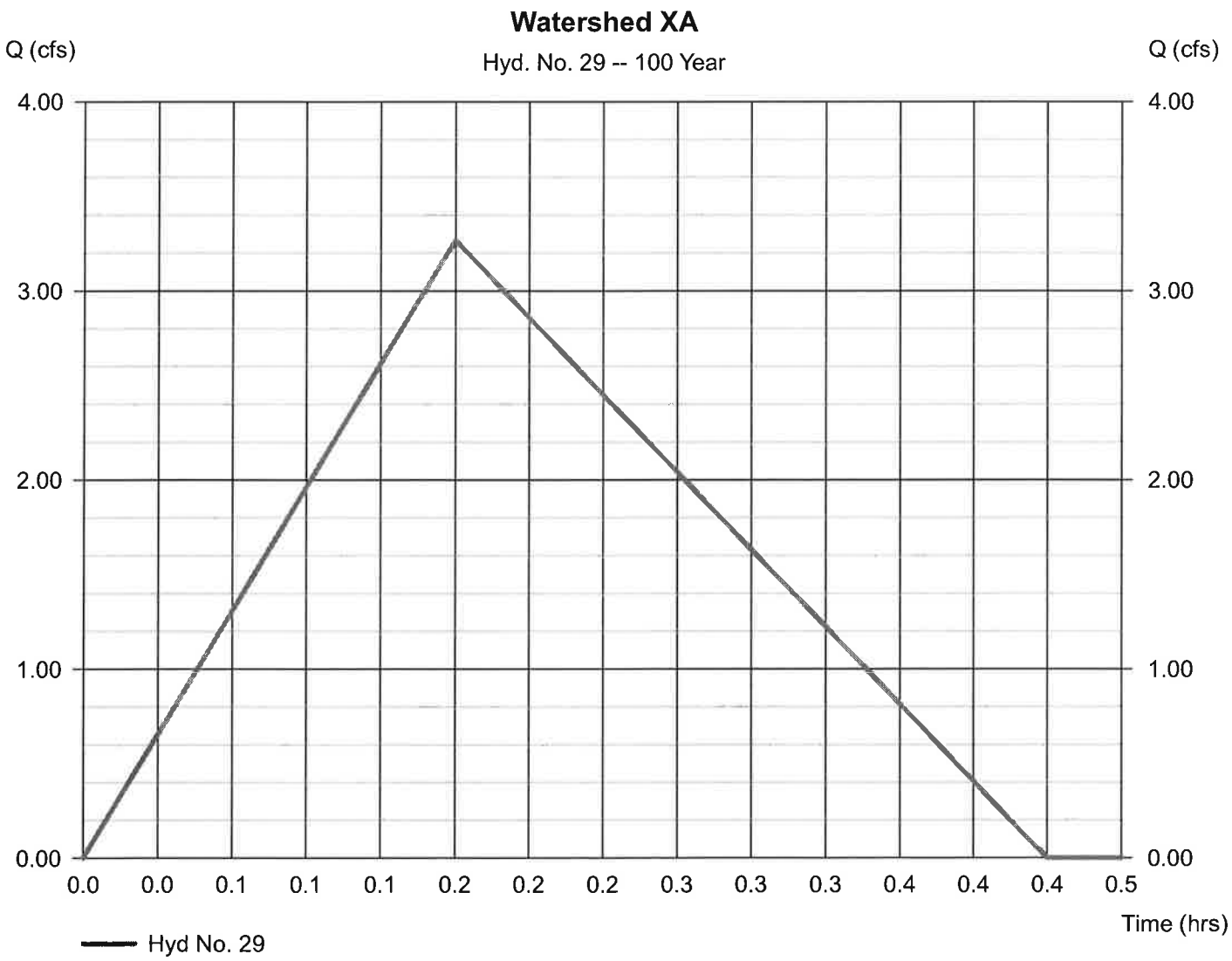
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 29

Watershed XA

Hydrograph type	= Rational	Peak discharge	= 3.265 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 2,615 cuft
Drainage area	= 0.940 ac	Runoff coeff.	= 0.53*
Intensity	= 6.554 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.390 x 0.90) + (0.350 x 0.30) + (0.200 x 0.20)] / 0.940



Hydrograph Report

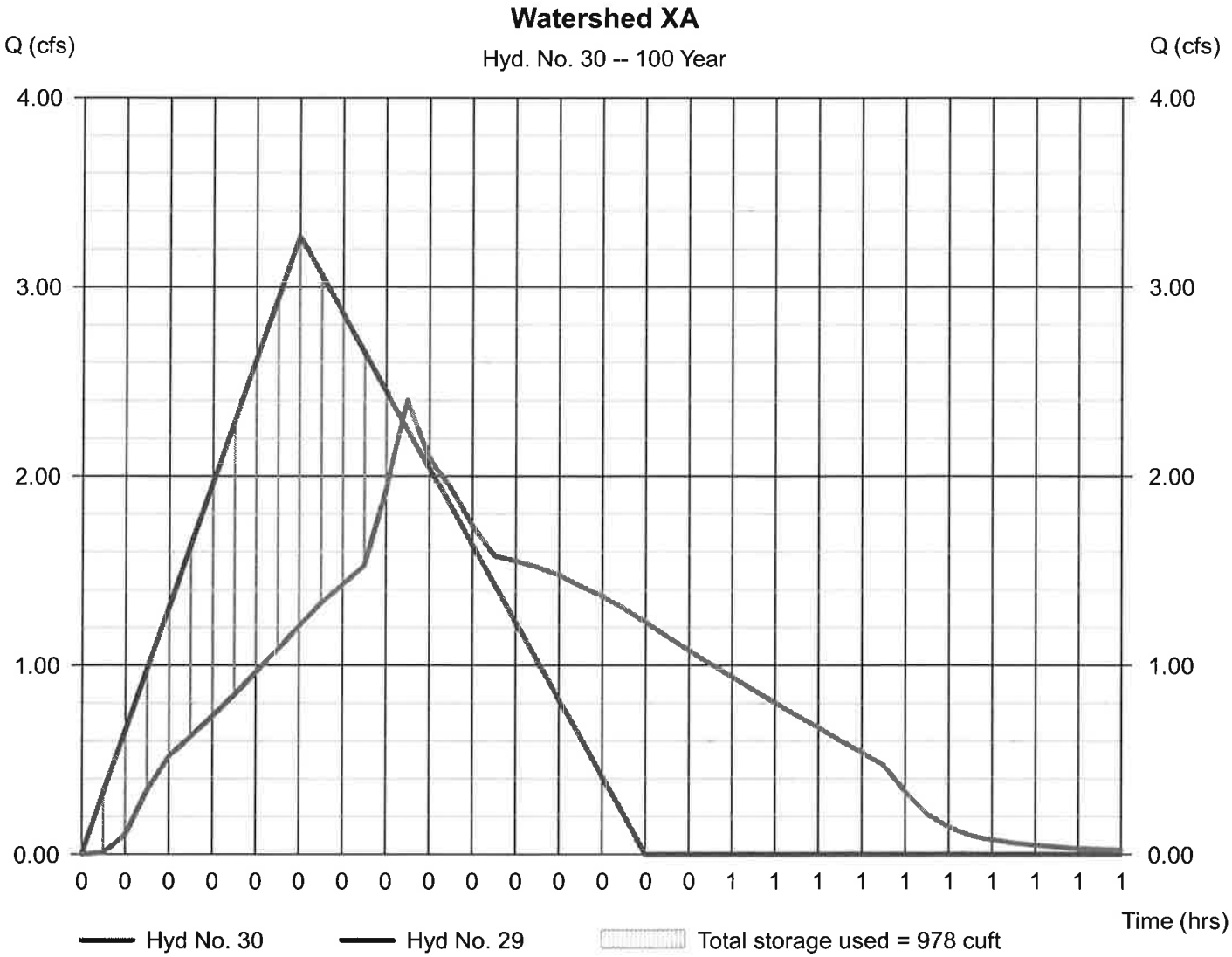
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 30

Watershed XA

Hydrograph type	= Reservoir	Peak discharge	= 2.400 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.25 hrs
Time interval	= 1 min	Hyd. volume	= 2,546 cuft
Inflow hyd. No.	= 29 - Watershed XA	Max. Elevation	= 558.65 ft
Reservoir name	= Watershed XA	Max. Storage	= 978 cuft

Storage Indication method used.



Hydrograph Report

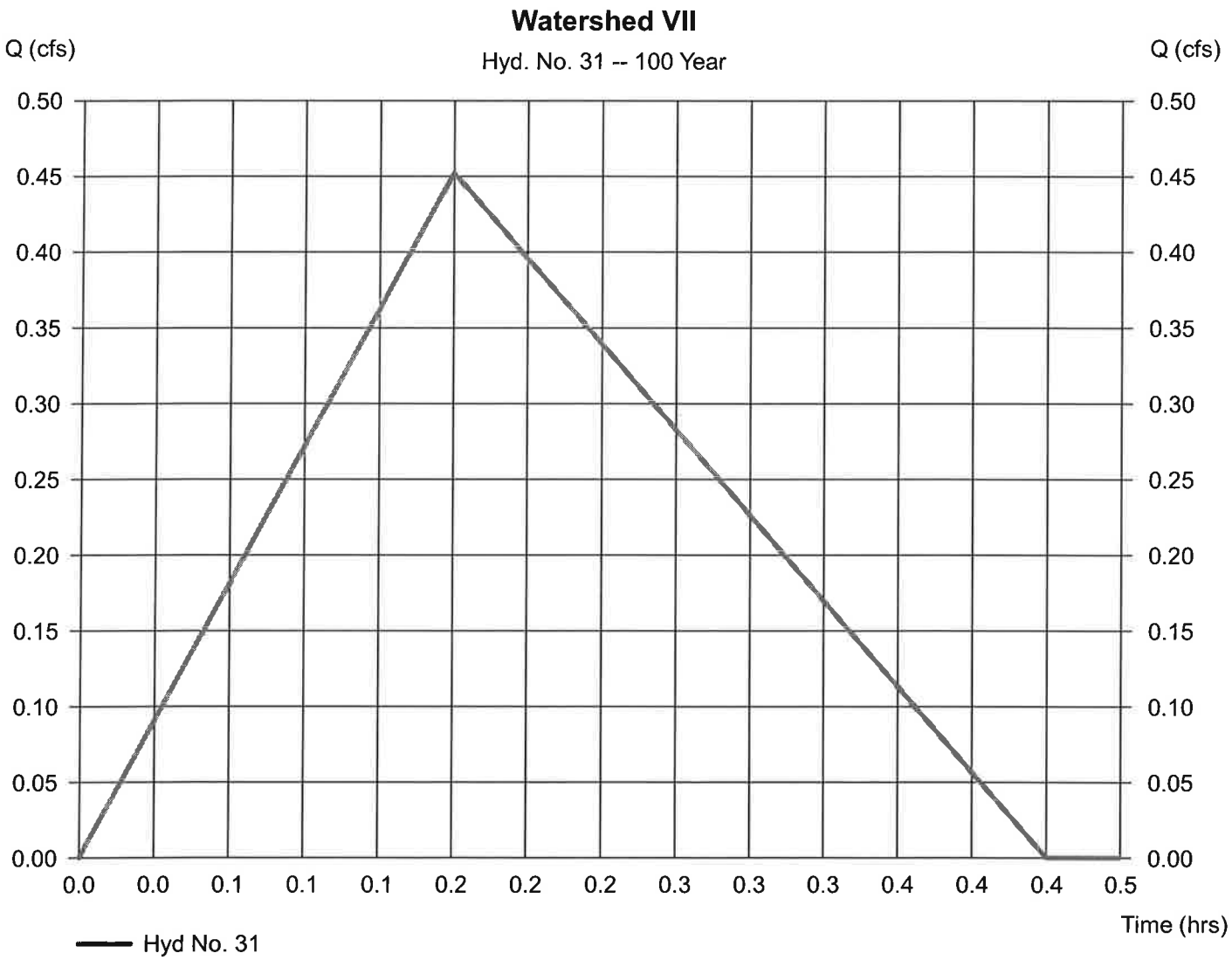
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 31

Watershed VII

Hydrograph type	= Rational	Peak discharge	= 0.452 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 362 cuft
Drainage area	= 0.230 ac	Runoff coeff.	= 0.3*
Intensity	= 6.554 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.230 x 0.30)] / 0.230



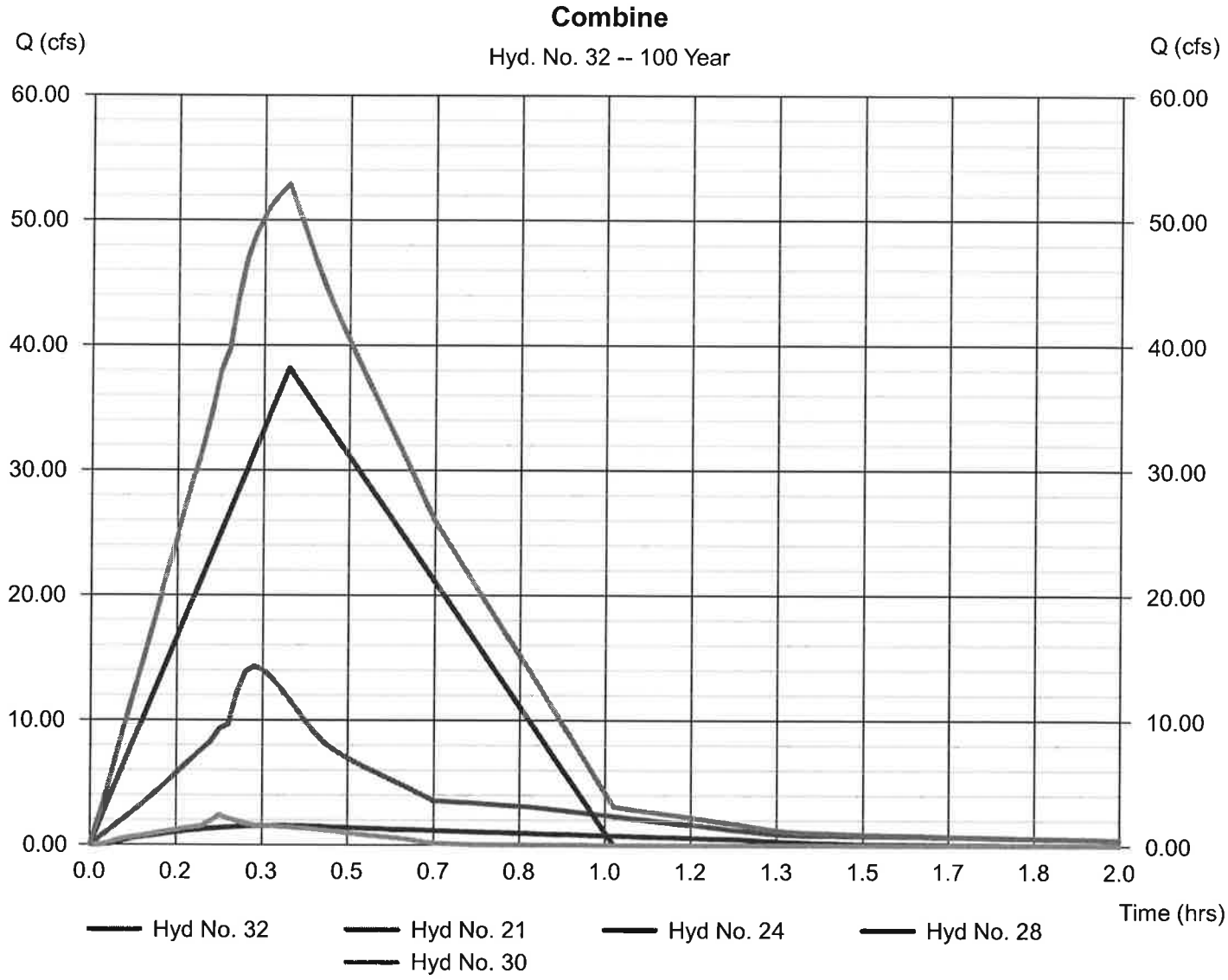
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 32

Combine

Hydrograph type	= Combine	Peak discharge	= 52.86 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.38 hrs
Time interval	= 1 min	Hyd. volume	= 102,965 cuft
Inflow hyds.	= 21, 24, 28, 30	Contrib. drain. area	= 26.200 ac



Hydrograph Report

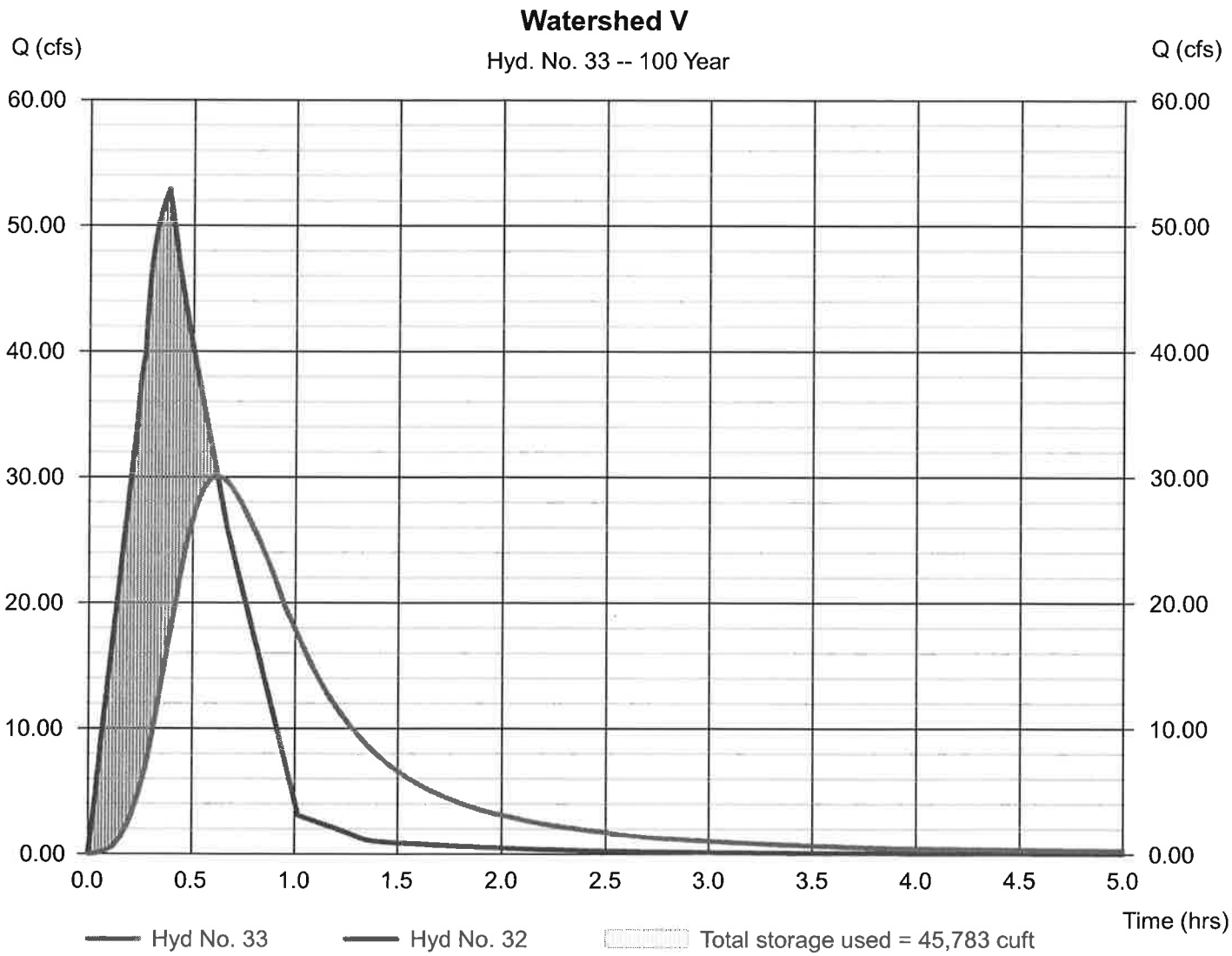
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 33

Watershed V

Hydrograph type	= Reservoir	Peak discharge	= 30.03 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.62 hrs
Time interval	= 1 min	Hyd. volume	= 102,959 cuft
Inflow hyd. No.	= 32 - Combine	Max. Elevation	= 544.48 ft
Reservoir name	= Watershed X	Max. Storage	= 45,783 cuft

Storage Indication method used.



Hydrograph Report

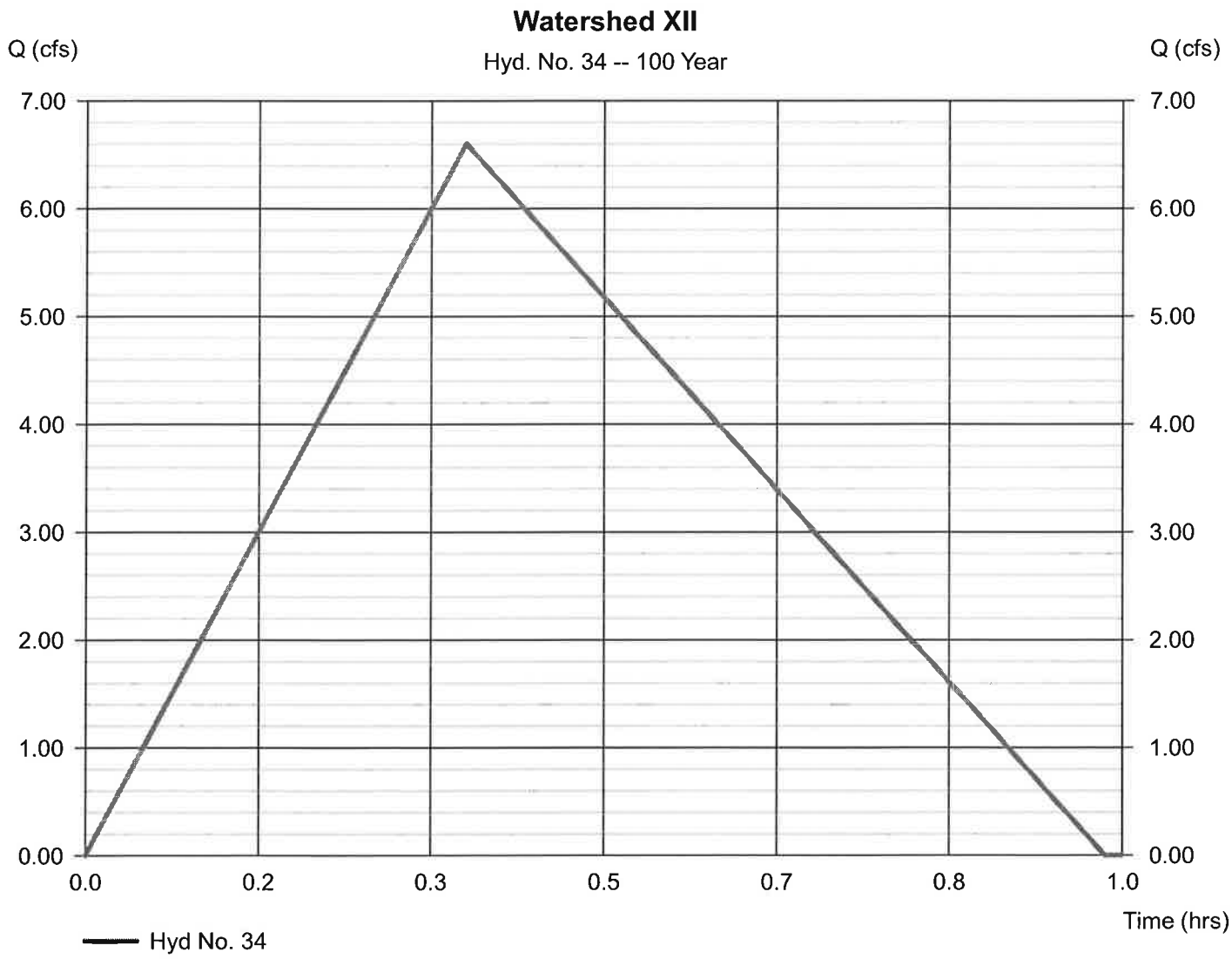
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 34

Watershed XII

Hydrograph type	= Rational	Peak discharge	= 6.602 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.37 hrs
Time interval	= 1 min	Hyd. volume	= 11,881 cuft
Drainage area	= 4.630 ac	Runoff coeff.	= 0.3*
Intensity	= 4.753 in/hr	Tc by TR55	= 22.47 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.490 x 0.90) + (1.430 x 0.30) + (2.710 x 0.20)] / 4.630



Hydrograph Report

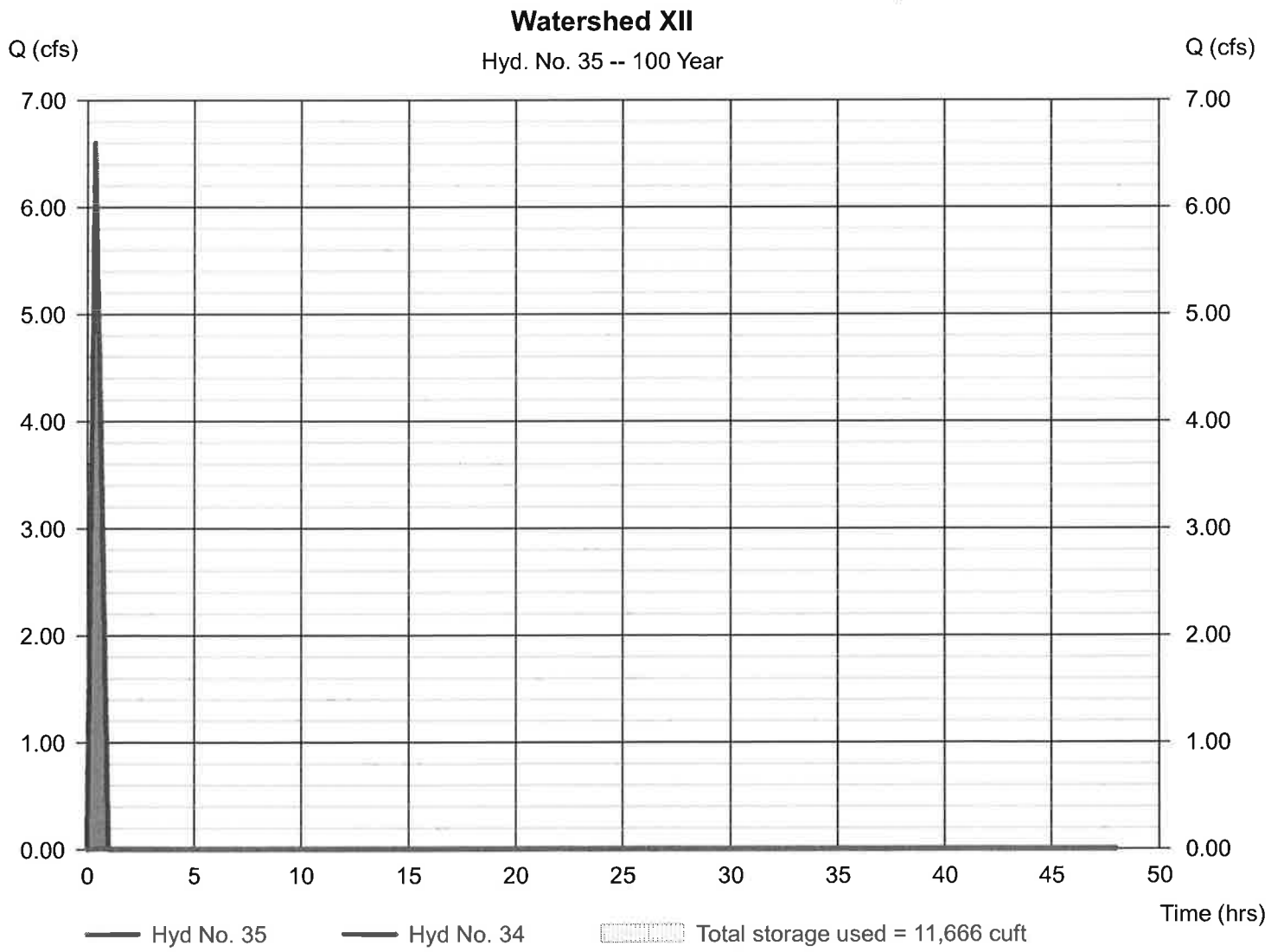
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 35

Watershed XII

Hydrograph type	= Reservoir	Peak discharge	= 0.007 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.98 hrs
Time interval	= 1 min	Hyd. volume	= 1,186 cuft
Inflow hyd. No.	= 34 - Watershed XII	Max. Elevation	= 546.34 ft
Reservoir name	= Watershed XII	Max. Storage	= 11,666 cuft

Storage Indication method used.



Hydrograph Report

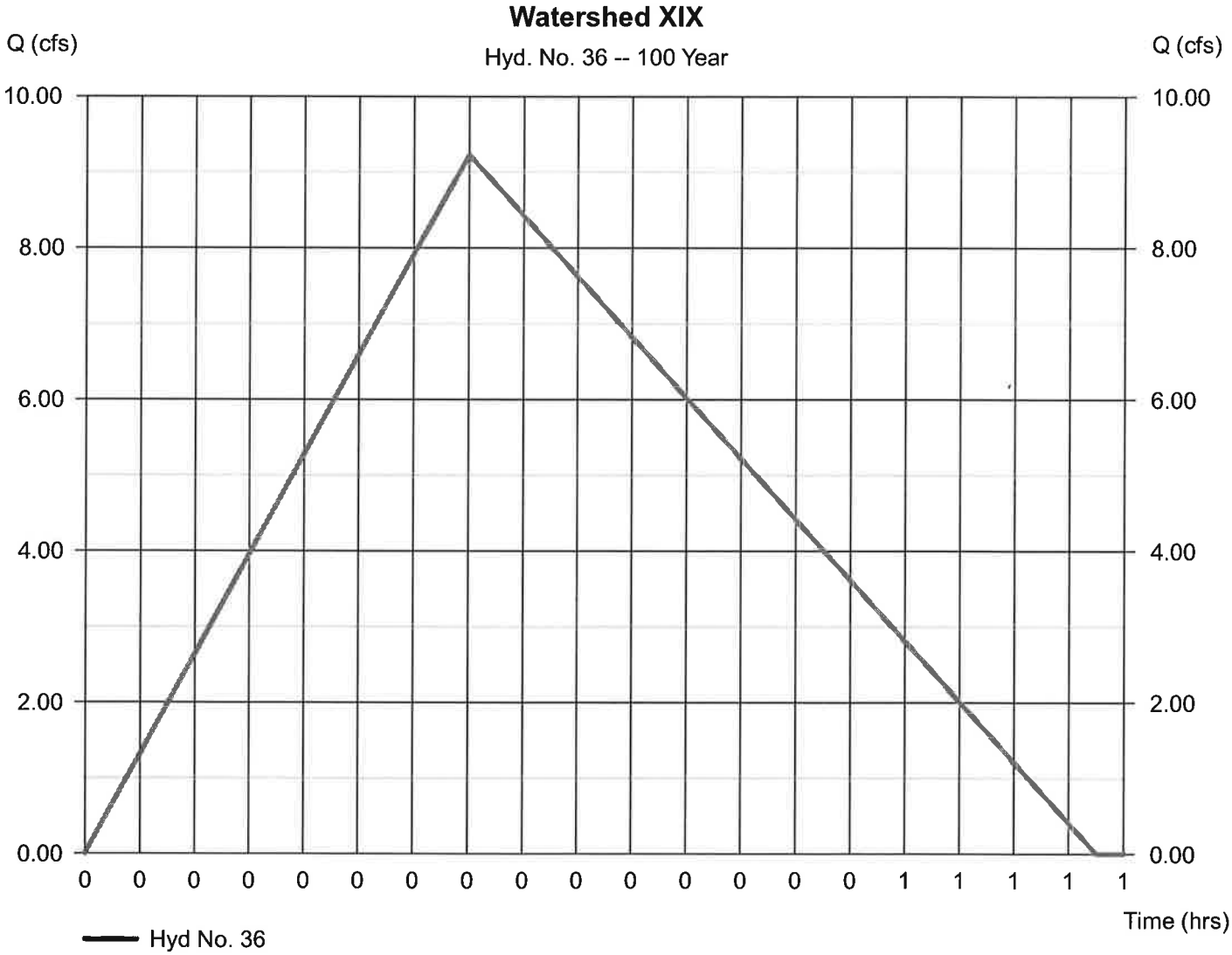
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 36

Watershed XIX

Hydrograph type	= Rational	Peak discharge	= 9.225 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.23 hrs
Time interval	= 1 min	Hyd. volume	= 10,345 cuft
Drainage area	= 5.860 ac	Runoff coeff.	= 0.27*
Intensity	= 5.831 in/hr	Tc by TR55	= 14.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.400 x 0.90) + (1.500 x 0.30) + (3.960 x 0.20)] / 5.860



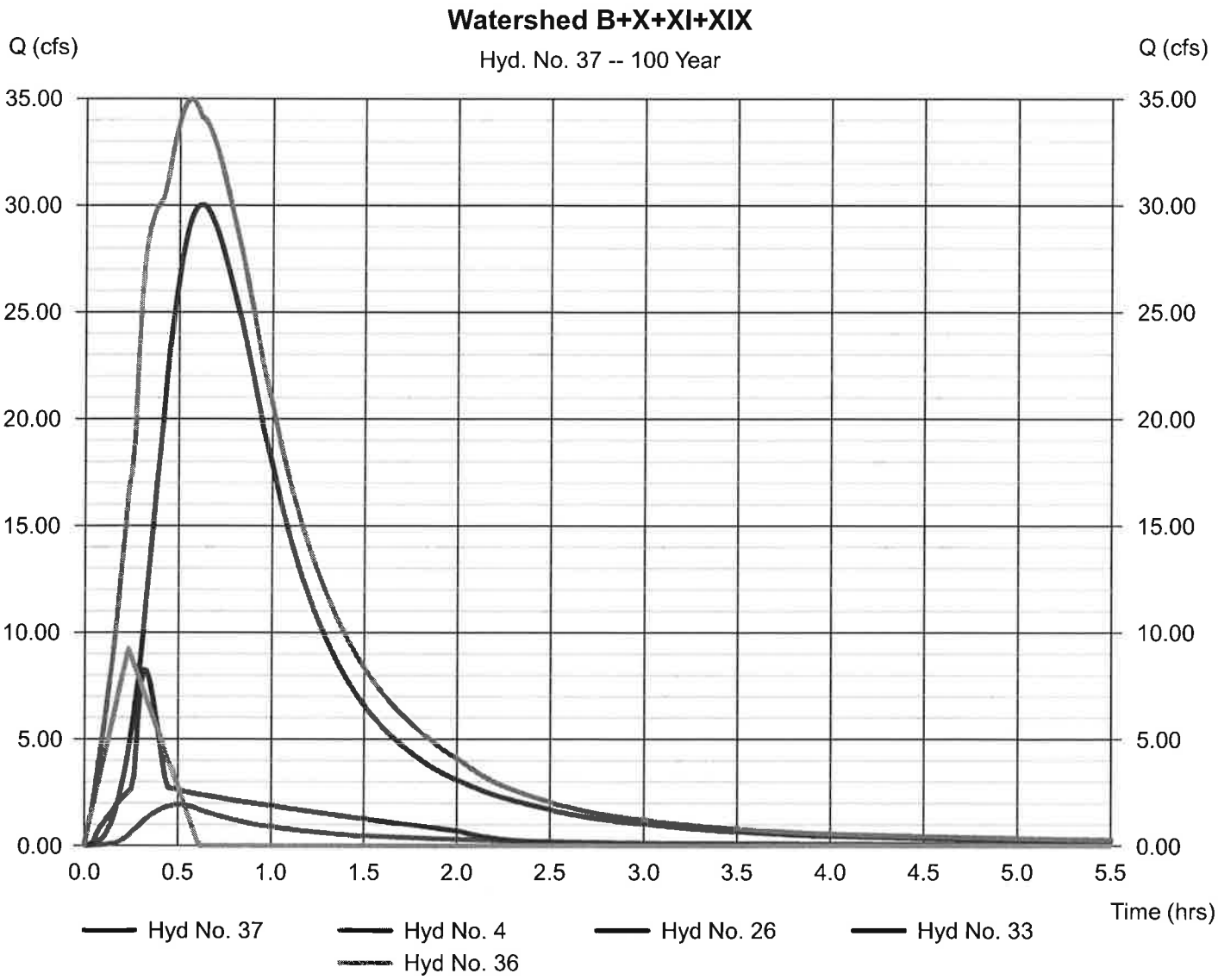
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 37

Watershed B+X+XI+XIX

Hydrograph type	= Combine	Peak discharge	= 34.97 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.57 hrs
Time interval	= 1 min	Hyd. volume	= 136,707 cuft
Inflow hyds.	= 4, 26, 33, 36	Contrib. drain. area	= 5.860 ac



Hydrograph Report

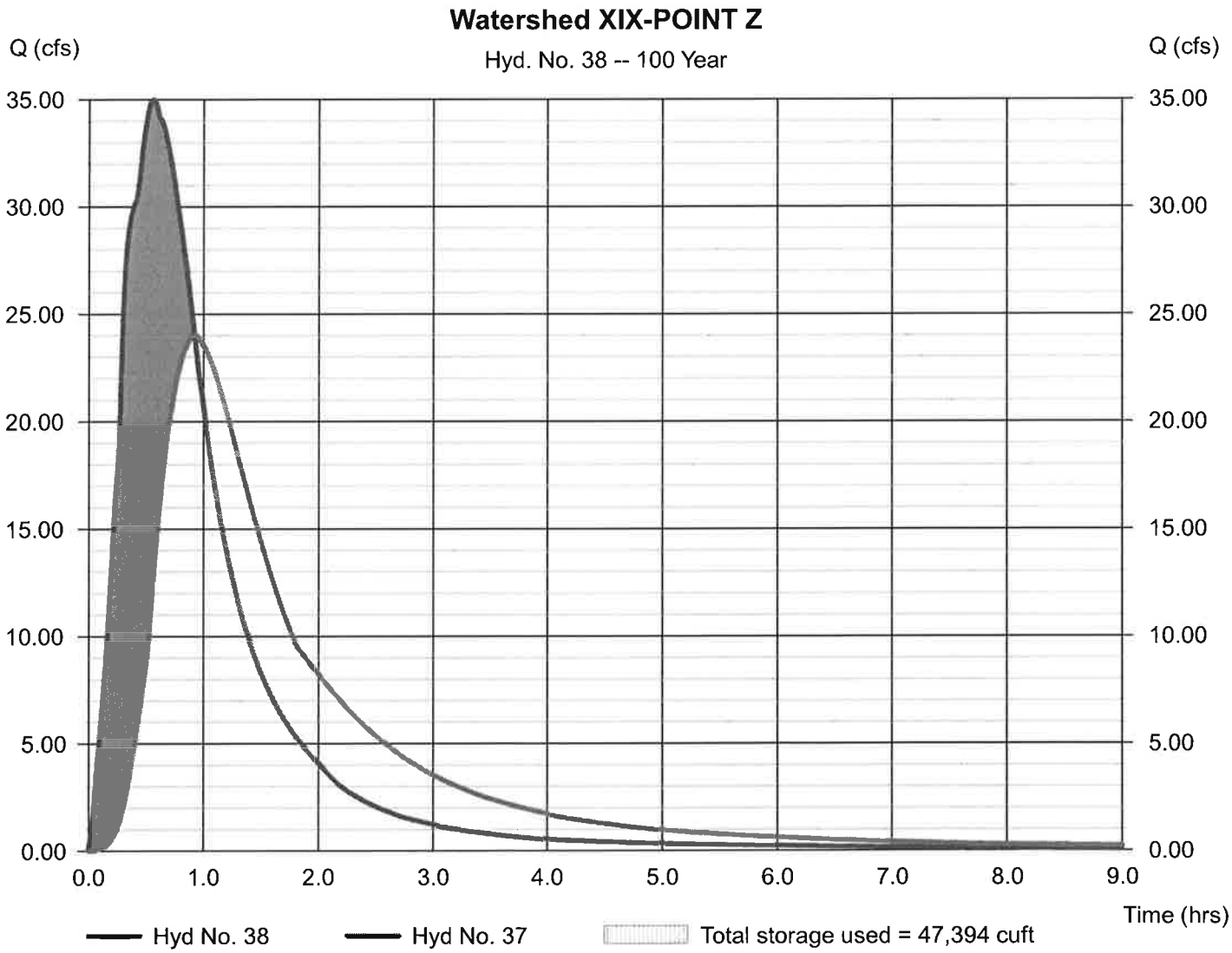
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 38

Watershed XIX-POINT Z

Hydrograph type	= Reservoir	Peak discharge	= 24.04 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.92 hrs
Time interval	= 1 min	Hyd. volume	= 136,697 cuft
Inflow hyd. No.	= 37 - Watershed B+X+XI+XIX	Max. Elevation	= 542.20 ft
Reservoir name	= Watershed XIX	Max. Storage	= 47,394 cuft

Storage Indication method used.



Hydrograph Report

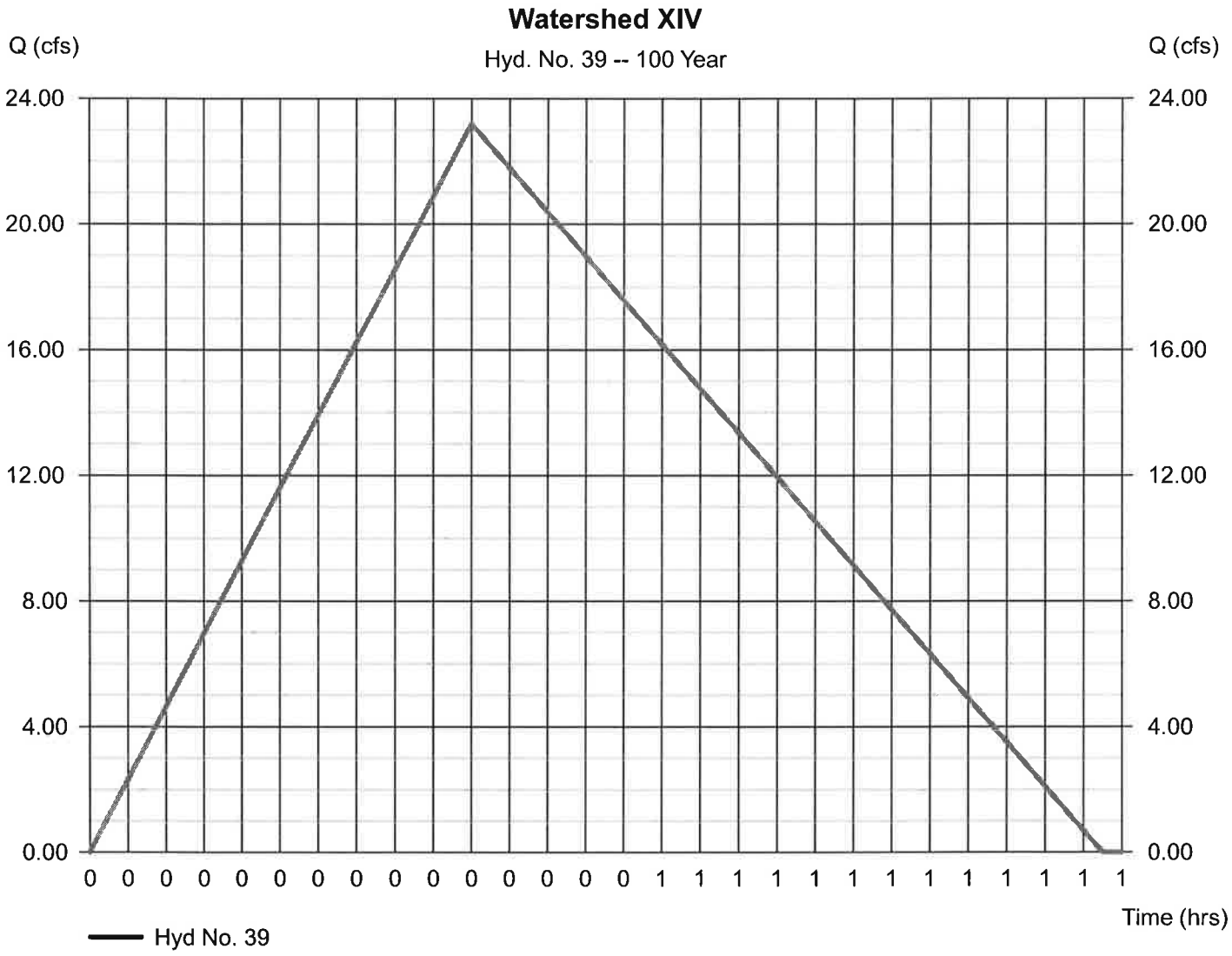
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 39

Watershed XIV

Hydrograph type	= Rational	Peak discharge	= 23.19 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 37,154 cuft
Drainage area	= 15.400 ac	Runoff coeff.	= 0.3*
Intensity	= 5.020 in/hr	Tc by TR55	= 20.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.000 x 0.90) + (5.100 x 0.30) + (8.800 x 0.20) + (0.500 x 1.00)] / 15.400



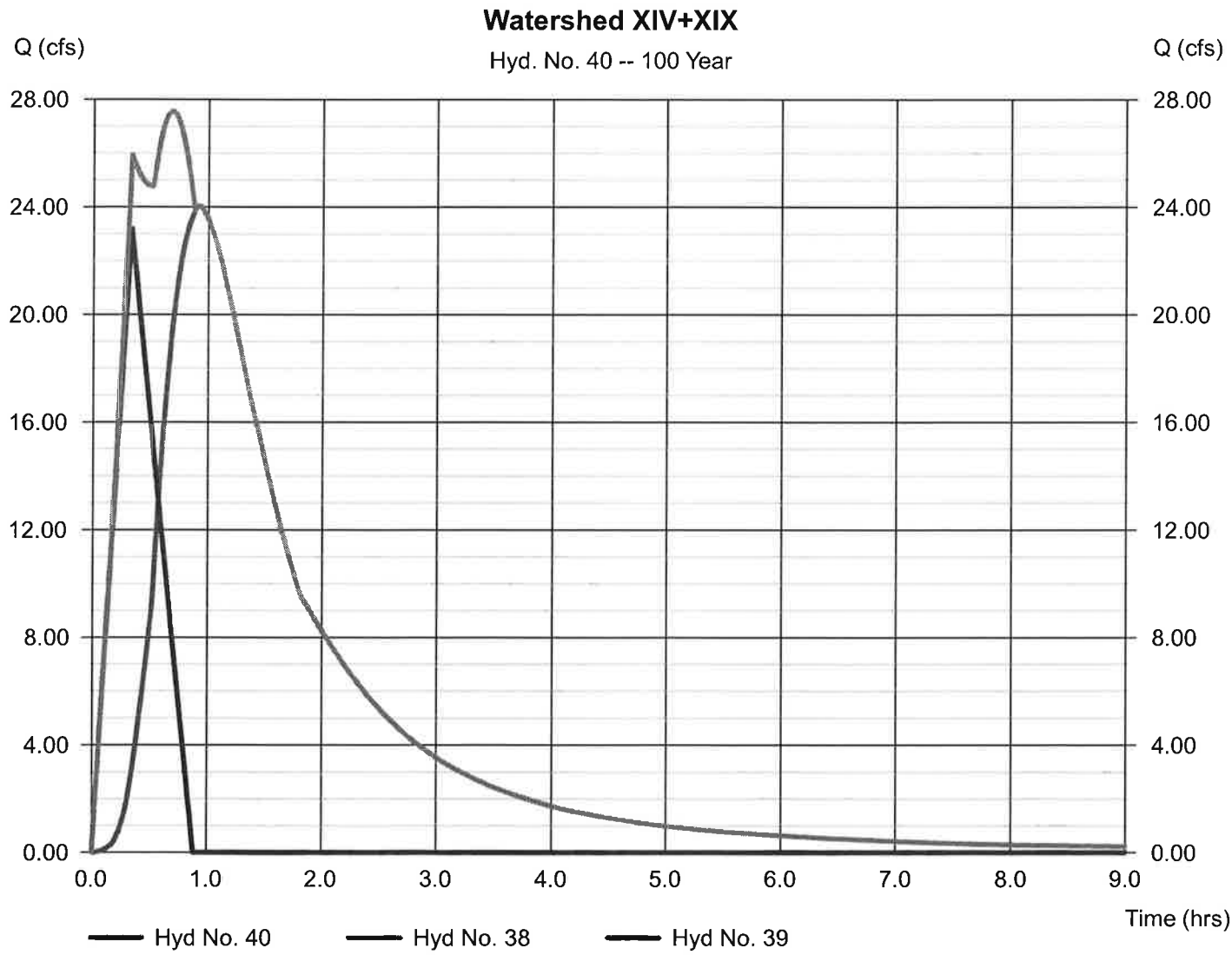
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 40

Watershed XIV+XIX

Hydrograph type	= Combine	Peak discharge	= 27.56 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.68 hrs
Time interval	= 1 min	Hyd. volume	= 173,573 cuft
Inflow hyds.	= 38, 39	Contrib. drain. area	= 15.400 ac



Hydrograph Report

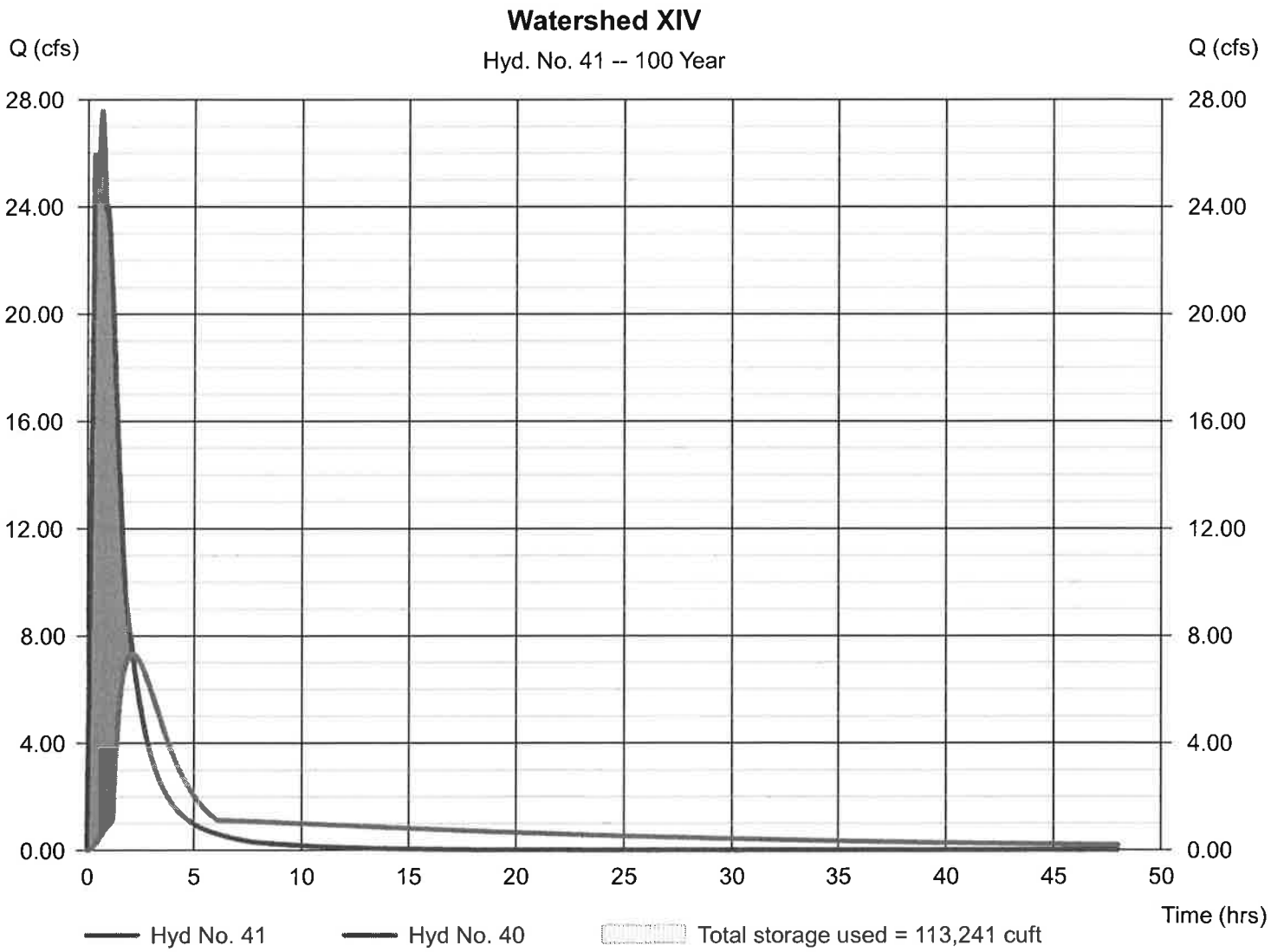
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 41

Watershed XIV

Hydrograph type	= Reservoir	Peak discharge	= 7.315 cfs
Storm frequency	= 100 yrs	Time to peak	= 2.15 hrs
Time interval	= 1 min	Hyd. volume	= 157,105 cuft
Inflow hyd. No.	= 40 - Watershed XIV+XIX	Max. Elevation	= 539.72 ft
Reservoir name	= Watershed XIV	Max. Storage	= 113,241 cuft

Storage Indication method used.



Hydrograph Report

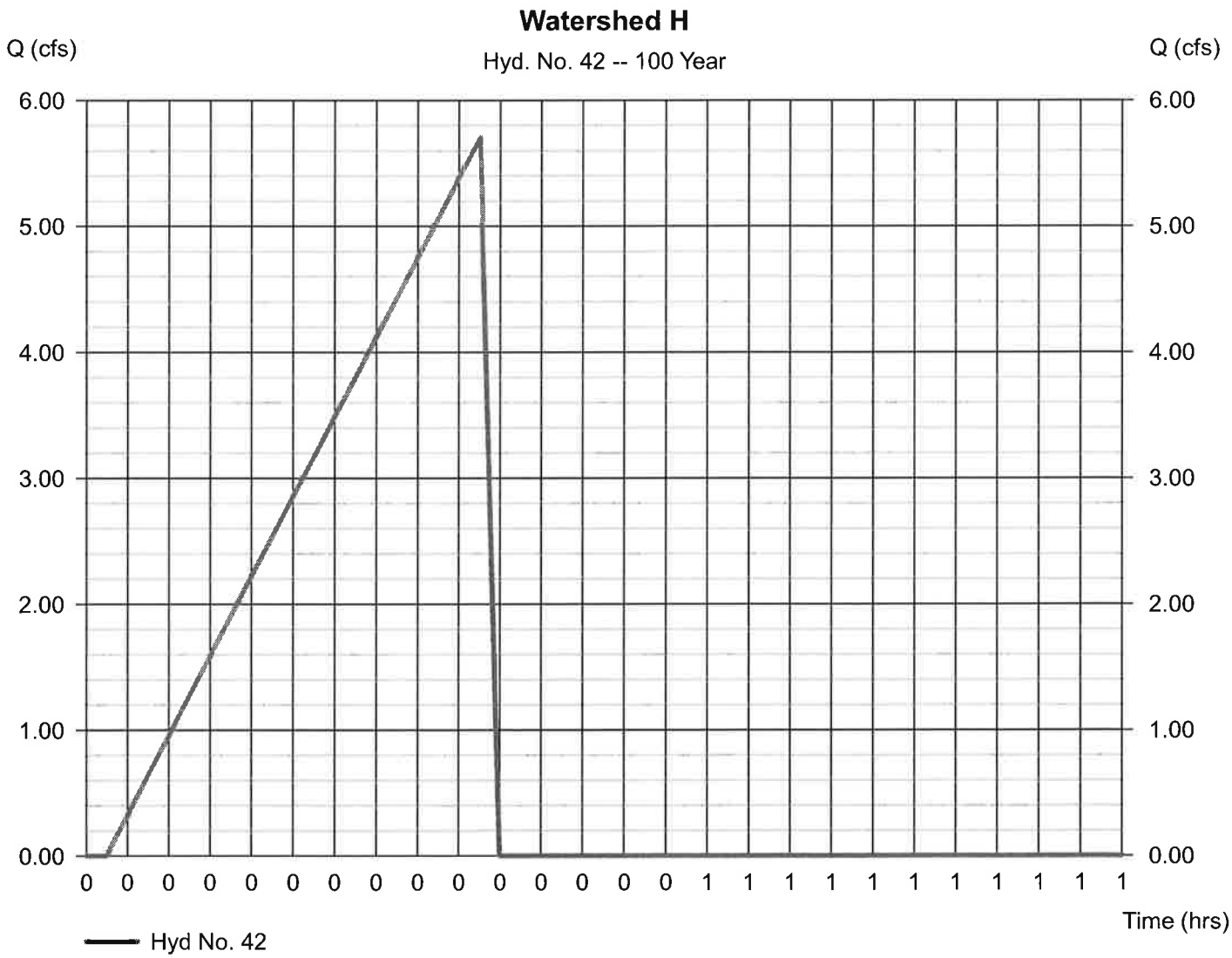
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 42

Watershed H

Hydrograph type	= Rational	Peak discharge	= 5.704 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 8,537 cuft
Drainage area	= 3.800 ac	Runoff coeff.	= 0.29*
Intensity	= 5.176 in/hr	Tc by TR55	= 18.69 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.200 x 0.90) + (0.100 x 0.30) + (2.500 x 0.20) + (0.800 x 0.25) + (0.200 x 1.00)] / 3.800



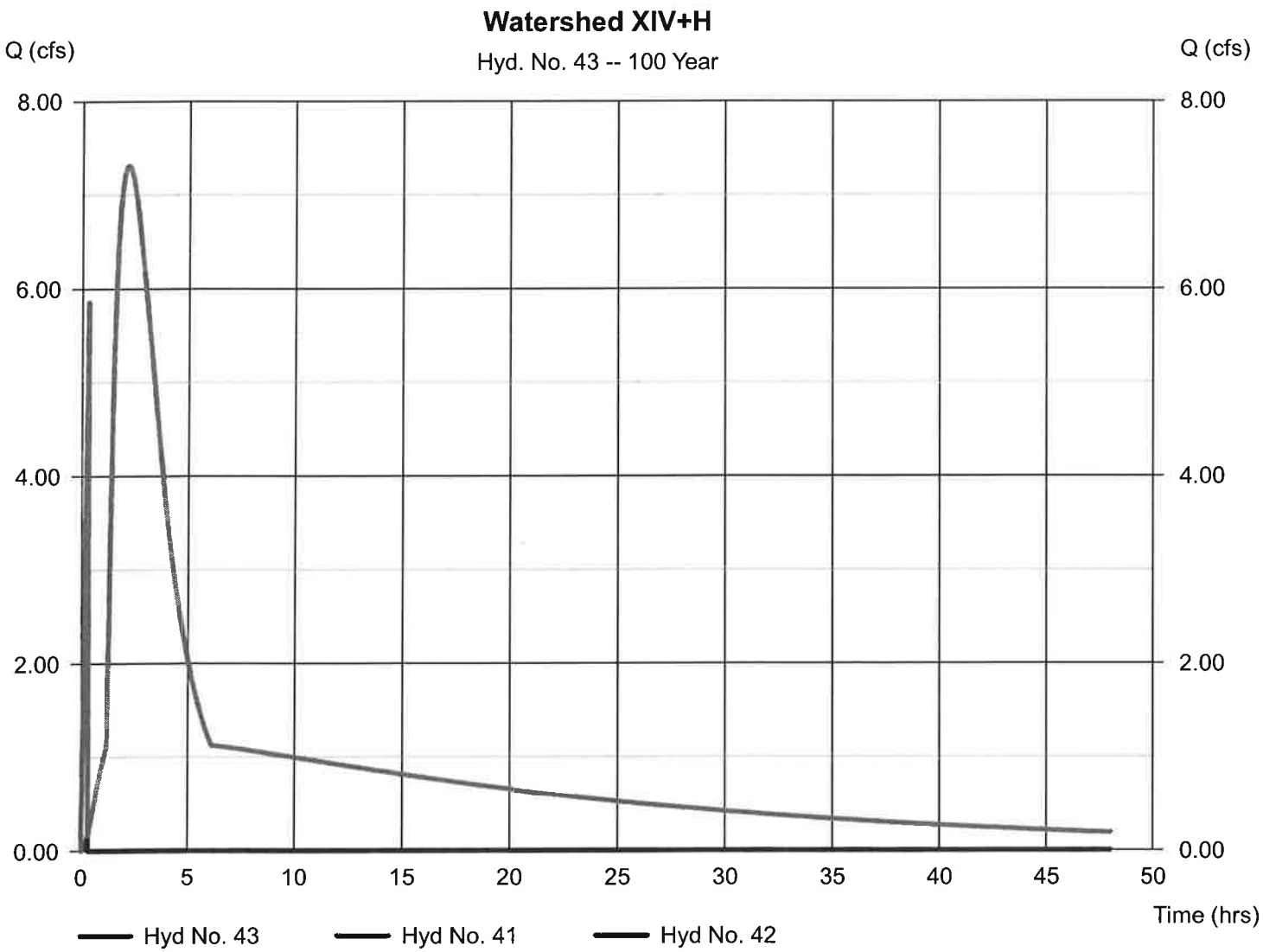
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 43

Watershed XIV+H

Hydrograph type	= Combine	Peak discharge	= 7.315 cfs
Storm frequency	= 100 yrs	Time to peak	= 2.15 hrs
Time interval	= 1 min	Hyd. volume	= 160,356 cuft
Inflow hyds.	= 41, 42	Contrib. drain. area	= 3.800 ac



Hydrograph Report

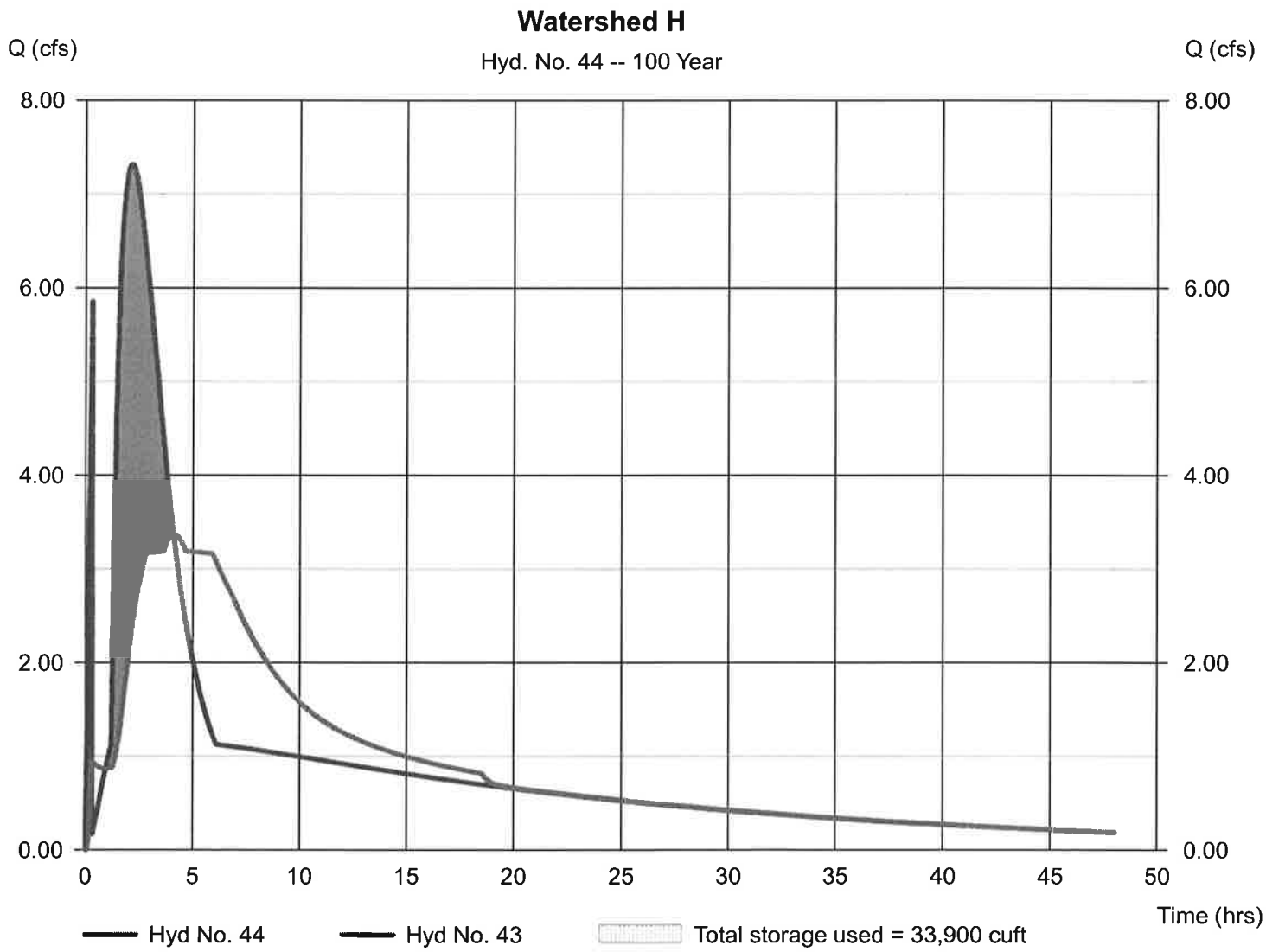
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 44

Watershed H

Hydrograph type	= Reservoir	Peak discharge	= 3.366 cfs
Storm frequency	= 100 yrs	Time to peak	= 4.12 hrs
Time interval	= 1 min	Hyd. volume	= 159,668 cuft
Inflow hyd. No.	= 43 - Watershed XIV+H	Max. Elevation	= 537.03 ft
Reservoir name	= Watershed H	Max. Storage	= 33,900 cuft

Storage Indication method used.



