YANTIC RIVER CONSULTANTS, LLC

FILE COPY

STORMWATER MANAGEMENT REPORT

PARKERS PLACE MULTI-FAMILY DEVELOPMENT
PARK PLACE (MAP 11.1, LOT 11)
EAST LYME, CT

PREPARED FOR

OWNER / APPLICANT
PARKERS PLACE LLC
PO BOX 817
EAST LYME, CT 06333

DATE: **SEPTEMBER 29, 2025**
REVISED:

Received
OCT 9 2025
Town of East Lyme
Land Use

TABLE OF CONTENTS

APPLICANT / SITE INFORMATION 1
PROJECT DESCRIPTION AND PURPOSE 1
DESCRIPTION OF EXISTING SITE 1
STORMWATER MANAGEMENT 2
SUMMARY OF APPLICABLE DESIGN CRITERIA 3
SUMMARY OF LID TO REDUCE STORMWATER RUNOFF AND POLLUTANTS 3
STRUCTURAL STORMWATER BMP TREATMENT AND POLLUTANT REMOVAL 4
PEAK FLOW CONTROL 4
PEAK FLOW CALCULATIONS 5
CONCLUSION 6
CONSTRUCTION EROSION AND SEDIMENT CONTROL 6
OPERATION AND MAINTENANCE 6

TABLES

TABLE 1: PROPOSED TREATMENT SUMMARY 4
TABLE 2: PEAK FLOW COMPARISON 5

APPENDICES

A. DRAINAGE MAPS AND WATERSHED DATA
B. HYDROLOGIC CALCULATIONS
C. SUPPLEMENTAL DATA

APPLICANT / SITE INFORMATION

OWNER / APPLICANT
Parkers Place LLC
PO Box 817
East Lyme, CT 06333

SITE
Map 11.1, Lot 11
Park Place
East Lyme, CT 06357

PROJECT DESCRIPTION AND PURPOSE

Parkers Place LLC is proposing to construct a multi-family development with associated amenities on a 6.98-acre parcel of land located on Park Place in East Lyme, CT. The subject parcel is identified as Map 11.1, Lot 11 on the Town of East Lyme Tax Assessor Mapping and is depicted on a map entitled "Topographic Survey Prepared for Pazz Construction LLC, Park Place – East Lyme, Connecticut", Date: January 23, 2023 as revised through 1-31-23, Scale: 1" = 50', prepared by Robert C. Simoni, Licensed Land Surveyor. The above-described parcel is hereinafter referred to as "Site".

The multi-family development will consist of the construction of 10 townhouse style buildings with a total of 60 residential two-bedroom units. Main access will be provided from the southeast via a driveway connection to Park Place.

The full development will include the following improvements:

- 60 two-bedroom townhouse units in ten residential buildings
- 24' wide primary and secondary access driveways
- Pedestrian sidewalks with connection to Park Place
- 146 parking spaces including garages, driveways, and guest parking
- Pole-mounted area lighting of driveways and parking areas
- Exterior active and passive recreation areas and trails
- Stormwater management system consisting of collection, treatment, retention, and attenuation of peak flow rates to maintain existing drainage patterns and discharge conditions
- Sanitary sewer utility including extension of the existing public main in Park Place to serve the site and a private sanitary main to serve the development
- Private water main to serve the development with connection to the existing water main in Park Place along the parcel frontage.
- Electric and telecommunication utility connections to the overhead utilities in Park Place along the parcel frontage

This stormwater management report has been prepared by a professional engineer licensed in the State of Connecticut and provides a comprehensive evaluation of the fully developed Site as compared to existing (pre-developed) conditions. This report concludes that; drainage patterns will be generally maintained, there will be zero net increase in park flow rates discharging from the Site, and stormwater will be retained and treated to the maximum extent achievable in accordance with the 2024 Stormwater Quality Manual.

YRC
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DESCRIPTION OF EXISTING SITE

The existing 6.98-acre site is currently undeveloped. A review of historical aerial images confirms that the parcel has remained undeveloped since at least 1990. The 1934 aerial depicts the southern half of the site as cleared for apparent agricultural uses. The cleared areas are now revegetated and wooded.

TOPOGRAPHY – Natural topography of the parcel slopes from a high point along the northerly boundary in a south and southeasterly direction towards Park Place and West Main Street (Route 1). The northern half of the parcel has moderate to steep slopes ranging from 10% to 20%. The southern half of the parcel flattens into a topographic saddle with gentle to moderate slopes ranging from 2% to 10%.

SOILS – The USDA NRCS Web Soil Survey depicts the Site within Charlton-Chatfield complex soils, very rocky, with slopes ranging from 0% to 45%. These soils are well drained with a Hydrologic Soil Group (HSG) rating of B. See Appendix C.

Deep observation pit testing was performed extensively over the site on three separate dates.

- Test pits 1 through 10 were performed in 2022 by Robert Pfanner, Jr. concentrated on the northerly wooded areas.
- Test pits 111 through 114 were performed in 2023 by Uncas Health District and Yantic River Consultants on the central wooded areas towards the toe of steeper slopes.
- Test pits D1 through D3 were performed in the southerly depression in the location of the proposed retention/detention basin. Witnessed soils consisted of topsoil to 6"-8", orange brown fine sandy loam to 28"-32", gray tan fine to medium sandy loam to 54"-88", and gray fine to medium sand and gravel slightly compact to 88"-96". Roots were witnessed 72" to 78" below grade with no clear indicator of seasonally high groundwater.

VEGETATION – The parcel is wooded with light to moderate undergrowth in southerly areas and moderate to dense undergrowth on the northerly steeper slopes.

DRAINAGE – Stormwater generally flows overland from the north to south on the parcel. Three drainage areas with distinct discharge points at the parcel property lines were identified based on topographic mapping and field confirmation.

- EX-01SW is 5.183 acres and encompasses the north and west portions of the Site with a discharge point at a low point along the southwesterly property line onto the rear yard of a property at 53 West Main Street.
- EX-02E is 1.389 acres and encompasses the southeastern corner of the Site with a discharge point in a depressed area along the easterly property line onto the rear yard of a property at 8 Park Place.
- EX-03S is 0.410 acres and encompasses the frontage portion of the Site with sheet flow discharge to the Park Place ROW.

STORMWATER MANAGEMENT

The following Standards were considered in the analysis and design.

SUMMARY OF APPLICABLE DESIGN CRITERIA

Hydrologic Design Criteria:	TR-55
Hydraulic Design Criteria:	CTDOT Drainage Manual
Climate Change Considerations:	CT DEEP Stormwater Quality Manual
Flood Hazard Areas:	N/A
Aquifer Protection Areas:	N/A
Treatment and Pollutant Removal:	CT DEEP Stormwater Quality Manual
Peak Flow Control Goal:	Zero Net Increase in Peak Flow from Site

SUMMARY OF LID TO REDUCE STORMWATER RUNOFF AND POLLUTANTS

Low Impact Development techniques were implemented to the maximum extent achievable prior to the consideration of structural stormwater best management practices (BMP) in accordance with the 2024 SQM. A list of LID techniques implemented into the design are provided below. It should be noted that as a conservative measure the design of the structural stormwater BMP does not take into consideration the hydrologic benefit of these measures.

- Minimize clearing: The limits of clearing shown are the minimum necessary to accommodate construction and provide adequate separation to each new building. Stumps will remain and native understory plants and shrubs preserved outside of the land disturbance footprint.
- Minimize building footprint: The multi-family building footprints have been reduced to the greatest extent possible while still achieving the purpose of the project.
- Minimize roadways, parking, and impervious surfaces: Parking quantities meet the minimum needs of the proposed use.
- Preserving pre-development times of concentration to the maximum extent achievable.
- Use of low maintenance landscaping on perimeter areas.
- Disconnection of Impervious Surfaces:
    - Disconnection of all rear roof pitches through discharge to grade over vegetated areas.
    - Long and flat vegetated diversion swales to increase local flow path lengths and times of concentration.
    - Vegetated depressions with elevation yard drain grates.
    - Disconnection of impervious surfaces within stormwater collection system through structural stormwater BMPs.

STRUCTURAL STORMATER BMP TREATMENT AND POLLUTANT REMOVAL

The design approach selected for the project consists of a multi-stage collection, treatment, retention, and attenuation system. The stages will consist of the following:

- Disconnect impervious surfaces to the maximum extent achievable prior to entering stormwater structural BMP.
- Install catch basin structures with minimum 2' sumps.
- First stage treatment: Discharge of stormwater from collections systems through sediment forebay capable of retaining a minimum of 25% of the water quality flow. Excess flows will bypass through a riprap filter berm and weir into the second stage treatment.
- Second stage treatment: Retain the Water Quality Volume (WQV) below the low-level orifice within the outlet structure to promote infiltration and recharge of groundwater for 90% of all storm events during a given year. The bottom of the basin will be excavated to elevation 25.00, which is 3'-4' below existing grade into the witnessed sandy loam soils. A minimal exfiltration rate of 0.3 in/hr was used in the analysis to confirm drain times of the retention area. The NRCS published exfiltration rate (hydraulic conductivity) of the existing sandy loam subsoils is 1.4 in/hr, therefore a quicker drain time and further reduction of peak flow rates is anticipated.
- Final stage: Peak flow control through an outlet structure and weir plate to attenuate peak flow rates for the 1-year to 100-year storm events.

AREA	DA	IA	WQV	WQF	PROPOSED TREATMENT				
Label	acre	acre	acre-ft	cfs	Method	Vol	Flow	Area	Note
PR-01SW	5.852	2.095	0.236	1.5	Sediment Forebay	0.059	N/A	N/A	25% WQV
PR-01SW	5.852	2.095	0.236	1.5	Retention	0.339	N/A	N/A	144% WQV
PR-02E	0.627	0.000	0.000	0.0	N/A	N/A	N/A	N/A	No Impervious
PR-03S	0.504	0.120	0.014	0.1	Simple Disconnection	N/A	N/A	N/A	Sheet Flow

TABLE 1: PROPOSED TREATMENT SUMMARY

The proposed Stormwater Management System will retain the calculated WQV from the developed Site in accordance with the 2024 Stormwater Quality Manual.

PEAK FLOW CONTROL

Peak flow rates were calculated using TR-55 methodology. Hydrology Studio 2024 v.3.0.0.38 was used to generate peak flows with the following parameters for existing and proposed conditions:

DRAINAGE AREA: A description of the three drainage areas for existing Site and discharge points at the property lines are provided above. The proposed drainage areas were delineated based on proposed grading and drainage collection system routing. The same general discharge points were maintained for both existing and proposed conditions. See Appendix A for maps.

- PR-01SW is 5.852 acres and encompasses the north and west portions of the developed Site with the same discharge point at a low point along the southwesterly property line. The retention and attenuation basin with stage-discharge outlet is located immediately prior to the discharge point.

- PR-02E is 0.627 acres and encompasses the undisturbed eastern corner of the Site with a discharge point in a depressed area along the easterly property line.
- PR-03S is 0.504 acres and encompasses the frontage portion of the developed Site with sheet flow discharge to the Park Place ROW.
- RAINFALL: Precipitation frequency and depth estimates (rainfall data) were obtained from NOAA Atlas 14, Volume 10, Version 3 at the Site geographic location. See Appendix C.
- CURVE NUMBER: Composite curve numbers (CN) were calculated based on the land cover types with consideration of the hydrologic soil groups and slopes. Based on USDA NRCS Web Soil Survey, soils within the subject watershed consist of HSG B.
- TIME OF CONCENTRATION: Time of concentrations (Tc) were estimated based on a review of topographic and surface runoff conditions for both existing and proposed conditions.

PEAK FLOW CALCULATIONS

A summary of flows (CFS) for existing and proposed conditions is provided below with a complete output in Appendix B.

STORM	AREA 01 (SW)					AREA 02 (E)			AREA 03 (S)			SITE				
	EX	PR	DET	EX vs. PR	EX vs. DET	EX	PR	EX vs. PR	EX	PR	EX vs. PR	EX	PR	DET	EX vs. PR	EX vs. DET
1	0.17	2.37	0.00	2.21	-0.17	0.05	0.03	-0.02	0.01	0.15	0.14	0.22	2.54	0.17	2.32	-0.05
2	0.52	3.68	0.18	3.16	-0.33	0.16	0.09	-0.07	0.05	0.26	0.21	0.69	4.02	0.35	3.32	-0.34
5	1.60	6.08	0.81	4.49	-0.79	0.52	0.29	-0.24	0.17	0.47	0.31	2.19	6.76	0.92	4.57	-1.27
10	2.86	8.27	1.35	5.41	-1.52	0.94	0.50	-0.45	0.30	0.67	0.37	3.96	9.28	1.55	5.32	-2.41
25	4.91	11.37	3.64	6.46	-1.27	1.60	0.83	-0.78	0.51	0.96	0.45	6.76	12.88	4.09	6.12	-2.67
50	6.60	13.77	5.20	7.17	-1.41	2.15	1.10	-1.06	0.68	1.18	0.50	9.08	15.67	5.82	6.59	-3.26
100	8.55	16.38	8.32	7.84	-0.23	2.78	1.40	-1.38	0.88	1.43	0.55	11.74	18.74	9.15	7.00	-2.59

TABLE 2: PEAK FLOW COMPARISON (CFS)

A comparison of peak flow control for each subarea and the entire Site is provided below:

AREA 01: Peak flow rates discharging to the southwest property line of the Site will be reduced for the 1-year to 100-year storm events. The decrease in peak flow rates can be attributed to the retention and attenuation provided by the proposed basin and outlet structure. The proposed basin fully retains the calculated water quality volume (1.3") and the 1-year storm event (2.87") without discharge.

AREA 02: Peak flow rates discharging to the eastern property line will be reduced for the 1-year to 100-year storm events due to the reduction in total area and minimal disturbance of existing vegetation.

AREA 03: Peak flow rates discharging to the Park Place ROW will slightly increase for the 1-year to 100-year storm events.

SITE: Overall peak flow rates discharging from the developed site will be reduced for the 1-year to 100-year storm events as compared to existing (pre-developed) conditions.

As described above, disconnection of impervious surfaces prior to the stormwater structural BMPs were not considered in the analysis as a conservative measure. As such, calculated peak flow rates for proposed conditions would likely be further reduced, in particular for more frequent storm events (< 2-year).

CONCLUSION

The proposed development and stormwater management system reduce peak flow rates discharging from the Site for the 1-year to 100-storm events, thereby meeting the zero net increase in stormwater runoff requirement. There are no anticipated adverse impacts on downstream properties or the Park Place ROW.

CONSTRUCTION EROSION AND SEDIMENT CONTROL

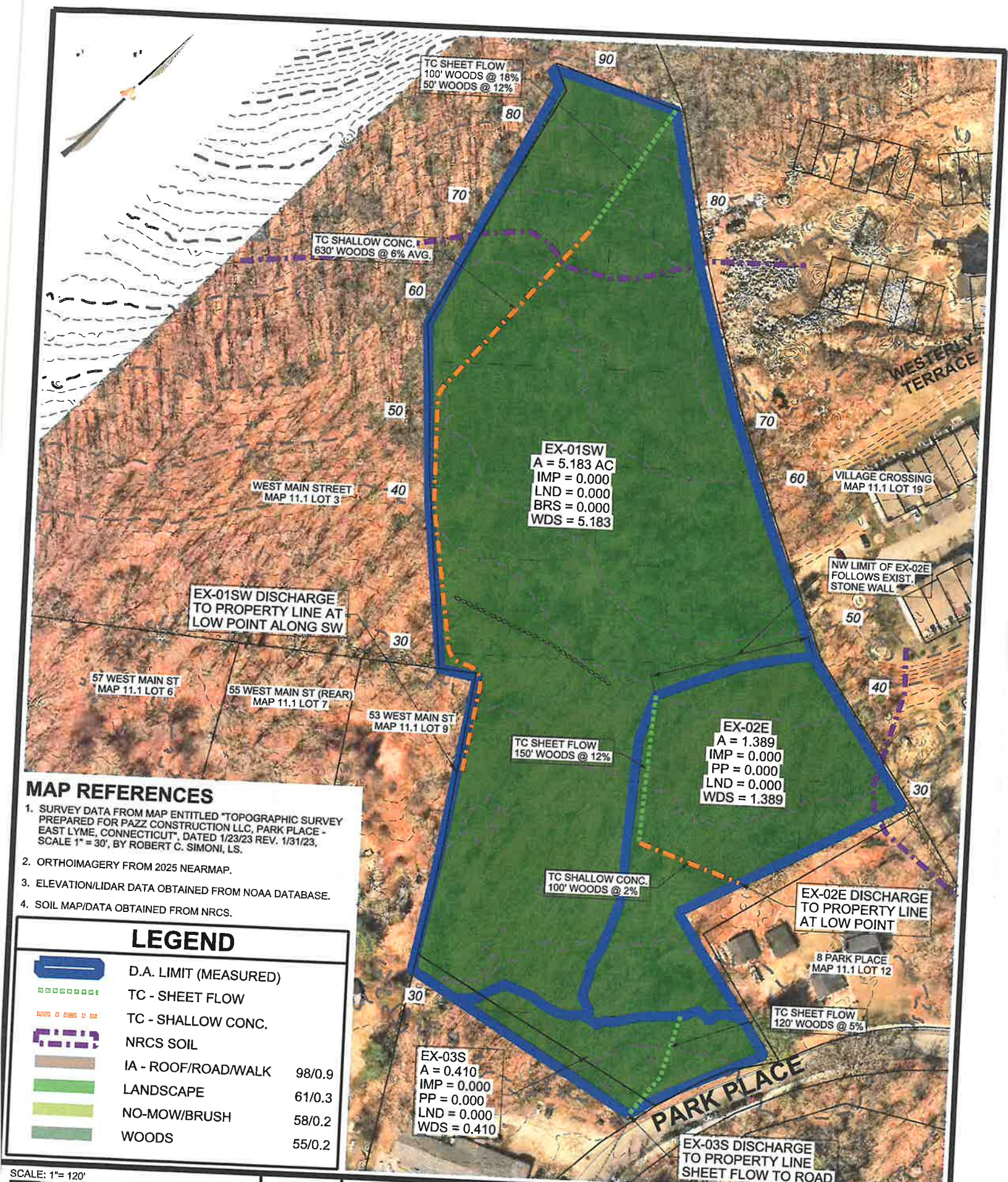
A plan to control construction related impacts, including erosion, sedimentation, and other pollutant sources has been prepared in accordance with the 2023 Connecticut Guidelines for Soil Erosion and Sediment Control. The Erosion and Sediment Control Plan is included in the submitted plan set.

OPERATION AND MAINTENANCE

A long-term operation and maintenance plan has been developed to ensure that stormwater management systems function as designed. The O&M plan is provided on the Grading and Utility Plan as part of the submitted plan set.

APPENDIX A
DRAINAGE AREA MAPS

EXISTING CONDITIONS
PROPOSED CONDITIONS



MAP REFERENCES

1. SURVEY DATA FROM MAP ENTITLED "TOPOGRAPHIC SURVEY PREPARED FOR PAZZ CONSTRUCTION LLC, PARK PLACE - EAST LYME, CONNECTICUT", DATED 1/23/23 REV. 1/31/23, SCALE 1" = 30', BY ROBERT C. SIMONI, LS.
2. ORTHOIMAGERY FROM 2025 NEARMAP.
3. ELEVATION/LIDAR DATA OBTAINED FROM NOAA DATABASE.
4. SOIL MAP/DATA OBTAINED FROM NRCS.

LEGEND

	D.A. LIMIT (MEASURED)	
	TC - SHEET FLOW	
	TC - SHALLOW CONC.	
	NRCS SOIL	
	IA - ROOF/ROAD/WALK	98/0.9
	LANDSCAPE	61/0.3
	NO-MOW/BRUSH	58/0.2
	WOODS	55/0.2

SCALE: 1"= 120'

120 0 120

DATE 9/29/25

SHEET DA-01

CONTACT INFORMATION

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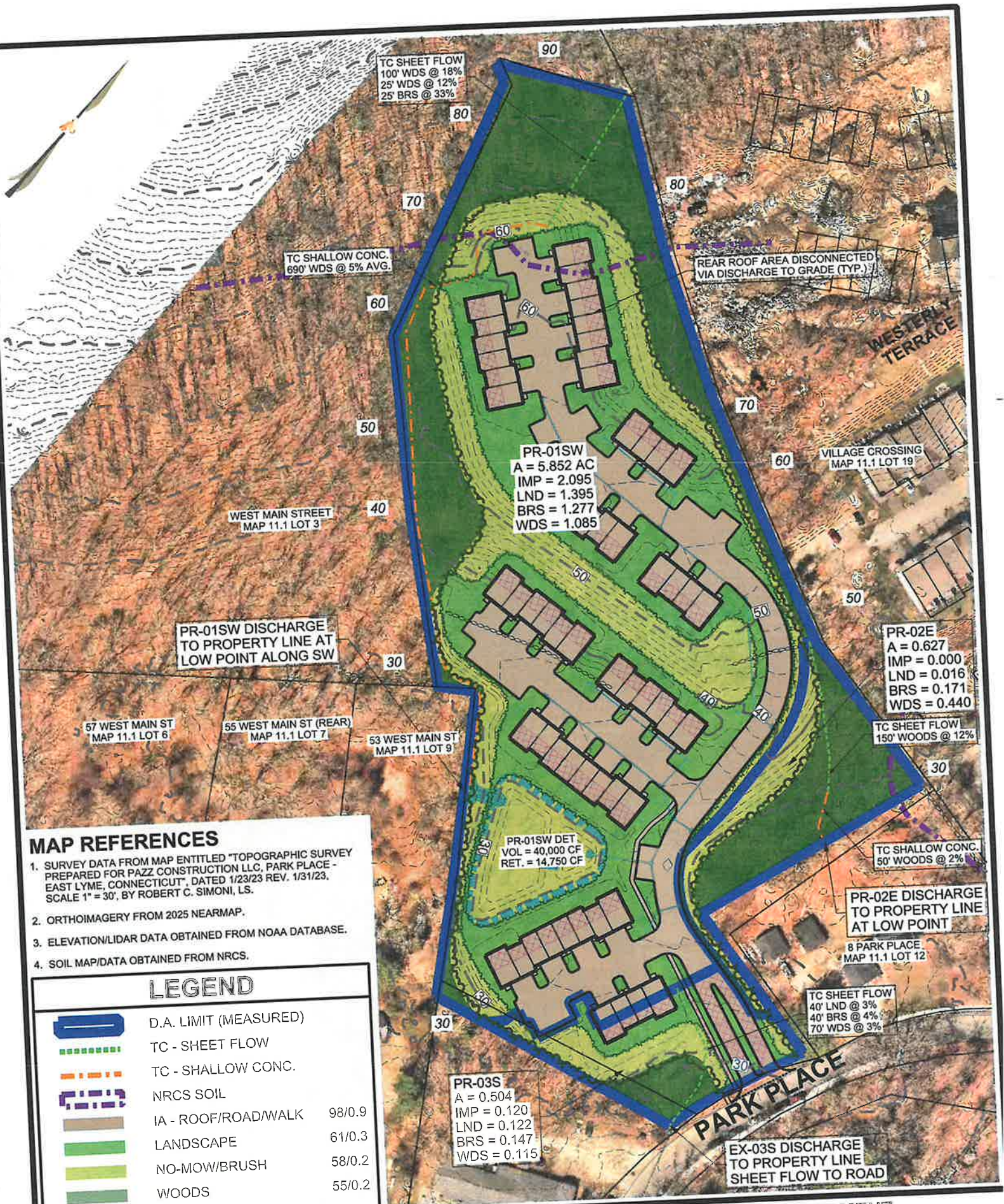
SITE DEVELOPMENT

PREPARED FOR PARKERS PLACE, LLC

DRAINAGE MAP - EXISTING CONDITIONS

PARK PLACE (MAP 11.1 LOT 11) EAST LYME, CT



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4. SOIL MAP/DATA OBTAINED FROM NRCS.

LEGEND

	D.A. LIMIT (MEASURED)	
	TC - SHEET FLOW	
	TC - SHALLOW CONC.	
	NRCS SOIL	
	IA - ROOF/ROAD/WALK	98/0.9
	LANDSCAPE	61/0.3
	NO-MOW/BRUSH	58/0.2
	WOODS	55/0.2

SCALE: 1"= 120'

120 0 120

DATE 9/29/25

SHEET DA-02

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SITE DEVELOPMENT

PREPARED FOR PARKERS PLACE, LLC

DRAINAGE MAP - PROPOSED CONDITIONS

PARK PLACE (MAP 11.1 LOT 11) EAST LYME, CT

APPENDIX B
HYDROLOGIC COMPUTATIONS

HYDROLOGY STUDIO REPORT
DEEP SQM TREATMENT CALCULATIONS

Table of Contents

Basin Model Schematic 1

Hydrograph by Return Period 2

1 - Year 3

Hydrograph Summary 4

Hydrograph Reports 5

Hydrograph No. 1, NRCS Runoff, EX-01SW 6

Tc by TR55 Worksheet 7

Hydrograph No. 2, NRCS Runoff, EX-02E 8

Tc by TR55 Worksheet 9

Hydrograph No. 3, NRCS Runoff, EX-03S 10

Tc by TR55 Worksheet 11

Hydrograph No. 4, Junction, EX-SITE 12

Hydrograph No. 5, NRCS Runoff, PR-01SW 13

Tc by TR55 Worksheet 14

Hydrograph No. 6, NRCS Runoff, PR-02E 15

Tc by TR55 Worksheet 16

Hydrograph No. 7, NRCS Runoff, PR-03S 17

Tc by TR55 Worksheet 18

Hydrograph No. 8, Junction, PR-SITE 19

Hydrograph No. 9, Pond Route, PR-01SW DET 23

Detention Pond Reports - PR-01 DETENTION 24

Hydrograph No. 10, Junction, PR-SITE-DET 25

Design Storm Report - NOAA-D, 24-hr 26

2 - Year 27

Hydrograph Summary 28

Hydrograph Reports 29

Hydrograph No. 1, NRCS Runoff, EX-01SW 30

Hydrograph No. 2, NRCS Runoff, EX-02E 31

Hydrograph No. 3, NRCS Runoff, EX-03S 32

Hydrograph No. 4, Junction, EX-SITE 33

Hydrograph No. 5, NRCS Runoff, PR-01SW 34

Hydrograph No. 6, NRCS Runoff, PR-02E 35

Hydrograph No. 7, NRCS Runoff, PR-03S 36

Hydrograph No. 8, Junction, PR-SITE 37

Hydrograph No. 9, Pond Route, PR-01SW DET 38

Hydrograph No. 10, Junction, PR-SITE-DET 39

Contents continued...

Design Storm Report - NOAA-D, 24-hr 36

5 - Year **37**

Hydrograph Summary .....

Hydrograph Reports 38

Hydrograph No. 1, NRCS Runoff, EX-01SW 39

Hydrograph No. 2, NRCS Runoff, EX-02E 40

Hydrograph No. 3, NRCS Runoff, EX-03S 41

Hydrograph No. 4, Junction, EX-SITE 42

Hydrograph No. 5, NRCS Runoff, PR-01SW 43

Hydrograph No. 6, NRCS Runoff, PR-02E 44

Hydrograph No. 7, NRCS Runoff, PR-03S 45

Hydrograph No. 8, Junction, PR-SITE 46

Hydrograph No. 9, Pond Route, PR-01SW DET 47

Hydrograph No. 10, Junction, PR-SITE-DET 48

Design Storm Report - NOAA-D, 24-hr .....

10 - Year **49**

Hydrograph Summary .....

Hydrograph Reports 50

Hydrograph No. 1, NRCS Runoff, EX-01SW 51

Hydrograph No. 2, NRCS Runoff, EX-02E 52

Hydrograph No. 3, NRCS Runoff, EX-03S 53

Hydrograph No. 4, Junction, EX-SITE 54

Hydrograph No. 5, NRCS Runoff, PR-01SW 55

Hydrograph No. 6, NRCS Runoff, PR-02E 56

Hydrograph No. 7, NRCS Runoff, PR-03S 57

Hydrograph No. 8, Junction, PR-SITE 58

Hydrograph No. 9, Pond Route, PR-01SW DET 59

Hydrograph No. 10, Junction, PR-SITE-DET 60

Design Storm Report - NOAA-D, 24-hr .....

25 - Year **61**

Hydrograph Summary .....

Hydrograph Reports 62

Hydrograph No. 1, NRCS Runoff, EX-01SW 63

Hydrograph No. 2, NRCS Runoff, EX-02E 64

Hydrograph No. 3, NRCS Runoff, EX-03S 65

Hydrograph No. 4, Junction, EX-SITE .....

Contents continued...

Hydrograph No. 5, NRCS Runoff, PR-01SW
Hydrograph No. 6, NRCS Runoff, PR-02E 66
Hydrograph No. 7, NRCS Runoff, PR-03S 67
Hydrograph No. 8, Junction, PR-SITE 68
Hydrograph No. 9, Pond Route, PR-01SW DET 69
Hydrograph No. 10, Junction, PR-SITE-DET 70
Design Storm Report - NOAA-D, 24-hr 71

50 - Year 72

Hydrograph Summary .....

Hydrograph Reports **73**

Hydrograph No. 1, NRCS Runoff, EX-01SW
Hydrograph No. 2, NRCS Runoff, EX-02E 74
Hydrograph No. 3, NRCS Runoff, EX-03S 75
Hydrograph No. 4, Junction, EX-SITE 76
Hydrograph No. 5, NRCS Runoff, PR-01SW 77
Hydrograph No. 6, NRCS Runoff, PR-02E 78
Hydrograph No. 7, NRCS Runoff, PR-03S 79
Hydrograph No. 8, Junction, PR-SITE 80
Hydrograph No. 9, Pond Route, PR-01SW DET 81
Hydrograph No. 10, Junction, PR-SITE-DET 82
Design Storm Report - NOAA-D, 24-hr 83

100 - Year 84

Hydrograph Summary .....

Hydrograph Reports **85**

Hydrograph No. 1, NRCS Runoff, EX-01SW
Hydrograph No. 2, NRCS Runoff, EX-02E 86
Hydrograph No. 3, NRCS Runoff, EX-03S 87
Hydrograph No. 4, Junction, EX-SITE 88
Hydrograph No. 5, NRCS Runoff, PR-01SW 89
Hydrograph No. 6, NRCS Runoff, PR-02E 90
Hydrograph No. 7, NRCS Runoff, PR-03S 91
Hydrograph No. 8, Junction, PR-SITE 92
Hydrograph No. 9, Pond Route, PR-01SW DET 93
Hydrograph No. 10, Junction, PR-SITE-DET 94
Design Storm Report - NOAA-D, 24-hr 95

IDF Report ..... 96 ..... **97**

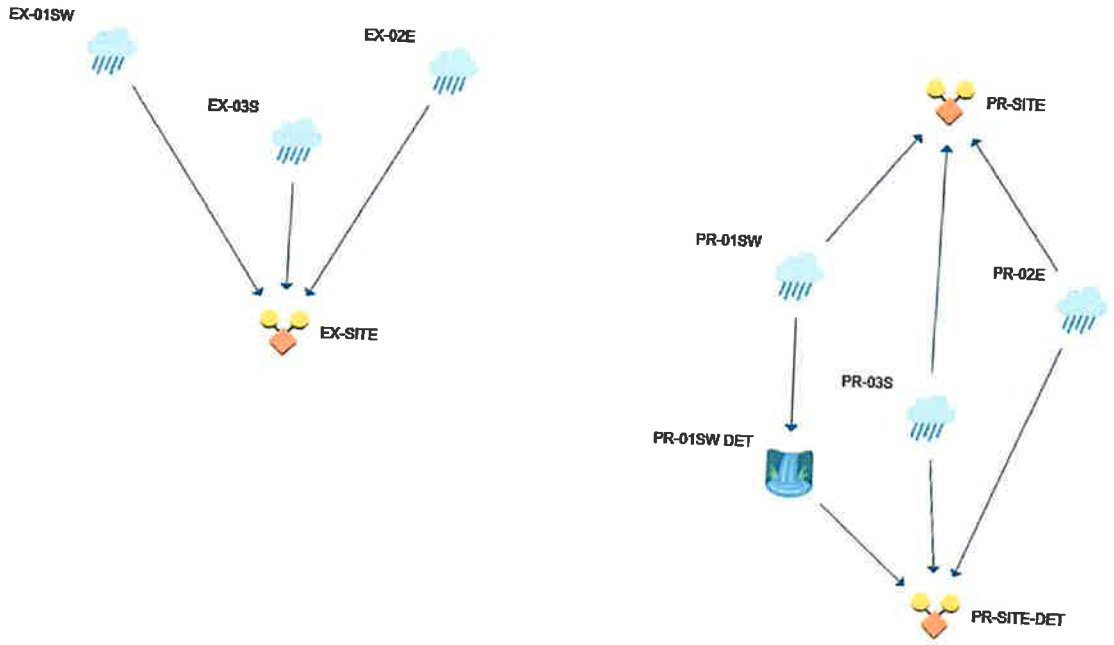
Contents continued...