Hydrograph Report

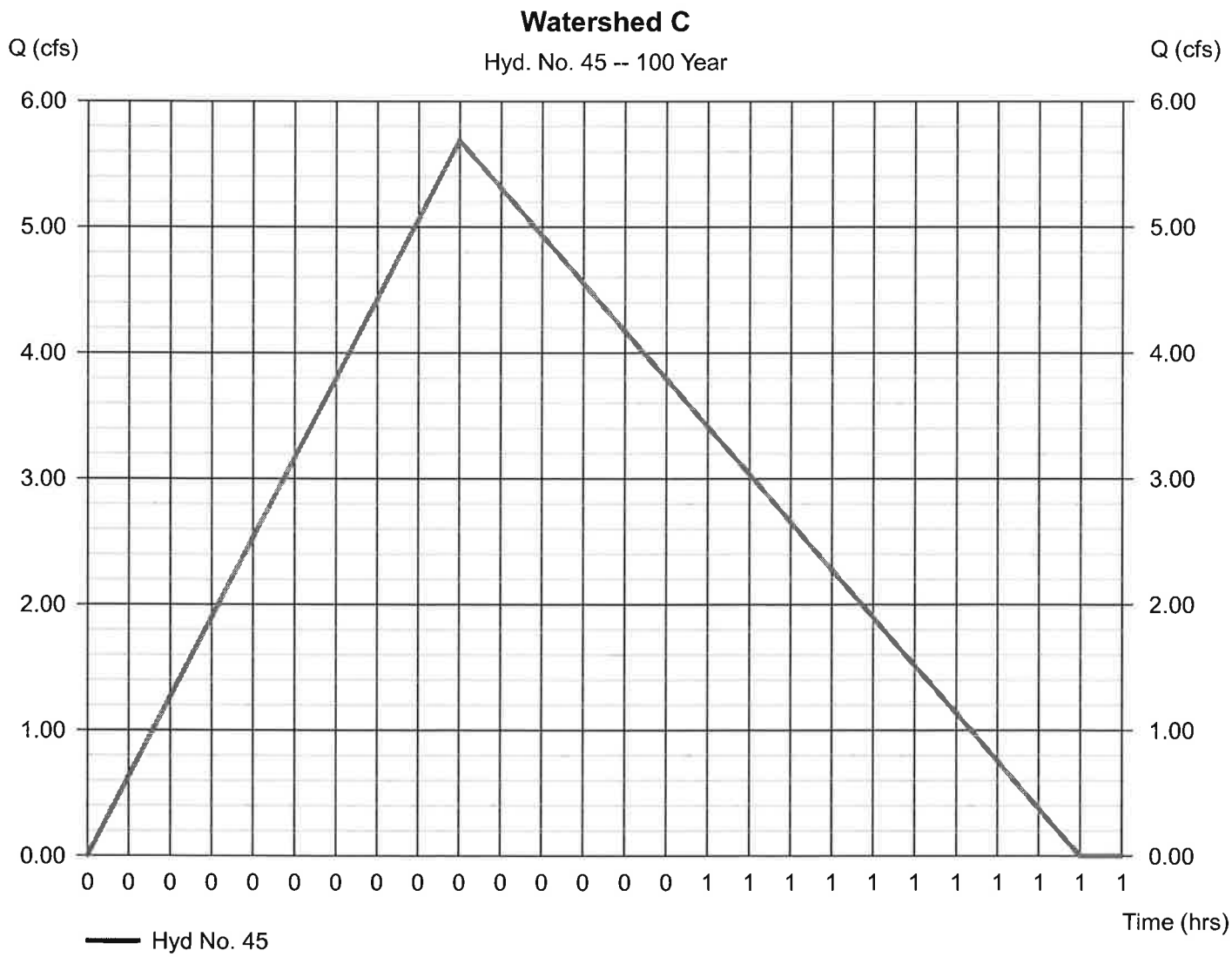
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 45

Watershed C

Hydrograph type	= Rational	Peak discharge	= 5.689 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.30 hrs
Time interval	= 1 min	Hyd. volume	= 8,339 cuft
Drainage area	= 3.300 ac	Runoff coeff.	= 0.33*
Intensity	= 5.224 in/hr	Tc by TR55	= 18.30 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.400 x 0.90) + (1.200 x 0.30) + (1.400 x 0.20) + (0.300 x 0.25)] / 3.300



Hydrograph Report

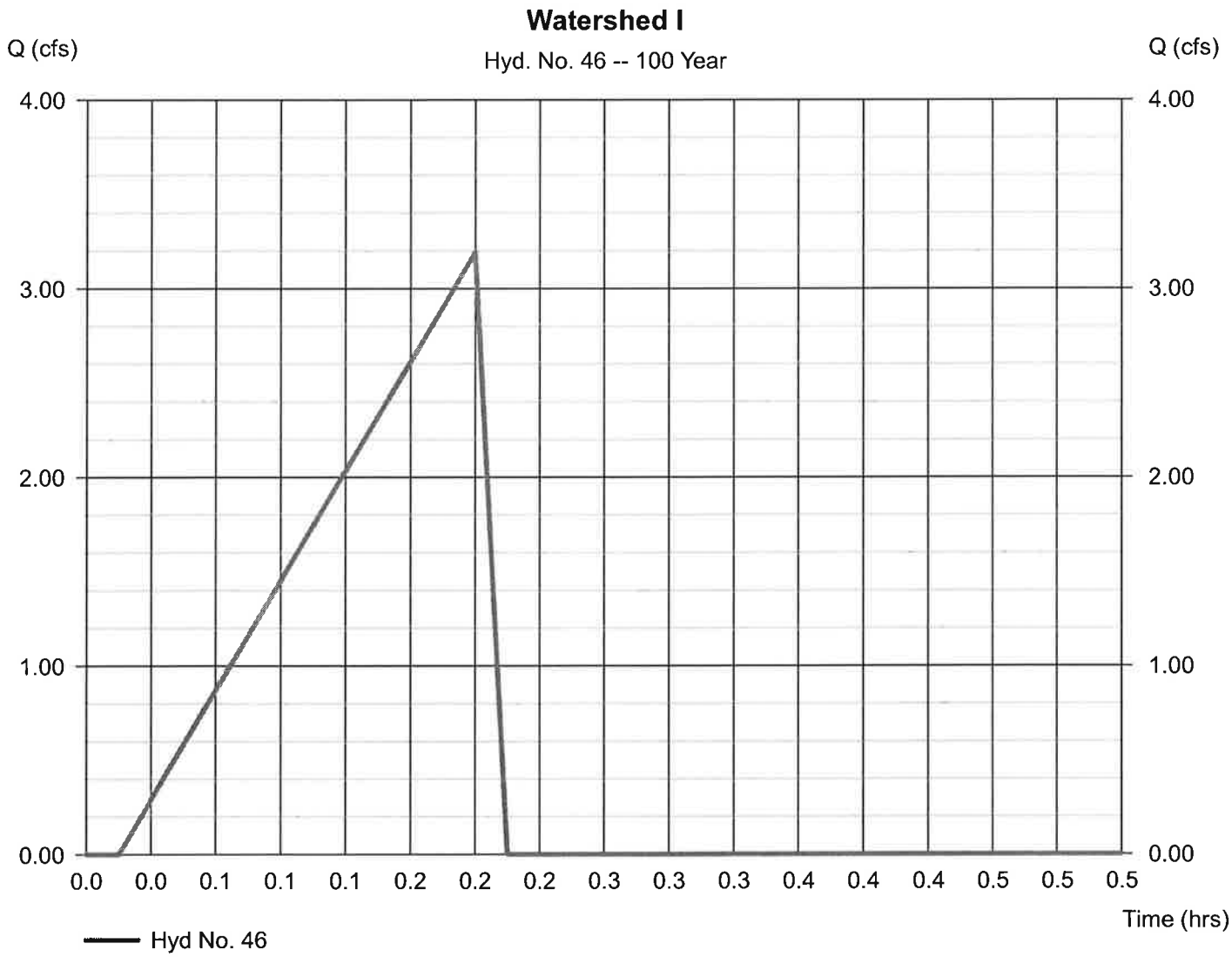
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 46

Watershed I

Hydrograph type	= Rational	Peak discharge	= 3.190 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 2,946 cuft
Drainage area	= 1.500 ac	Runoff coeff.	= 0.34*
Intensity	= 6.255 in/hr	Tc by TR55	= 11.53 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.200 x 0.90) + (0.700 x 0.30) + (0.600 x 0.20)] / 1.500



Hydrograph Report

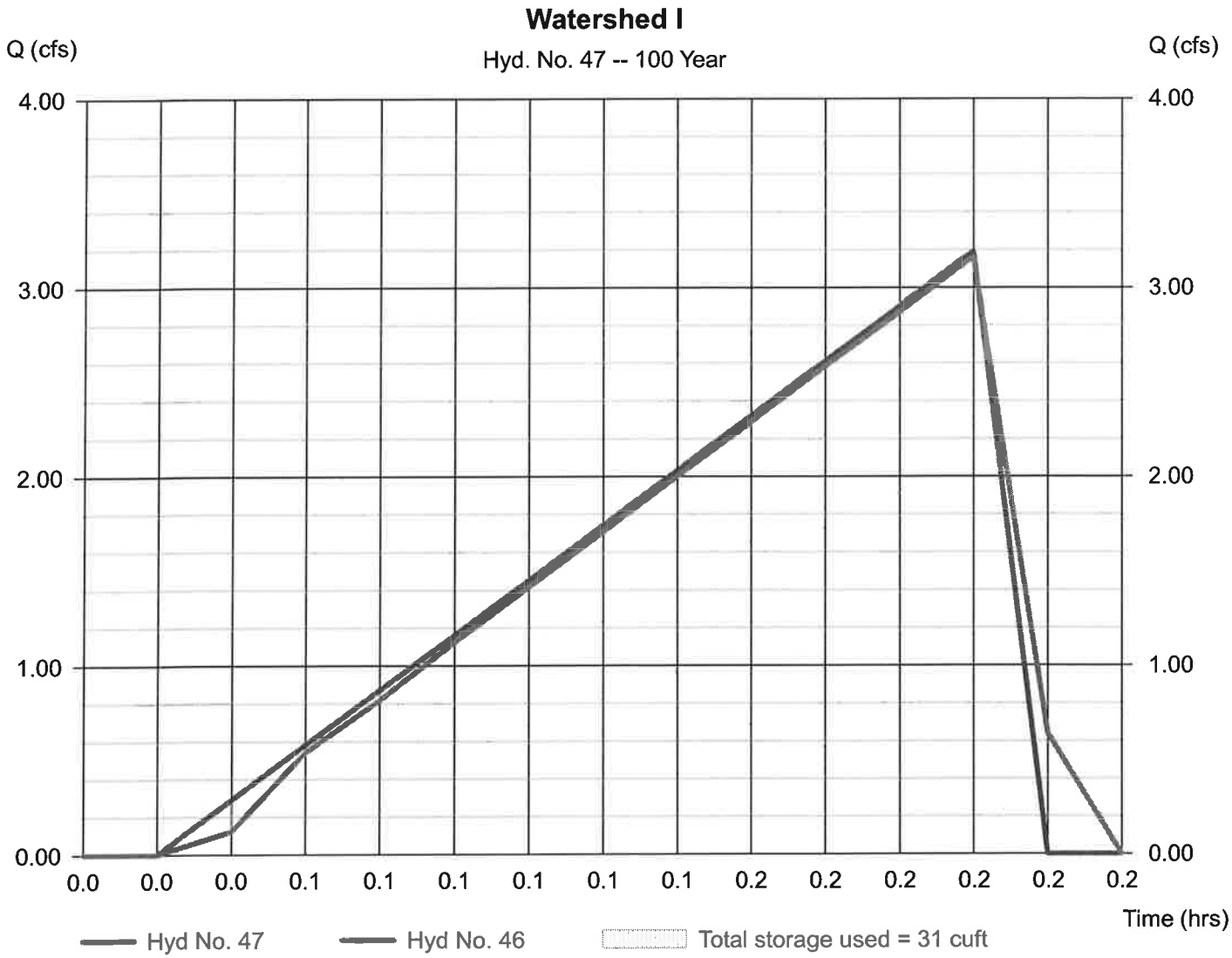
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 47

Watershed I

Hydrograph type	= Reservoir	Peak discharge	= 3.161 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 1,155 cuft
Inflow hyd. No.	= 46 - Watershed I	Max. Elevation	= 531.70 ft
Reservoir name	= Watershed I	Max. Storage	= 31 cuft

Storage Indication method used.



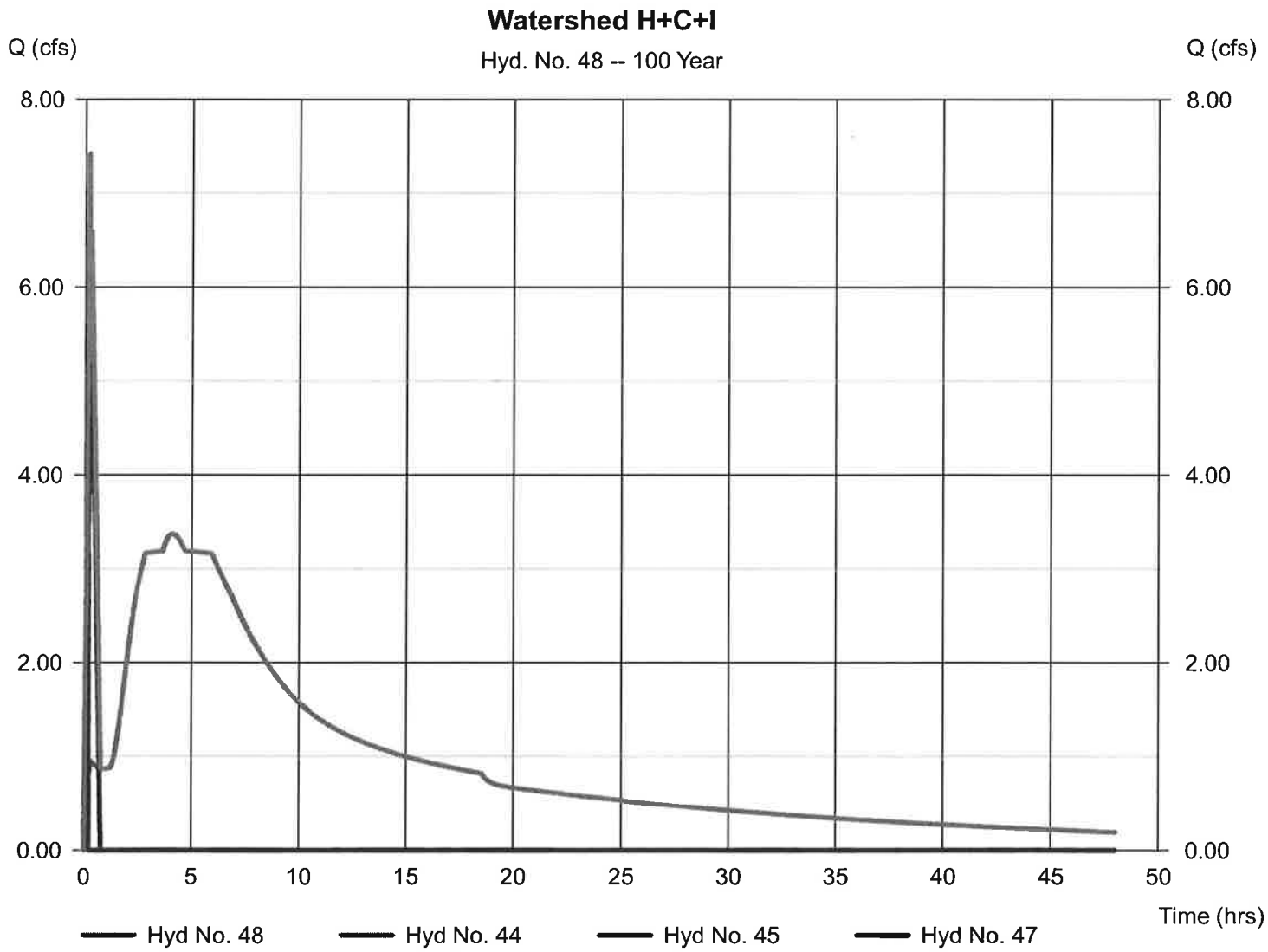
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 48

Watershed H+C+I

Hydrograph type	= Combine	Peak discharge	= 7.419 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 169,015 cuft
Inflow hyds.	= 44, 45, 47	Contrib. drain. area	= 3.300 ac



Hydrograph Report

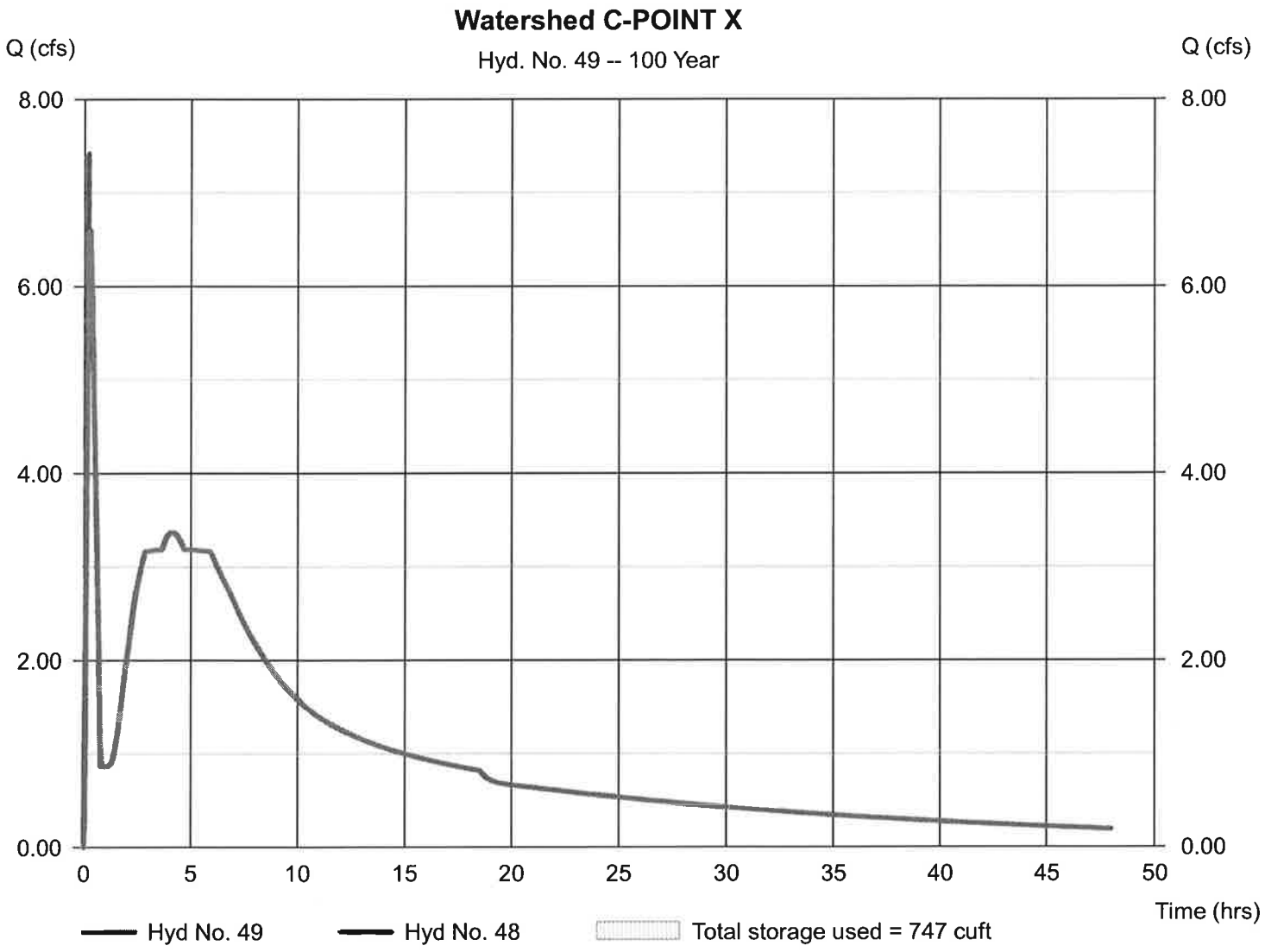
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 49

Watershed C-POINT X

Hydrograph type	= Reservoir	Peak discharge	= 6.577 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.20 hrs
Time interval	= 1 min	Hyd. volume	= 168,948 cuft
Inflow hyd. No.	= 48 - Watershed H+C+I	Max. Elevation	= 530.05 ft
Reservoir name	= Watershed C	Max. Storage	= 747 cuft

Storage Indication method used.



Hydrograph Report

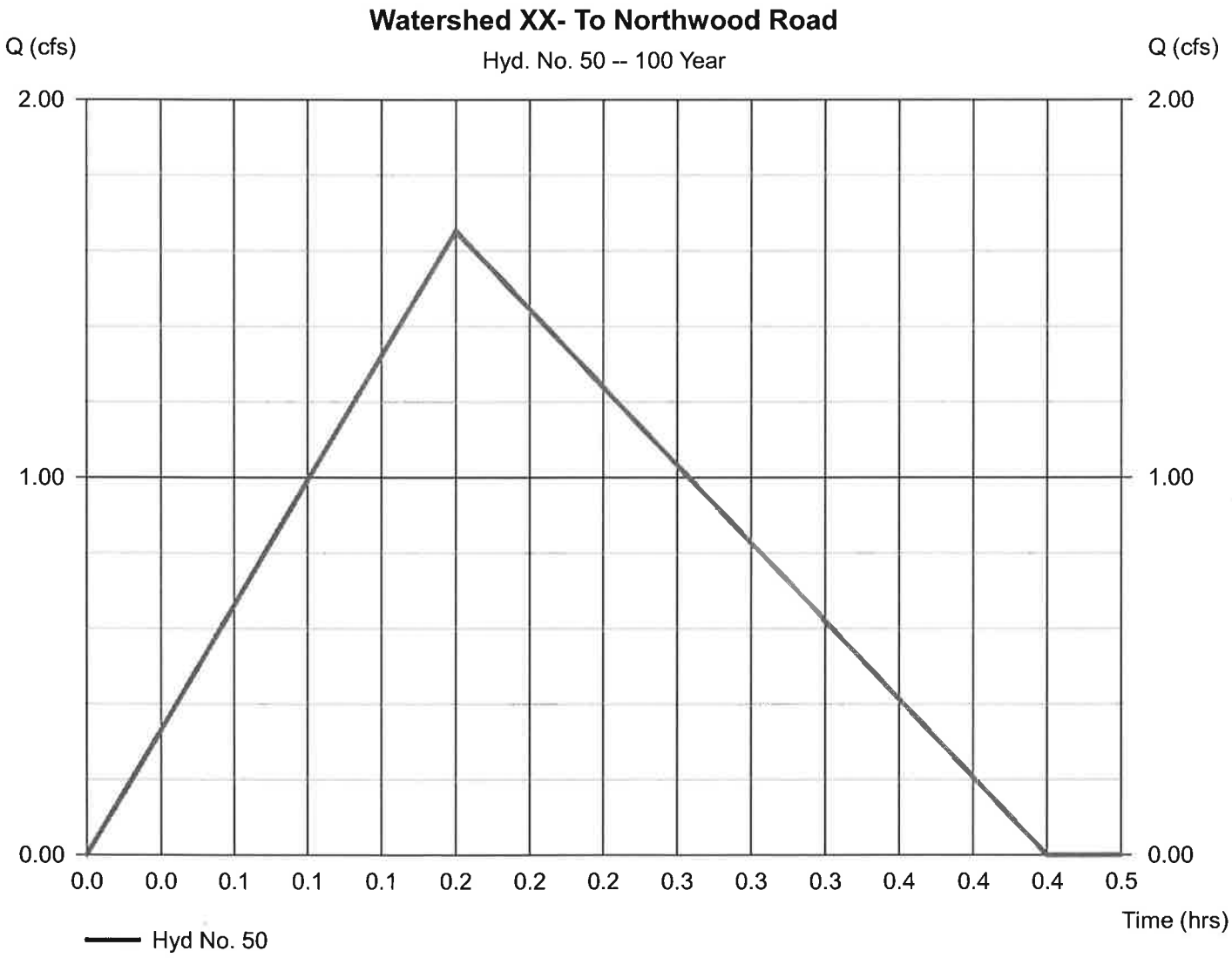
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 50

Watershed XX- To Northwood Road

Hydrograph type	= Rational	Peak discharge	= 1.652 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 1,323 cuft
Drainage area	= 0.720 ac	Runoff coeff.	= 0.35*
Intensity	= 6.554 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.100 x 0.90) + (0.360 x 0.30) + (0.260 x 0.20)] / 0.720



VERNAL POOL #1

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04161-2016-vp.gpw

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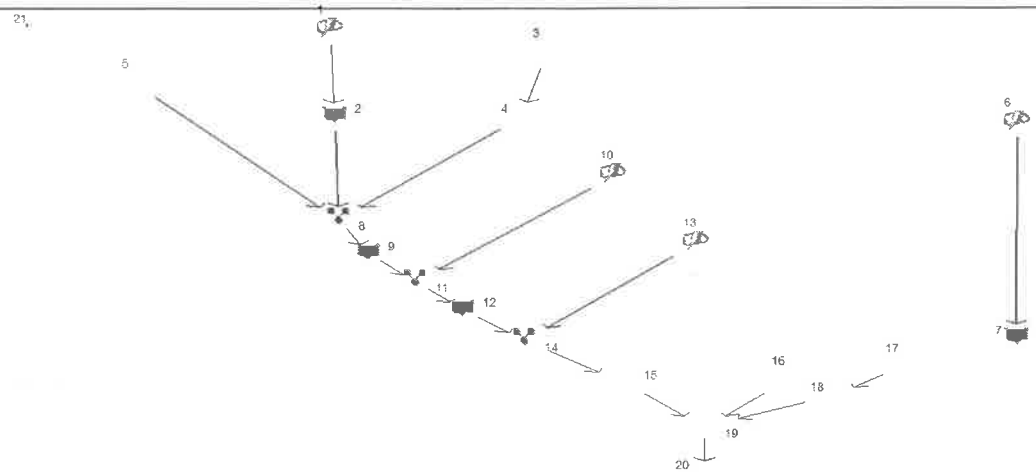
Watershed Model Schematic

Hydraflow Hydrographs by Intelisolve v9.1



Legend

Hyd.	Origin	Description
1	Rational	Vernal Pool #1-Existing-Watershed K
2	Reservoir	Vernal Pool #1-Ex.-K
6	Rational	Watershed II
7	Rational	Watershed IIA
8	Reservoir	Watershed IIA
9	Rational	Watershed IX
10	Rational	Watershed IXA
11	Reservoir	Watershed IXA
12	Rational	Watershed VP#1-Proposed
13	Combine	Vernal Pool-Ultimate-Proposed
14	Reservoir	Watershed VP #1-Propos

Hydrograph Return Period Recap

Hydraflow Hydrographs by Intelisolve v9.1

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	Rational	-------	-------	6.575	-------	-------	9.501	11.15	12.39	13.60	Vernal Pool #1-Existing-Watershed
2	Reservoir	1	-------	0.017	-------	-------	0.020	0.022	0.023	0.024	Vernal Pool #1-Ex.-K
6	Rational	-------	-------	2.929	-------	-------	4.220	4.947	5.490	6.019	Watershed II
7	Rational	-------	-------	4.214	-------	-------	5.808	6.675	7.327	7.922	Watershed IIA
8	Reservoir	7	-------	1.025	-------	-------	1.244	1.364	1.459	1.555	Watershed IIA
9	Rational	-------	-------	0.236	-------	-------	0.325	0.373	0.410	0.443	Watershed IX
10	Rational	-------	-------	1.841	-------	-------	2.537	2.916	3.201	3.460	Watershed IXA
11	Reservoir	10	-------	0.960	-------	-------	1.202	1.332	1.430	1.537	Watershed IXA
12	Rational	-------	-------	1.058	-------	-------	1.529	1.795	1.994	2.189	Watershed VP#1-Proposed
13	Combine	6, 8, 9, 11, 12	-----	6.000	-------	-------	8.233	9.474	10.40	11.33	Vernal Pool-Ultimate-Proposed
14	Reservoir	13	-------	0.017	-------	-------	0.020	0.022	0.023	0.024	Watershed VP #1-Propos

Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.1

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	Rational	6.575	1	20	10,533	----	------	------	Vernal Pool #1-Existing-Watershed
2	Reservoir	0.017	1	53	2,706	1	550.07	10,421	Vernal Pool #1-Ex.-K
6	Rational	2.929	1	19	4,457	----	------	------	Watershed II
7	Rational	4.214	1	10	3,375	----	------	------	Watershed IIA
8	Reservoir	1.025	1	22	3,281	7	561.93	2,320	Watershed IIA
9	Rational	0.236	1	10	189	----	------	------	Watershed IX
10	Rational	1.841	1	10	1,474	----	------	------	Watershed IXA
11	Reservoir	0.960	1	18	1,434	10	553.45	583	Watershed IXA
12	Rational	1.058	1	20	1,695	----	------	------	Watershed VP#1-Proposed
13	Combine	6.000	1	19	10,974	6, 8, 9, 11, 12	------	------	Vernal Pool-Ultimate-Proposed
14	Reservoir	0.017	1	131	2,771	13	550.09	10,801	Watershed VP #1-Propos

Hydrograph Report

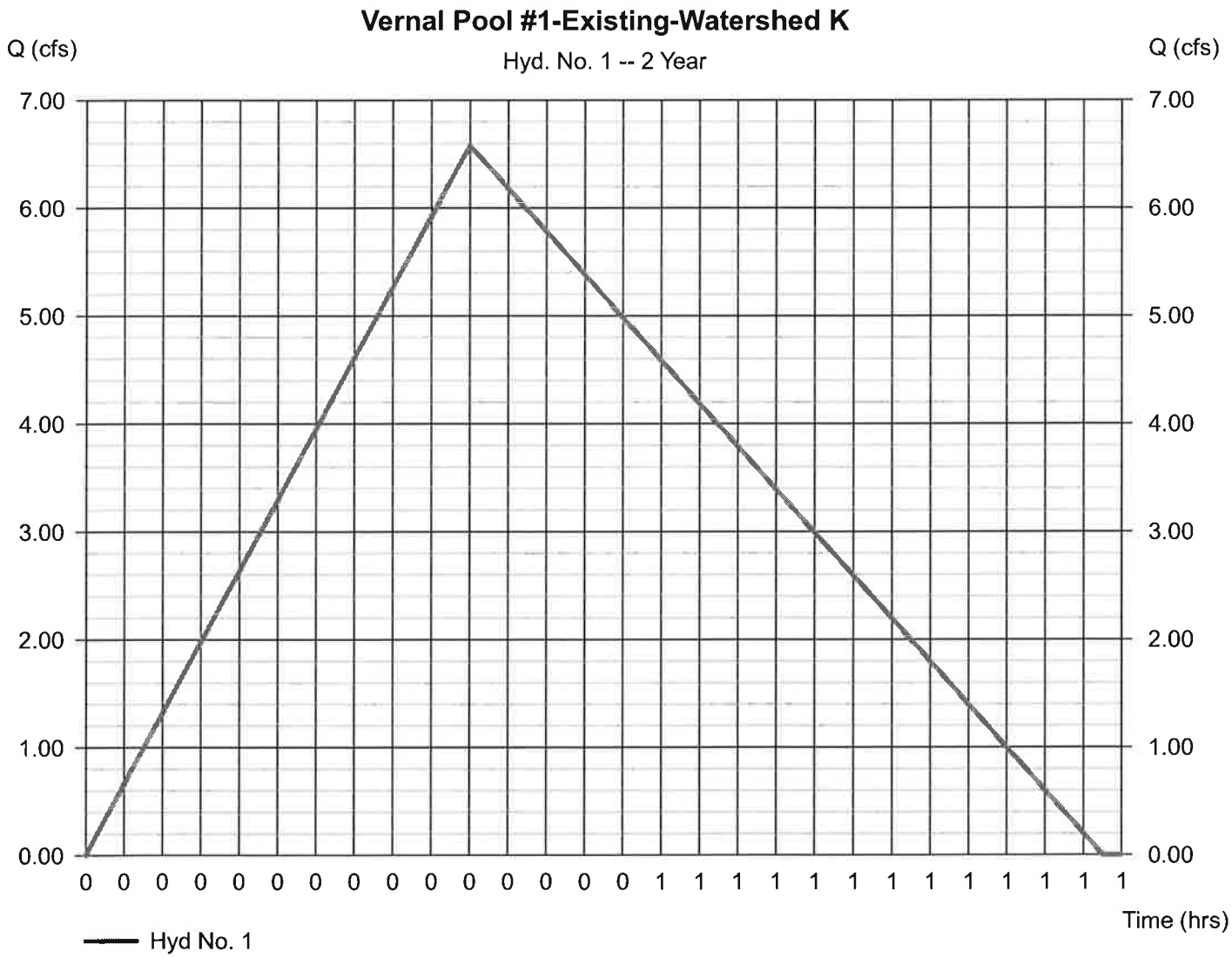
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 1

Vernal Pool #1-Existing-Watershed K

Hydrograph type	= Rational	Peak discharge	= 6.575 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 10,533 cuft
Drainage area	= 9.340 ac	Runoff coeff.	= 0.29*
Intensity	= 2.427 in/hr	Tc by TR55	= 20.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.000 x 0.90) + (1.400 x 0.30) + (6.940 x 0.20)] / 9.340



TR55 Tc Worksheet

Hyd. No. 1

Vernal Pool #1-Existing-Watershed K

Description		A		B		C		Totals
Sheet Flow								
Manning's n-value	=	0.240		0.011		0.011		
Flow length (ft)	=	100.0		0.0		0.0		
Two-year 24-hr precip. (in)	=	3.20		0.00		0.00		
Land slope (%)	=	2.30		0.00		0.00		
Travel Time (min)	**=**	**13.49**	**+**	**0.00**	**+**	**0.00**	**=**	**13.49**
Shallow Concentrated Flow								
Flow length (ft)	=	107.00		206.00		0.00		
Watercourse slope (%)	=	7.57		0.49		0.00		
Surface description	=	Unpaved		Paved		Paved		
Average velocity (ft/s)	=	4.44		1.42		0.00		
Travel Time (min)	**=**	**0.40**	**+**	**2.43**	**+**	**0.00**	**=**	**2.83**
Channel Flow								
X sectional flow area (sqft)	=	1.23		1.50		0.00		
Wetted perimeter (ft)	=	3.93		4.24		0.00		
Channel slope (%)	=	0.50		4.42		0.00		
Manning's n-value	=	0.015		0.040		0.015		
Velocity (ft/s)	=	3.22		3.91		0.00		
Flow length (ft)	=	194.0		678.0		0.0		
Travel Time (min)	**=**	**1.00**	**+**	**2.89**	**+**	**0.00**	**=**	**3.90**

Total Travel Time, Tc ..... 20.00 min

Hydrograph Report

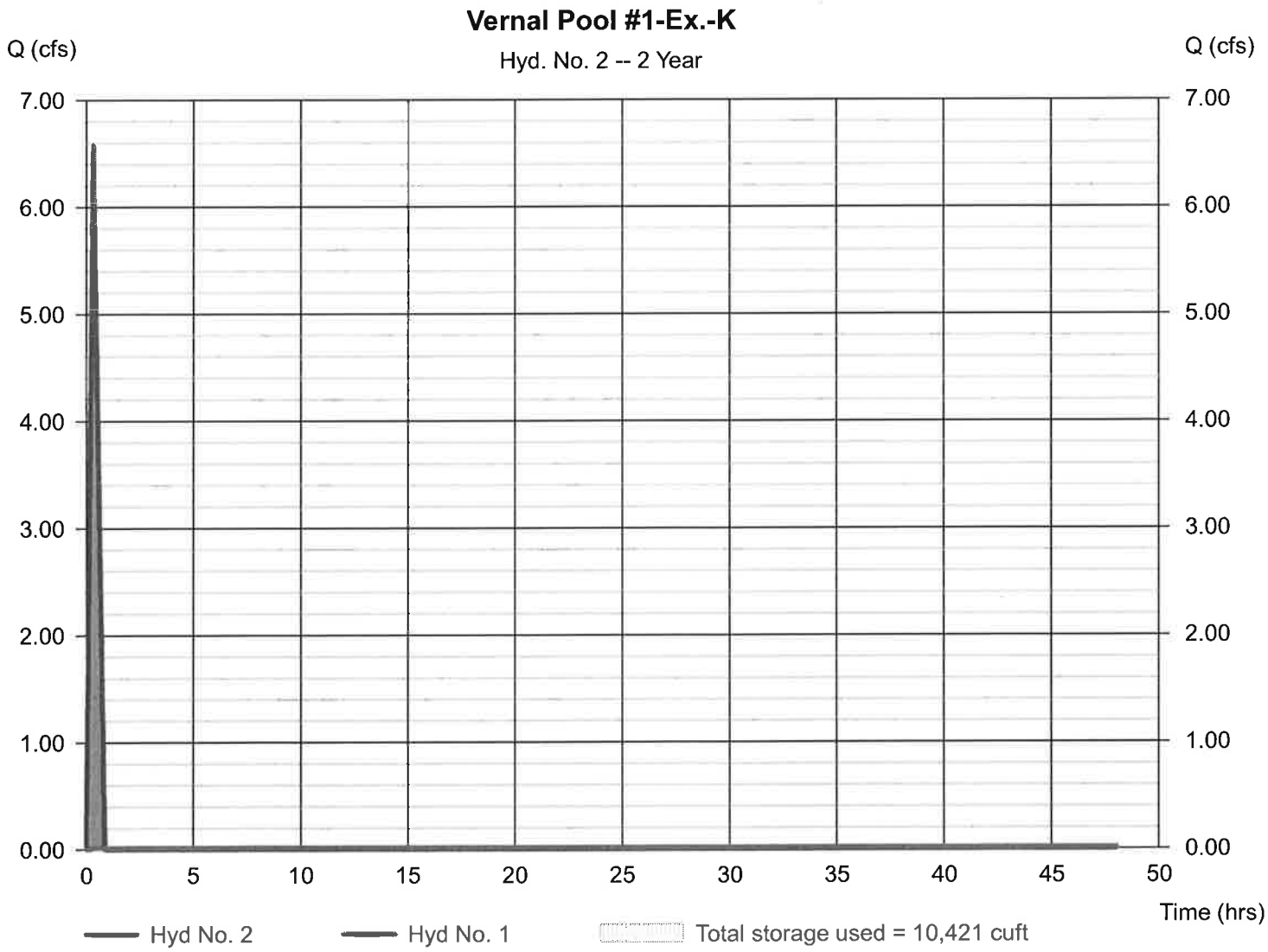
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 2

Vernal Pool #1-Ex.-K

Hydrograph type	= Reservoir	Peak discharge	= 0.017 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.88 hrs
Time interval	= 1 min	Hyd. volume	= 2,706 cuft
Inflow hyd. No.	= 1 - Vernal Pool #1-Existing-Watershed K	Max. Elevation	= 550.07 ft
Reservoir name	= Vernal Pool #1-Existing	Max. Storage	= 10,421 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Pond No. 1 - Vernal Pool #1-Existing

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 549.62 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	549.62	17,022	0	0
0.38	550.00	27,603	8,397	8,397
1.38	551.00	27,603	27,600	35,998

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 1.00	0.00	0.00	0.00
Span (in)	= 1.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 549.62	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)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
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	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	549.62	0.00	---	---	---	---	---	---	---	---	---	0.00
0.04	840	549.66	0.00 ic	---	---	---	---	---	---	---	---	---	0.00
0.08	1,679	549.70	0.00 ic	---	---	---	---	---	---	---	---	---	0.00
0.11	2,519	549.73	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
0.15	3,359	549.77	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
0.19	4,199	549.81	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
0.23	5,038	549.85	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
0.27	5,878	549.89	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
0.30	6,718	549.92	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
0.34	7,558	549.96	0.01 ic	---	---	---	---	---	---	---	---	---	0.01
0.38	8,397	550.00	0.02 ic	---	---	---	---	---	---	---	---	---	0.02
0.48	11,157	550.10	0.02 ic	---	---	---	---	---	---	---	---	---	0.02
0.58	13,917	550.20	0.02 ic	---	---	---	---	---	---	---	---	---	0.02
0.68	16,677	550.30	0.02 ic	---	---	---	---	---	---	---	---	---	0.02
0.78	19,437	550.40	0.02 ic	---	---	---	---	---	---	---	---	---	0.02
0.88	22,197	550.50	0.02 ic	---	---	---	---	---	---	---	---	---	0.02
0.98	24,957	550.60	0.03 ic	---	---	---	---	---	---	---	---	---	0.03
1.08	27,717	550.70	0.03 ic	---	---	---	---	---	---	---	---	---	0.03
1.18	30,478	550.80	0.03 ic	---	---	---	---	---	---	---	---	---	0.03
1.28	33,238	550.90	0.03 ic	---	---	---	---	---	---	---	---	---	0.03
1.38	35,998	551.00	0.03 ic	---	---	---	---	---	---	---	---	---	0.03

Hydrograph Report

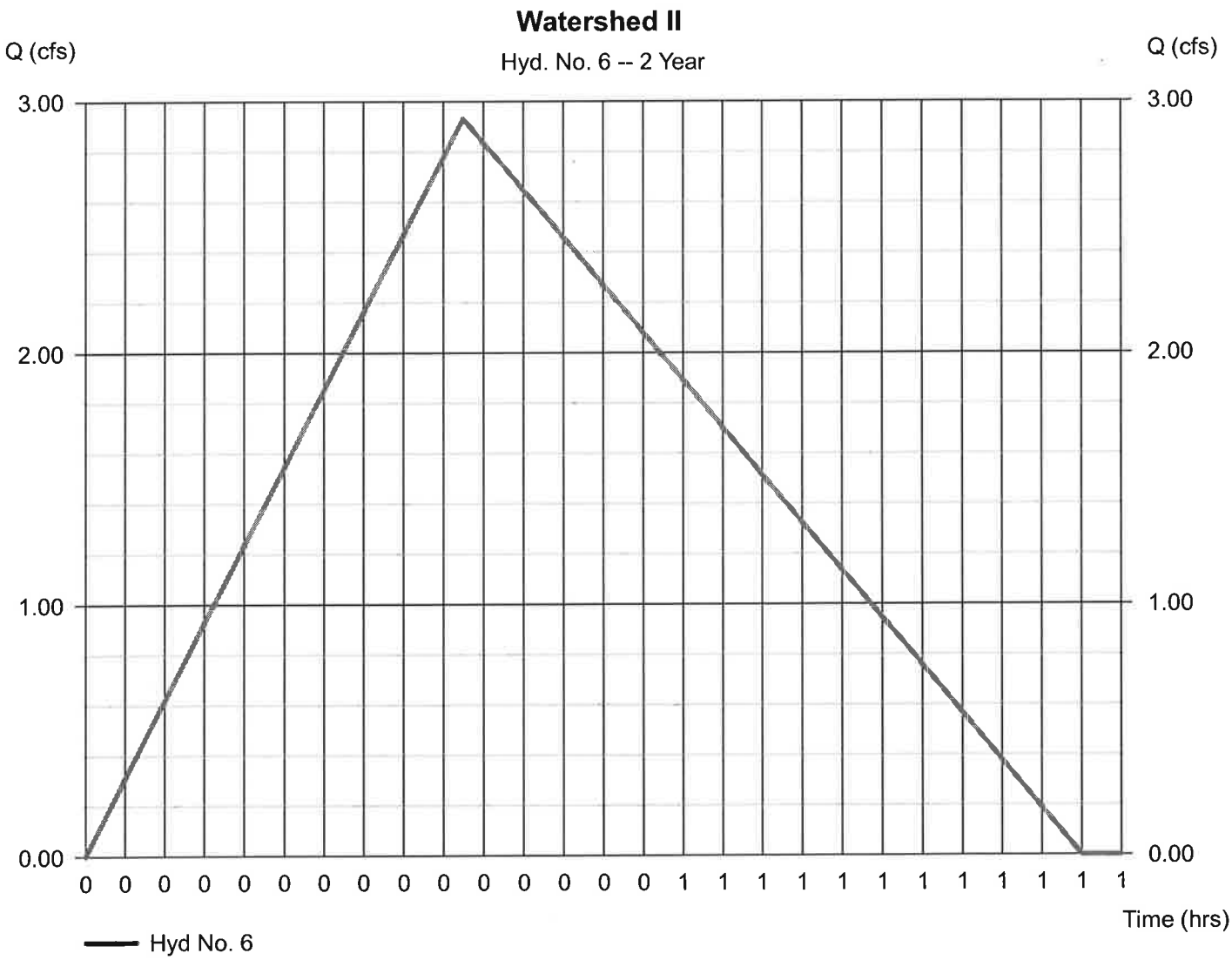
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 6

Watershed II

Hydrograph type	= Rational	Peak discharge	= 2.929 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 4,457 cuft
Drainage area	= 4.040 ac	Runoff coeff.	= 0.29*
Intensity	= 2.500 in/hr	Tc by User	= 19.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.230 x 0.90) + (1.940 x 0.30) + (1.870 x 0.20)] / 4.040



Hydrograph Report

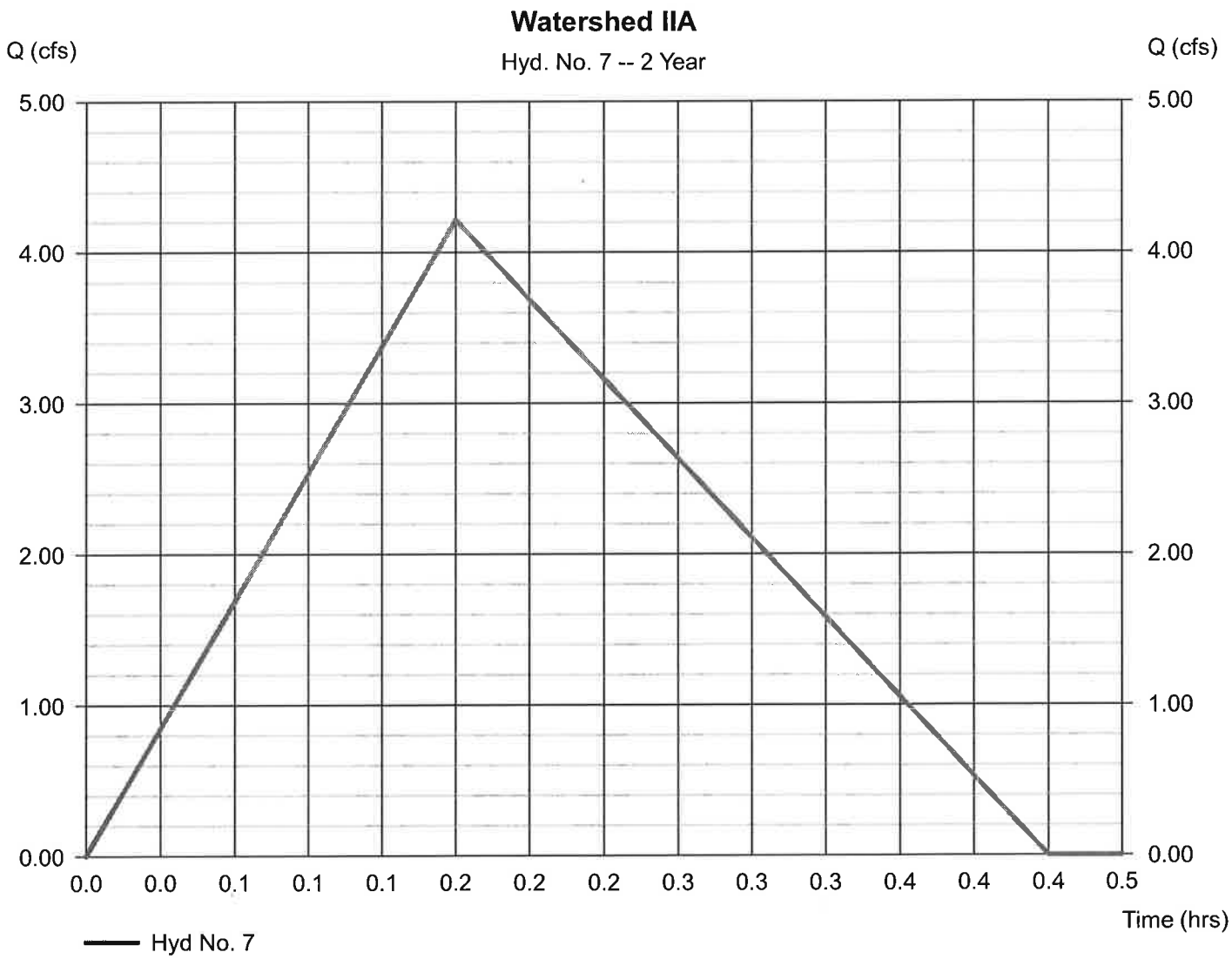
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 7

Watershed IIA

Hydrograph type	= Rational	Peak discharge	= 4.214 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 3,375 cuft
Drainage area	= 1.530 ac	Runoff coeff.	= 0.79*
Intensity	= 3.486 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.250 x 0.90) + (0.280 x 0.30)] / 1.530



Hydrograph Report

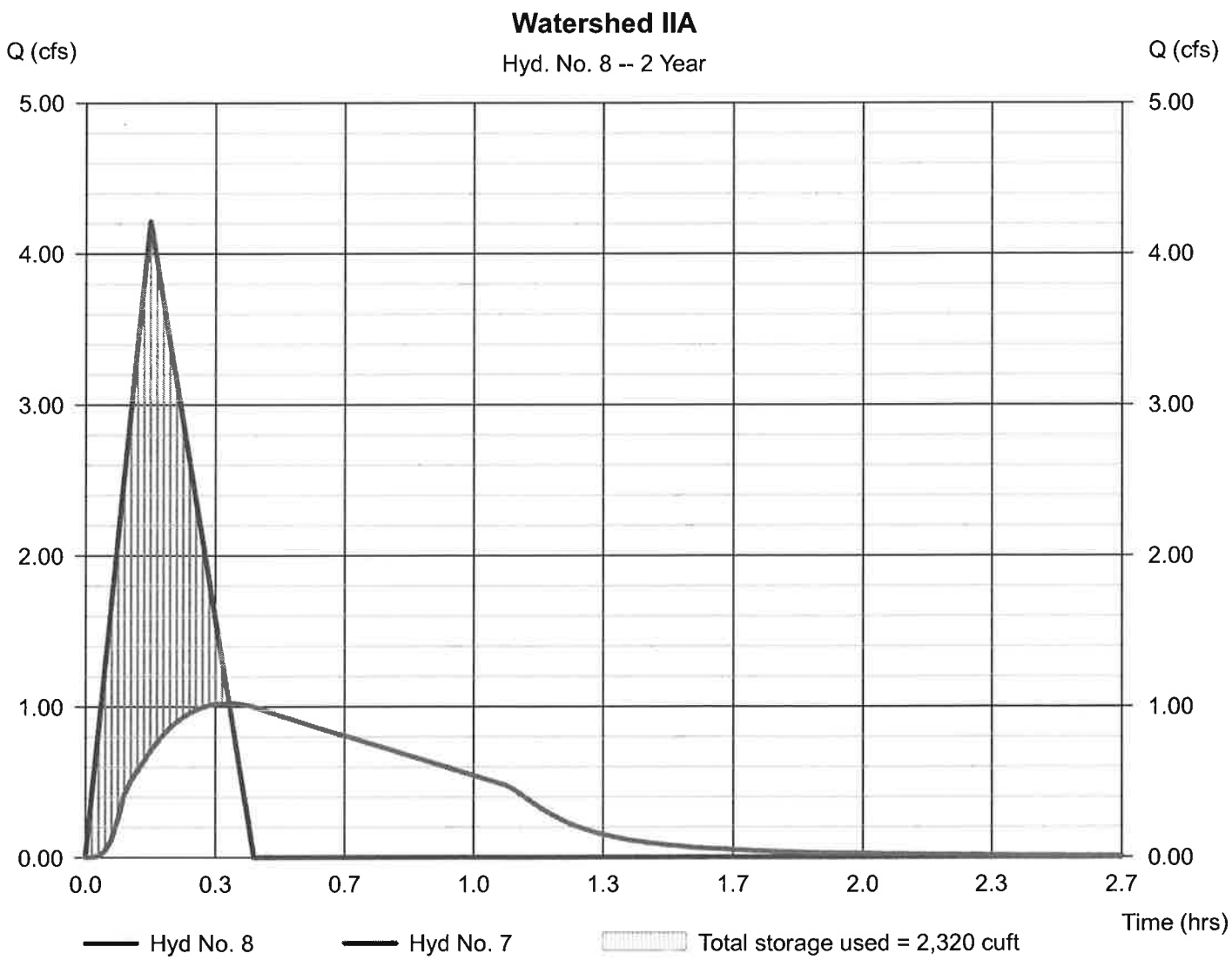
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 8

Watershed IIA

Hydrograph type	= Reservoir	Peak discharge	= 1.025 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.37 hrs
Time interval	= 1 min	Hyd. volume	= 3,281 cuft
Inflow hyd. No.	= 7 - Watershed IIA	Max. Elevation	= 561.93 ft
Reservoir name	= Watershed IIA	Max. Storage	= 2,320 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Pond No. 2 - Watershed IIA

Pond Data

Pond storage is based on user-defined values.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	560.50	n/a	0	0
0.50	561.00	n/a	473	473
1.00	561.50	n/a	1,018	1,491
1.50	562.00	n/a	975	2,466
2.00	562.50	n/a	907	3,373
2.50	563.00	n/a	803	4,176
3.00	563.50	n/a	593	4,769
3.50	564.00	n/a	474	5,243

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 6.00	0.00	0.00	0.00
Span (in)	= 6.00	0.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 560.50	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)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 563.50	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	560.50	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.05	47	560.55	0.01 ic	---	---	---	0.00	---	---	---	---	---	0.01
0.10	95	560.60	0.03 ic	---	---	---	0.00	---	---	---	---	---	0.03
0.15	142	560.65	0.07 ic	---	---	---	0.00	---	---	---	---	---	0.07
0.20	189	560.70	0.11 ic	---	---	---	0.00	---	---	---	---	---	0.11
0.25	237	560.75	0.17 ic	---	---	---	0.00	---	---	---	---	---	0.17
0.30	284	560.80	0.23 ic	---	---	---	0.00	---	---	---	---	---	0.23
0.35	331	560.85	0.30 ic	---	---	---	0.00	---	---	---	---	---	0.30
0.40	378	560.90	0.36 ic	---	---	---	0.00	---	---	---	---	---	0.36
0.45	426	560.95	0.43 ic	---	---	---	0.00	---	---	---	---	---	0.43
0.50	473	561.00	0.47 ic	---	---	---	0.00	---	---	---	---	---	0.47
0.55	575	561.05	0.52 ic	---	---	---	0.00	---	---	---	---	---	0.52
0.60	677	561.10	0.56 ic	---	---	---	0.00	---	---	---	---	---	0.56
0.65	778	561.15	0.60 ic	---	---	---	0.00	---	---	---	---	---	0.60
0.70	880	561.20	0.63 ic	---	---	---	0.00	---	---	---	---	---	0.63
0.75	982	561.25	0.67 ic	---	---	---	0.00	---	---	---	---	---	0.67
0.80	1,084	561.30	0.70 ic	---	---	---	0.00	---	---	---	---	---	0.70
0.85	1,186	561.35	0.73 ic	---	---	---	0.00	---	---	---	---	---	0.73
0.90	1,287	561.40	0.76 ic	---	---	---	0.00	---	---	---	---	---	0.76
0.95	1,389	561.45	0.79 ic	---	---	---	0.00	---	---	---	---	---	0.79
1.00	1,491	561.50	0.82 ic	---	---	---	0.00	---	---	---	---	---	0.82
1.05	1,589	561.55	0.85 ic	---	---	---	0.00	---	---	---	---	---	0.85
1.10	1,686	561.60	0.87 ic	---	---	---	0.00	---	---	---	---	---	0.87
1.15	1,784	561.65	0.90 ic	---	---	---	0.00	---	---	---	---	---	0.90
1.20	1,881	561.70	0.92 ic	---	---	---	0.00	---	---	---	---	---	0.92
1.25	1,979	561.75	0.95 ic	---	---	---	0.00	---	---	---	---	---	0.95
1.30	2,076	561.80	0.97 ic	---	---	---	0.00	---	---	---	---	---	0.97
1.35	2,174	561.85	0.99 ic	---	---	---	0.00	---	---	---	---	---	0.99
1.40	2,271	561.90	1.01 ic	---	---	---	0.00	---	---	---	---	---	1.01
1.45	2,369	561.95	1.04 ic	---	---	---	0.00	---	---	---	---	---	1.04
1.50	2,466	562.00	1.06 ic	---	---	---	0.00	---	---	---	---	---	1.06
1.55	2,557	562.05	1.08 ic	---	---	---	0.00	---	---	---	---	---	1.08
1.60	2,647	562.10	1.10 ic	---	---	---	0.00	---	---	---	---	---	1.10
1.65	2,738	562.15	1.12 ic	---	---	---	0.00	---	---	---	---	---	1.12

Continues on next page...