Precipitation Report 98

Basin Model

Hydrology Studio v 3.0.0.38

File: 20250924PARKERS PLACE Hydrology.hys
10-06-2025



Hydrograph by Return Period

Hydrology Studio v 3.0.0.38

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Outflow (cfs)							
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
1	NRCS Runoff	EX-01SW	0.166	0.517		1.598	2.863	4.907	6.603	8.545
2	NRCS Runoff	EX-02E	0.046	0.157		0.520	0.942	1.603	2.154	2.784
3	NRCS Runoff	EX-03S	0.013	0.048		0.166	0.299	0.508	0.681	0.879
4	Junction	EX-SITE	0.223	0.692		2.191	3.958	6.756	9.080	11.74
5	NRCS Runoff	PR-01SW	2.371	3.680		6.083	8.268	11.37	13.77	16.38
6	NRCS Runoff	PR-02E	0.027	0.090		0.285	0.495	0.825	1.095	1.403
7	NRCS Runoff	PR-03S	0.150	0.260		0.472	0.670	0.958	1.183	1.432
8	Junction	PR-SITE	2.542	4.015		6.762	9.275	12.88	15.67	18.74
9	Pond Route	PR-01SW DET	0.000	0.184		0.809	1.346	3.636	5.198	8.316
10	Junction	PR-SITE-DET	0.172	0.351		0.921	1.550	4.085	5.816	9.147

Hydrograph 1-yr Summary

Hydrology Studio v 3.0.0.38

File: 20250924PARKERS PLACE Hydrology.hys

10-06-2025

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (hrs)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)
1	NRCS Runoff	EX-01SW	0.166	12.93	3,061	---		
2	NRCS Runoff	EX-02E	0.046	12.70	823	---		
3	NRCS Runoff	EX-03S	0.013	12.63	238	---		
4	Junction	EX-SITE	0.223	12.92	4,121	1, 2, 3		
5	NRCS Runoff	PR-01SW	2.371	12.43	16,019	---		
6	NRCS Runoff	PR-02E	0.027	12.55	413	---		
7	NRCS Runoff	PR-03S	0.150	12.37	1,003	---		
8	Junction	PR-SITE	2.542	12.43	17,434	5, 6, 7		
9	Pond Route	PR-01SW DET	0.000	11.93	0.000	5	27.89	14,012
10	Junction	PR-SITE-DET	0.172	12.42	1,415	6, 7, 9		

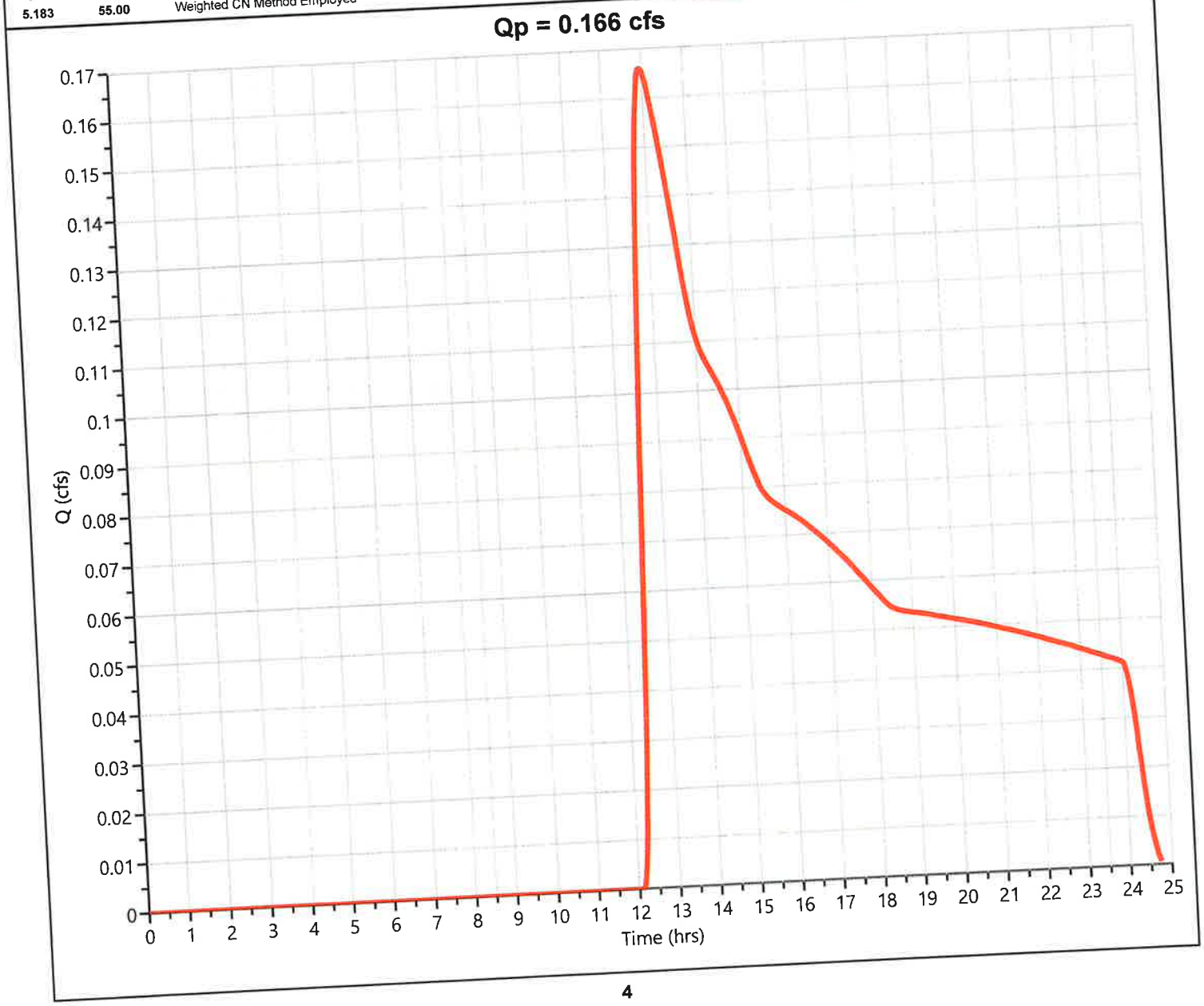
Hyd. No. 1

EX-01SW

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.166 cfs
Storm Frequency	= 1-yr	Time to Peak	= 12.93 hrs
Time Interval	= 1 min	Runoff Volume	= 3,061 cuft
Drainage Area	= 5.183 ac	Curve Number	= 55.00*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 31.45 min
Total Rainfall	= 2.87 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
5.183	55.00	Woods
5.183	**55.00**	Weighted CN Method Employed



Tc by TR55 Worksheet

File: 20250924PARKERS PLACE Hydrology.hys

Hydrology Studio v 3.0.0.38

10-06-2025

EX-01SW

Hyd. No. 1

NRCS Runoff

Description	Segments			Tc (min)
	A	B	C	
Sheet Flow				
Description	Woods	Woods		
Manning's n	0.400	0.400	0.013	
Flow Length (ft)	100	50		
2-yr, 24-hr Precip. (in)	3.44	3.44	3.44	
Land Slope (%)	18	12		
Travel Time (min)	**8.60**	**5.81**	**0.00**	**14.41**
Shallow Concentrated Flow				
Flow Length (ft)	630			
Watercourse Slope (%)	6.00	0.00	0.00	
Surface Description	Forest	Paved	Paved	
Average Velocity (ft/s)	.62			
Travel Time (min)	**17.04**	**0.00**	**0.00**	**17.04**
Channel Flow				
X-sectional Flow Area (sqft)				
Wetted Perimeter (ft)				
Channel Slope (%)				
Manning's n	0.013	0.013	0.013	
Velocity (ft/s)				
Flow Length (ft)				
Travel Time (min)	**0.00**	**0.00**	**0.00**	**0.00**
Total Travel Time				**31.45 min**

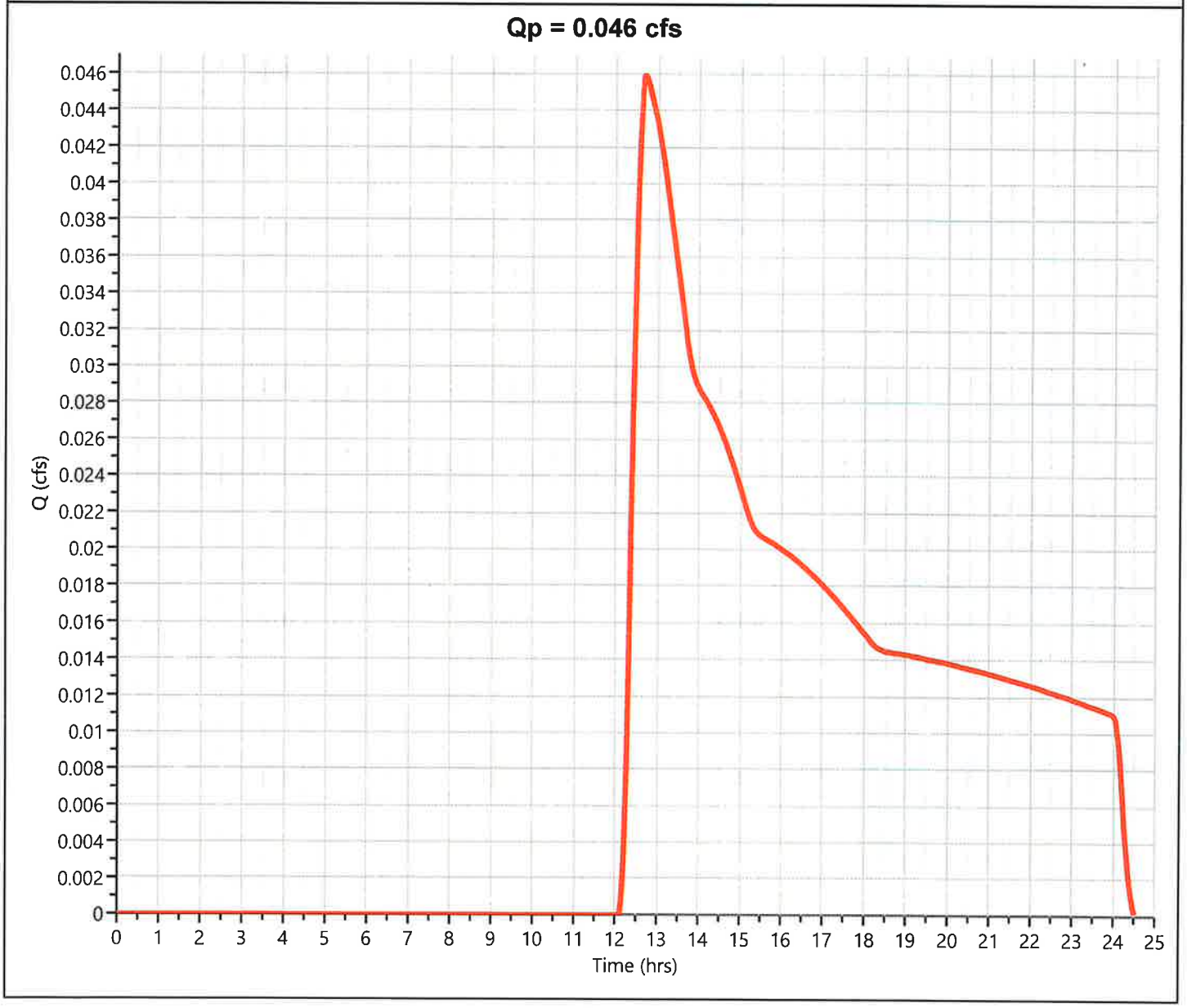
EX-02E

Hyd. No. 2

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.046 cfs
Storm Frequency	= 1-yr	Time to Peak	= 12.70 hrs
Time Interval	= 1 min	Runoff Volume	= 823 cuft
Drainage Area	= 1.389 ac	Curve Number	= 55.00*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 20.61 min
Total Rainfall	= 2.87 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
1.389	55.00	Woods
1.389	**55.00**	Weighted CN Method Employed



Tc by TR55 Worksheet

Hydrology Studio v 3.0.0.38

File: 20250924PARKERS PLACE Hydrology.hys

10-06-2025

EX-02E
NRCS Runoff

Hyd. No. 2

Description	Segments			
	A	B	C	Tc (min)
Sheet Flow				
Description	Woods	Woods		
Manning's n	0.400	0.400	0.013	
Flow Length (ft)	100	50		
2-yr, 24-hr Precip. (in)	3.44	3.44	3.44	
Land Slope (%)	12	12		
Travel Time (min)	**10.11**	**5.81**	**0.00**	**15.92**
Shallow Concentrated Flow				
Flow Length (ft)	100			
Watercourse Slope (%)	2.00	0.00	0.00	
Surface Description	Forest	Paved	Paved	
Average Velocity (ft/s)	.36			
Travel Time (min)	**4.68**	**0.00**	**0.00**	**4.68**
Channel Flow				
X-sectional Flow Area (sqft)				
Wetted Perimeter (ft)				
Channel Slope (%)				
Manning's n	0.013	0.013	0.013	
Velocity (ft/s)				
Flow Length (ft)				
Travel Time (min)	**0.00**	**0.00**	**0.00**	**0.00**
Total Travel Time				**20.61 min**

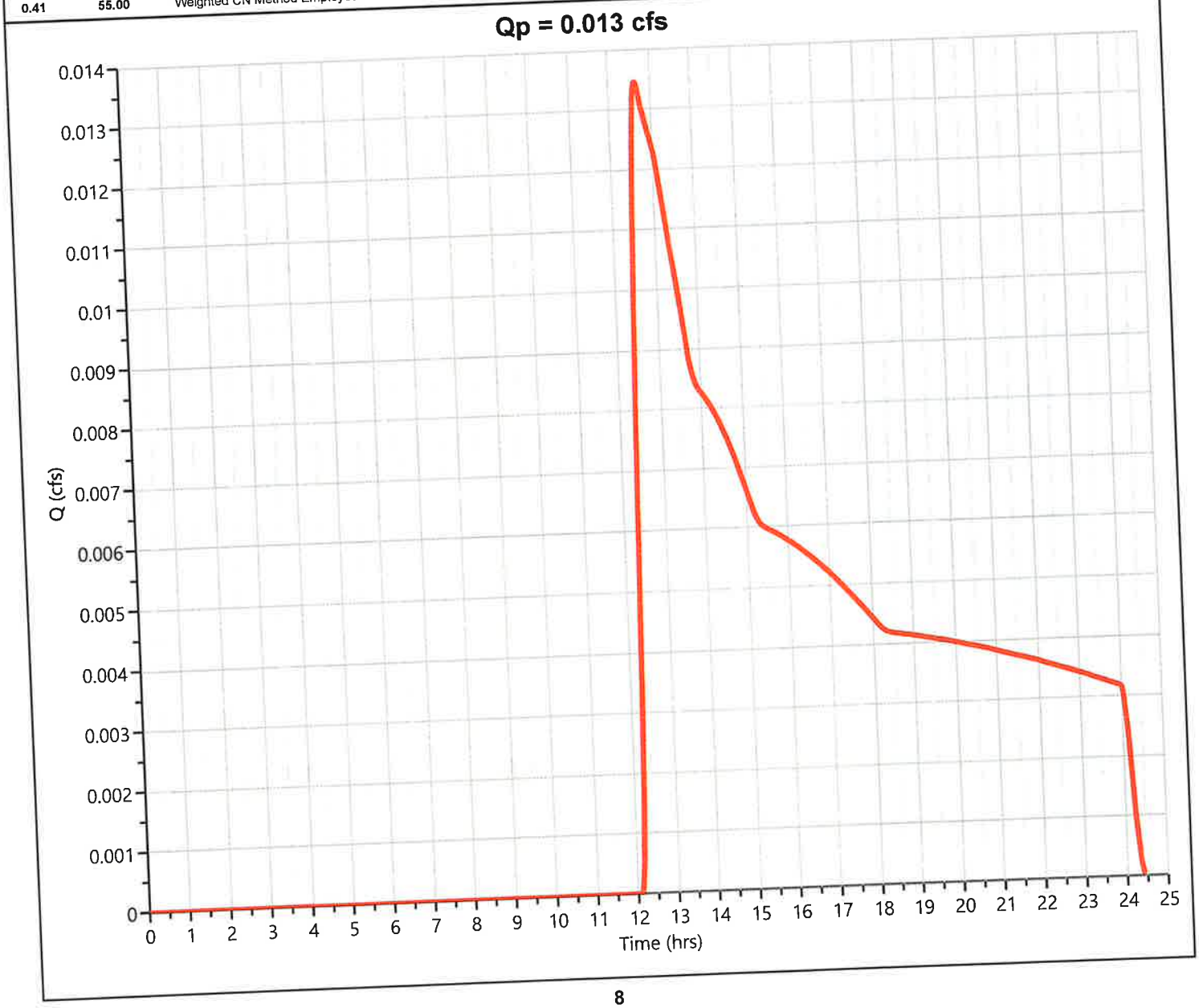
Hyd. No. 3

EX-03S

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.013 cfs
Storm Frequency	= 1-yr	Time to Peak	= 12.63 hrs
Time Interval	= 1 min	Runoff Volume	= 238 cuft
Drainage Area	= 0.41 ac	Curve Number	= 55.00*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 18.32 min
Total Rainfall	= 2.87 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
0.41	55.00	Woods
0.41	**55.00**	Weighted CN Method Employed



Tc by TR55 Worksheet

Hydrology Studio v 3.0.0.38

File: 20250924PARKERS PLACE Hydrology.hys

10-06-2025

EX-03S
NRCS Runoff

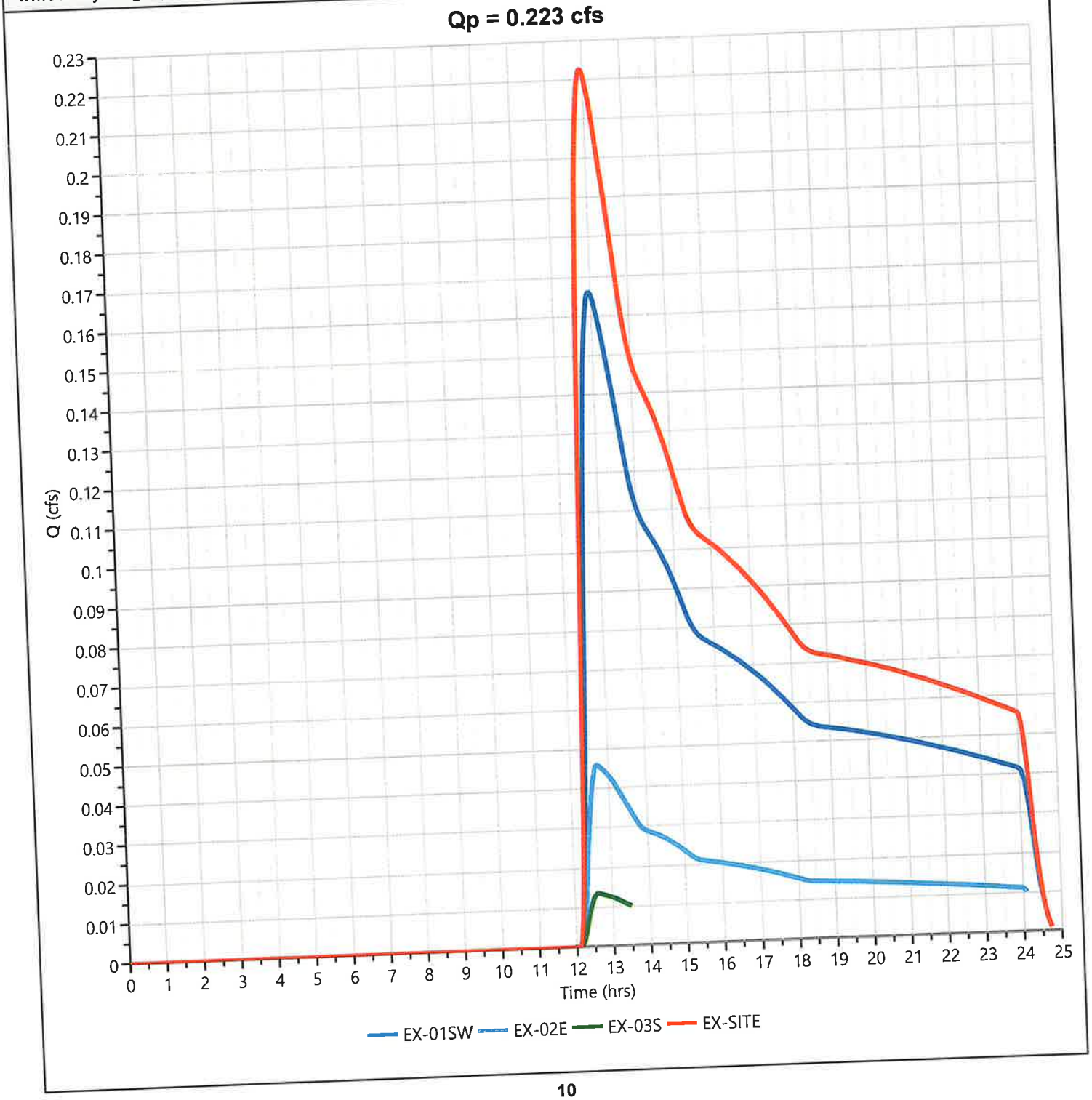
Hyd. No. 3

Description	Segments			
	A	B	C	Tc (min)
Sheet Flow				
Description	Woods	Woods		
Manning's n	0.400	0.400	0.013	
Flow Length (ft)	100	20		
2-yr, 24-hr Precip. (in)	3.44	3.44	3.44	
Land Slope (%)	5	5		
Travel Time (min)	**14.36**	**3.96**	**0.00**	**18.32**
Shallow Concentrated Flow				
Flow Length (ft)				
Watercourse Slope (%)	0.00	0.00	0.00	
Surface Description	Paved	Paved	Paved	
Average Velocity (ft/s)				
Travel Time (min)	**0.00**	**0.00**	**0.00**	**0.00**
Channel Flow				
X-sectional Flow Area (sqft)				
Wetted Perimeter (ft)				
Channel Slope (%)				
Manning's n	0.013	0.013	0.013	
Velocity (ft/s)				
Flow Length (ft)				
Travel Time (min)	**0.00**	**0.00**	**0.00**	**0.00**
Total Travel Time				**18.32 min**

Hyd. No. 4

EX-SITE

Hydrograph Type	= Junction	Peak Flow	= 0.223 cfs
Storm Frequency	= 1-yr	Time to Peak	= 12.92 hrs
Time Interval	= 1 min	Hydrograph Volume	= 4,121 cuft
Inflow Hydrographs	= 1, 2, 3	Total Contrib. Area	= 6.982 ac



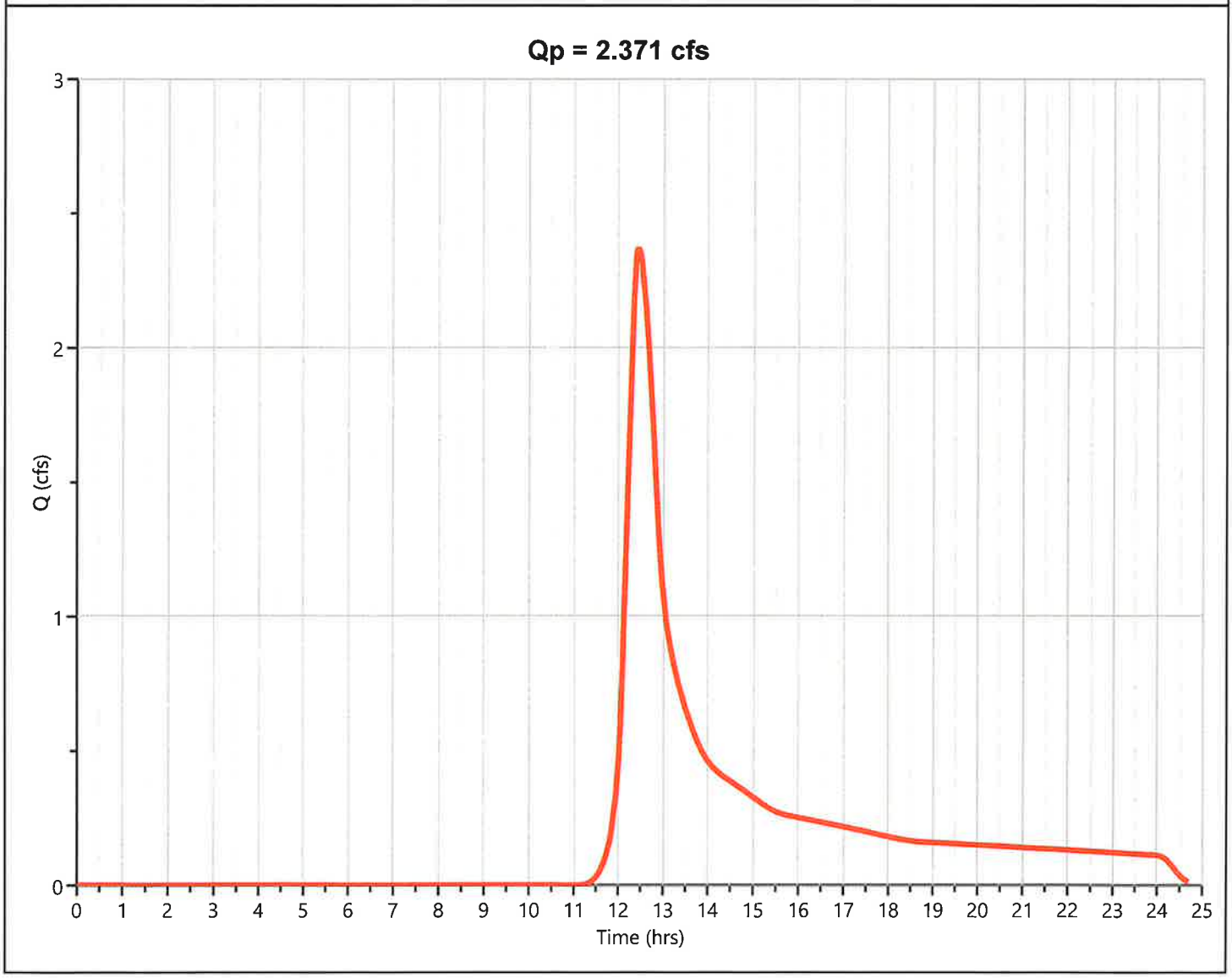
PR-01SW

Hyd. No. 5

Hydrograph Type	= NRCS Runoff	Peak Flow	= 2.371 cfs
Storm Frequency	= 1-yr	Time to Peak	= 12.43 hrs
Time Interval	= 1 min	Runoff Volume	= 16,019 cuft
Drainage Area	= 5.852 ac	Curve Number	= 72.48*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 34.6 min
Total Rainfall	= 2.87 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
2.095	98.00	Impervious
1.395	61.00	Landscape
1.277	58.00	Conservation
1.085	55.00	Woods
5.852	**72.48**	Weighted CN Method Employed



Tc by TR55 Worksheet

File: 20250924PARKERS PLACE Hydrology.hys

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10-06-2025

PR-01SW
NRCS Runoff

Hyd. No. 5

Description	Segments			Tc (min)
	A	B	C	
Sheet Flow				
Description	Woods	Woods	Conservation	
Manning's n	0.400	0.400	0.400	
Flow Length (ft)	100	25	25	
2-yr, 24-hr Precip. (in)	3.44	3.44	3.44	
Land Slope (%)	18	12	33	
Travel Time (min)	**8.60**	**3.34**	**2.23**	**14.16**
Shallow Concentrated Flow				
Flow Length (ft)	690			
Watercourse Slope (%)	5.00	0.00	0.00	
Surface Description	Forest	Paved	Paved	
Average Velocity (ft/s)	.56			
Travel Time (min)	**20.44**	**0.00**	**0.00**	**20.44**
Channel Flow				
X-sectional Flow Area (sqft)				
Wetted Perimeter (ft)				
Channel Slope (%)				
Manning's n	0.013	0.013	0.013	
Velocity (ft/s)				
Flow Length (ft)				
Travel Time (min)	**0.00**	**0.00**	**0.00**	**0.00**
Total Travel Time				**34.6 min**

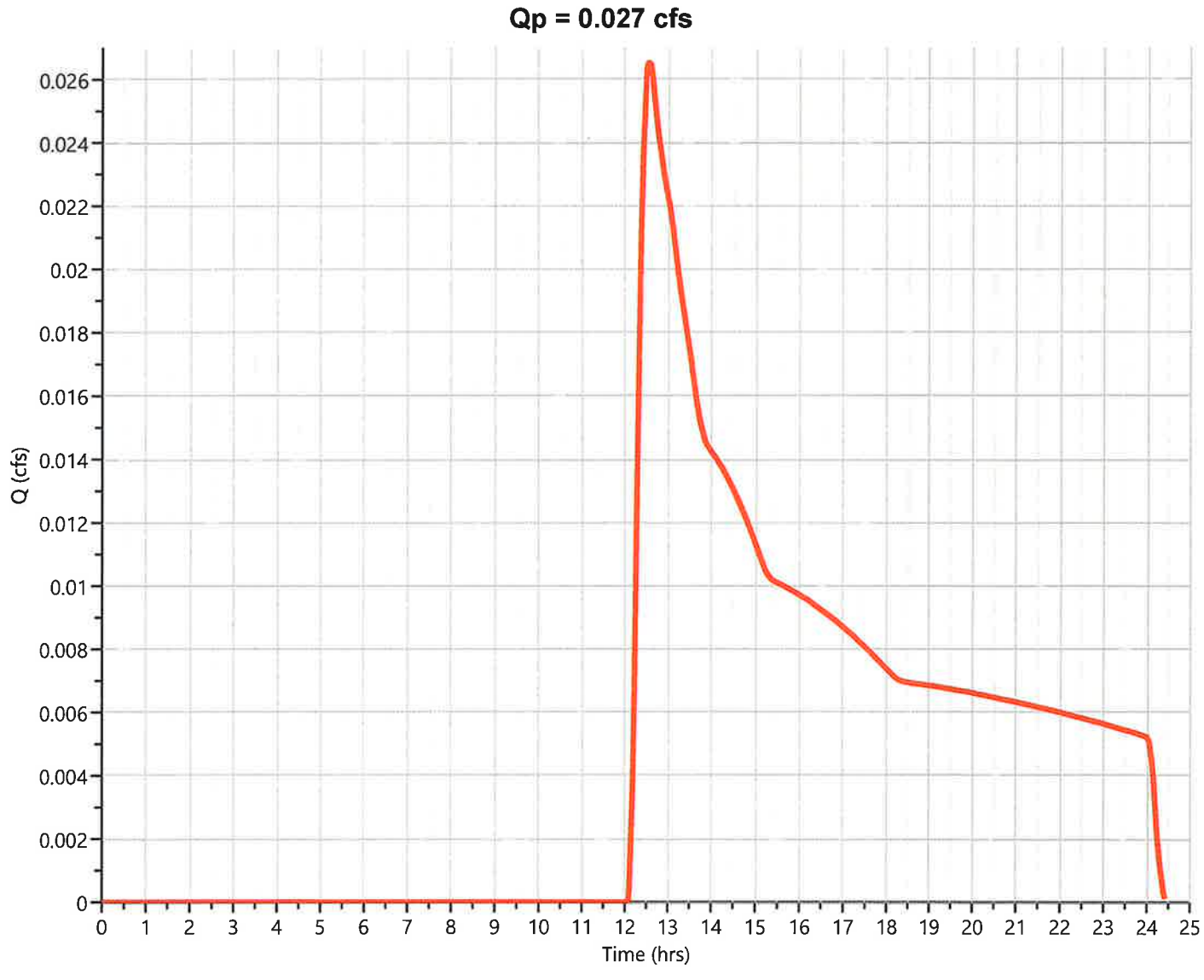
PR-02E

Hyd. No. 6

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.027 cfs
Storm Frequency	= 1-yr	Time to Peak	= 12.55 hrs
Time Interval	= 1 min	Runoff Volume	= 413 cuft
Drainage Area	= 0.627 ac	Curve Number	= 55.97*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 18.27 min
Total Rainfall	= 2.87 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
0.016	61.00	Landscape
0.171	58.00	Conservation
0.44	55.00	Woods
0.627	**55.97**	Weighted CN Method Employed



Tc by TR55 Worksheet

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10-06-2025

PR-02E
NRCS Runoff

Hyd. No. 6

Description	Segments			Tc (min)
	A	B	C	
Sheet Flow				
Description	Woods	Woods		
Manning's n	0.400	0.400	0.013	
Flow Length (ft)	100	50		
2-yr, 24-hr Precip. (in)	3.44	3.44	3.44	
Land Slope (%)	12	12		
Travel Time (min)	**10.11**	**5.81**	**0.00**	**15.92**
Shallow Concentrated Flow				
Flow Length (ft)	50			
Watercourse Slope (%)	2.00	0.00	0.00	
Surface Description	Forest	Paved	Paved	
Average Velocity (ft/s)	.36			
Travel Time (min)	**2.34**	**0.00**	**0.00**	**2.34**
Channel Flow				
X-sectional Flow Area (sqft)				
Wetted Perimeter (ft)				
Channel Slope (%)				
Manning's n	0.013	0.013	0.013	
Velocity (ft/s)				
Flow Length (ft)				
Travel Time (min)	**0.00**	**0.00**	**0.00**	**0.00**
Total Travel Time				**18.27 min**

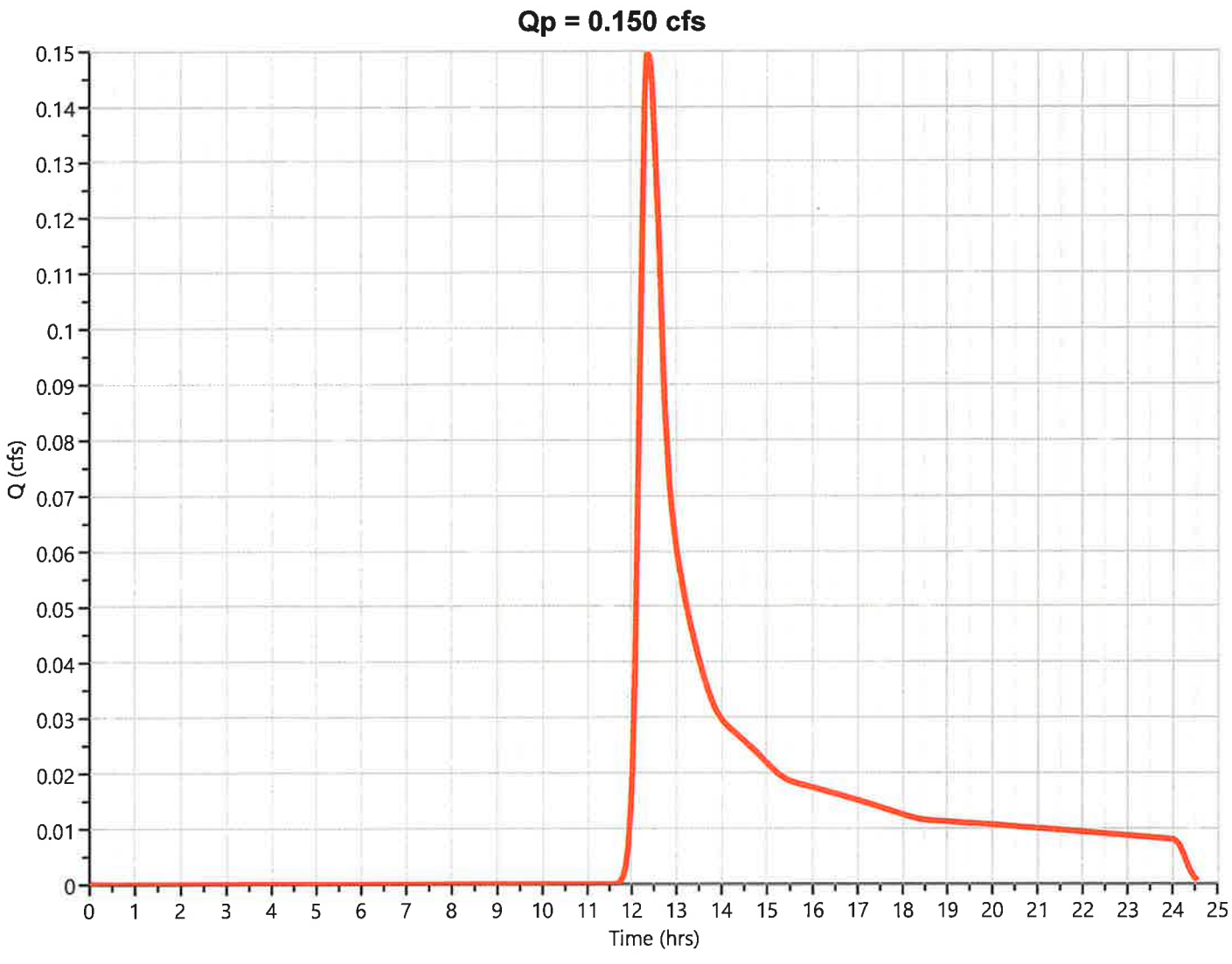
PR-03S

Hyd. No. 7

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.150 cfs
Storm Frequency	= 1-yr	Time to Peak	= 12.37 hrs
Time Interval	= 1 min	Runoff Volume	= 1,003 cuft
Drainage Area	= 0.504 ac	Curve Number	= 67.57*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 26.4 min
Total Rainfall	= 2.87 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
0.12	98.00	Impervious
0.122	61.00	Landscape
0.147	58.00	Conservation
0.115	55.00	Woods
0.504	**67.57**	Weighted CN Method Employed



Tc by TR55 Worksheet

File: 20250924PARKERS PLACE Hydrology.hys

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10-06-2025

PR-03S
NRCS Runoff

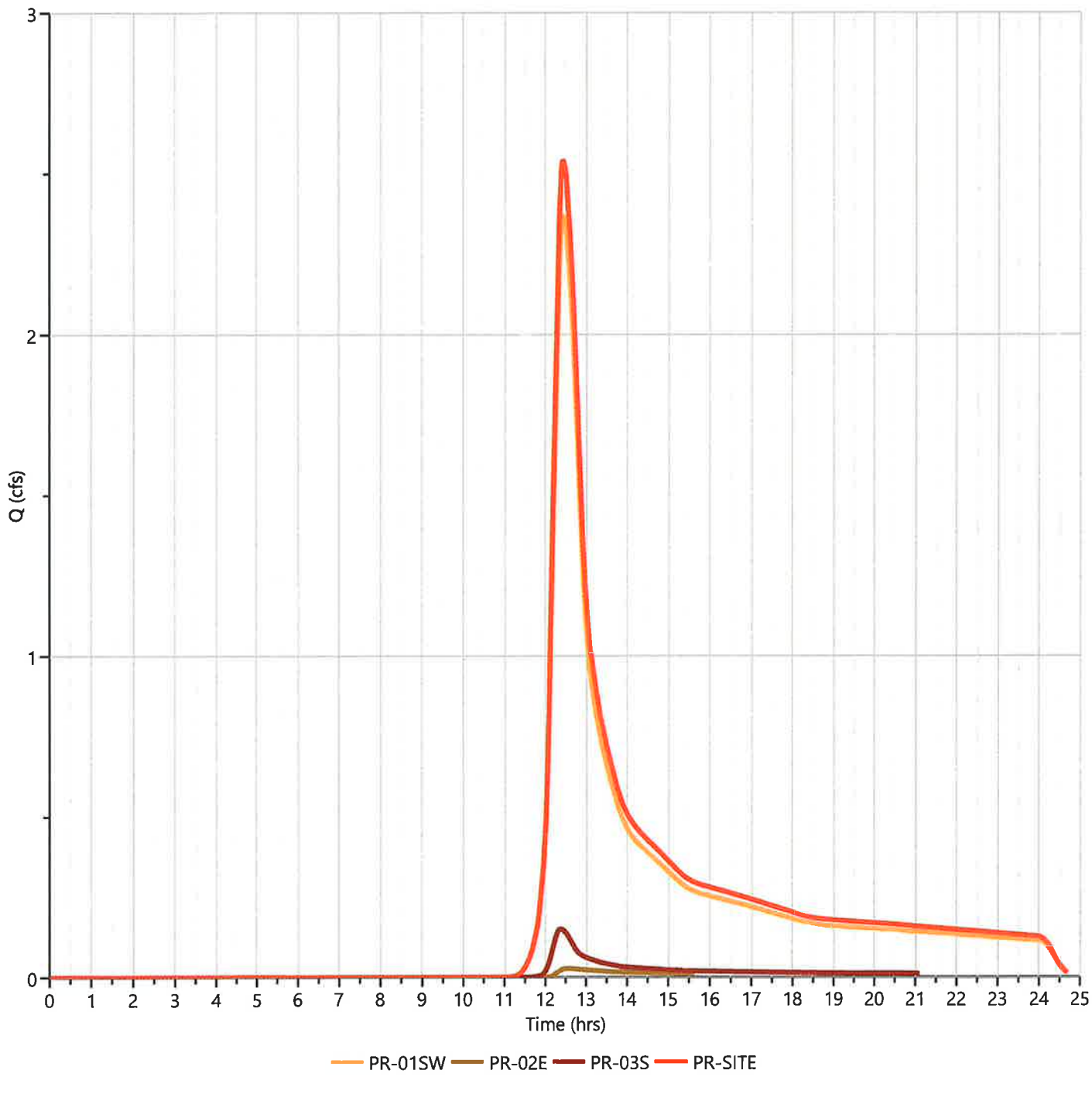
Hyd. No. 7

Description	Segments			Tc (min)
	A	B	C	
Sheet Flow				
Description	Landscape	Conservation	Woods	
Manning's n	0.240	0.400	0.400	
Flow Length (ft)	40	40	70	
2-yr, 24-hr Precip. (in)	3.44	3.44	3.44	
Land Slope (%)	3	4	3	
Travel Time (min)	**5.62**	**7.54**	**13.24**	**26.40**
Shallow Concentrated Flow				
Flow Length (ft)				
Watercourse Slope (%)	0.00	0.00	0.00	
Surface Description	Paved	Paved	Paved	
Average Velocity (ft/s)				
Travel Time (min)	**0.00**	**0.00**	**0.00**	**0.00**
Channel Flow				
X-sectional Flow Area (sqft)				
Wetted Perimeter (ft)				
Channel Slope (%)				
Manning's n	0.013	0.013	0.013	
Velocity (ft/s)				
Flow Length (ft)				
Travel Time (min)	**0.00**	**0.00**	**0.00**	**0.00**
Total Travel Time				**26.4 min**

PR-SITE

Hyd. No. 8

Hydrograph Type	= Junction	Peak Flow	= 2.542 cfs
Storm Frequency	= 1-yr	Time to Peak	= 12.43 hrs
Time Interval	= 1 min	Hydrograph Volume	= 17,434 cuft
Inflow Hydrographs	= 5, 6, 7	Total Contrib. Area	= 6.983 ac

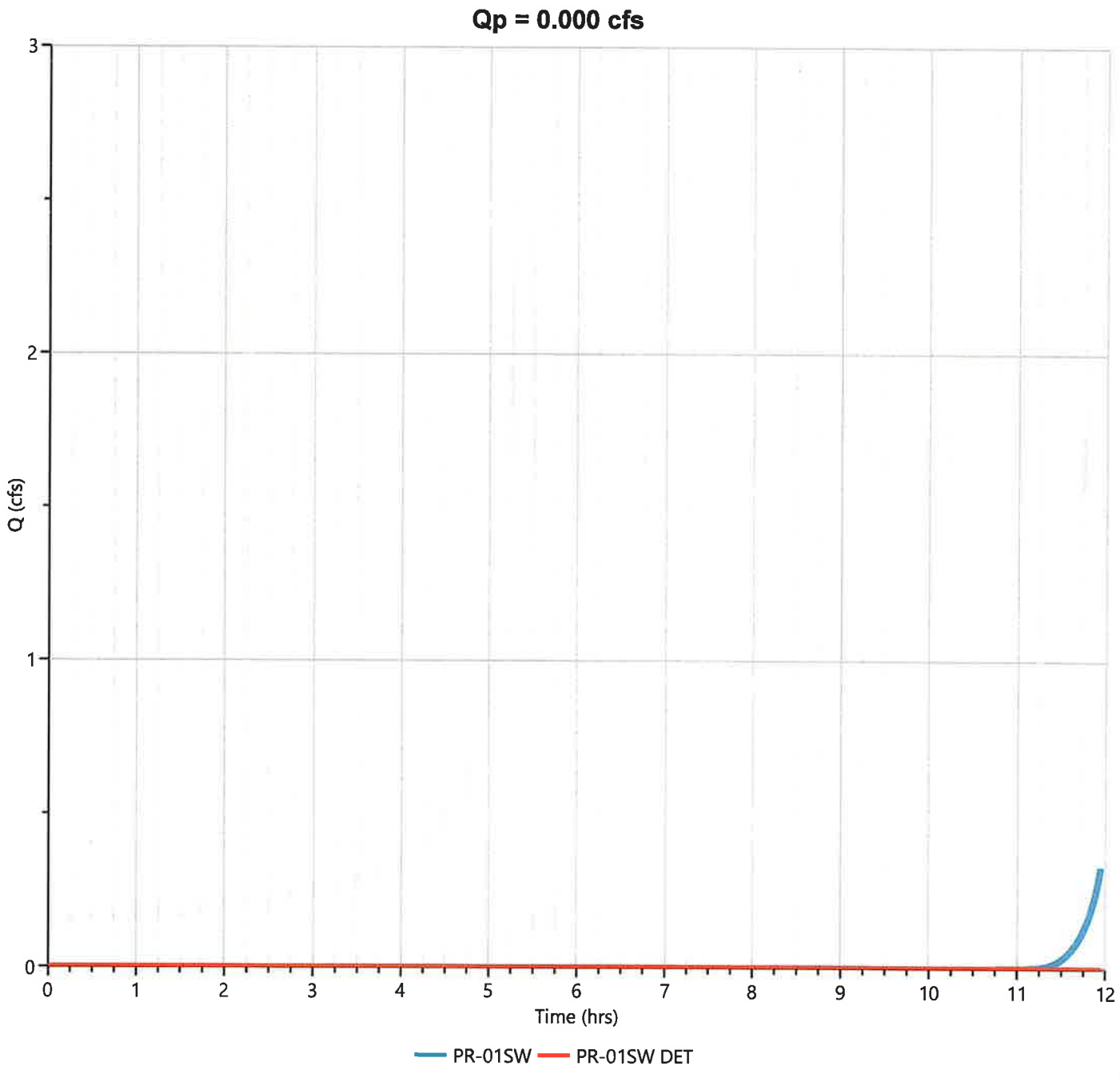


PR-01SW DET

Hyd. No. 9

Hydrograph Type	= Pond Route	Peak Flow	= 0.000 cfs
Storm Frequency	= 1-yr	Time to Peak	= 11.93 hrs
Time Interval	= 1 min	Hydrograph Volume	= 0.000 cuft
Inflow Hydrograph	= 5 - PR-01SW	Max. Elevation	= 27.89 ft
Pond Name	= PR-01 DETENTION	Max. Storage	= 14,012 cuft

Pond Routing by Storage Indication Method



PR-01 DETENTION

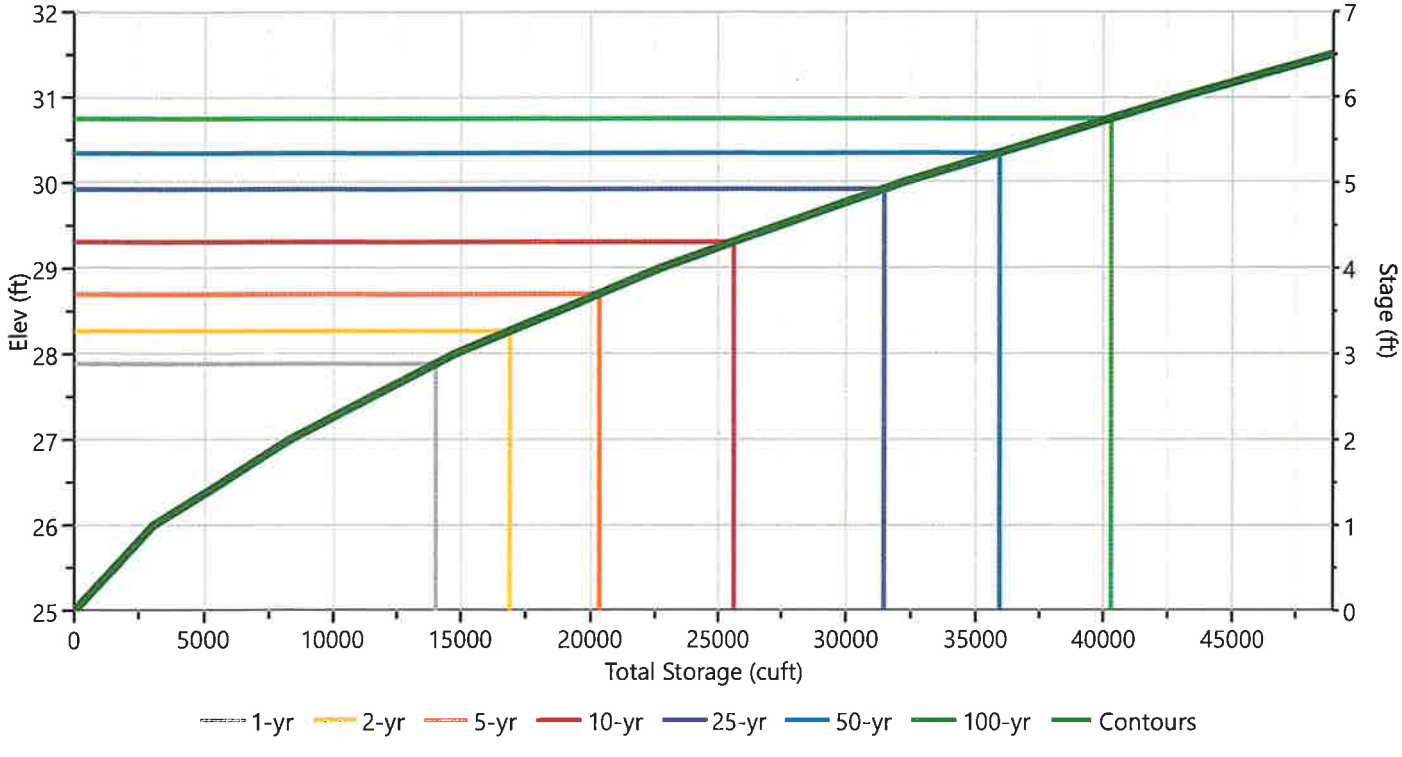
Stage-Storage

User Defined Contours

Description	Input
Bottom Elevation, ft	25.00
Voids (%)	100.00
Volume Calc	Conic

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour Area (sqft)	Incr. Storage (cuft)	Total Storage (cuft)
0.00	25.00	1,780	0.000	0.000
1.00	26.00	4,600	3,080	3,080
2.00	27.00	5,790	5,183	8,263
3.00	28.00	7,200	6,482	14,745
4.00	29.00	8,740	7,957	22,702
5.00	30.00	10,250	9,484	32,186
6.00	31.00	11,480	10,858	43,044
6.50	31.50	12,140	5,904	48,947



Pond Report

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10-06-2025

PR-01 DETENTION

Stage-Discharge

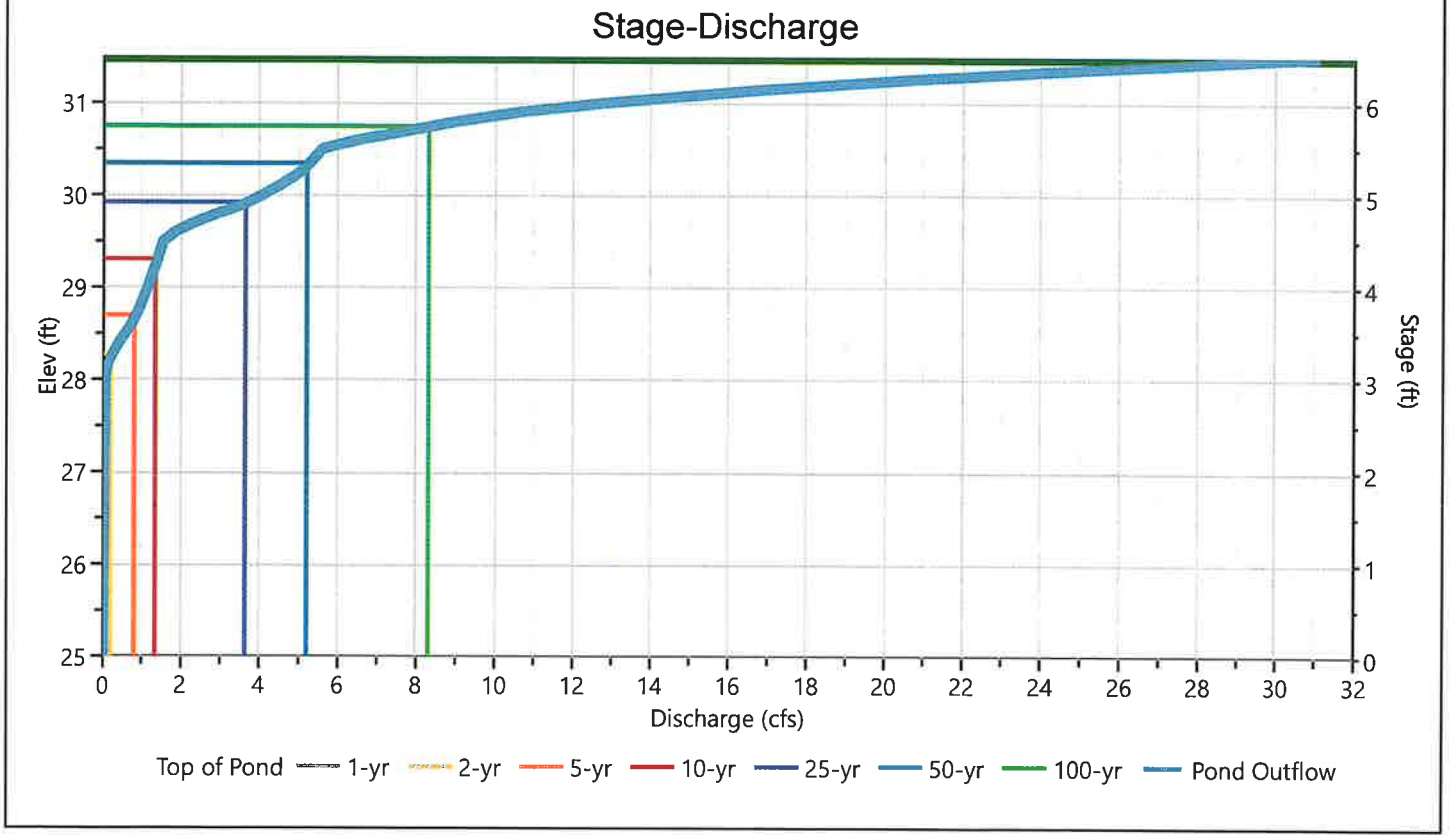
Culvert / Orifices	Cir Culvert	Orifice		
		1 (m)	2	3 (m)
Rise, in	15	8	9	4
Span, in	15	8	9	36
No. Barrels	1	1	2	1
Invert Elevation, ft	28.00	28.00	28.75	29.50
Orifice Coefficient, Co	0.60	0.60	0.60	0.60
Length, ft	25			
Barrel Slope, %	.5			
N-Value, n	0.013			

Weirs	Riser	Weir		
		1 (i)	2	3
Shape / Type	Box	Broad Crested		
Crest Elevation, ft	30.5	30.75		
Crest Length, ft	14	8		
Angle, deg		18.4 (3:1)		
Weir Coefficient, Cw	3.3	3.3		

Orifice Plate	
Orifice Dia, in	
No. Orifices	
Invert Elevation, ft	
Height, ft	
Orifice Coefficient, Co	

Ancillary	
Exfiltration, in/hr	0.30**

*m = Flows through Culvert, i = Independent **Exfiltration extracted from outflow hydrograph. Rate applied to contours.*



PR-01 DETENTION

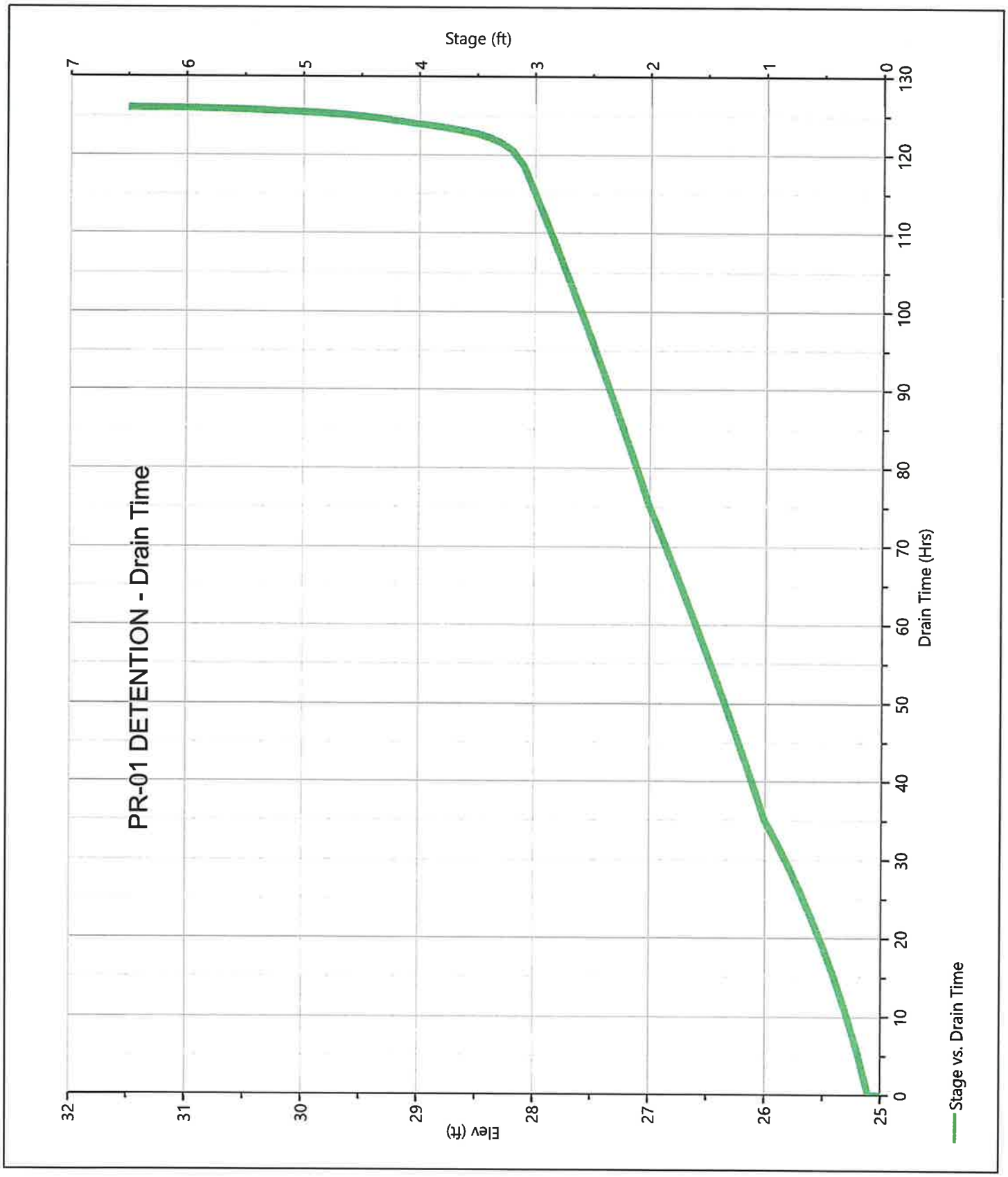
Stage-Storage-Discharge Summary

Stage (ft)	Elev. (ft)	Storage (cuft)	Culvert (cfs)	Orifices, cfs			Riser (cfs)	Weirs, cfs			Pf Riser (cfs)	Exfil (cfs)	User (cfs)	Total (cfs)
				1	2	3		1	2	3				
0.00	25.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000				0.000		0.000
1.00	26.00	3,080	0.000	0.000	0.000	0.000	0.000	0.000				0.032		0.032
2.00	27.00	8,263	0.000	0.000	0.000	0.000	0.000	0.000				0.040		0.040
3.00	28.00	14,745	0.000	0.000	0.000	0.000	0.000	0.000				0.050		0.050
4.00	29.00	22,702	1.094 oc	1.094	0.000	0.000	0.000	0.000				0.061		1.155
5.00	30.00	32,186	4.005 oc	1.225	0.000	2.780	0.000	0.000				0.071		4.076
6.00	31.00	43,044	9.105 ic	0.000	0.000	0.000	0.000	3.548				0.080		12.73
6.50	31.50	48,947	10.02 ic	0.000	0.000	0.000	0.000	21.01				0.084		31.11

Suffix key: ic = inlet control, oc = outlet control, s = submerged weir

PR-01 DETENTION

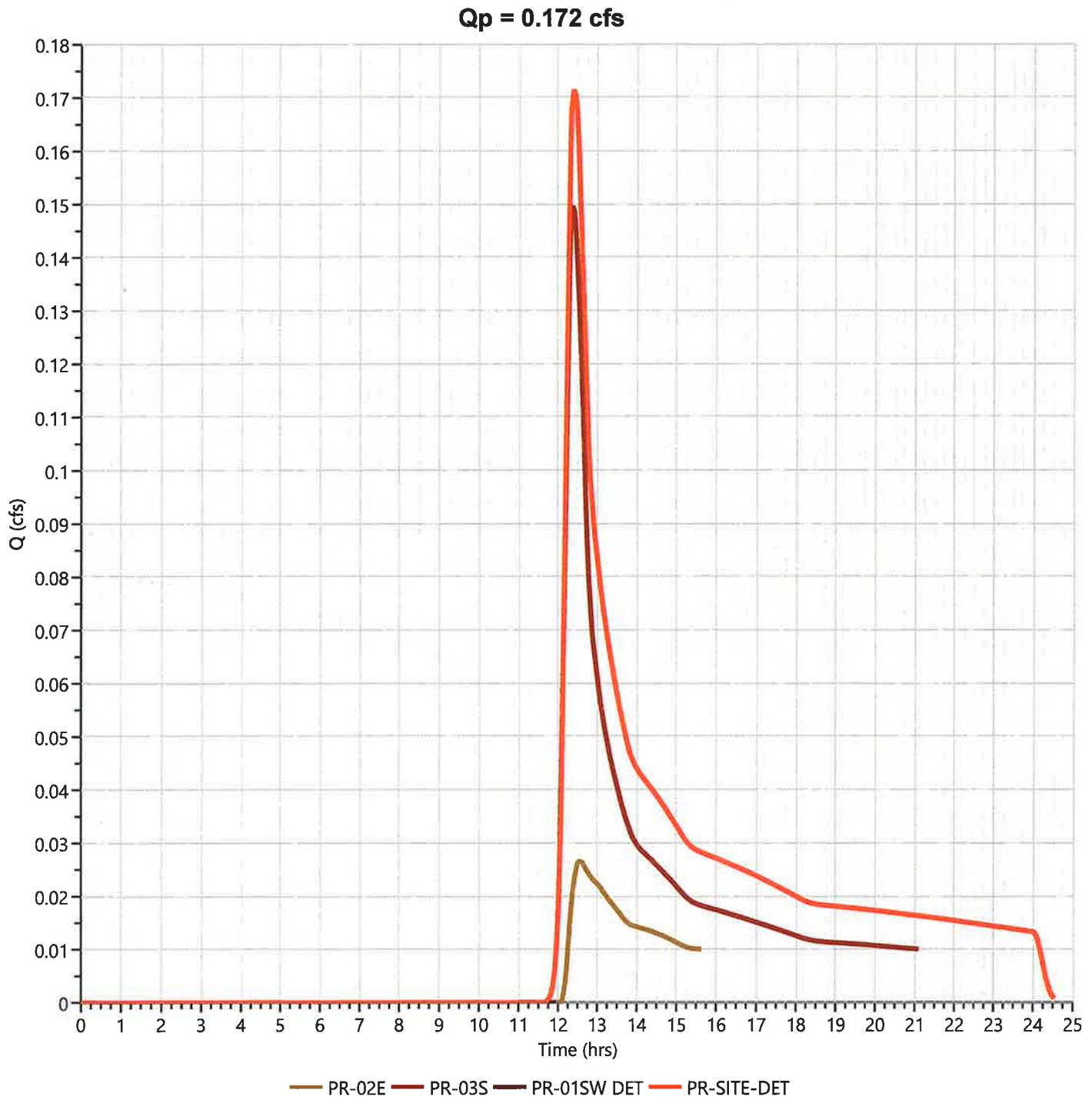
Pond Drawdown



PR-SITE-DET

Hyd. No. 10

Hydrograph Type	= Junction	Peak Flow	= 0.172 cfs
Storm Frequency	= 1-yr	Time to Peak	= 12.42 hrs
Time Interval	= 1 min	Hydrograph Volume	= 1,415 cuft
Inflow Hydrographs	= 6, 7	Total Contrib. Area	= 1.131 ac



Design Storm Report

Custom Storm filename:

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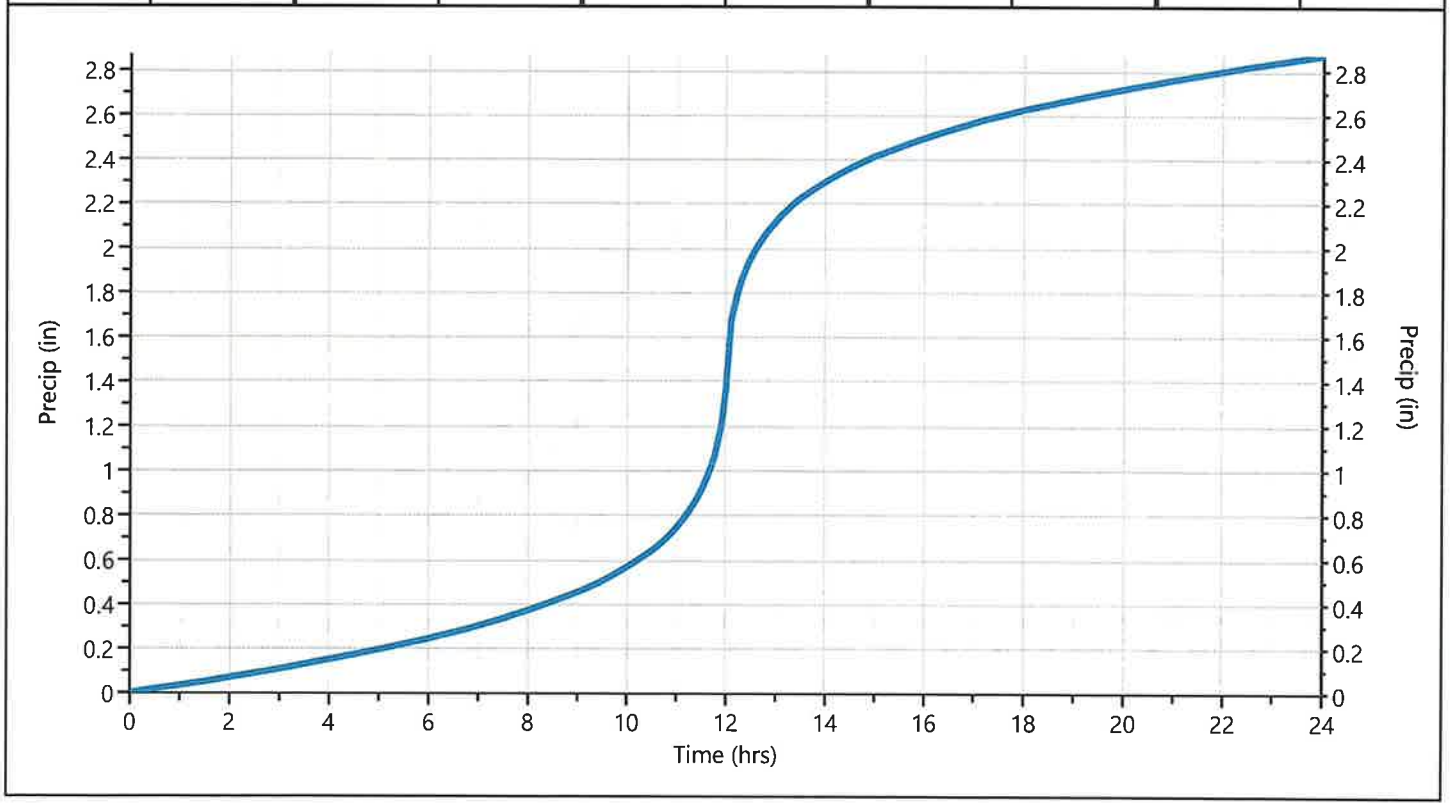
10-06-2025

Storm Distribution: NOAA-D, 24-hr

Storm Duration	Total Rainfall Volume (in)								
	✔ 1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
24 hrs	2.87	3.44	0.00	4.38	5.17	6.24	7.04	7.90	

Incremental Rainfall Distribution, 1-yr									
Time (hrs)	Precip (in)	Time (hrs)	Precip (in)	Time (hrs)	Precip (in)	Time (hrs)	Precip (in)	Time (hrs)	Precip (in)
11.60	0.008658	11.78	0.012499	11.97	0.029919	12.15	0.017344	12.33	0.009113
11.62	0.009112	11.80	0.012500	11.98	0.029921	12.17	0.017344	12.35	0.009112
11.63	0.009112	11.82	0.017344	12.00	0.029918	12.18	0.017345	12.37	0.009113
11.65	0.009113	11.83	0.017345	12.02	0.049922	12.20	0.017344	12.38	0.009112
11.67	0.009112	11.85	0.017344	12.03	0.049925	12.22	0.012499	12.40	0.009113
11.68	0.009113	11.87	0.017344	12.05	0.049922	12.23	0.012499	12.42	0.008658
11.70	0.009112	11.88	0.017345	12.07	0.049925	12.25	0.012499	12.43	0.008658
11.72	0.012499	11.90	0.017344	12.08	0.049922	12.27	0.012499	12.45	0.008658
11.73	0.012499	11.92	0.029920	**12.10**	**0.049925**	12.28	0.012499	12.47	0.008658
11.75	0.012499	11.93	0.029919	12.12	0.017344	12.30	0.012498	12.48	0.008658
11.77	0.012499	11.95	0.029921	12.13	0.017345	12.32	0.009112	12.50	0.008658



Hydrograph 2-yr Summary

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10-06-2025

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (hrs)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)
1	NRCS Runoff	EX-01SW	0.517	12.67	6,169	----		
2	NRCS Runoff	EX-02E	0.157	12.47	1,658	----		
3	NRCS Runoff	EX-03S	0.048	12.38	479	----		
4	Junction	EX-SITE	0.692	12.58	8,307	1, 2, 3		
5	NRCS Runoff	PR-01SW	3.680	12.43	23,565	----		
6	NRCS Runoff	PR-02E	0.090	12.37	806	----		
7	NRCS Runoff	PR-03S	0.260	12.35	1,558	----		
8	Junction	PR-SITE	4.015	12.43	25,929	5, 6, 7		
9	Pond Route	PR-01SW DET	0.184	18.20	5,503	5	28.27	16,889
10	Junction	PR-SITE-DET	0.351	12.35	7,866	6, 7, 9		

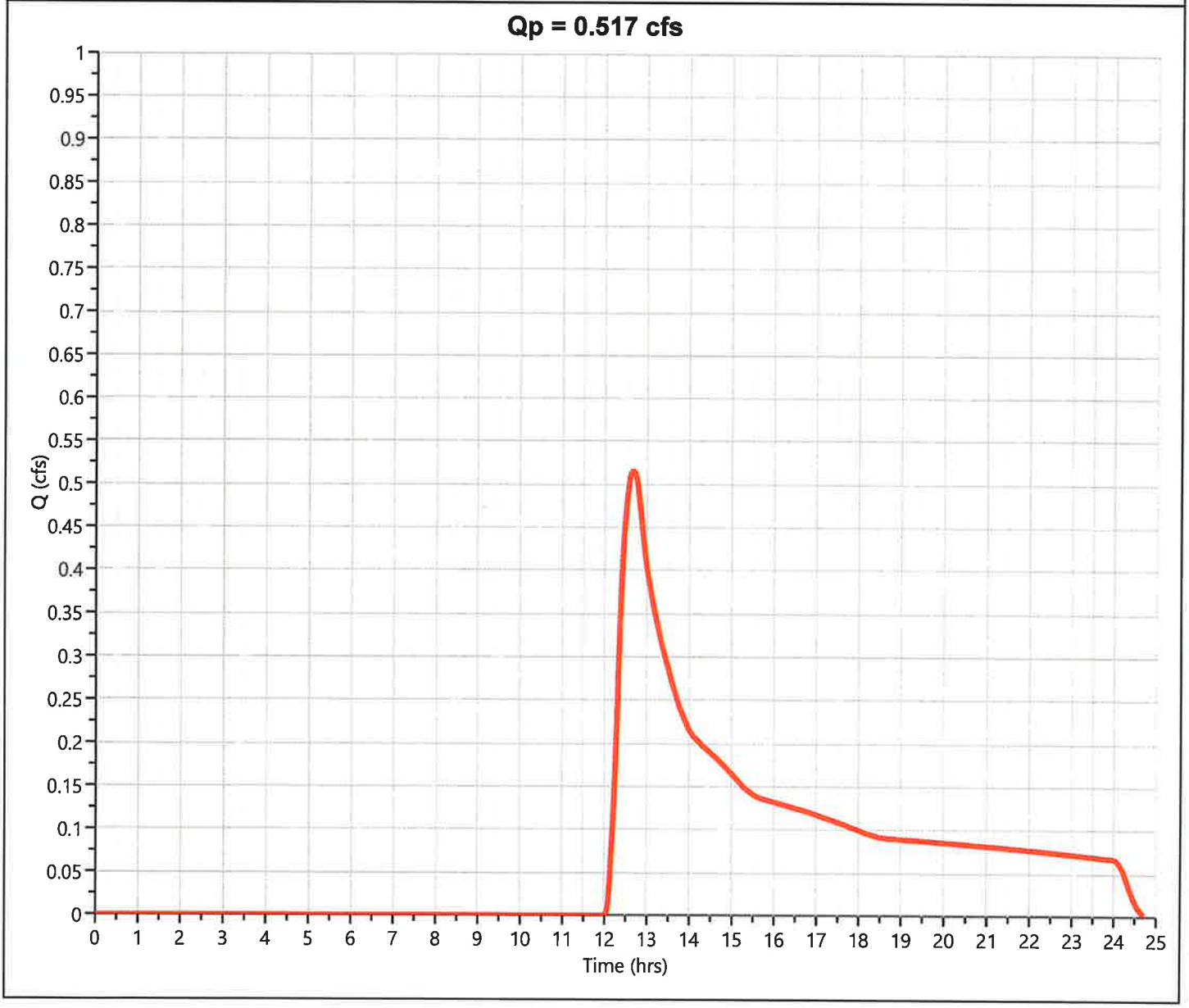
EX-01SW

Hyd. No. 1

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.517 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.67 hrs
Time Interval	= 1 min	Runoff Volume	= 6,169 cuft
Drainage Area	= 5.183 ac	Curve Number	= 55.00*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 31.45 min
Total Rainfall	= 3.44 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
5.183	55.00	Woods
5.183	**55.00**	Weighted CN Method Employed



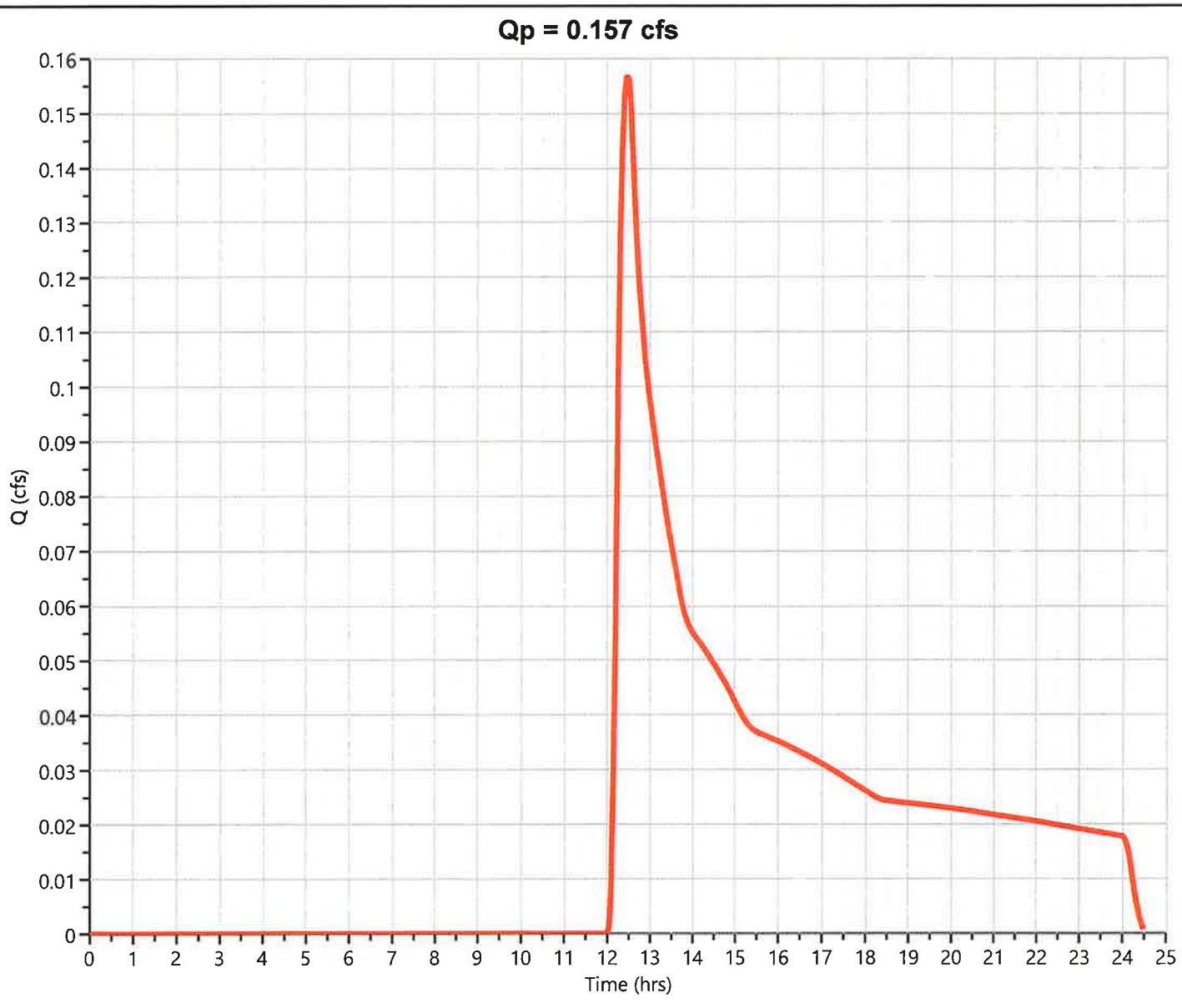
EX-02E

Hyd. No. 2

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.157 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.47 hrs
Time Interval	= 1 min	Runoff Volume	= 1,658 cuft
Drainage Area	= 1.389 ac	Curve Number	= 55.00*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 20.61 min
Total Rainfall	= 3.44 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
1.389	55.00	Woods
1.389	**55.00**	Weighted CN Method Employed