Watershed IIA

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
1.70	2,829	562.20	1.14 ic	---	---	---	0.00	---	---	---	---	---	1.14
1.75	2,920	562.25	1.16 ic	---	---	---	0.00	---	---	---	---	---	1.16
1.80	3,010	562.30	1.18 ic	---	---	---	0.00	---	---	---	---	---	1.18
1.85	3,101	562.35	1.20 ic	---	---	---	0.00	---	---	---	---	---	1.20
1.90	3,192	562.40	1.21 ic	---	---	---	0.00	---	---	---	---	---	1.21
1.95	3,282	562.45	1.23 ic	---	---	---	0.00	---	---	---	---	---	1.23
2.00	3,373	562.50	1.25 ic	---	---	---	0.00	---	---	---	---	---	1.25
2.05	3,453	562.55	1.27 ic	---	---	---	0.00	---	---	---	---	---	1.27
2.10	3,534	562.60	1.29 ic	---	---	---	0.00	---	---	---	---	---	1.29
2.15	3,614	562.65	1.30 ic	---	---	---	0.00	---	---	---	---	---	1.30
2.20	3,694	562.70	1.32 ic	---	---	---	0.00	---	---	---	---	---	1.32
2.25	3,775	562.75	1.34 ic	---	---	---	0.00	---	---	---	---	---	1.34
2.30	3,855	562.80	1.35 ic	---	---	---	0.00	---	---	---	---	---	1.35
2.35	3,935	562.85	1.37 ic	---	---	---	0.00	---	---	---	---	---	1.37
2.40	4,015	562.90	1.39 ic	---	---	---	0.00	---	---	---	---	---	1.39
2.45	4,096	562.95	1.40 ic	---	---	---	0.00	---	---	---	---	---	1.40
2.50	4,176	563.00	1.42 ic	---	---	---	0.00	---	---	---	---	---	1.42
2.55	4,235	563.05	1.43 ic	---	---	---	0.00	---	---	---	---	---	1.43
2.60	4,295	563.10	1.45 ic	---	---	---	0.00	---	---	---	---	---	1.45
2.65	4,354	563.15	1.46 ic	---	---	---	0.00	---	---	---	---	---	1.46
2.70	4,413	563.20	1.48 ic	---	---	---	0.00	---	---	---	---	---	1.48
2.75	4,472	563.25	1.49 ic	---	---	---	0.00	---	---	---	---	---	1.49
2.80	4,532	563.30	1.51 ic	---	---	---	0.00	---	---	---	---	---	1.51
2.85	4,591	563.35	1.52 ic	---	---	---	0.00	---	---	---	---	---	1.52
2.90	4,650	563.40	1.54 ic	---	---	---	0.00	---	---	---	---	---	1.54
2.95	4,710	563.45	1.55 ic	---	---	---	0.00	---	---	---	---	---	1.55
3.00	4,769	563.50	1.57 ic	---	---	---	0.00	---	---	---	---	---	1.57
3.05	4,816	563.55	1.58 ic	---	---	---	0.19	---	---	---	---	---	1.77
3.10	4,864	563.60	1.60 ic	---	---	---	0.53	---	---	---	---	---	2.12
3.15	4,911	563.65	1.61 ic	---	---	---	0.97	---	---	---	---	---	2.58
3.20	4,959	563.70	1.62 ic	---	---	---	1.49	---	---	---	---	---	3.11
3.25	5,006	563.75	1.64 ic	---	---	---	2.08	---	---	---	---	---	3.72
3.30	5,053	563.80	1.65 ic	---	---	---	2.73	---	---	---	---	---	4.39
3.35	5,101	563.85	1.66 ic	---	---	---	3.45	---	---	---	---	---	5.11
3.40	5,148	563.90	1.68 ic	---	---	---	4.21	---	---	---	---	---	5.89
3.45	5,196	563.95	1.69 ic	---	---	---	5.02	---	---	---	---	---	6.72
3.50	5,243	564.00	1.70 ic	---	---	---	5.89	---	---	---	---	---	7.59

...End

Hydrograph Report

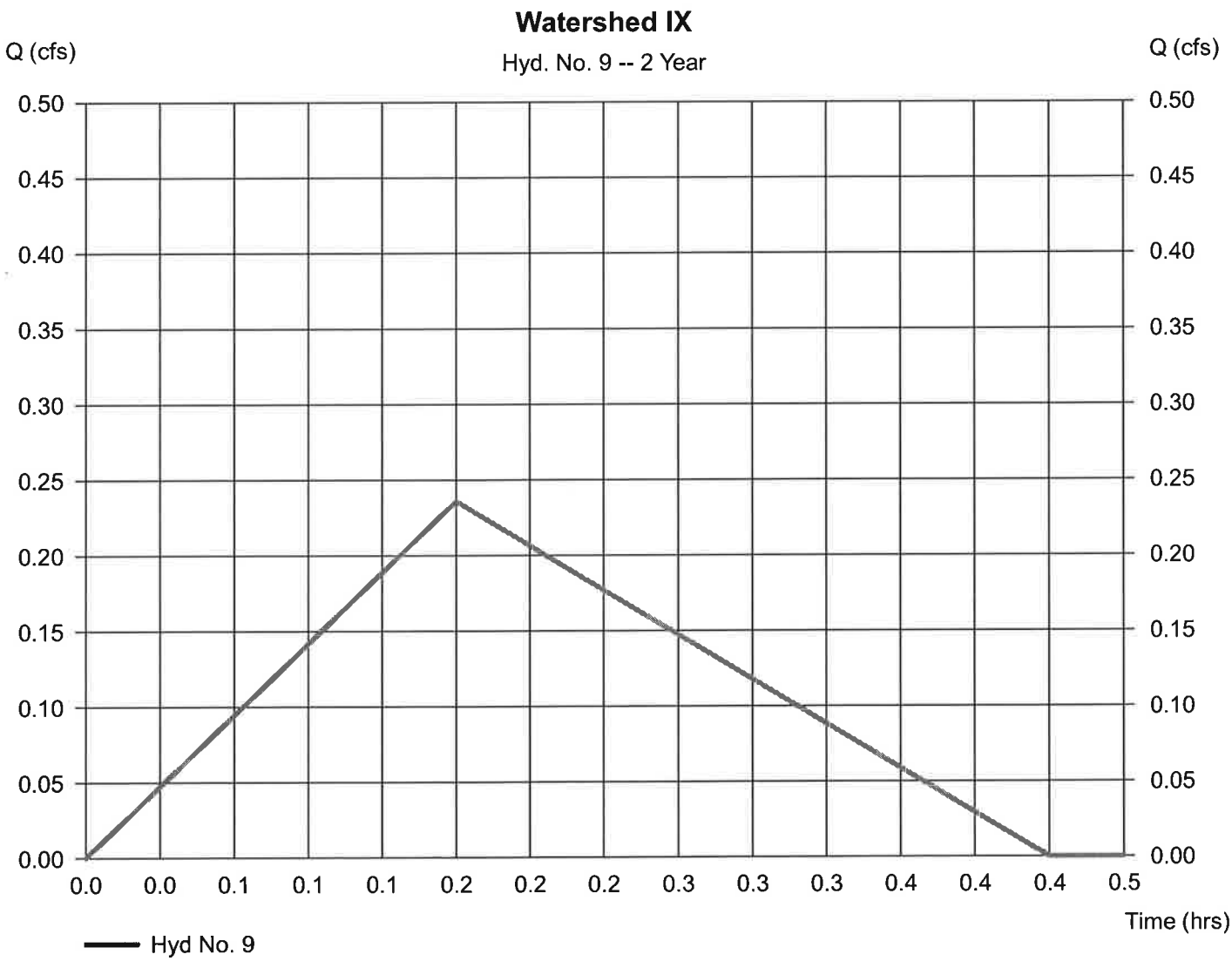
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 9

Watershed IX

Hydrograph type	= Rational	Peak discharge	= 0.236 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 189 cuft
Drainage area	= 0.260 ac	Runoff coeff.	= 0.26*
Intensity	= 3.486 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.010 x 0.90) + (0.080 x 0.30) + (0.170 x 0.20)] / 0.260



Hydrograph Report

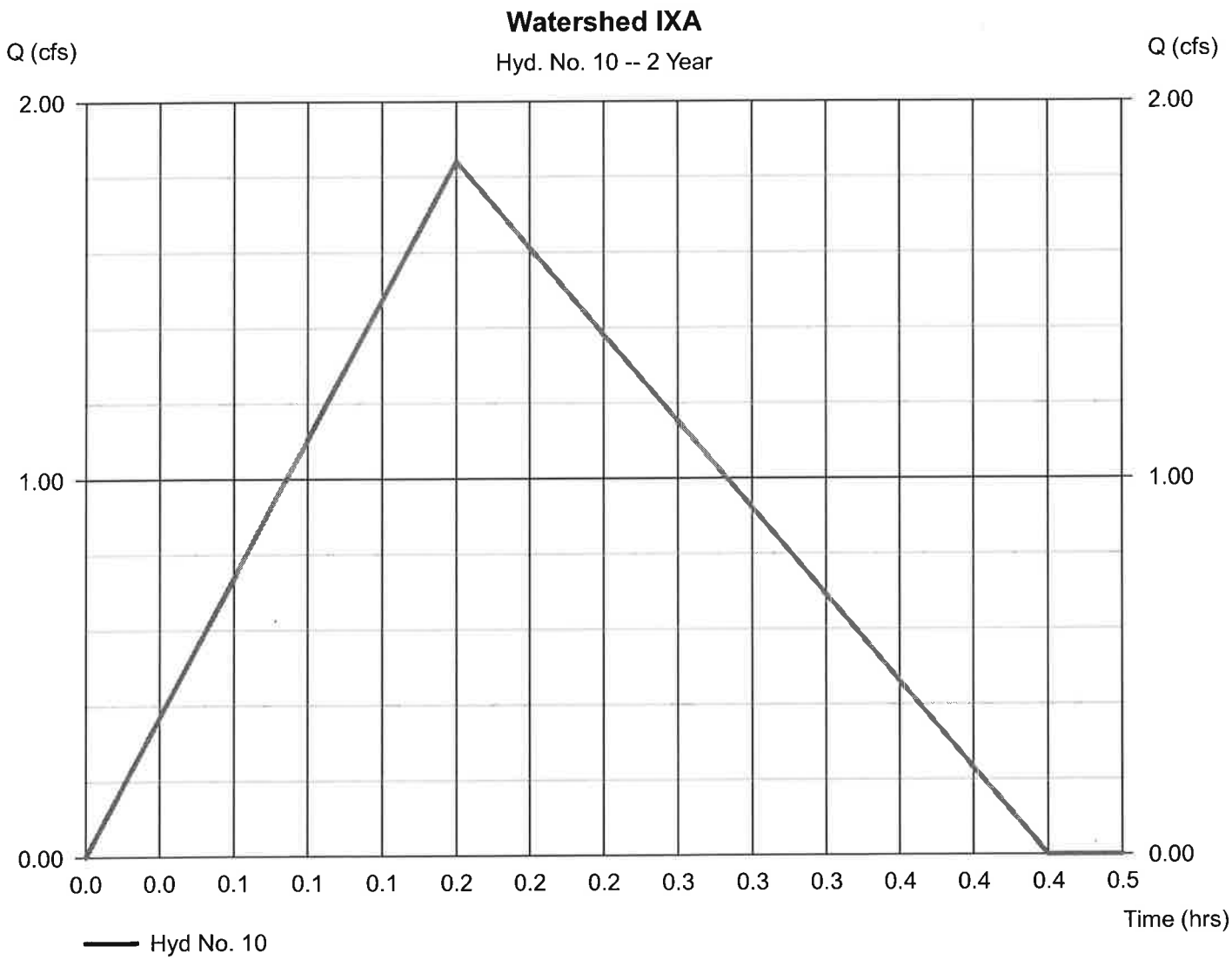
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 10

Watershed IXA

Hydrograph type	= Rational	Peak discharge	= 1.841 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 1,474 cuft
Drainage area	= 0.880 ac	Runoff coeff.	= 0.6*
Intensity	= 3.486 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.460 x 0.90) + (0.260 x 0.33) + (0.160 x 0.20)] / 0.880



Hydrograph Report

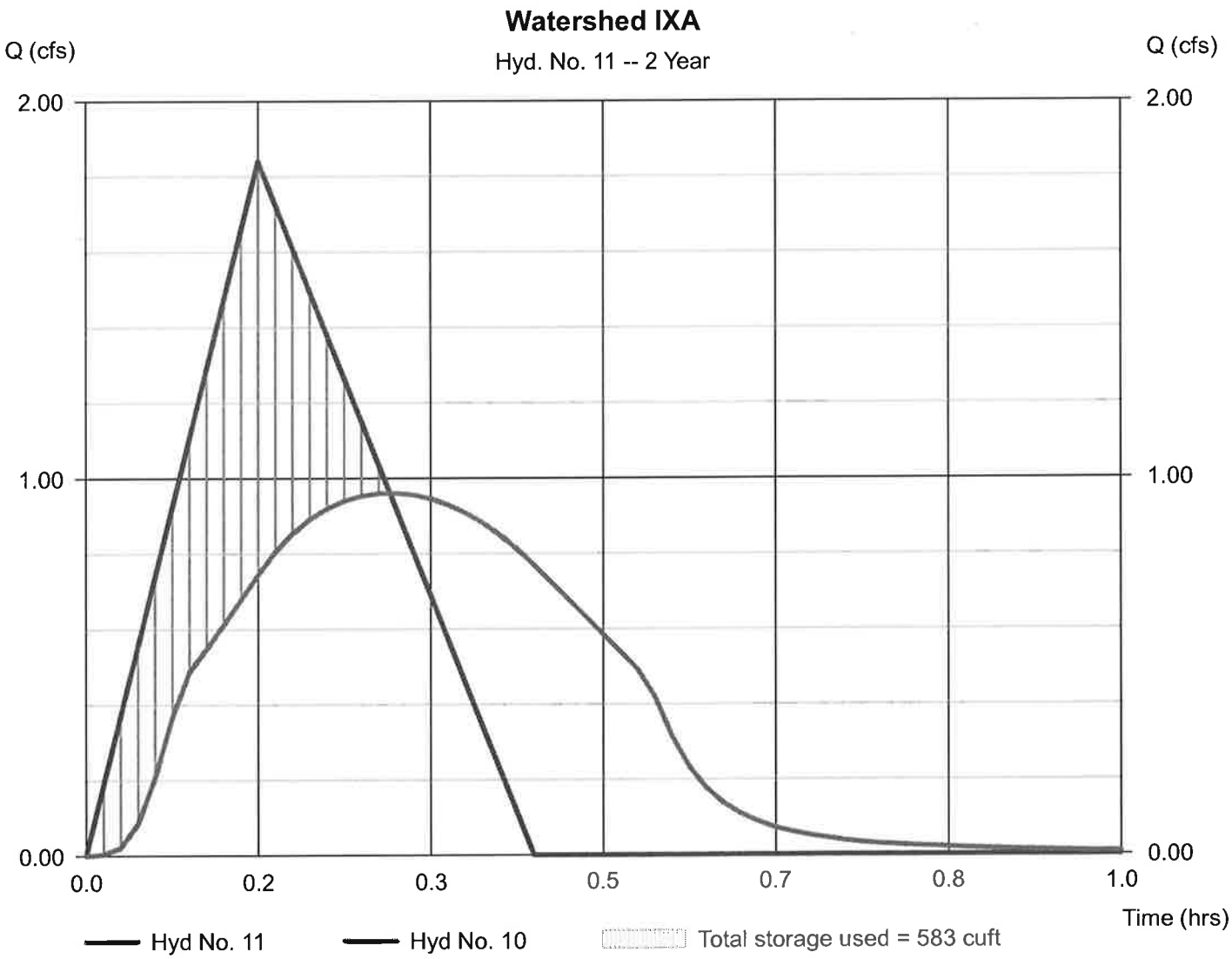
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 11

Watershed IXA

Hydrograph type	= Reservoir	Peak discharge	= 0.960 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.30 hrs
Time interval	= 1 min	Hyd. volume	= 1,434 cuft
Inflow hyd. No.	= 10 - Watershed IXA	Max. Elevation	= 553.45 ft
Reservoir name	= Watershed IXA	Max. Storage	= 583 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Pond No. 3 - Watershed IXA

Pond Data

Pond storage is based on user-defined values.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	552.17	n/a	0	0
0.50	552.67	n/a	135	135
1.00	553.17	n/a	291	426
1.50	553.67	n/a	278	704
2.00	554.17	n/a	259	963
2.50	554.67	n/a	230	1,193
3.00	555.17	n/a	169	1,362
3.50	555.67	n/a	136	1,498

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 6.00	0.00	0.00	0.00
Span (in)	= 6.00	0.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 552.17	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)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 555.17	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	552.17	0.00	---	---	---	0.00	---	---	---	---	---	0.00
0.05	14	552.22	0.01 ic	---	---	---	0.00	---	---	---	---	---	0.01
0.10	27	552.27	0.03 ic	---	---	---	0.00	---	---	---	---	---	0.03
0.15	41	552.32	0.07 ic	---	---	---	0.00	---	---	---	---	---	0.07
0.20	54	552.37	0.11 ic	---	---	---	0.00	---	---	---	---	---	0.11
0.25	68	552.42	0.17 ic	---	---	---	0.00	---	---	---	---	---	0.17
0.30	81	552.47	0.23 ic	---	---	---	0.00	---	---	---	---	---	0.23
0.35	95	552.52	0.30 ic	---	---	---	0.00	---	---	---	---	---	0.30
0.40	108	552.57	0.36 ic	---	---	---	0.00	---	---	---	---	---	0.36
0.45	122	552.62	0.43 ic	---	---	---	0.00	---	---	---	---	---	0.43
0.50	135	552.67	0.47 ic	---	---	---	0.00	---	---	---	---	---	0.47
0.55	164	552.72	0.52 ic	---	---	---	0.00	---	---	---	---	---	0.52
0.60	193	552.77	0.56 ic	---	---	---	0.00	---	---	---	---	---	0.56
0.65	222	552.82	0.60 ic	---	---	---	0.00	---	---	---	---	---	0.60
0.70	251	552.87	0.63 ic	---	---	---	0.00	---	---	---	---	---	0.63
0.75	281	552.92	0.67 ic	---	---	---	0.00	---	---	---	---	---	0.67
0.80	310	552.97	0.70 ic	---	---	---	0.00	---	---	---	---	---	0.70
0.85	339	553.02	0.73 ic	---	---	---	0.00	---	---	---	---	---	0.73
0.90	368	553.07	0.76 ic	---	---	---	0.00	---	---	---	---	---	0.76
0.95	397	553.12	0.79 ic	---	---	---	0.00	---	---	---	---	---	0.79
1.00	426	553.17	0.82 ic	---	---	---	0.00	---	---	---	---	---	0.82
1.05	454	553.22	0.85 ic	---	---	---	0.00	---	---	---	---	---	0.85
1.10	482	553.27	0.87 ic	---	---	---	0.00	---	---	---	---	---	0.87
1.15	509	553.32	0.90 ic	---	---	---	0.00	---	---	---	---	---	0.90
1.20	537	553.37	0.92 ic	---	---	---	0.00	---	---	---	---	---	0.92
1.25	565	553.42	0.95 ic	---	---	---	0.00	---	---	---	---	---	0.95
1.30	593	553.47	0.97 ic	---	---	---	0.00	---	---	---	---	---	0.97
1.35	621	553.52	0.99 ic	---	---	---	0.00	---	---	---	---	---	0.99
1.40	648	553.57	1.01 ic	---	---	---	0.00	---	---	---	---	---	1.01
1.45	676	553.62	1.04 ic	---	---	---	0.00	---	---	---	---	---	1.04
1.50	704	553.67	1.06 ic	---	---	---	0.00	---	---	---	---	---	1.06
1.55	730	553.72	1.08 ic	---	---	---	0.00	---	---	---	---	---	1.08
1.60	756	553.77	1.10 ic	---	---	---	0.00	---	---	---	---	---	1.10
1.65	782	553.82	1.12 ic	---	---	---	0.00	---	---	---	---	---	1.12

Continues on next page...

Watershed IXA

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
1.70	808	553.87	1.14 ic	---	---	---	0.00	---	---	---	---	---	1.14
1.75	834	553.92	1.16 ic	---	---	---	0.00	---	---	---	---	---	1.16
1.80	859	553.97	1.18 ic	---	---	---	0.00	---	---	---	---	---	1.18
1.85	885	554.02	1.20 ic	---	---	---	0.00	---	---	---	---	---	1.20
1.90	911	554.07	1.21 ic	---	---	---	0.00	---	---	---	---	---	1.21
1.95	937	554.12	1.23 ic	---	---	---	0.00	---	---	---	---	---	1.23
2.00	963	554.17	1.25 ic	---	---	---	0.00	---	---	---	---	---	1.25
2.05	986	554.22	1.27 ic	---	---	---	0.00	---	---	---	---	---	1.27
2.10	1,009	554.27	1.29 ic	---	---	---	0.00	---	---	---	---	---	1.29
2.15	1,032	554.32	1.30 ic	---	---	---	0.00	---	---	---	---	---	1.30
2.20	1,055	554.37	1.32 ic	---	---	---	0.00	---	---	---	---	---	1.32
2.25	1,078	554.42	1.34 ic	---	---	---	0.00	---	---	---	---	---	1.34
2.30	1,101	554.47	1.35 ic	---	---	---	0.00	---	---	---	---	---	1.35
2.35	1,124	554.52	1.37 ic	---	---	---	0.00	---	---	---	---	---	1.37
2.40	1,147	554.57	1.39 ic	---	---	---	0.00	---	---	---	---	---	1.39
2.45	1,170	554.62	1.40 ic	---	---	---	0.00	---	---	---	---	---	1.40
2.50	1,193	554.67	1.42 ic	---	---	---	0.00	---	---	---	---	---	1.42
2.55	1,210	554.72	1.43 ic	---	---	---	0.00	---	---	---	---	---	1.43
2.60	1,227	554.77	1.45 ic	---	---	---	0.00	---	---	---	---	---	1.45
2.65	1,244	554.82	1.46 ic	---	---	---	0.00	---	---	---	---	---	1.46
2.70	1,261	554.87	1.48 ic	---	---	---	0.00	---	---	---	---	---	1.48
2.75	1,278	554.92	1.49 ic	---	---	---	0.00	---	---	---	---	---	1.49
2.80	1,294	554.97	1.51 ic	---	---	---	0.00	---	---	---	---	---	1.51
2.85	1,311	555.02	1.52 ic	---	---	---	0.00	---	---	---	---	---	1.52
2.90	1,328	555.07	1.54 ic	---	---	---	0.00	---	---	---	---	---	1.54
2.95	1,345	555.12	1.55 ic	---	---	---	0.00	---	---	---	---	---	1.55
3.00	1,362	555.17	1.57 ic	---	---	---	0.00	---	---	---	---	---	1.57
3.05	1,376	555.22	1.58 ic	---	---	---	0.19	---	---	---	---	---	1.77
3.10	1,389	555.27	1.60 ic	---	---	---	0.53	---	---	---	---	---	2.12
3.15	1,403	555.32	1.61 ic	---	---	---	0.97	---	---	---	---	---	2.58
3.20	1,416	555.37	1.62 ic	---	---	---	1.49	---	---	---	---	---	3.11
3.25	1,430	555.42	1.64 ic	---	---	---	2.08	---	---	---	---	---	3.72
3.30	1,444	555.47	1.65 ic	---	---	---	2.73	---	---	---	---	---	4.39
3.35	1,457	555.52	1.66 ic	---	---	---	3.45	---	---	---	---	---	5.11
3.40	1,471	555.57	1.68 ic	---	---	---	4.21	---	---	---	---	---	5.89
3.45	1,484	555.62	1.69 ic	---	---	---	5.02	---	---	---	---	---	6.72
3.50	1,498	555.67	1.70 ic	---	---	---	5.89	---	---	---	---	---	7.59

...End

Hydrograph Report

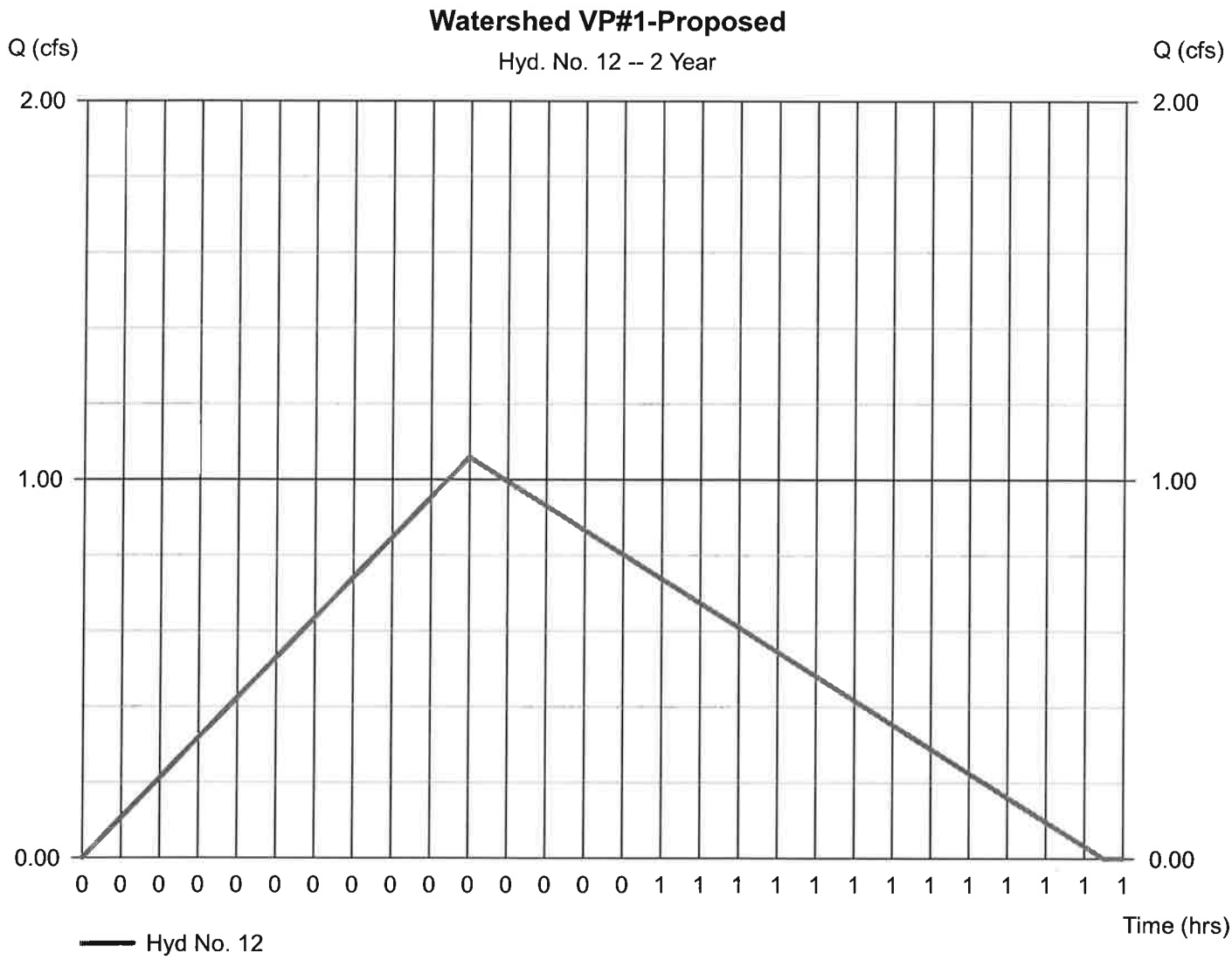
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 12

Watershed VP#1-Proposed

Hydrograph type	= Rational	Peak discharge	= 1.058 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 1,695 cuft
Drainage area	= 2.180 ac	Runoff coeff.	= 0.2*
Intensity	= 2.427 in/hr	Tc by User	= 20.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(2.180 x 0.20)] / 2.180



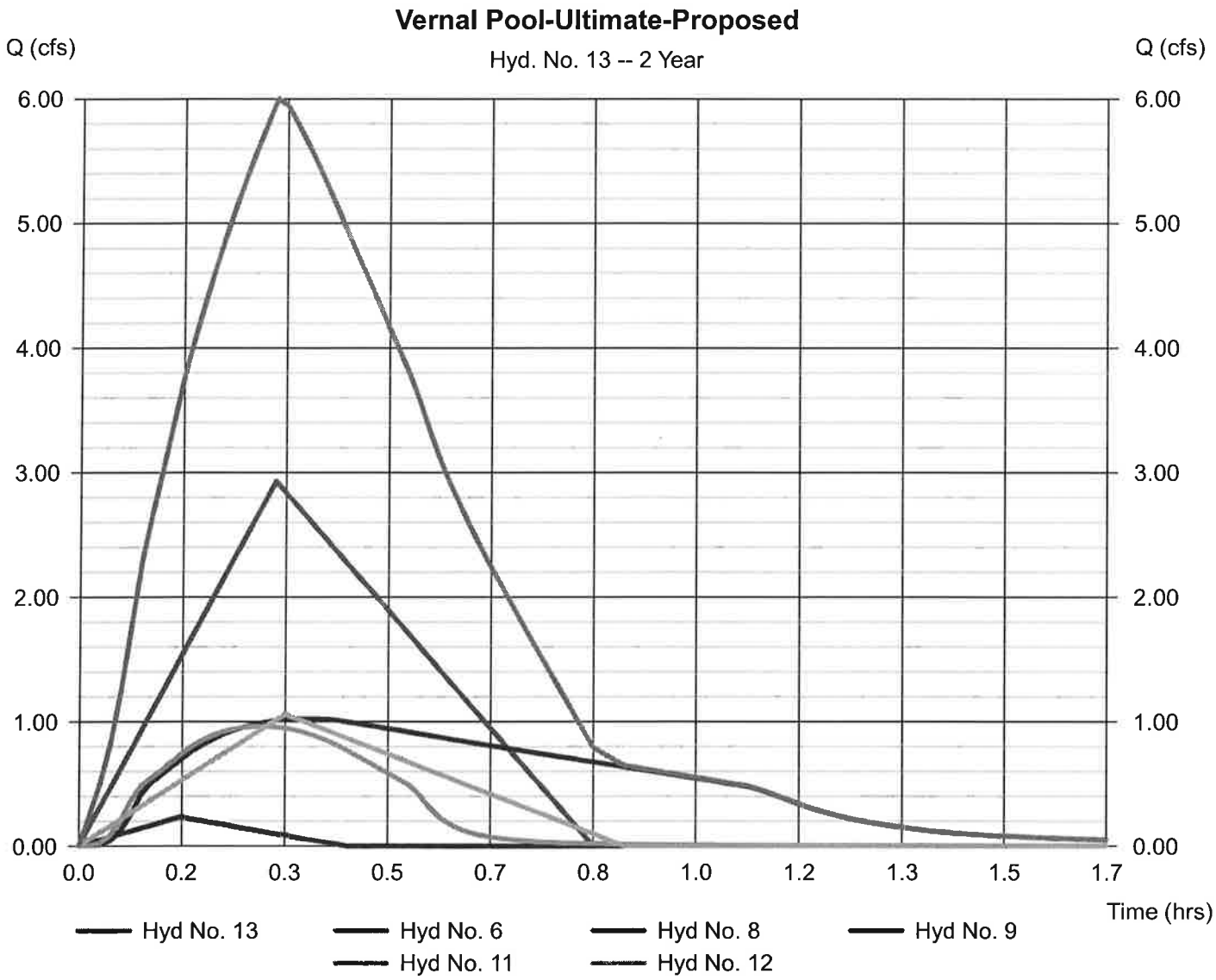
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 13

Vernal Pool-Ultimate-Proposed

Hydrograph type	= Combine	Peak discharge	= 6.000 cfs
Storm frequency	= 2 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 10,974 cuft
Inflow hyds.	= 6, 8, 9, 11, 12	Contrib. drain. area	= 6.480 ac



Hydrograph Report

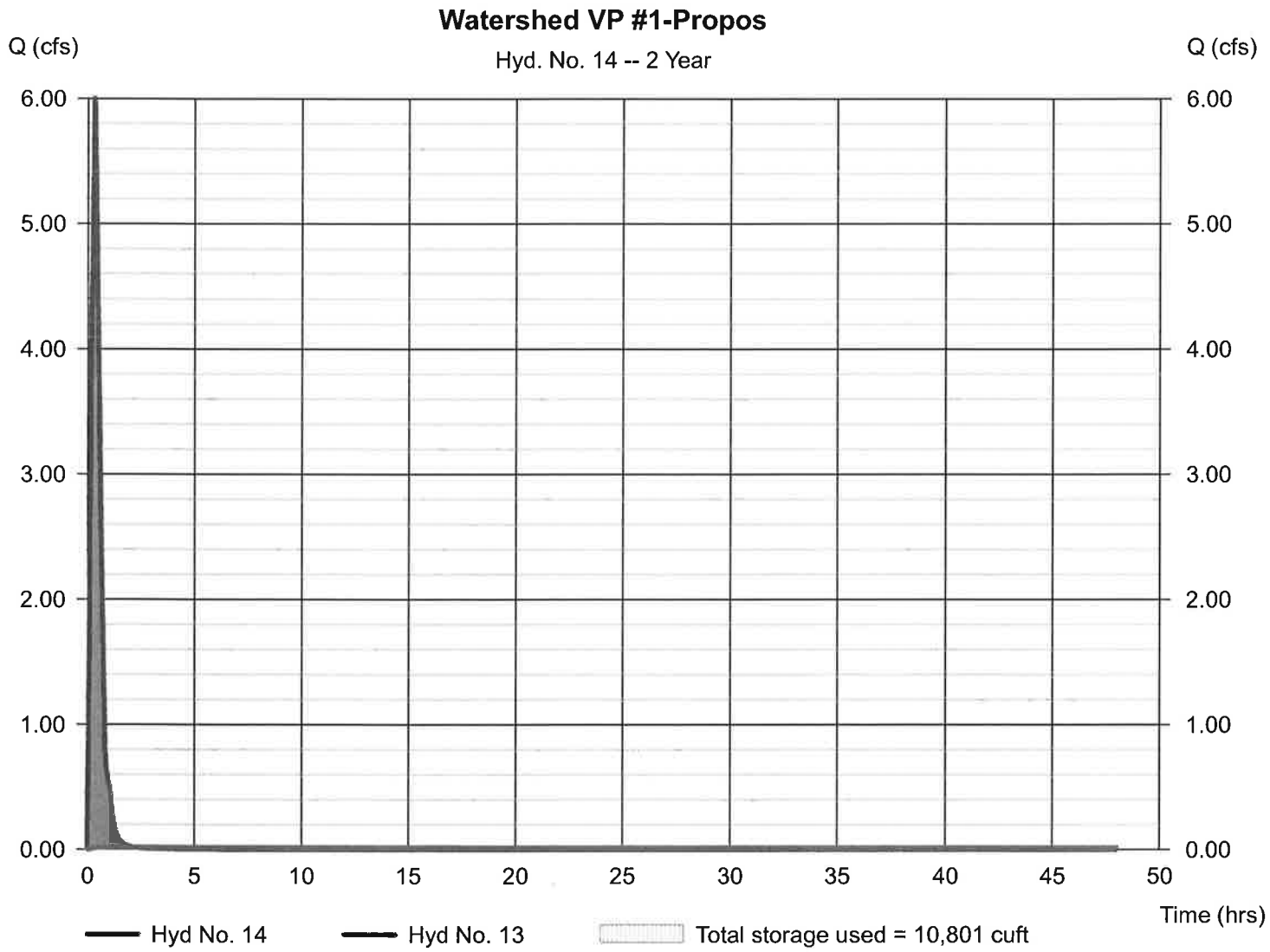
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 14

Watershed VP #1-Propos

Hydrograph type	= Reservoir	Peak discharge	= 0.017 cfs
Storm frequency	= 2 yrs	Time to peak	= 2.18 hrs
Time interval	= 1 min	Hyd. volume	= 2,771 cuft
Inflow hyd. No.	= 13 - Vernal Pool-Ultimate-Proposed	Max. Elevation	= 550.09 ft
Reservoir name	= Watershed VP#1-Proposed	Max. Storage	= 10,801 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Pond No. 4 - Watershed VP#1-Proposed

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 549.62 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	549.62	17,039	0	0
0.38	550.00	27,603	8,401	8,401
1.38	551.00	27,603	27,600	36,001

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.00	1.00	0.00	0.00
Span (in)	= 0.00	1.00	0.00	0.00
No. Barrels	= 0	1	0	0
Invert El. (ft)	= 0.00	549.62	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)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
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	549.62	---	0.00	---	---	---	---	---	---	---	---	0.00
0.04	840	549.66	---	0.00 ic	---	---	---	---	---	---	---	---	0.00
0.08	1,680	549.70	---	0.00 ic	---	---	---	---	---	---	---	---	0.00
0.11	2,520	549.73	---	0.01 ic	---	---	---	---	---	---	---	---	0.01
0.15	3,360	549.77	---	0.01 ic	---	---	---	---	---	---	---	---	0.01
0.19	4,200	549.81	---	0.01 ic	---	---	---	---	---	---	---	---	0.01
0.23	5,041	549.85	---	0.01 ic	---	---	---	---	---	---	---	---	0.01
0.27	5,881	549.89	---	0.01 ic	---	---	---	---	---	---	---	---	0.01
0.30	6,721	549.92	---	0.01 ic	---	---	---	---	---	---	---	---	0.01
0.34	7,561	549.96	---	0.01 ic	---	---	---	---	---	---	---	---	0.01
0.38	8,401	550.00	---	0.02 ic	---	---	---	---	---	---	---	---	0.02
0.48	11,161	550.10	---	0.02 ic	---	---	---	---	---	---	---	---	0.02
0.58	13,921	550.20	---	0.02 ic	---	---	---	---	---	---	---	---	0.02
0.68	16,681	550.30	---	0.02 ic	---	---	---	---	---	---	---	---	0.02
0.78	19,441	550.40	---	0.02 ic	---	---	---	---	---	---	---	---	0.02
0.88	22,201	550.50	---	0.02 ic	---	---	---	---	---	---	---	---	0.02
0.98	24,961	550.60	---	0.03 ic	---	---	---	---	---	---	---	---	0.03
1.08	27,721	550.70	---	0.03 ic	---	---	---	---	---	---	---	---	0.03
1.18	30,481	550.80	---	0.03 ic	---	---	---	---	---	---	---	---	0.03
1.28	33,241	550.90	---	0.03 ic	---	---	---	---	---	---	---	---	0.03
1.38	36,001	551.00	---	0.03 ic	---	---	---	---	---	---	---	---	0.03

Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.1

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	Rational	9.501	1	20	15,221	----	------	------	Vernal Pool #1-Existing-Watershed
2	Reservoir	0.020	1	53	3,251	1	550.24	15,067	Vernal Pool #1-Ex.-K
6	Rational	4.220	1	19	6,422	----	------	------	Watershed II
7	Rational	5.808	1	10	4,652	----	------	------	Watershed IIA
8	Reservoir	1.244	1	23	4,524	7	562.48	3,341	Watershed IIA
9	Rational	0.325	1	10	260	----	------	------	Watershed IX
10	Rational	2.537	1	10	2,032	----	------	------	Watershed IXA
11	Reservoir	1.202	1	18	1,977	10	554.04	894	Watershed IXA
12	Rational	1.529	1	20	2,450	----	------	------	Watershed VP#1-Proposed
13	Combine	8.233	1	19	15,517	6, 8, 9, 11, 12	------	------	Vernal Pool-Ultimate-Proposed
14	Reservoir	0.020	1	140	3,291	13	550.25	15,306	Watershed VP #1-Propos

Hydrograph Report

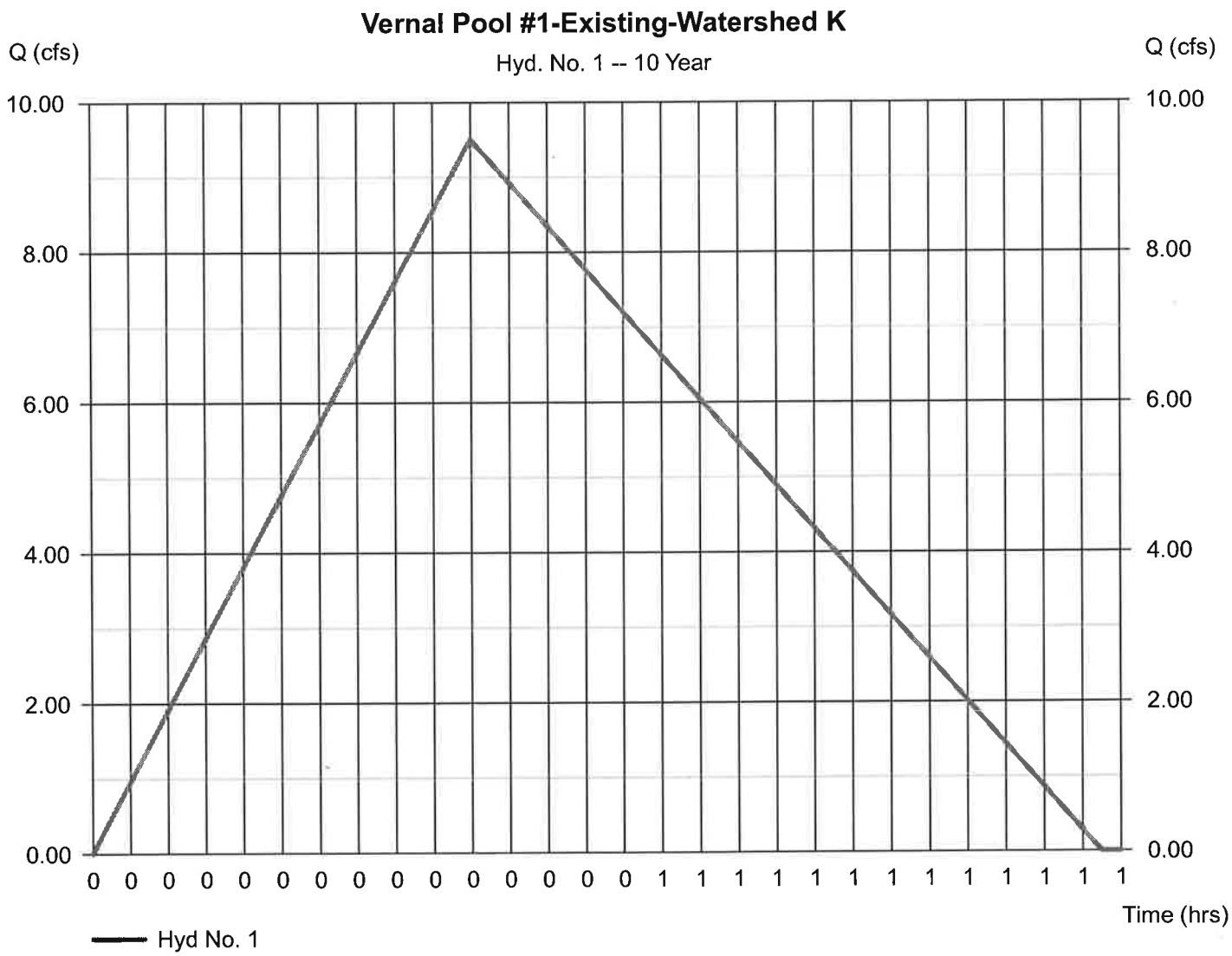
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 1

Vernal Pool #1-Existing-Watershed K

Hydrograph type	= Rational	Peak discharge	= 9.501 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 15,221 cuft
Drainage area	= 9.340 ac	Runoff coeff.	= 0.29*
Intensity	= 3.508 in/hr	Tc by TR55	= 20.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.000 x 0.90) + (1.400 x 0.30) + (6.940 x 0.20)] / 9.340



Hydrograph Report

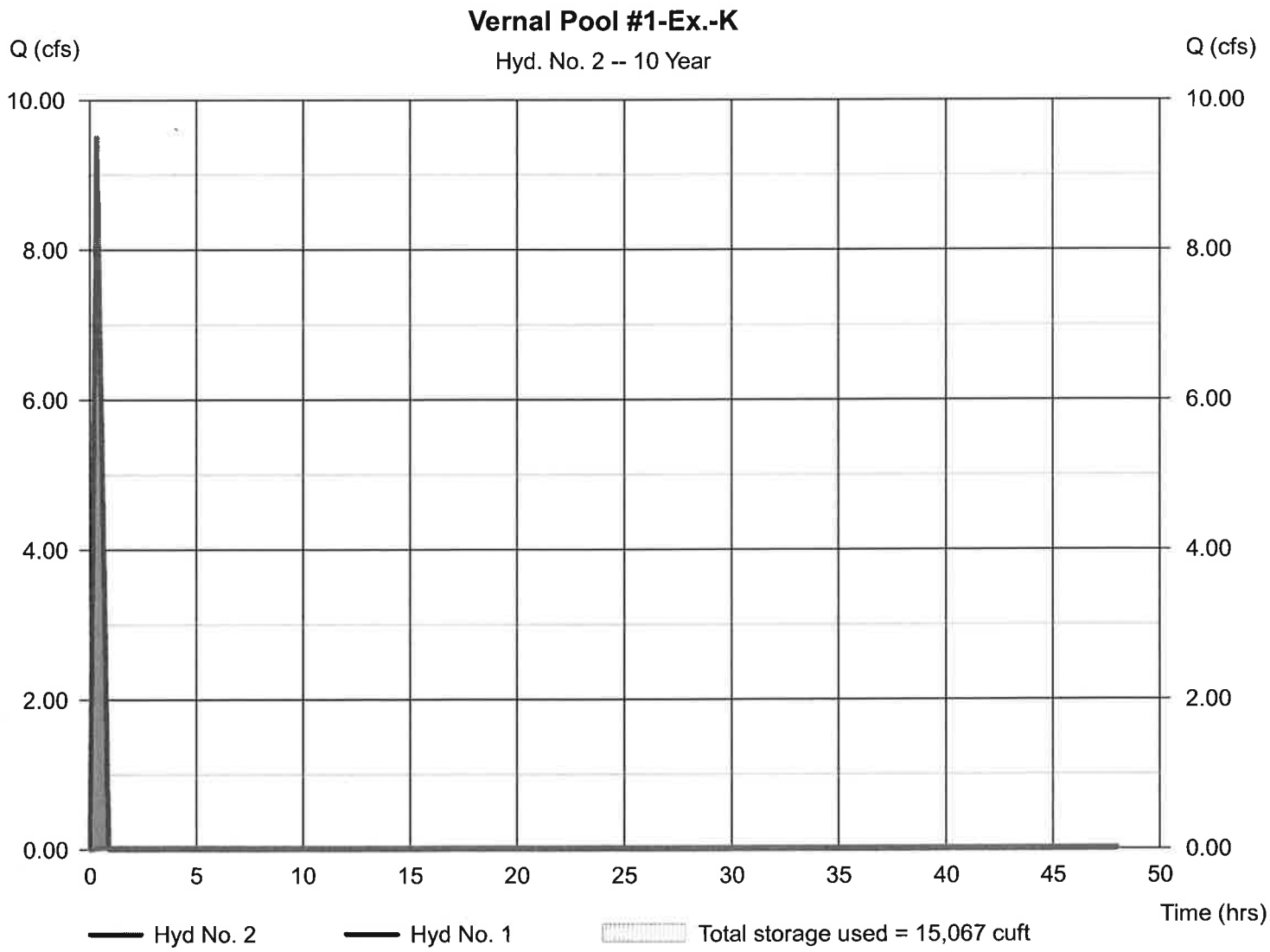
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 2

Vernal Pool #1-Ex.-K

Hydrograph type	= Reservoir	Peak discharge	= 0.020 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.88 hrs
Time interval	= 1 min	Hyd. volume	= 3,251 cuft
Inflow hyd. No.	= 1 - Vernal Pool #1-Existing-Watershed K	Max. Elevation	= 550.24 ft
Reservoir name	= Vernal Pool #1-Existing	Max. Storage	= 15,067 cuft

Storage Indication method used.



Hydrograph Report

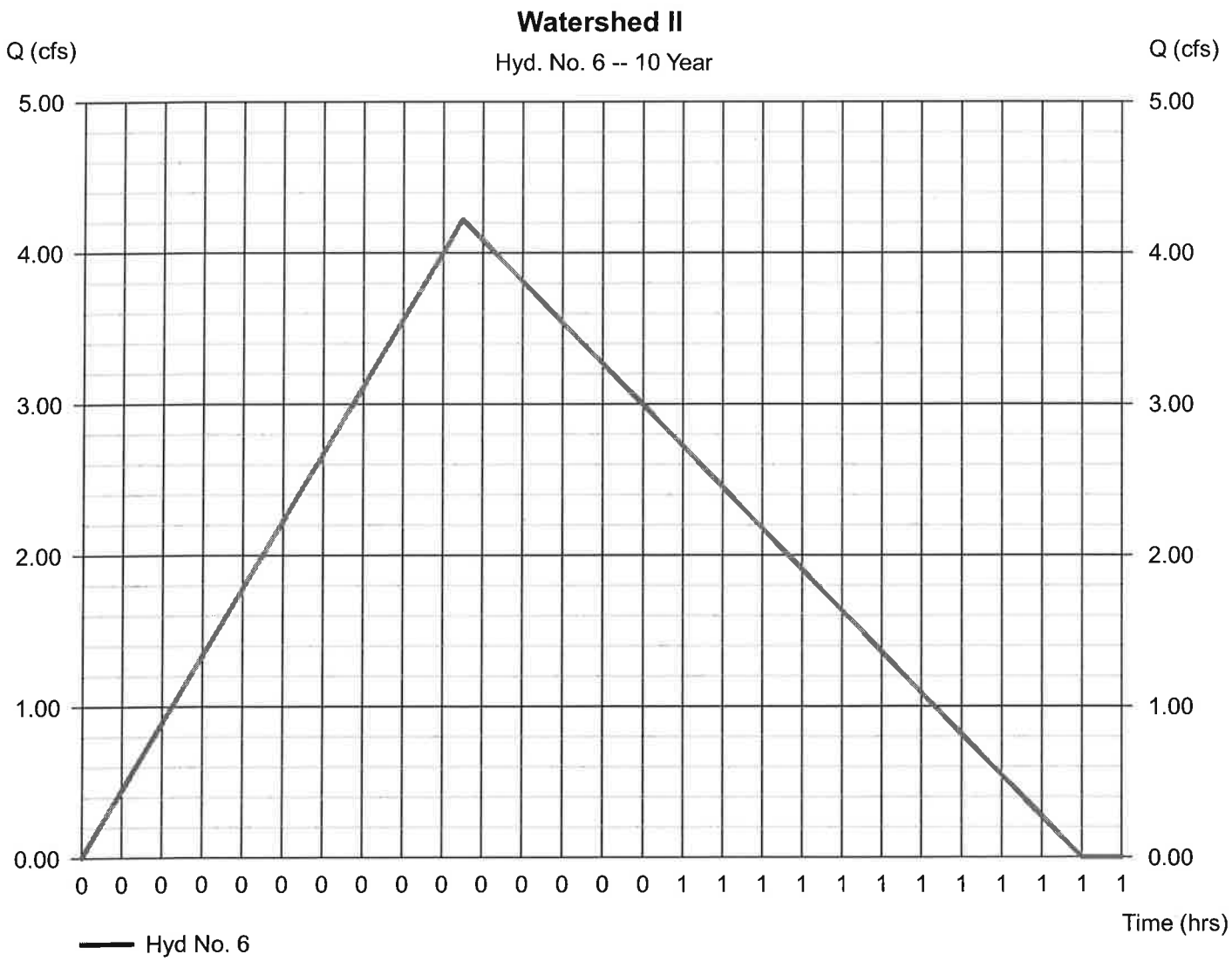
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 6

Watershed II

Hydrograph type	= Rational	Peak discharge	= 4.220 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 6,422 cuft
Drainage area	= 4.040 ac	Runoff coeff.	= 0.29*
Intensity	= 3.602 in/hr	Tc by User	= 19.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.230 x 0.90) + (1.940 x 0.30) + (1.870 x 0.20)] / 4.040



Hydrograph Report

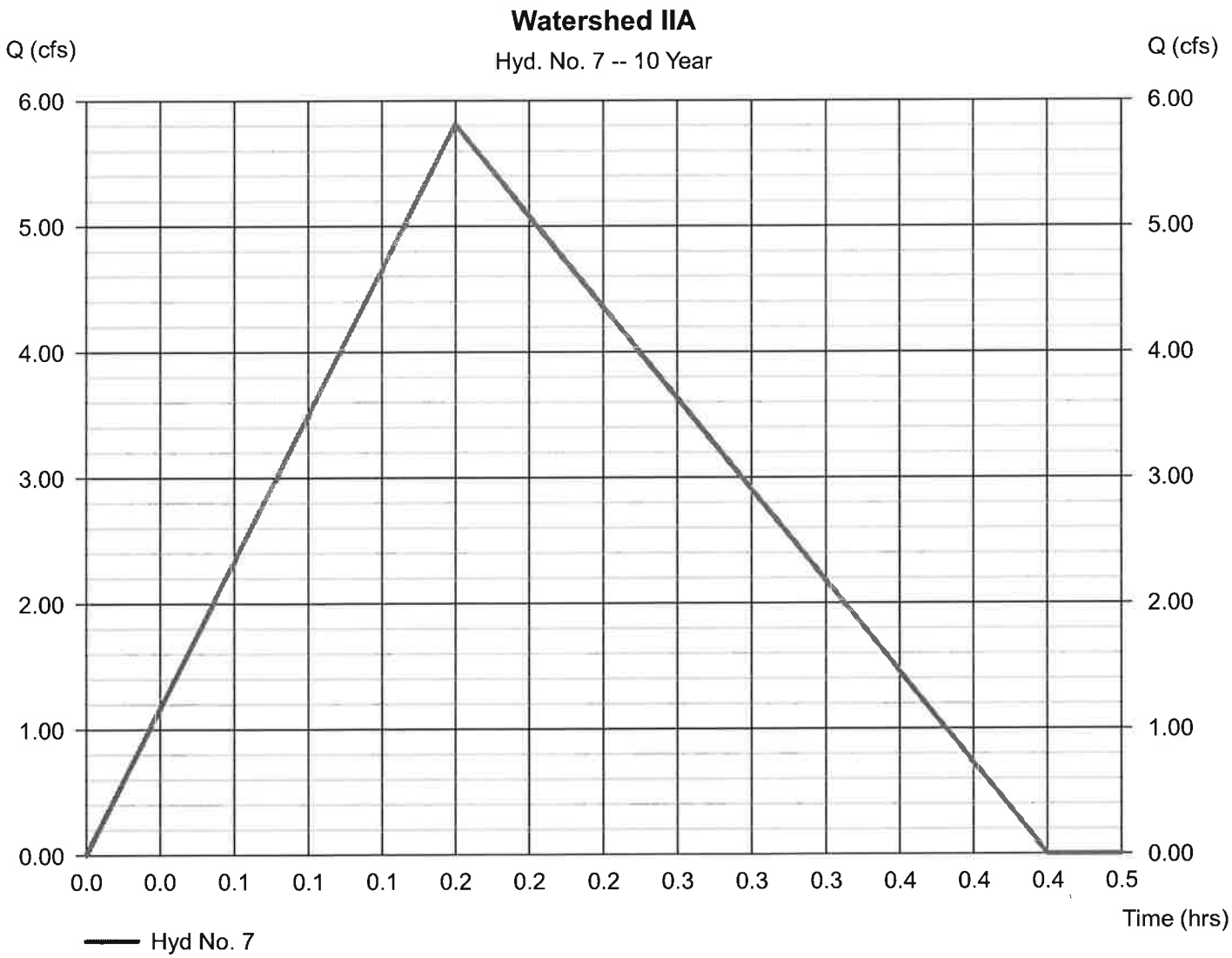
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 7

Watershed IIA

Hydrograph type	= Rational	Peak discharge	= 5.808 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 4,652 cuft
Drainage area	= 1.530 ac	Runoff coeff.	= 0.79*
Intensity	= 4.805 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.250 x 0.90) + (0.280 x 0.30)] / 1.530



Hydrograph Report

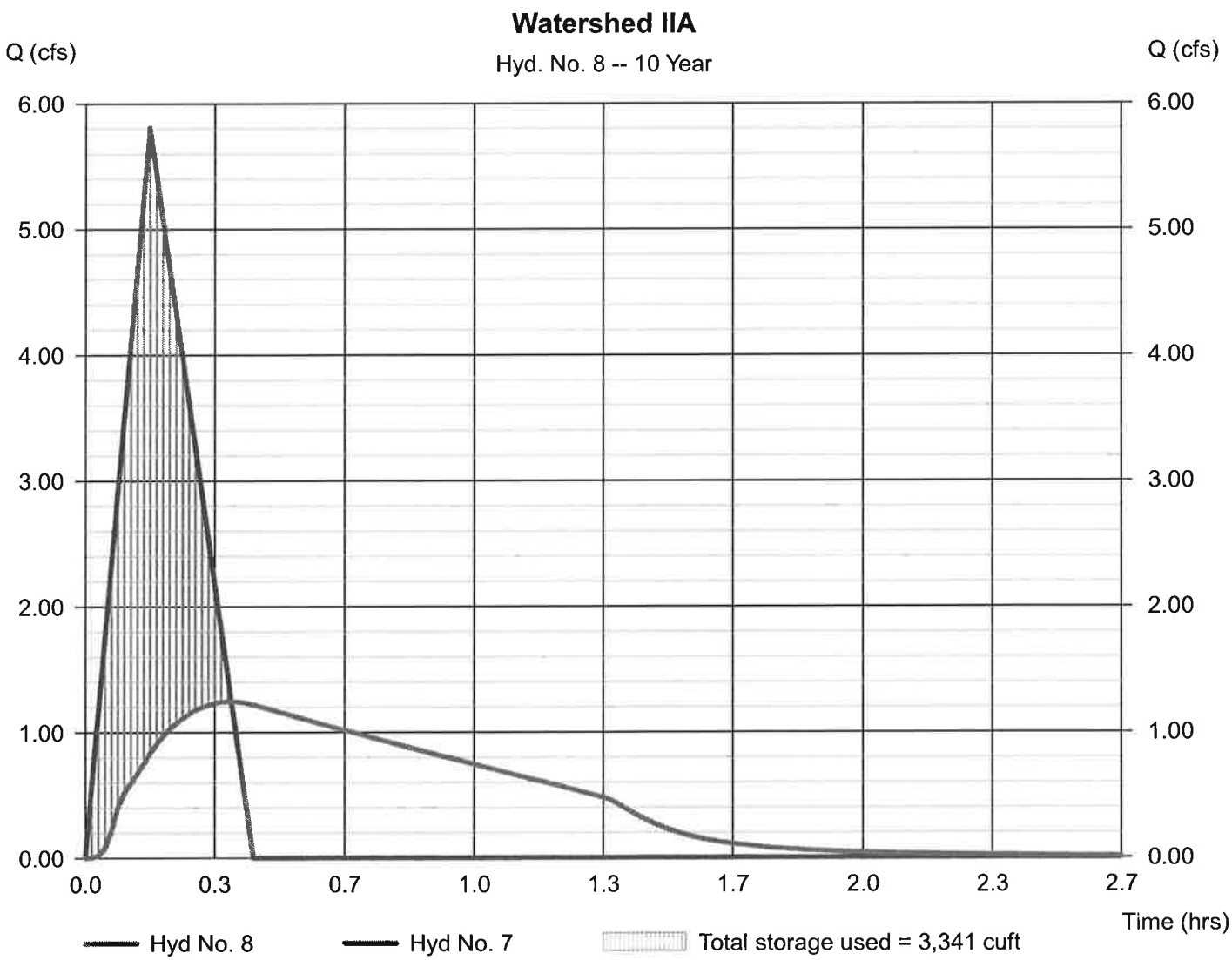
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 8

Watershed IIA

Hydrograph type	= Reservoir	Peak discharge	= 1.244 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.38 hrs
Time interval	= 1 min	Hyd. volume	= 4,524 cuft
Inflow hyd. No.	= 7 - Watershed IIA	Max. Elevation	= 562.48 ft
Reservoir name	= Watershed IIA	Max. Storage	= 3,341 cuft

Storage Indication method used.