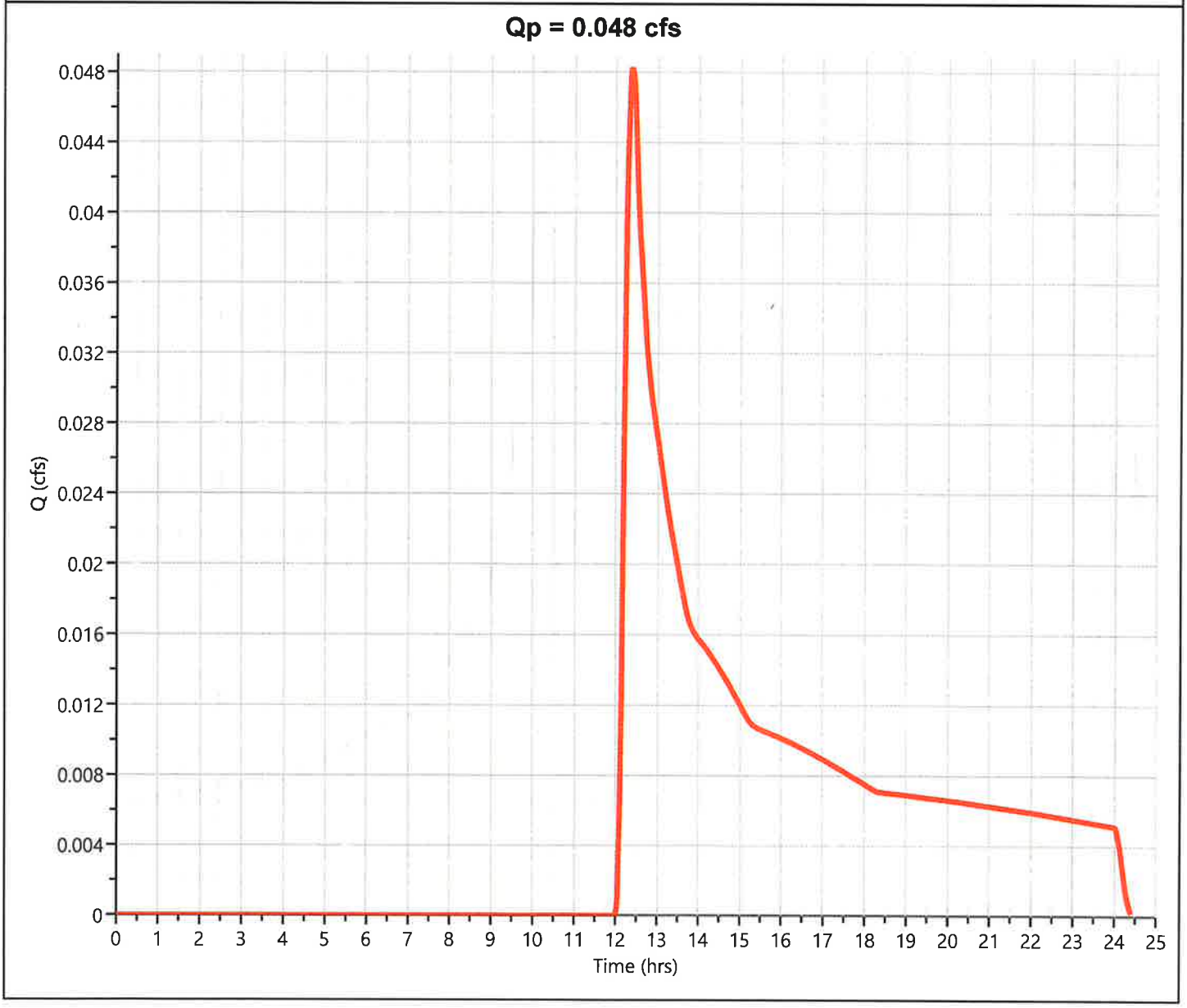
EX-03S

Hyd. No. 3

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.048 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.38 hrs
Time Interval	= 1 min	Runoff Volume	= 479 cuft
Drainage Area	= 0.41 ac	Curve Number	= 55.00*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 18.32 min
Total Rainfall	= 3.44 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

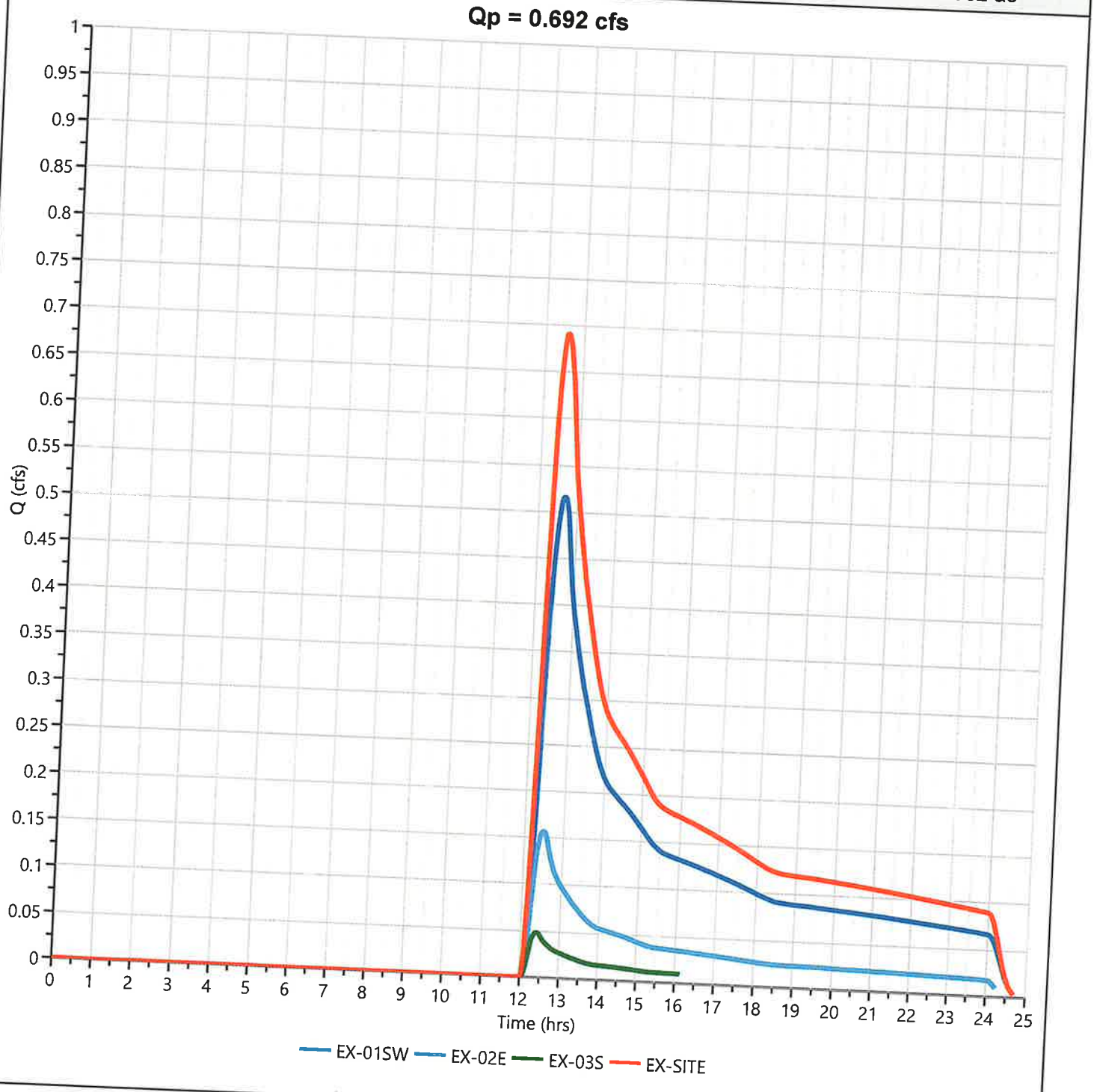
AREA (ac)	CN	DESCRIPTION
0.41	55.00	Woods
0.41	**55.00**	Weighted CN Method Employed



EX-SITE

Hyd. No. 4

Hydrograph Type	= Junction	Peak Flow	= 0.692 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.58 hrs
Time Interval	= 1 min	Hydrograph Volume	= 8,307 cuft
Inflow Hydrographs	= 1, 2, 3	Total Contrib. Area	= 6.982 ac



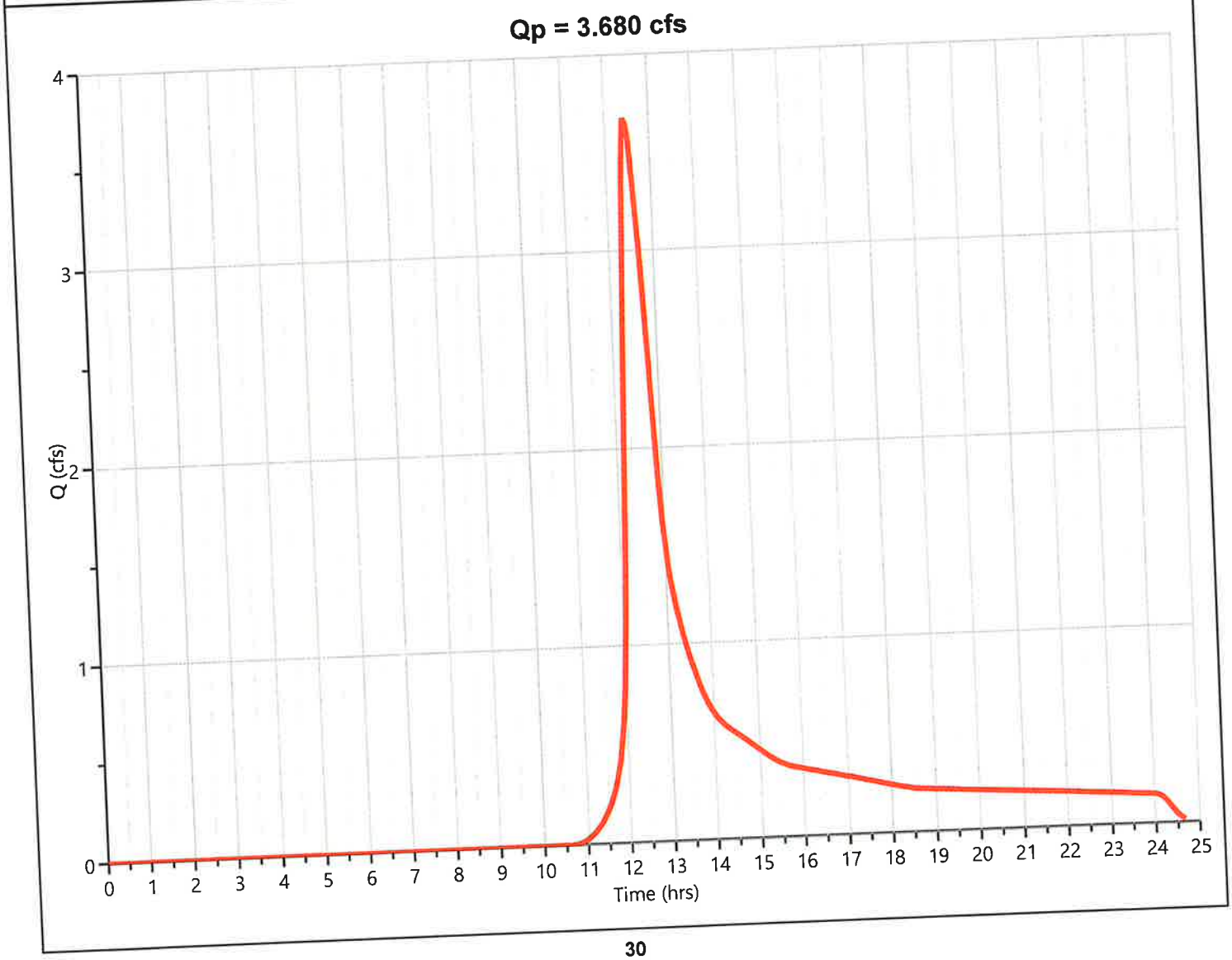
Hyd. No. 5

PR-01SW

Hydrograph Type	= NRCS Runoff	Peak Flow	= 3.680 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.43 hrs
Time Interval	= 1 min	Runoff Volume	= 23,565 cuft
Drainage Area	= 5.852 ac	Curve Number	= 72.48*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 34.6 min
Total Rainfall	= 3.44 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
2.095	98.00	Impervious
1.395	61.00	Landscape
1.277	58.00	Conservation
1.085	55.00	Woods
5.852	**72.48**	Weighted CN Method Employed



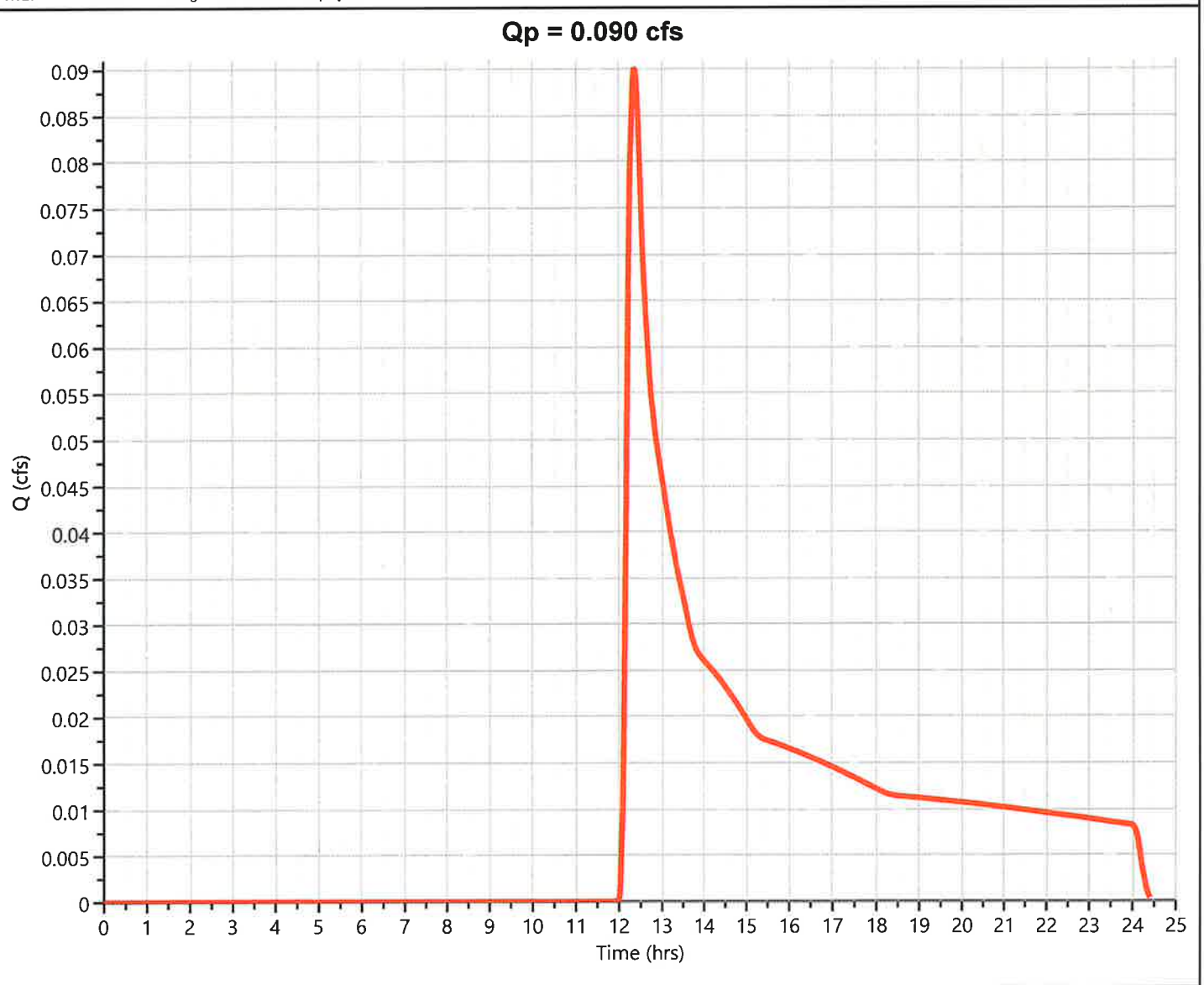
PR-02E

Hyd. No. 6

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.090 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.37 hrs
Time Interval	= 1 min	Runoff Volume	= 806 cuft
Drainage Area	= 0.627 ac	Curve Number	= 55.97*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 18.27 min
Total Rainfall	= 3.44 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
0.016	61.00	Landscape
0.171	58.00	Conservation
0.44	55.00	Woods
0.627	**55.97**	Weighted CN Method Employed



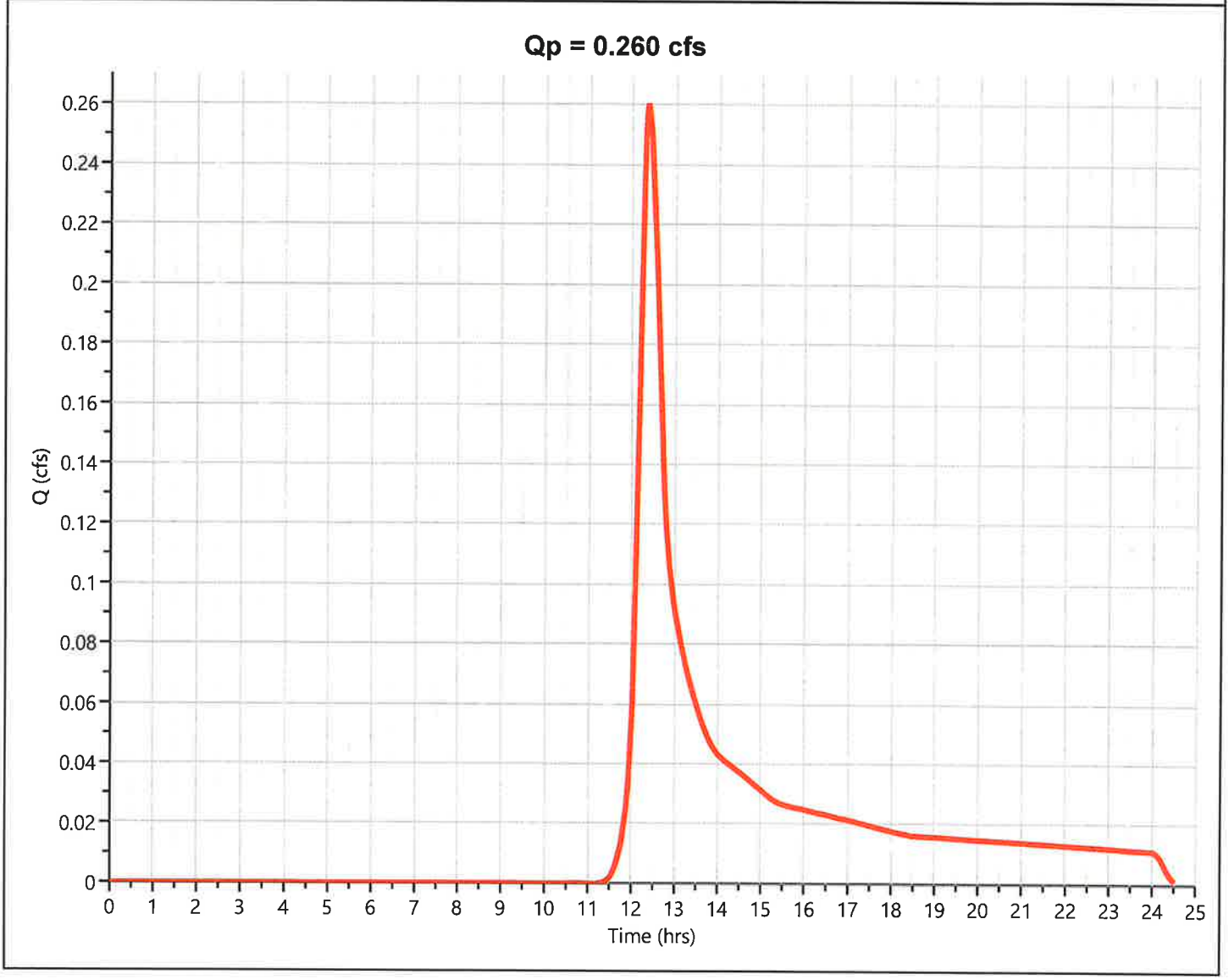
PR-03S

Hyd. No. 7

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.260 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.35 hrs
Time Interval	= 1 min	Runoff Volume	= 1,558 cuft
Drainage Area	= 0.504 ac	Curve Number	= 67.57*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 26.4 min
Total Rainfall	= 3.44 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

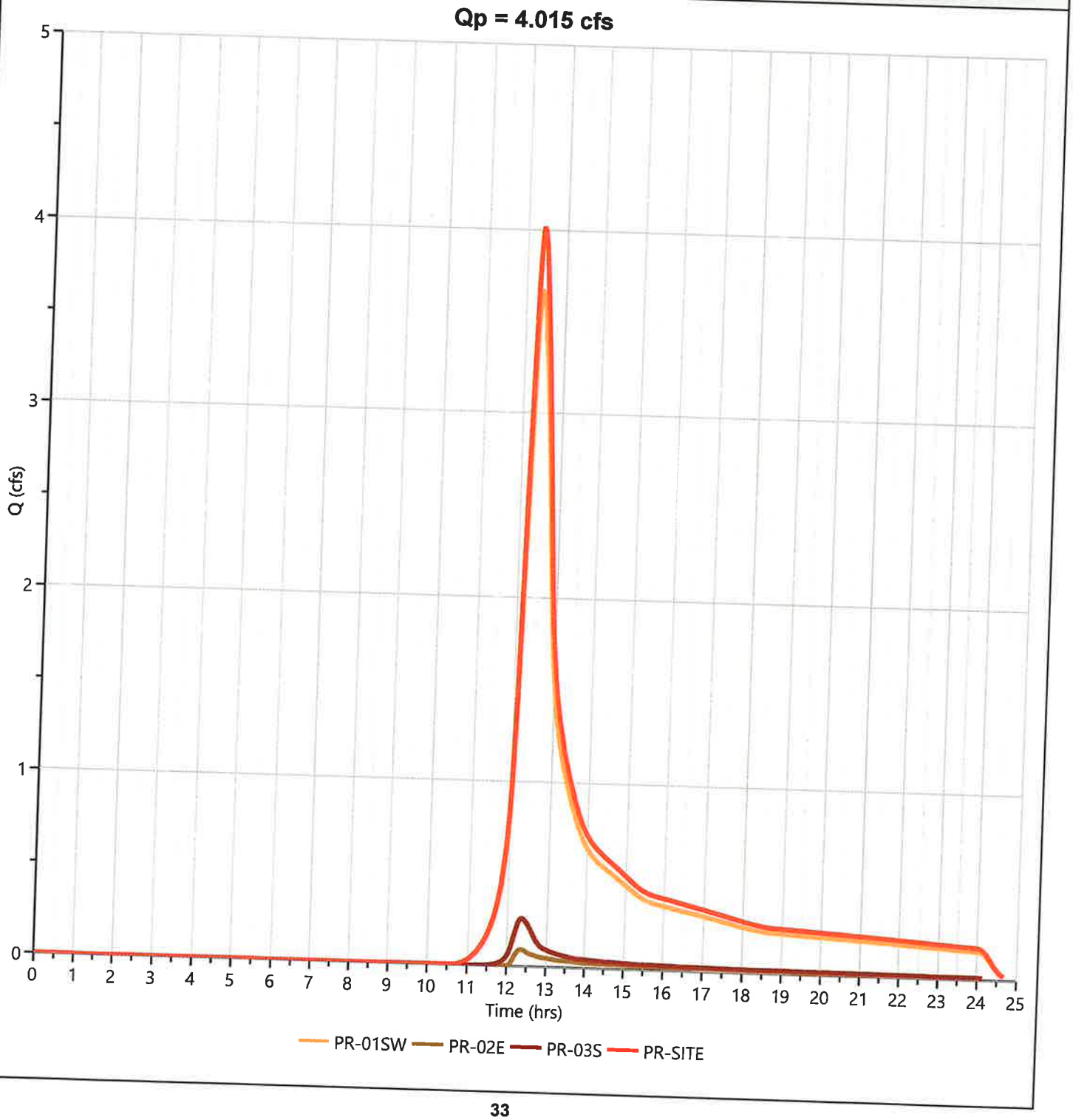
AREA (ac)	CN	DESCRIPTION
0.12	98.00	Impervious
0.122	61.00	Landscape
0.147	58.00	Conservation
0.115	55.00	Woods
0.504	**67.57**	Weighted CN Method Employed



PR-SITE

Hyd. No. 8

Hydrograph Type	= Junction	Peak Flow	= 4.015 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.43 hrs
Time Interval	= 1 min	Hydrograph Volume	= 25,929 cuft
Inflow Hydrographs	= 5, 6, 7	Total Contrib. Area	= 6.983 ac



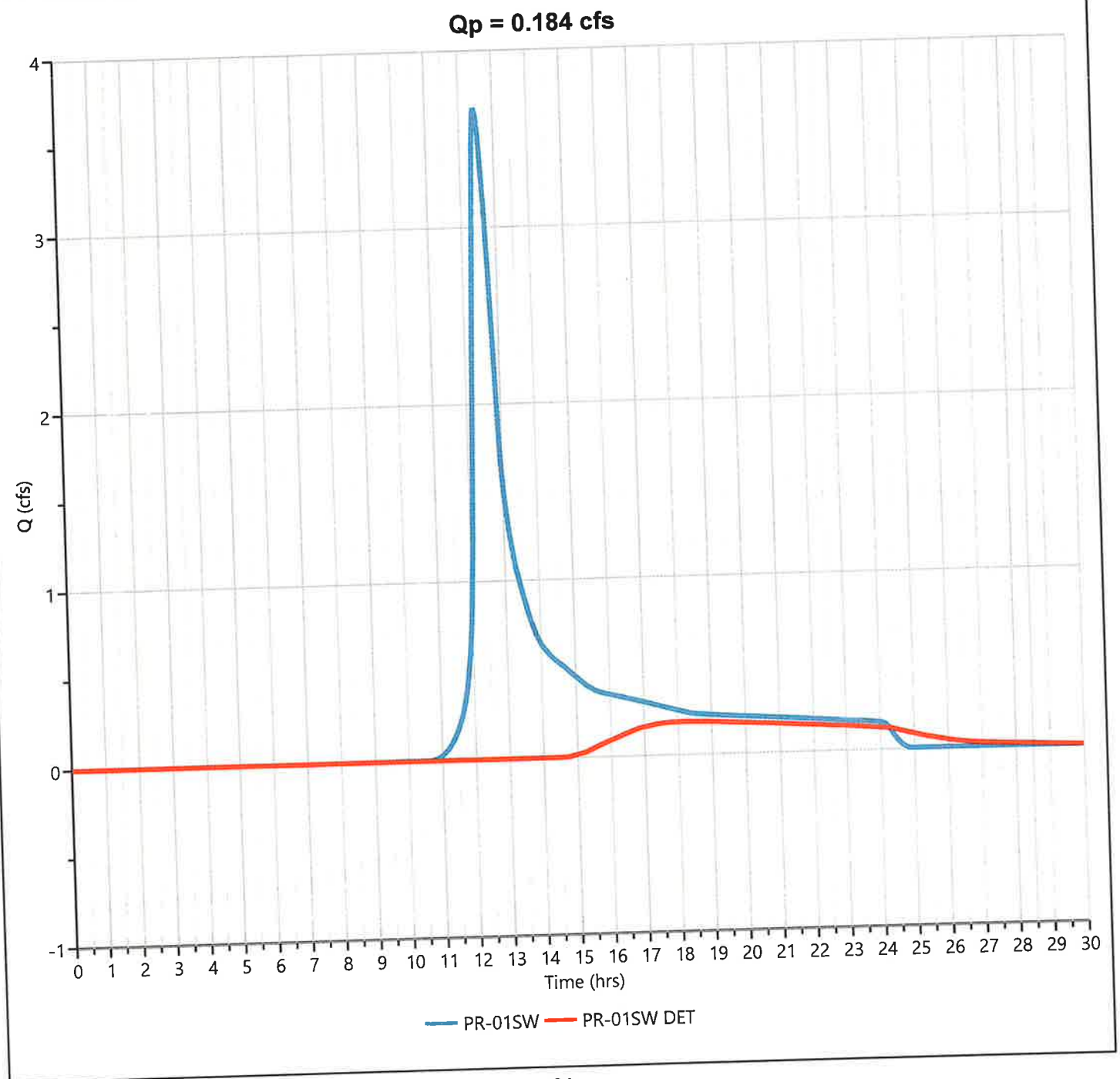
PR-01SW DET

Hyd. No. 9

Hydrograph Type	= Pond Route	Peak Flow	= 0.184 cfs
Storm Frequency	= 2-yr	Time to Peak	= 18.20 hrs
Time Interval	= 1 min	Hydrograph Volume	= 5,503 cuft
Inflow Hydrograph	= 5 - PR-01SW	Max. Elevation	= 28.27 ft
Pond Name	= PR-01 DETENTION	Max. Storage	= 16,889 cuft

Pond Routing by Storage Indication Method

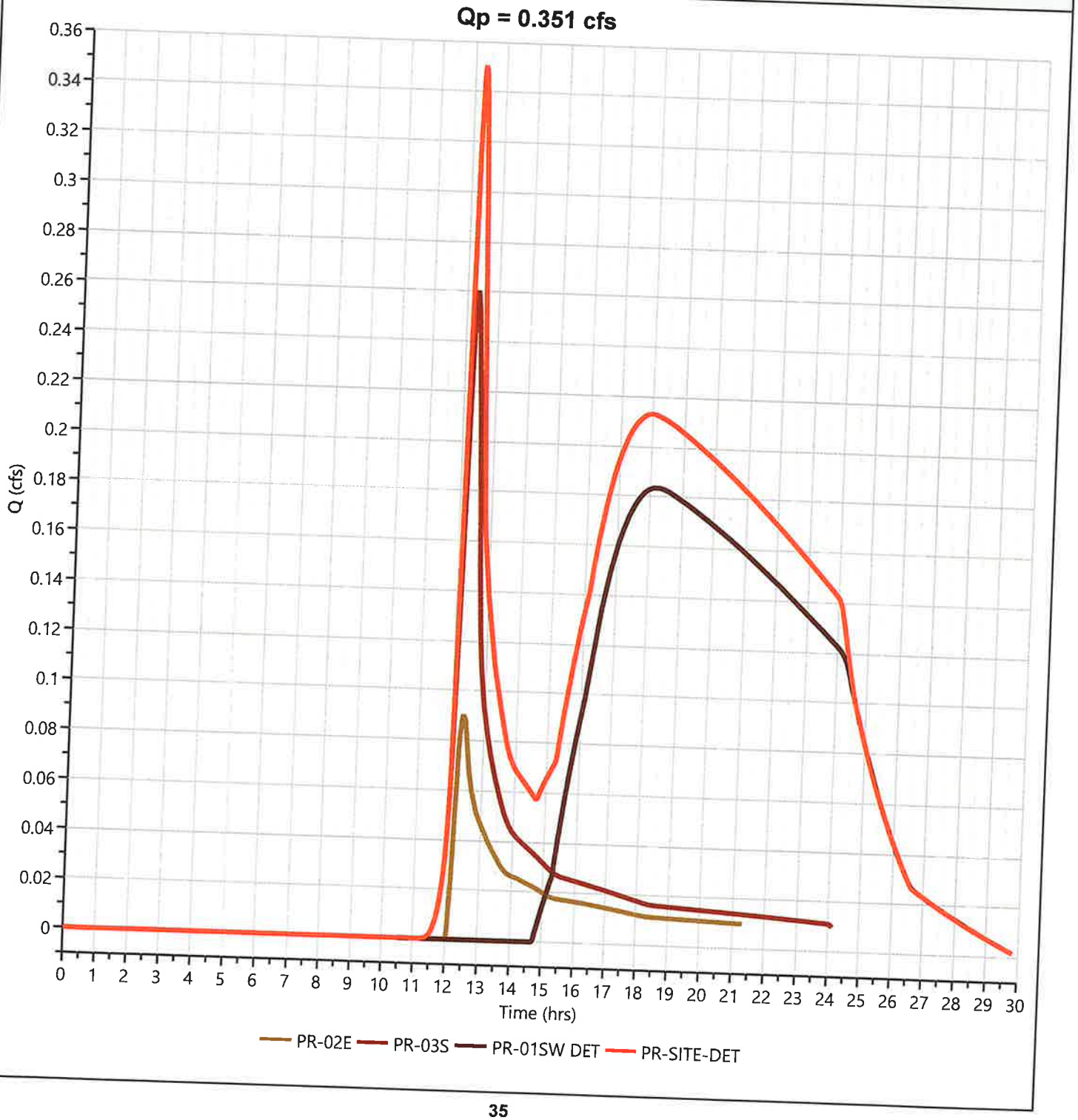
Center of mass detention time = 5.70 hrs



PR-SITE-DET

Hyd. No. 10

Hydrograph Type	= Junction	Peak Flow	= 0.351 cfs
Storm Frequency	= 2-yr	Time to Peak	= 12.35 hrs
Time Interval	= 1 min	Hydrograph Volume	= 7,866 cuft
Inflow Hydrographs	= 6, 7	Total Contrib. Area	= 1.131 ac



Design Storm Report

Custom Storm filename:

10-06-2025

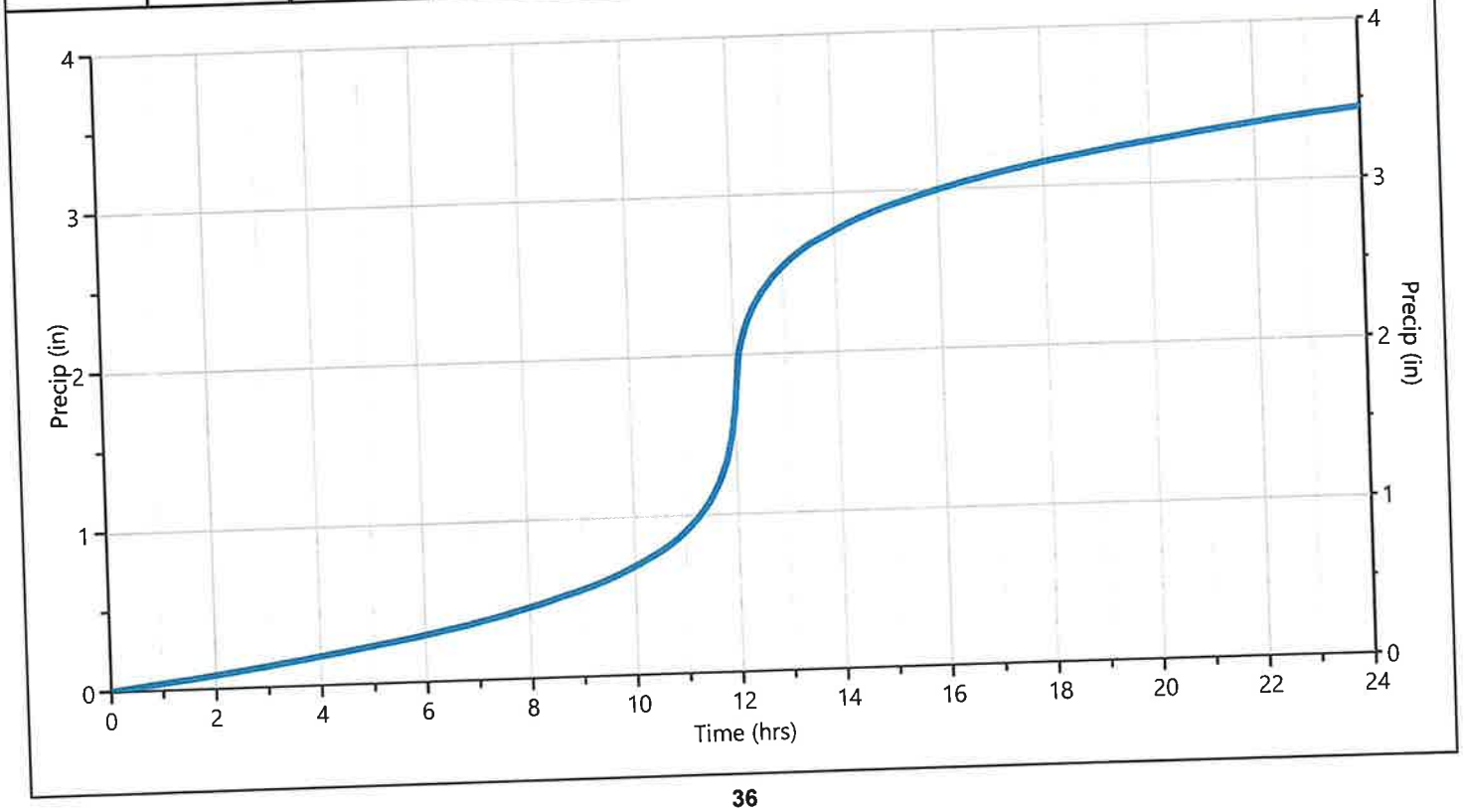
Hydrology Studio v 3.0.0.38

Storm Distribution: NOAA-D, 24-hr

Storm Duration	Total Rainfall Volume (in)								
	1-yr	✔ 2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
24 hrs	2.87	3.44	0.00	4.38	5.17	6.24	7.04	7.90	

Incremental Rainfall Distribution, 2-yr

Time (hrs)	Precip (in)	Time (hrs)	Precip (in)	Time (hrs)	Precip (in)	Time (hrs)	Precip (in)	Time (hrs)	Precip (in)
11.60	0.010377	11.78	0.014981	11.97	0.035861	12.15	0.020789	12.33	0.010922
11.62	0.010922	11.80	0.014982	11.98	0.035863	12.17	0.020788	12.35	0.010921
11.63	0.010922	11.82	0.020789	12.00	0.035860	12.18	0.020790	12.37	0.010922
11.65	0.010922	11.83	0.020790	12.02	0.059837	12.20	0.020788	12.38	0.010922
11.67	0.010922	11.85	0.020789	12.03	0.059841	12.22	0.014981	12.40	0.010923
11.68	0.010922	11.87	0.020788	12.05	0.059837	12.23	0.014981	12.42	0.010377
11.70	0.010921	11.88	0.020790	12.07	0.059841	12.25	0.014982	12.43	0.010378
11.72	0.014981	11.90	0.020789	12.08	0.059837	12.27	0.014981	12.45	0.010377
11.73	0.014982	11.92	0.035863	**12.10**	**0.059841**	12.28	0.014982	12.47	0.010377
11.75	0.014981	11.93	0.035861	12.12	0.020789	12.30	0.014981	12.48	0.010378
11.77	0.014982	11.95	0.035863	12.13	0.020790	12.32	0.010922	12.50	0.010377



Hydrograph 5-yr Summary

Hydrology Studio v 3.0.0.38

File: 20250924PARKERS PLACE Hydrology.hys
10-06-2025

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (hrs)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)
1	NRCS Runoff	EX-01SW	1.598	12.50	13,048	----		
2	NRCS Runoff	EX-02E	0.520	12.33	3,507	----		
3	NRCS Runoff	EX-03S	0.166	12.27	1,014	----		
4	Junction	EX-SITE	2.191	12.42	17,569	1, 2, 3		
5	NRCS Runoff	PR-01SW	6.083	12.42	37,542	----		
6	NRCS Runoff	PR-02E	0.285	12.27	1,661	----		
7	NRCS Runoff	PR-03S	0.472	12.33	2,624	----		
8	Junction	PR-SITE	6.762	12.42	41,827	5, 6, 7		
9	Pond Route	PR-01SW DET	0.809	14.23	19,134	5	28.70	20,332
10	Junction	PR-SITE-DET	0.921	14.07	23,419	6, 7, 9		

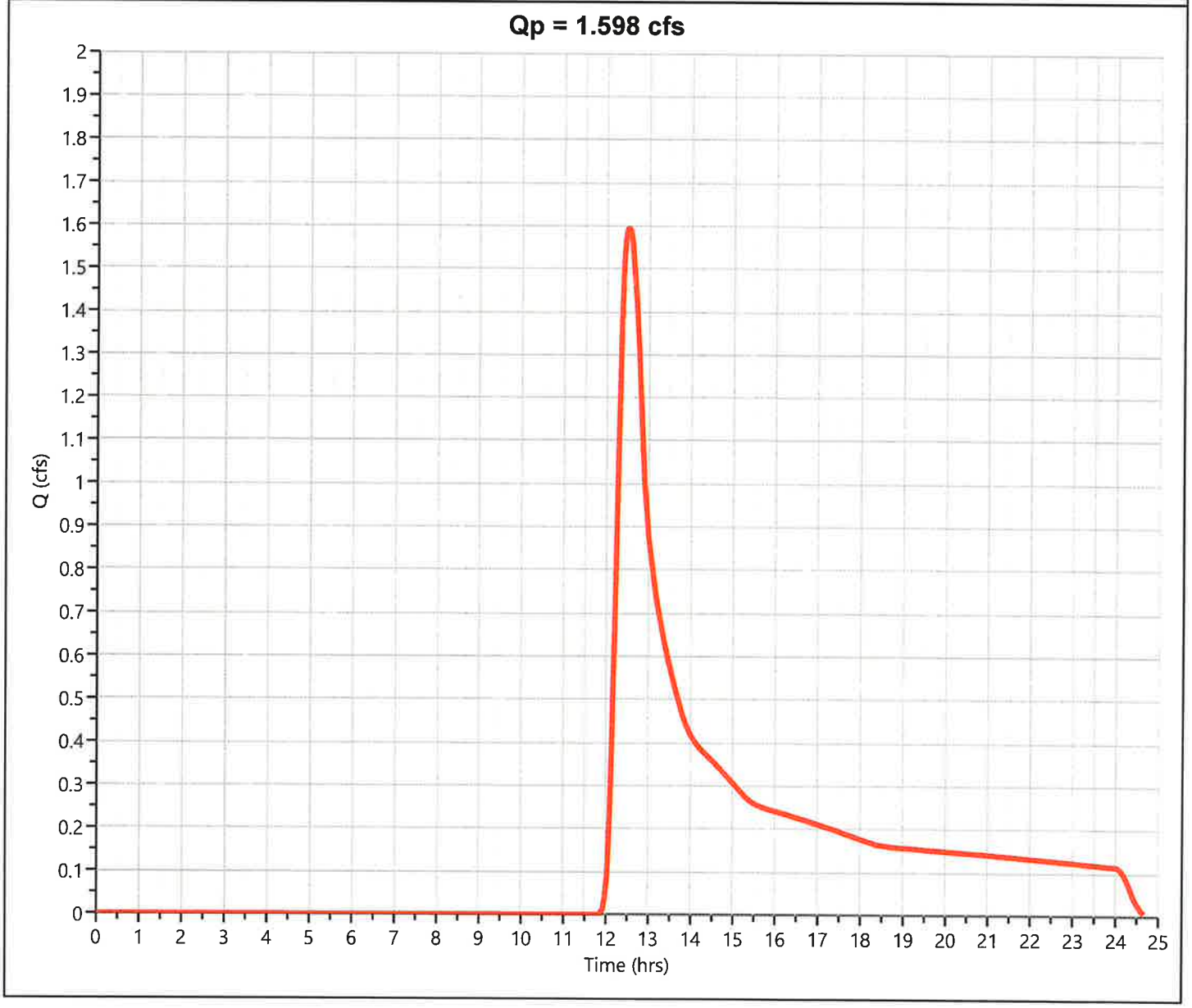
EX-01SW

Hyd. No. 1

Hydrograph Type	= NRCS Runoff	Peak Flow	= 1.598 cfs
Storm Frequency	= 5-yr	Time to Peak	= 12.50 hrs
Time Interval	= 1 min	Runoff Volume	= 13,048 cuft
Drainage Area	= 5.183 ac	Curve Number	= 55.00*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 31.45 min
Total Rainfall	= 4.38 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
5.183	55.00	Woods
5.183	**55.00**	Weighted CN Method Employed



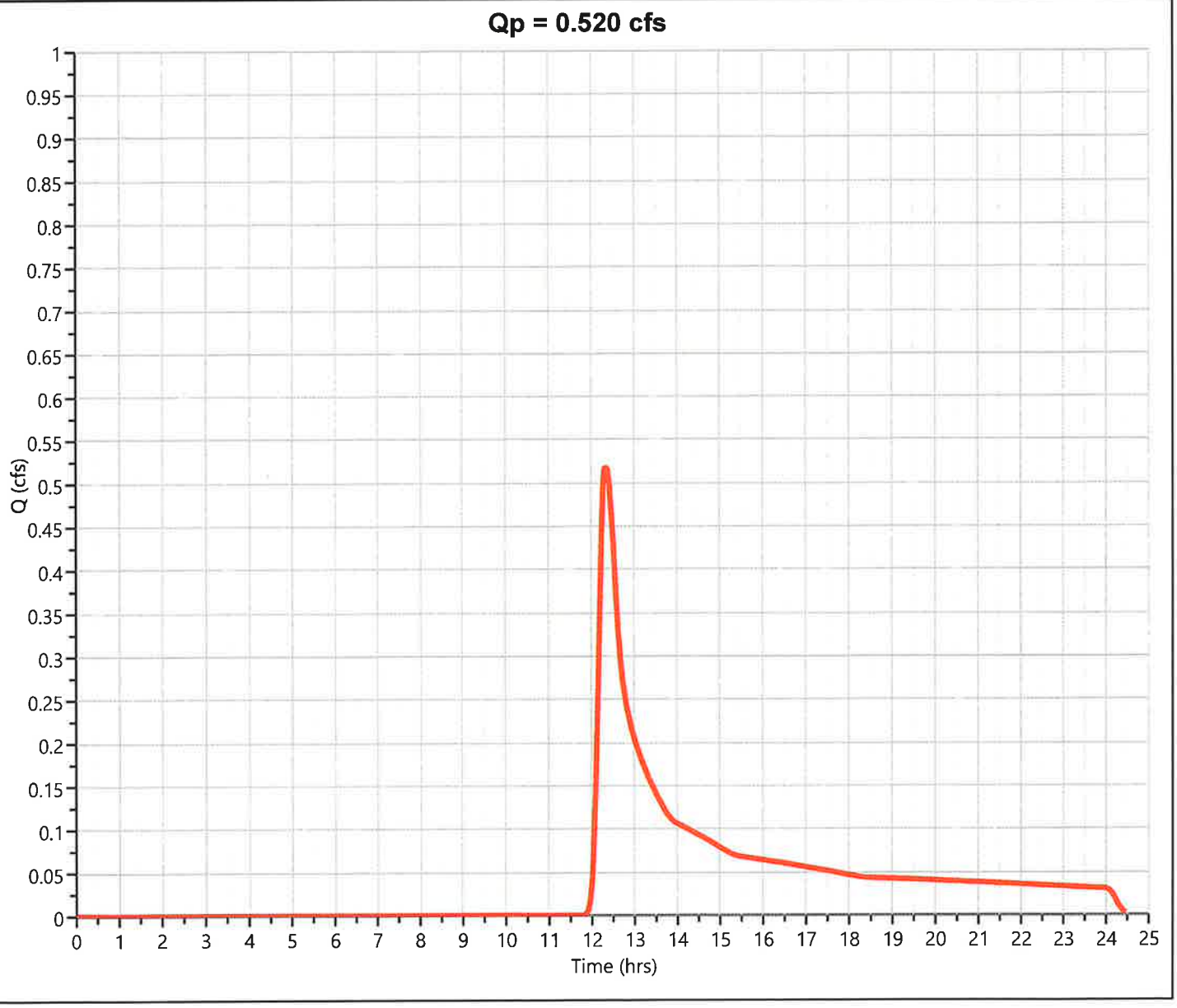
EX-02E

Hyd. No. 2

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.520 cfs
Storm Frequency	= 5-yr	Time to Peak	= 12.33 hrs
Time Interval	= 1 min	Runoff Volume	= 3,507 cuft
Drainage Area	= 1.389 ac	Curve Number	= 55.00*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 20.61 min
Total Rainfall	= 4.38 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
1.389	55.00	Woods
1.389	**55.00**	Weighted CN Method Employed



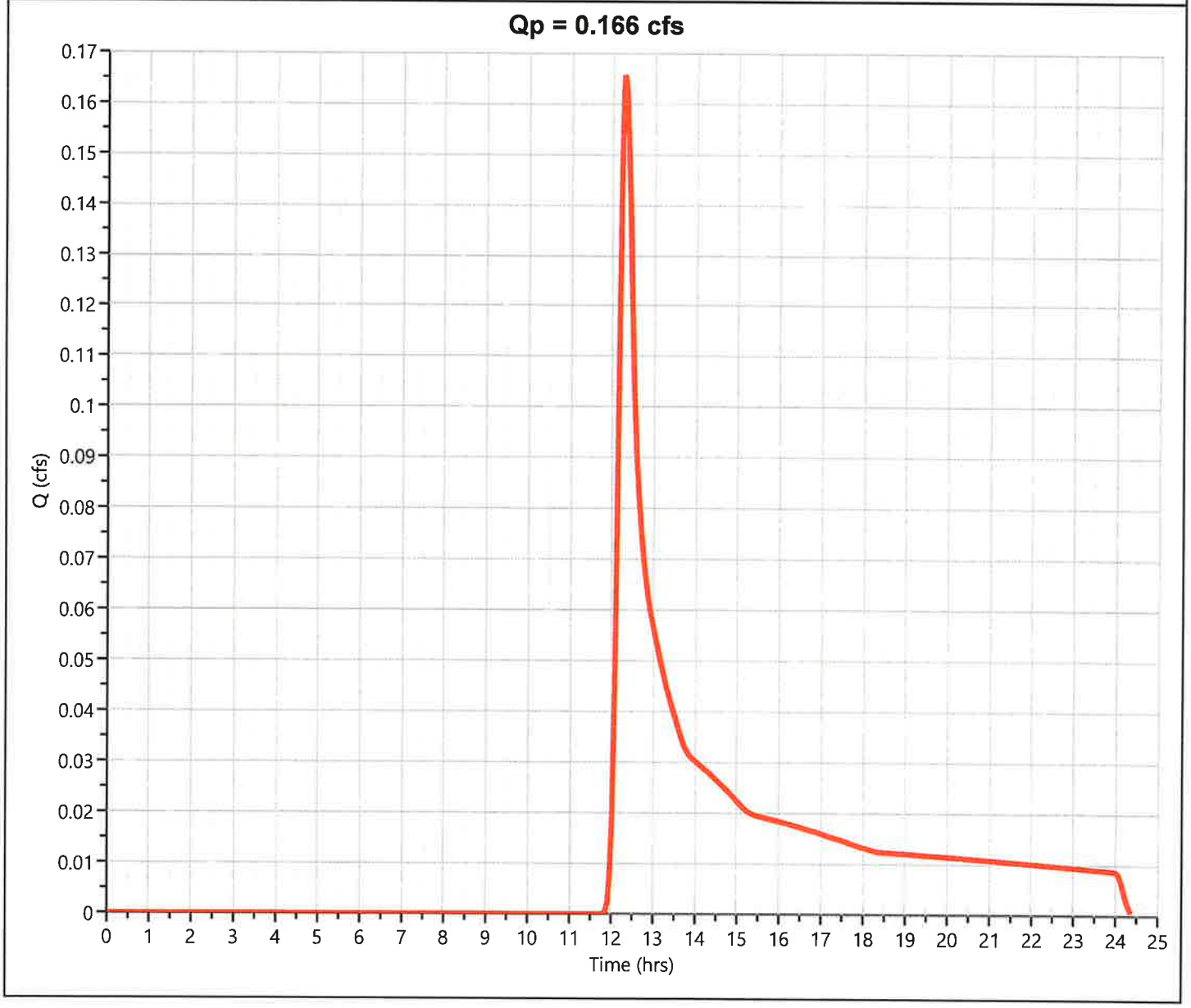
EX-03S

Hyd. No. 3

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.166 cfs
Storm Frequency	= 5-yr	Time to Peak	= 12.27 hrs
Time Interval	= 1 min	Runoff Volume	= 1,014 cuft
Drainage Area	= 0.41 ac	Curve Number	= 55.00*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 18.32 min
Total Rainfall	= 4.38 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

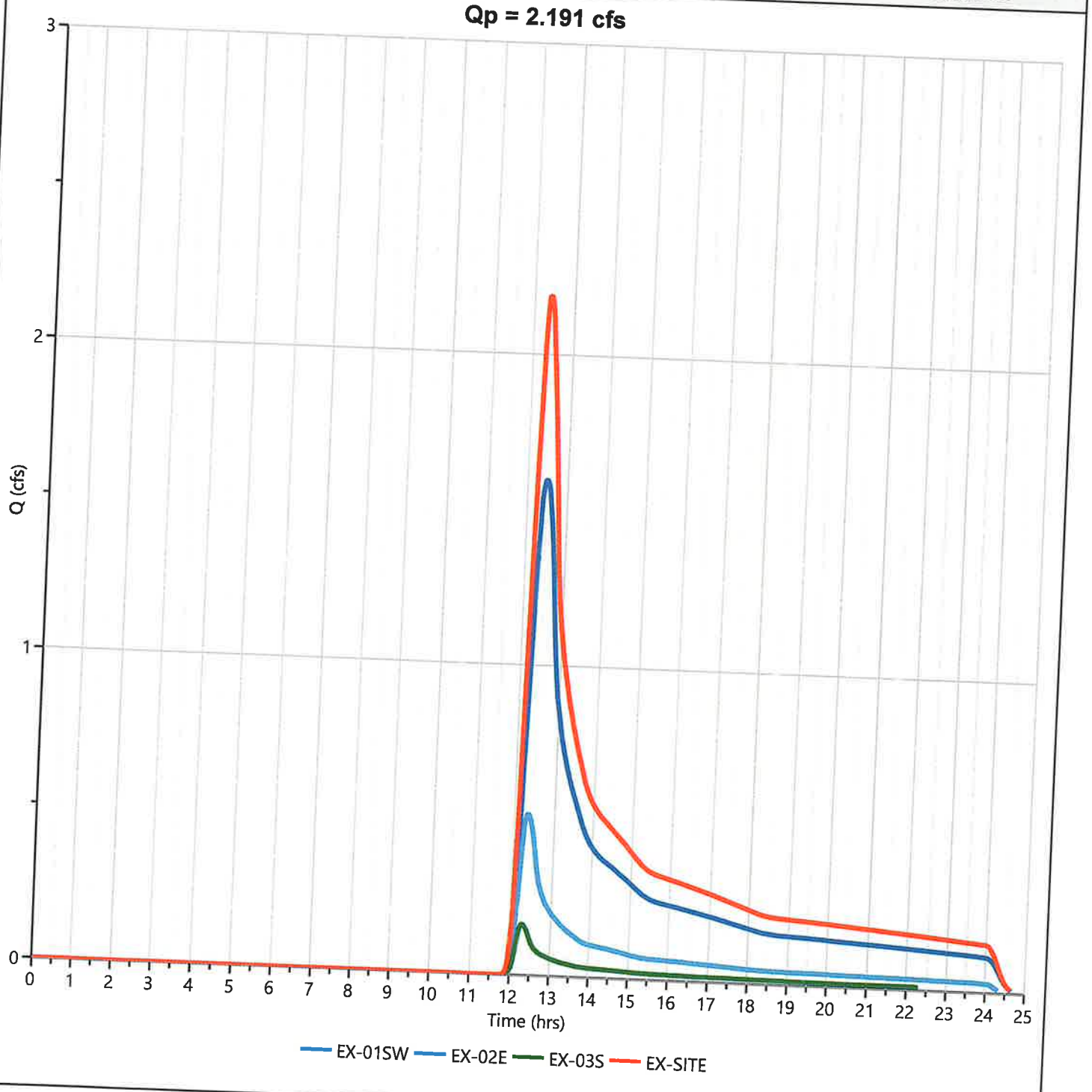
AREA (ac)	CN	DESCRIPTION
0.41	55.00	Woods
0.41	**55.00**	Weighted CN Method Employed



EX-SITE

Hyd. No. 4

Hydrograph Type	= Junction	Peak Flow	= 2.191 cfs
Storm Frequency	= 5-yr	Time to Peak	= 12.42 hrs
Time Interval	= 1 min	Hydrograph Volume	= 17,569 cuft
Inflow Hydrographs	= 1, 2, 3	Total Contrib. Area	= 6.982 ac



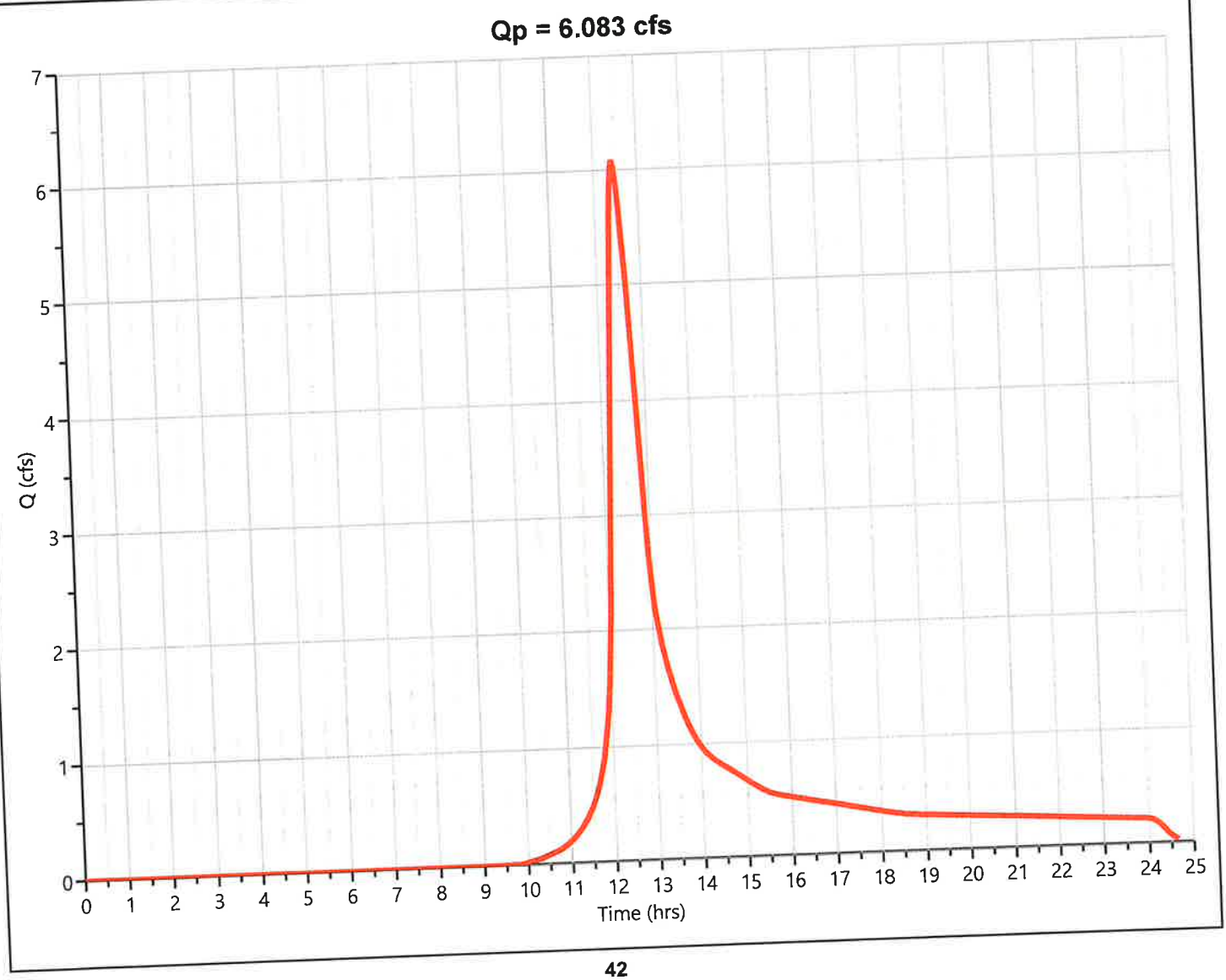
Hyd. No. 5

PR-01SW

Hydrograph Type	= NRCS Runoff	Peak Flow	= 6.083 cfs
Storm Frequency	= 5-yr	Time to Peak	= 12.42 hrs
Time Interval	= 1 min	Runoff Volume	= 37,542 cuft
Drainage Area	= 5.852 ac	Curve Number	= 72.48*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 34.6 min
Total Rainfall	= 4.38 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
2.095	98.00	Impervious
1.395	61.00	Landscape
1.277	58.00	Conservation
1.085	55.00	Woods
5.852	**72.48**	Weighted CN Method Employed



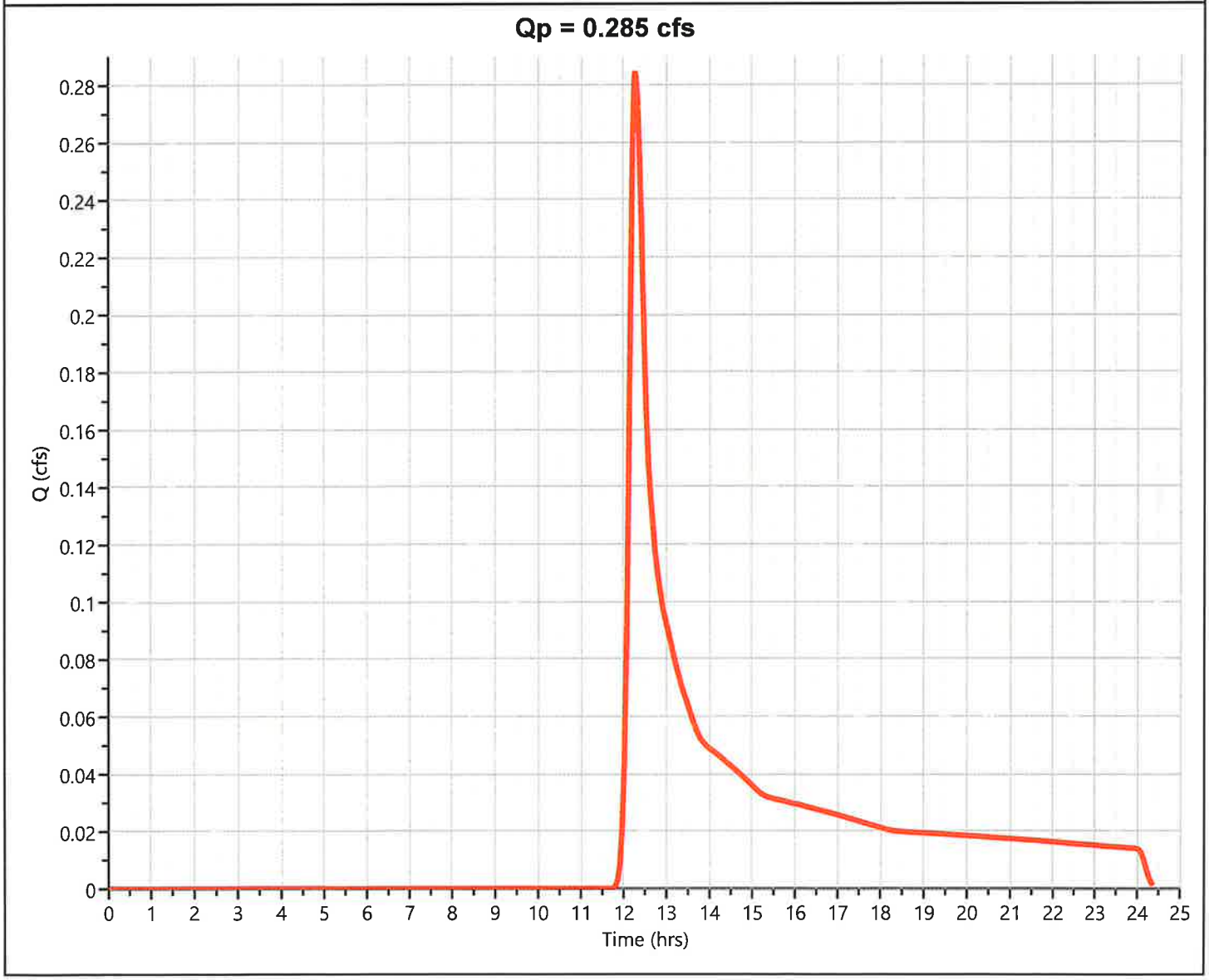
PR-02E

Hyd. No. 6

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.285 cfs
Storm Frequency	= 5-yr	Time to Peak	= 12.27 hrs
Time Interval	= 1 min	Runoff Volume	= 1,661 cuft
Drainage Area	= 0.627 ac	Curve Number	= 55.97*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 18.27 min
Total Rainfall	= 4.38 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
0.016	61.00	Landscape
0.171	58.00	Conservation
0.44	55.00	Woods
0.627	**55.97**	Weighted CN Method Employed



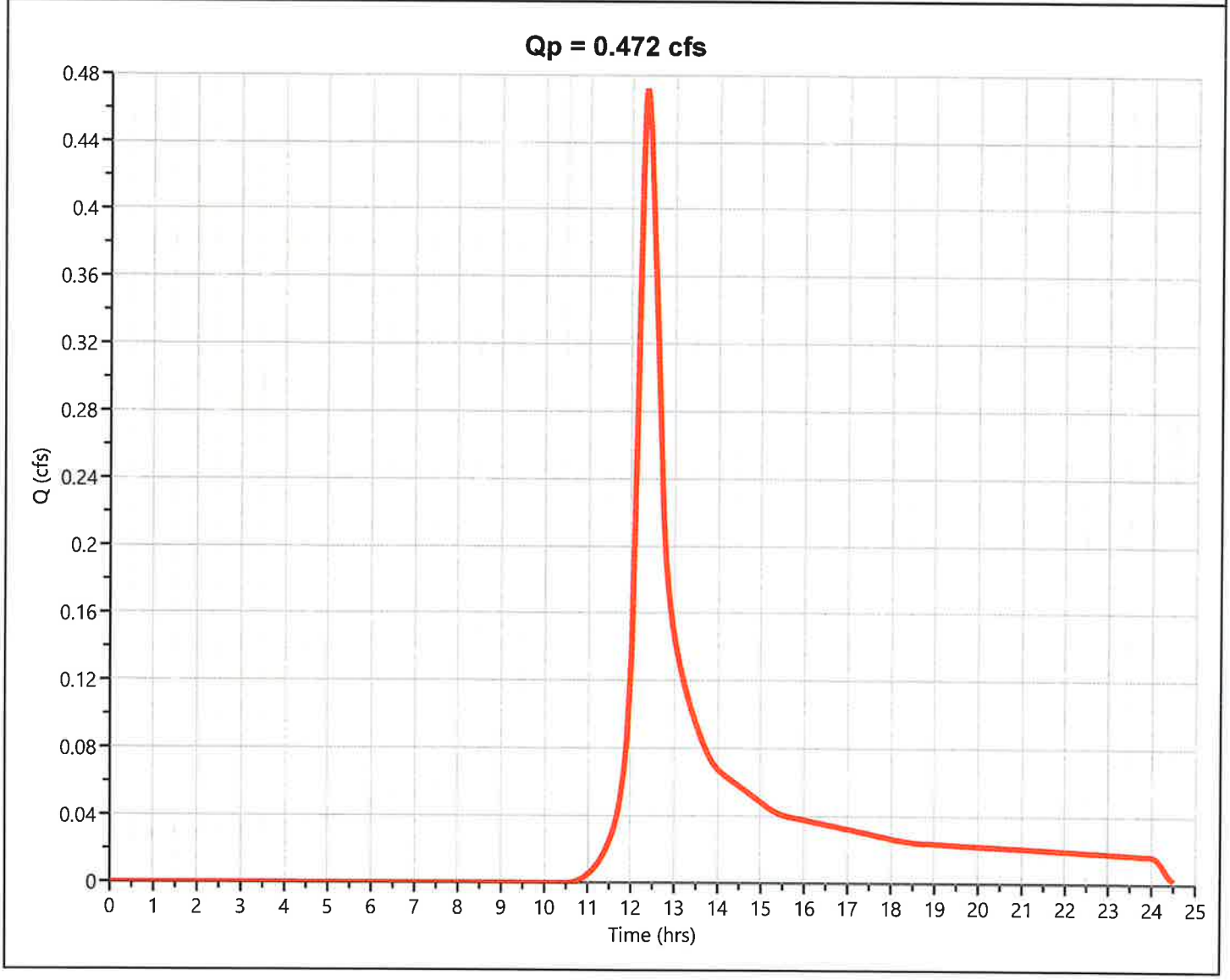
PR-03S

Hyd. No. 7

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.472 cfs
Storm Frequency	= 5-yr	Time to Peak	= 12.33 hrs
Time Interval	= 1 min	Runoff Volume	= 2,624 cuft
Drainage Area	= 0.504 ac	Curve Number	= 67.57*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 26.4 min
Total Rainfall	= 4.38 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

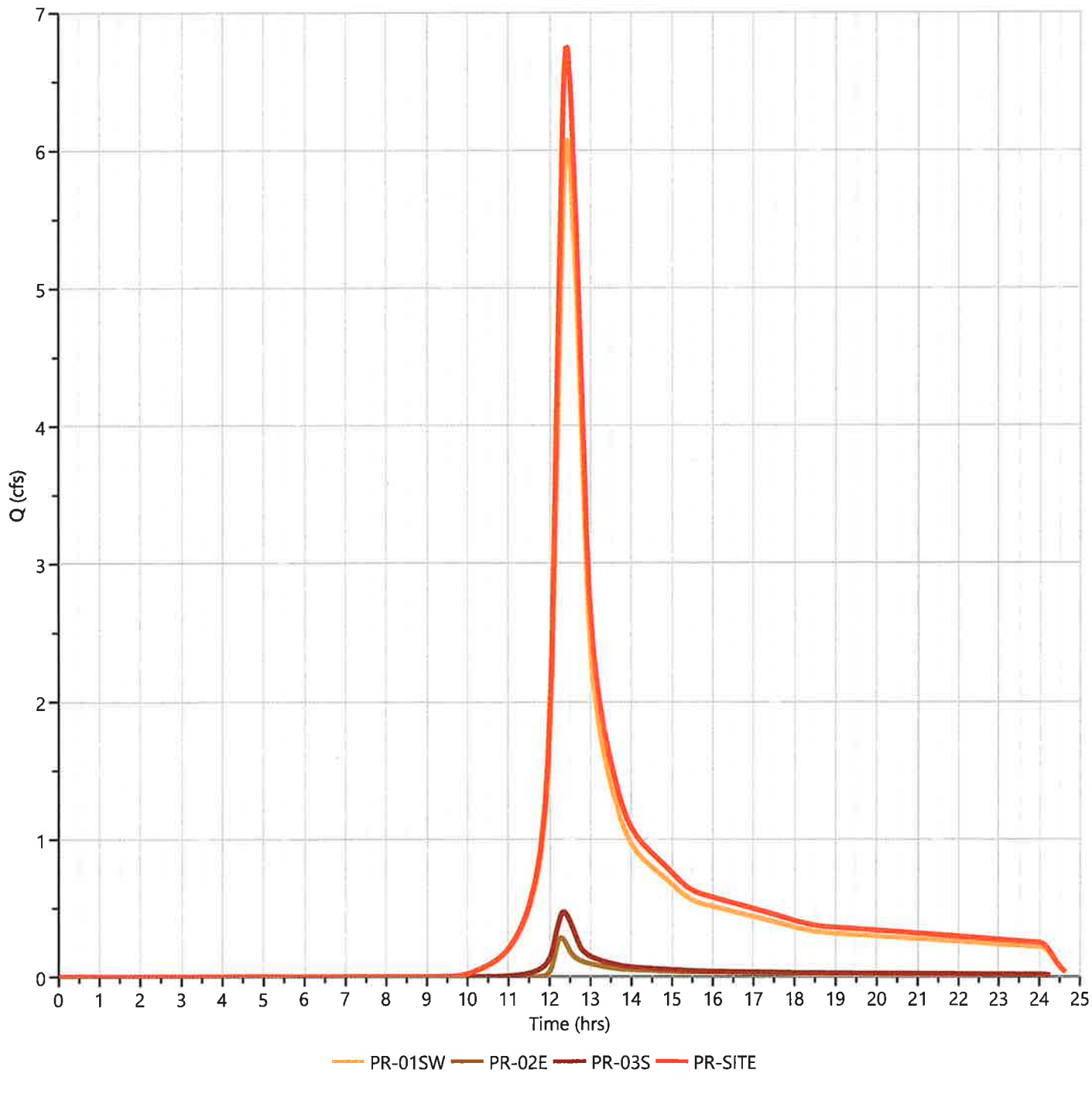
AREA (ac)	CN	DESCRIPTION
0.12	98.00	Impervious
0.122	61.00	Landscape
0.147	58.00	Conservation
0.115	55.00	Woods
0.504	**67.57**	Weighted CN Method Employed



PR-SITE

Hyd. No. 8

Hydrograph Type	= Junction	Peak Flow	= 6.762 cfs
Storm Frequency	= 5-yr	Time to Peak	= 12.42 hrs
Time Interval	= 1 min	Hydrograph Volume	= 41,827 cuft
Inflow Hydrographs	= 5, 6, 7	Total Contrib. Area	= 6.983 ac