Hydrograph Report

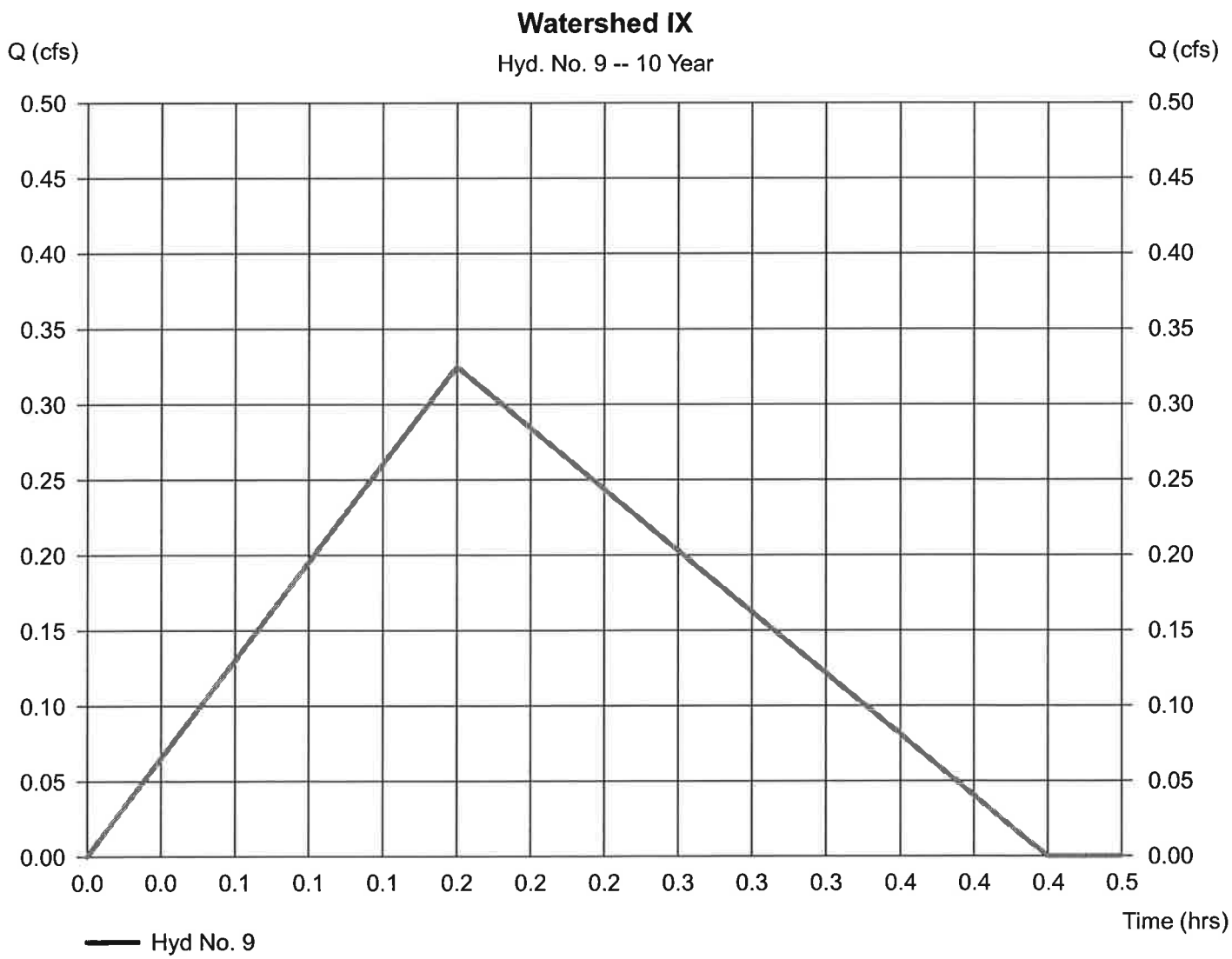
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 9

Watershed IX

Hydrograph type	= Rational	Peak discharge	= 0.325 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 260 cuft
Drainage area	= 0.260 ac	Runoff coeff.	= 0.26*
Intensity	= 4.805 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.010 x 0.90) + (0.080 x 0.30) + (0.170 x 0.20)] / 0.260



Hydrograph Report

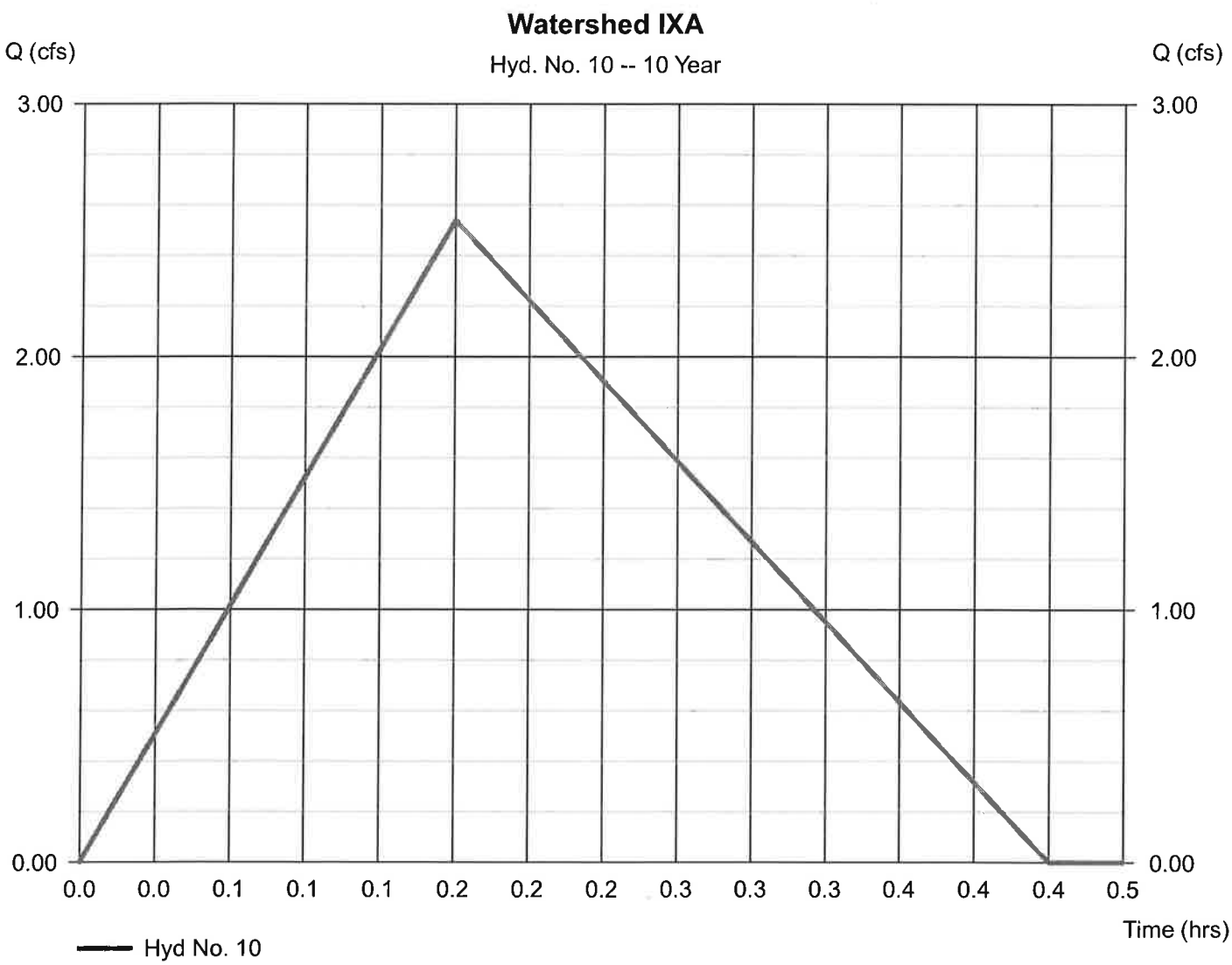
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 10

Watershed IXA

Hydrograph type	= Rational	Peak discharge	= 2.537 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 2,032 cuft
Drainage area	= 0.880 ac	Runoff coeff.	= 0.6*
Intensity	= 4.805 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.460 x 0.90) + (0.260 x 0.33) + (0.160 x 0.20)] / 0.880



Hydrograph Report

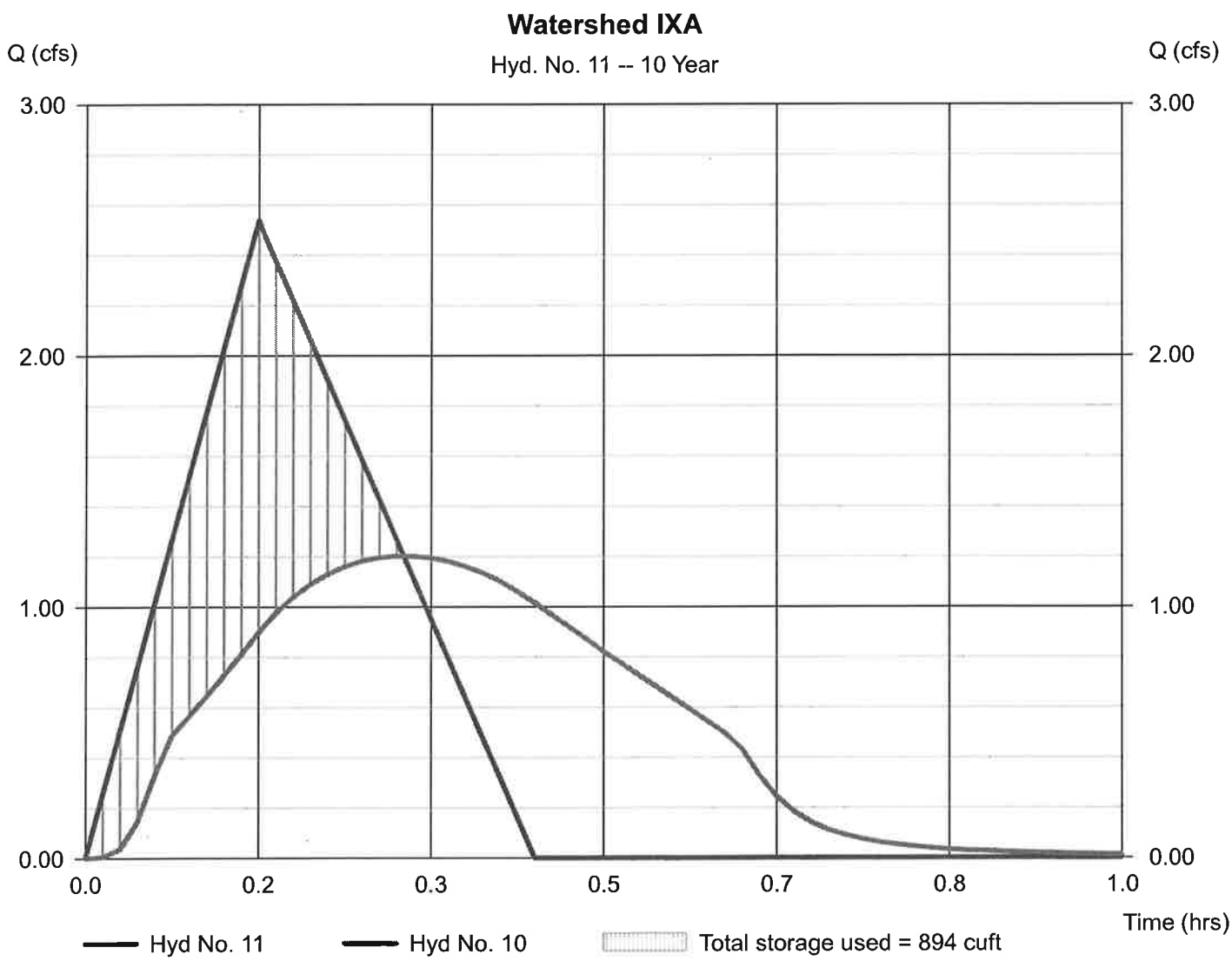
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 11

Watershed IXA

Hydrograph type	= Reservoir	Peak discharge	= 1.202 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.30 hrs
Time interval	= 1 min	Hyd. volume	= 1,977 cuft
Inflow hyd. No.	= 10 - Watershed IXA	Max. Elevation	= 554.04 ft
Reservoir name	= Watershed IXA	Max. Storage	= 894 cuft

Storage Indication method used.



Hydrograph Report

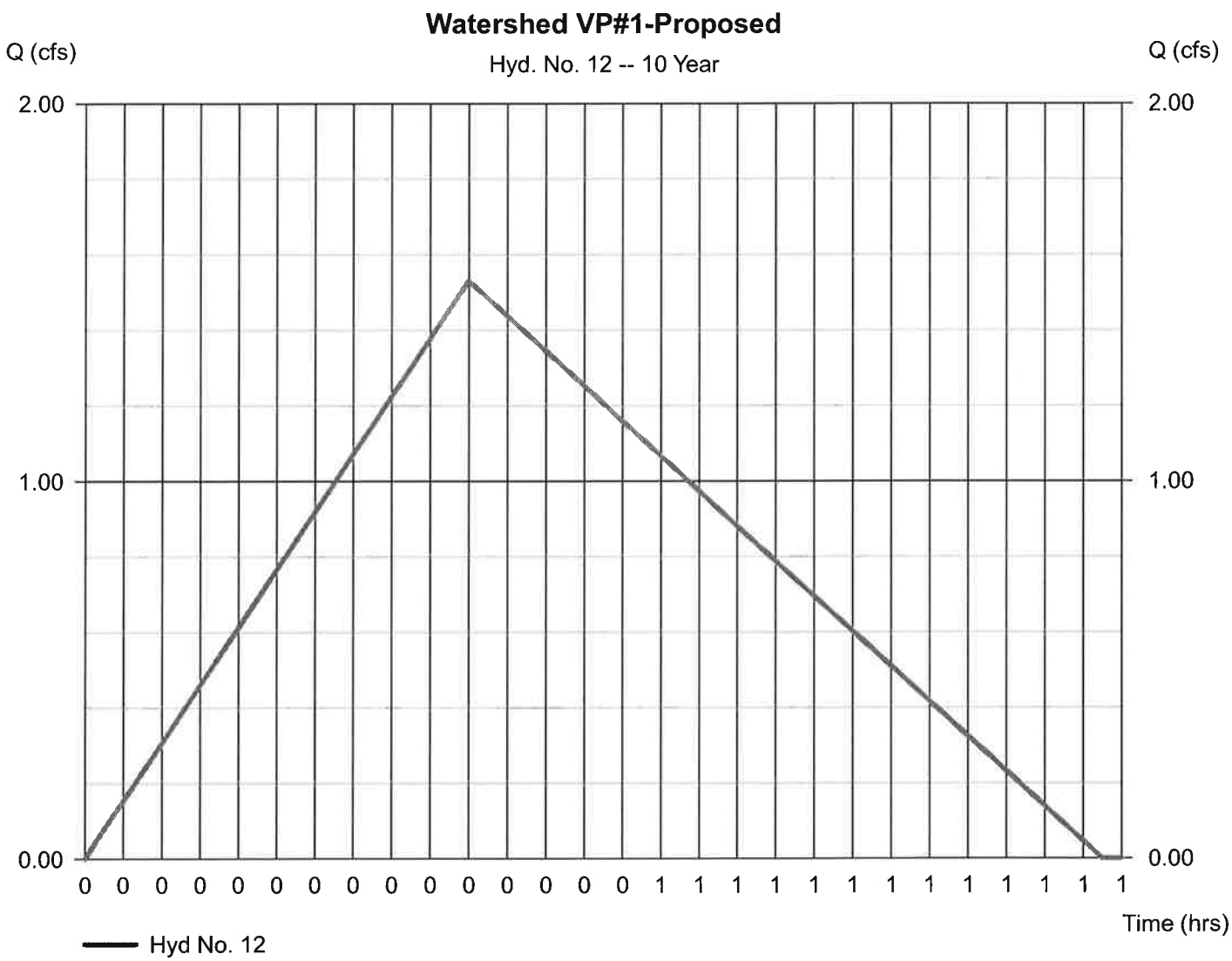
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 12

Watershed VP#1-Proposed

Hydrograph type	= Rational	Peak discharge	= 1.529 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 2,450 cuft
Drainage area	= 2.180 ac	Runoff coeff.	= 0.2*
Intensity	= 3.508 in/hr	Tc by User	= 20.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(2.180 x 0.20)] / 2.180



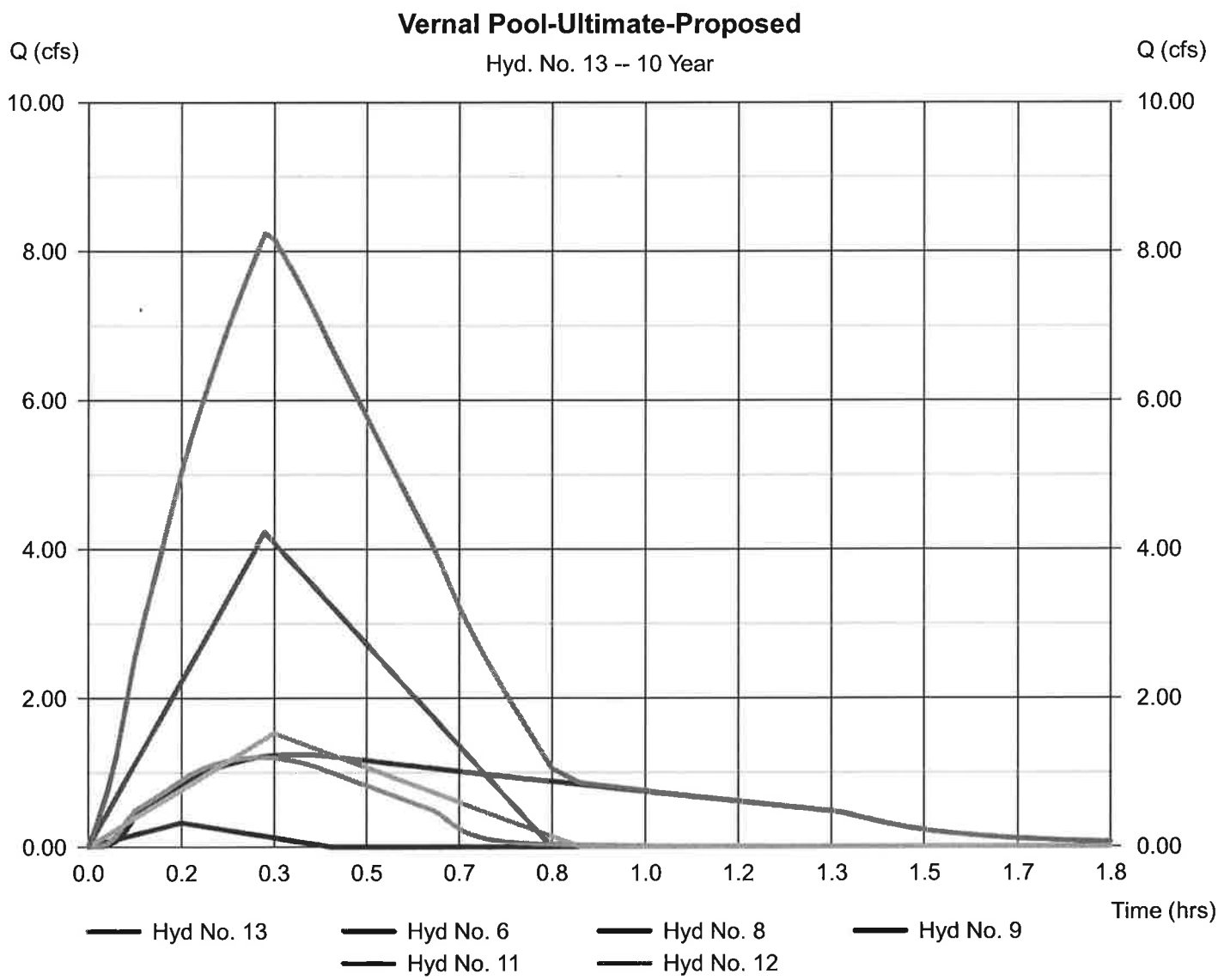
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 13

Vernal Pool-Ultimate-Proposed

Hydrograph type	= Combine	Peak discharge	= 8.233 cfs
Storm frequency	= 10 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 15,517 cuft
Inflow hyds.	= 6, 8, 9, 11, 12	Contrib. drain. area	= 6.480 ac



Hydrograph Report

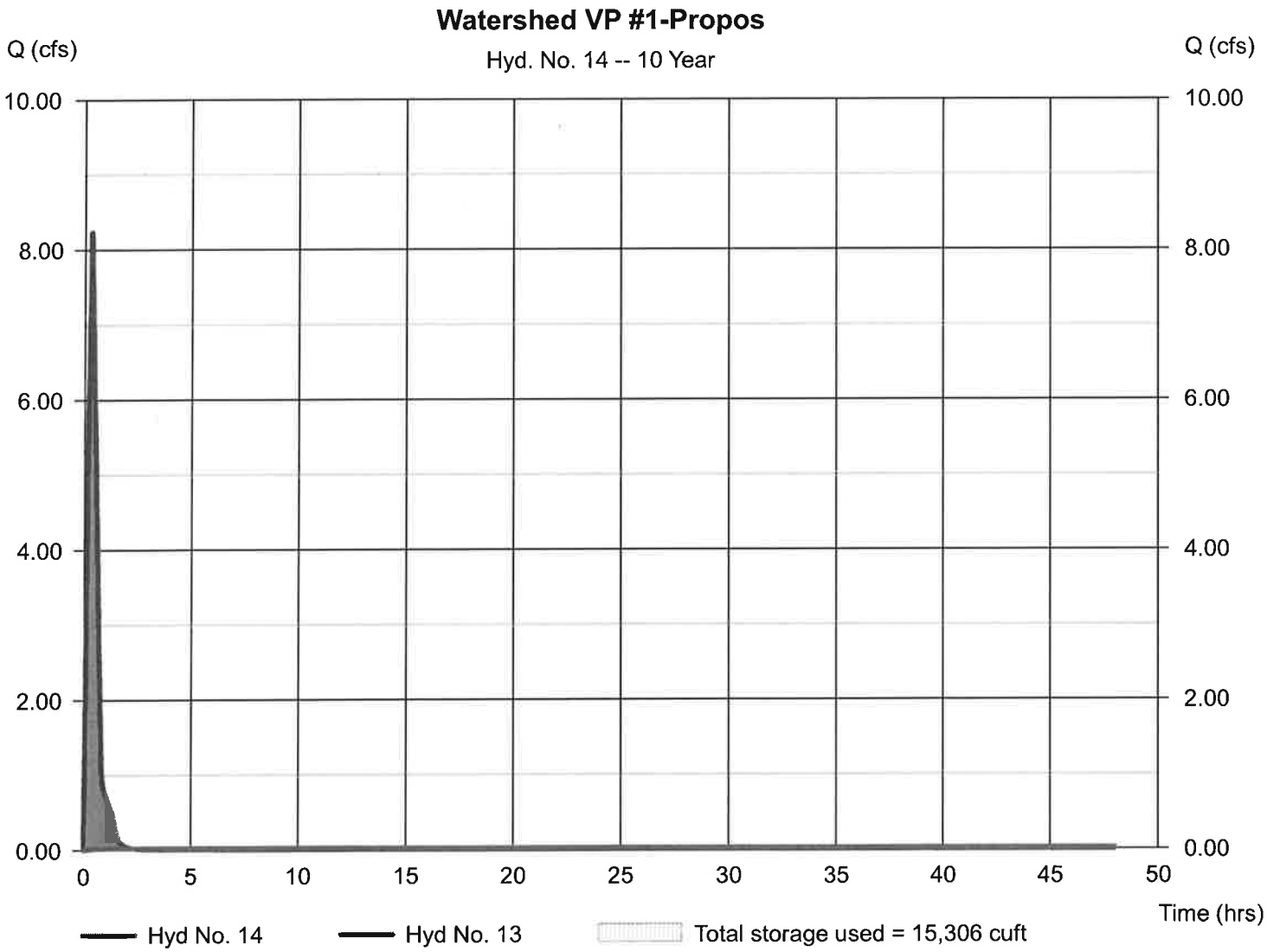
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 14

Watershed VP #1-Propos

Hydrograph type	= Reservoir	Peak discharge	= 0.020 cfs
Storm frequency	= 10 yrs	Time to peak	= 2.33 hrs
Time interval	= 1 min	Hyd. volume	= 3,291 cuft
Inflow hyd. No.	= 13 - Vernal Pool-Ultimate-Proposed	Max. Elevation	= 550.25 ft
Reservoir name	= Watershed VP#1-Proposed	Max. Storage	= 15,306 cuft

Storage Indication method used.



Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.1

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	Rational	11.15	1	20	17,861	----	------	------	Vernal Pool #1-Existing-Watershed
2	Reservoir	0.022	1	53	3,522	1	550.34	17,683	Vernal Pool #1-Ex.-K
6	Rational	4.947	1	19	7,528	----	------	------	Watershed II
7	Rational	6.675	1	10	5,347	----	------	------	Watershed IIA
8	Reservoir	1.364	1	23	5,200	7	562.83	3,905	Watershed IIA
9	Rational	0.373	1	10	299	----	------	------	Watershed IX
10	Rational	2.916	1	10	2,336	----	------	------	Watershed IXA
11	Reservoir	1.332	1	19	2,273	10	554.41	1,071	Watershed IXA
12	Rational	1.795	1	20	2,875	----	------	------	Watershed VP#1-Proposed
13	Combine	9.474	1	19	18,037	6, 8, 9, 11, 12	------	------	Vernal Pool-Ultimate-Proposed
14	Reservoir	0.022	1	145	3,548	13	550.34	17,806	Watershed VP #1-Propos

Hydrograph Report

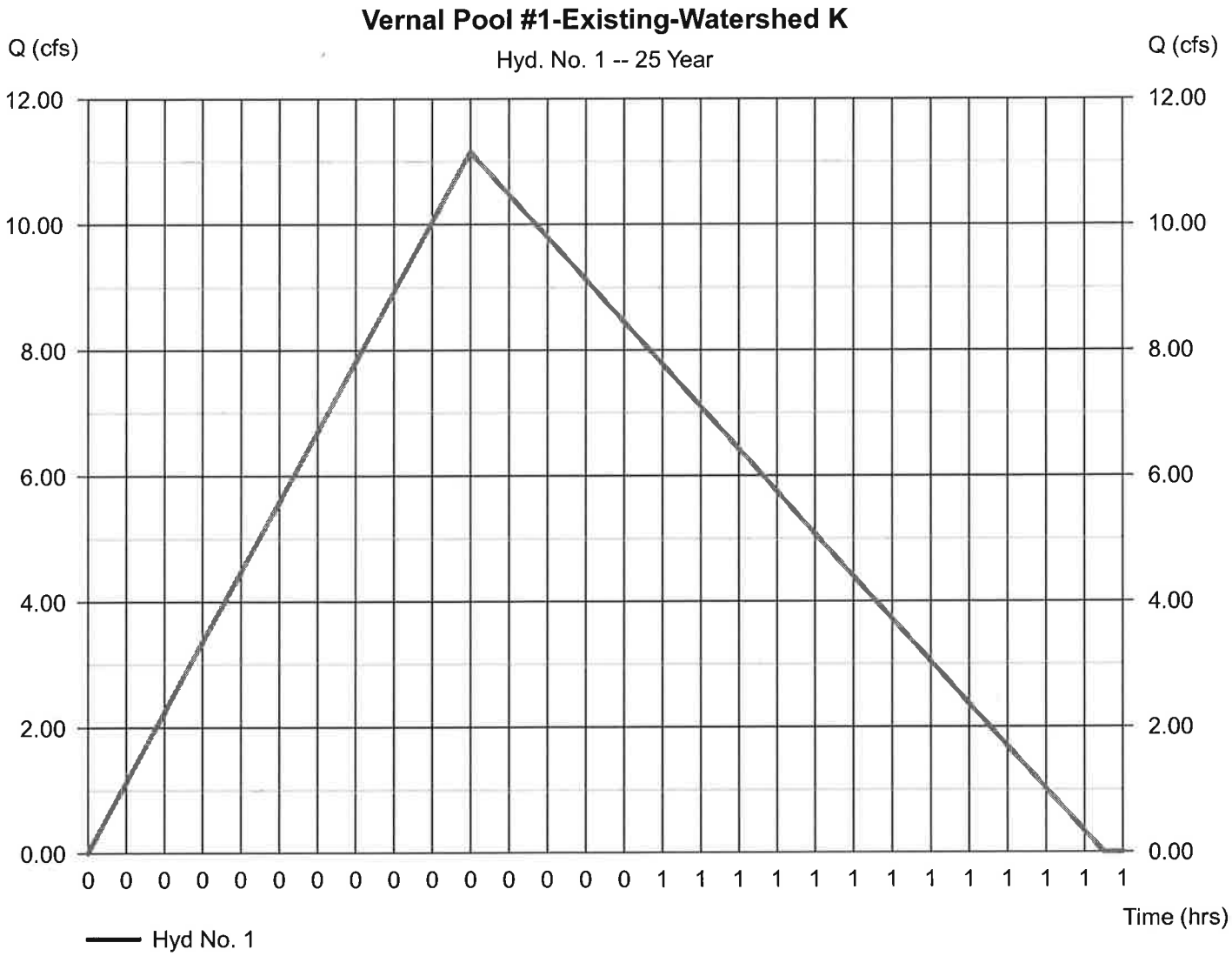
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 1

Vernal Pool #1-Existing-Watershed K

Hydrograph type	= Rational	Peak discharge	= 11.15 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 17,861 cuft
Drainage area	= 9.340 ac	Runoff coeff.	= 0.29*
Intensity	= 4.116 in/hr	Tc by TR55	= 20.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.000 x 0.90) + (1.400 x 0.30) + (6.940 x 0.20)] / 9.340



Hydrograph Report

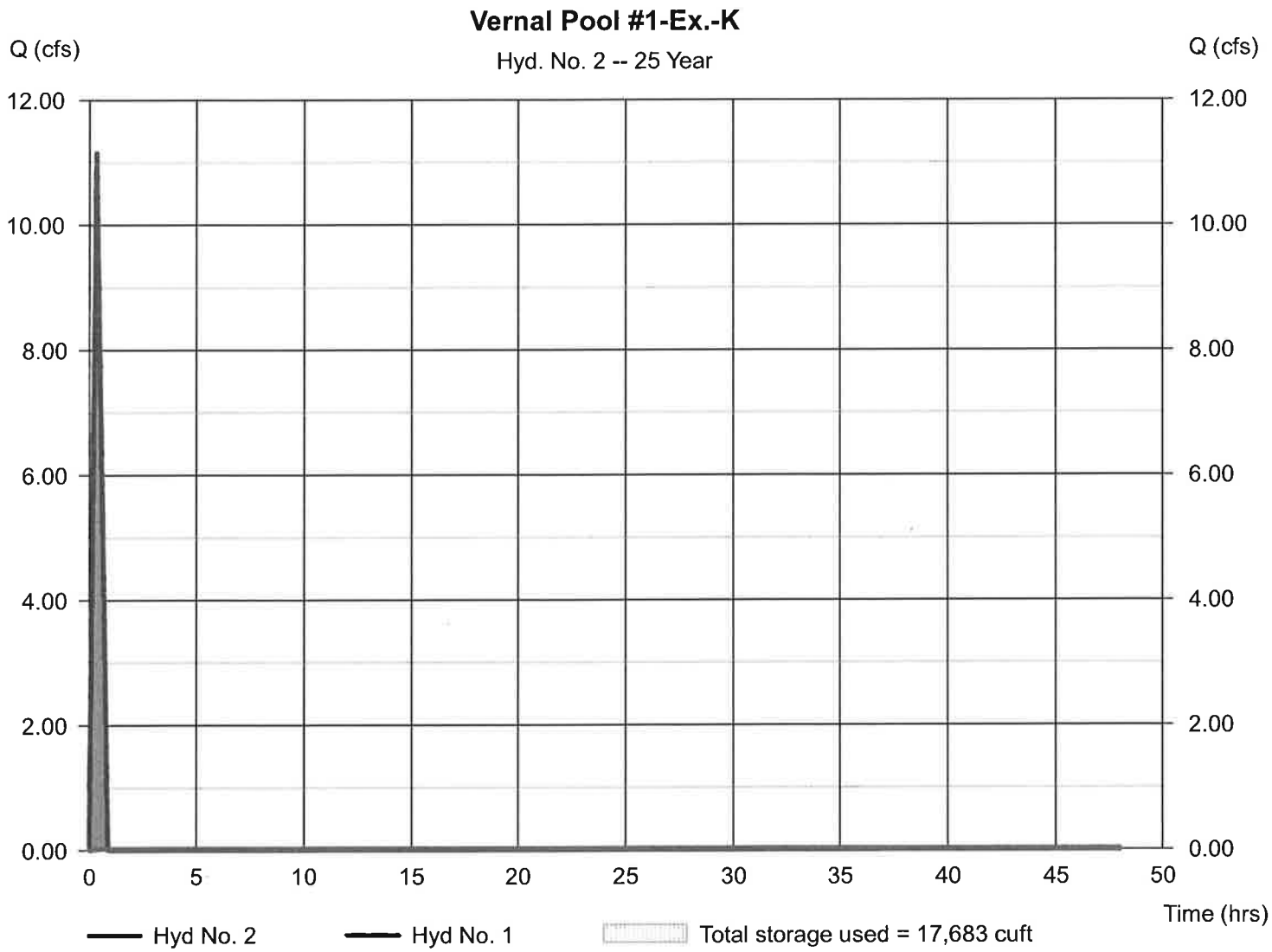
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 2

Vernal Pool #1-Ex.-K

Hydrograph type	= Reservoir	Peak discharge	= 0.022 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.88 hrs
Time interval	= 1 min	Hyd. volume	= 3,522 cuft
Inflow hyd. No.	= 1 - Vernal Pool #1-Existing-Watershed K	Max. Elevation	= 550.34 ft
Reservoir name	= Vernal Pool #1-Existing	Max. Storage	= 17,683 cuft

Storage Indication method used.



Hydrograph Report

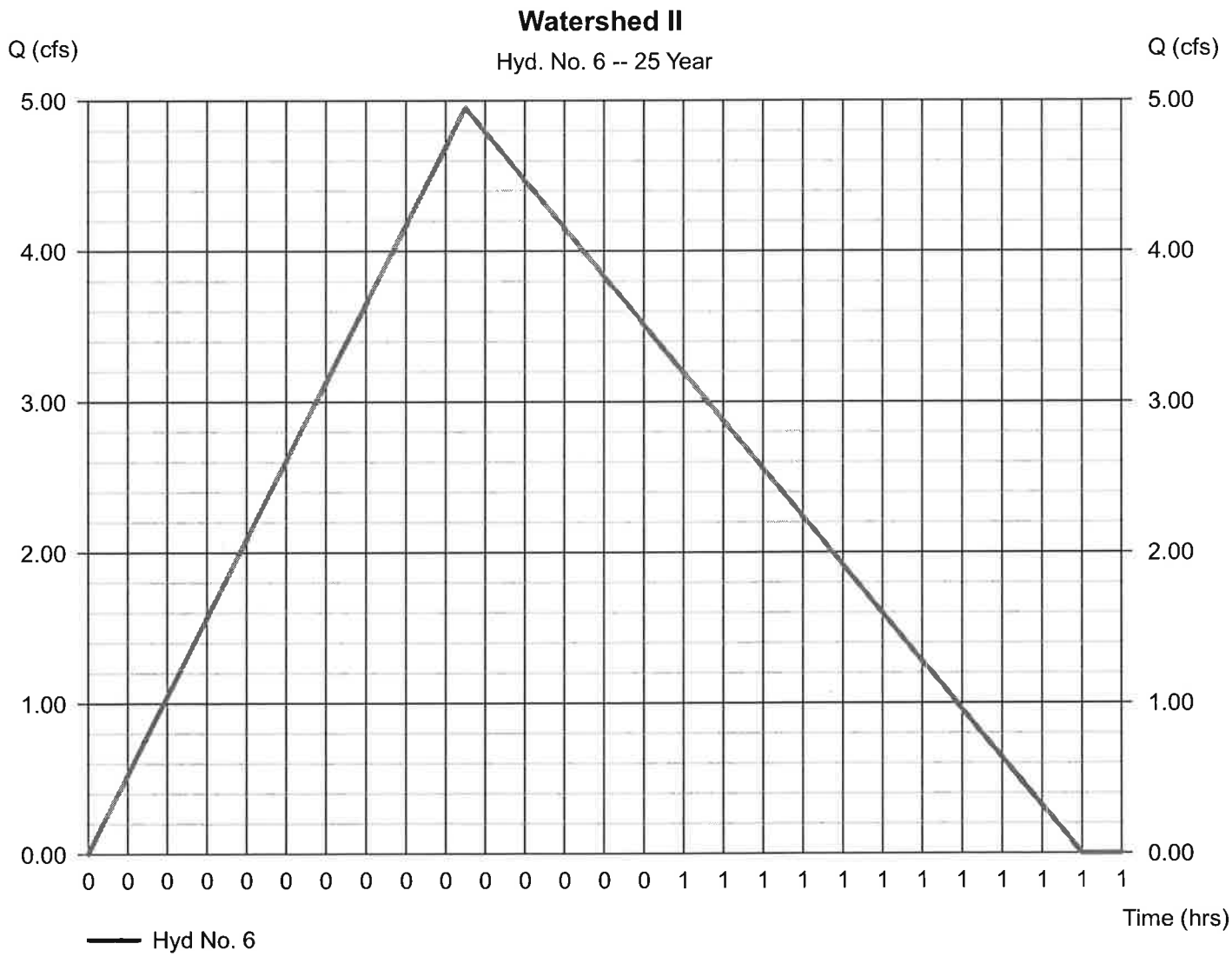
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 6

Watershed II

Hydrograph type	= Rational	Peak discharge	= 4.947 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 7,528 cuft
Drainage area	= 4.040 ac	Runoff coeff.	= 0.29*
Intensity	= 4.222 in/hr	Tc by User	= 19.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.230 x 0.90) + (1.940 x 0.30) + (1.870 x 0.20)] / 4.040



Hydrograph Report

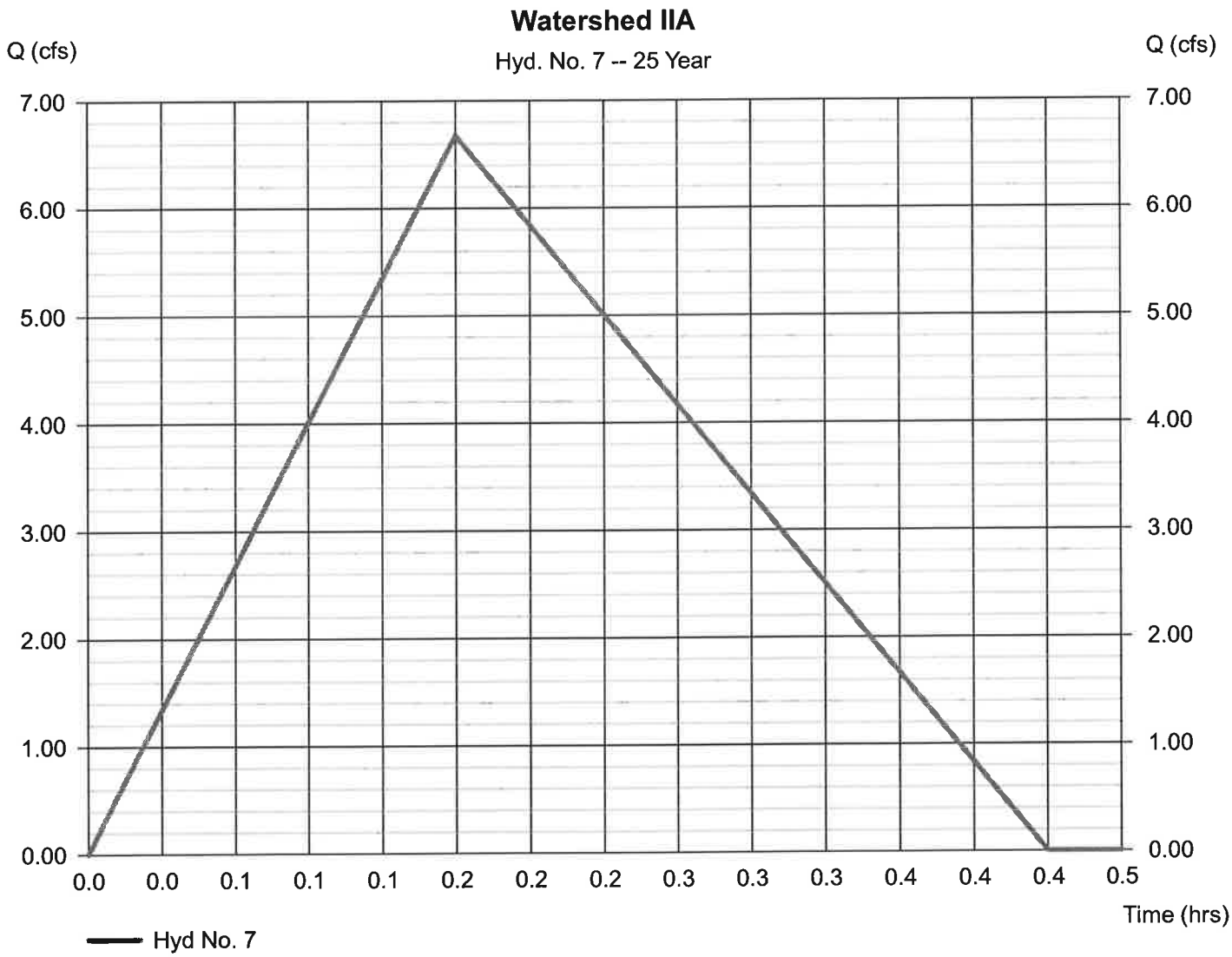
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 7

Watershed IIA

Hydrograph type	= Rational	Peak discharge	= 6.675 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 5,347 cuft
Drainage area	= 1.530 ac	Runoff coeff.	= 0.79*
Intensity	= 5.522 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.250 x 0.90) + (0.280 x 0.30)] / 1.530



Hydrograph Report

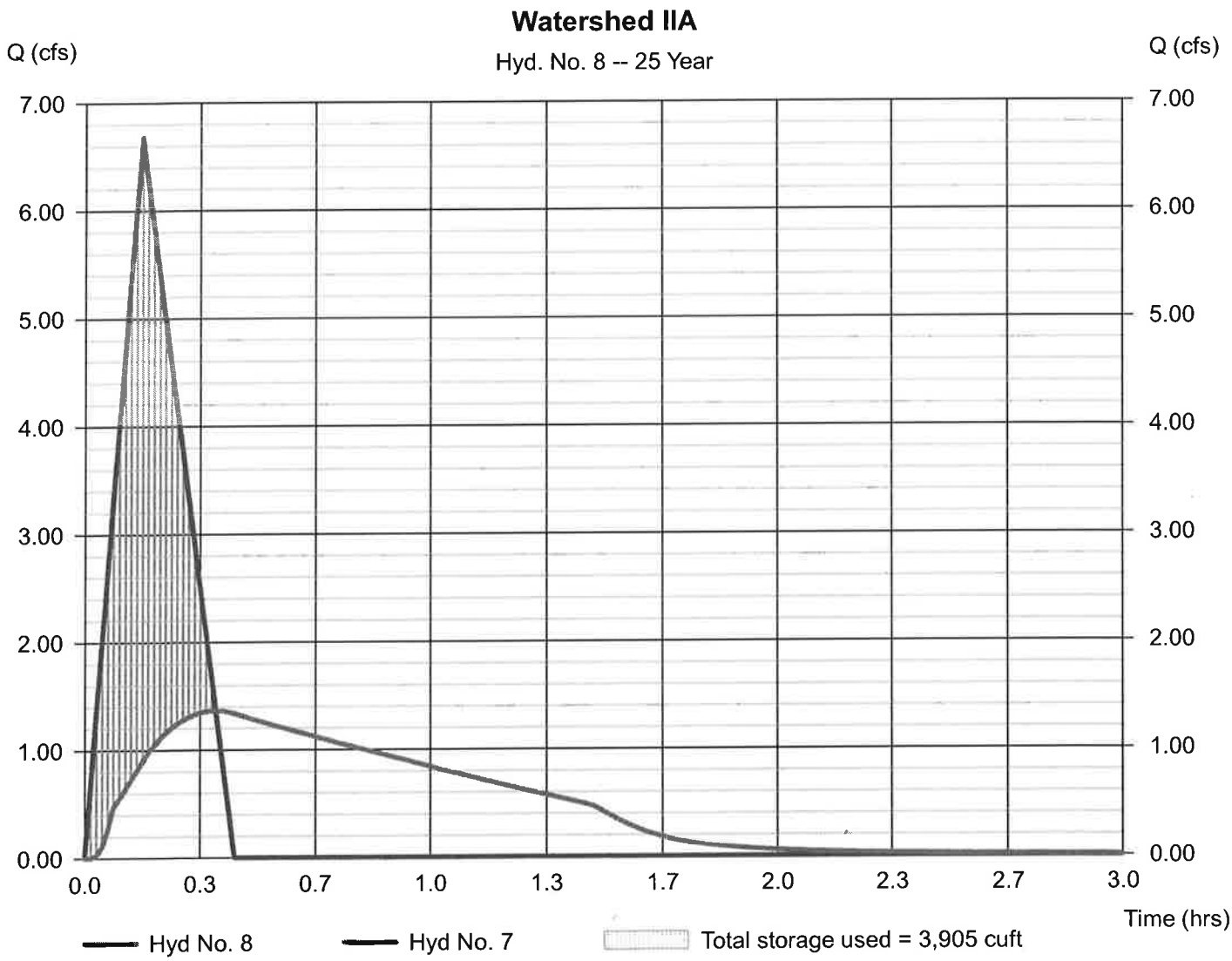
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 8

Watershed IIA

Hydrograph type	= Reservoir	Peak discharge	= 1.364 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.38 hrs
Time interval	= 1 min	Hyd. volume	= 5,200 cuft
Inflow hyd. No.	= 7 - Watershed IIA	Max. Elevation	= 562.83 ft
Reservoir name	= Watershed IIA	Max. Storage	= 3,905 cuft

Storage Indication method used.



Hydrograph Report

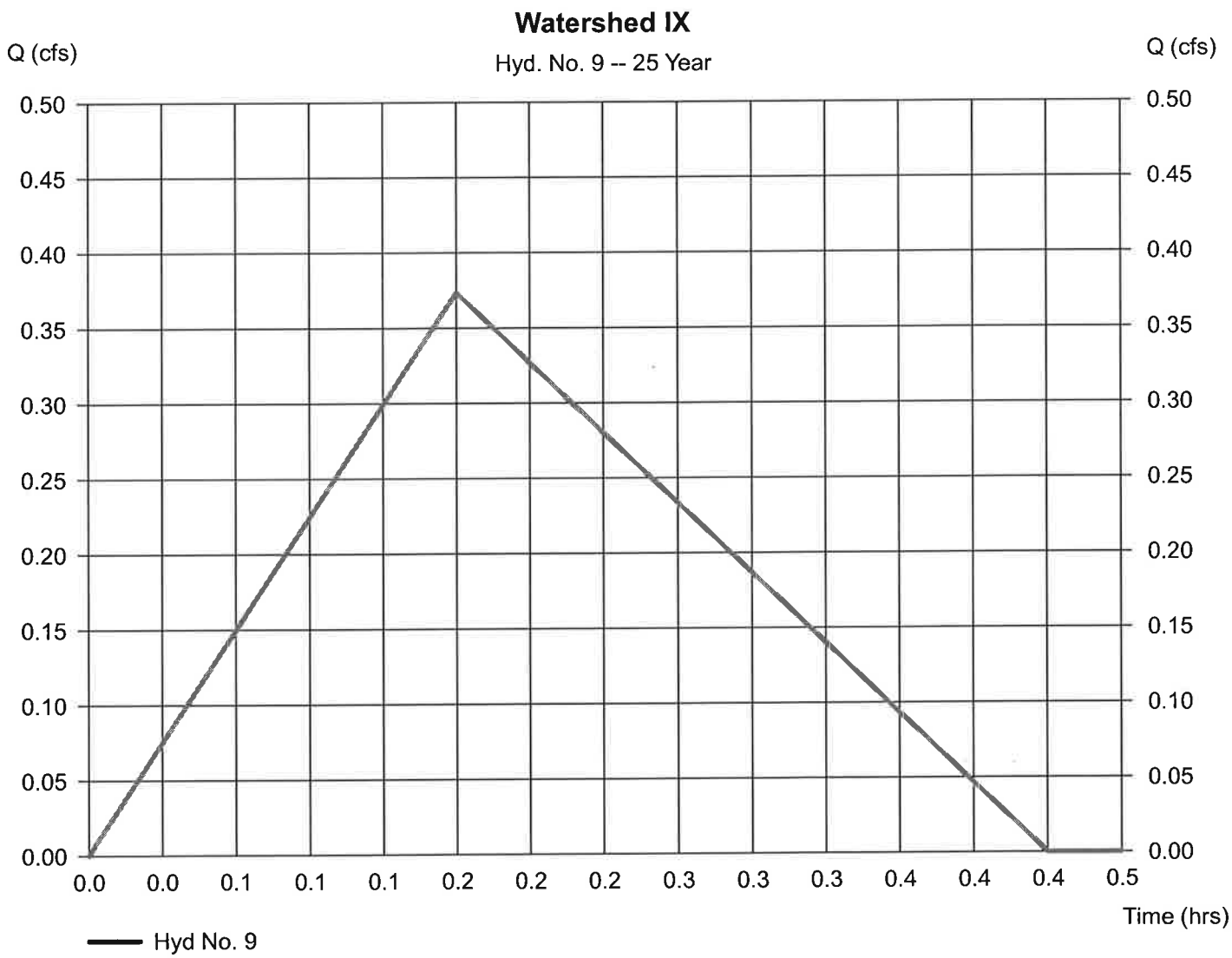
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 9

Watershed IX

Hydrograph type	= Rational	Peak discharge	= 0.373 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 299 cuft
Drainage area	= 0.260 ac	Runoff coeff.	= 0.26*
Intensity	= 5.522 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.010 x 0.90) + (0.080 x 0.30) + (0.170 x 0.20)] / 0.260



Hydrograph Report

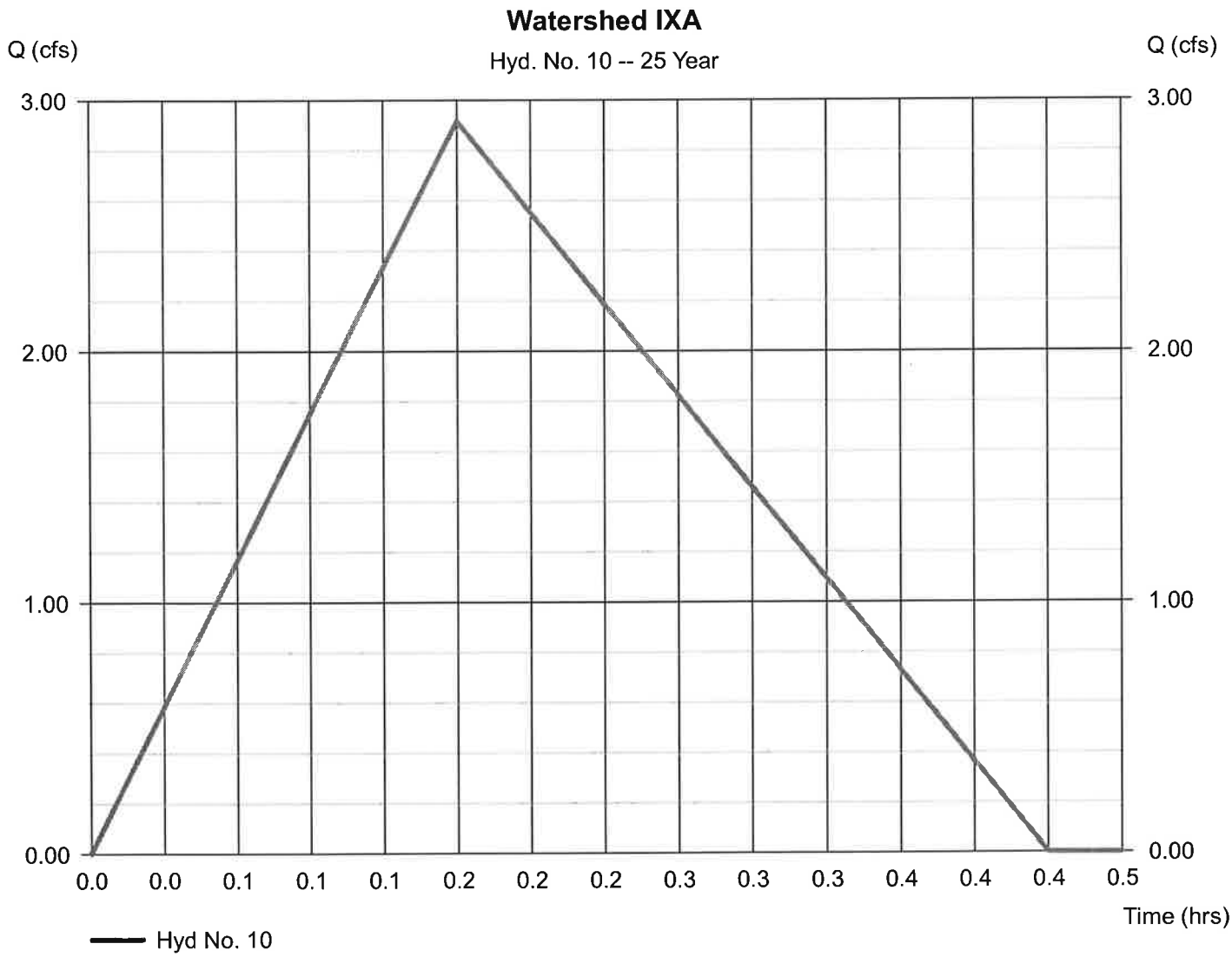
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 10

Watershed IXA

Hydrograph type	= Rational	Peak discharge	= 2.916 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 2,336 cuft
Drainage area	= 0.880 ac	Runoff coeff.	= 0.6*
Intensity	= 5.522 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.460 x 0.90) + (0.260 x 0.33) + (0.160 x 0.20)] / 0.880



Hydrograph Report

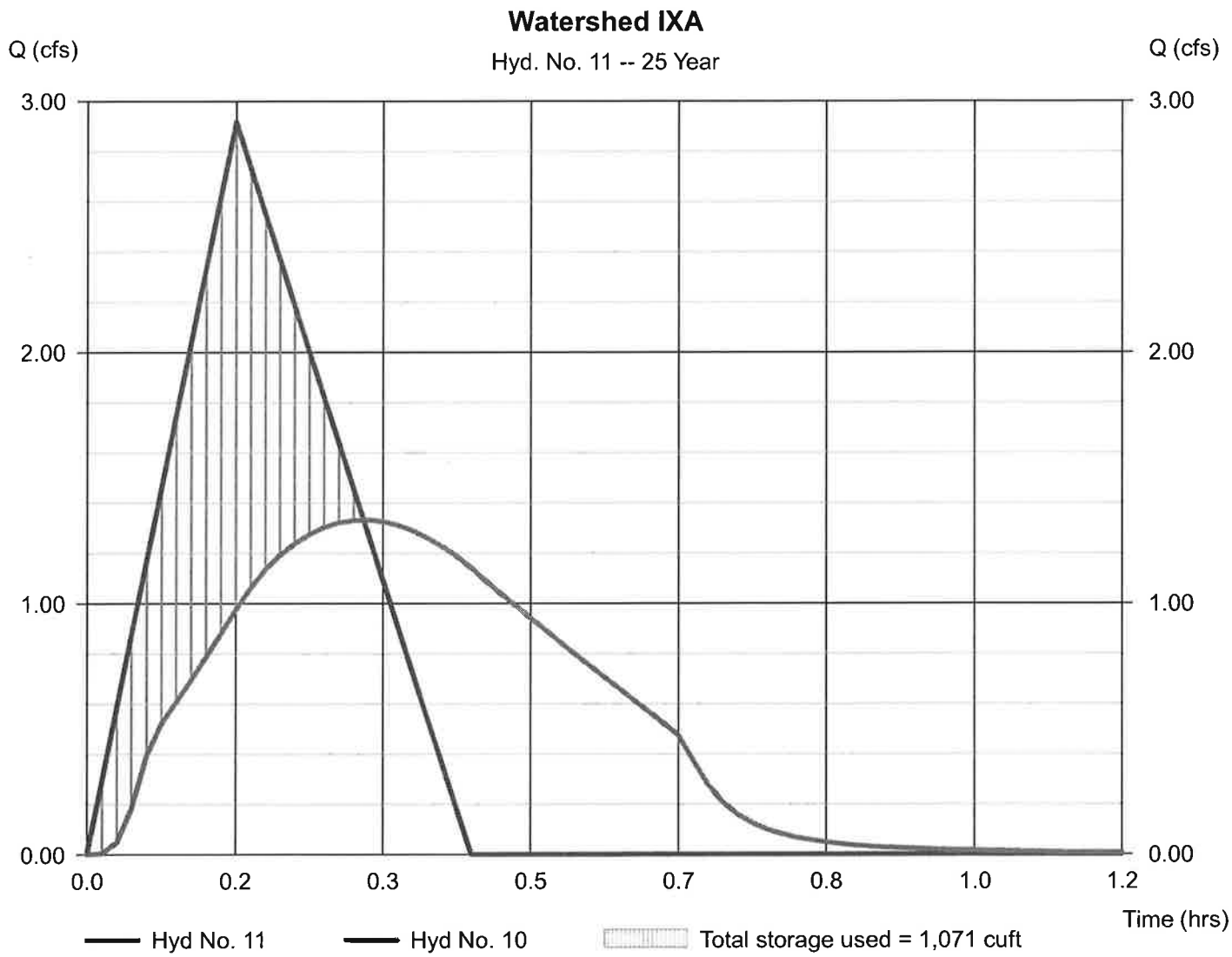
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 11

Watershed IXA

Hydrograph type	= Reservoir	Peak discharge	= 1.332 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 2,273 cuft
Inflow hyd. No.	= 10 - Watershed IXA	Max. Elevation	= 554.41 ft
Reservoir name	= Watershed IXA	Max. Storage	= 1,071 cuft

Storage Indication method used.



Hydrograph Report

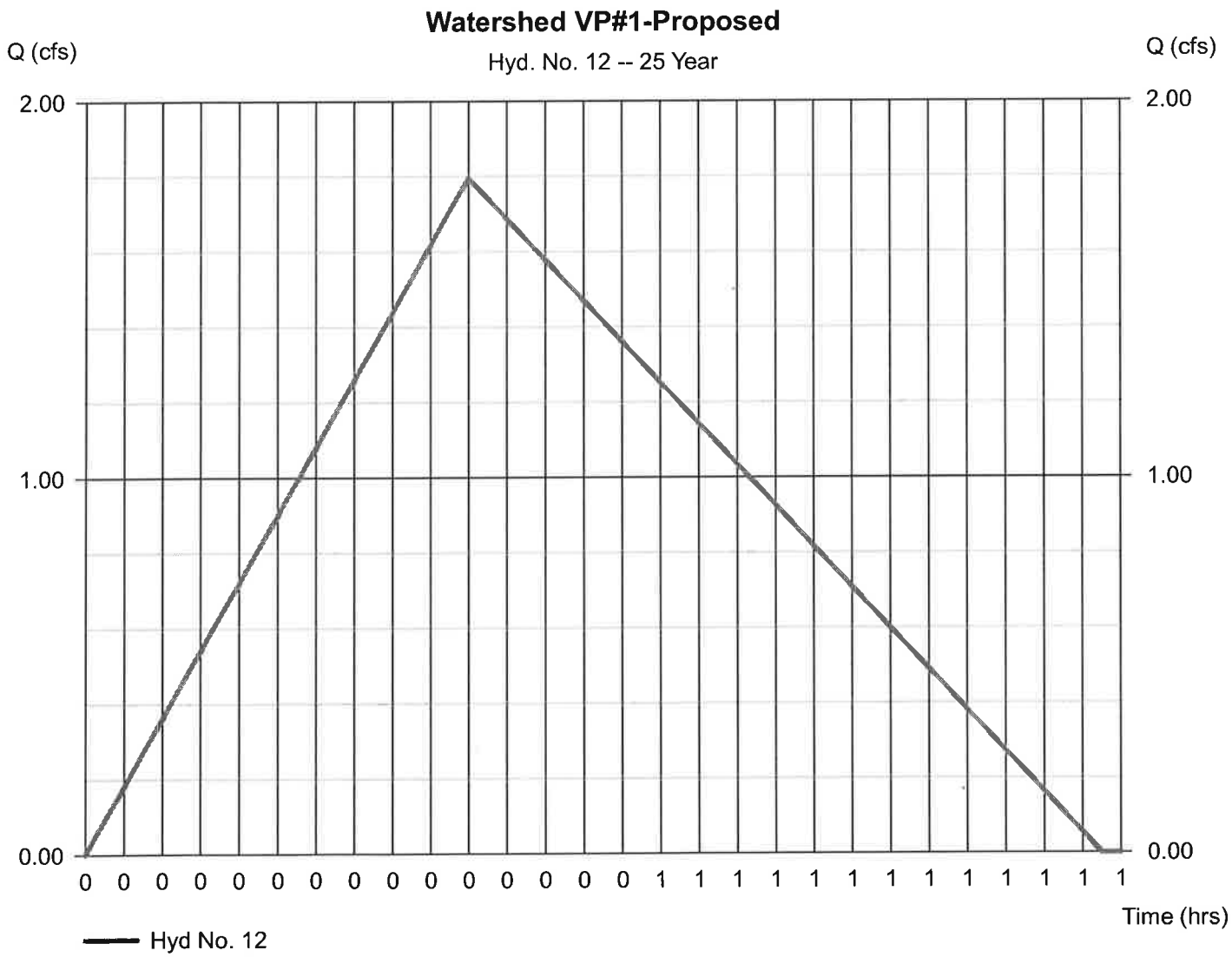
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 12

Watershed VP#1-Proposed

Hydrograph type	= Rational	Peak discharge	= 1.795 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 2,875 cuft
Drainage area	= 2.180 ac	Runoff coeff.	= 0.2*
Intensity	= 4.116 in/hr	Tc by User	= 20.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(2.180 x 0.20)] / 2.180



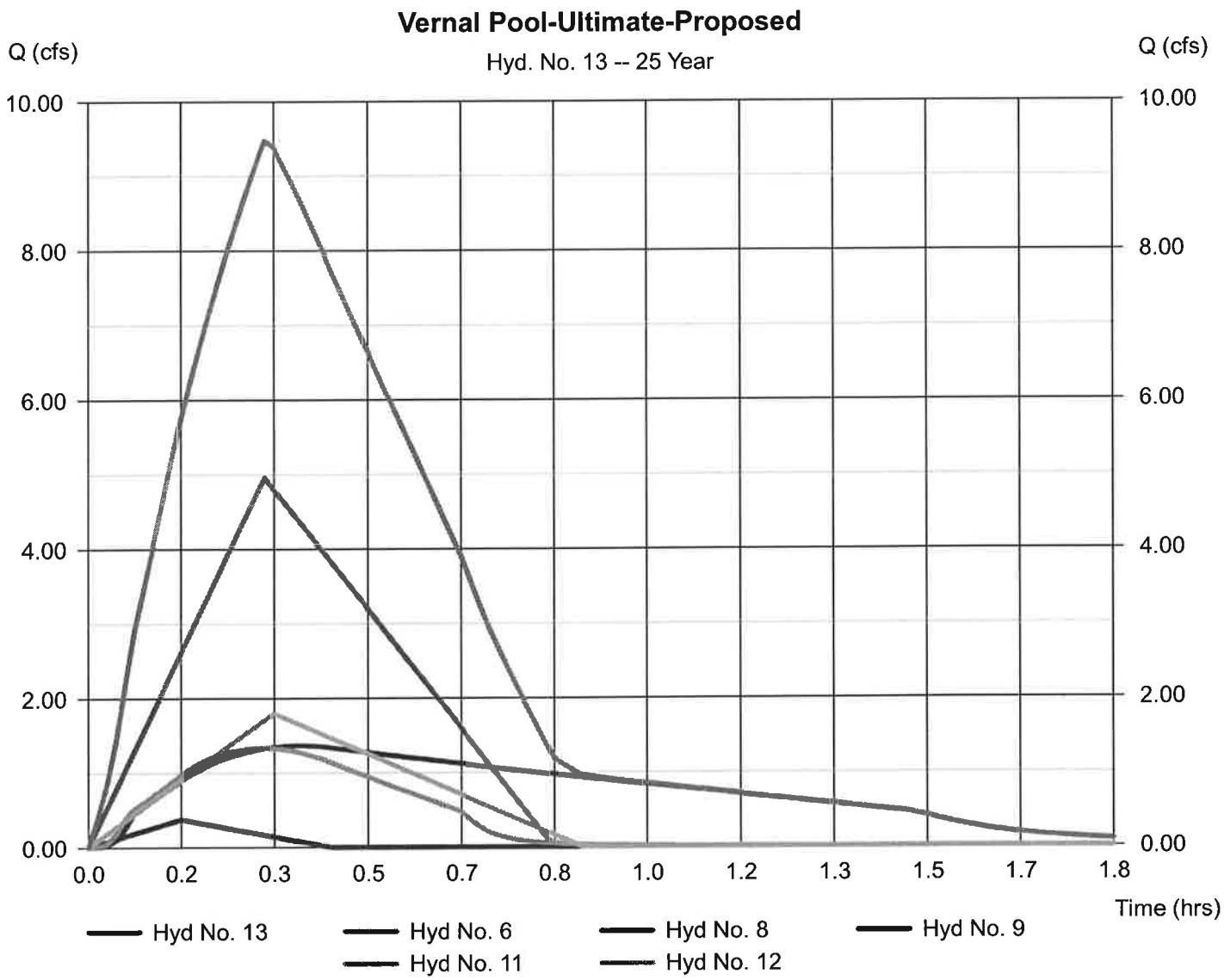
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 13

Vernal Pool-Ultimate-Proposed

Hydrograph type	= Combine	Peak discharge	= 9.474 cfs
Storm frequency	= 25 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 18,037 cuft
Inflow hyds.	= 6, 8, 9, 11, 12	Contrib. drain. area	= 6.480 ac



Hydrograph Report

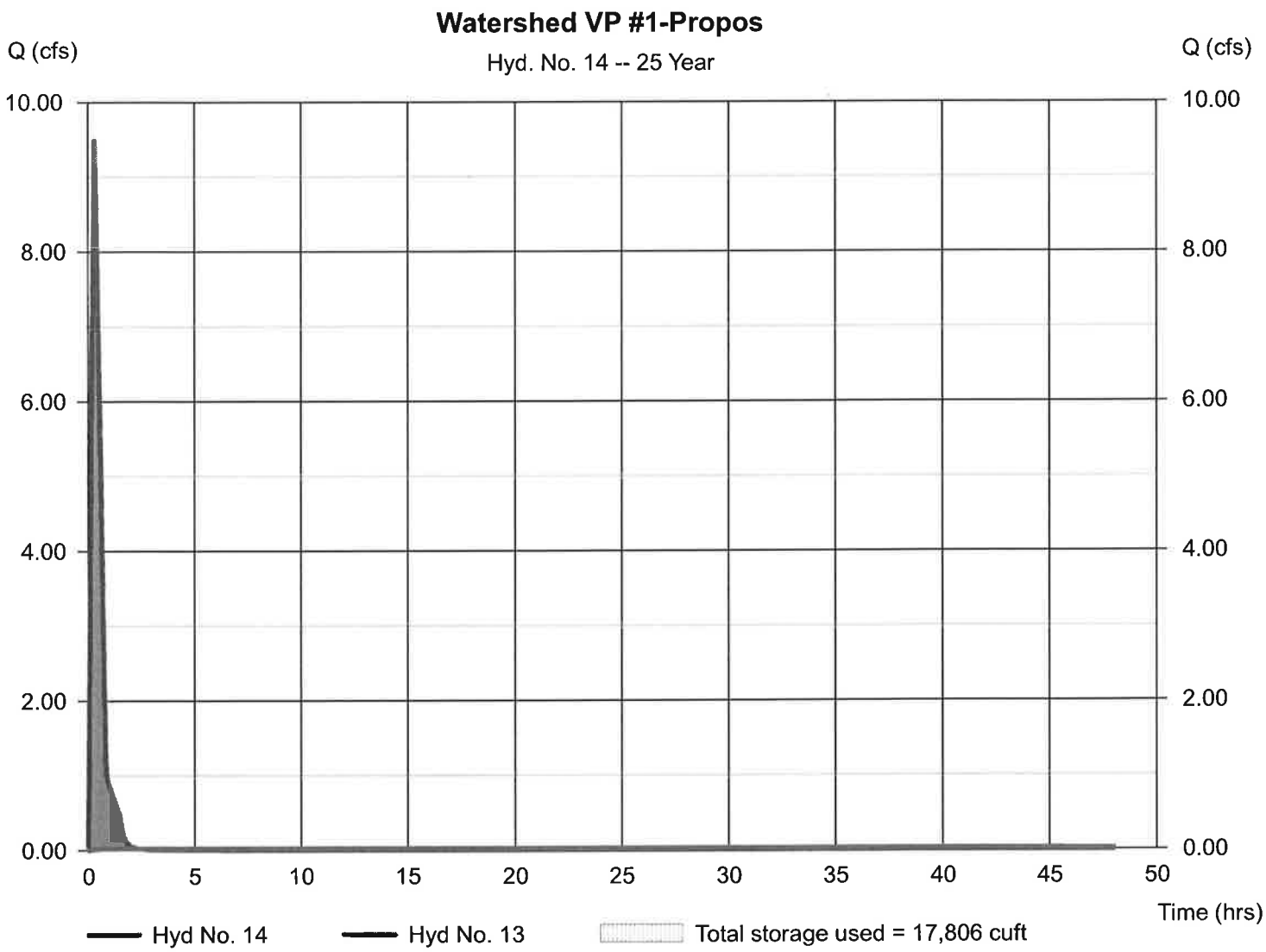
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 14

Watershed VP #1-Propos

Hydrograph type	= Reservoir	Peak discharge	= 0.022 cfs
Storm frequency	= 25 yrs	Time to peak	= 2.42 hrs
Time interval	= 1 min	Hyd. volume	= 3,548 cuft
Inflow hyd. No.	= 13 - Vernal Pool-Ultimate-Proposed	Max. Elevation	= 550.34 ft
Reservoir name	= Watershed VP#1-Proposed	Max. Storage	= 17,806 cuft

Storage Indication method used.



Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.1

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	Rational	12.39	1	20	19,842	----	------	------	Vernal Pool #1-Existing-Watershed
2	Reservoir	0.023	1	53	3,713	1	550.41	19,647	Vernal Pool #1-Ex.-K
6	Rational	5.490	1	19	8,355	----	------	------	Watershed II
7	Rational	7.327	1	10	5,869	----	------	------	Watershed IIA
8	Reservoir	1.459	1	23	5,709	7	563.13	4,331	Watershed IIA
9	Rational	0.410	1	10	328	----	------	------	Watershed IX
10	Rational	3.201	1	10	2,564	----	------	------	Watershed IXA
11	Reservoir	1.430	1	19	2,495	10	554.71	1,206	Watershed IXA
12	Rational	1.994	1	20	3,194	----	------	------	Watershed VP#1-Proposed
13	Combine	10.40	1	19	19,928	6, 8, 9, 11, 12	------	------	Vernal Pool-Ultimate-Proposed
14	Reservoir	0.023	1	148	3,730	13	550.41	19,683	Watershed VP #1-Propos

Hydrograph Report

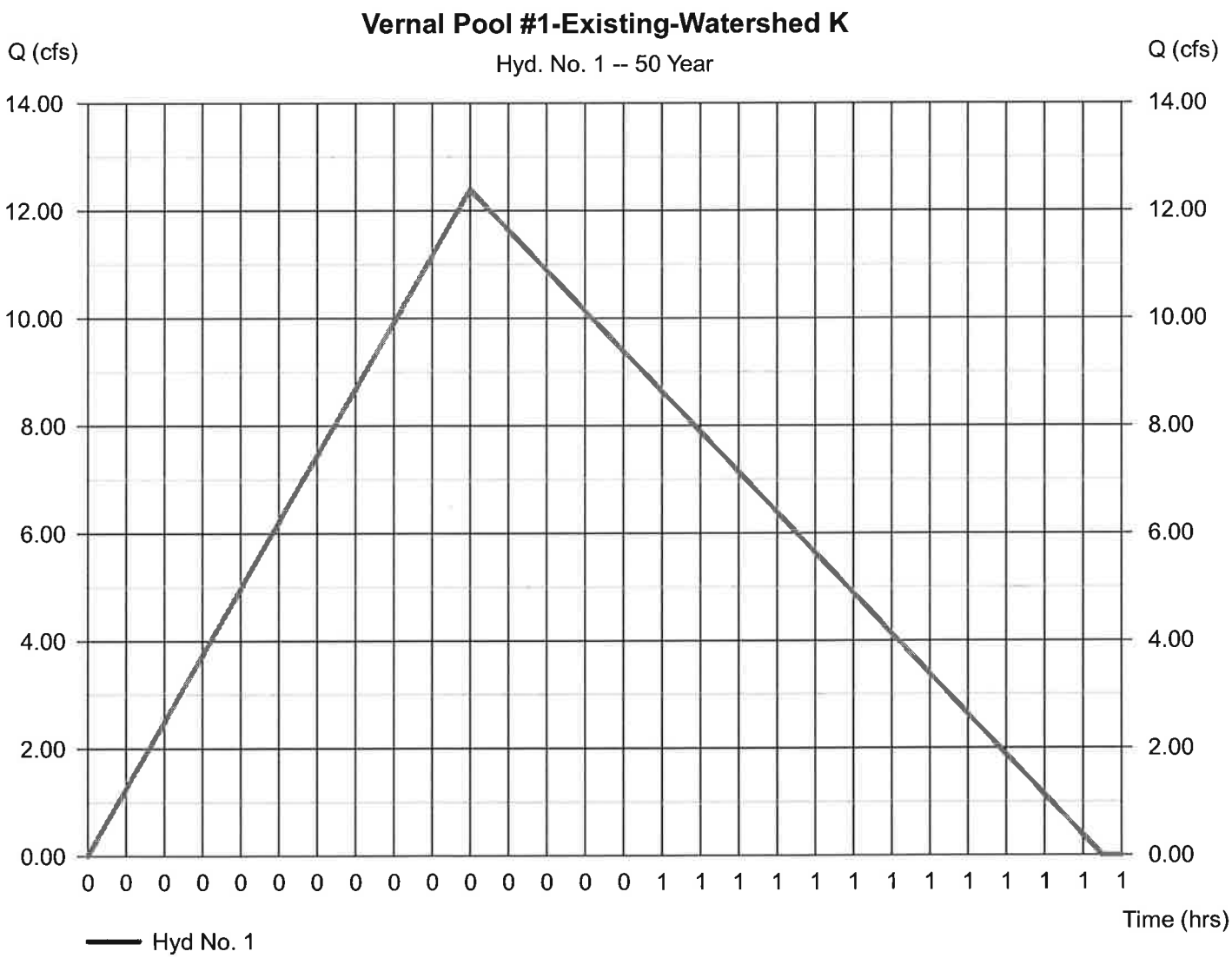
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 1

Vernal Pool #1-Existing-Watershed K

Hydrograph type	= Rational	Peak discharge	= 12.39 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 19,842 cuft
Drainage area	= 9.340 ac	Runoff coeff.	= 0.29*
Intensity	= 4.573 in/hr	Tc by TR55	= 20.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.000 x 0.90) + (1.400 x 0.30) + (6.940 x 0.20)] / 9.340



Hydrograph Report

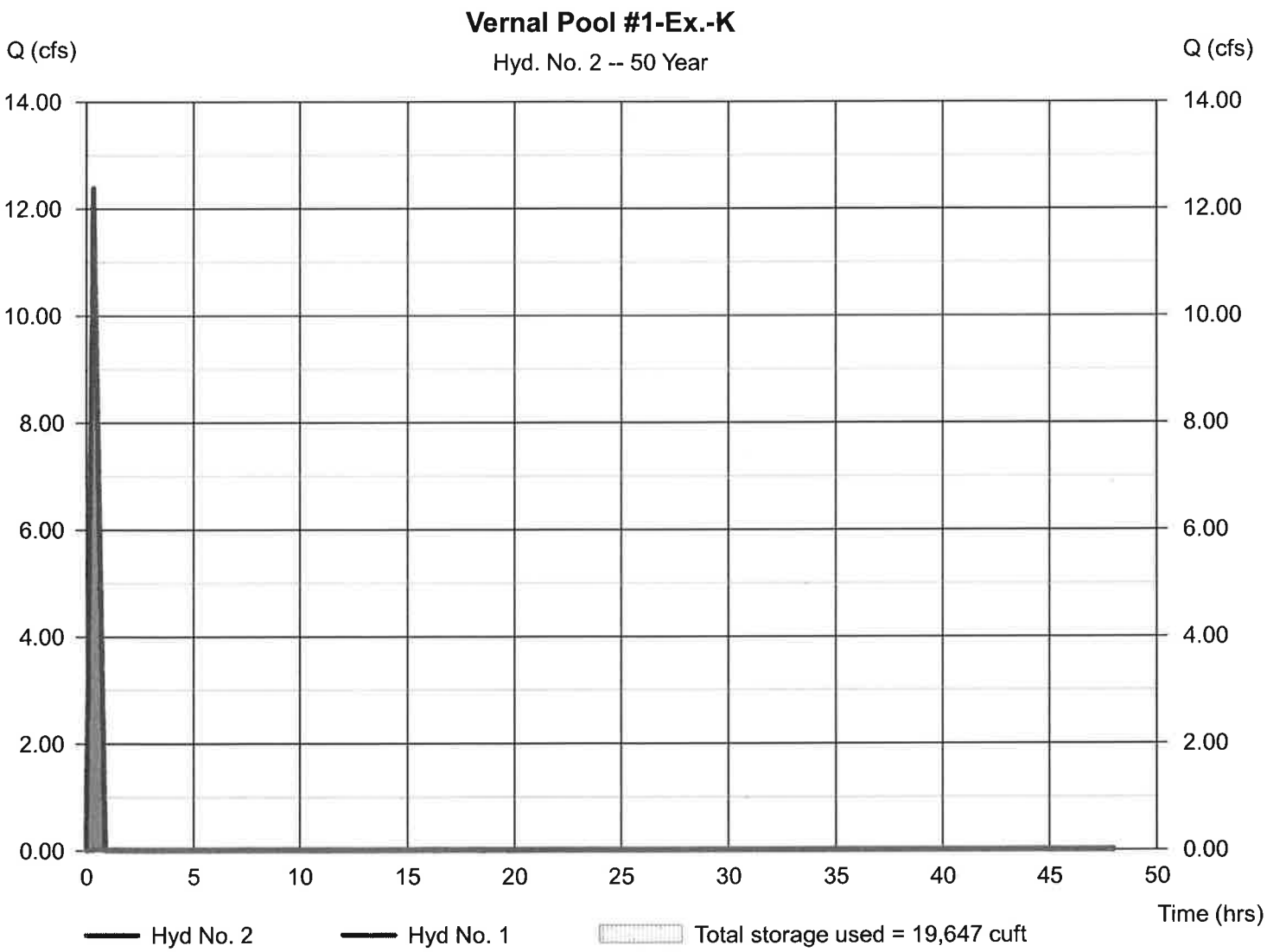
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 2

Vernal Pool #1-Ex.-K

Hydrograph type	= Reservoir	Peak discharge	= 0.023 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.88 hrs
Time interval	= 1 min	Hyd. volume	= 3,713 cuft
Inflow hyd. No.	= 1 - Vernal Pool #1-Existing-Watershed K	Max. Elevation	= 550.41 ft
Reservoir name	= Vernal Pool #1-Existing	Max. Storage	= 19,647 cuft

Storage Indication method used.



Hydrograph Report

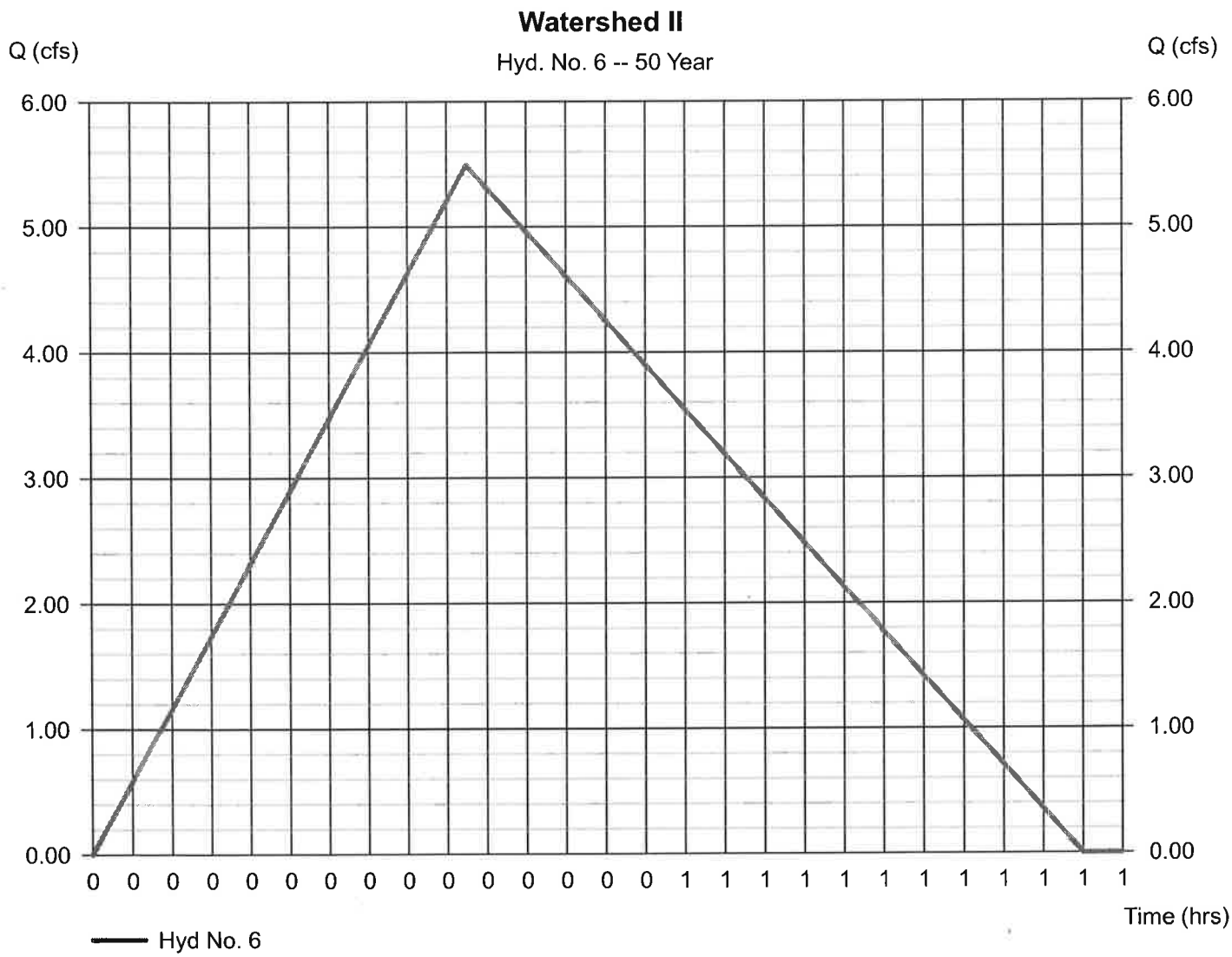
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 6

Watershed II

Hydrograph type	= Rational	Peak discharge	= 5.490 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 8,355 cuft
Drainage area	= 4.040 ac	Runoff coeff.	= 0.29*
Intensity	= 4.686 in/hr	Tc by User	= 19.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.230 x 0.90) + (1.940 x 0.30) + (1.870 x 0.20)] / 4.040



Hydrograph Report

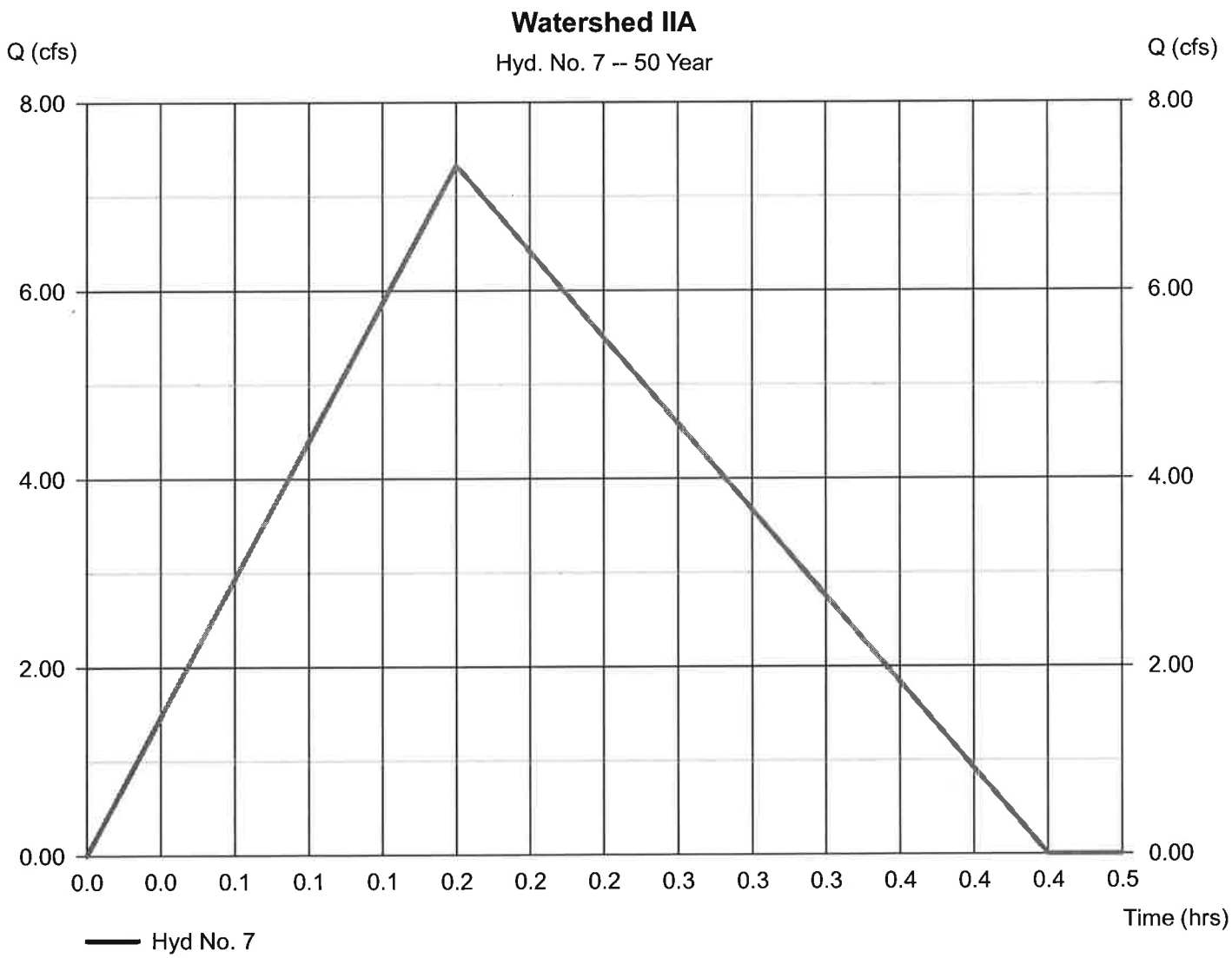
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 7

Watershed IIA

Hydrograph type	= Rational	Peak discharge	= 7.327 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 5,869 cuft
Drainage area	= 1.530 ac	Runoff coeff.	= 0.79*
Intensity	= 6.062 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.250 x 0.90) + (0.280 x 0.30)] / 1.530



Hydrograph Report

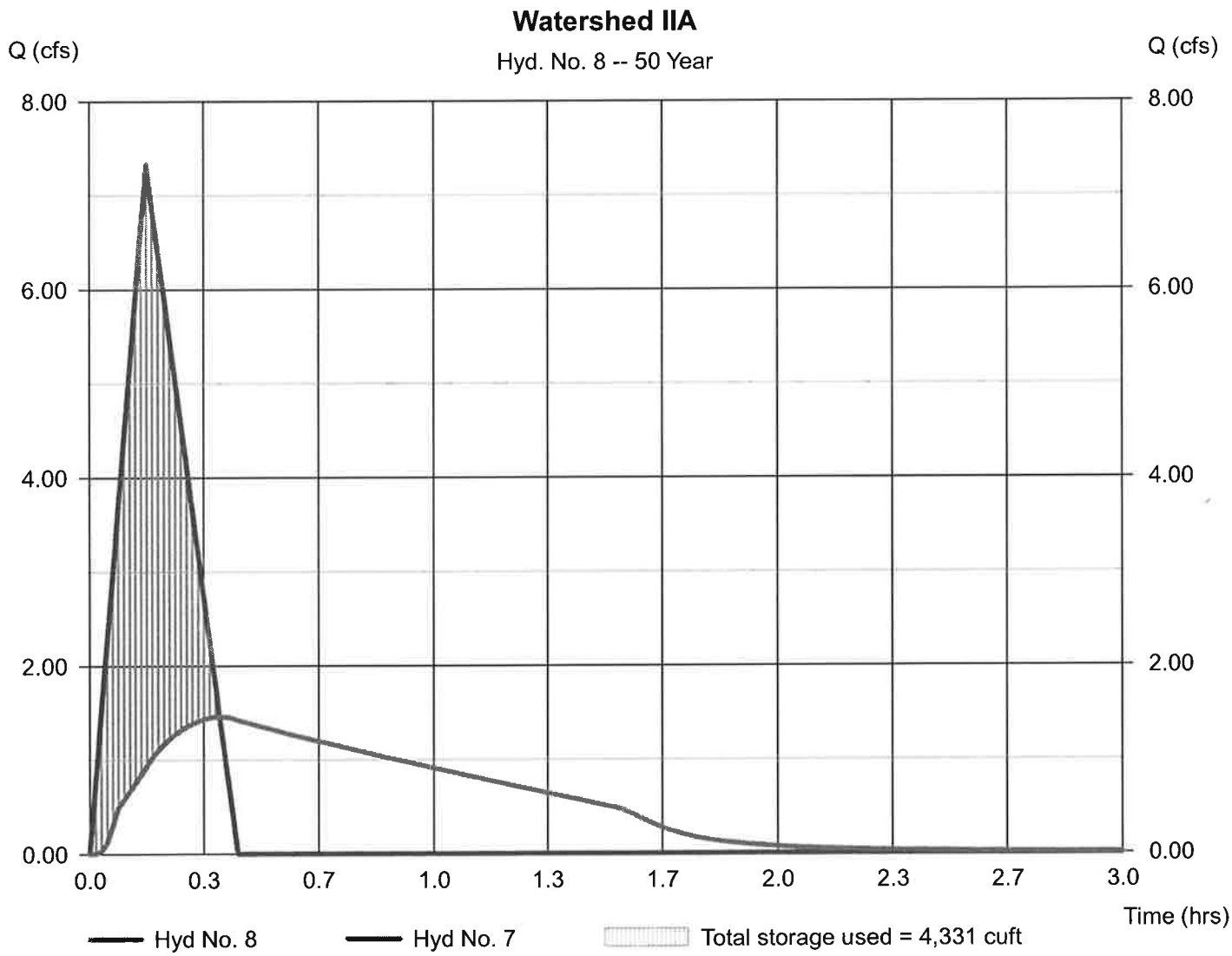
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 8

Watershed IIA

Hydrograph type	= Reservoir	Peak discharge	= 1.459 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.38 hrs
Time interval	= 1 min	Hyd. volume	= 5,709 cuft
Inflow hyd. No.	= 7 - Watershed IIA	Max. Elevation	= 563.13 ft
Reservoir name	= Watershed IIA	Max. Storage	= 4,331 cuft

Storage Indication method used.



Hydrograph Report

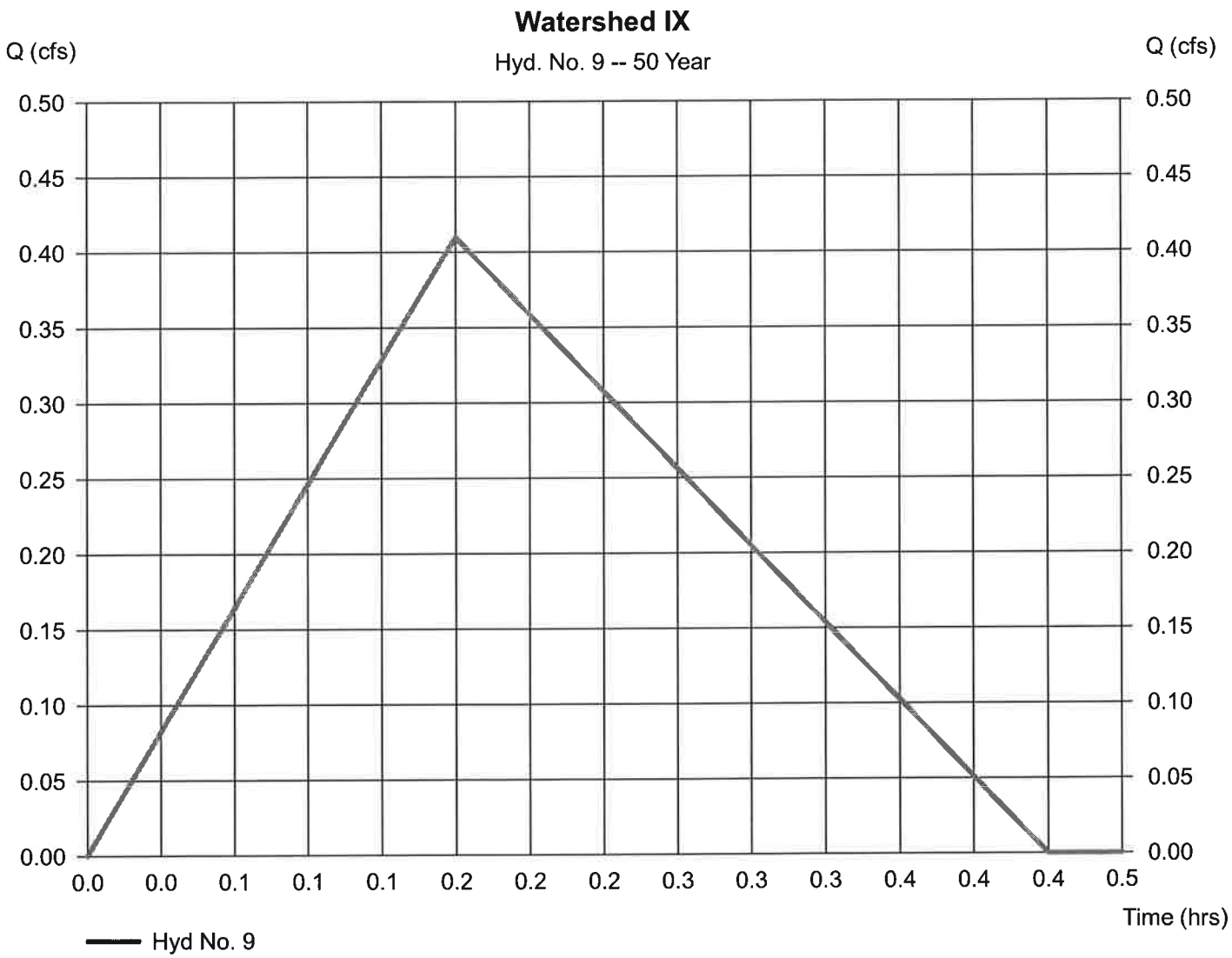
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 9

Watershed IX

Hydrograph type	= Rational	Peak discharge	= 0.410 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 328 cuft
Drainage area	= 0.260 ac	Runoff coeff.	= 0.26*
Intensity	= 6.062 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.010 x 0.90) + (0.080 x 0.30) + (0.170 x 0.20)] / 0.260



Hydrograph Report

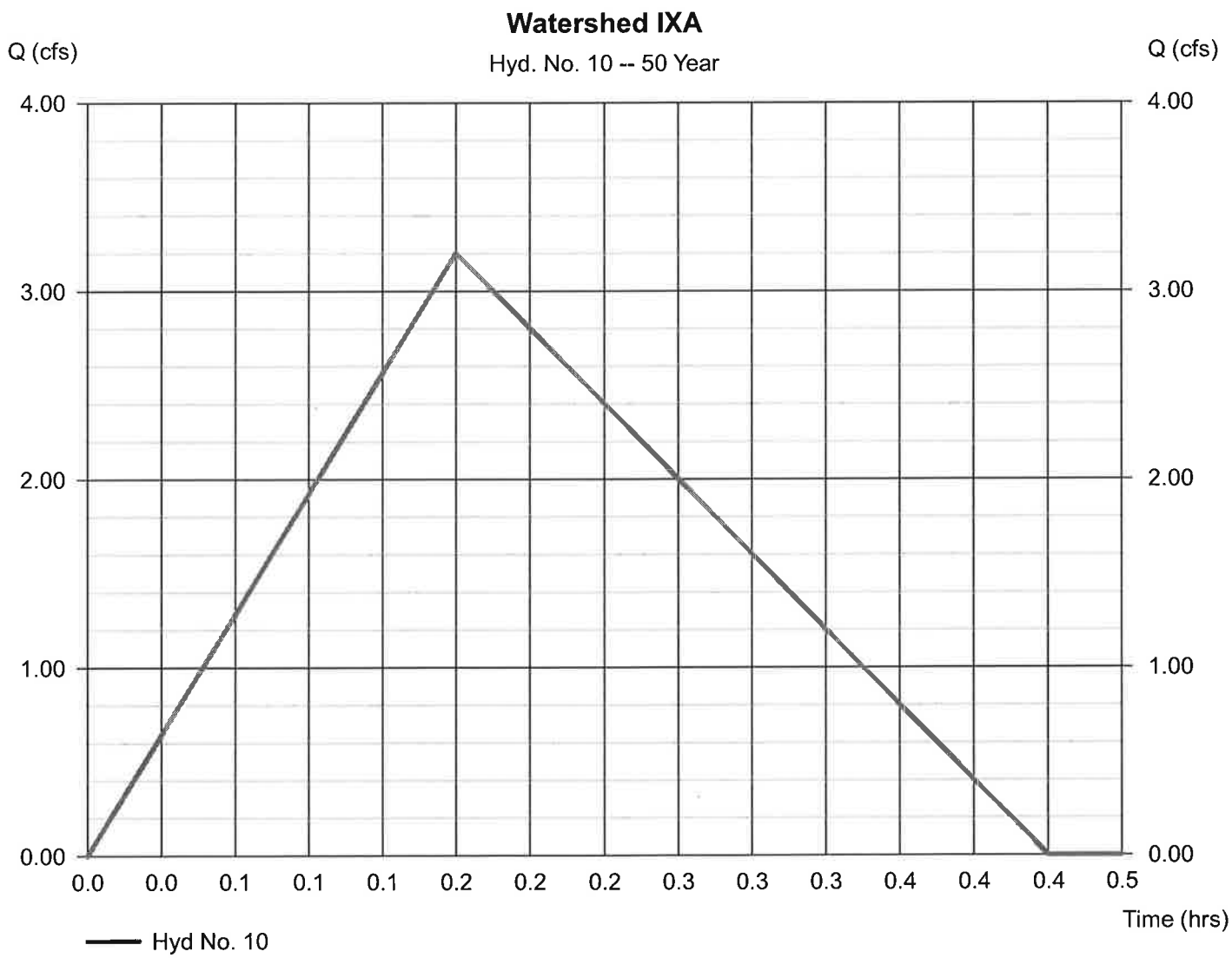
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 10

Watershed IXA

Hydrograph type	= Rational	Peak discharge	= 3.201 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 2,564 cuft
Drainage area	= 0.880 ac	Runoff coeff.	= 0.6*
Intensity	= 6.062 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.460 x 0.90) + (0.260 x 0.33) + (0.160 x 0.20)] / 0.880



Hydrograph Report

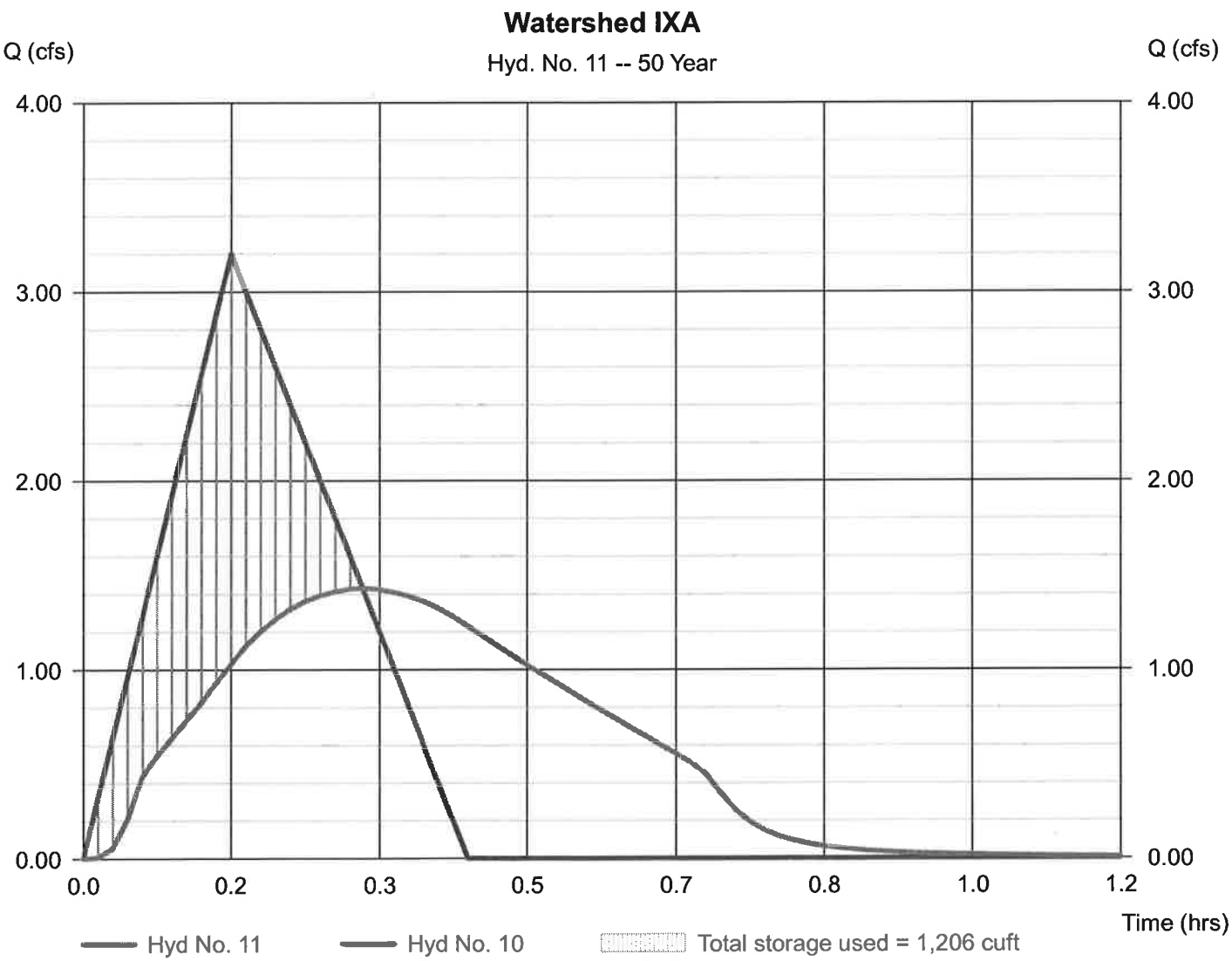
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 11

Watershed IXA

Hydrograph type	= Reservoir	Peak discharge	= 1.430 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 2,495 cuft
Inflow hyd. No.	= 10 - Watershed IXA	Max. Elevation	= 554.71 ft
Reservoir name	= Watershed IXA	Max. Storage	= 1,206 cuft

Storage Indication method used.



Hydrograph Report

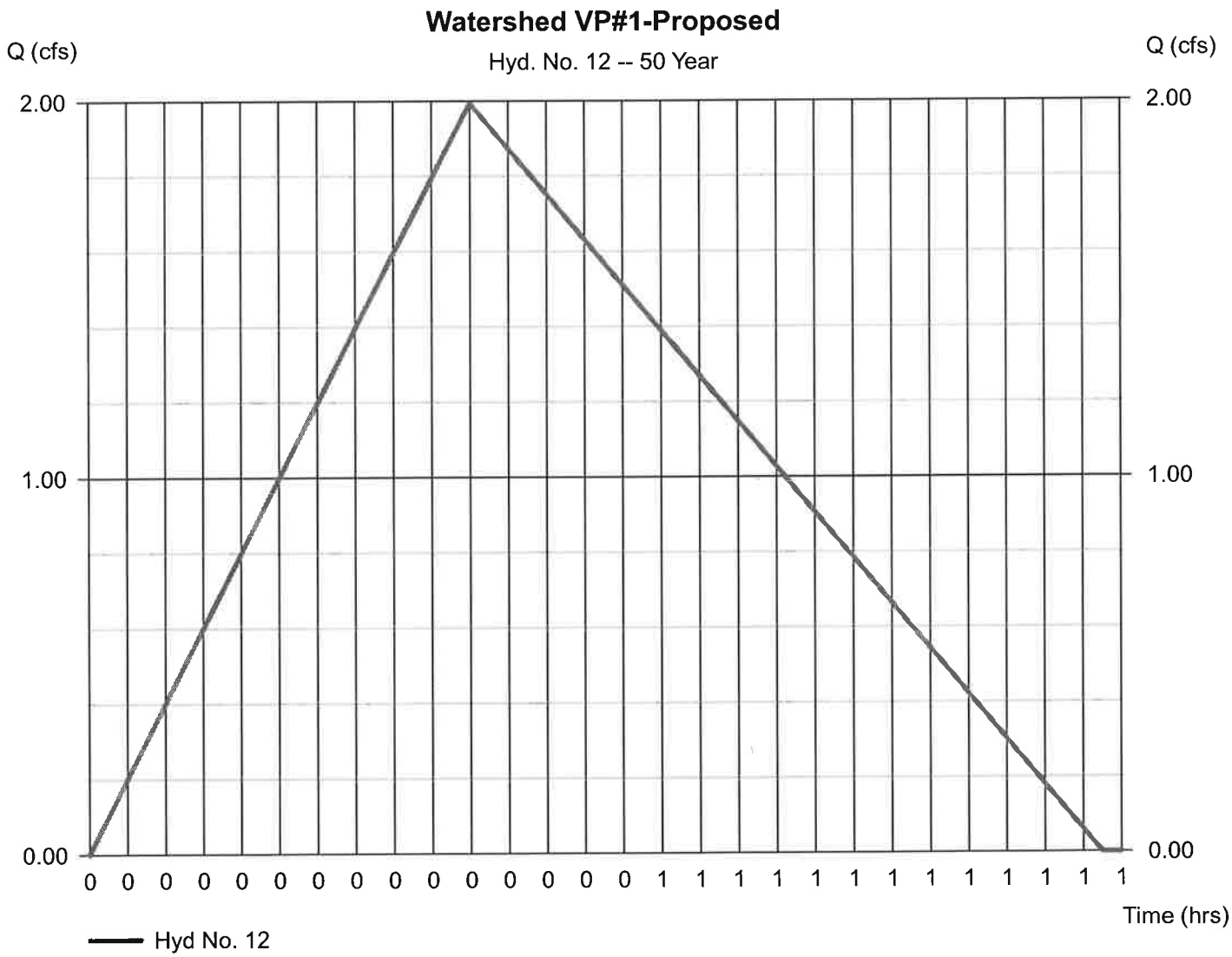
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 12

Watershed VP#1-Proposed

Hydrograph type	= Rational	Peak discharge	= 1.994 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 3,194 cuft
Drainage area	= 2.180 ac	Runoff coeff.	= 0.2*
Intensity	= 4.573 in/hr	Tc by User	= 20.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(2.180 x 0.20)] / 2.180



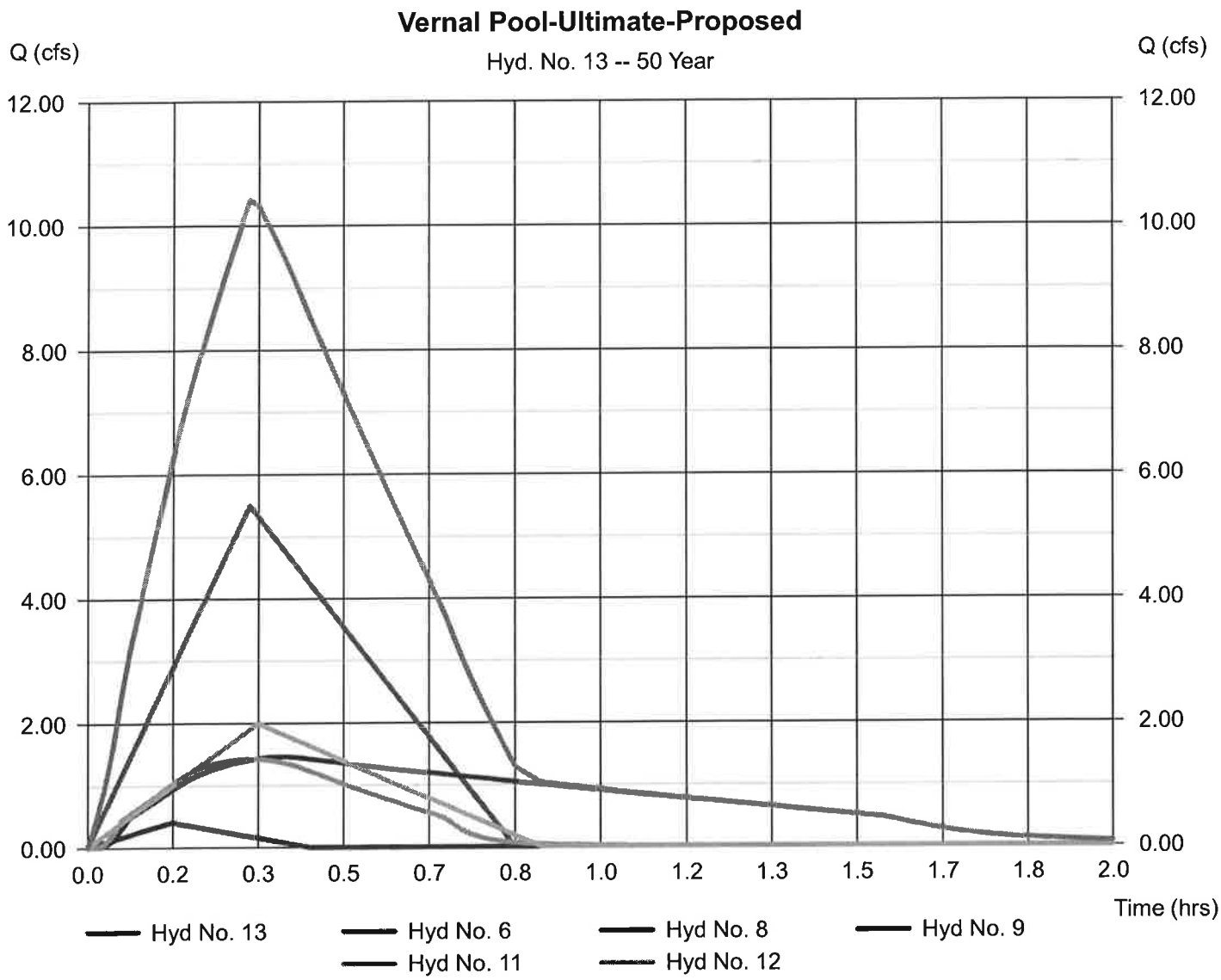
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 13

Vernal Pool-Ultimate-Proposed

Hydrograph type	= Combine	Peak discharge	= 10.40 cfs
Storm frequency	= 50 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 19,928 cuft
Inflow hyds.	= 6, 8, 9, 11, 12	Contrib. drain. area	= 6.480 ac



Hydrograph Report

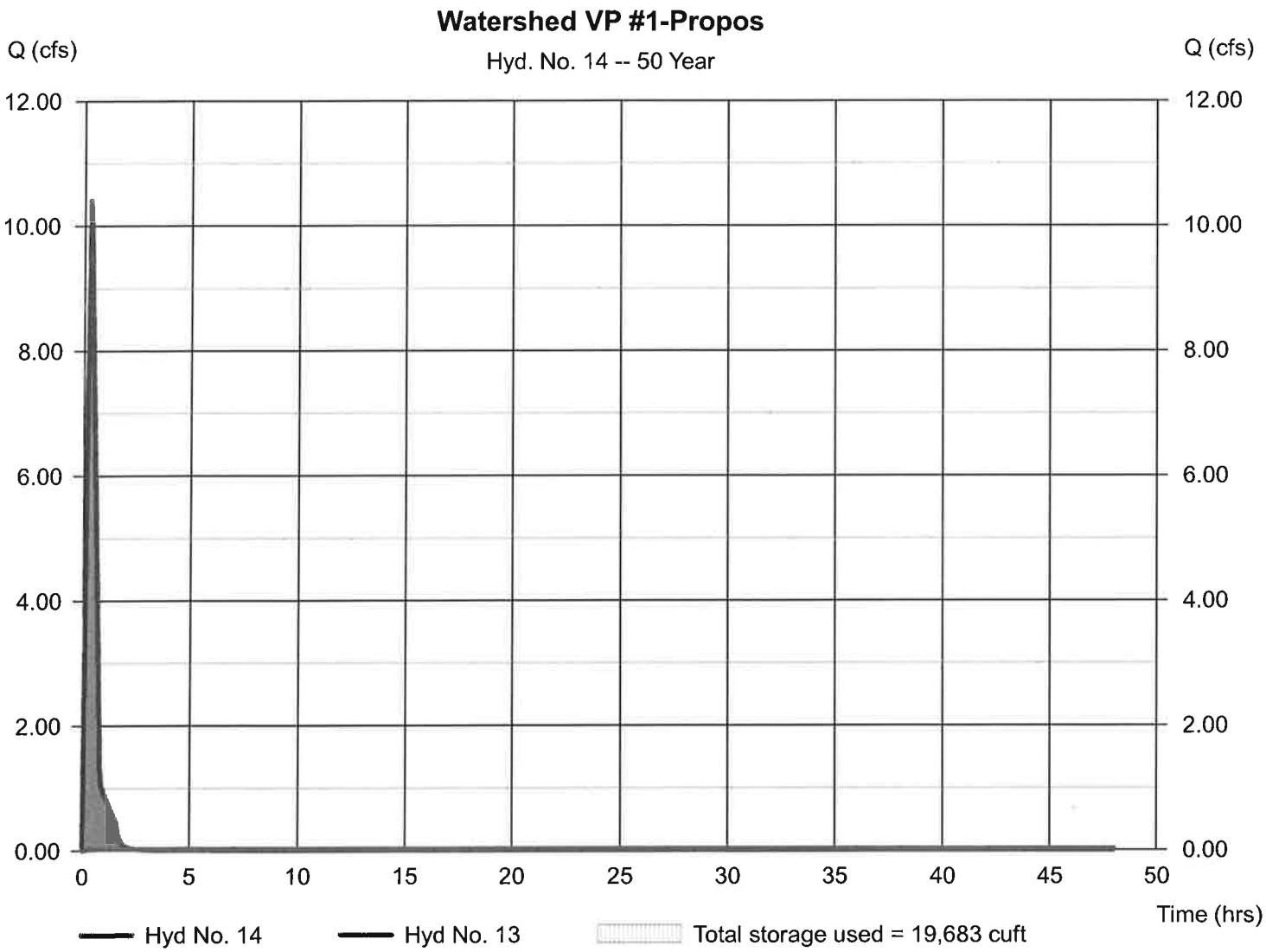
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 14

Watershed VP #1-Propos

Hydrograph type	= Reservoir	Peak discharge	= 0.023 cfs
Storm frequency	= 50 yrs	Time to peak	= 2.47 hrs
Time interval	= 1 min	Hyd. volume	= 3,730 cuft
Inflow hyd. No.	= 13 - Vernal Pool-Ultimate-Proposed	Max. Elevation	= 550.41 ft
Reservoir name	= Watershed VP#1-Proposed	Max. Storage	= 19,683 cuft

Storage Indication method used.



Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.1

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	Rational	13.60	1	20	21,783	----	------	------	Vernal Pool #1-Existing-Watershed
2	Reservoir	0.024	1	53	3,891	1	550.48	21,570	Vernal Pool #1-Ex.-K
6	Rational	6.019	1	19	9,161	----	------	------	Watershed II
7	Rational	7.922	1	10	6,345	----	------	------	Watershed IIA
8	Reservoir	1.555	1	23	6,173	7	563.46	4,717	Watershed IIA
9	Rational	0.443	1	10	355	----	------	------	Watershed IX
10	Rational	3.460	1	10	2,772	----	------	------	Watershed IXA
11	Reservoir	1.537	1	19	2,697	10	555.07	1,326	Watershed IXA
12	Rational	2.189	1	20	3,506	----	------	------	Watershed VP#1-Proposed
13	Combine	11.33	1	19	21,725	6, 8, 9, 11, 12	------	------	Vernal Pool-Ultimate-Proposed
14	Reservoir	0.024	1	151	3,895	13	550.47	21,466	Watershed VP #1-Propos

Hydrograph Report

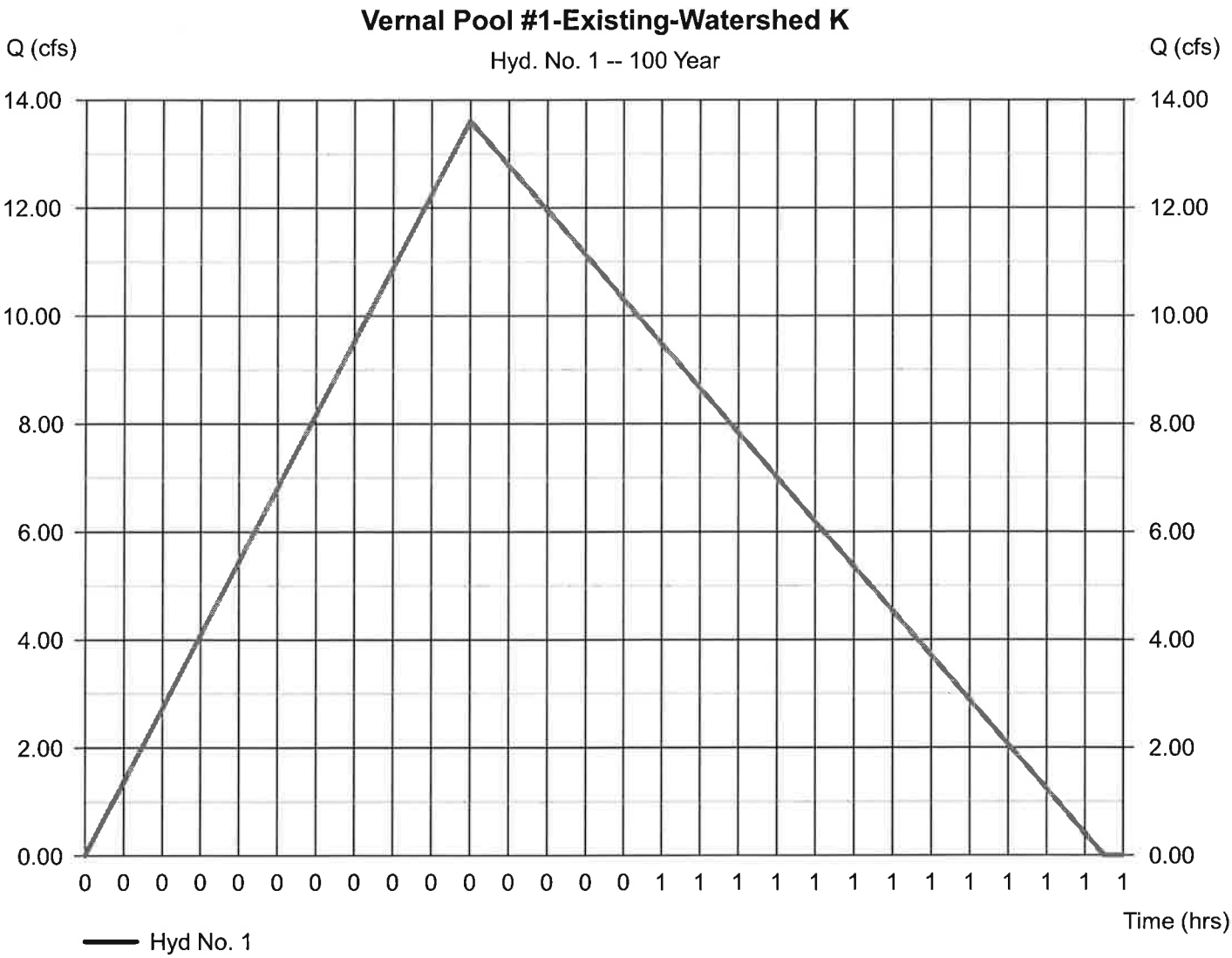
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 1

Vernal Pool #1-Existing-Watershed K

Hydrograph type	= Rational	Peak discharge	= 13.60 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 21,783 cuft
Drainage area	= 9.340 ac	Runoff coeff.	= 0.29*
Intensity	= 5.020 in/hr	Tc by TR55	= 20.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.000 x 0.90) + (1.400 x 0.30) + (6.940 x 0.20)] / 9.340



Hydrograph Report

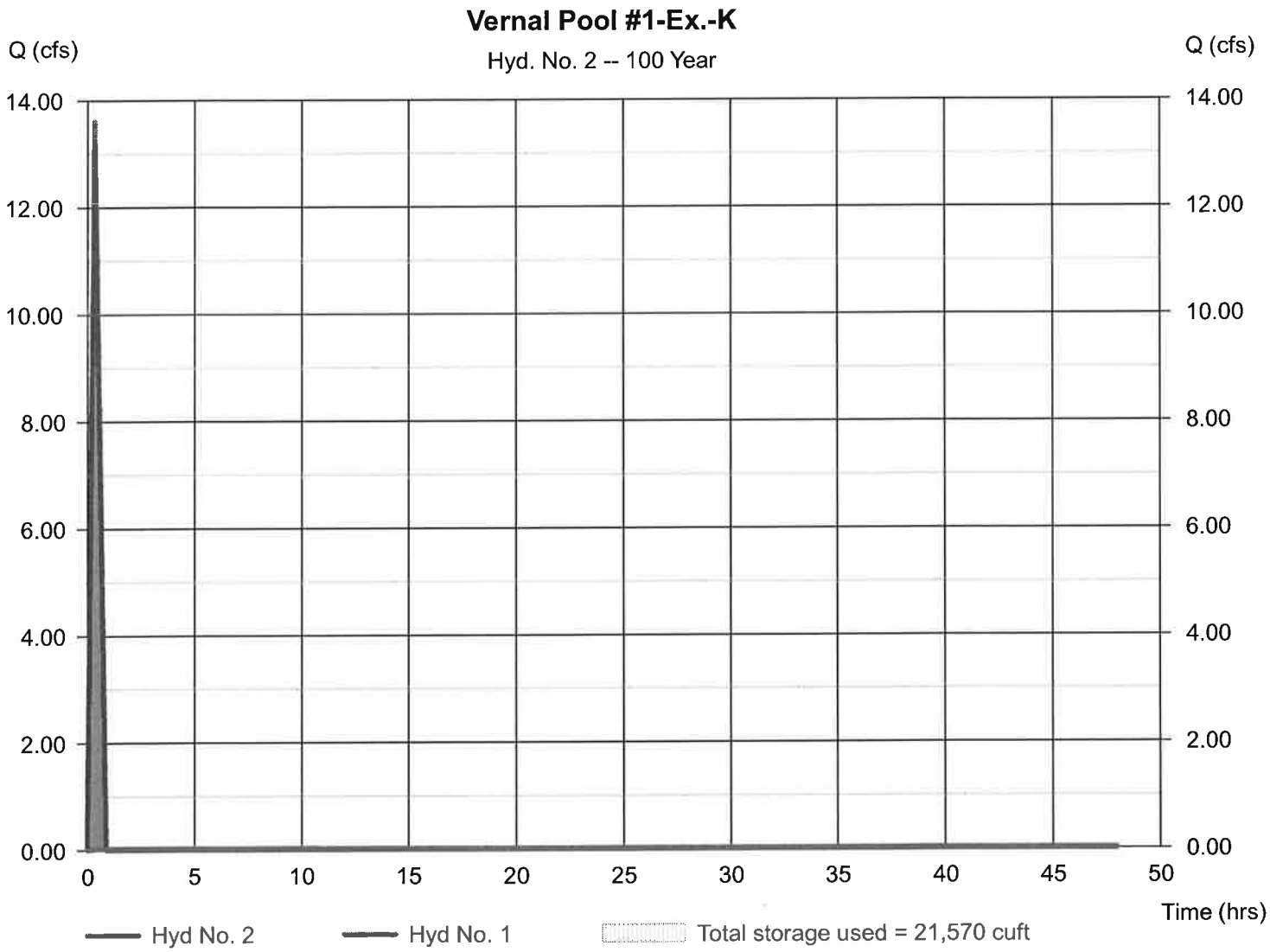
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 2

Vernal Pool #1-Ex.-K

Hydrograph type	= Reservoir	Peak discharge	= 0.024 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.88 hrs
Time interval	= 1 min	Hyd. volume	= 3,891 cuft
Inflow hyd. No.	= 1 - Vernal Pool #1-Existing-Watershed K	Max. Elevation	= 550.48 ft
Reservoir name	= Vernal Pool #1-Existing	Max. Storage	= 21,570 cuft

Storage Indication method used.