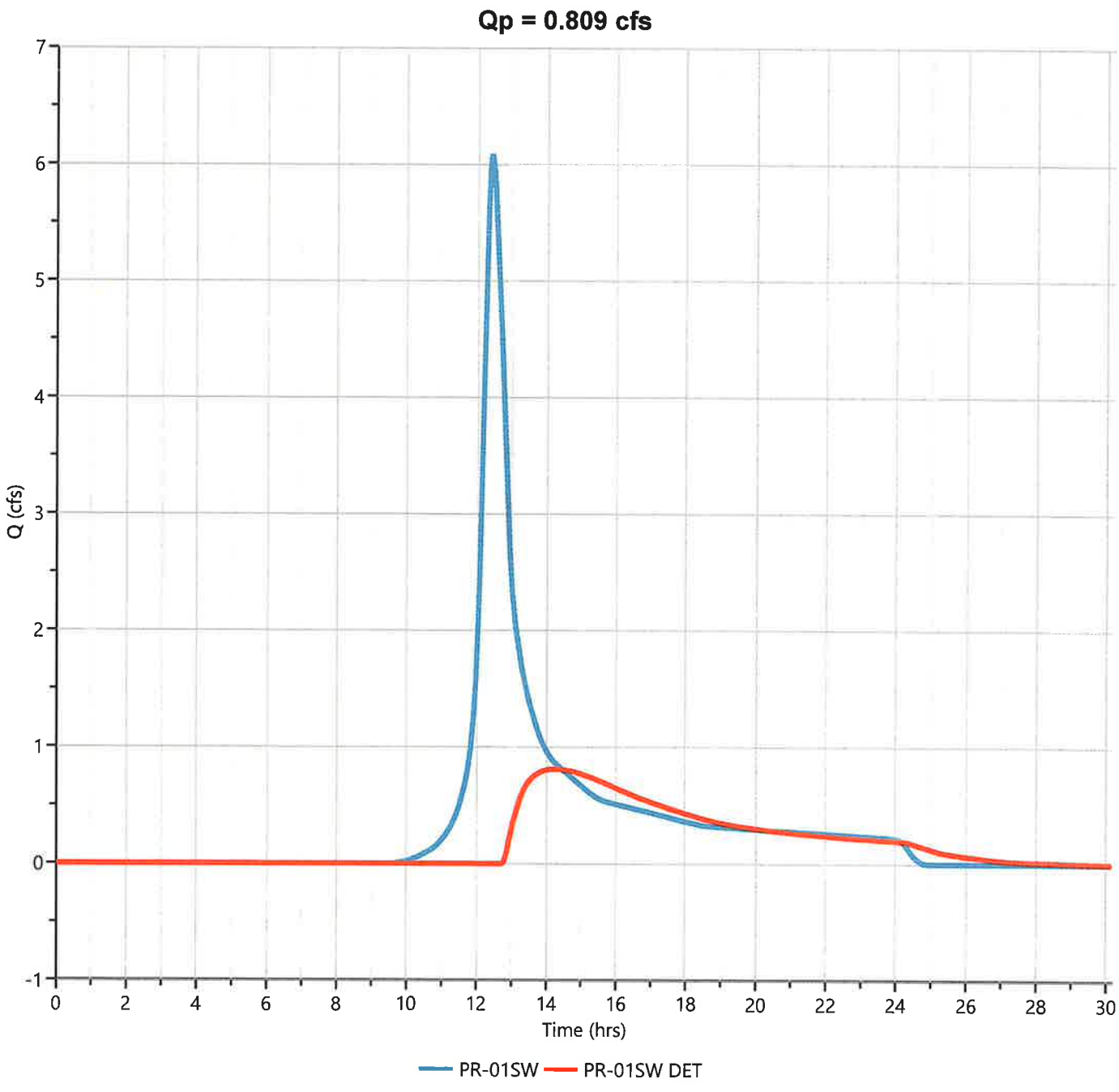
PR-01SW DET

Hyd. No. 9

Hydrograph Type	= Pond Route	Peak Flow	= 0.809 cfs
Storm Frequency	= 5-yr	Time to Peak	= 14.23 hrs
Time Interval	= 1 min	Hydrograph Volume	= 19,134 cuft
Inflow Hydrograph	= 5 - PR-01SW	Max. Elevation	= 28.70 ft
Pond Name	= PR-01 DETENTION	Max. Storage	= 20,332 cuft

Pond Routing by Storage Indication Method

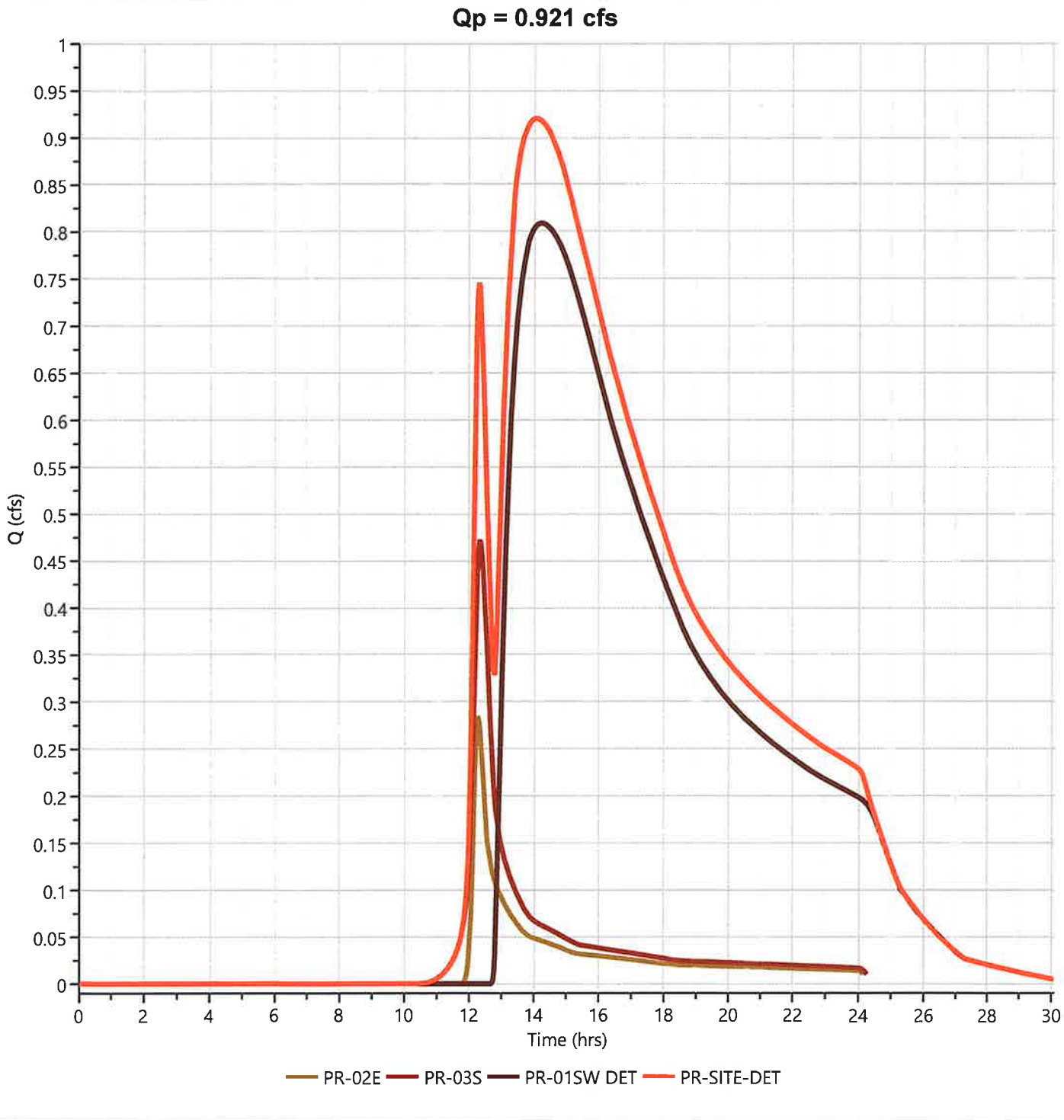
Center of mass detention time = 3.03 hrs



PR-SITE-DET

Hyd. No. 10

Hydrograph Type	= Junction	Peak Flow	= 0.921 cfs
Storm Frequency	= 5-yr	Time to Peak	= 14.07 hrs
Time Interval	= 1 min	Hydrograph Volume	= 23,419 cuft
Inflow Hydrographs	= 6, 7	Total Contrib. Area	= 1.131 ac



Design Storm Report

Custom Storm filename:

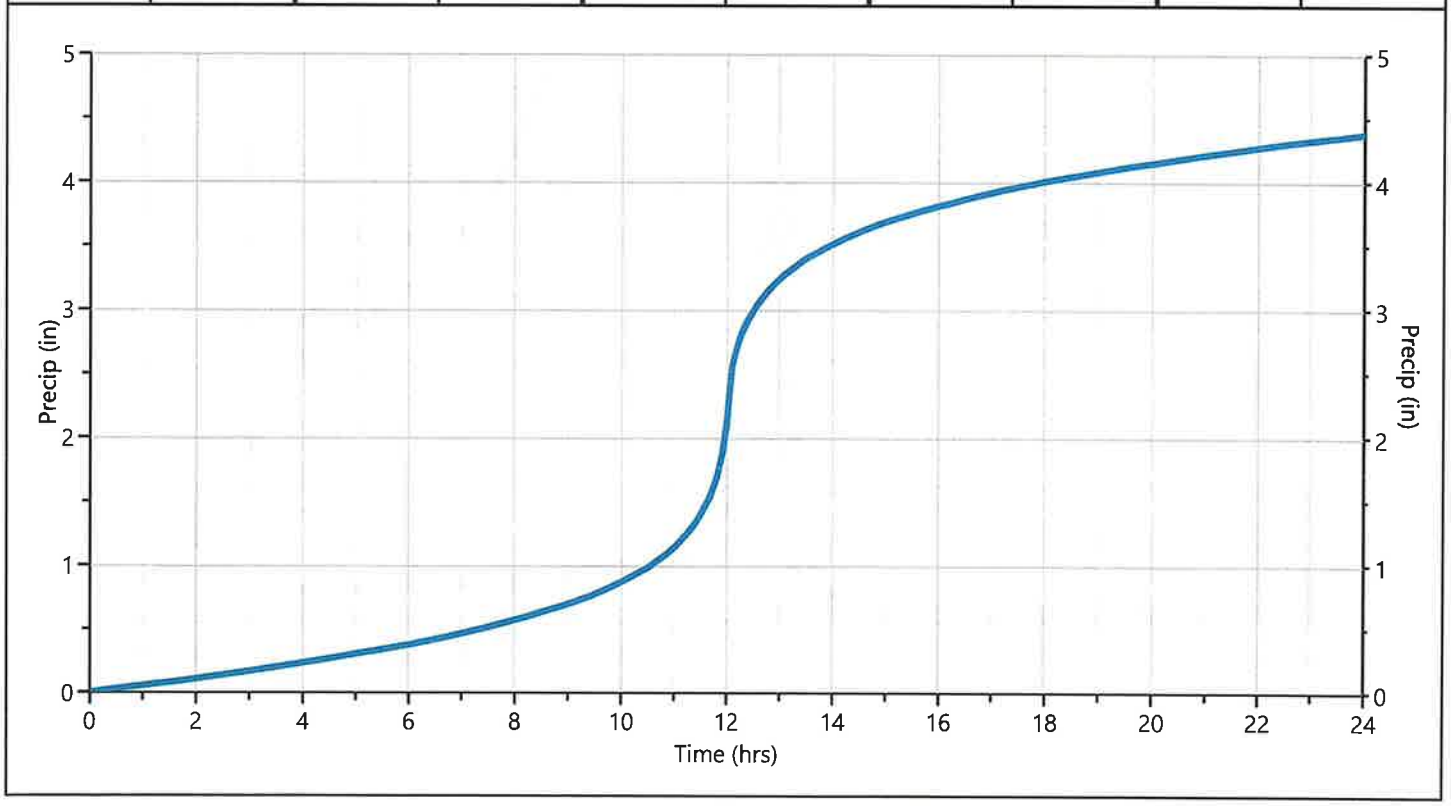
Hydrology Studio v 3.0.0.38

10-06-2025

Storm Distribution: NOAA-D, 24-hr

Storm Duration	Total Rainfall Volume (in)								
	1-yr	2-yr	3-yr	✔ 5-yr	10-yr	25-yr	50-yr	100-yr	
24 hrs	2.87	3.44	0.00	4.38	5.17	6.24	7.04	7.90	

Incremental Rainfall Distribution, 5-yr									
Time (hrs)	Precip (in)	Time (hrs)	Precip (in)	Time (hrs)	Precip (in)	Time (hrs)	Precip (in)	Time (hrs)	Precip (in)
11.60	0.013213	11.78	0.019074	11.97	0.045660	12.15	0.026469	12.33	0.013907
11.62	0.013907	11.80	0.019077	11.98	0.045663	12.17	0.026469	12.35	0.013906
11.63	0.013906	11.82	0.026469	12.00	0.045659	12.18	0.026470	12.37	0.013907
11.65	0.013907	11.83	0.026471	12.02	0.076188	12.20	0.026469	12.38	0.013906
11.67	0.013906	11.85	0.026469	12.03	0.076192	12.22	0.019075	12.40	0.013907
11.68	0.013907	11.87	0.026469	12.05	0.076188	12.23	0.019074	12.42	0.013213
11.70	0.013906	11.88	0.026471	12.07	0.076192	12.25	0.019075	12.43	0.013214
11.72	0.019075	11.90	0.026469	12.08	0.076188	12.27	0.019074	12.45	0.013213
11.73	0.019075	11.92	0.045663	**12.10**	**0.076193**	12.28	0.019076	12.47	0.013213
11.75	0.019074	11.93	0.045660	12.12	0.026469	12.30	0.019074	12.48	0.013214
11.77	0.019076	11.95	0.045663	12.13	0.026471	12.32	0.013906	12.50	0.013212



Hydrograph 10-yr Summary

Hydrology Studio v 3.0.0.38

File: 20250924PARKERS PLACE Hydrology.hys

10-06-2025

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (hrs)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)
1	NRCS Runoff	EX-01SW	2.863	12.43	20,185	----		
2	NRCS Runoff	EX-02E	0.942	12.30	5,426	----		
3	NRCS Runoff	EX-03S	0.299	12.27	1,568	----		
4	Junction	EX-SITE	3.958	12.38	27,178	1, 2, 3		
5	NRCS Runoff	PR-01SW	8.268	12.42	50,350	----		
6	NRCS Runoff	PR-02E	0.495	12.25	2,539	----		
7	NRCS Runoff	PR-03S	0.670	12.33	3,627	----		
8	Junction	PR-SITE	9.275	12.40	56,516	5, 6, 7		
9	Pond Route	PR-01SW DET	1.346	13.80	31,680	5	29.31	25,622
10	Junction	PR-SITE-DET	1.550	13.37	37,846	6, 7, 9		

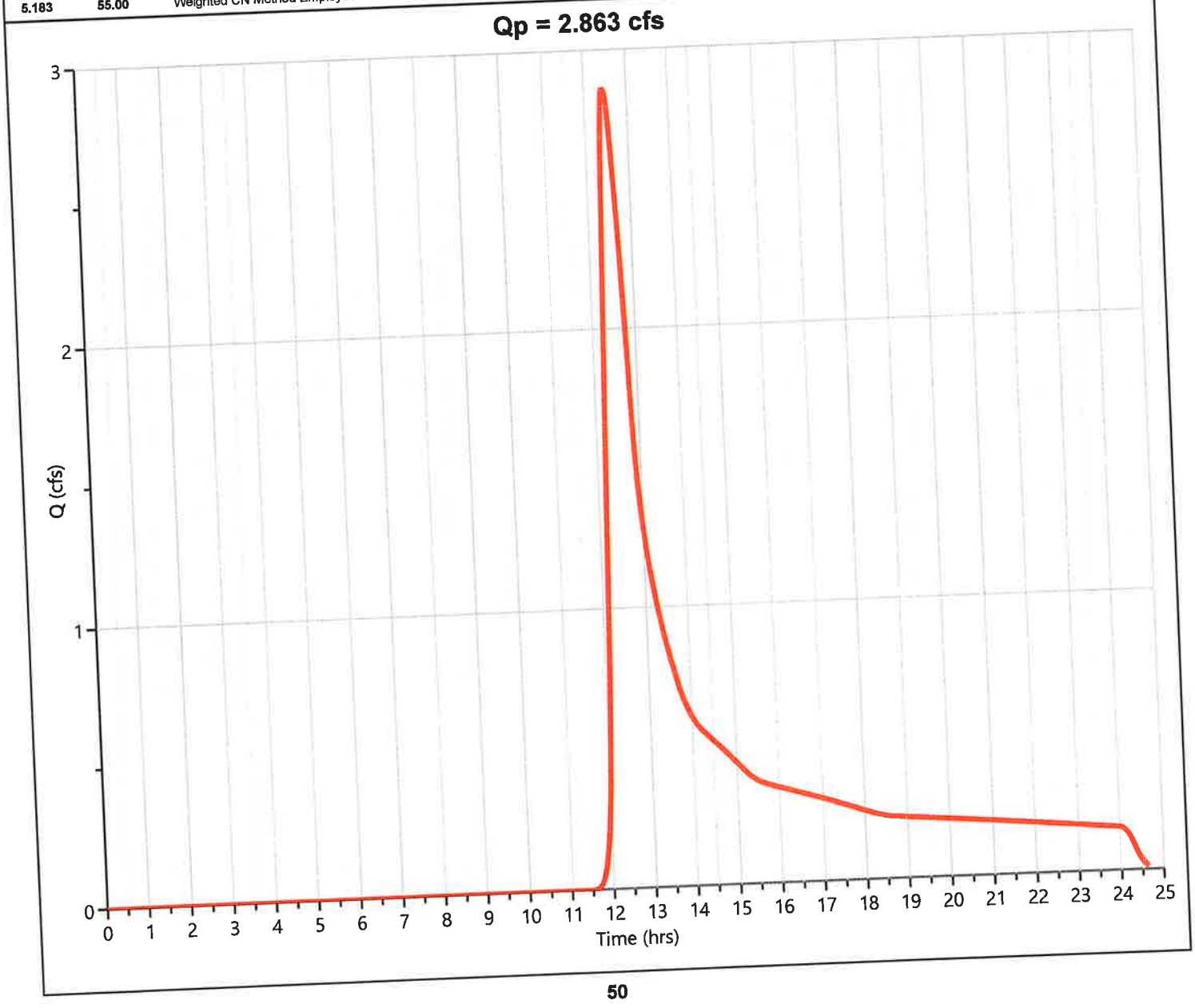
Hyd. No. 1

EX-01SW

Hydrograph Type	= NRCS Runoff	Peak Flow	= 2.863 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.43 hrs
Time Interval	= 1 min	Runoff Volume	= 20,185 cuft
Drainage Area	= 5.183 ac	Curve Number	= 55.00*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 31.45 min
Total Rainfall	= 5.17 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
5.183	55.00	Woods
5.183	**55.00**	Weighted CN Method Employed



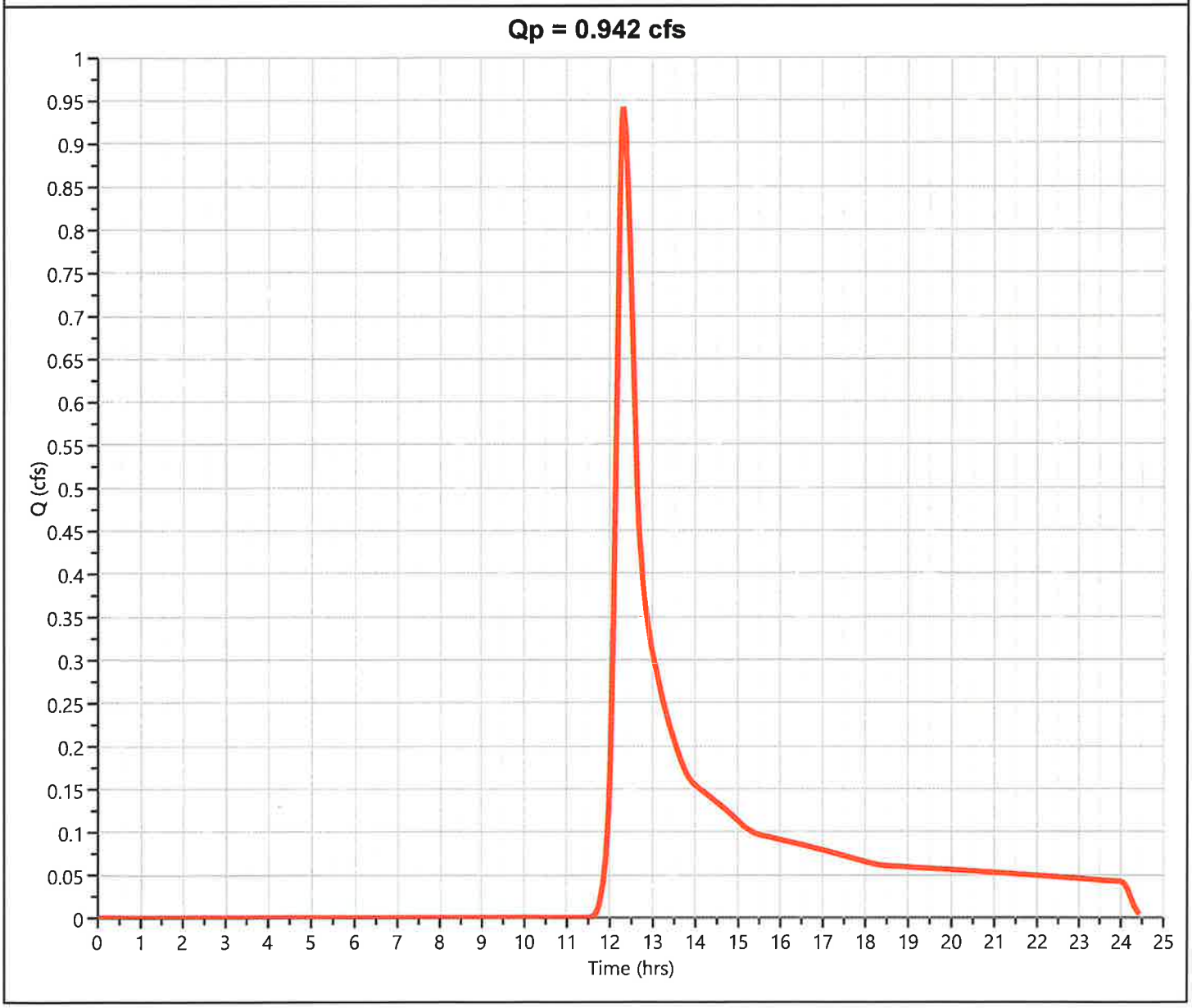
EX-02E

Hyd. No. 2

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.942 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.30 hrs
Time Interval	= 1 min	Runoff Volume	= 5,426 cuft
Drainage Area	= 1.389 ac	Curve Number	= 55.00*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 20.61 min
Total Rainfall	= 5.17 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
1.389	55.00	Woods
1.389	**55.00**	Weighted CN Method Employed



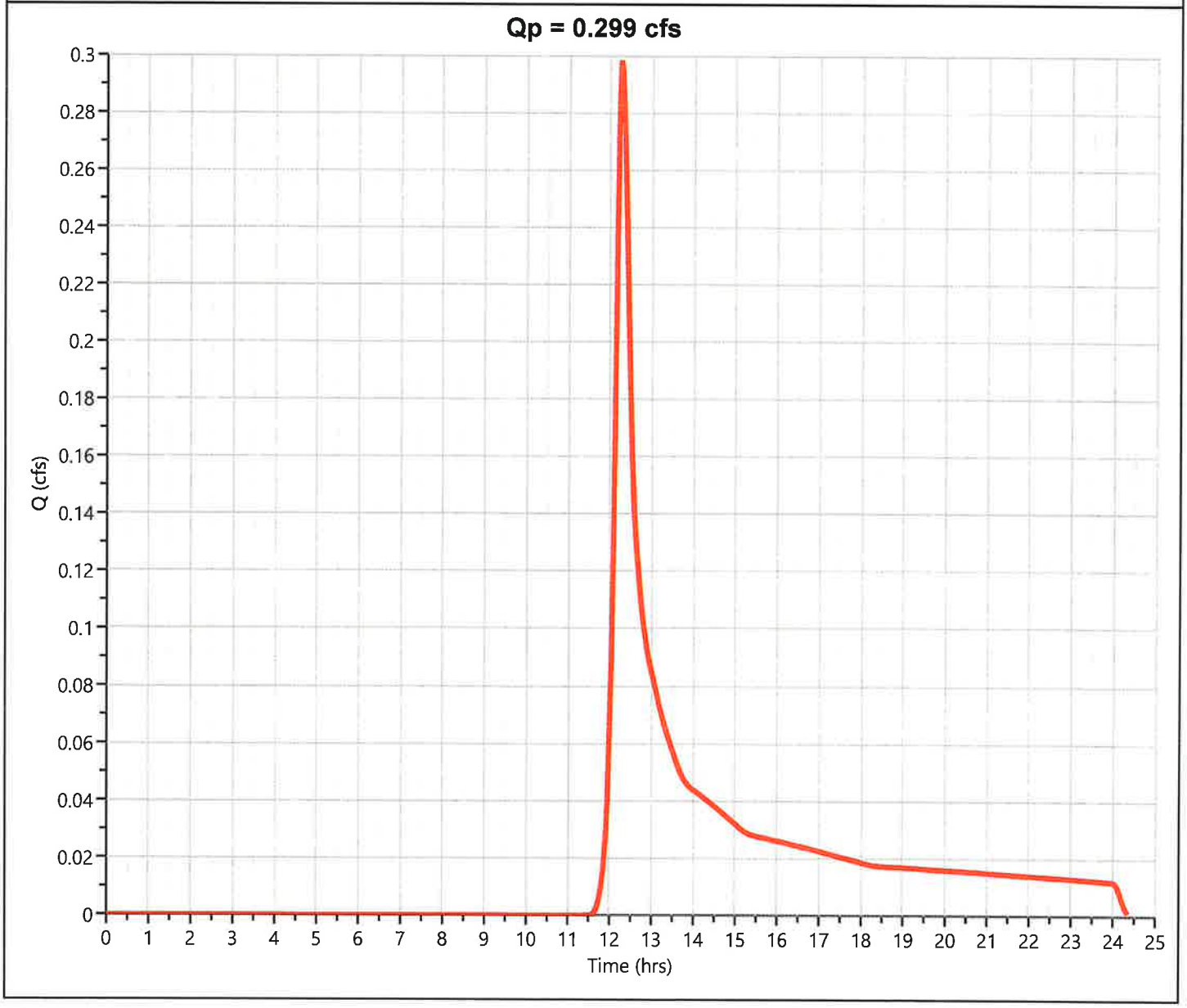
EX-03S

Hyd. No. 3

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.299 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.27 hrs
Time Interval	= 1 min	Runoff Volume	= 1,568 cuft
Drainage Area	= 0.41 ac	Curve Number	= 55.00*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 18.32 min
Total Rainfall	= 5.17 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

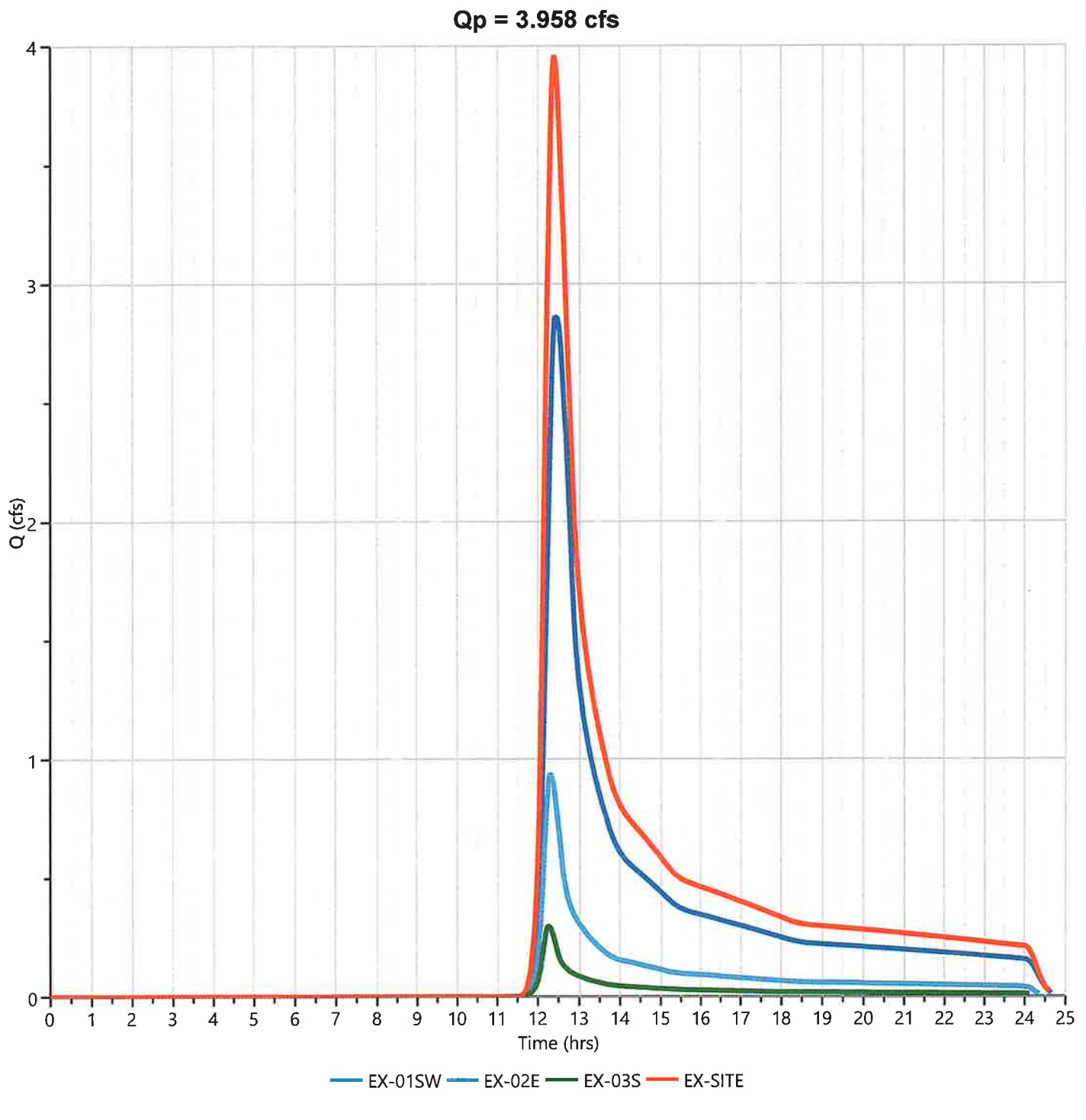
AREA (ac)	CN	DESCRIPTION
0.41	55.00	Woods
0.41	**55.00**	Weighted CN Method Employed



EX-SITE

Hyd. No. 4

Hydrograph Type	= Junction	Peak Flow	= 3.958 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.38 hrs
Time Interval	= 1 min	Hydrograph Volume	= 27,178 cuft
Inflow Hydrographs	= 1, 2, 3	Total Contrib. Area	= 6.982 ac



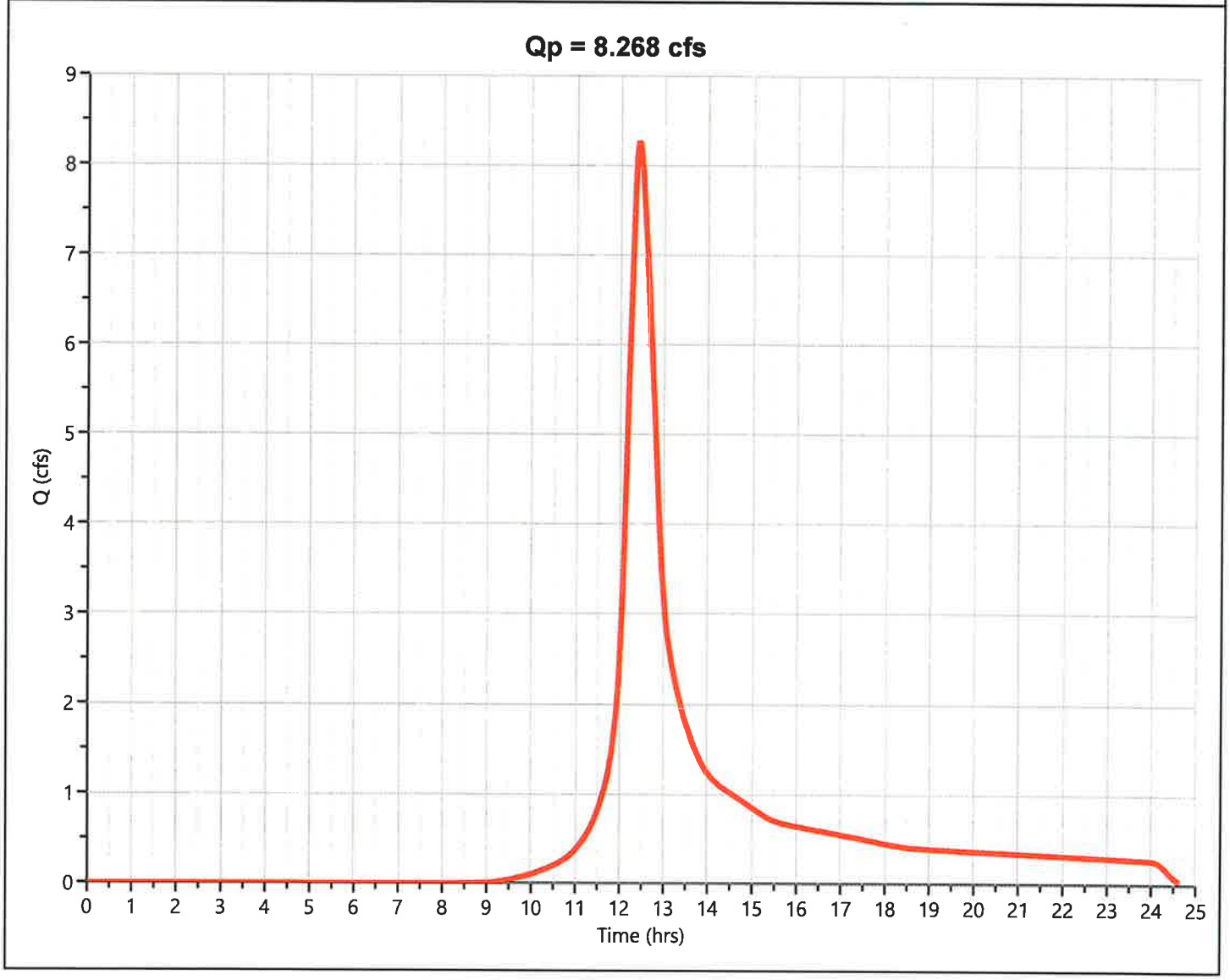
PR-01SW

Hyd. No. 5

Hydrograph Type	= NRCS Runoff	Peak Flow	= 8.268 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.42 hrs
Time Interval	= 1 min	Runoff Volume	= 50,350 cuft
Drainage Area	= 5.852 ac	Curve Number	= 72.48*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 34.6 min
Total Rainfall	= 5.17 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
2.095	98.00	Impervious
1.395	61.00	Landscape
1.277	58.00	Conservation
1.085	55.00	Woods
5.852	**72.48**	Weighted CN Method Employed