Hydrograph Report

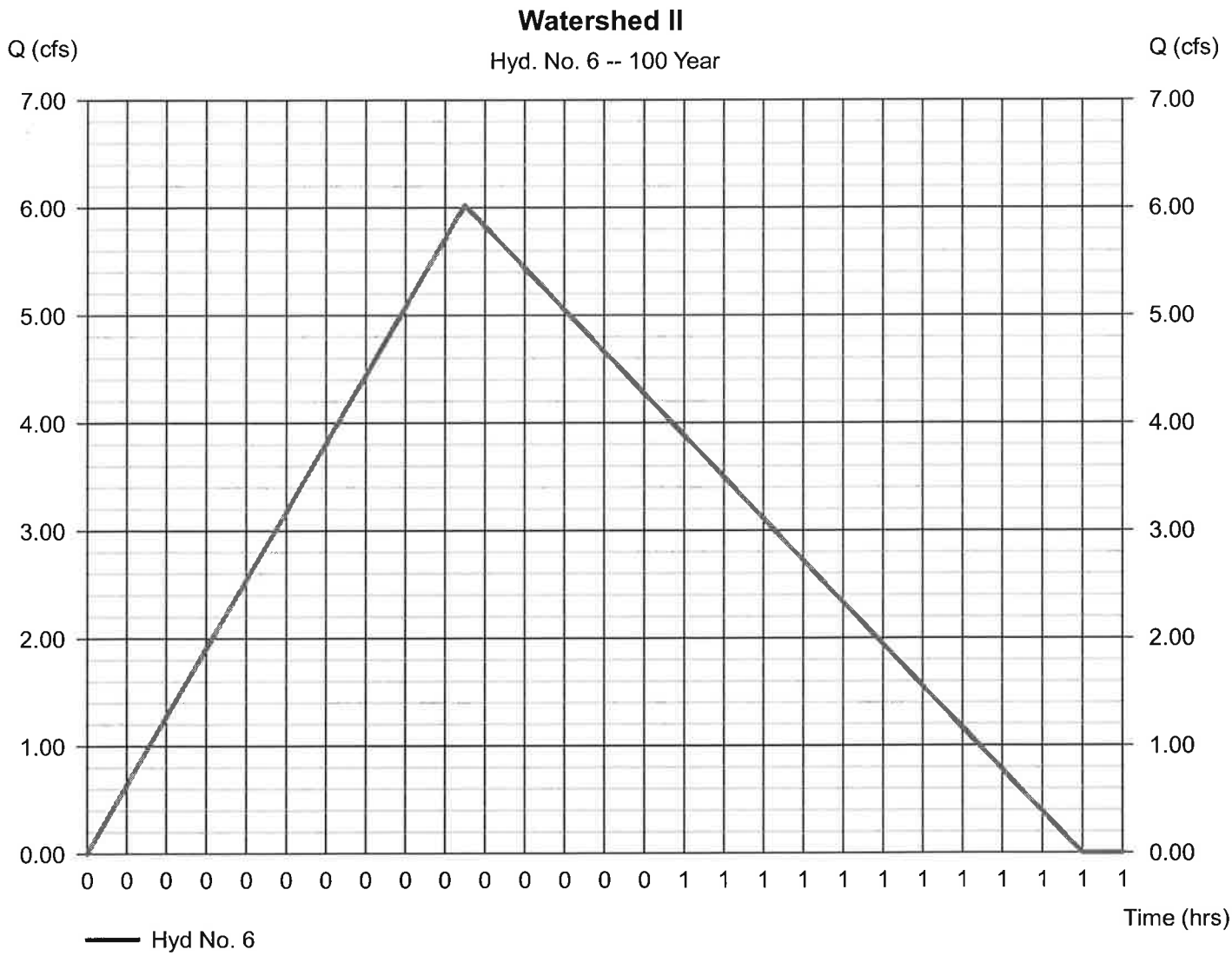
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 6

Watershed II

Hydrograph type	= Rational	Peak discharge	= 6.019 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 9,161 cuft
Drainage area	= 4.040 ac	Runoff coeff.	= 0.29*
Intensity	= 5.138 in/hr	Tc by User	= 19.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.230 x 0.90) + (1.940 x 0.30) + (1.870 x 0.20)] / 4.040



Hydrograph Report

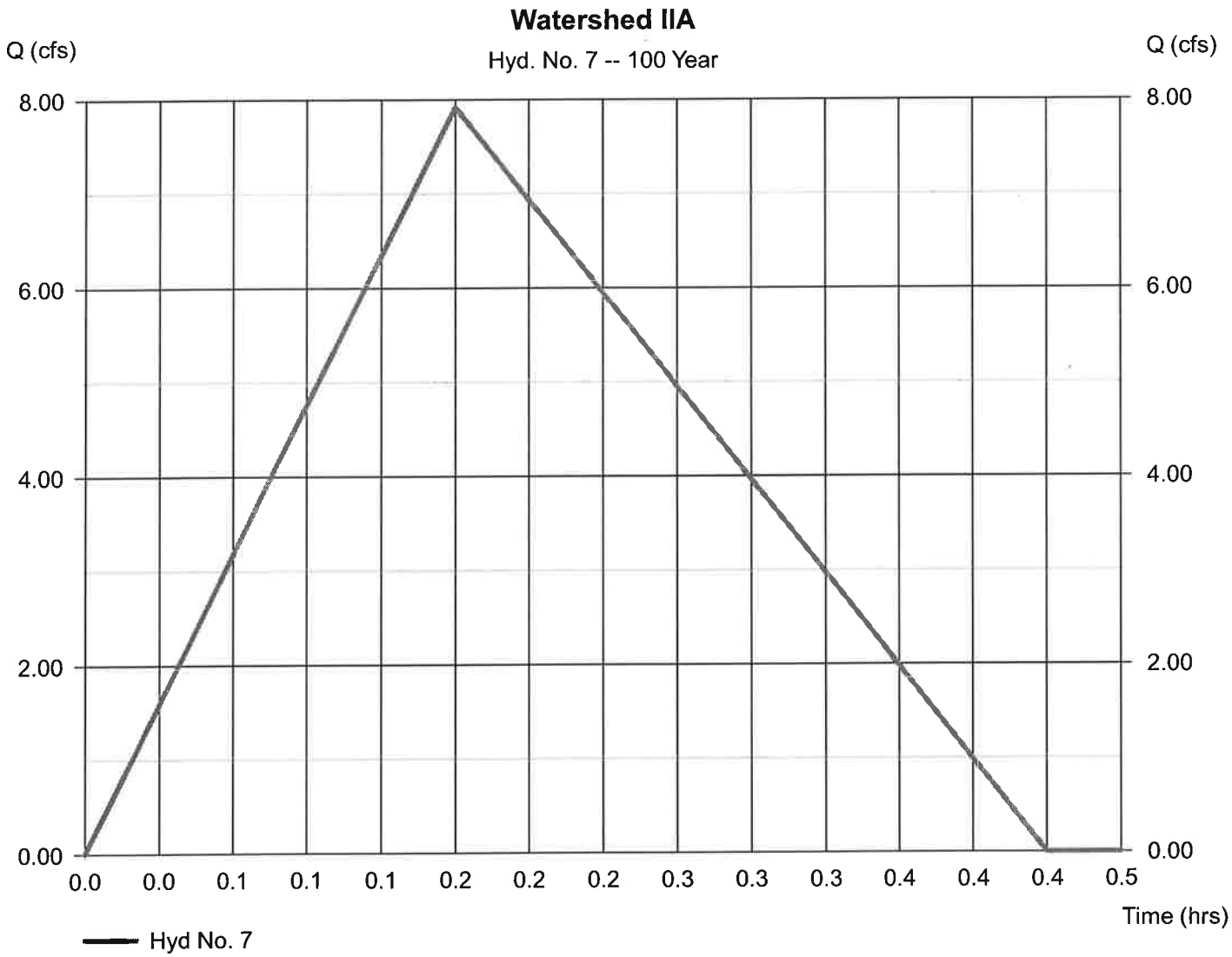
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 7

Watershed IIA

Hydrograph type	= Rational	Peak discharge	= 7.922 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 6,345 cuft
Drainage area	= 1.530 ac	Runoff coeff.	= 0.79*
Intensity	= 6.554 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(1.250 x 0.90) + (0.280 x 0.30)] / 1.530



Hydrograph Report

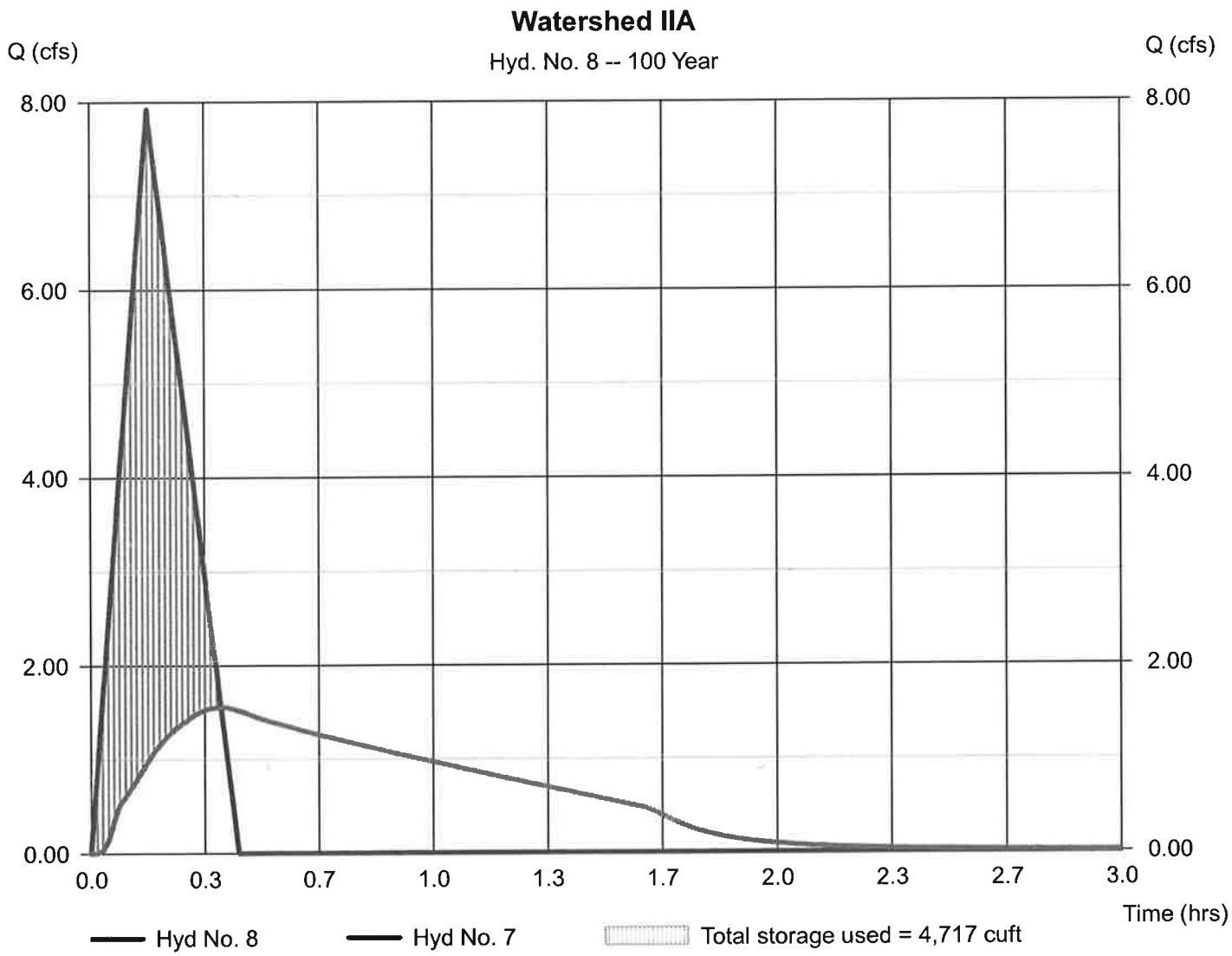
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 8

Watershed IIA

Hydrograph type	= Reservoir	Peak discharge	= 1.555 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.38 hrs
Time interval	= 1 min	Hyd. volume	= 6,173 cuft
Inflow hyd. No.	= 7 - Watershed IIA	Max. Elevation	= 563.46 ft
Reservoir name	= Watershed IIA	Max. Storage	= 4,717 cuft

Storage Indication method used.



Hydrograph Report

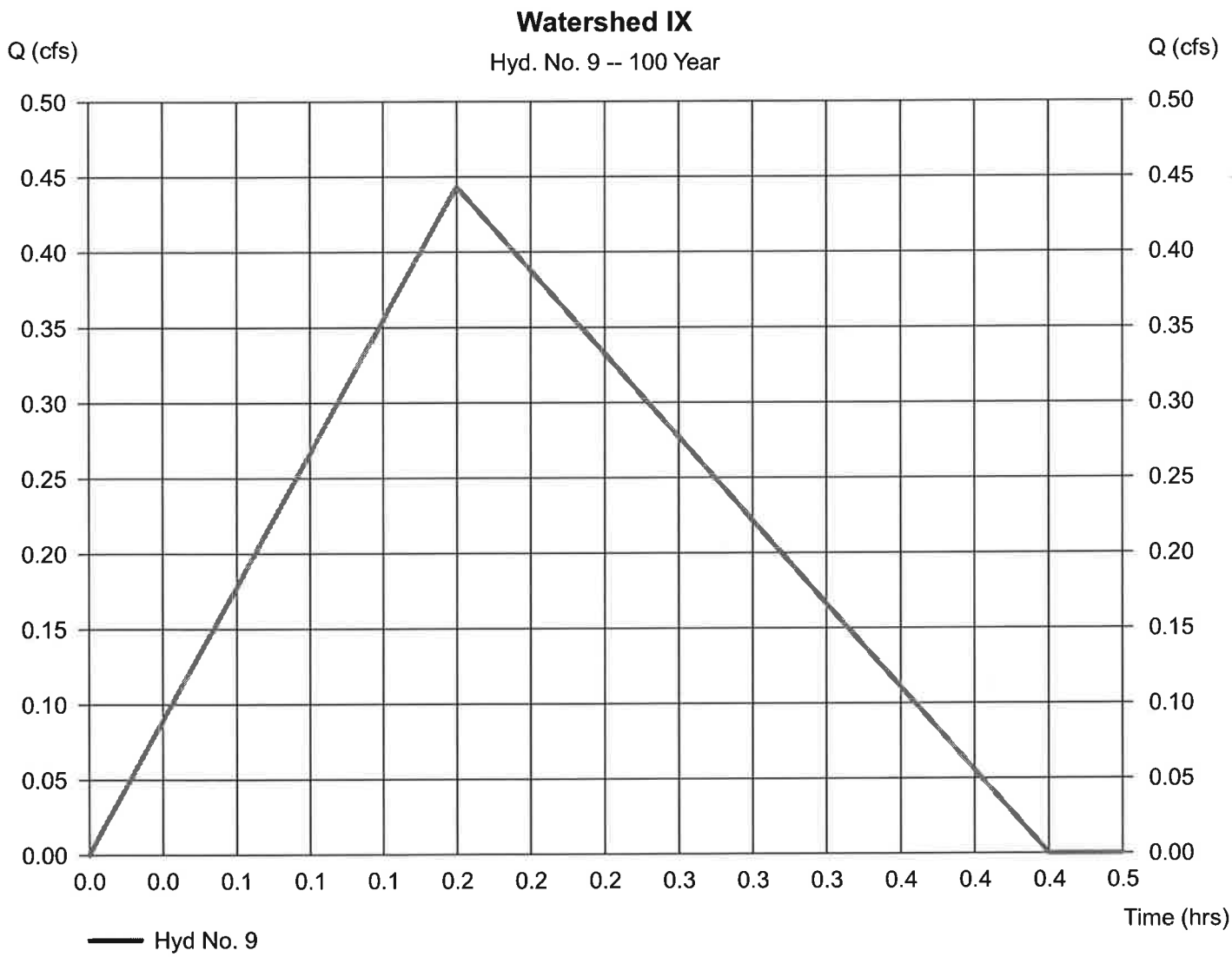
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 9

Watershed IX

Hydrograph type	= Rational	Peak discharge	= 0.443 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 355 cuft
Drainage area	= 0.260 ac	Runoff coeff.	= 0.26*
Intensity	= 6.554 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.010 x 0.90) + (0.080 x 0.30) + (0.170 x 0.20)] / 0.260



Hydrograph Report

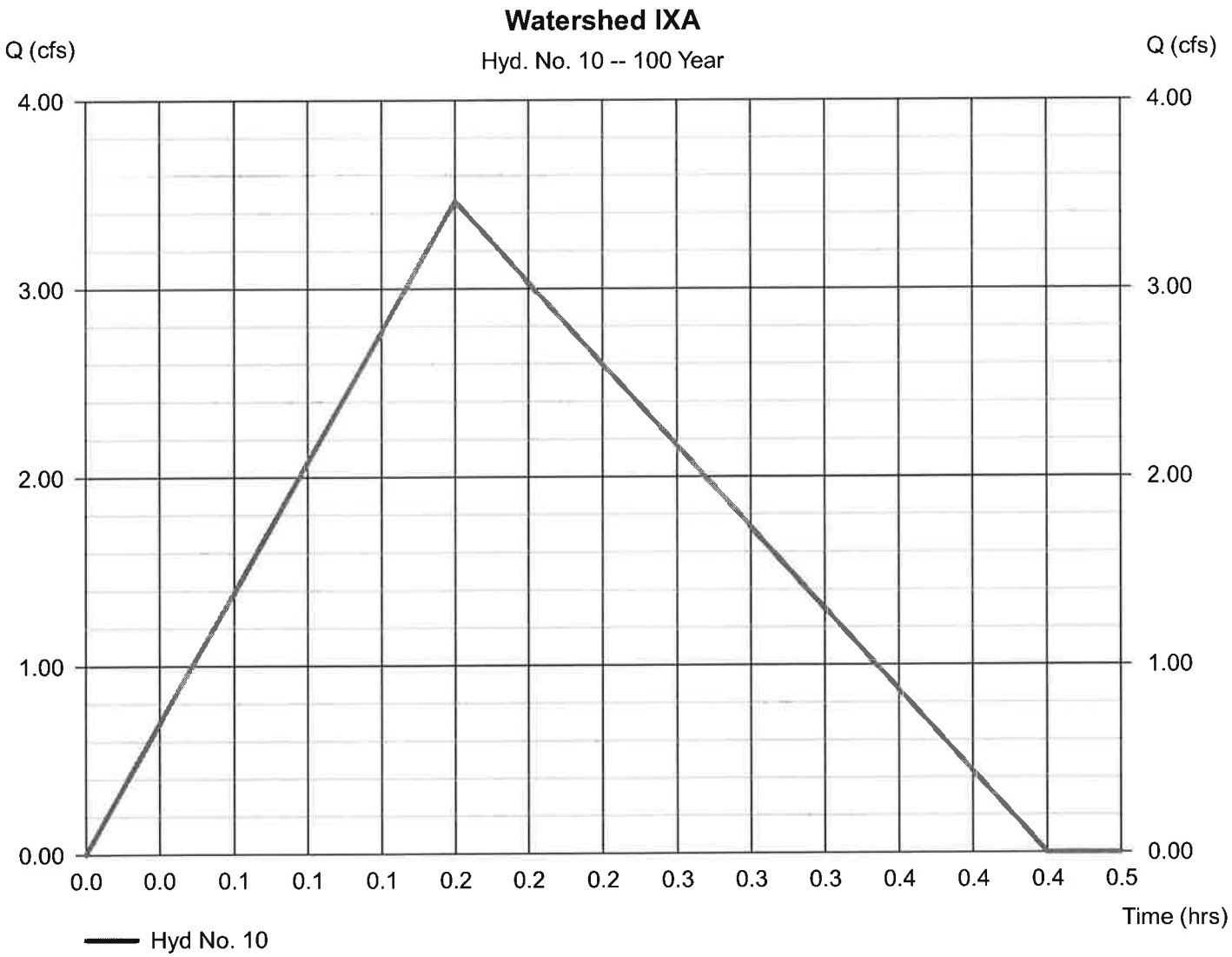
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 10

Watershed IXA

Hydrograph type	= Rational	Peak discharge	= 3.460 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.17 hrs
Time interval	= 1 min	Hyd. volume	= 2,772 cuft
Drainage area	= 0.880 ac	Runoff coeff.	= 0.6*
Intensity	= 6.554 in/hr	Tc by User	= 10.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(0.460 x 0.90) + (0.260 x 0.33) + (0.160 x 0.20)] / 0.880



Hydrograph Report

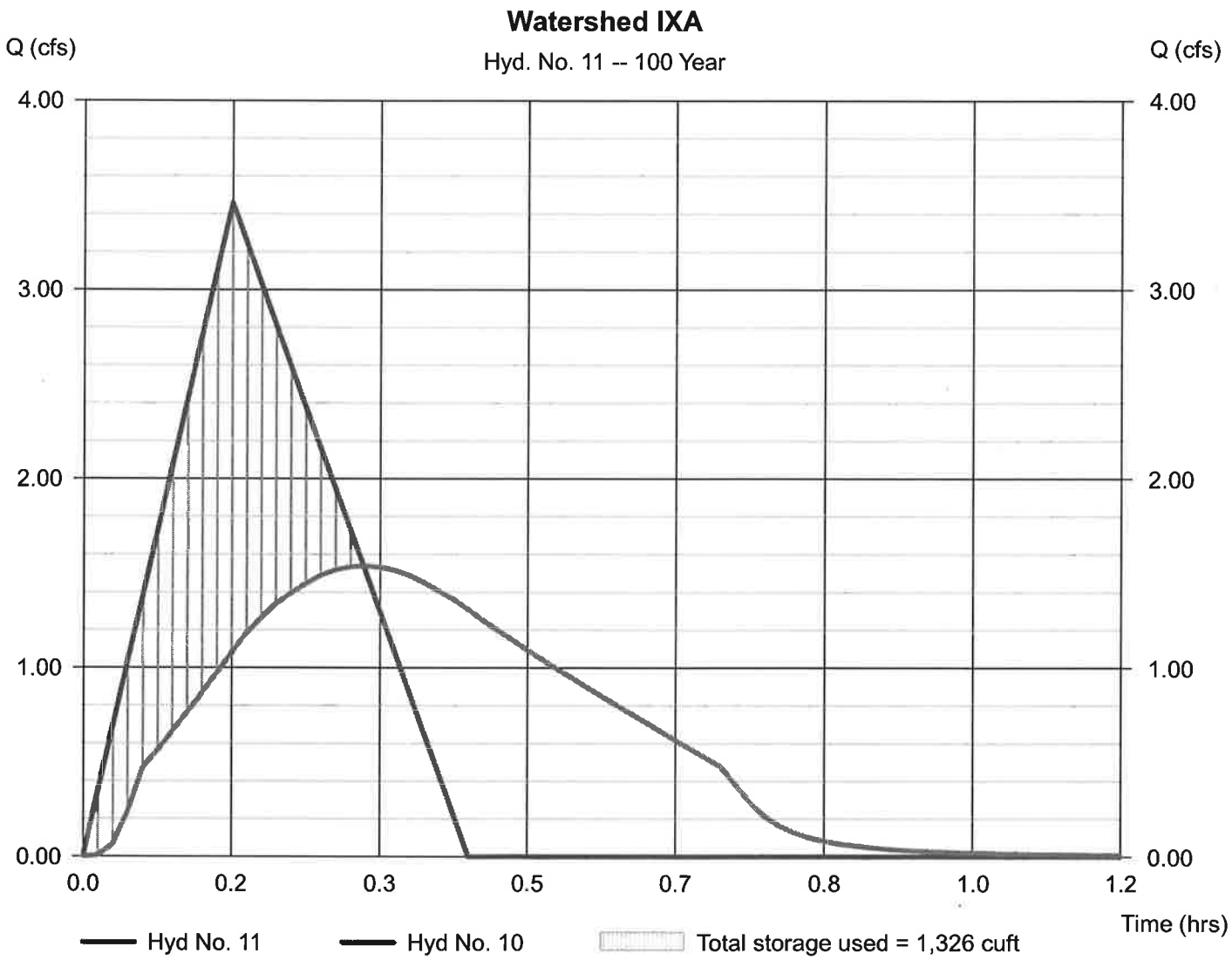
Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 11

Watershed IXA

Hydrograph type	= Reservoir	Peak discharge	= 1.537 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 2,697 cuft
Inflow hyd. No.	= 10 - Watershed IXA	Max. Elevation	= 555.07 ft
Reservoir name	= Watershed IXA	Max. Storage	= 1,326 cuft

Storage Indication method used.



Hydrograph Report

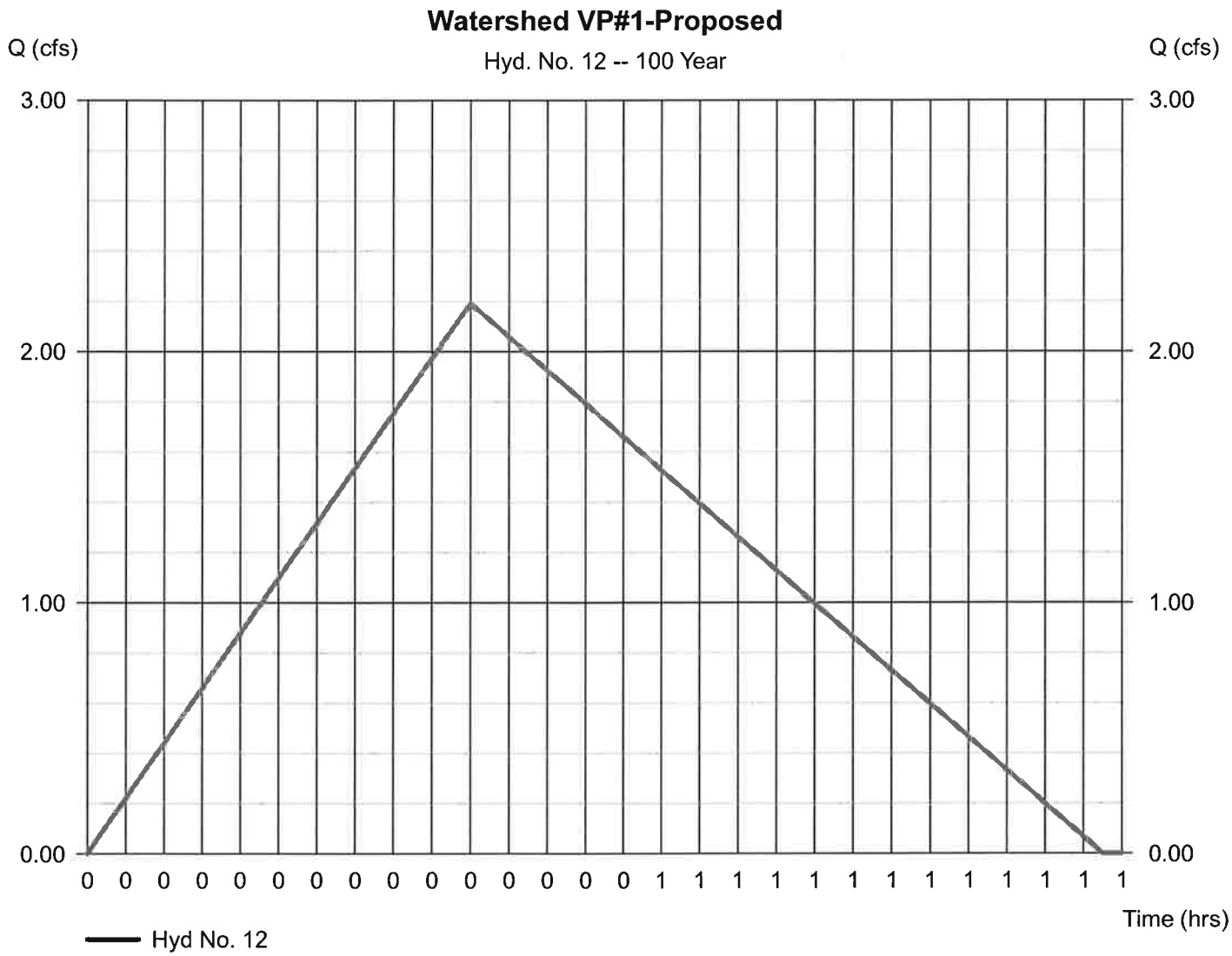
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 12

Watershed VP#1-Proposed

Hydrograph type	= Rational	Peak discharge	= 2.189 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.33 hrs
Time interval	= 1 min	Hyd. volume	= 3,506 cuft
Drainage area	= 2.180 ac	Runoff coeff.	= 0.2*
Intensity	= 5.020 in/hr	Tc by User	= 20.00 min
IDF Curve	= Connecticut.IDF	Asc/Rec limb fact	= 1/1.67

* Composite (Area/C) = [(2.180 x 0.20)] / 2.180



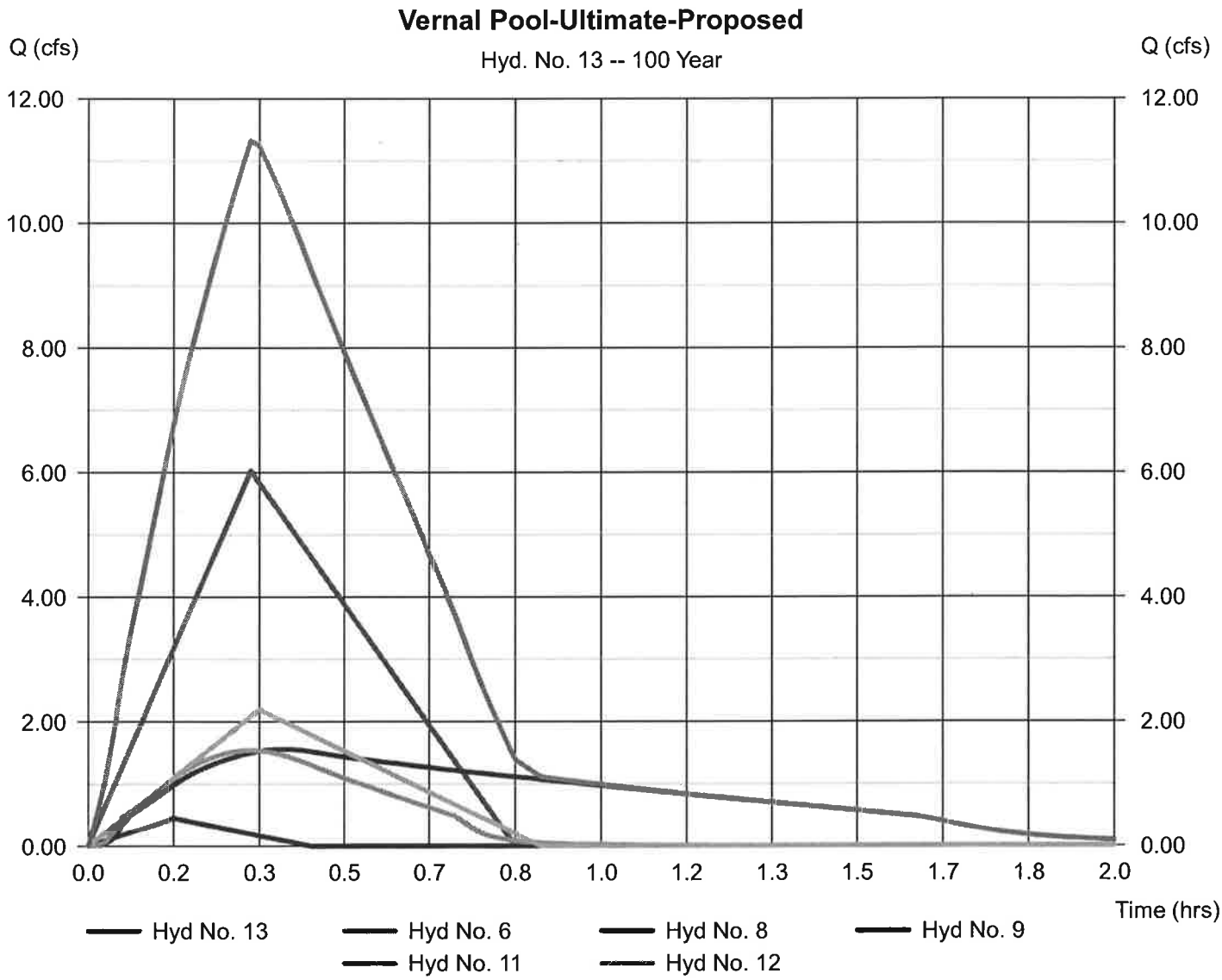
Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Wednesday, Mar 30, 2016

Hyd. No. 13

Vernal Pool-Ultimate-Proposed

Hydrograph type	= Combine	Peak discharge	= 11.33 cfs
Storm frequency	= 100 yrs	Time to peak	= 0.32 hrs
Time interval	= 1 min	Hyd. volume	= 21,725 cuft
Inflow hyds.	= 6, 8, 9, 11, 12	Contrib. drain. area	= 6.480 ac



Hydrograph Report

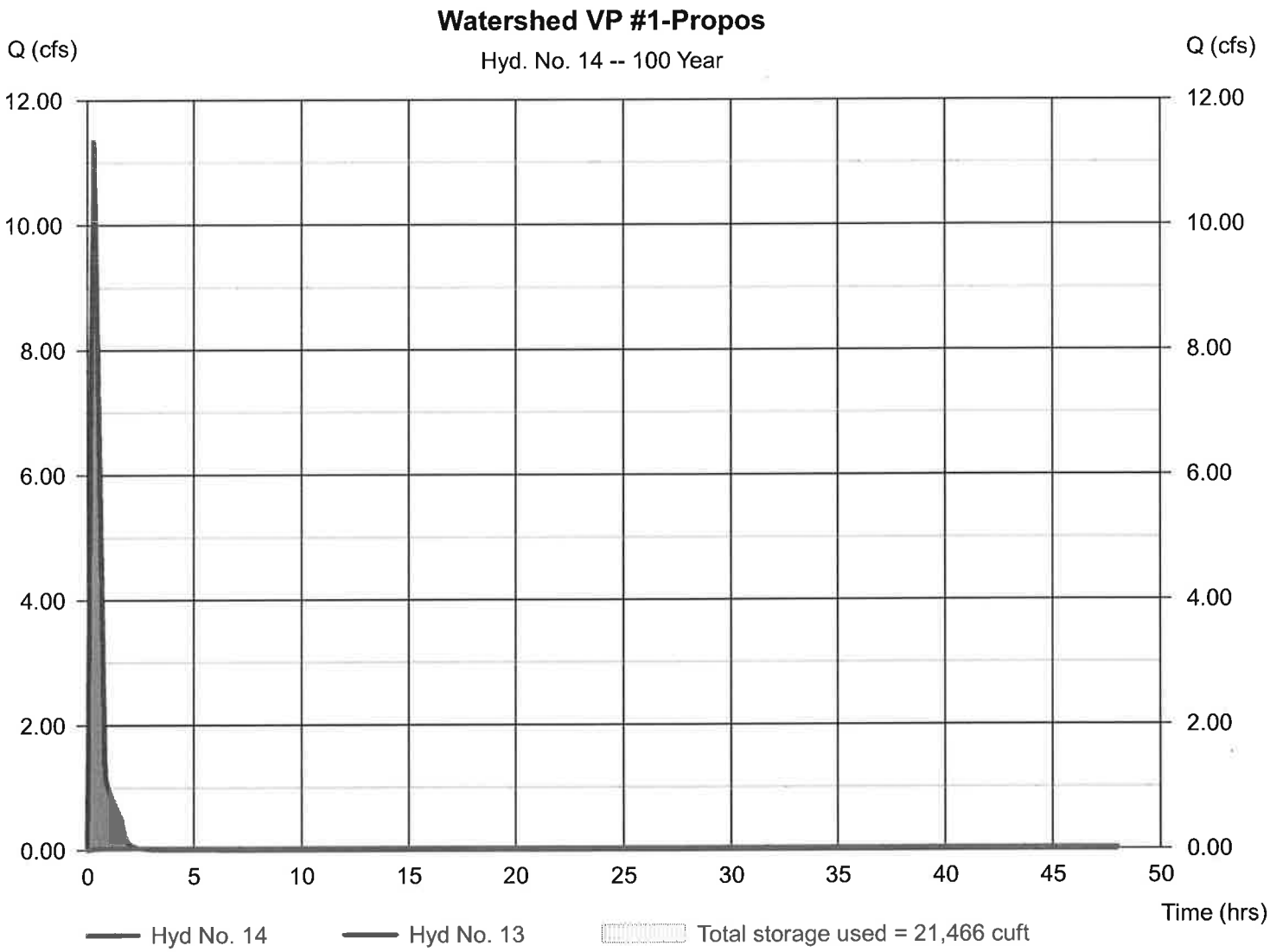
Hydraflow Hydrographs by Intelisolve v9.1 — Wednesday, Mar 30, 2016

Hyd. No. 14

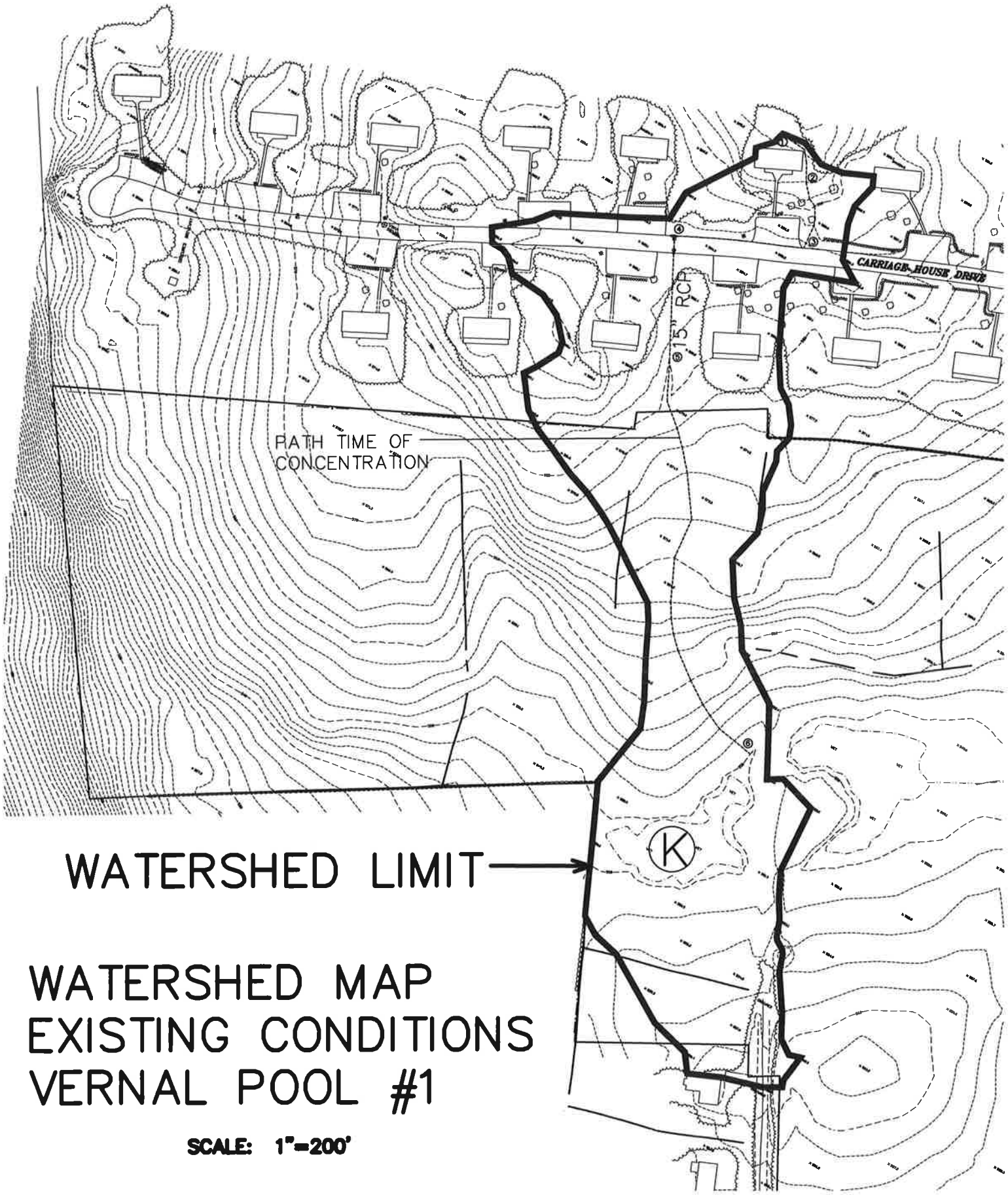
Watershed VP #1-Propos

Hydrograph type	= Reservoir	Peak discharge	= 0.024 cfs
Storm frequency	= 100 yrs	Time to peak	= 2.52 hrs
Time interval	= 1 min	Hyd. volume	= 3,895 cuft
Inflow hyd. No.	= 13 - Vernal Pool-Ultimate-Proposed	Max. Elevation	= 550.47 ft
Reservoir name	= Watershed VP#1-Proposed	Max. Storage	= 21,466 cuft

Storage Indication method used.

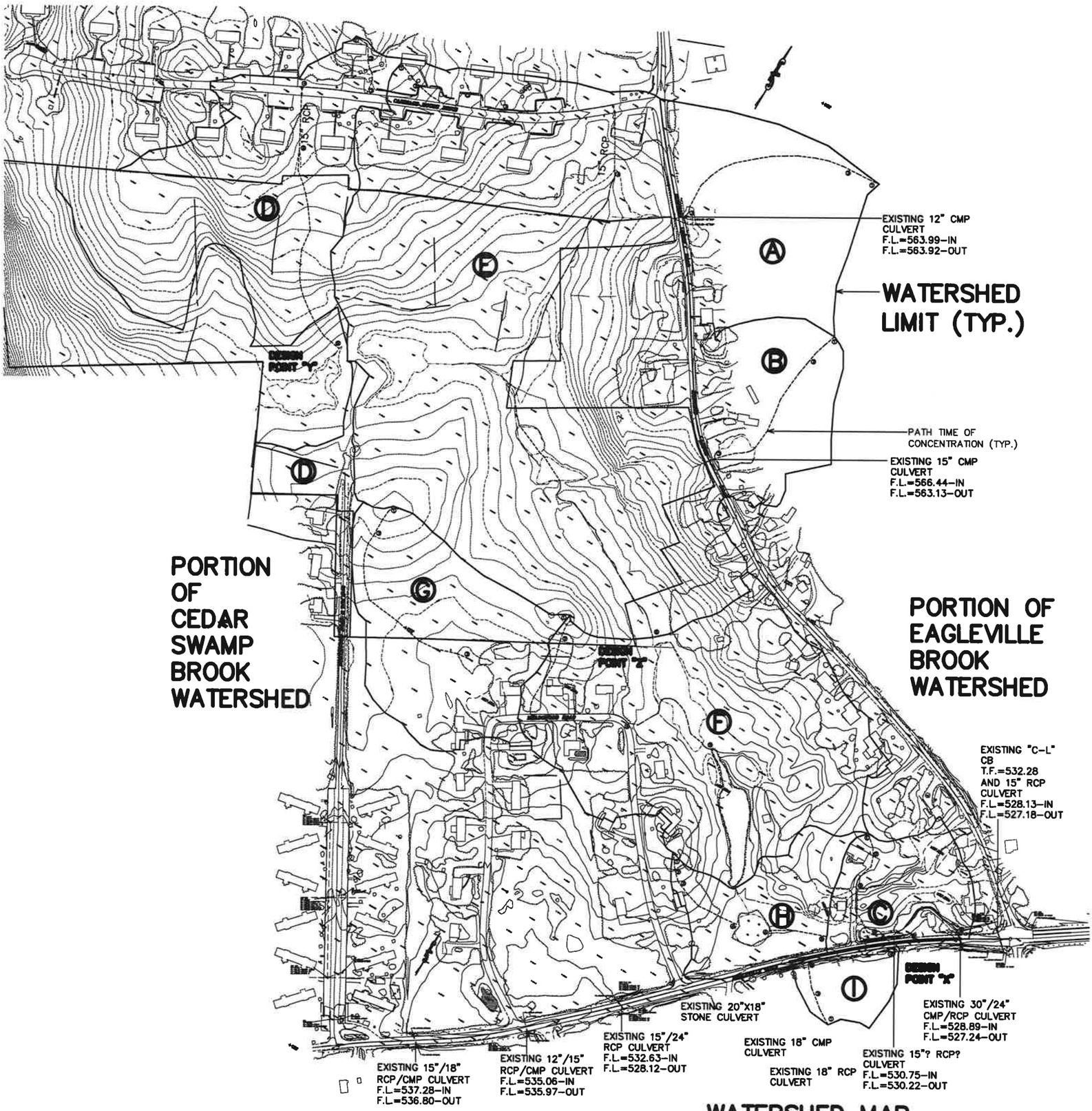


WATERSHED MAPS



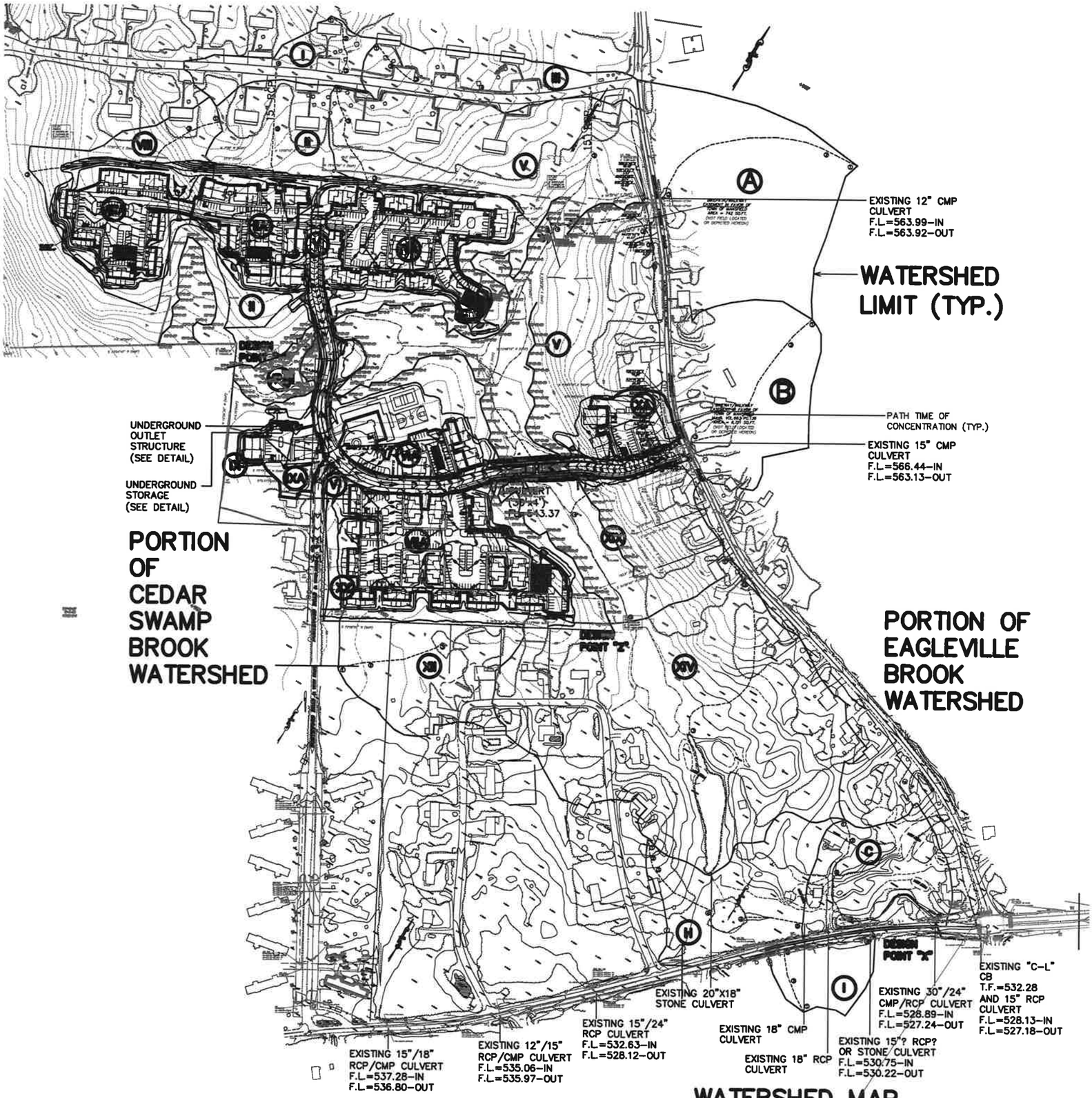
WATERSHED MAP
EXISTING CONDITIONS
VERNAL POOL #1

SCALE: 1"=200'



WATERSHED MAP
EXISTING CONDITIONS/WS-1

SCALE: 1"=150'
Revised: 3/18/16
Revised: 3/24/16



WATERSHED MAP
PROPOSED CONDITIONS/WS-2

SCALE: 1"=150'
3/18/2016
Revised: 3/24/2016

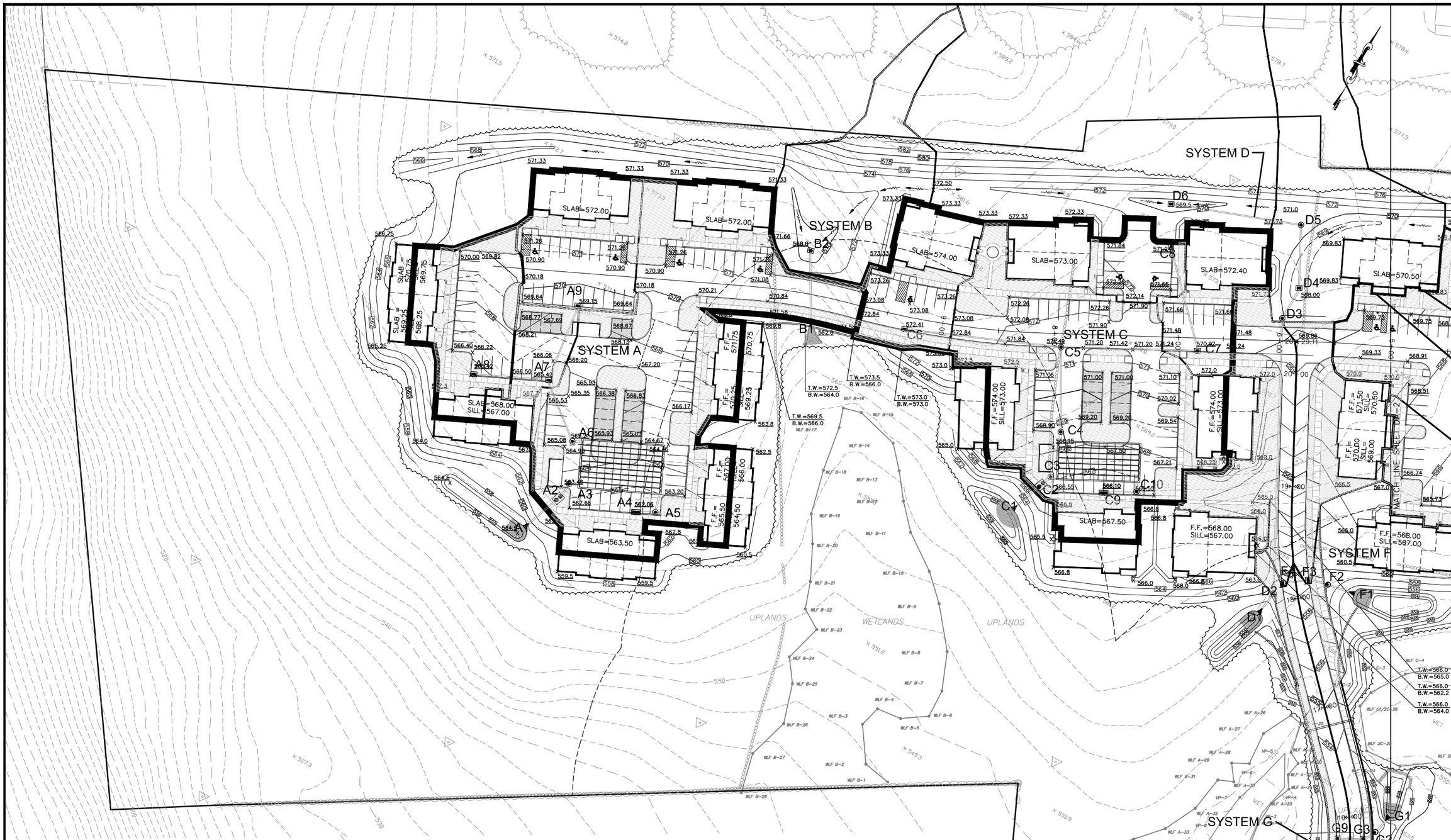
APPENDIX B

ON-SITE STORM DRAINAGE SYSTEM DESIGN

STORRS LODGES
MANSFIELD, CT

March 18, 2016
Revised March 24, 2016

FAHA Project #04161



LEGEND

- 100.00 = PROPOSED SPOT GRADE
- 100 = PROPOSED ELEVATION CONTOUR
- = PROPOSED CATCH BASIN
- = PROPOSED MANHOLE
- = PROPOSED HYDRODYNAMIC SEPARATORS
- = PROPOSED STORM DRAIN CULVERT
- F.D. = PROPOSED FOOTING DRAIN
- 100 = EXISTING ELEVATION CONTOUR
- 100.0 + = EXISTING SPOT GRADE
- A8 = DRAINAGE STRUCTURE ID
- = DRAINAGE SYSTEM WATERSHED LIMIT
- = BASIN/INLET WATERSHED LIMIT
- = LANDSCAPED AREAS

F. A. Hesketh & Associates, Inc.
6 Creamery Brook, East Granby, CT 06026
Phone (860) 653-8000
Fax (860) 844-8600
e-mail mail@faheck.com
Civil & Traffic Engineers · Surveyors · Planners · Landscape Architects

No.	Date	Revisions: Description

DRAINAGE AREA MAP
PREPARED FOR
STORRS LODGES, LLC
HUNTING LODGE ROAD
MANSFIELD, CONNECTICUT

Date: 03-24-2016	Drawn by: RJK	Job no: 04161	
Scale: 1" = 40'	Checked by: DSZ	Sheet no: 1 OF 4	

DA-1

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LEGEND

- 100.00 = PROPOSED SPOT GRADE
- 100 = PROPOSED ELEVATION CONTOUR
- = PROPOSED CATCH BASIN
- = PROPOSED MANHOLE
- = PROPOSED HYDRODYNAMIC SEPARATORS
- = PROPOSED STORM DRAIN CULVERT
- F.D. = PROPOSED FOOTING DRAIN
- 100 = EXISTING ELEVATION CONTOUR
- 100.0 + = EXISTING SPOT GRADE
- A8 = DRAINAGE STRUCTURE ID
- = DRAINAGE SYSTEM WATERSHED LIMIT
- = BASIN/INLET WATERSHED LIMIT
- = LANDSCAPED AREAS

F. A. Hesketh & Associates, Inc.
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Civil & Traffic Engineers · Surveyors · Planners · Landscape Architects
Phone (860) 653-8000
Fax (860) 844-8000
e-mail mail@fahesketh.com

No.	Date	Description

Revisions:

DRAINAGE AREA MAP
PREPARED FOR
STORRS LODGES, LLC
HUNTING LODGE ROAD
MANSFIELD, CONNECTICUT

Date: 03-24-2016 | Drawn by: RJK | Job no: 04161
Scale: 1" = 40' | Checked by: DSZ | Sheet no: 2 OF 4

DA-2

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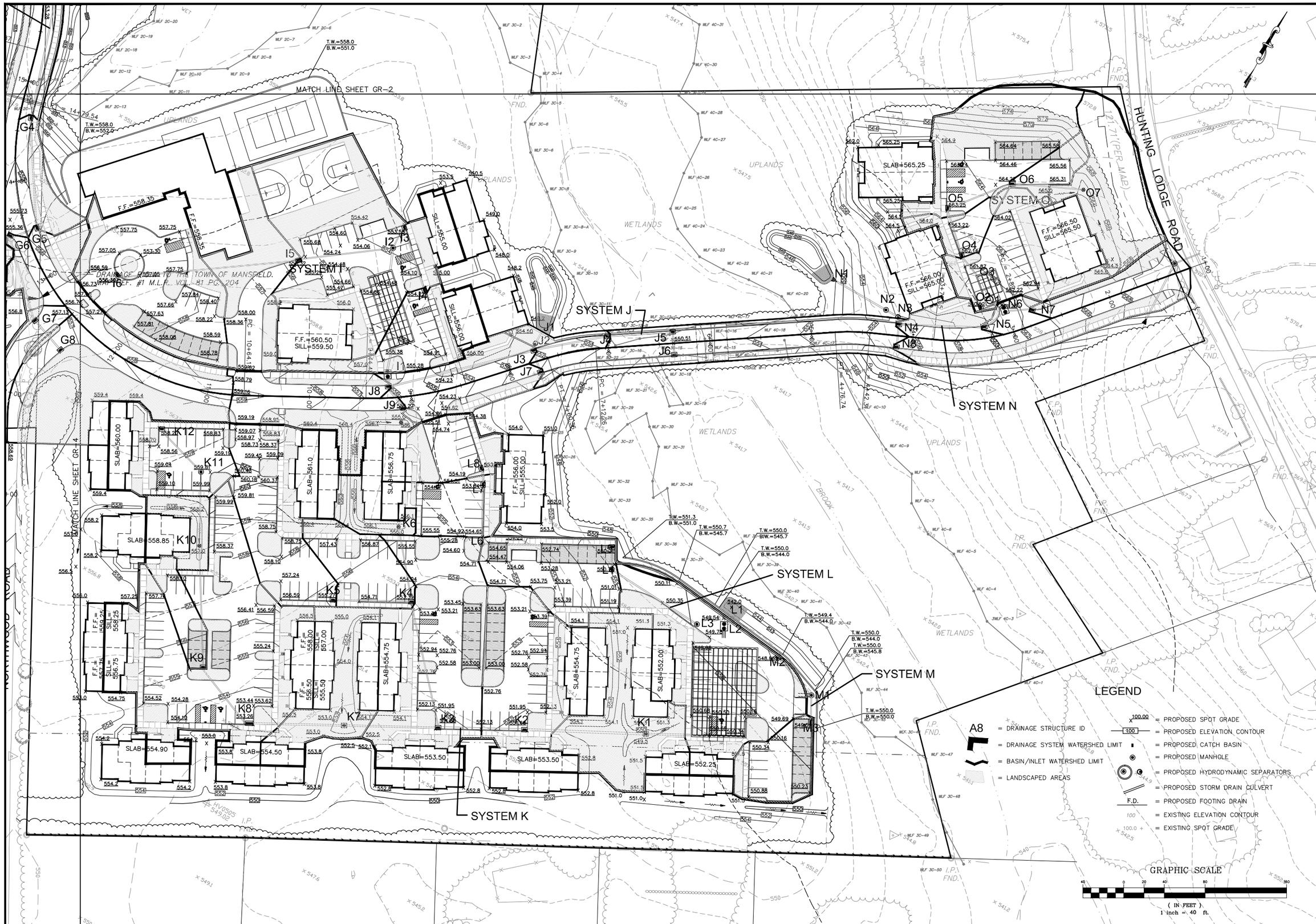

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6 Creamery Brook, East Granby, CT 06026
Civil & Traffic Engineers · Surveyors · Planners · Landscape Architects
Phone (860) 653-8000
Fax (860) 844-8600
e-mail mail@fahesketh.com

No.	Date	Description

Revisions:

DRAINAGE AREA MAP
PREPARED FOR
STORRS LODGES, LLC
HUNTING LODGE ROAD
MANSFIELD, CONNECTICUT

Date: 03-24-2016	Drawn by: RJK	Job no: 04161
Scale: 1" = 40'	Checked by: DSZ	Sheet no: 3 OF 4

DA-3

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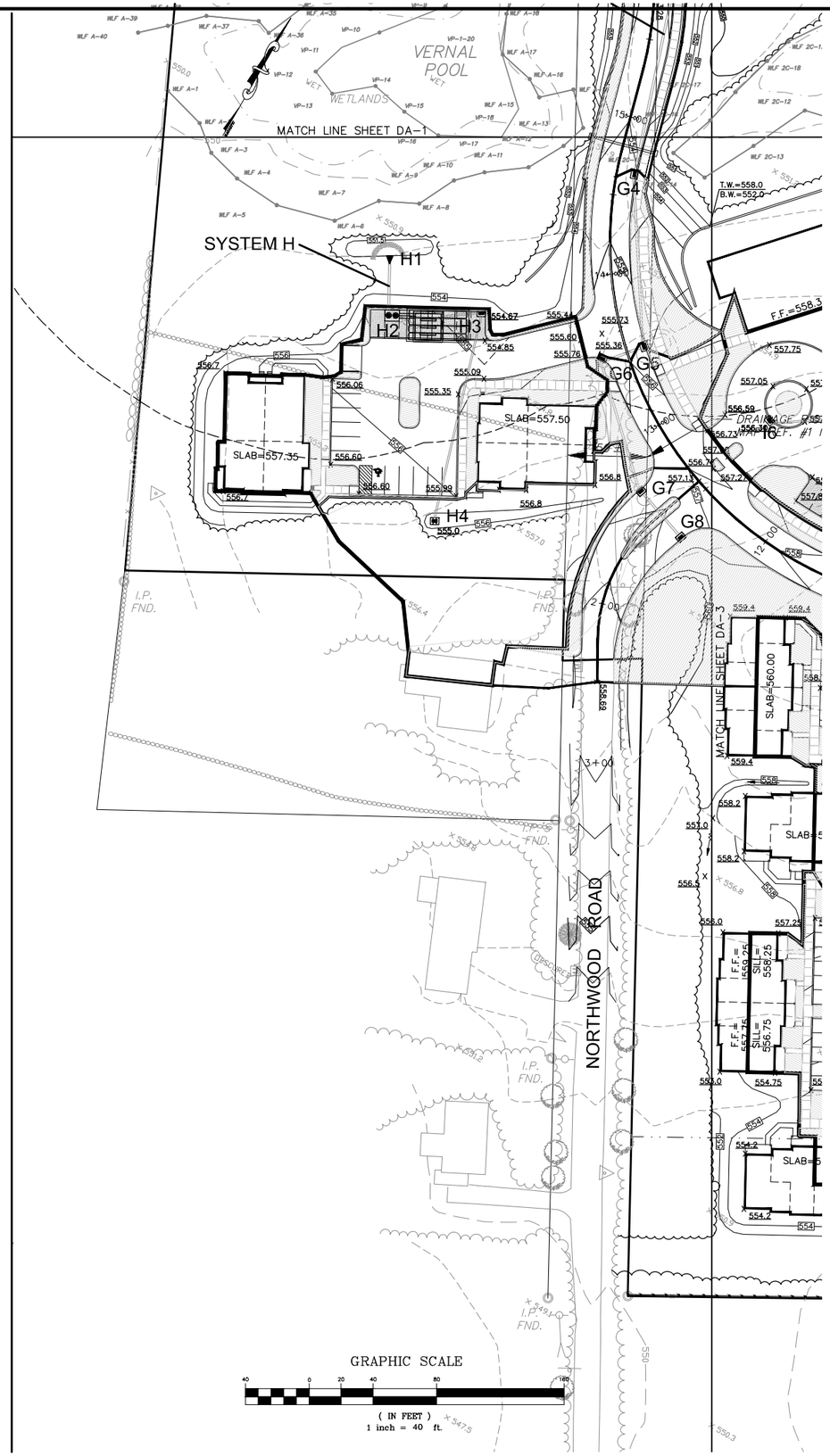
LEGEND

- 100.00 = PROPOSED SPOT GRADE
- 100 = PROPOSED ELEVATION CONTOUR
- = PROPOSED CATCH BASIN
- = PROPOSED MANHOLE
- = PROPOSED HYDRODYNAMIC SEPARATORS
- = PROPOSED STORM DRAIN CULVERT
- F.D. = PROPOSED FOOTING DRAIN
- 100 = EXISTING ELEVATION CONTOUR
- 100.0 + = EXISTING SPOT GRADE
- A8 = DRAINAGE STRUCTURE ID
- = DRAINAGE SYSTEM WATERSHED LIMIT
- = BASIN/INLET WATERSHED LIMIT
- = LANDSCAPED AREAS



F. A. Hesketh & Associates, Inc.
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Civil & Traffic Engineers · Surveyors · Planners · Landscape Architects
Phone (860) 653-8000
Fax (860) 844-8600
e-mail mail@faheck.com

Revisions:

No.	Date	Description

DRAINAGE AREA MAP
PREPARED FOR
STORRS LODGES, CT
HUNTING LODGE ROAD
MANSFIELD, CONNECTICUT

Date: 03-24-2016 | Drawn by: RJK | Job no: 04161
Scale: 1" = 40' | Checked by: DSZ | Sheet no: 4 OF 4

DA-4

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Storrs Lodges

DRAINAGE AREAS

Storm Drain Systems

March 24, 2016

Area #	Paved/Roof Area (S.F.)	Landscape Area (S.F.)	Wooded Area (S.F.)	Total Area (S.F.)	Paved/Roof Area (Acre)	Landscape Area (Acre)	Wooded Area (S.F.)	Total Area (Acre)
A4	39130	11364	0	50494	0.898	0.261	0.000	1.159
A7	4339	955	0	5294	0.100	0.022	0.000	0.122
A8	9742	2914	0	12656	0.224	0.067	0.000	0.291
A9	10615	1766	0	12381	0.244	0.041	0.000	0.284
B2	0	14164	4709	18873	0.000	0.325	0.108	0.433
C6	8501	1248	0	9749	0.195	0.029	0.000	0.224
C7	7736	654	0	8390	0.178	0.015	0.000	0.193
C8	8085	725	0	8810	0.186	0.017	0.000	0.202
C9	30406	9595	0	40001	0.698	0.220	0.000	0.918
D4	1230	25696	8837	35763	0.028	0.590	0.203	0.821
D6	4810	40447	48600	93857	0.110	0.929	1.116	2.155
E4	16534	5971	0	22505	0.380	0.137	0.000	0.517
E5	7456	1460	0	8916	0.171	0.034	0.000	0.205
E6	8515	2857	0	11372	0.195	0.066	0.000	0.261
E7	12522	3786	0	16308	0.287	0.087	0.000	0.374
E9	5475	3127	0	8602	0.126	0.072	0.000	0.197
E10	15950	5783	0	21733	0.366	0.133	0.000	0.499
E11	7233	1883	0	9116	0.166	0.043	0.000	0.209
E12	3420	1352	0	4772	0.079	0.031	0.000	0.110
F3	8386	3376	0	11762	0.193	0.078	0.000	0.270
F4	4769	7266	0	12035	0.109	0.167	0.000	0.276
G3	7880	673	0	8553	0.181	0.015	0.000	0.196
G4	3787	1669	0	5456	0.087	0.038	0.000	0.125
G5	5653	1618	0	7271	0.130	0.037	0.000	0.167
G6	1252	999	0	2251	0.029	0.023	0.000	0.052

Storrs Lodges

DRAINAGE AREAS

Storm Drain Systems

March 24, 2016

Area #	Paved/Roof Area (S.F.)	Landscape Area (S.F.)	Wooded Area (S.F.)	Total Area (S.F.)	Paved/Roof Area (Acre)	Landscape Area (Acre)	Wooded Area (S.F.)	Total Area (Acre)
G7	3553	868	0	4421	0.082	0.020	0.000	0.101
G8	5272	9063	0	14335	0.121	0.208	0.000	0.329
G9	6407	3292	0	9699	0.147	0.076	0.000	0.223
H3	19734	3149	0	22883	0.453	0.072	0.000	0.525
H4	0	8220	6825	15045	0.000	0.189	0.157	0.345
I3	19698	8211	0	27909	0.452	0.188	0.000	0.641
I4	5801	1976	0	7777	0.133	0.045	0.000	0.179
I5	3643	5399	0	9042	0.084	0.124	0.000	0.208
I6	12991	3720	0	16711	0.298	0.085	0.000	0.384
J3	2813	1328	0	4141	0.065	0.030	0.000	0.095
J4	1257	522	0	1779	0.029	0.012	0.000	0.041
J5	4895	0	0	4895	0.112	0.000	0.000	0.112
J6	7636	0	0	7636	0.175	0.000	0.000	0.175
J7	2682	803	0	3485	0.062	0.018	0.000	0.080
J8	3174	567	0	3741	0.073	0.013	0.000	0.086
J9	2725	3712	0	6437	0.063	0.085	0.000	0.148
K1	4938	9330		14268	0.113	0.214	0.000	0.328
K2	12697	2687		15384	0.291	0.062	0.000	0.353
K3	16078	5482		21560	0.369	0.126	0.000	0.495
K4	5092	1114		6206	0.117	0.026	0.000	0.142
K5	10858	2293		13151	0.249	0.053	0.000	0.302
K6	3310	2154		5464	0.076	0.049	0.000	0.125
K7	4560	5488		10048	0.105	0.126	0.000	0.231
K8	25370	5526		30896	0.582	0.127	0.000	0.709
K9	2341	516		2857	0.054	0.012	0.000	0.066
K10	1727	2385		4112	0.040	0.055	0.000	0.094
K12	7766	1470		9236	0.178	0.034	0.000	0.212

STORM DRAINAGE SYSTEM DESIGN COMPUTATION SHEET

F. A. Hesketh & Associates, Inc.

Civil & Traffic Engineers - Surveyors

Planners - Landscape Architects

JOB: Storrs Lodges - 04161

CALCULATED BY: GAH DATE: March 24, 2016

CHECKED BY: _____ DATE: _____ .