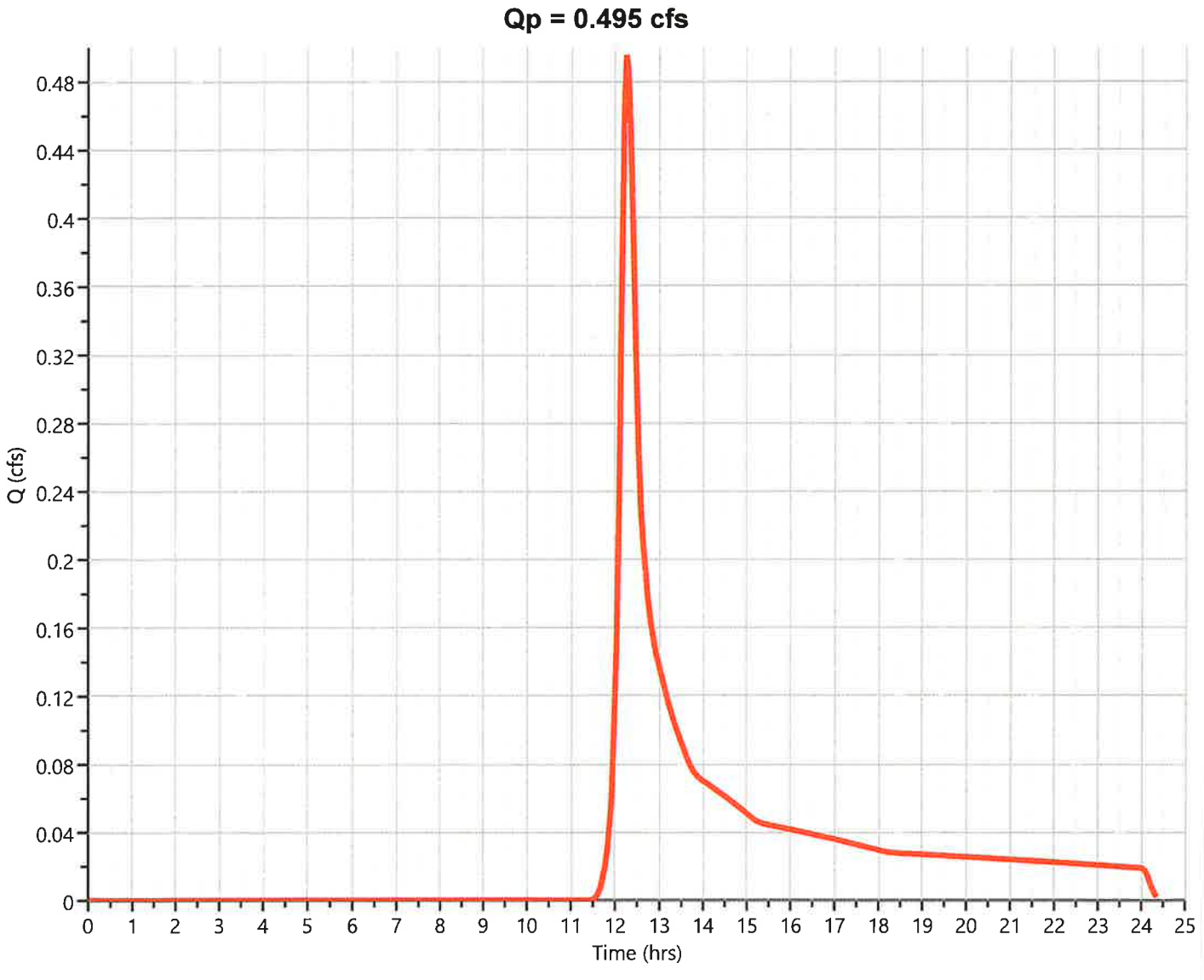
PR-02E

Hyd. No. 6

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.495 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.25 hrs
Time Interval	= 1 min	Runoff Volume	= 2,539 cuft
Drainage Area	= 0.627 ac	Curve Number	= 55.97*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 18.27 min
Total Rainfall	= 5.17 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
0.016	61.00	Landscape
0.171	58.00	Conservation
0.44	55.00	Woods
0.627	**55.97**	Weighted CN Method Employed



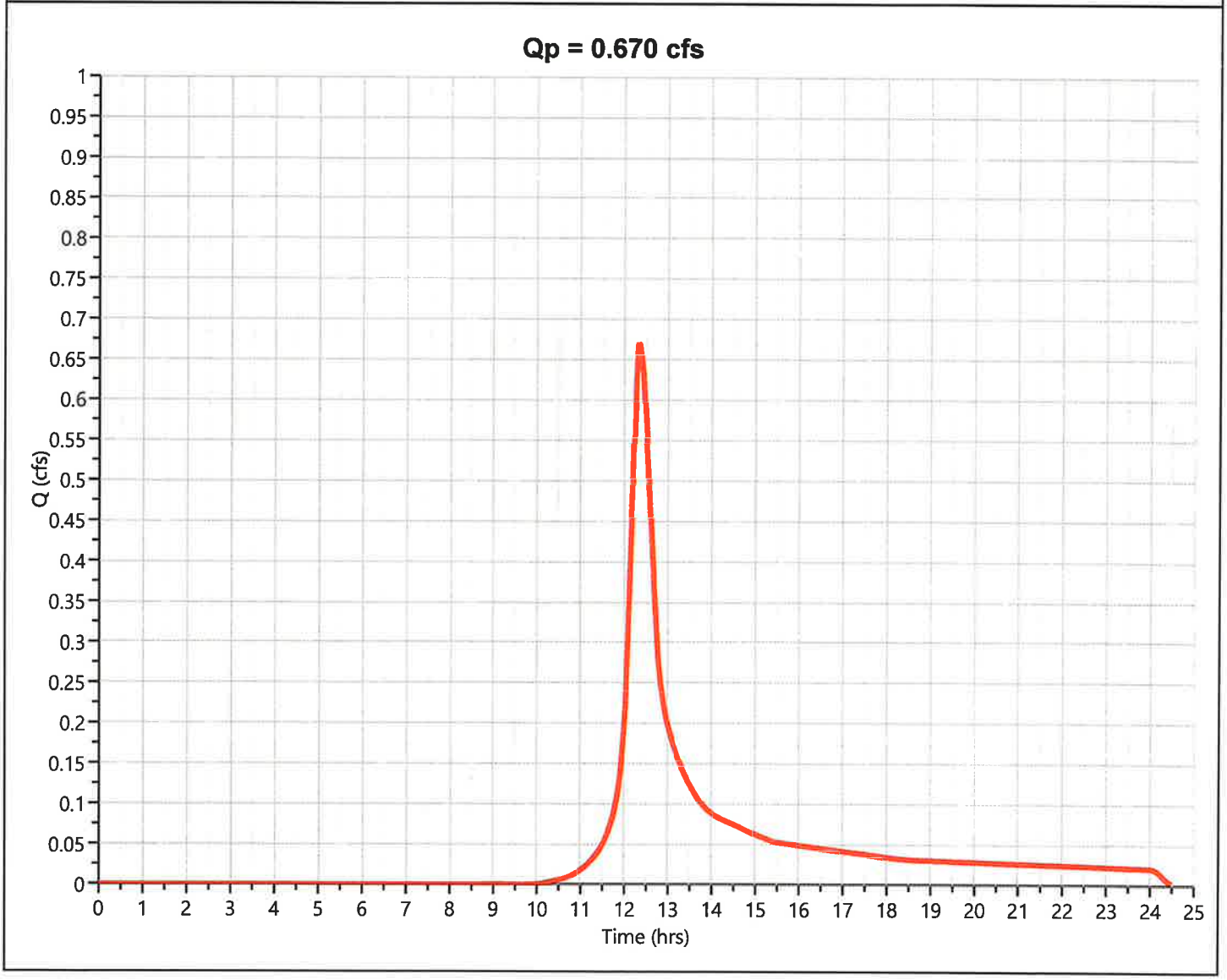
PR-03S

Hyd. No. 7

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.670 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.33 hrs
Time Interval	= 1 min	Runoff Volume	= 3,627 cuft
Drainage Area	= 0.504 ac	Curve Number	= 67.57*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 26.4 min
Total Rainfall	= 5.17 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

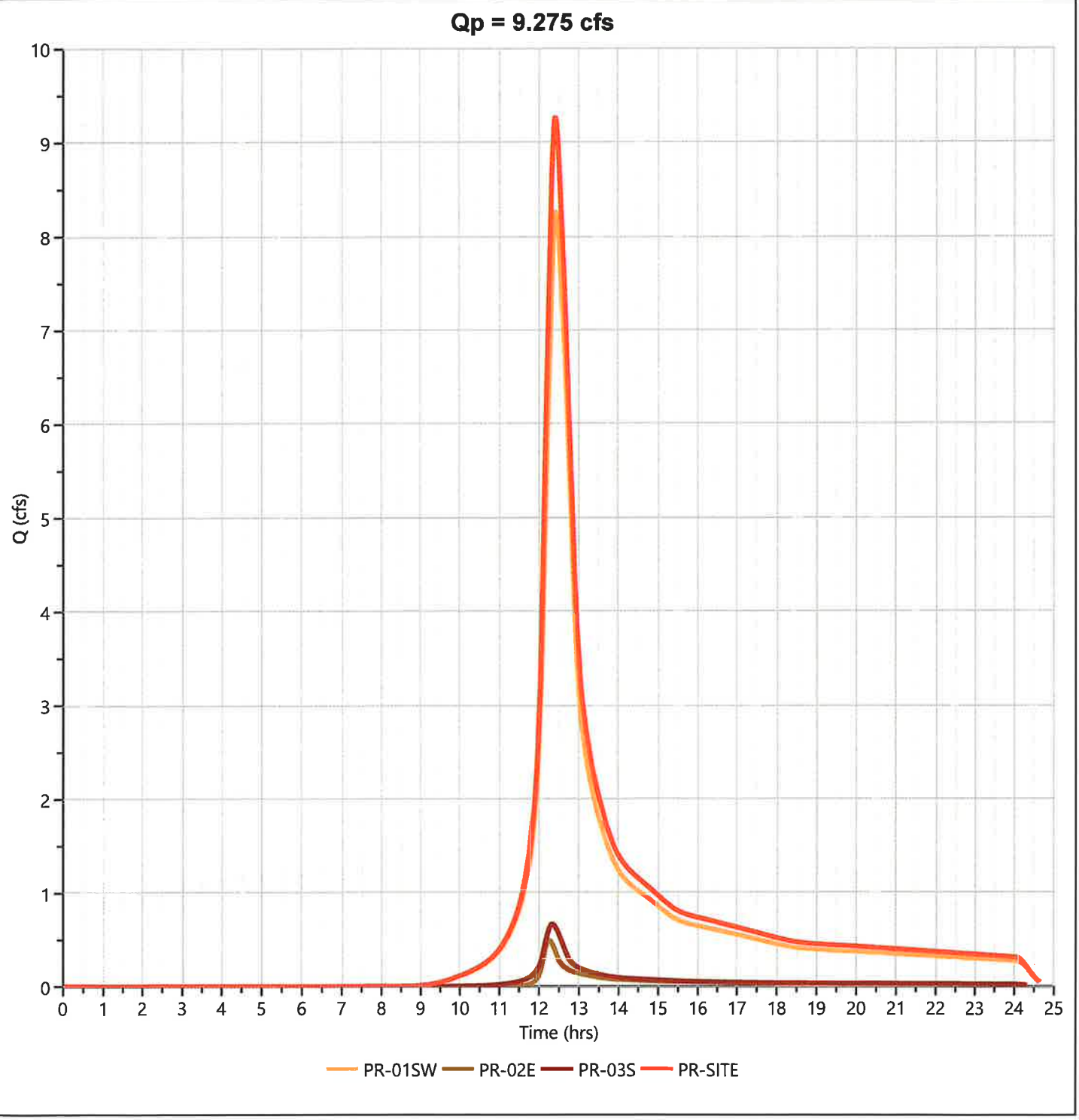
AREA (ac)	CN	DESCRIPTION
0.12	98.00	Impervious
0.122	61.00	Landscape
0.147	58.00	Conservation
0.115	55.00	Woods
0.504	**67.57**	Weighted CN Method Employed



PR-SITE

Hyd. No. 8

Hydrograph Type	= Junction	Peak Flow	= 9.275 cfs
Storm Frequency	= 10-yr	Time to Peak	= 12.40 hrs
Time Interval	= 1 min	Hydrograph Volume	= 56,516 cuft
Inflow Hydrographs	= 5, 6, 7	Total Contrib. Area	= 6.983 ac



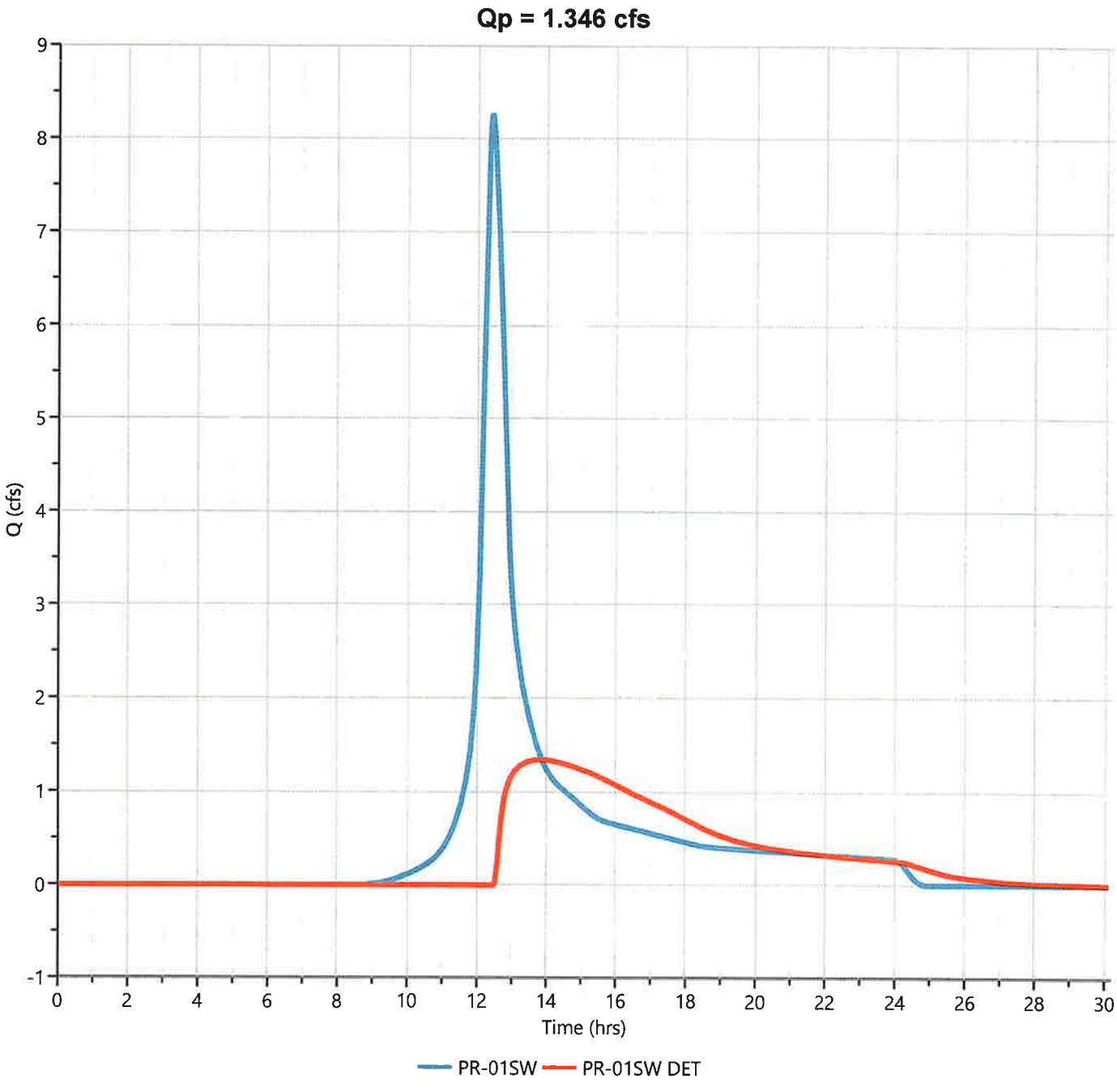
PR-01SW DET

Hyd. No. 9

Hydrograph Type	= Pond Route	Peak Flow	= 1.346 cfs
Storm Frequency	= 10-yr	Time to Peak	= 13.80 hrs
Time Interval	= 1 min	Hydrograph Volume	= 31,680 cuft
Inflow Hydrograph	= 5 - PR-01SW	Max. Elevation	= 29.31 ft
Pond Name	= PR-01 DETENTION	Max. Storage	= 25,622 cuft

Pond Routing by Storage Indication Method

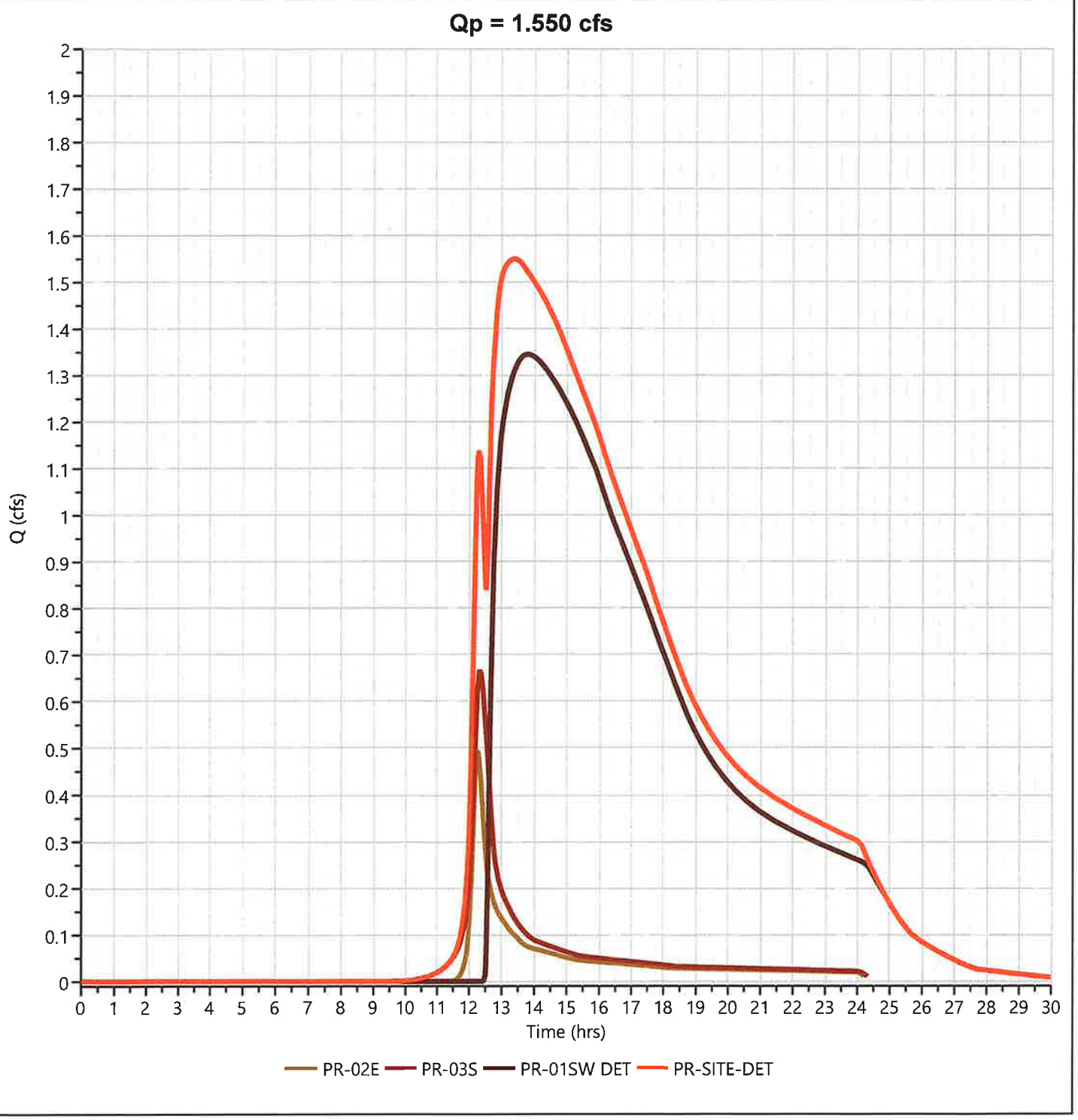
Center of mass detention time = 2.62 hrs



PR-SITE-DET

Hyd. No. 10

Hydrograph Type	= Junction	Peak Flow	= 1.550 cfs
Storm Frequency	= 10-yr	Time to Peak	= 13.37 hrs
Time Interval	= 1 min	Hydrograph Volume	= 37,846 cuft
Inflow Hydrographs	= 6, 7	Total Contrib. Area	= 1.131 ac



Design Storm Report

Custom Storm filename:

Hydrology Studio v 3.0.0.38

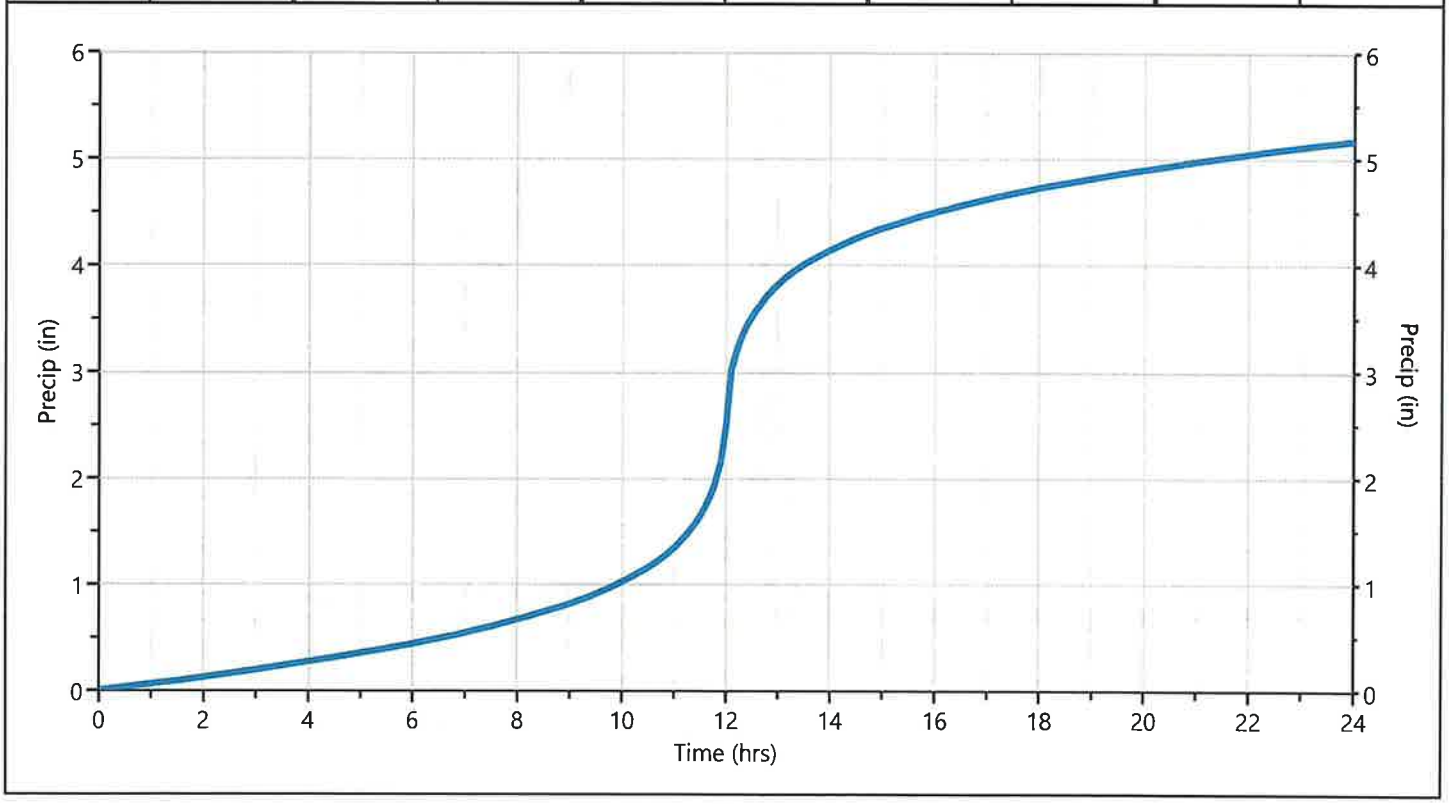
10-06-2025

Storm Distribution: NOAA-D, 24-hr

Storm Duration	Total Rainfall Volume (in)								
	1-yr	2-yr	3-yr	5-yr	✔ 10-yr	25-yr	50-yr	100-yr	
24 hrs	2.87	3.44	0.00	4.38	5.17	6.24	7.04	7.90	

Incremental Rainfall Distribution, 10-yr

Time (hrs)	Precip (in)	Time (hrs)	Precip (in)	Time (hrs)	Precip (in)	Time (hrs)	Precip (in)	Time (hrs)	Precip (in)
11.60	0.015596	11.78	0.022515	11.97	0.053896	12.15	0.031243	12.33	0.016415
11.62	0.016415	11.80	0.022517	11.98	0.053899	12.17	0.031243	12.35	0.016414
11.63	0.016414	11.82	0.031243	12.00	0.053895	12.18	0.031245	12.37	0.016415
11.65	0.016415	11.83	0.031245	12.02	0.089930	12.20	0.031243	12.38	0.016414
11.67	0.016414	11.85	0.031243	12.03	0.089935	12.22	0.022516	12.40	0.016416
11.68	0.016415	11.87	0.031243	12.05	0.089930	12.23	0.022515	12.42	0.015596
11.70	0.016414	11.88	0.031245	12.07	0.089935	12.25	0.022516	12.43	0.015597
11.72	0.022515	11.90	0.031244	12.08	0.089930	12.27	0.022515	12.45	0.015596
11.73	0.022516	11.92	0.053898	**12.10**	**0.089935**	12.28	0.022516	12.47	0.015596
11.75	0.022515	11.93	0.053896	12.12	0.031243	12.30	0.022514	12.48	0.015597
11.77	0.022516	11.95	0.053899	12.13	0.031245	12.32	0.016414	12.50	0.015596



Hydrograph 25-yr Summary

Hydrology Studio v 3.0.0.38

File: 20250924PARKERS PLACE Hydrology.hys

10-06-2025

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (hrs)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)
1	NRCS Runoff	EX-01SW	4.907	12.40	31,392	----		
2	NRCS Runoff	EX-02E	1.603	12.28	8,438	----		
3	NRCS Runoff	EX-03S	0.508	12.25	2,439	----		
4	Junction	EX-SITE	6.756	12.37	42,269	1, 2, 3		
5	NRCS Runoff	PR-01SW	11.37	12.42	68,776	----		
6	NRCS Runoff	PR-02E	0.825	12.25	3,910	----		
7	NRCS Runoff	PR-03S	0.958	12.33	5,100	----		
8	Junction	PR-SITE	12.88	12.40	77,786	5, 6, 7		
9	Pond Route	PR-01SW DET	3.636	13.07	49,814	5	29.92	31,457
10	Junction	PR-SITE-DET	4.085	13.02	58,823	6, 7, 9		

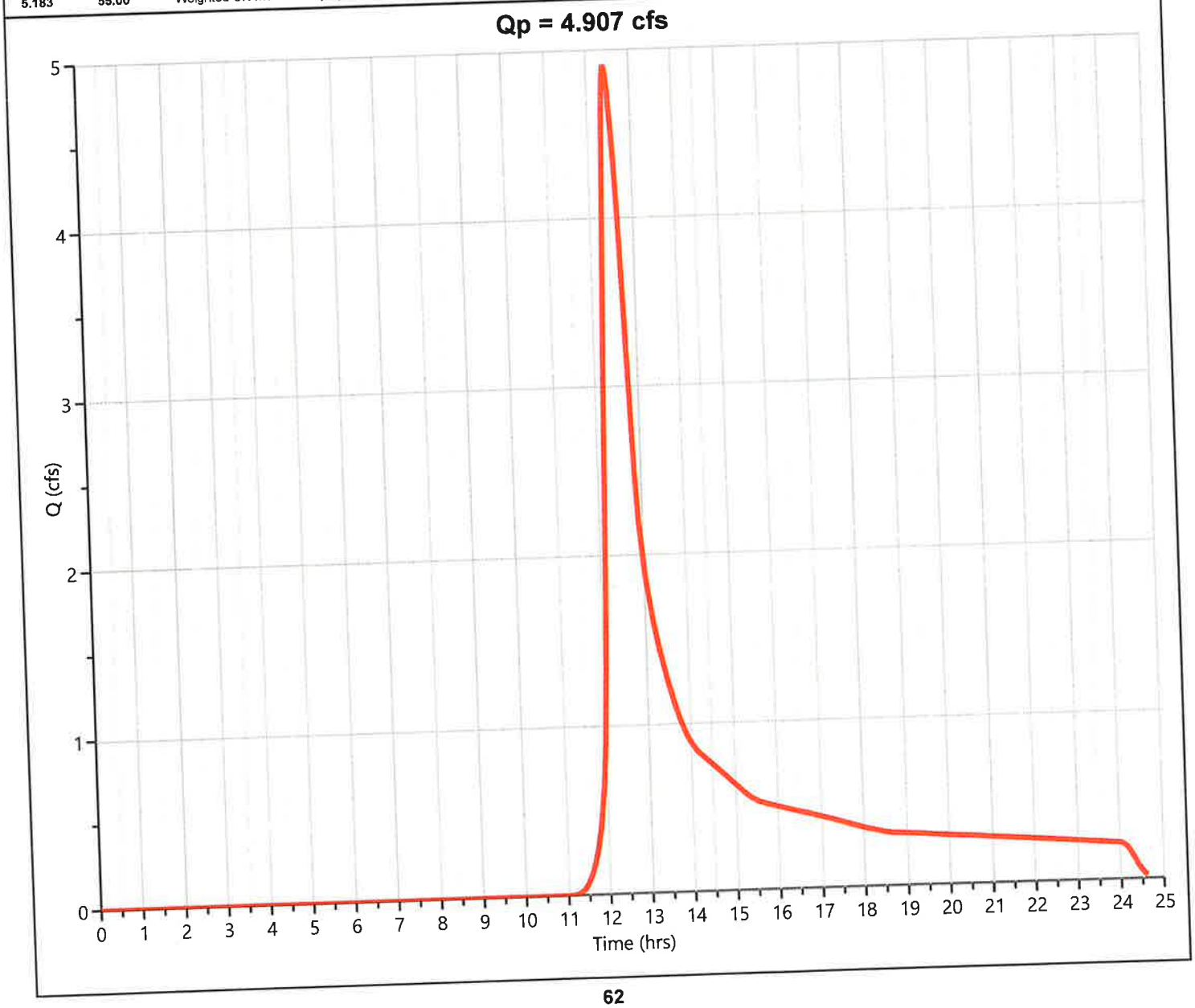
EX-01SW

Hyd. No. 1

Hydrograph Type	= NRCS Runoff	Peak Flow	= 4.907 cfs
Storm Frequency	= 25-yr	Time to Peak	= 12.40 hrs
Time Interval	= 1 min	Runoff Volume	= 31,392 cuft
Drainage Area	= 5.183 ac	Curve Number	= 55.00*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 31.45 min
Total Rainfall	= 6.24 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
5.183	55.00	Woods
5.183	**55.00**	Weighted CN Method Employed



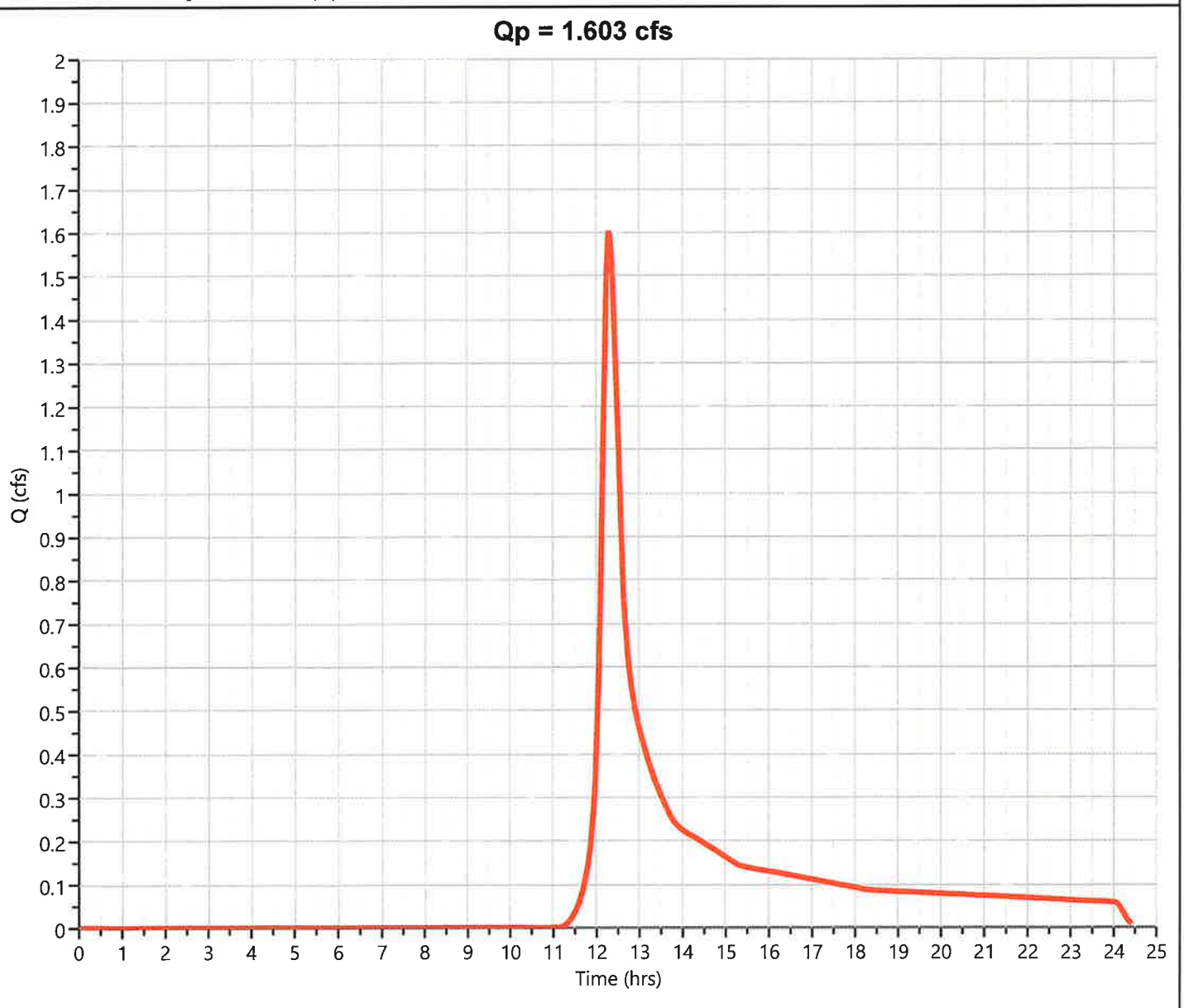
EX-02E

Hyd. No. 2

Hydrograph Type	= NRCS Runoff	Peak Flow	= 1.603 cfs
Storm Frequency	= 25-yr	Time to Peak	= 12.28 hrs
Time Interval	= 1 min	Runoff Volume	= 8,438 cuft
Drainage Area	= 1.389 ac	Curve Number	= 55.00*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 20.61 min
Total Rainfall	= 6.24 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
1.389	55.00	Woods
1.389	**55.00**	Weighted CN Method Employed



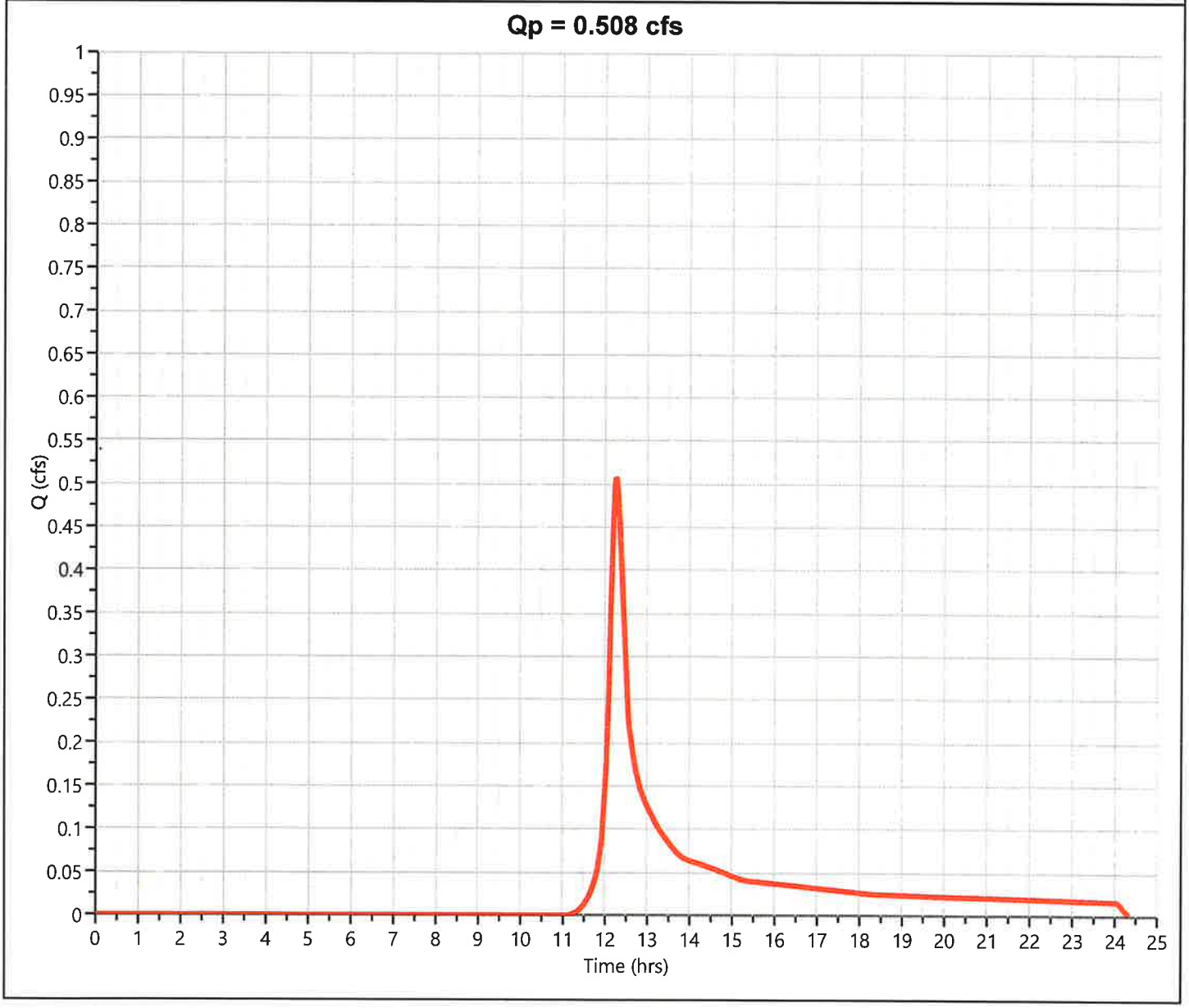
EX-03S

Hyd. No. 3

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.508 cfs
Storm Frequency	= 25-yr	Time to Peak	= 12.25 hrs
Time Interval	= 1 min	Runoff Volume	= 2,439 cuft
Drainage Area	= 0.41 ac	Curve Number	= 55.00*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 18.32 min
Total Rainfall	= 6.24 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