Storrs Lodges

COVER CONDITION	PAVEMENT/ROOF		LANDSCAPED		WOODED				TOTAL		
RUNOFF 'C'	C_1=0.90		C_2= 0.30		C_3= 0.20		C_4=				
DRAINAGE AREA (Ac.)	A_1	$(AxC)_1$	A_2	$(AxC)_2$	A_3	$(AxC)_3$	A_4	$(AxC)_4$	A	AxC	C
A4	0.898	0.808	0.261	0.078	0.000	0.000		0.000	1.159	0.887	0.765
A7	0.100	0.090	0.022	0.007	0.000	0.000		0.000	0.122	0.096	0.792
A8	0.224	0.201	0.067	0.020	0.000	0.000		0.000	0.291	0.221	0.762
A9	0.244	0.219	0.041	0.012	0.000	0.000		0.000	0.284	0.231	0.814
B2	0.000	0.000	0.325	0.098	0.108	0.022		0.000	0.433	0.119	0.275
C6	0.195	0.176	0.029	0.009	0.000	0.000		0.000	0.224	0.184	0.823
C7	0.178	0.160	0.015	0.005	0.000	0.000		0.000	0.193	0.164	0.853
C8	0.186	0.167	0.017	0.005	0.000	0.000		0.000	0.202	0.172	0.851
C9	0.698	0.628	0.220	0.066	0.000	0.000		0.000	0.918	0.694	0.756
D4	0.028	0.025	0.590	0.177	0.203	0.041		0.000	0.821	0.243	0.296
D6	0.110	0.099	0.929	0.279	1.116	0.223		0.000	2.155	0.601	0.279
E4	0.380	0.342	0.137	0.041	0.000	0.000		0.000	0.517	0.383	0.741
E5	0.171	0.154	0.034	0.010	0.000	0.000		0.000	0.205	0.164	0.802
E6	0.195	0.176	0.066	0.020	0.000	0.000		0.000	0.261	0.196	0.749
E7	0.287	0.259	0.087	0.026	0.000	0.000		0.000	0.374	0.285	0.761
E9	0.126	0.113	0.072	0.022	0.000	0.000		0.000	0.197	0.135	0.682
E10	0.366	0.330	0.133	0.040	0.000	0.000		0.000	0.499	0.369	0.740
E11	0.166	0.149	0.043	0.013	0.000	0.000		0.000	0.209	0.162	0.776
E12	0.079	0.071	0.031	0.009	0.000	0.000		0.000	0.110	0.080	0.730
F3	0.193	0.173	0.078	0.023	0.000	0.000		0.000	0.270	0.197	0.728
F4	0.109	0.099	0.167	0.050	0.000	0.000		0.000	0.276	0.149	0.538
G3	0.181	0.163	0.015	0.005	0.000	0.000		0.000	0.196	0.167	0.853
G4	0.087	0.078	0.038	0.011	0.000	0.000		0.000	0.125	0.090	0.716
G5	0.130	0.117	0.037	0.011	0.000	0.000		0.000	0.167	0.128	0.766

STORM DRAINAGE SYSTEM DESIGN COMPUTATION SHEET

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CHECKED BY: _____ DATE: _____ .

Storrs Lodges

COVER CONDITION	PAVEMENT/ROOF		LANDSCAPED		WOODED				TOTAL		
RUNOFF 'C'	C_1=0.90		C_2= 0.30		C_3= 0.20		C_4=				
DRAINAGE AREA (Ac.)	A_1	$(AxC)_1$	A_2	$(AxC)_2$	A_3	$(AxC)_3$	A_4	$(AxC)_4$	A	AxC	C
G6	0.029	0.026	0.023	0.007	0.000	0.000		0.000	0.052	0.033	0.634
G7	0.082	0.073	0.020	0.006	0.000	0.000		0.000	0.101	0.079	0.782
G8	0.121	0.109	0.208	0.062	0.000	0.000		0.000	0.329	0.171	0.521
G9	0.147	0.132	0.076	0.023	0.000	0.000		0.000	0.223	0.155	0.696
H3	0.453	0.408	0.072	0.022	0.000	0.000		0.000	0.525	0.429	0.817
H4	0.000	0.000	0.189	0.057	0.157	0.031		0.000	0.345	0.088	0.255
I3	0.452	0.407	0.188	0.057	0.000	0.000		0.000	0.641	0.464	0.723
I4	0.133	0.120	0.045	0.014	0.000	0.000		0.000	0.179	0.133	0.748
I5	0.084	0.075	0.124	0.037	0.000	0.000		0.000	0.208	0.112	0.542
I6	0.298	0.268	0.085	0.026	0.000	0.000		0.000	0.384	0.294	0.766
J3	0.065	0.058	0.030	0.009	0.000	0.000		0.000	0.095	0.067	0.708
J4	0.029	0.026	0.012	0.004	0.000	0.000		0.000	0.041	0.030	0.724
J5	0.112	0.101	0.000	0.000	0.000	0.000		0.000	0.112	0.101	0.900
J6	0.175	0.158	0.000	0.000	0.000	0.000		0.000	0.175	0.158	0.900
J7	0.062	0.055	0.018	0.006	0.000	0.000		0.000	0.080	0.061	0.762
J8	0.073	0.066	0.013	0.004	0.000	0.000		0.000	0.086	0.069	0.809
J9	0.063	0.056	0.085	0.026	0.000	0.000		0.000	0.148	0.082	0.554

K1	0.113	0.102	0.214	0.064	0.000	0.000		0.000	0.328	0.166	0.508
K2	0.291	0.262	0.062	0.019	0.000	0.000		0.000	0.353	0.281	0.795
K3	0.369	0.332	0.126	0.038	0.000	0.000		0.000	0.495	0.370	0.747
K4	0.117	0.105	0.026	0.008	0.000	0.000		0.000	0.142	0.113	0.792
K5	0.249	0.224	0.053	0.016	0.000	0.000		0.000	0.302	0.240	0.795
K6	0.076	0.068	0.049	0.015	0.000	0.000		0.000	0.125	0.083	0.663
K7	0.105	0.094	0.126	0.038	0.000	0.000		0.000	0.231	0.132	0.572
K8	0.582	0.524	0.127	0.038	0.000	0.000		0.000	0.709	0.562	0.793
K9	0.054	0.048	0.012	0.004	0.000	0.000		0.000	0.066	0.052	0.792
K10	0.040	0.036	0.055	0.016	0.000	0.000		0.000	0.094	0.052	0.552
K12	0.178	0.160	0.034	0.010	0.000	0.000		0.000	0.212	0.171	0.805

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Storrs Lodges

COVER CONDITION	PAVEMENT/ROOF		LANDSCAPED		WOODED				TOTAL		
RUNOFF 'C'	C_1=0.90		C_2= 0.30		C_3= 0.20		C_4=				
DRAINAGE AREA (Ac.)	A_1	$(AxC)_1$	A_2	$(AxC)_2$	A_3	$(AxC)_3$	A_4	$(AxC)_4$	A	AxC	C
L5	0.183	0.165	0.019	0.006	0.000	0.000		0.000	0.202	0.171	0.845
L7	0.115	0.103	0.016	0.005	0.000	0.000		0.000	0.131	0.108	0.827
L8	0.103	0.093	0.042	0.013	0.000	0.000		0.000	0.145	0.105	0.726
M2	0.353	0.318	0.092	0.028	0.000	0.000		0.000	0.445	0.345	0.776
M3	0.101	0.091	0.016	0.005	0.000	0.000		0.000	0.117	0.096	0.819
N4	0.030	0.027	0.035	0.010	0.000	0.000		0.000	0.064	0.037	0.577
N5	0.029	0.026	0.004	0.001	0.000	0.000		0.000	0.033	0.027	0.822
N7	0.053	0.047	0.023	0.007	0.000	0.000		0.000	0.076	0.054	0.719
N8	0.130	0.117	0.042	0.013	0.000	0.000		0.000	0.173	0.130	0.752
O2	0.209	0.188	0.065	0.020	0.000	0.000		0.000	0.274	0.207	0.757
O4	0.041	0.037	0.020	0.006	0.000	0.000		0.000	0.060	0.042	0.705
O5	0.113	0.101	0.133	0.040	0.056	0.011		0.000	0.301	0.152	0.506
O6	0.029	0.026	0.025	0.007	0.000	0.000		0.000	0.054	0.034	0.627
O7	0.000	0.000	0.093	0.028	0.132	0.026		0.000	0.226	0.054	0.241

Storrs Lodges

DRAINAGE AREAS

Storm Drain Systems - Water Quality Volume Calculations

March 24, 2016

WQV = (1")(R)(A)/12

R= volumetric runoff coefficient= 0.05+0.009 (I)
I = percent impervious coverage
A = site area, in acres

Watershed	Storm Drain System	Area (acres)	I	R	Required WQV (Ac-Ft)	Required WQV (C.F.)	Required WQV (C.F.)	Provided WQV			TSS Removal * (%)
								U.G. Storage (C.F.)	Biofiltration Basin (C.F.)	Total (C.F.)	
VIIIA	System A	1.855	79.0	0.761	0.1176	5124	**5124**	6741	1269	**8010**	NA
	System B**	0.433	0.0	0.050	0.0018	79	**79**	NA	NA	NA	NA
IIA	System C	1.537	81.7	0.785	0.1006	4381	**4381**	5243	1777	**7020**	NA
	System D	2.976	4.7	0.092	0.0229	997	**997**	NA	1044	**1044**	NA
IVA	System E	2.372	74.6	0.721	0.1426	6212	**6212**	7490	1796	**9286**	NA
	System F	0.546	55.3	0.548	0.0249	1086	**1086**	NA	2222	**2222**	87%
	System G ***	1.193	65.0	0.635	0.0631	2750	**2750**	NA	394	**394**	85%
IXA	System H	0.871	52.0	0.518	0.0376	1638	**1638**	1498	260	**1758**	NA
VIA	System I	1.41	68.6	0.667	0.0784	3416	**5437**	3745	2381	**6126**	NA
	System J	0.737	78.4	0.756	0.0464	2021					81%
VIIA	System K	3.057	71.1	0.690	0.1758	7656	**10638**	11235	1298	**12533**	NA
	System L	0.478	83.9	0.805	0.0321	1397					
	System M	0.562	80.8	0.777	0.0364	1586					
	System N	0.346	69.9	0.679	0.0196	853	**2298**	1048	2381	**3429**	88%
XA	System O	0.915	42.8	0.435	0.0332	1445					NA

* via Hydrodynamic Separator
** impervious area is existing off-site area
*** Oversized hydrodynamic separator specified to attain 85% TSS Removal.

Storrs Lodges
DRAINAGE AREAS

Storm Drain Systems
Water Quality/biofoltration Basin Volume Calcula

March 24, 2016

System D

Contour	Area (S.F.)	El. Diff. (FT)	Volume (C.F.)	Cum. Vol. (C.F.)
554	188			
		1	354.5	354.5
555	521			
		1	689.5	1044
556	858			

System E

Contour	Area (S.F.)	El. Diff. (FT)	Volume (C.F.)	Cum. Vol. (C.F.)
548	435			
		1	650	650
549	865			
		1	1145.5	1795.5
550	1426			

System F

Contour	Area (S.F.)	El. Diff. (FT)	Volume (C.F.)	Cum. Vol. (C.F.)
553	684			
		1	885.5	885.5
554	1087			
		1	1334.5	2220
555	1582			

System G

Contour	Area (S.F.)	El. Diff. (FT)	Volume (C.F.)	Cum. Vol. (C.F.)
549	260			
		1	393.5	393.5
550	527			

Storrs Lodges
DRAINAGE AREAS

Storm Drain Systems
Water Quality/biofoltration Basin Volume Calcula

March 24, 2016

System H

Contour	Area (S.F.)	El. Diff. (FT)	Volume (C.F.)	Cum. Vol. (C.F.)
550.5	0			
		1	260	260
551.5	520			

System J

Contour	Area (S.F.)	El. Diff. (FT)	Volume (C.F.)	Cum. Vol. (C.F.)
544	742			
		1	950.5	950.5
545	1159			
		1	1430.5	2381
546	1702			

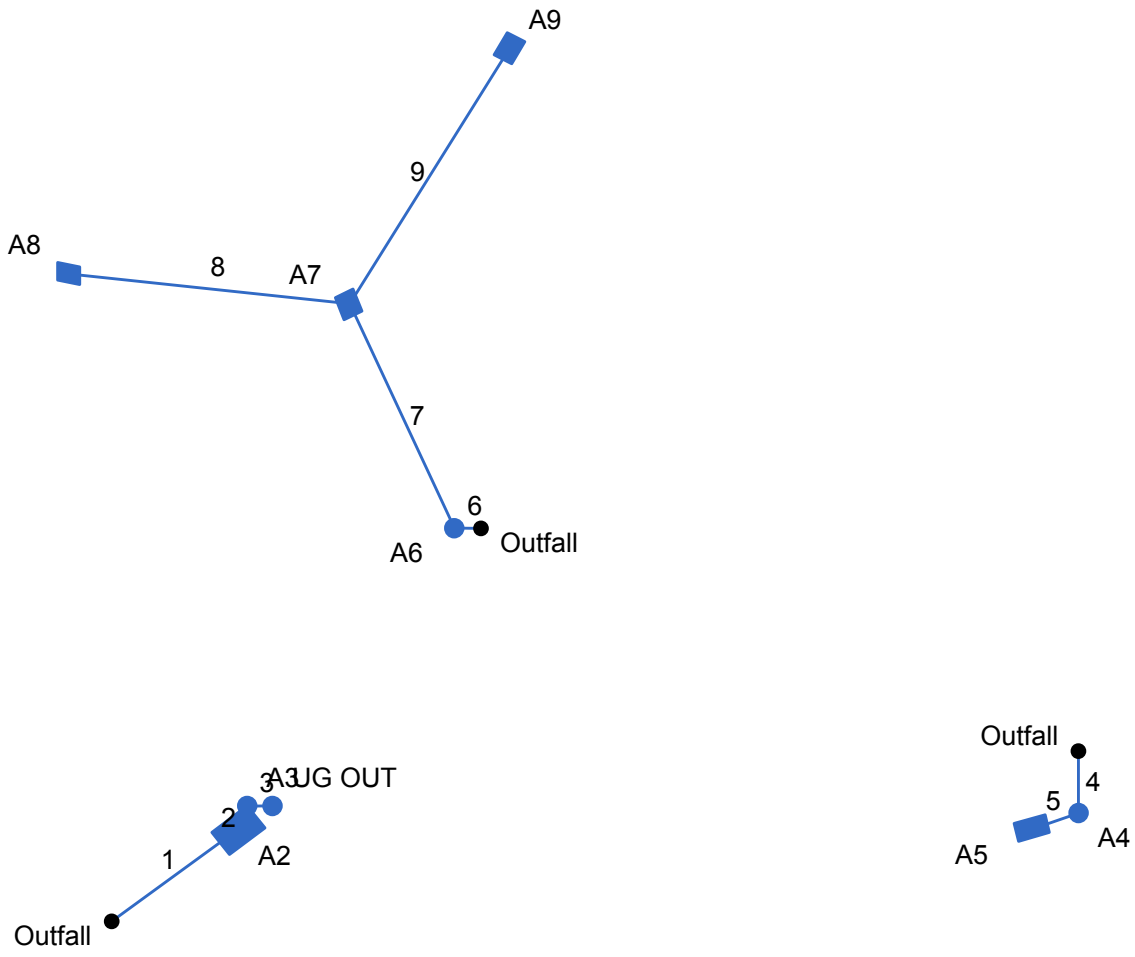
System M

Contour	Area (S.F.)	El. Diff. (FT)	Volume (C.F.)	Cum. Vol. (C.F.)
543	1083			
		1	1298	1298
544	1513			

System N

Contour	Area (S.F.)	El. Diff. (FT)	Volume (C.F.)	Cum. Vol. (C.F.)
544	742			
		1	950.5	950.5
545	1159			
		1	1430.5	2381
546	1702			

STORRS-SYSTEM A



Project File: SYSTEM-A.stm	Number of lines: 9	Date: 03-29-2016

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	35	0.00	0.00	0.00	0.00	0.00	0.0	0.1	0.0	6.45	6.46	6.00	15	1.00	556.00	556.35	557.02	557.38	558.00	563.30	A1-A2
2	1	6	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6.45	0.00	3.65	18	0.00	557.00	557.00	558.50	558.52	563.30	563.42	A2-A3
3	2	6	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6.45	0.00	3.65	18	0.00	557.00	557.00	558.57	558.58	563.42	563.04	A3-UG
4	End	14	0.00	1.16	0.00	0.00	0.89	0.0	5.1	6.0	5.33	0.00	3.34	18	0.00	557.00	557.00	558.25	558.29	563.65	563.65	OUT-A5
5	4	12	1.16	1.16	0.77	0.89	0.89	5.0	5.0	6.0	5.35	7.00	5.64	15	1.00	558.00	558.12	558.82	559.14	563.65	562.32	A5-A4
6	End	6	0.00	0.69	0.00	0.00	0.54	0.0	5.8	5.8	3.12	0.00	1.76	18	0.00	557.00	557.00	558.50	558.50	565.07	565.00	OUT - A6
7	6	56	0.12	0.69	0.79	0.09	0.54	5.0	5.5	5.9	3.17	3.86	5.23	12	1.00	560.68	561.24	561.37	562.00	565.00	565.25	A6-A7
8	7	64	0.29	0.29	0.76	0.22	0.22	5.0	5.0	6.0	1.32	2.73	1.68	12	0.50	561.24	561.56	562.55	562.63	565.25	565.25	A7-A8
9	7	68	0.28	0.28	0.81	0.23	0.23	5.0	5.0	6.0	1.36	9.05	2.62	12	5.50	561.24	564.98	562.55	565.47	565.25	568.98	A7-A9

STORRS-SYSTEM A | Number of lines: 9 | Run Date: 03-29-2016

NOTES: Intensity = 54.74 / (Inlet time + 10.80) ^ 0.80; Return period = 10 Yrs. ; c = cir e = ellip b = box

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	A1-A2	6.45	15	Cir	35	556.00	556.35	1.000	557.02	557.38	n/a	558.28 i	End	Manhole
2	A2-A3	6.45	18	Cir	6	557.00	557.00	0.000	558.50*	558.52*	n/a	558.57 i	1	Manhole
3	A3-UG	6.45	18	Cir	6	557.00	557.00	0.000	558.57*	558.58*	0.21	558.79	2	Manhole
4	OUT-A5	5.33	18	Cir	14	557.00	557.00	0.000	558.25	558.29	n/a	558.39 i	End	Manhole
5	A5-A4	5.35	15	Cir	12	558.00	558.12	1.000	558.82	559.14	n/a	559.71 i	4	Combination
6	OUT - A6	3.12	18	Cir	6	557.00	557.00	0.000	558.50*	558.50*	0.04	558.55	End	Manhole
7	A6-A7	3.17	12	Cir	56	560.68	561.24	1.000	561.37	562.00	n/a	562.55 i	6	Combination
8	A7-A8	1.32	12	Cir	64	561.24	561.56	0.500	562.55*	562.63*	0.04	562.67	7	Combination
9	A7-A9	1.36	12	Cir	68	561.24	564.98	5.500	562.55	565.47	n/a	565.72 i	7	Combination

STORRS-SYSTEM A | Number of lines: 9 | Run Date: 03-29-2016

NOTES: Return period = 10 Yrs. ; *Surcharged (HGL above crown). ; i - Inlet control.

Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q byp (cfs)	Junc type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp line No
							Ht (in)	L (ft)	area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
1	A2	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
2	A3	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
3	UG OUT	6.45*	0.00	0.00	6.45	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
4	A4	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
5	A5	5.35	0.00	5.35	0.00	Comb	3.0	5.85	6.26	4.62	1.35	Sag	2.70	0.030	0.030	0.000	0.23	7.78	0.40	7.78	2.0	Off
6	A6	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
7	A7	0.57	0.00	0.57	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	-0.05	-1.56	0.12	0.78	2.0	Off
8	A8	1.32	0.00	1.32	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	0.03	1.11	0.20	1.30	2.0	Off
9	A9	1.36	0.00	1.36	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	0.04	1.44	0.21	1.44	2.0	Off

STORRS-SYSTEM A | Number of lines: 9 | Run Date: 03-29-2016

NOTES: Inlet N-Values = 0.016 ; Intensity = 54.74 / (Inlet time + 10.80) ^ 0.80; Return period = 10 Yrs. ; * Indicates Known Q added. All curb inlets are Horiz throat.

STORRS-SYSTEM B

Project File: SYSTEM-B.stm	Number of lines: 1	Date: 03-28-2016

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	66	0.43	0.43	0.28	0.12	0.12	10.0	10.0	4.8	0.58	7.00	2.50	15	1.00	562.00	562.66	562.30	562.96	572.50	568.00	OUT - B2

STORRS-SYSTEM B | Number of lines: 1 | Run Date: 03-28-2016

NOTES: Intensity = 54.74 / (Inlet time + 10.80) ^ 0.80; Return period = 10 Yrs. ; c = cir e = ellip b = box

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 - B2	0.58	15	Cir	66	562.00	562.66	1.000	562.30	562.96	n/a	563.03 i	End	Grate

STORRS-SYSTEM B | Number of lines: 1 | Run Date: 03-28-2016

NOTES: Return period = 10 Yrs. ; i - Inlet control.

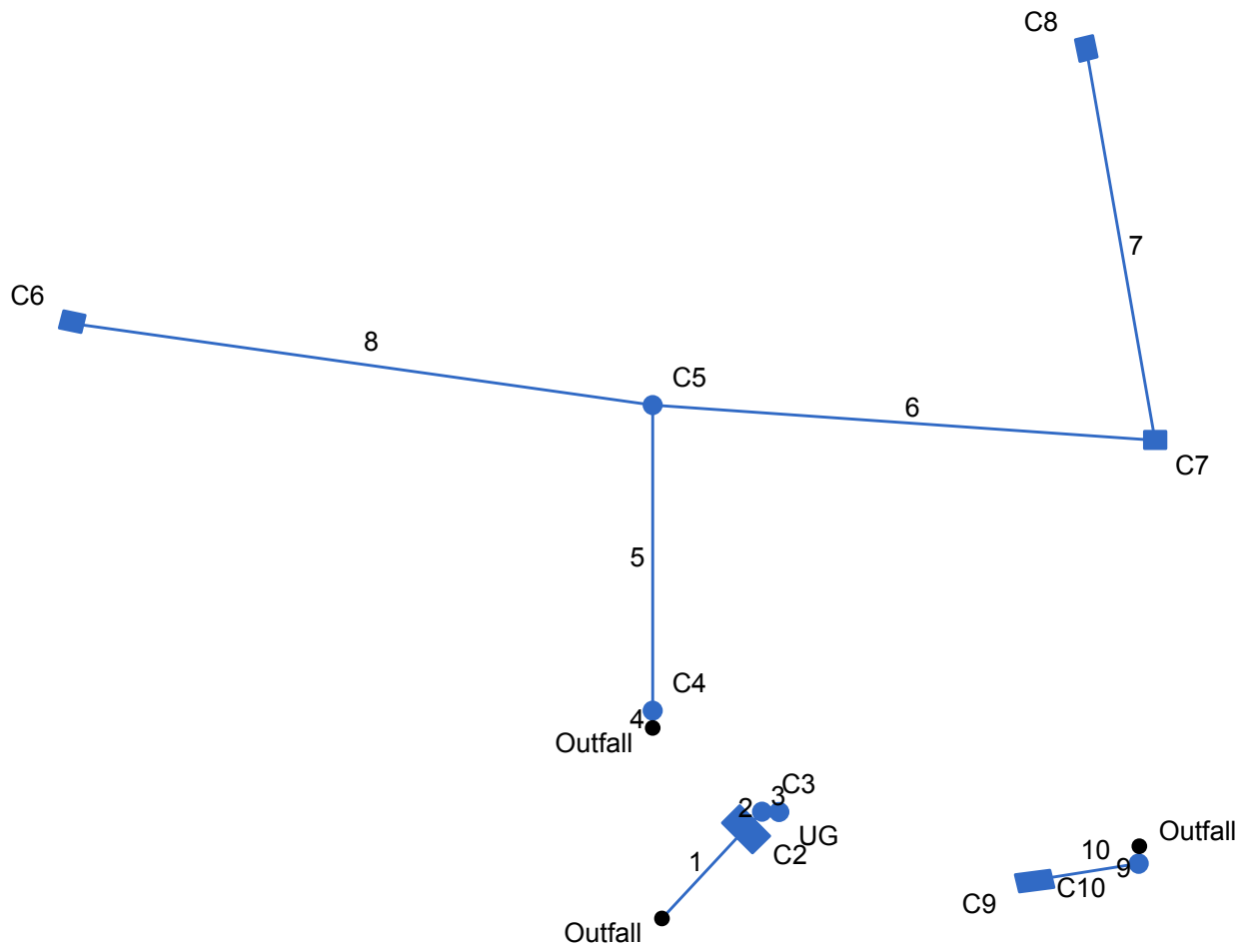
Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q byp (cfs)	Junc type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp line No
							Ht (in)	L (ft)	area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
1	B2	0.58	0.00	0.58	0.00	Grate	0.0	0.00	3.13	2.31	1.35	Sag	2.00	0.050	0.020	0.000	0.01	0.14	0.11	1.10	2.0	Off

STORRS-SYSTEM B | Number of lines: 1 | Run Date: 03-28-2016

NOTES: Inlet N-Values = 0.016 ; Intensity = 54.74 / (Inlet time + 10.80) ^ 0.80; Return period = 10 Yrs. ; * Indicates Known Q added. All curb inlets are Horiz throat.

STORRS-SYSTEM C



Project File: SYSTEM-C.stm	Number of lines: 10	Date: 03-29-2016

Hydraflow Storm Sewers 2008 v12.01

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	29	0.00	0.00	0.00	0.00	0.00	0.0	0.1	0.0	6.92	9.21	5.49	18	0.66	559.71	559.90	560.71	560.91	562.71	562.97	OUT-C2
2	1	5	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6.92	0.00	2.20	24	0.00	560.00	560.00	562.00	562.00	562.97	568.64	C2-C3
3	2	4	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6.92	0.00	2.20	24	0.00	560.00	560.00	562.06	562.07	568.64	567.70	C3-UG
4	End	4	0.00	0.61	0.00	0.00	0.51	0.0	6.9	5.5	2.80	0.00	3.31	18	0.00	560.00	560.00	560.71	560.74	562.20	568.64	UG-C4
5	4	71	0.00	0.61	0.00	0.00	0.51	0.0	6.4	5.6	2.87	7.72	6.92	12	4.00	562.68	565.52	563.10	566.24	568.64	571.35	C4-C5
6	5	117	0.22	0.42	0.82	0.18	0.35	5.0	5.6	5.8	2.04	2.74	2.67	12	0.50	565.52	566.11	566.71	567.00	571.35	570.74	C5-C7
7	6	92	0.20	0.20	0.85	0.17	0.17	5.0	5.0	6.0	1.02	2.73	1.78	12	0.50	566.11	566.57	567.06	567.13	570.74	571.07	C7-C8
8	5	136	0.19	0.19	0.85	0.16	0.16	5.0	5.0	6.0	0.97	3.86	3.60	12	1.00	567.38	568.74	567.72	569.16	571.35	572.24	C5-C6
9	End	4	0.00	0.92	0.00	0.00	0.70	0.0	5.2	5.9	4.15	0.00	3.83	18	0.00	560.00	560.00	560.87	560.90	566.20	566.42	UG-C10
10	9	24	0.92	0.92	0.76	0.70	0.70	5.0	5.0	6.0	4.19	4.95	4.52	15	0.50	562.06	562.18	562.94	563.06	566.42	565.93	C10-C9

STORRS-SYSTEM C | Number of lines: 10 | Run Date: 03-29-2016

NOTES: Intensity = 54.74 / (Inlet time + 10.80) ^ 0.80; Return period = 10 Yrs. ; c = cir e = ellip b = box

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-C2	6.92	18	Cir	29	559.71	559.90	0.655	560.71	560.91	n/a	561.54 i	End	Manhole
2	C2-C3	6.92	24	Cir	5	560.00	560.00	0.000	562.00*	562.00*	0.06	562.06	1	Manhole
3	C3-UG	6.92	24	Cir	4	560.00	560.00	0.000	562.06*	562.07*	0.08	562.14	2	Manhole
4	UG-C4	2.80	18	Cir	4	560.00	560.00	0.000	560.71	560.74	n/a	560.92 i	End	Manhole
5	C4-C5	2.87	12	Cir	71	562.68	565.52	4.000	563.10	566.24	n/a	566.71 i	4	Manhole
6	C5-C7	2.04	12	Cir	117	565.52	566.11	0.504	566.71	567.00	n/a	567.06 i	5	Combination
7	C7-C8	1.02	12	Cir	92	566.11	566.57	0.500	567.06	567.13	n/a	567.18 i	6	Combination
8	C5-C6	0.97	12	Cir	136	567.38	568.74	1.000	567.72	569.16	n/a	569.33 i	5	Combination
9	UG-C10	4.15	18	Cir	4	560.00	560.00	0.000	560.87	560.90	n/a	561.18 i	End	Manhole
10	C10-C9	4.19	15	Cir	24	562.06	562.18	0.500	562.94	563.06	n/a	563.51 i	9	Combination

STORRS-SYSTEM C | Number of lines: 10 | Run Date: 03-29-2016

NOTES: Return period = 10 Yrs. ; *Surcharged (HGL above crown). ; i - Inlet control.

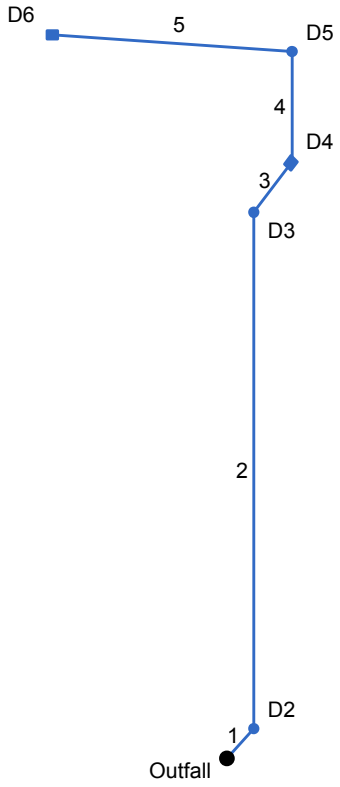
Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q byp (cfs)	Junc type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp line No
							Ht (in)	L (ft)	area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
1	C2	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
2	C3	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
3	UG	6.92*	0.00	0.00	6.92	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
4	C4	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
5	C5	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
6	C7	1.08	0.00	1.08	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	0.01	0.44	0.18	1.17	2.0	Off
7	C8	1.02	0.00	1.02	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	0.00	0.11	0.17	1.11	2.0	Off
8	C6	0.97	0.00	0.97	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	0.00	0.11	0.17	1.11	2.0	Off
9	C10	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
10	C9	4.19	0.00	4.19	0.00	Comb	3.0	5.85	6.26	2.31	1.35	Sag	2.70	0.030	0.030	0.000	0.26	8.78	0.43	8.78	2.0	Off

STORRS-SYSTEM C | Number of lines: 10 | Run Date: 03-29-2016

NOTES: Inlet N-Values = 0.016 ; Intensity = 54.74 / (Inlet time + 10.80) ^ 0.80; Return period = 10 Yrs. ; * Indicates Known Q added. All curb inlets are Horiz throat.

STORRS-SYSTEM D



Project File: SYSTEM-D.stm	Number of lines: 5	Date: 03-28-2016

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	19	0.00	2.98	0.00	0.00	0.85	0.0	11.7	4.5	3.84	4.00	5.50	12	1.26	556.00	556.24	556.83	557.07	558.00	559.50	D1-D2
2	1	244	0.00	2.98	0.00	0.00	0.85	5.0	10.9	4.7	3.96	7.11	5.32	12	3.39	556.24	564.52	557.86	565.36	559.50	571.50	D2-D3
3	2	30	0.82	2.98	0.30	0.25	0.85	5.0	10.7	4.7	3.97	4.05	5.06	12	1.10	564.52	564.85	566.18	566.50	571.50	568.00	D3-D4
4	3	52	0.00	2.16	0.00	0.00	0.60	5.0	10.5	4.7	2.85	3.86	3.63	12	1.00	564.85	565.37	566.53	566.82	568.00	571.50	D4-D5
5	4	113	2.16	2.16	0.28	0.60	0.60	10.0	10.0	4.8	2.91	3.86	3.70	12	1.00	565.37	566.50	567.02	567.66	571.50	569.50	D5-D6

STORRS-SYSTEM D | Number of lines: 5 | Run Date: 03-28-2016

NOTES: Intensity = 54.74 / (Inlet time + 10.80) ^ 0.80; Return period = 10 Yrs. ; c = cir e = ellip b = box

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	D1-D2	3.84	12	Cir	19	556.00	556.24	1.264	556.83	557.07	n/a	557.86 i	End	Manhole
2	D2-D3	3.96	12	Cir	244	556.24	564.52	3.393	557.86	565.36	n/a	566.18 i	1	Manhole
3	D3-D4	3.97	12	Cir	30	564.52	564.85	1.100	566.18*	566.50*	n/a	566.53 i	2	Grate
4	D4-D5	2.85	12	Cir	52	564.85	565.37	1.000	566.53*	566.82*	0.20	567.02	3	Manhole
5	D5-D6	2.91	12	Cir	113	565.37	566.50	1.000	567.02*	567.66*	n/a	567.71 i	4	Grate

STORRS-SYSTEM D | Number of lines: 5 | Run Date: 03-28-2016

NOTES: Return period = 10 Yrs. ; *Surcharged (HGL above crown). ; i - Inlet control.

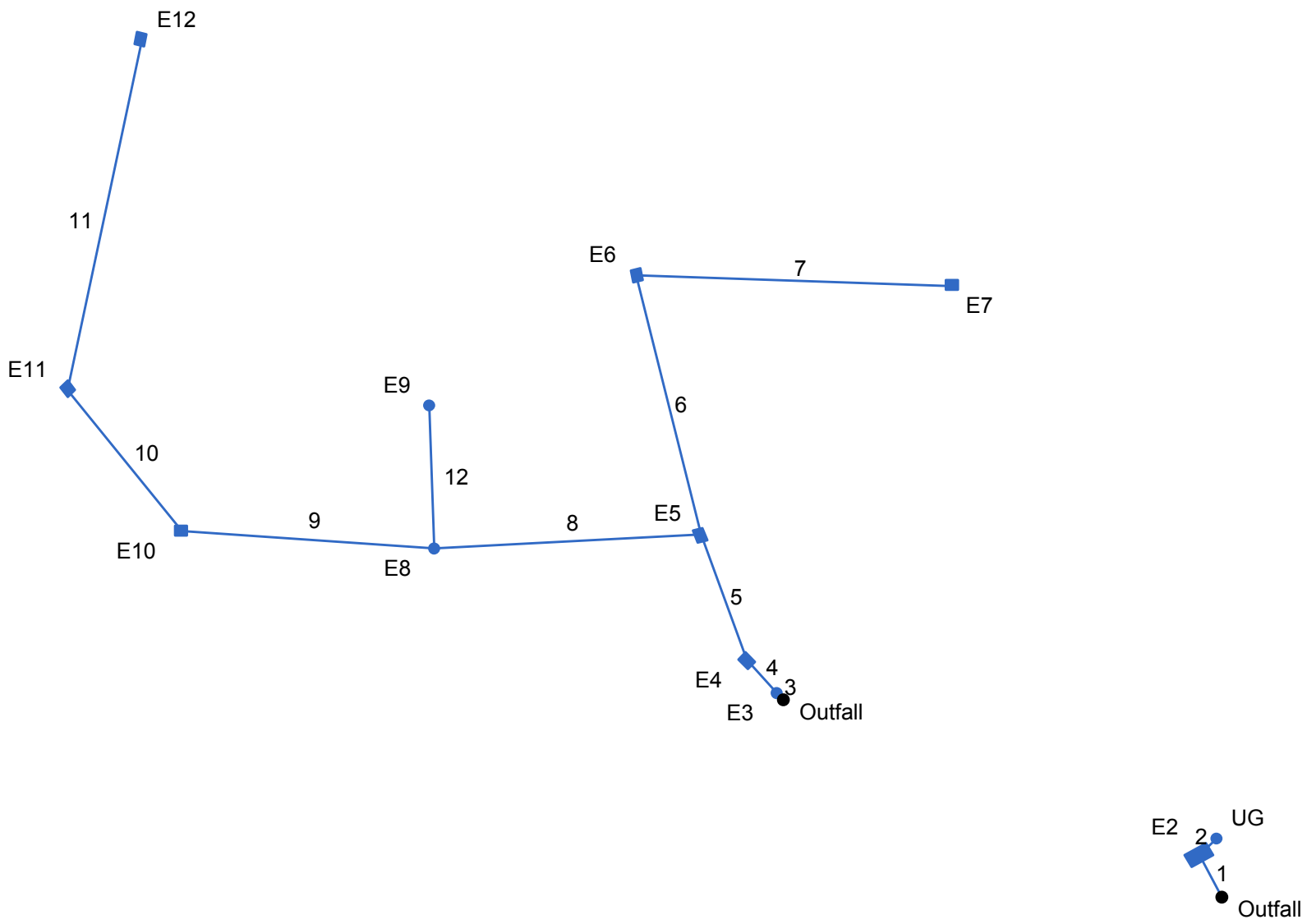
Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q byp (cfs)	Junc type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp line No
							Ht (in)	L (ft)	area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
1	D2	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
2	D3	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
3	D4	1.47	0.00	1.47	0.00	Grate	0.0	0.00	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	0.05	1.53	0.21	1.53	2.0	Off
4	D5	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
5	D6	2.91	0.00	2.91	0.00	Grate	0.0	0.00	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	0.17	5.58	0.33	5.58	2.0	Off

STORRS-SYSTEM D | Number of lines: 5 | Run Date: 03-28-2016

NOTES: Inlet N-Values = 0.016 ; Intensity = 54.74 / (Inlet time + 10.80) ^ 0.80; Return period = 10 Yrs. ; * Indicates Known Q added. All curb inlets are Horiz throat.

STORRS-SYSTEM E



Project File: SYSTEM-E.stm	Number of lines: 12	Date: 03-28-2016

Hydraflow Storm Sewers 2008 v12.01

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	20	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9.14	7.42	5.17	18	0.50	549.90	550.00	551.40	551.55	554.00	556.21	OUT-E2
2	1	10	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	9.14	0.00	5.17	18	0.00	550.00	550.00	552.07	552.14	556.21	556.00	E2-UG
3	End	4	0.00	2.38	0.00	0.00	1.78	0.0	10.8	4.7	8.30	0.00	4.70	18	0.00	550.00	550.00	551.50	551.53	556.00	554.87	UG-E3
4	3	19	0.52	2.38	0.74	0.38	1.78	5.0	10.7	4.7	8.32	7.69	4.71	18	0.54	550.75	550.85	552.25	552.35	554.87	554.45	E3-E4
5	4	56	0.21	1.86	0.80	0.17	1.39	5.0	10.6	4.7	6.56	8.57	5.35	15	1.50	551.10	551.94	552.73	553.18	554.45	556.31	E3-E5
6	5	112	0.26	0.63	0.75	0.20	0.48	5.0	6.0	5.7	2.71	5.12	4.04	12	1.76	552.19	554.16	553.90	554.86	556.31	560.07	E5-E6
7	6	132	0.37	0.37	0.76	0.28	0.28	5.0	5.0	6.0	1.68	2.73	2.45	12	0.50	554.16	554.82	555.31	555.55	560.07	557.82	E6-E7
8	5	112	0.00	1.02	0.00	0.00	0.75	5.0	10.2	4.8	3.58	6.32	4.93	12	2.69	552.19	555.20	553.90	556.00	556.31	560.10	E5-E8
9	8	106	0.50	0.82	0.74	0.37	0.61	5.0	9.8	4.8	2.97	6.23	4.94	12	2.60	555.98	558.74	556.68	559.47	560.10	562.85	E8-E10
10	9	76	0.21	0.32	0.78	0.16	0.24	5.0	9.1	5.0	1.22	7.70	2.46	12	3.99	558.74	561.77	559.97	562.24	562.85	565.53	E10-E11
11	10	150	0.11	0.11	0.73	0.08	0.08	5.0	5.0	6.0	0.48	2.73	1.67	12	0.50	561.77	562.52	562.46	562.81	565.53	565.52	E11-E12
12	8	60	0.20	0.20	0.68	0.14	0.14	5.0	5.0	6.0	0.81	2.73	1.04	12	0.50	555.20	555.50	556.68	556.71	560.10	559.00	E8-E9

STORRS-SYSTEM E | Number of lines: 12 | Run Date: 03-28-2016

NOTES: Intensity = 54.74 / (Inlet time + 10.80) ^ 0.80; Return period = 10 Yrs. ; c = cir e = ellip b = box

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-E2	9.14	18	Cir	20	549.90	550.00	0.500	551.40*	551.55*	n/a	552.07 i	End	Manhole
2	E2-UG	9.14	18	Cir	10	550.00	550.00	0.000	552.07*	552.14*	0.42	552.56	1	Manhole
3	UG-E3	8.30	18	Cir	4	550.00	550.00	0.000	551.50*	551.53*	n/a	551.88 i	End	Manhole
4	E3-E4	8.32	18	Cir	19	550.75	550.85	0.537	552.25	552.35	n/a	552.73 i	3	Combination
5	E3-E5	6.56	15	Cir	56	551.10	551.94	1.500	552.73	553.18	n/a	553.90 i	4	Combination
6	E5-E6	2.71	12	Cir	112	552.19	554.16	1.759	553.90	554.86	n/a	555.31 i	5	Combination
7	E6-E7	1.68	12	Cir	132	554.16	554.82	0.500	555.31	555.55	n/a	555.67 i	6	Combination
8	E5-E8	3.58	12	Cir	112	552.19	555.20	2.688	553.90	556.00	n/a	556.68 i	5	Manhole
9	E8-E10	2.97	12	Cir	106	555.98	558.74	2.604	556.68	559.47	n/a	559.97 i	8	Combination
10	E10-E11	1.22	12	Cir	76	558.74	561.77	3.987	559.97	562.24	n/a	562.46 i	9	Combination
11	E11-E12	0.48	12	Cir	150	561.77	562.52	0.500	562.46	562.81	n/a	562.90 i	10	Combination
12	E8-E9	0.81	12	Cir	60	555.20	555.50	0.500	556.68*	556.71*	0.02	556.73	8	Grate

STORRS-SYSTEM E | Number of lines: 12 | Run Date: 03-28-2016

NOTES: Return period = 10 Yrs. ; *Surcharged (HGL above crown). ; i - Inlet control.

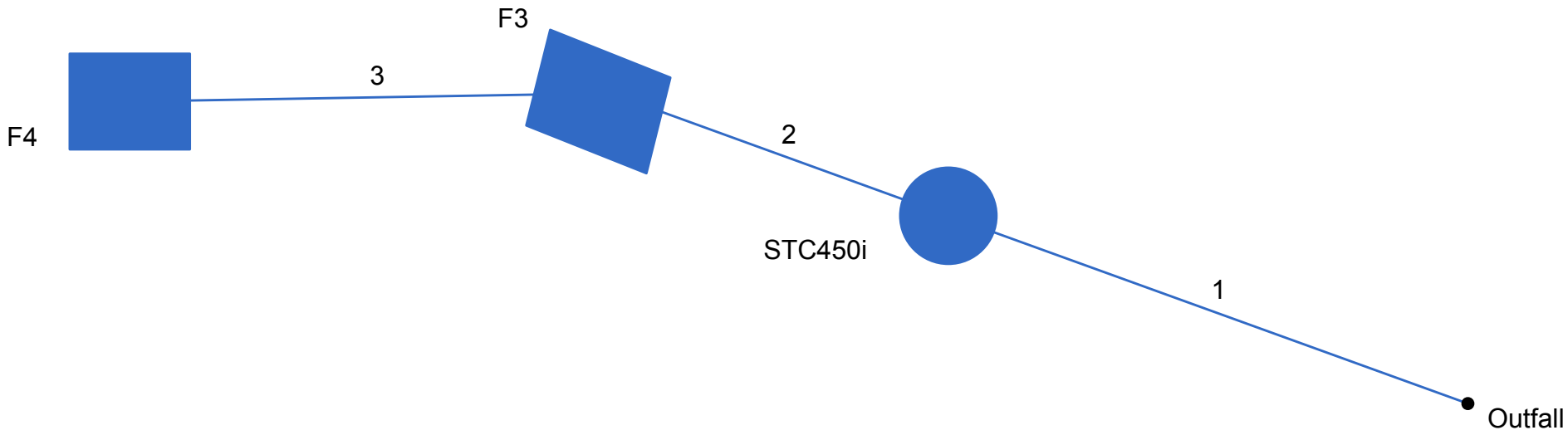
Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q byp (cfs)	Junc type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp line No
							Ht (in)	L (ft)	area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
1	E2	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
2	UG	9.14*	0.00	0.00	9.14	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
3	E3	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
4	E4	2.30	0.44	2.74	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	0.16	5.44	0.33	5.44	2.0	Off
5	E5	1.01	0.35	0.92	0.44	Comb	3.0	2.73	0.00	2.31	1.35	0.035	1.35	0.030	0.030	0.013	0.14	4.63	0.25	2.81	2.0	4
6	E6	1.17	0.00	0.82	0.35	Comb	3.0	2.73	0.00	2.31	1.35	0.030	1.35	0.030	0.030	0.013	0.14	4.50	0.25	2.61	2.0	5
7	E7	1.68	0.00	1.68	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	0.07	2.44	0.24	2.44	2.0	Off
8	E8	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
9	E10	2.22	0.00	2.22	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	0.11	3.78	0.28	3.78	2.0	Off
10	E11	0.98	0.00	0.98	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	0.00	0.11	0.17	1.11	2.0	Off
11	E12	0.48	0.00	0.48	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	-0.06	-1.89	0.11	0.72	2.0	Off
12	E9	0.81	0.00	0.81	0.00	Grate	0.0	0.00	1.00	1.00	1.00	Sag	1.35	0.030	0.030	0.000	0.03	1.16	0.20	1.31	2.0	Off

STORRS-SYSTEM E | Number of lines: 12 | Run Date: 03-28-2016

NOTES: Inlet N-Values = 0.016 ; Intensity = 54.74 / (Inlet time + 10.80) ^ 0.80; Return period = 10 Yrs. ; * Indicates Known Q added. All curb inlets are Horiz throat.

STORRS-SYSTEM F



Project File: SYSTEM-F.stm	Number of lines: 3	Date: 03-28-2016

Hydraflow Storm Sewers 2008 v12.01

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	23	0.00	0.55	0.00	0.00	0.35	0.0	5.4	5.9	2.05	3.79	4.09	12	1.13	555.00	555.26	555.61	555.87	557.00	559.19	OUT-STC450i
2	1	15	0.27	0.55	0.73	0.20	0.35	5.0	5.3	5.9	2.06	2.82	3.59	12	0.53	555.51	555.59	556.22	556.25	559.19	559.19	STC450i-F3
3	2	20	0.28	0.28	0.54	0.15	0.15	5.0	5.0	6.0	0.91	2.73	1.21	12	0.50	555.59	555.69	556.55	556.56	559.19	559.19	F3-F4

STORRS-SYSTEM F | Number of lines: 3 | Run Date: 03-28-2016

NOTES: Intensity = 54.74 / (Inlet time + 10.80) ^ 0.80; Return period = 10 Yrs. ; c = cir e = ellip b = box

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-STC450i	2.05	12	Cir	23	555.00	555.26	1.131	555.61	555.87	n/a	556.22 i	End	Manhole
2	STC450i-F3	2.06	12	Cir	15	555.51	555.59	0.534	556.22	556.25	n/a	556.55 i	1	Combination
3	F3-F4	0.91	12	Cir	20	555.59	555.69	0.500	556.55	556.56	0.02	556.58	2	Combination

STORRS-SYSTEM F | Number of lines: 3 | Run Date: 03-28-2016

NOTES: Return period = 10 Yrs. ; i - Inlet control.

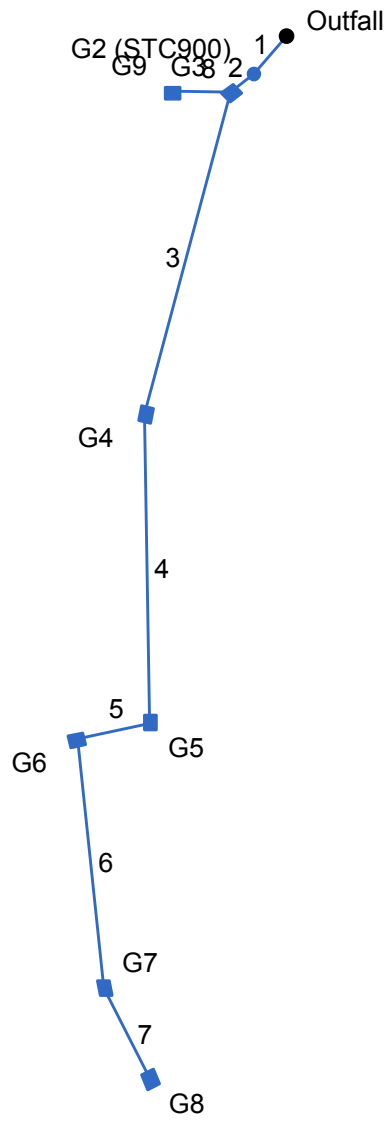
Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q byp (cfs)	Junc type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp line No
							Ht (in)	L (ft)	area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
1	STC450i	0.00	0.49	0.00	0.49	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
2	F3	1.18	0.26	0.95	0.49	Comb	3.0	2.73	0.00	2.31	1.35	0.027	1.35	0.030	0.030	0.013	0.15	4.93	0.27	3.31	2.0	1
3	F4	0.91	0.00	0.65	0.26	Comb	3.0	2.73	0.00	2.31	1.35	0.010	1.35	0.030	0.030	0.013	0.15	5.00	0.27	3.41	2.0	2

STORRS-SYSTEM F | Number of lines: 3 | Run Date: 03-28-2016

NOTES: Inlet N-Values = 0.016 ; Intensity = 54.74 / (Inlet time + 10.80) ^ 0.80; Return period = 10 Yrs. ; * Indicates Known Q added. All curb inlets are Horiz throat.

STORRS-SYSTEM G



Project File: SYSTEM-G.stm	Number of lines: 8	Date: 03-28-2016

Hydraflow Storm Sewers 2008 v12.01

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	17	0.00	1.20	0.00	0.00	0.83	0.0	12.3	4.4	3.68	4.95	4.42	15	0.59	550.00	550.10	550.80	550.90	552.00	553.85	OUT-G2 (STC900
2	1	10	0.20	1.20	0.85	0.17	0.83	5.0	12.2	4.4	3.69	4.95	3.17	15	0.50	550.18	550.23	551.32	551.34	553.85	552.74	G2 (STC900)-G3
3	2	113	0.13	0.78	0.72	0.09	0.51	5.0	11.4	4.6	2.31	4.97	2.43	15	0.50	550.23	550.80	551.45	551.56	552.74	553.88	G3-G4
4	3	105	0.17	0.65	0.77	0.13	0.41	5.0	10.7	4.7	1.93	4.97	2.83	15	0.50	550.80	551.33	551.70	551.89	553.88	555.38	G4-G5
5	4	25	0.05	0.48	0.63	0.03	0.28	5.0	10.6	4.7	1.33	5.04	1.77	15	0.52	551.33	551.46	552.14	552.14	555.38	555.23	G5-G6
6	5	85	0.10	0.43	0.78	0.08	0.25	10.0	10.0	4.8	1.20	5.31	3.08	12	1.89	551.71	553.32	552.25	553.79	555.23	556.50	G6-G7
7	6	35	0.33	0.33	0.52	0.17	0.17	5.0	5.0	6.0	1.03	2.77	2.15	12	0.51	553.32	553.50	554.00	554.02	556.50	556.50	G7-G8
8	2	20	0.22	0.22	0.70	0.16	0.16	5.0	5.0	6.0	0.93	2.73	1.18	12	0.50	550.23	550.33	551.45	551.46	552.74	552.74	G3-G9

STORRS-SYSTEM G | Number of lines: 8 | Run Date: 03-28-2016

NOTES: Intensity = 54.74 / (Inlet time + 10.80) ^ 0.80; Return period = 10 Yrs. ; c = cir e = ellip b = box

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-G2 (STC900)	3.68	15	Cir	17	550.00	550.10	0.588	550.80	550.90	n/a	551.32 i	End	Manhole
2	G2 (STC900)-G3	3.69	15	Cir	10	550.18	550.23	0.500	551.32	551.34	n/a	551.45 i	1	Combination
3	G3-G4	2.31	15	Cir	113	550.23	550.80	0.504	551.45	551.56	n/a	551.70 i	2	Combination
4	G4-G5	1.93	15	Cir	105	550.80	551.33	0.505	551.70	551.89	n/a	552.14 i	3	Combination
5	G5-G6	1.33	15	Cir	25	551.33	551.46	0.520	552.14	552.14	0.09	552.23	4	Combination
6	G6-G7	1.20	12	Cir	85	551.71	553.32	1.894	552.25	553.79	n/a	554.00 i	5	Combination
7	G7-G8	1.03	12	Cir	35	553.32	553.50	0.514	554.00	554.02	n/a	554.12 i	6	Combination
8	G3-G9	0.93	12	Cir	20	550.23	550.33	0.500	551.45*	551.46*	0.02	551.49	2	Combination

STORRS-SYSTEM G | Number of lines: 8 | Run Date: 03-28-2016

NOTES: Return period = 10 Yrs. ; *Surcharged (HGL above crown). ; i - Inlet control.

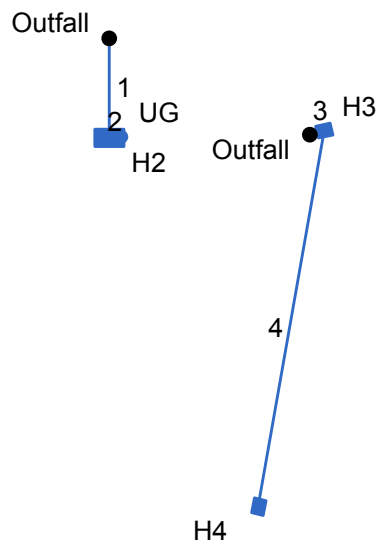
Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q byp (cfs)	Junc type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp line No
							Ht (in)	L (ft)	area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
1	G2 (STC900)	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
2	G3	1.02	0.19	1.21	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	0.02	0.78	0.19	1.24	2.0	Off
3	G4	0.56	0.20	0.57	0.19	Comb	3.0	2.73	0.00	2.31	1.35	0.013	1.35	0.030	0.030	0.013	0.13	4.47	0.25	2.61	2.0	2
4	G5	0.78	0.00	0.58	0.20	Comb	3.0	2.73	0.00	2.31	1.35	0.013	1.35	0.030	0.030	0.013	0.14	4.53	0.25	2.68	2.0	3
5	G6	0.19	0.00	0.19	0.00	Comb	3.0	2.73	0.00	2.31	1.35	0.013	1.35	0.030	0.030	0.013	0.08	2.67	0.15	0.96	2.0	8
6	G7	0.38	0.00	0.38	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	-0.08	-2.56	0.09	0.59	2.0	Off
7	G8	1.03	0.00	1.03	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	0.00	0.11	0.17	1.11	2.0	Off
8	G9	0.93	0.00	0.93	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	-0.01	-0.22	0.16	1.04	2.0	Off

STORRS-SYSTEM G | Number of lines: 8 | Run Date: 03-28-2016

NOTES: Inlet N-Values = 0.016 ; Intensity = 54.74 / (Inlet time + 10.80) ^ 0.80; Return period = 10 Yrs. ; * Indicates Known Q added. All curb inlets are Horiz throat.

STORRS-SYSTEM H



Project File: SYSTEM-H.stm	Number of lines: 4	Date: 03-28-2016

Hydraflow Storm Sewers 2008 v12.01

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	34	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3.10	2.73	3.95	12	0.50	551.50	551.67	552.50	552.67	553.00	555.25	OUT-H2
2	1	4	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3.10	0.00	3.95	12	0.00	551.67	551.67	552.96	552.98	555.25	555.00	H2-UG
3	End	5	0.53	0.88	0.82	0.43	0.53	5.0	5.9	5.7	3.02	0.00	3.84	12	0.00	551.67	551.67	552.67	552.70	555.00	554.50	UG-H3
4	3	131	0.35	0.35	0.26	0.09	0.09	5.0	5.0	6.0	0.55	2.74	1.07	12	0.50	551.83	552.49	552.93	552.97	554.50	555.00	H3-H4

STORRS-SYSTEM H | Number of lines: 4 | Run Date: 03-28-2016

NOTES: Intensity = 54.74 / (Inlet time + 10.80) ^ 0.80; Return period = 10 Yrs. ; c = cir e = ellip b = box

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-H2	3.10	12	Cir	34	551.50	551.67	0.500	552.50	552.67	n/a	552.96 i	End	Manhole
2	H2-UG	3.10	12	Cir	4	551.67	551.67	0.000	552.96*	552.98*	0.24	553.23	1	Manhole
3	UG-H3	3.02	12	Cir	5	551.67	551.67	0.000	552.67*	552.70*	n/a	552.93 i	End	Combination
4	H3-H4	0.55	12	Cir	131	551.83	552.49	0.504	552.93	552.97	0.03	553.01	3	Grate

STORRS-SYSTEM H | Number of lines: 4 | Run Date: 03-28-2016

NOTES: Return period = 10 Yrs. ; *Surcharged (HGL above crown). ; i - Inlet control.

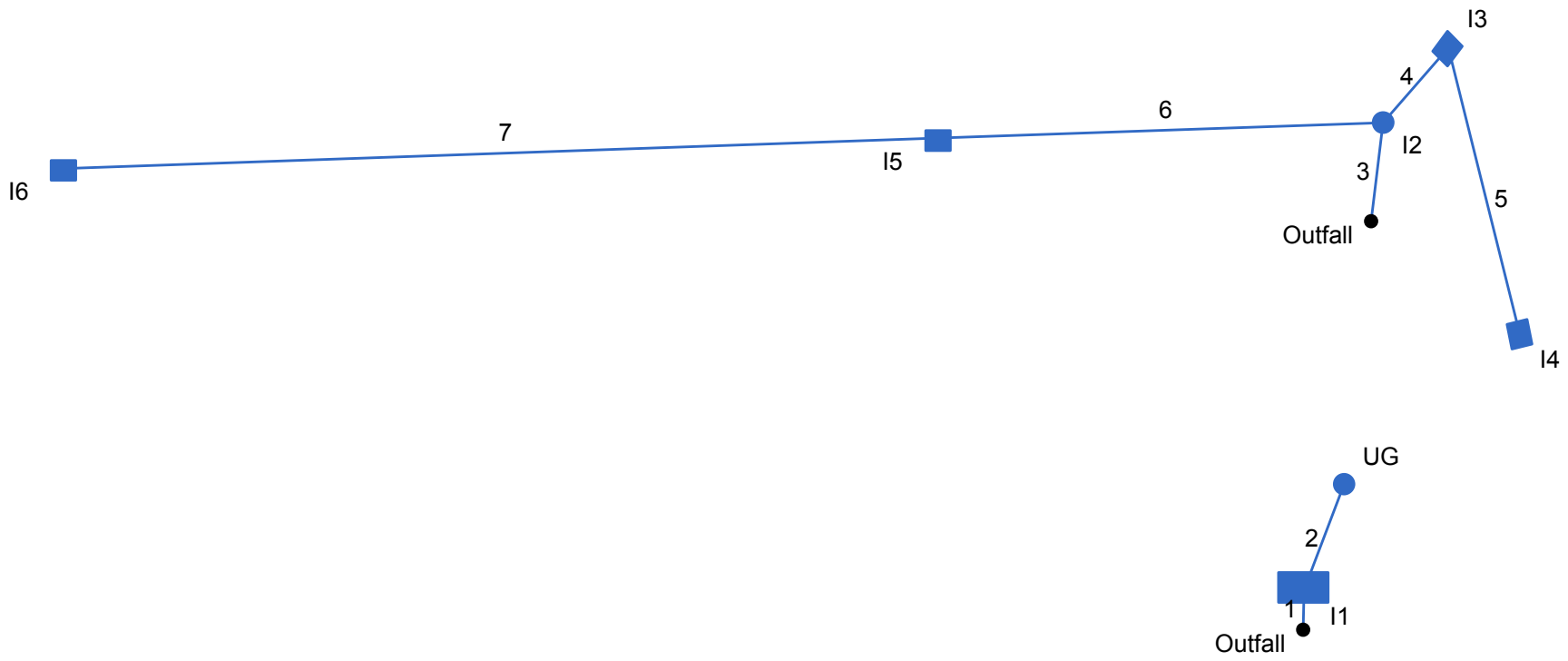
Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q byp (cfs)	Junc type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp line No
							Ht (in)	L (ft)	area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
1	H2	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
2	UG	3.10*	0.00	0.00	3.10	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
3	H3	2.60	0.00	2.60	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	0.15	5.11	0.32	5.11	2.0	Off
4	H4	0.55	0.00	0.55	0.00	Grate	0.0	0.00	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	-0.06	-1.91	0.11	0.71	2.0	Off

STORRS-SYSTEM H | Number of lines: 4 | Run Date: 03-28-2016

NOTES: Inlet N-Values = 0.016 ; Intensity = 54.74 / (Inlet time + 10.80) ^ 0.80; Return period = 10 Yrs. ; * Indicates Known Q added. All curb inlets are Horiz throat.

STORRS-SYSTEM I



Project File: SYSTEM-I.stm	Number of lines: 7	Date: 03-29-2016

Hydraflow Storm Sewers 2008 v12.01

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	8	0.00	0.00	0.00	0.00	0.00	0.0	0.2	0.0	5.51	8.57	5.57	15	1.50	547.62	547.74	548.56	548.68	555.82	556.66	OUT-I1
2	1	23	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	5.51	0.00	3.12	18	0.00	548.00	548.00	549.50	549.55	556.66	556.00	I1-UG
3	End	20	0.00	1.41	0.00	0.00	1.00	0.0	6.8	5.5	5.51	0.00	3.12	18	0.00	548.00	548.00	549.50	549.55	554.00	553.95	UG-I2
4	3	20	0.64	0.82	0.72	0.46	0.60	5.0	5.4	5.9	3.50	3.86	5.39	12	1.00	550.00	550.20	550.75	551.00	553.95	553.41	I2-I3
5	4	60	0.18	0.18	0.75	0.14	0.14	5.0	5.0	6.0	0.81	2.73	1.03	12	0.50	550.20	550.50	551.65	551.68	553.41	554.05	I3-I4
6	3	90	0.21	0.59	0.54	0.11	0.41	5.0	6.2	5.7	2.30	5.46	5.48	12	2.00	550.00	551.80	550.45	552.44	553.95	555.29	I2-I5
7	6	176	0.38	0.38	0.77	0.29	0.29	5.0	5.0	6.0	1.75	2.73	2.88	12	0.50	551.80	552.68	552.83	553.29	555.29	556.13	I5-I6

STORRS-SYSTEM I | Number of lines: 7 | Run Date: 03-29-2016

NOTES: Intensity = 54.74 / (Inlet time + 10.80) ^ 0.80; Return period = 10 Yrs. ; c = cir e = ellip b = box

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-I1	5.51	15	Cir	8	547.62	547.74	1.500	548.56	548.68	n/a	549.37 i	End	Manhole
2	I1-UG	5.51	18	Cir	23	548.00	548.00	0.000	549.50*	549.55*	0.15	549.70	1	Manhole
3	UG-I2	5.51	18	Cir	20	548.00	548.00	0.000	549.50*	549.55*	0.15	549.70	End	Manhole
4	I2-I3	3.50	12	Cir	20	550.00	550.20	1.000	550.75	551.00	n/a	551.65 i	3	Curb-Horiz
5	I3-I4	0.81	12	Cir	60	550.20	550.50	0.500	551.65*	551.68*	0.02	551.70	4	Combination
6	I2-I5	2.30	12	Cir	90	550.00	551.80	2.000	550.45	552.44	n/a	552.83 i	3	Combination
7	I5-I6	1.75	12	Cir	176	551.80	552.68	0.500	552.83	553.29	n/a	553.55 i	6	Combination

STORRS-SYSTEM I | Number of lines: 7 | Run Date: 03-29-2016

NOTES: Return period = 10 Yrs. ; *Surcharged (HGL above crown). ; i - Inlet control.

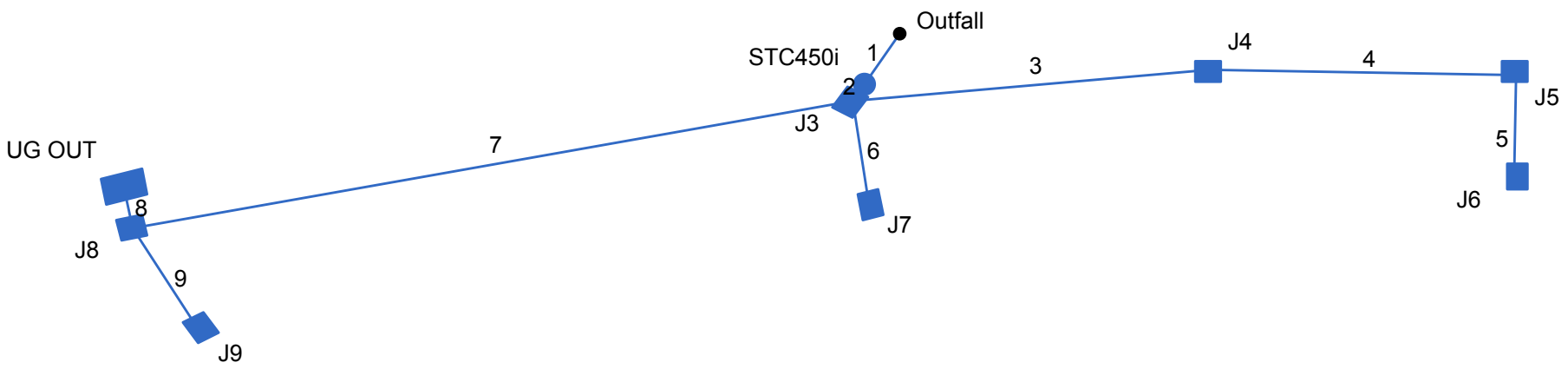
Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q byp (cfs)	Junc type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp line No
							Ht (in)	L (ft)	area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
1	I1	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
2	UG	5.51*	0.00	0.00	5.51	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
3	I2	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
4	I3	2.76	0.00	2.76	0.00	Curb	3.0	2.73	0.00	0.00	0.00	Sag	1.35	0.030	0.030	0.000	0.38	12.55	0.54	12.55	2.0	Off
5	I4	0.81	0.00	0.81	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	-0.02	-0.56	0.15	0.98	2.0	Off
6	I5	0.68	0.67	1.35	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	0.04	1.44	0.21	1.44	2.0	Off
7	I6	1.75	0.00	1.08	0.67	Comb	3.0	2.73	0.00	2.31	1.35	0.020	1.35	0.030	0.030	0.013	0.17	5.63	0.29	4.28	2.0	6

STORRS-SYSTEM I | Number of lines: 7 | Run Date: 03-29-2016

NOTES: Inlet N-Values = 0.016 ; Intensity = 54.74 / (Inlet time + 10.80) ^ 0.80; Return period = 10 Yrs. ; * Indicates Known Q added. All curb inlets are Horiz throat.

STORRS-SYSTEM J



Project File: SYSTEM-J.stm	Number of lines: 9	Date: 03-28-2016

Hydraflow Storm Sewers 2008 v12.01

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	12	0.00	0.75	0.00	0.00	0.58	0.0	6.1	5.7	8.78	17.33	5.24	24	0.50	546.00	546.06	547.05	547.11	552.00	552.60	OUT-STC900
2	1	4	0.10	0.75	0.71	0.07	0.58	5.0	6.1	5.7	8.78	27.39	3.49	24	1.25	546.14	546.19	547.67	547.66	552.60	551.76	STC900-J3
3	2	70	0.04	0.33	0.72	0.03	0.29	5.0	5.5	5.8	1.69	3.23	2.15	12	0.70	546.19	546.68	547.80	547.93	551.76	550.37	J3-J4
4	3	60	0.11	0.29	0.90	0.10	0.26	5.0	5.1	5.9	1.55	2.73	1.98	12	0.50	546.68	546.98	547.98	548.07	550.37	549.97	J4-J5
5	4	20	0.18	0.18	0.90	0.16	0.16	5.0	5.0	6.0	0.97	2.73	1.24	12	0.50	546.98	547.08	548.20	548.22	549.97	549.97	J5-J6
6	2	20	0.08	0.08	0.76	0.06	0.06	5.0	5.0	6.0	0.36	2.73	2.34	12	0.50	548.16	548.26	548.41	548.52	551.76	551.76	J7-J3
7	2	143	0.09	0.24	0.81	0.07	0.16	5.0	5.2	5.9	6.43	7.00	5.24	15	1.00	546.19	547.62	547.80	549.01	551.76	555.82	J3-J8
8	7	8	0.00	0.00	0.00	0.00	0.00	5.0	5.0	0.0	5.51	8.57	4.49	15	1.50	547.62	547.74	549.55	549.59	555.82	556.66	UG-OUT-J8
9	7	24	0.15	0.15	0.55	0.08	0.08	5.0	5.0	6.0	0.49	3.86	2.93	12	1.00	552.24	552.48	552.48	552.78	555.82	555.48	J8-J9

STORRS-SYSTEM J | Number of lines: 9 | Run Date: 03-28-2016

NOTES: Intensity = 54.74 / (Inlet time + 10.80) ^ 0.80; Return period = 10 Yrs. ; c = cir e = ellip b = box

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-STC900	8.78	24	Cir	12	546.00	546.06	0.500	547.05	547.11	n/a	547.67 i	End	Manhole
2	STC900-J3	8.78	24	Cir	4	546.14	546.19	1.250	547.67	547.66	n/a	547.80 i	1	Combination
3	J3-J4	1.69	12	Cir	70	546.19	546.68	0.700	547.80*	547.93*	0.04	547.97	2	Combination
4	J4-J5	1.55	12	Cir	60	546.68	546.98	0.500	547.98*	548.07*	0.09	548.17	3	Combination
5	J5-J6	0.97	12	Cir	20	546.98	547.08	0.500	548.20*	548.22*	0.02	548.24	4	Combination
6	J7-J3	0.36	12	Cir	20	548.16	548.26	0.500	548.41	548.52	n/a	548.58 i	2	Combination
7	J3-J8	6.43	15	Cir	143	546.19	547.62	1.000	547.80*	549.01*	n/a	549.55 i	2	Combination
8	UG-OUT-J8	5.51	15	Cir	8	547.62	547.74	1.500	549.55*	549.59*	0.31	549.91	7	Manhole
9	J8-J9	0.49	12	Cir	24	552.24	552.48	1.000	552.48	552.78	n/a	552.87 i	7	Combination

STORRS-SYSTEM J | Number of lines: 9 | Run Date: 03-28-2016

NOTES: Return period = 10 Yrs. ; *Surcharged (HGL above crown). ; i - Inlet control.

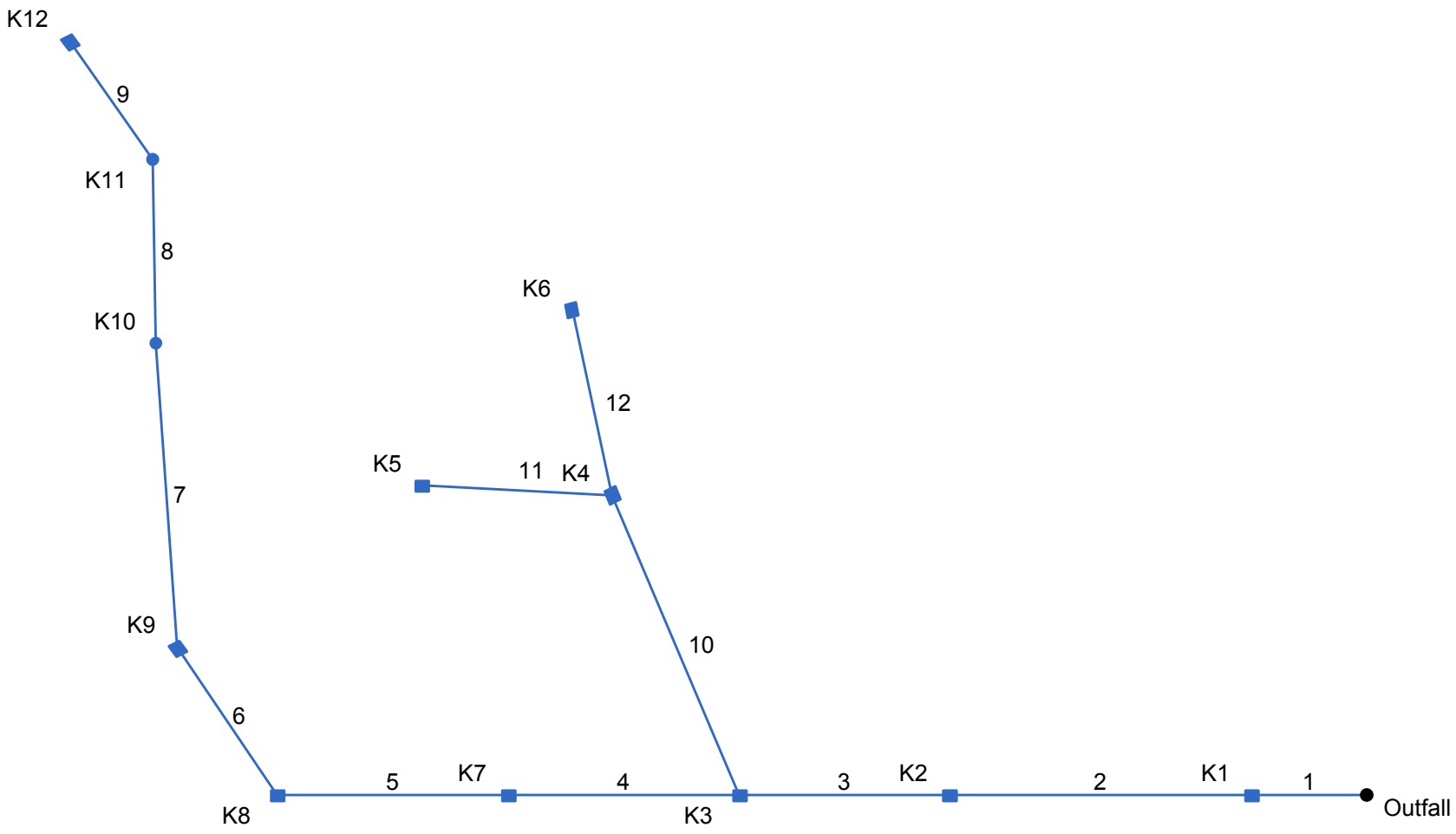
Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q byp (cfs)	Junc type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp line No
							Ht (in)	L (ft)	area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
1	STC450i	0.00	0.10	0.00	0.10	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
2	J3	0.43	0.12	0.45	0.10	Comb	3.0	2.73	0.00	2.31	1.35	0.027	1.35	0.030	0.030	0.013	0.10	3.47	0.19	1.24	2.0	1
3	J4	0.17	0.00	0.17	0.00	Comb	3.0	2.73	0.00	2.31	1.35	0.010	1.35	0.030	0.030	0.013	0.08	2.70	0.15	0.97	2.0	2
4	J5	0.59	0.00	0.59	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	-0.05	-1.56	0.12	0.78	2.0	Off
5	J6	0.97	0.00	0.97	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	0.00	0.11	0.17	1.11	2.0	Off
6	J7	0.36	0.08	0.38	0.07	Comb	3.0	2.73	0.00	2.31	1.35	0.027	1.35	0.030	0.030	0.013	0.10	3.20	0.18	1.15	2.0	2
7	J8	0.44	0.00	0.38	0.06	Comb	3.0	2.73	0.00	2.31	1.35	0.027	1.35	0.030	0.030	0.013	0.10	3.17	0.18	1.14	2.0	2
8	UG OUT	5.51*	0.00	0.00	5.51	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
9	J9	0.49	0.00	0.41	0.08	Comb	3.0	2.73	0.00	2.31	1.35	0.027	1.35	0.030	0.030	0.013	0.10	3.33	0.18	1.19	2.0	6

STORRS-SYSTEM J | Number of lines: 9 | Run Date: 03-28-2016

NOTES: Inlet N-Values = 0.016 ; Intensity = 54.74 / (Inlet time + 10.80) ^ 0.80; Return period = 10 Yrs. ; * Indicates Known Q added. All curb inlets are Horiz throat.

STORRS-SYSTEM K



Project File: SYSTEM-K.stm	Number of lines: 12	Date: 03-28-2016

Hydraflow Storm Sewers 2008 v12.01

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	44	0.33	3.06	0.51	0.17	2.23	5.0	9.5	4.9	10.90	12.86	6.88	18	1.50	544.00	544.66	545.26	545.92	550.68	549.50	OUT-K1
2	1	115	0.35	2.73	0.80	0.28	2.06	5.0	8.8	5.0	10.39	11.38	5.88	18	1.00	545.30	546.45	547.17	548.13	549.50	551.51	K1-K2
3	2	80	0.50	2.38	0.75	0.38	1.78	5.0	8.2	5.2	9.18	9.52	5.19	18	0.70	546.45	547.01	548.82	549.34	551.51	551.51	K2-K3
4	3	88	0.23	1.31	0.57	0.13	0.97	5.0	7.6	5.3	5.12	5.87	4.17	15	0.70	547.26	547.88	550.08	550.55	551.51	552.00	K3-K7
5	4	88	0.71	1.08	0.79	0.56	0.84	5.0	7.1	5.4	4.54	6.24	3.70	15	0.80	547.88	548.58	550.74	551.11	552.00	553.09	K7-K8
6	5	68	0.07	0.37	0.79	0.06	0.27	5.0	6.6	5.5	1.52	6.68	2.17	12	3.00	548.83	550.87	551.54	551.63	553.09	554.83	K8-K9
7	6	116	0.09	0.30	0.55	0.05	0.22	5.0	5.8	5.7	1.26	6.34	2.65	12	2.70	550.87	554.00	551.66	554.48	554.83	557.00	K9-K10
8	7	70	0.00	0.21	0.00	0.00	0.17	0.0	5.4	5.9	1.00	4.05	2.42	12	1.10	554.00	554.77	554.70	555.19	557.00	559.68	K10-K11
9	8	55	0.21	0.21	0.81	0.17	0.17	5.0	5.0	6.0	1.02	2.75	2.60	12	0.51	554.77	555.05	555.38	555.48	559.68	558.03	K11-K12
10	3	124	0.14	0.57	0.79	0.11	0.44	5.0	5.5	5.8	2.55	4.53	3.88	12	1.38	548.51	550.22	550.19	550.90	551.51	553.22	K3-K4
11	10	72	0.30	0.30	0.80	0.24	0.24	5.0	5.0	6.0	1.44	3.86	2.70	12	1.00	550.22	550.94	551.32	551.45	553.22	555.10	K4-K5
12	10	72	0.13	0.13	0.66	0.09	0.09	5.0	5.0	6.0	0.51	2.73	0.73	12	0.50	550.22	550.58	551.32	551.33	553.22	555.00	K5-K6

STORRS-SYSTEM K | Number of lines: 12 | Run Date: 03-28-2016

NOTES: Intensity = 54.74 / (Inlet time + 10.80) ^ 0.80; Return period = 10 Yrs. ; c = cir e = ellip b = box

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-K1	10.90	18	Cir	44	544.00	544.66	1.500	545.26	545.92	n/a	547.17 i	End	Grate
2	K1-K2	10.39	18	Cir	115	545.30	546.45	1.000	547.17*	548.13*	n/a	548.82 i	1	Combination
3	K2-K3	9.18	18	Cir	80	546.45	547.01	0.700	548.82*	549.34*	0.59	549.93	2	Combination
4	K3-K7	5.12	15	Cir	88	547.26	547.88	0.705	550.08*	550.55*	0.14	550.68	3	Grate
5	K7-K8	4.54	15	Cir	88	547.88	548.58	0.795	550.74*	551.11*	0.27	551.39	4	Combination
6	K8-K9	1.52	12	Cir	68	548.83	550.87	3.000	551.54	551.63	n/a	551.66 i	5	Combination
7	K9-K10	1.26	12	Cir	116	550.87	554.00	2.698	551.66	554.48	n/a	554.70 i	6	Grate
8	K10-K11	1.00	12	Cir	70	554.00	554.77	1.100	554.70	555.19	n/a	555.38 i	7	Manhole
9	K11-K12	1.02	12	Cir	55	554.77	555.05	0.509	555.38	555.48	n/a	555.66 i	8	Combination
10	K3-K4	2.55	12	Cir	124	548.51	550.22	1.379	550.19	550.90	n/a	551.32 i	3	Combination
11	K4-K5	1.44	12	Cir	72	550.22	550.94	1.000	551.32	551.45	n/a	551.70 i	10	Combination
12	K5-K6	0.51	12	Cir	72	550.22	550.58	0.500	551.32	551.33	0.01	551.34	10	Combination

STORRS-SYSTEM K | Number of lines: 12 | Run Date: 03-28-2016

NOTES: Return period = 10 Yrs. ; *Surcharged (HGL above crown). ; i - Inlet control.

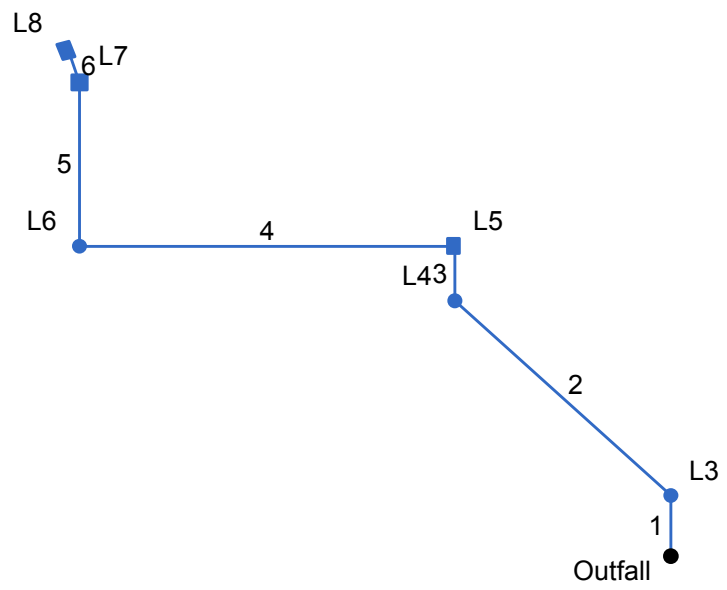
Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q byp (cfs)	Junc type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp line No
							Ht (in)	L (ft)	area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
1	K1	1.01	0.00	1.01	0.00	Grate	0.0	0.00	3.14	2.31	1.35	Sag	1.35	0.050	0.020	0.000	0.04	0.78	0.16	1.15	2.0	Off
2	K2	1.68	0.00	1.68	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	0.07	2.44	0.24	2.44	2.0	Off
3	K3	2.25	0.00	2.25	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	0.12	4.11	0.29	4.11	2.0	Off
4	K7	0.79	0.00	0.79	0.00	Grate	0.0	0.00	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	-0.03	-0.90	0.14	0.91	2.0	Off
5	K8	3.36	0.00	3.36	0.00	Comb	3.0	5.88	6.26	4.62	1.35	Sag	1.35	0.030	0.030	0.000	0.12	4.11	0.29	4.11	2.0	Off
6	K9	0.33	0.00	0.33	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	-0.09	-2.89	0.08	0.52	2.0	Off
7	K10	0.30	0.00	0.30	0.00	Grate	0.0	0.00	1.00	1.00	1.00	Sag	1.35	0.030	0.030	0.000	-0.06	-2.13	0.10	0.67	2.0	Off
8	K11	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
9	K12	1.02	0.00	1.02	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	0.00	0.11	0.17	1.11	2.0	Off
10	K4	0.66	0.00	0.66	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	-0.04	-1.22	0.13	0.85	2.0	Off
11	K5	1.44	0.00	1.44	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	0.04	1.44	0.21	1.44	2.0	Off
12	K6	0.51	0.00	0.51	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	-0.06	-1.89	0.11	0.72	2.0	Off

STORRS-SYSTEM K | Number of lines: 12 | Run Date: 03-28-2016

NOTES: Inlet N-Values = 0.016 ; Intensity = 54.74 / (Inlet time + 10.80) ^ 0.80; Return period = 10 Yrs. ; * Indicates Known Q added. All curb inlets are Horiz throat.

STORRS-SYSTEM L



Project File: SYSTEM-L.stm	Number of lines: 6	Date: 03-28-2016

Hydraflow Storm Sewers 2008 v12.01

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Dn	Up	Dn	Up	Dn	Up	
		(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
1	End	20	0.00	0.48	0.00	0.00	0.39	0.0	7.0	5.4	2.11	0.00	1.72	15	0.00	544.00	544.00	545.25	545.27	550.00	549.93	UG-L3
2	1	96	0.00	0.48	0.00	0.00	0.39	0.0	6.4	5.6	2.17	2.73	3.86	12	0.50	544.81	545.29	545.48	545.96	549.93	550.95	L3-L4
3	2	18	0.20	0.48	0.85	0.17	0.39	5.0	6.3	5.6	2.18	2.73	2.80	12	0.50	545.29	545.38	546.28	546.33	550.95	550.05	L4-L5
4	3	124	0.00	0.28	0.00	0.00	0.22	0.0	5.4	5.9	1.27	7.72	2.53	12	4.00	545.38	550.34	546.38	550.82	550.05	555.23	L5-L6
5	4	54	0.13	0.28	0.83	0.11	0.22	5.0	5.1	6.0	1.30	2.73	2.72	12	0.50	550.34	550.61	551.05	551.12	555.23	553.67	L6-L7
6	5	12	0.15	0.15	0.73	0.11	0.11	5.0	5.0	6.0	0.66	2.73	1.15	12	0.50	550.61	550.67	551.33	551.33	553.67	553.67	L7-L8

STORRS-SYSTEM L | Number of lines: 6 | Run Date: 03-28-2016

NOTES: Intensity = 54.74 / (Inlet time + 10.80) ^ 0.80; Return period = 10 Yrs. ; c = cir e = ellip b = box

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	UG-L3	2.11	15	Cir	20	544.00	544.00	0.000	545.25*	545.27*	0.04	545.30	End	Manhole
2	L3-L4	2.17	12	Cir	96	544.81	545.29	0.500	545.48	545.96	n/a	546.28 i	1	Manhole
3	L4-L5	2.18	12	Cir	18	545.29	545.38	0.500	546.28	546.33	n/a	546.38 i	2	Combination
4	L5-L6	1.27	12	Cir	124	545.38	550.34	4.000	546.38	550.82	n/a	551.05 i	3	Manhole
5	L6-L7	1.30	12	Cir	54	550.34	550.61	0.500	551.05	551.12	n/a	551.33 i	4	Combination
6	L7-L8	0.66	12	Cir	12	550.61	550.67	0.500	551.33	551.33	0.02	551.35	5	Combination

STORRS-SYSTEM L | Number of lines: 6 | Run Date: 03-28-2016

NOTES: Return period = 10 Yrs. ; *Surcharged (HGL above crown). ; i - Inlet control.

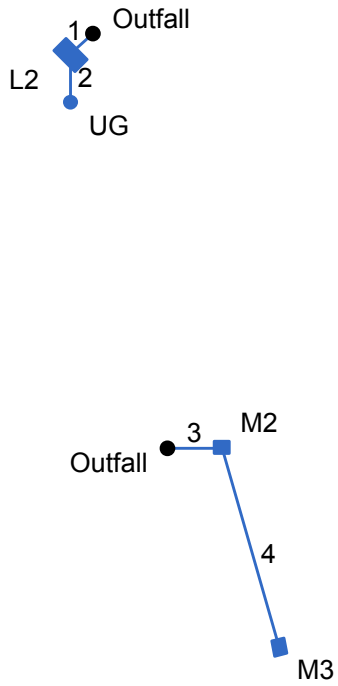
Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q byp (cfs)	Junc type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp line No
							Ht (in)	L (ft)	area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
1	L3	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
2	L4	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
3	L5	1.02	0.00	1.02	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	0.00	0.11	0.17	1.11	2.0	Off
4	L6	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
5	L7	0.65	0.00	0.65	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	-0.04	-1.22	0.13	0.85	2.0	Off
6	L8	0.66	0.00	0.66	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	-0.04	-1.22	0.13	0.85	2.0	Off

STORRS-SYSTEM L | Number of lines: 6 | Run Date: 03-28-2016

NOTES: Inlet N-Values = 0.016 ; Intensity = 54.74 / (Inlet time + 10.80) ^ 0.80; Return period = 10 Yrs. ; * Indicates Known Q added. All curb inlets are Horiz throat.

STORRS-SYSTEM M



Project File: SYSTEM-M.stm	Number of lines: 4	Date: 03-28-2016

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	10	0.00	0.00	0.00	0.00	0.00	0.0	0.1	0.0	10.00	0.00	3.18	24	0.00	544.00	544.00	546.00	546.02	550.00	549.55	OUT-L2
2	1	16	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	10.00	0.00	3.18	24	0.00	544.00	544.00	546.14	546.17	549.55	549.55	L2-UG
3	End	18	0.45	0.57	0.78	0.35	0.45	5.0	6.5	5.6	2.50	0.00	3.44	15	0.00	544.00	544.00	544.65	544.81	550.25	548.63	UG-M2
4	3	68	0.12	0.12	0.82	0.10	0.10	5.0	5.0	6.0	0.59	2.73	2.70	12	0.50	546.00	546.34	546.32	546.67	548.63	549.34	M2-M1

STORRS-SYSTEM M | Number of lines: 4 | Run Date: 03-28-2016

NOTES: Intensity = 54.74 / (Inlet time + 10.80) ^ 0.80; Return period = 10 Yrs. ; c = cir e = ellip b = box

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-L2	10.00	24	Cir	10	544.00	544.00	0.000	546.00*	546.02*	0.12	546.14	End	Manhole
2	L2-UG	10.00	24	Cir	16	544.00	544.00	0.000	546.14*	546.17*	0.16	546.32	1	Manhole
3	UG-M2	2.50	15	Cir	18	544.00	544.00	0.000	544.65	544.81	n/a	544.95 i	End	Combination
4	M2-M1	0.59	12	Cir	68	546.00	546.34	0.500	546.32	546.67	n/a	546.77 i	3	Combination

STORRS-SYSTEM M | Number of lines: 4 | Run Date: 03-28-2016

NOTES: Return period = 10 Yrs. ; *Surcharged (HGL above crown). ; i - Inlet control.

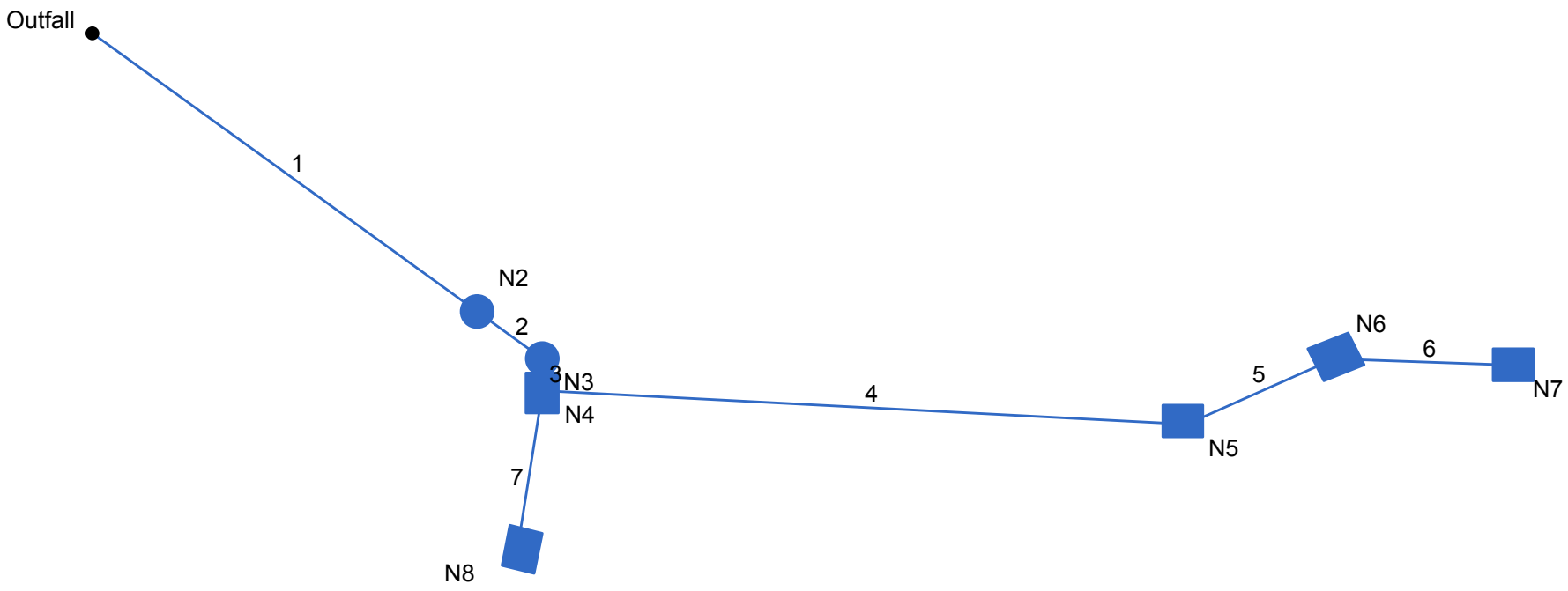
Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q byp (cfs)	Junc type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp line No
							Ht (in)	L (ft)	area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
1	L2	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
2	UG	10.00*	0.00	0.00	10.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
3	M2	2.10	0.00	2.10	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	0.10	3.44	0.27	3.44	2.0	Off
4	M3	0.59	0.00	0.59	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	-0.05	-1.56	0.12	0.78	2.0	Off

STORRS-SYSTEM M | Number of lines: 4 | Run Date: 03-28-2016

NOTES: Inlet N-Values = 0.016 ; Intensity = 54.74 / (Inlet time + 10.80) ^ 0.80; Return period = 10 Yrs. ; * Indicates Known Q added. All curb inlets are Horiz throat.

STORRS-SYSTEM N



Project File: SYSTEM-N.stm	Number of lines: 7	Date: 03-28-2016

Hydraflow Storm Sewers 2008 v12.01

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	59	0.00	0.34	0.00	0.00	0.24	0.0	5.9	5.7	4.23	9.13	4.94	15	2.00	546.00	547.18	546.82	548.00	548.00	555.50	OUT-N2
2	1	10	0.00	0.34	0.00	0.00	0.24	0.0	5.8	5.7	4.23	4.95	4.53	15	0.50	551.13	551.18	552.02	552.07	555.50	555.75	N2-STC450i
3	2	4	0.06	0.34	0.58	0.03	0.24	5.0	5.8	5.8	4.24	9.89	3.45	15	2.00	551.18	551.26	552.51	552.53	555.75	554.71	STC450i-N4
4	3	80	0.03	0.11	0.82	0.02	0.08	5.0	5.3	5.9	3.32	12.71	3.58	15	3.30	551.26	553.90	552.60	554.63	554.71	559.17	N4-N5
5	4	20	0.00	0.08	0.00	0.00	0.06	5.0	5.1	5.9	3.17	4.95	2.77	15	0.50	553.90	554.00	555.04	555.07	559.17	561.20	N5-N6
6	5	22	0.08	0.08	0.72	0.06	0.06	5.0	5.0	6.0	0.35	9.41	3.97	12	5.95	557.70	559.01	557.83	559.26	561.20	562.51	N6-N7
7	3	20	0.17	0.17	0.75	0.13	0.13	5.0	5.0	6.0	0.76	2.73	0.97	12	0.50	551.51	551.61	552.60	552.60	554.71	554.71	N4-N8

STORRS-SYSTEM N | Number of lines: 7 | Run Date: 03-28-2016

NOTES: Intensity = 54.74 / (Inlet time + 10.80) ^ 0.80; Return period = 10 Yrs. ; c = cir e = ellip b = box

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-N2	4.23	15	Cir	59	546.00	547.18	2.000	546.82	548.00	n/a	548.51 i	End	Manhole
2	N2-STC450i	4.23	15	Cir	10	551.13	551.18	0.500	552.02	552.07	n/a	552.51 i	1	Manhole
3	STC450i-N4	4.24	15	Cir	4	551.18	551.26	2.000	552.51*	552.53*	n/a	552.60 i	2	Combination
4	N4-N5	3.32	15	Cir	80	551.26	553.90	3.300	552.60	554.63	n/a	555.04 i	3	Combination
5	N5-N6	3.17	15	Cir	20	553.90	554.00	0.500	555.04	555.07	n/a	555.11 i	4	Combination
6	N6-N7	0.35	12	Cir	22	557.70	559.01	5.955	557.83	559.26	n/a	559.32 i	5	Combination
7	N4-N8	0.76	12	Cir	20	551.51	551.61	0.500	552.60	552.60	0.01	552.62	3	Combination

STORRS-SYSTEM N | Number of lines: 7 | Run Date: 03-28-2016

NOTES: Return period = 10 Yrs. ; *Surcharged (HGL above crown). ; i - Inlet control.

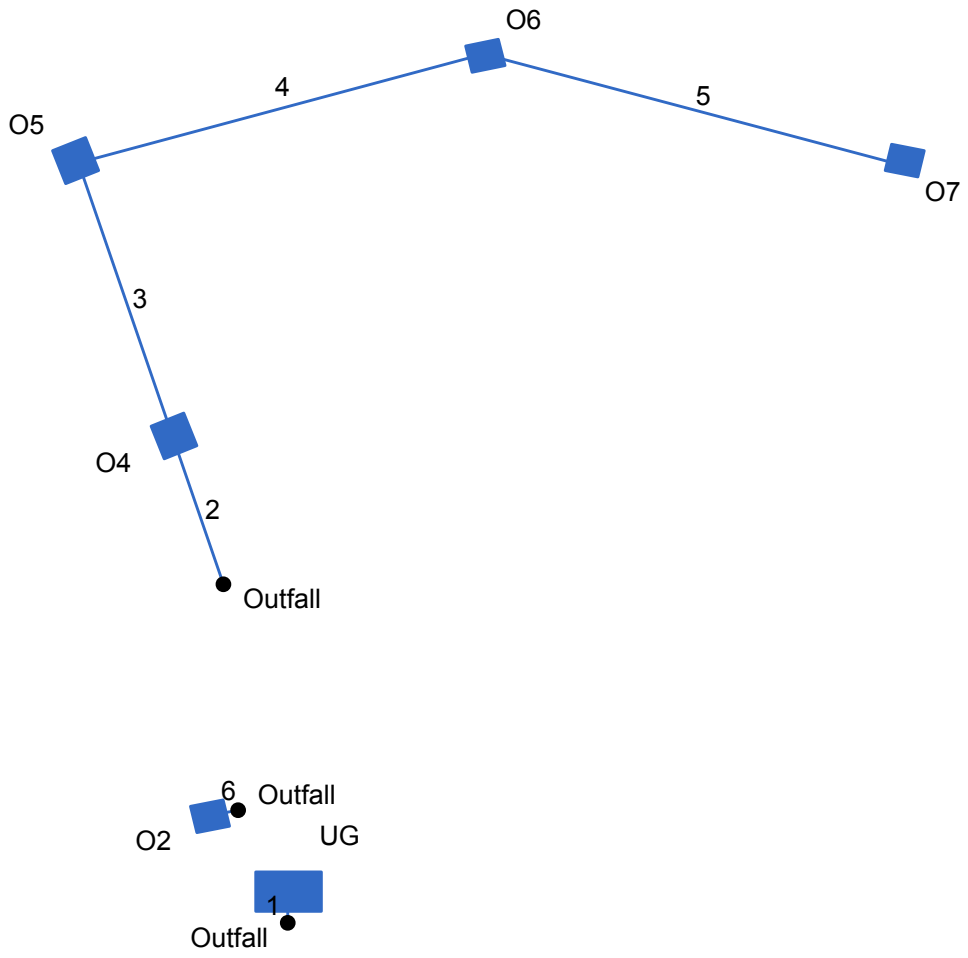
Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q byp (cfs)	Junc type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp line No
							Ht (in)	L (ft)	area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
1	N2	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
2	N3	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
3	N4	0.21	0.53	0.74	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	-0.03	-0.89	0.14	0.91	2.0	Off
4	N5	0.15	1.33	0.94	0.53	Comb	3.0	2.73	0.00	2.31	1.35	0.013	1.35	0.030	0.030	0.013	0.17	5.73	0.30	4.38	2.0	3
5	N6	2.83*	0.00	1.50	1.33	Comb	3.0	2.73	0.00	2.31	1.35	0.013	1.35	0.030	0.030	0.013	0.22	7.30	0.36	6.31	2.0	4
6	N7	0.35	0.00	0.35	0.00	Comb	3.0	2.73	0.00	2.31	1.35	0.013	1.35	0.030	0.030	0.013	0.10	3.33	0.18	1.20	2.0	Off
7	N8	0.76	0.00	0.76	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	-0.03	-0.89	0.14	0.91	2.0	Off

STORRS-SYSTEM N | Number of lines: 7 | Run Date: 03-28-2016

NOTES: Inlet N-Values = 0.016 ; Intensity = 54.74 / (Inlet time + 10.80) ^ 0.80; Return period = 10 Yrs. ; * Indicates Known Q added. All curb inlets are Horiz throat.

STORRS-SYSTEM O



Project File: SYSTEM-O.stm	Number of lines: 6	Date: 03-28-2016

Hydraflow Storm Sewers 2008 v12.01

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	5	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	2.83	0.00	2.31	15	0.00	555.00	555.00	556.25	556.26	561.20	561.50	N6-UG
2	End	24	0.06	0.64	0.71	0.04	0.28	5.0	6.2	5.7	1.60	4.57	3.40	15	0.50	555.00	555.12	555.51	555.63	561.50	561.97	UG-O4
3	2	44	0.30	0.58	0.51	0.15	0.24	5.0	5.9	5.7	1.38	6.10	4.90	12	2.50	558.11	559.21	558.43	559.71	561.97	563.08	O4-O5
4	3	64	0.05	0.28	0.63	0.03	0.09	5.0	5.4	5.9	0.51	4.72	1.67	12	1.50	559.21	560.17	559.95	560.47	563.08	564.30	O5-O6
5	4	66	0.23	0.23	0.24	0.06	0.06	5.0	5.0	6.0	0.33	2.72	1.69	12	0.50	560.17	560.50	560.56	560.74	564.30	563.50	O6-O7
6	End	4	0.27	0.27	0.76	0.21	0.21	5.0	5.0	6.0	1.23	2.73	3.37	12	0.50	555.00	555.02	555.47	555.49	561.50	560.35	UG-O2

STORRS-SYSTEM O | Number of lines: 6 | Run Date: 03-28-2016

NOTES: Intensity = 54.74 / (Inlet time + 10.80) ^ 0.80; Return period = 10 Yrs. ; c = cir e = ellip b = box

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	N6-UG	2.83	15	Cir	5	555.00	555.00	0.000	556.25*	556.26*	0.08	556.34	End	Manhole
2	UG-O4	1.60	15	Cir	24	555.00	555.12	0.500	555.51	555.63	n/a	555.84 i	End	Curb-Horiz
3	O4-O5	1.38	12	Cir	44	558.11	559.21	2.500	558.43	559.71	n/a	559.95 i	2	Curb-Horiz
4	O5-O6	0.51	12	Cir	64	559.21	560.17	1.500	559.95	560.47	n/a	560.56 i	3	Grate
5	O6-O7	0.33	12	Cir	66	560.17	560.50	0.499	560.56	560.74	n/a	560.80 i	4	Combination
6	UG-O2	1.23	12	Cir	4	555.00	555.02	0.500	555.47	555.49	n/a	555.71 i	End	Combination

STORRS-SYSTEM O | Number of lines: 6 | Run Date: 03-28-2016

NOTES: Return period = 10 Yrs. ; *Surcharged (HGL above crown). ; i - Inlet control.

Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q byp (cfs)	Junc type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp line No
							Ht (in)	L (ft)	area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
1	UG	2.83*	0.00	0.00	2.83	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
2	O4	0.26	0.00	0.26	0.00	Curb	3.0	2.73	0.00	0.00	0.00	Sag	1.35	0.030	0.030	0.000	0.08	2.54	0.24	2.54	2.0	Off
3	O5	0.92	0.00	0.92	0.00	Curb	3.0	2.73	0.00	0.00	0.00	Sag	1.35	0.030	0.030	0.000	0.18	5.99	0.35	5.99	2.0	Off
4	O6	0.19	0.00	0.19	0.00	Grate	0.0	0.00	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	-0.11	-3.76	0.05	0.35	2.0	Off
5	O7	0.33	0.00	0.33	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	-0.09	-2.89	0.08	0.52	2.0	Off
6	O2	1.23	0.00	1.23	0.00	Comb	3.0	2.73	3.14	2.31	1.35	Sag	1.35	0.030	0.030	0.000	0.02	0.78	0.19	1.24	2.0	Off

STORRS-SYSTEM O | Number of lines: 6 | Run Date: 03-28-2016

NOTES: Inlet N-Values = 0.016 ; Intensity = 54.74 / (Inlet time + 10.80) ^ 0.80; Return period = 10 Yrs. ; * Indicates Known Q added. All curb inlets are Horiz throat.

Stormceptor Design Summary

PCSWMM for Stormceptor

Project Information

Date	3/25/2016
Project Name	Storrs Lodges
Project Number	04161
Location	System F

Designer Information

Company	FAHA
Contact	G. Hesketh

Notes

N/A

Drainage Area

Total Area (ac)	0.546
Imperviousness (%)	55.3

The Stormceptor System model STC 450i achieves the water quality objective removing 87% TSS for a Fine (organics, silts and sand) particle size distribution.

Rainfall

Name	MANSFIELD HOLLOW LAKE
State	CT
ID	4488
Years of Records	1984 to 1997
Latitude	41°27'0"N
Longitude	72°6'36"W

Water Quality Objective

TSS Removal (%)	80

Upstream Storage

Storage (ac-ft)	Discharge (cfs)
0	0

Stormceptor Sizing Summary

Stormceptor Model	TSS Removal %
STC 450i	**87**
STC 900	92
STC 1200	92
STC 1800	92
STC 2400	94
STC 3600	95
STC 4800	96
STC 6000	96
STC 7200	97
STC 11000	98
STC 13000	98
STC 16000	98

Particle Size Distribution

Removing silt particles from runoff ensures that the majority of the pollutants, such as hydrocarbons and heavy metals that adhere to fine particles, are not discharged into our natural water courses. The table below lists the particle size distribution used to define the annual TSS removal.

Fine (organics, silts and sand)

Particle Size µm	Distribution %	Specific Gravity	Settling Velocity ft/s		Particle Size µm	Distribution %	Specific Gravity	Settling Velocity ft/s
20	20	1.3	0.0013					
60	20	1.8	0.0051					
150	20	2.2	0.0354					
400	20	2.65	0.2123					
2000	20	2.65	0.9417					

Stormceptor Design Notes

- Stormceptor performance estimates are based on simulations using PCSWMM for Stormceptor.
- Design estimates listed are only representative of specific project requirements based on total suspended solids (TSS) removal.
- Only the STC 450i is adaptable to function with a catch basin inlet and/or inline pipes.
- Only the Stormceptor models STC 450i to STC 7200 may accommodate multiple inlet pipes.
- Inlet and outlet invert elevation differences are as follows:

Inlet and Outlet Pipe Invert Elevations Differences

Inlet Pipe Configuration	STC 450i	STC 900 to STC 7200	STC 11000 to STC 16000
Single inlet pipe	3 in.	1 in.	3 in.
Multiple inlet pipes	3 in.	3 in.	Only one inlet pipe.

- Design estimates are based on stable site conditions only, after construction is completed.
- Design estimates assume that the storm drain is not submerged during zero flows. For submerged applications, please contact your local Stormceptor representative.
- Design estimates may be modified for specific spills controls. Please contact your local Stormceptor representative for further assistance.
- For pricing inquiries or assistance, please contact Rinker Materials 1 (800) 909-7763 www.rinkerstormceptor.com

Stormceptor Design Summary

PCSWMM for Stormceptor

Project Information

Date	3/25/2016
Project Name	Storrs Lodges
Project Number	04161
Location	System G

Designer Information

Company	FAHA
Contact	G. Hesketh

Notes

N/A

Drainage Area

Total Area (ac)	1.193
Imperviousness (%)	65

The Stormceptor System model STC 900 achieves the water quality objective removing 85% TSS for a Fine (organics, silts and sand) particle size distribution.

Rainfall

Name	MANSFIELD HOLLOW LAKE
State	CT
ID	4488
Years of Records	1984 to 1997
Latitude	41°27'0"N
Longitude	72°6'36"W

Water Quality Objective

TSS Removal (%)	80

Upstream Storage

Storage (ac-ft)	Discharge (cfs)
0	0

Stormceptor Sizing Summary

Stormceptor Model	TSS Removal %
STC 450i	78
STC 900	**85**
STC 1200	85
STC 1800	86
STC 2400	89
STC 3600	89
STC 4800	92
STC 6000	92
STC 7200	93
STC 11000	95
STC 13000	95
STC 16000	96

Particle Size Distribution

Removing silt particles from runoff ensures that the majority of the pollutants, such as hydrocarbons and heavy metals that adhere to fine particles, are not discharged into our natural water courses. The table below lists the particle size distribution used to define the annual TSS removal.

Fine (organics, silts and sand)

Particle Size µm	Distribution %	Specific Gravity	Settling Velocity ft/s		Particle Size µm	Distribution %	Specific Gravity	Settling Velocity ft/s
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150	20	2.2	0.0354					
400	20	2.65	0.2123					
2000	20	2.65	0.9417					

Stormceptor Design Notes

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Stormceptor Design Summary

PCSWMM for Stormceptor

Project Information

Date	3/25/2016
Project Name	Storrs Lodges
Project Number	04161
Location	System J

Designer Information

Company	FAHA
Contact	G. Hesketh

Notes

N/A

Drainage Area

Total Area (ac)	0.737
Imperviousness (%)	78.4

The Stormceptor System model STC 450i achieves the water quality objective removing 81% TSS for a Fine (organics, silts and sand) particle size distribution.

Rainfall

Name	MANSFIELD HOLLOW LAKE
State	CT
ID	4488
Years of Records	1984 to 1997
Latitude	41°27'0"N
Longitude	72°6'36"W

Water Quality Objective

TSS Removal (%)	80

Upstream Storage

Storage (ac-ft)	Discharge (cfs)
0	0

Stormceptor Sizing Summary

Stormceptor Model	TSS Removal %
STC 450i	**81**
STC 900	87
STC 1200	88
STC 1800	88
STC 2400	91
STC 3600	91
STC 4800	93
STC 6000	93
STC 7200	95
STC 11000	96
STC 13000	96
STC 16000	97

Particle Size Distribution

Removing silt particles from runoff ensures that the majority of the pollutants, such as hydrocarbons and heavy metals that adhere to fine particles, are not discharged into our natural water courses. The table below lists the particle size distribution used to define the annual TSS removal.

Fine (organics, silts and sand)

Particle Size µm	Distribution %	Specific Gravity	Settling Velocity ft/s		Particle Size µm	Distribution %	Specific Gravity	Settling Velocity ft/s
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60	20	1.8	0.0051					
150	20	2.2	0.0354					
400	20	2.65	0.2123					
2000	20	2.65	0.9417					

Stormceptor Design Notes

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- Inlet and outlet invert elevation differences are as follows:

Inlet and Outlet Pipe Invert Elevations Differences

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Stormceptor Design Summary

PCSWMM for Stormceptor

Project Information

Date	3/25/2016
Project Name	Storrs Lodges
Project Number	04161
Location	System N

Designer Information

Company	FAHA
Contact	G. Hesketh

Notes

N/A

Drainage Area

Total Area (ac)	0.346
Imperviousness (%)	69.9

The Stormceptor System model STC 450i achieves the water quality objective removing 88% TSS for a Fine (organics, silts and sand) particle size distribution.

Rainfall

Name	MANSFIELD HOLLOW LAKE
State	CT
ID	4488
Years of Records	1984 to 1997
Latitude	41°27'0"N
Longitude	72°6'36"W

Water Quality Objective

TSS Removal (%)	80

Upstream Storage

Storage (ac-ft)	Discharge (cfs)
0	0

Stormceptor Sizing Summary

Stormceptor Model	TSS Removal %
STC 450i	**88**
STC 900	93
STC 1200	93
STC 1800	93
STC 2400	95
STC 3600	95
STC 4800	97
STC 6000	97
STC 7200	97
STC 11000	98
STC 13000	98
STC 16000	99

Particle Size Distribution

Removing silt particles from runoff ensures that the majority of the pollutants, such as hydrocarbons and heavy metals that adhere to fine particles, are not discharged into our natural water courses. The table below lists the particle size distribution used to define the annual TSS removal.

Fine (organics, silts and sand)

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150	20	2.2	0.0354					
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Stormceptor Design Notes

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F. A. Hesketh & Associates, Inc.
6 Creamery Brook
East Granby, CT 06026
Civil & Traffic Engineers • Surveyors • Planners • Landscape Architects

JOB 04161 - STORRS
SHEET NO. ____ OF ____
CALCULATED BY DSZ DATE 3/24/16
CHECKED BY ____ DATE ____
SCALE ____

GROUNDWATER RECHARGE VOLUME (GRV)

PER CTDEEP SECTION 7.5.1:

$$GRV = \frac{(D)(A)(I)}{12} \quad \text{(IN AC-FT)}$$

D = 0.25 (TABLE 7-4 - SOIL GROUP B)

A = 18.9 AC

I = 64.8% OR 0.648 (AVERAGED)

$$\text{REQ'D GRV} = \frac{(0.25)(18.9)(0.648)}{12} = \underline{0.26 \text{ AC-FT}}$$

INFILTRATION STORAGE PROVIDED = 1.2 ACFT

∴ GRV IS MET WITH DESIGN

Storrs Lodges

DRAINAGE AREAS

Storm Drain Systems - Water Quality Volume Calculations

(USED FOR GRV)

March 24, 2016

WQV = (1")(R)(A)/12

R= volumetric runoff coefficient= 0.05+0.009 (I)
I = percent impervious coverage
A = site area, in acres

Watershed	Storm Drain System	Area (acres)	I (AVG)	R	Required WQV (Ac-Ft)	Required WQV (C.F.)	Required WQV (C.F.)	Provided WQV U.G. Storage (C.F.)	Provided WQV Biofiltration Basin (C.F.)	Provided WQV Total (C.F.)	TSS Removal * (%)
VIIIA	System A	1.855	79.0	0.761	0.1176	5124	**5124**	6741	1269	**8010**	NA
	~~System B**~~	~~0.433~~	~~0.0~~	~~0.050~~	~~0.0018~~	~~79~~	~~**79**~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~
IIA	System C	1.537	81.7	0.785	0.1006	4381	**4381**	5243	1777	**7020**	NA
	System D	2.976	4.7	0.092	0.0229	997	**997**	NA	1044	**1044**	NA
IVA	System E	2.372	74.6	0.721	0.1426	6212	**6212**	7490	1796	**9286**	NA
	System F	0.546	55.3	0.548	0.0249	1086	**1086**	NA	2222	**2222**	87%
	System G ***	1.193	65.0	0.635	0.0631	2750	**2750**	NA	394	**394**	85%
IXA	System H	0.871	52.0	0.518	0.0376	1638	**1638**	1498	260	**1758**	NA
VIA	System I	1.41	68.6	0.667	0.0784	3416	**5437**	3745	2381	**6126**	NA
	System J	0.737	78.4	0.756	0.0464	2021					81%
VIIA	System K	3.057	71.1	0.690	0.1758	7656	**10638**	11235	1298	**12533**	NA
	System L	0.478	83.9	0.805	0.0321	1397					
	System M	0.562	80.8	0.777	0.0364	1586					
	System N	0.346	69.9	0.679	0.0196	853	**2298**	1048	2381	**3429**	88%
XA	System O	0.916	42.8	0.435	0.0332	1445					NA
		18.9	64.8							1.2 AC-FT	

* via Hydrodynamic Separator
** impervious area is existing off-site area
*** Oversized hydrodynamic separator specified to attain 85% TSS Removal.

7.5.1 Groundwater Recharge Volume (GRV)

Description

The groundwater recharge criterion is intended to maintain pre-development annual groundwater recharge volumes by capturing and infiltrating stormwater runoff. The objective of the groundwater recharge criterion is to maintain water table levels, stream baseflow, and wetland moisture levels. Maintaining pre-development groundwater recharge conditions can also reduce the volume requirements dictated by the other sizing criteria (i.e., water quality, channel protection, and peak flow control) and the overall size and cost of stormwater treatment practices.

The groundwater recharge volume (GRV) is the post-development design recharge volume (i.e., on a storm event basis) required to minimize the loss of annual pre-development groundwater recharge. The GRV is determined as a function of annual pre-development recharge for site-specific soils or surficial materials, average annual rainfall volume, and amount of impervious cover on a site. Several approaches can be used to calculate the GRV:

- ***Hydrologic Soil Group Approach:*** *This method was first developed and adopted by the state of Massachusetts, and has since been implemented in several other states including Maryland and Vermont. This approach involves determining the average annual pre-development recharge volume at a site based on the existing site hydrologic soil groups (HSG) as defined by the United States Natural Resources Conservation Service (NRCS) County Soil Surveys (MADEP, 1997). Based on this approach, the GRV can be calculated as the depth of runoff to be recharged, multiplied by the area of impervious cover, as shown below:*

$$GRV = \frac{(D)(A)(I)}{12}$$

where:
- GRV = groundwater recharge volume (ac-ft)
- D = depth of runoff to be recharged (inches), see **Table 7-4**
- A = site area (acres)
- I = post-development site imperviousness (decimal, not percent) for new development projects or the net increase in site imperviousness for re-development projects

Table 7-4
Groundwater Recharge Depth

NRCS Hydrologic Soil Group	Average Annual Recharge	Groundwater Recharge Depth (D)
A	18 inches/year	0.4 inches
B	12 inches/year	0.25 inches
C	6 inches/year	0.10 inches
D	3 inches/year	0 inches (waived)

Source: MADEP, 1997.
NRCS – Natural Resources Conservation Service

Where more than one hydrologic soil group is present on a site, a composite or weighted recharge value should be calculated based upon the relative area of each soil group. The GRV should be infiltrated in the most permeable soil group available on the site.

- ***USGS Surficial Materials Approach:*** *This approach is similar to the above hydrologic soil group method, except the pre-development average annual recharge quantities and recharge depths are based on the predominant surficial materials classifications on the site (coarse-grained stratified drift versus glacial till and bedrock) as determined from U.S. Geological Survey (USGS) mapping. In areas underlain by coarse-grained stratified drift, average annual recharge is approximately three times greater than from till and bedrock areas. Areas of coarse-grained stratified drift and till/bedrock can be obtained from USGS 7.5-minute topographic maps of 1:24,000 scale, available from the USGS and DEP. Estimates of average annual recharge values for these materials are available from the Connecticut Water Resources Inventory Bulletins prepared jointly by the USGS and DEP for the major drainage basins throughout the state.*