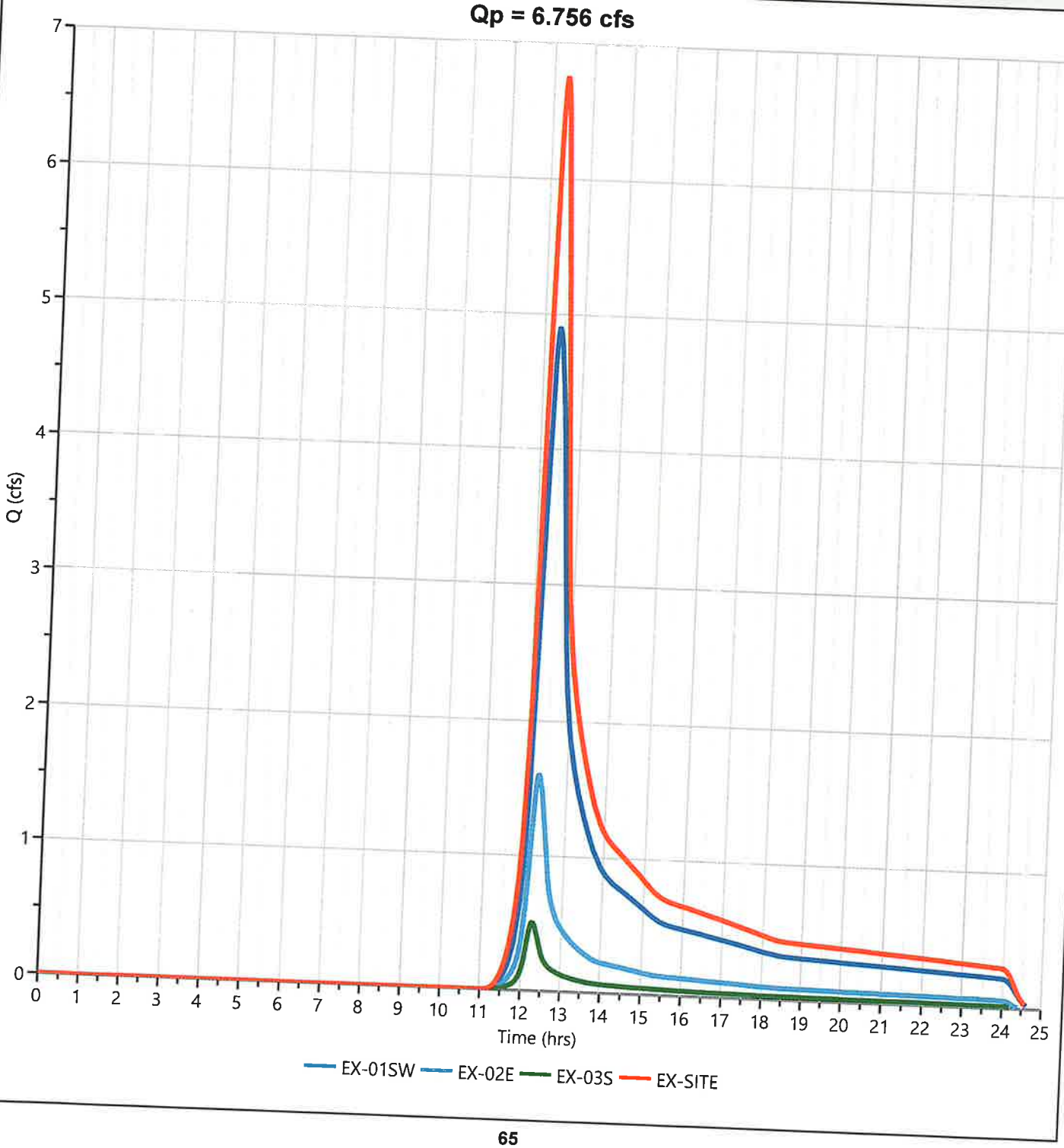
AREA (ac)	CN	DESCRIPTION
0.41	55.00	Woods
0.41	**55.00**	Weighted CN Method Employed



EX-SITE

Hyd. No. 4

Hydrograph Type	= Junction	Peak Flow	= 6.756 cfs
Storm Frequency	= 25-yr	Time to Peak	= 12.37 hrs
Time Interval	= 1 min	Hydrograph Volume	= 42,269 cuft
Inflow Hydrographs	= 1, 2, 3	Total Contrib. Area	= 6.982 ac



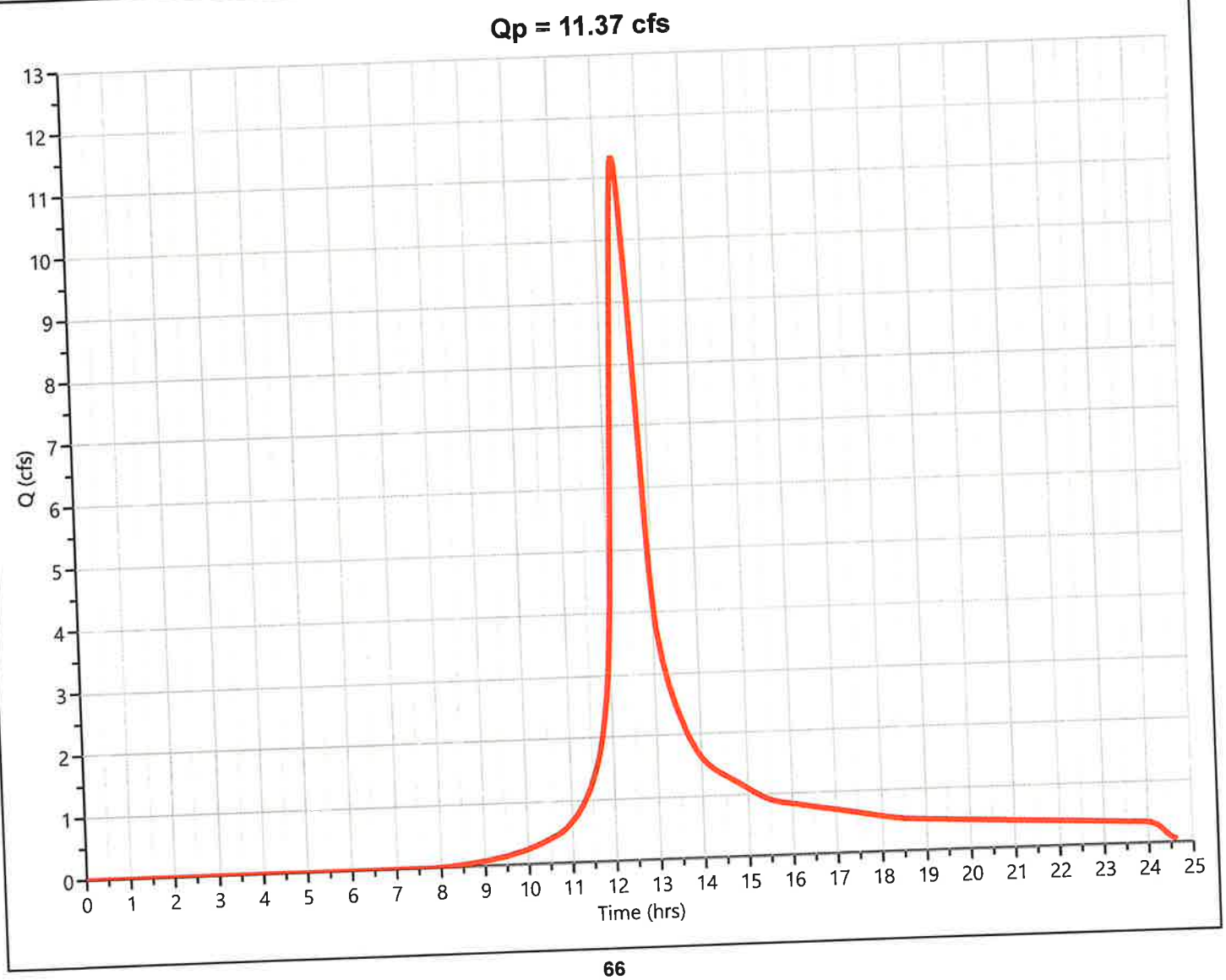
Hyd. No. 5

PR-01SW

Hydrograph Type	= NRCS Runoff	Peak Flow	= 11.37 cfs
Storm Frequency	= 25-yr	Time to Peak	= 12.42 hrs
Time Interval	= 1 min	Runoff Volume	= 68,776 cuft
Drainage Area	= 5.852 ac	Curve Number	= 72.48*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 34.6 min
Total Rainfall	= 6.24 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
2.095	98.00	Impervious
1.395	61.00	Landscape
1.277	58.00	Conservation
1.085	55.00	Woods
5.852	**72.48**	Weighted CN Method Employed



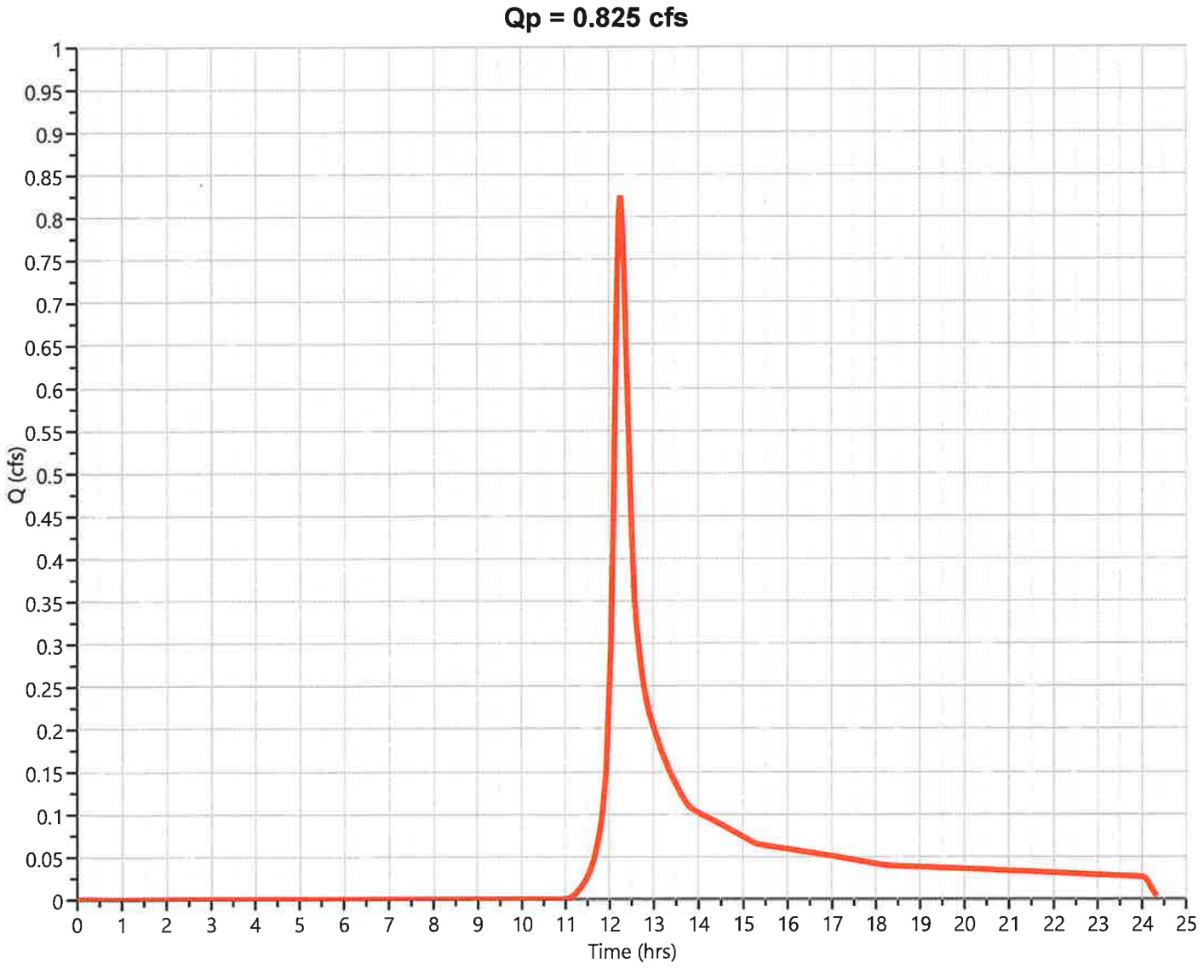
PR-02E

Hyd. No. 6

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.825 cfs
Storm Frequency	= 25-yr	Time to Peak	= 12.25 hrs
Time Interval	= 1 min	Runoff Volume	= 3,910 cuft
Drainage Area	= 0.627 ac	Curve Number	= 55.97*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 18.27 min
Total Rainfall	= 6.24 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
0.016	61.00	Landscape
0.171	58.00	Conservation
0.44	55.00	Woods
0.627	**55.97**	Weighted CN Method Employed



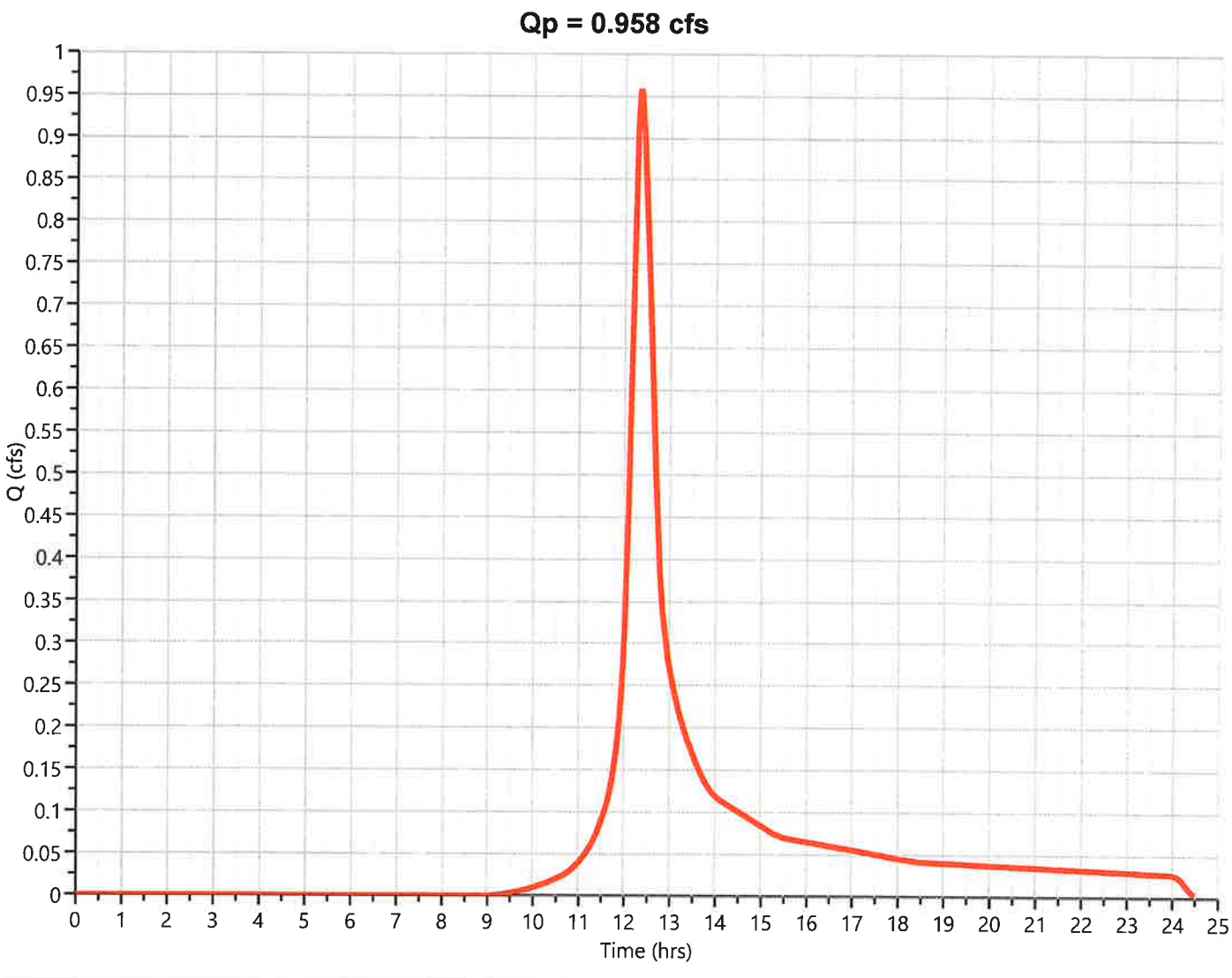
PR-03S

Hyd. No. 7

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.958 cfs
Storm Frequency	= 25-yr	Time to Peak	= 12.33 hrs
Time Interval	= 1 min	Runoff Volume	= 5,100 cuft
Drainage Area	= 0.504 ac	Curve Number	= 67.57*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 26.4 min
Total Rainfall	= 6.24 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

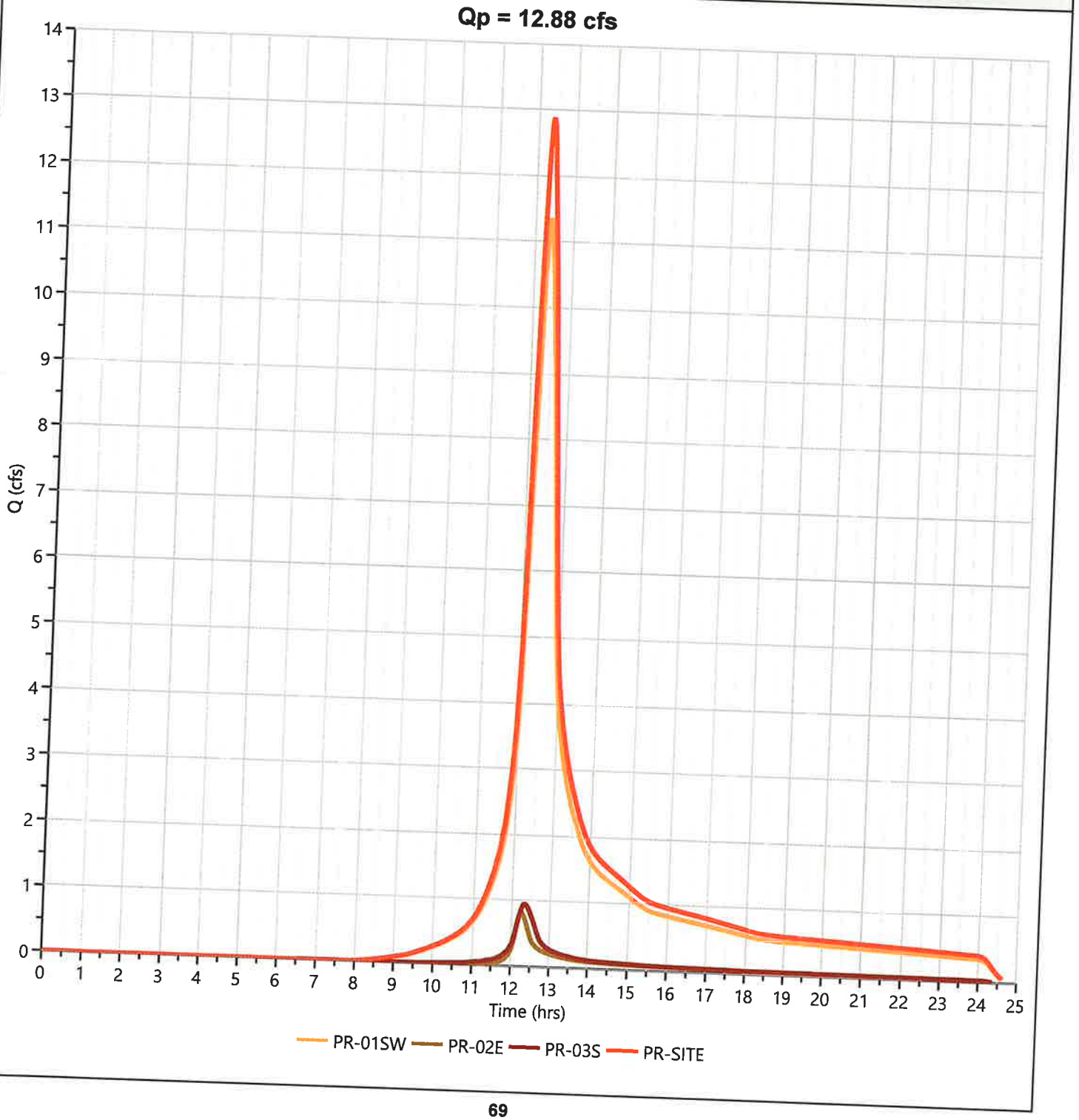
AREA (ac)	CN	DESCRIPTION
0.12	98.00	Impervious
0.122	61.00	Landscape
0.147	58.00	Conservation
0.115	55.00	Woods
0.504	**67.57**	Weighted CN Method Employed



PR-SITE

Hyd. No. 8

Hydrograph Type	= Junction	Peak Flow	= 12.88 cfs
Storm Frequency	= 25-yr	Time to Peak	= 12.40 hrs
Time Interval	= 1 min	Hydrograph Volume	= 77,786 cuft
Inflow Hydrographs	= 5, 6, 7	Total Contrib. Area	= 6.983 ac



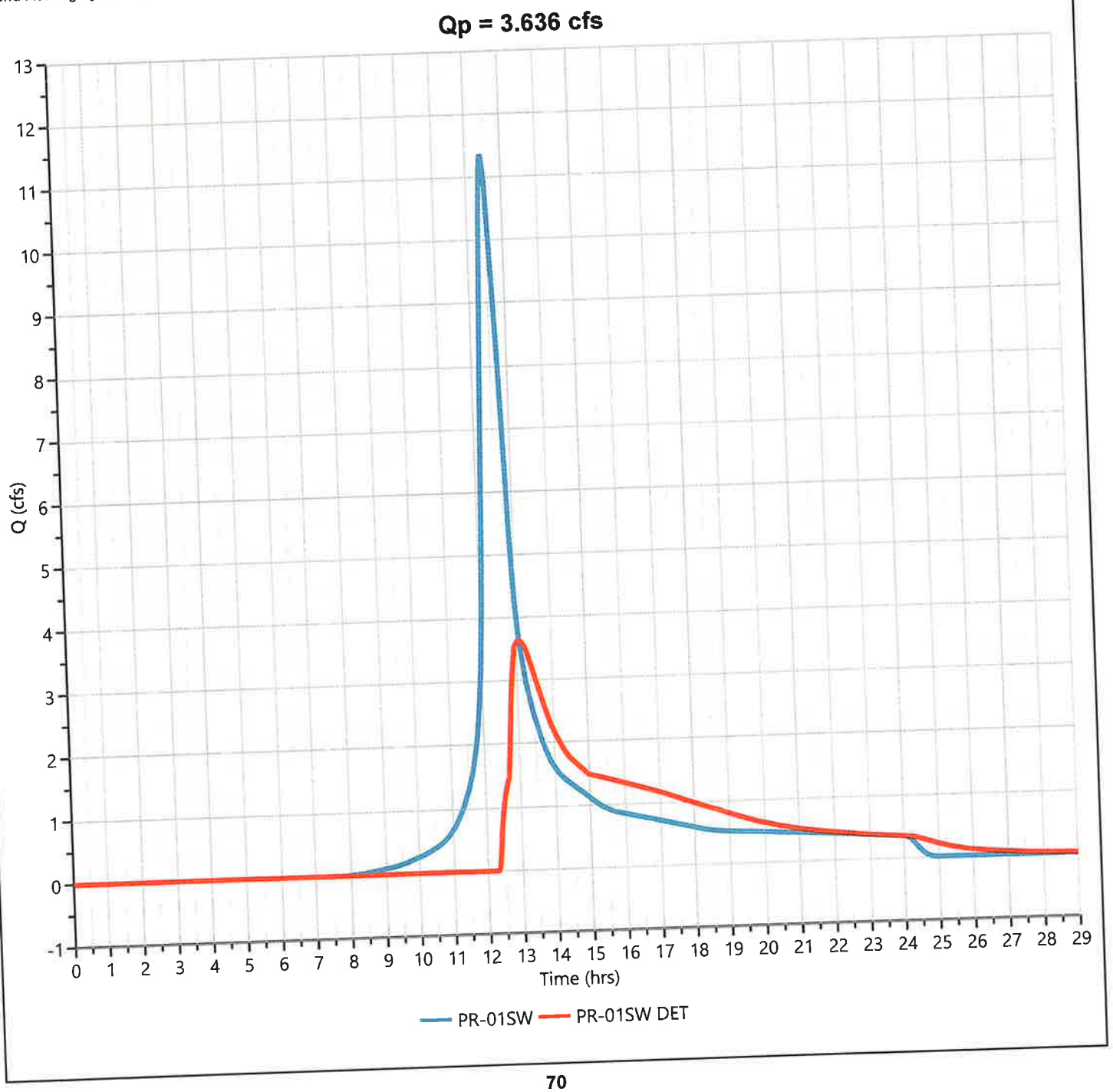
PR-01SW DET

Hyd. No. 9

Hydrograph Type	= Pond Route	Peak Flow	= 3.636 cfs
Storm Frequency	= 25-yr	Time to Peak	= 13.07 hrs
Time Interval	= 1 min	Hydrograph Volume	= 49,814 cuft
Inflow Hydrograph	= 5 - PR-01SW	Max. Elevation	= 29.92 ft
Pond Name	= PR-01 DETENTION	Max. Storage	= 31,457 cuft

Pond Routing by Storage Indication Method

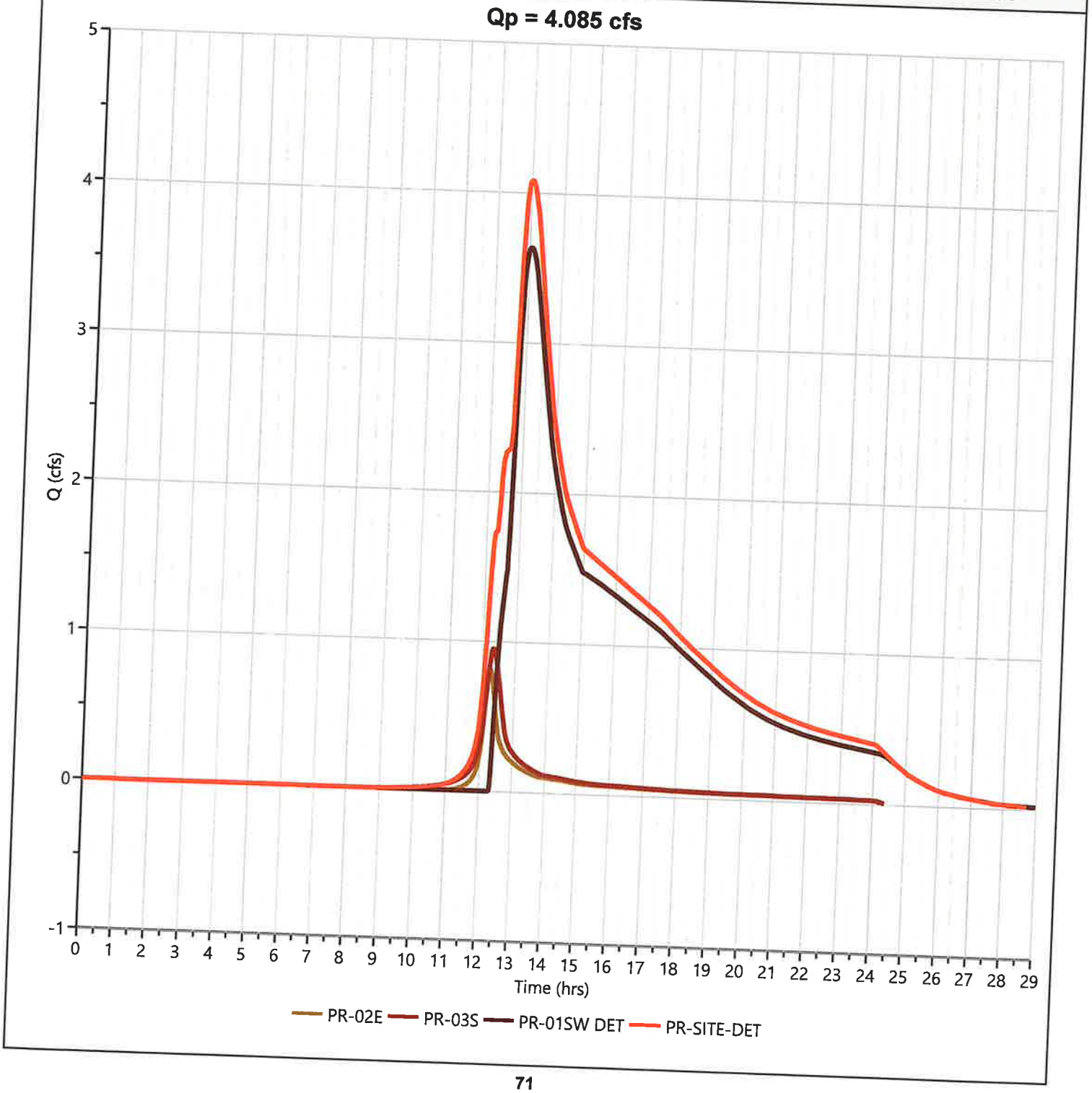
Center of mass detention time = 2.22 hrs



PR-SITE-DET

Hyd. No. 10

Hydrograph Type	= Junction	Peak Flow	= 4.085 cfs
Storm Frequency	= 25-yr	Time to Peak	= 13.02 hrs
Time Interval	= 1 min	Hydrograph Volume	= 58,823 cuft
Inflow Hydrographs	= 6, 7	Total Contrib. Area	= 1.131 ac



Design Storm Report

Custom Storm filename:

10-06-2025

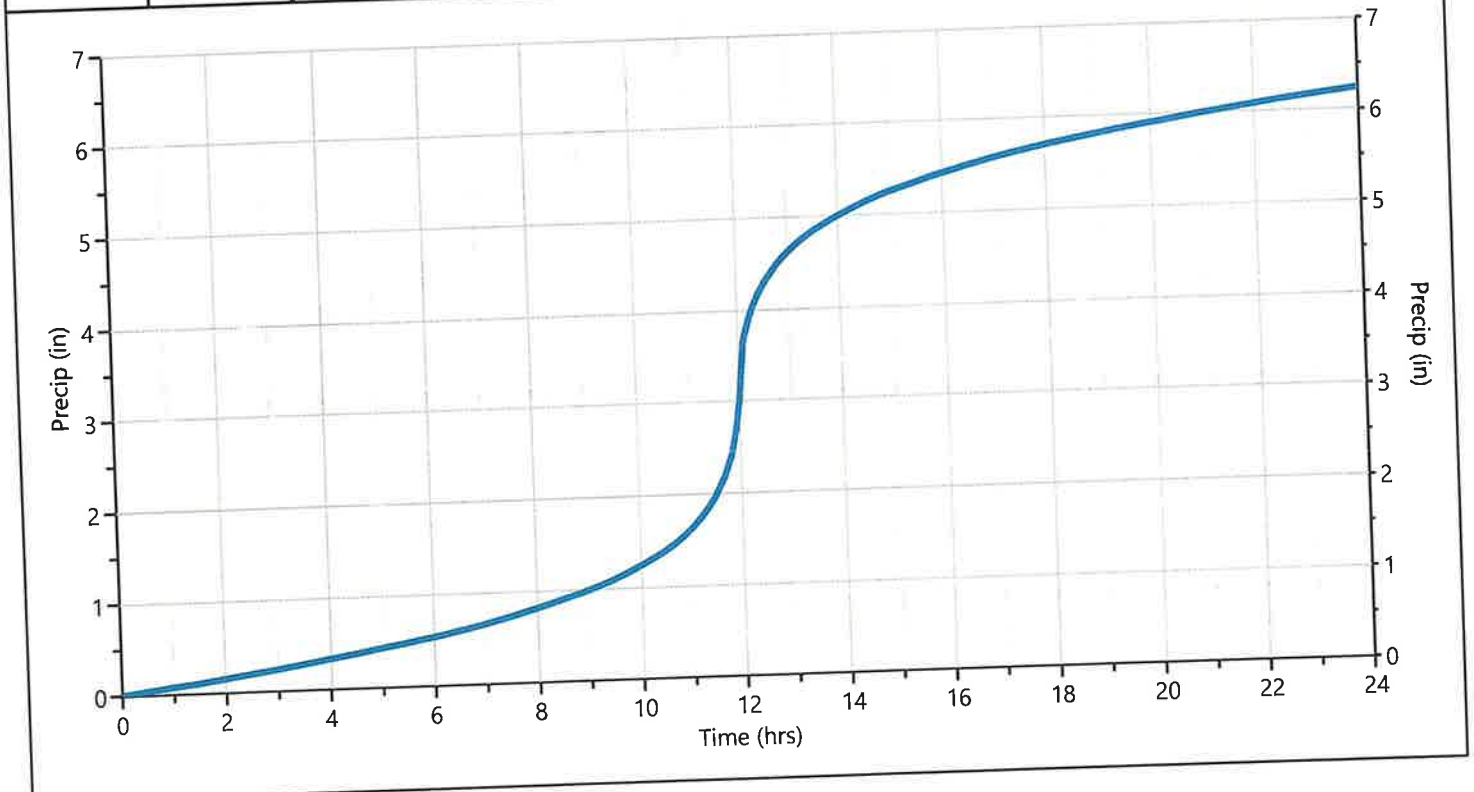
Hydrology Studio v 3.0.0.38

Storm Distribution: NOAA-D, 24-hr

Storm Duration	Total Rainfall Volume (in)								
	1-yr	2-yr	3-yr	5-yr	10-yr	✔ 25-yr	50-yr	100-yr	
24 hrs	2.87	3.44	0.00	4.38	5.17	6.24	7.04	7.90	

Incremental Rainfall Distribution, 25-yr

Time (hrs)	Precip (in)	Time (hrs)	Precip (in)	Time (hrs)	Precip (in)	Time (hrs)	Precip (in)	Time (hrs)	Precip (in)
11.60	0.018824	11.78	0.027174	11.97	0.065050	12.15	0.037709	12.33	0.019813
11.62	0.019812	11.80	0.027178	11.98	0.065054	12.17	0.037709	12.35	0.019811
11.63	0.019812	11.82	0.037709	12.00	0.065049	12.18	0.037712	12.37	0.019813
11.65	0.019813	11.83	0.037712	12.02	0.108542	12.20	0.037709	12.38	0.019811
11.67	0.019811	11.85	0.037709	12.03	0.108548	12.22	0.027175	12.40	0.019814
11.68	0.019813	11.87	0.037709	12.05	0.108542	12.23	0.027174	12.42	0.018823
11.70	0.019811	11.88	0.037711	12.07	0.108548	12.25	0.027176	12.43	0.018825
11.72	0.027174	11.90	0.037710	12.08	0.108542	12.27	0.027175	12.45	0.018824
11.73	0.027176	11.92	0.065053	**12.10**	**0.108548**	12.28	0.027176	12.47	0.018824
11.75	0.027175	11.93	0.065050	12.12	0.037709	12.30	0.027174	12.48	0.018825
11.77	0.027176	11.95	0.065054	12.13	0.037712	12.32	0.019812	12.50	0.018824



Hydrograph 50-yr Summary

Hydrology Studio v 3.0.0.38

File: 20250924PARKERS PLACE Hydrology.hys
10-06-2025

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (hrs)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)
1	NRCS Runoff	EX-01SW	6.603	12.40	40,704	----		
2	NRCS Runoff	EX-02E	2.154	12.28	10,941	----		
3	NRCS Runoff	EX-03S	0.681	12.25	3,162	----		
4	Junction	EX-SITE	9.080	12.37	54,807	1, 2, 3		
5	NRCS Runoff	PR-01SW	13.77	12.42	83,150	----		
6	NRCS Runoff	PR-02E	1.095	12.25	5,043	----		
7	NRCS Runoff	PR-03S	1.183	12.33	6,265	----		
8	Junction	PR-SITE	15.67	12.40	94,458	5, 6, 7		
9	Pond Route	PR-01SW DET	5.198	12.97	64,010	5	30.34	35,927
10	Junction	PR-SITE-DET	5.816	12.88	75,319	6, 7, 9		

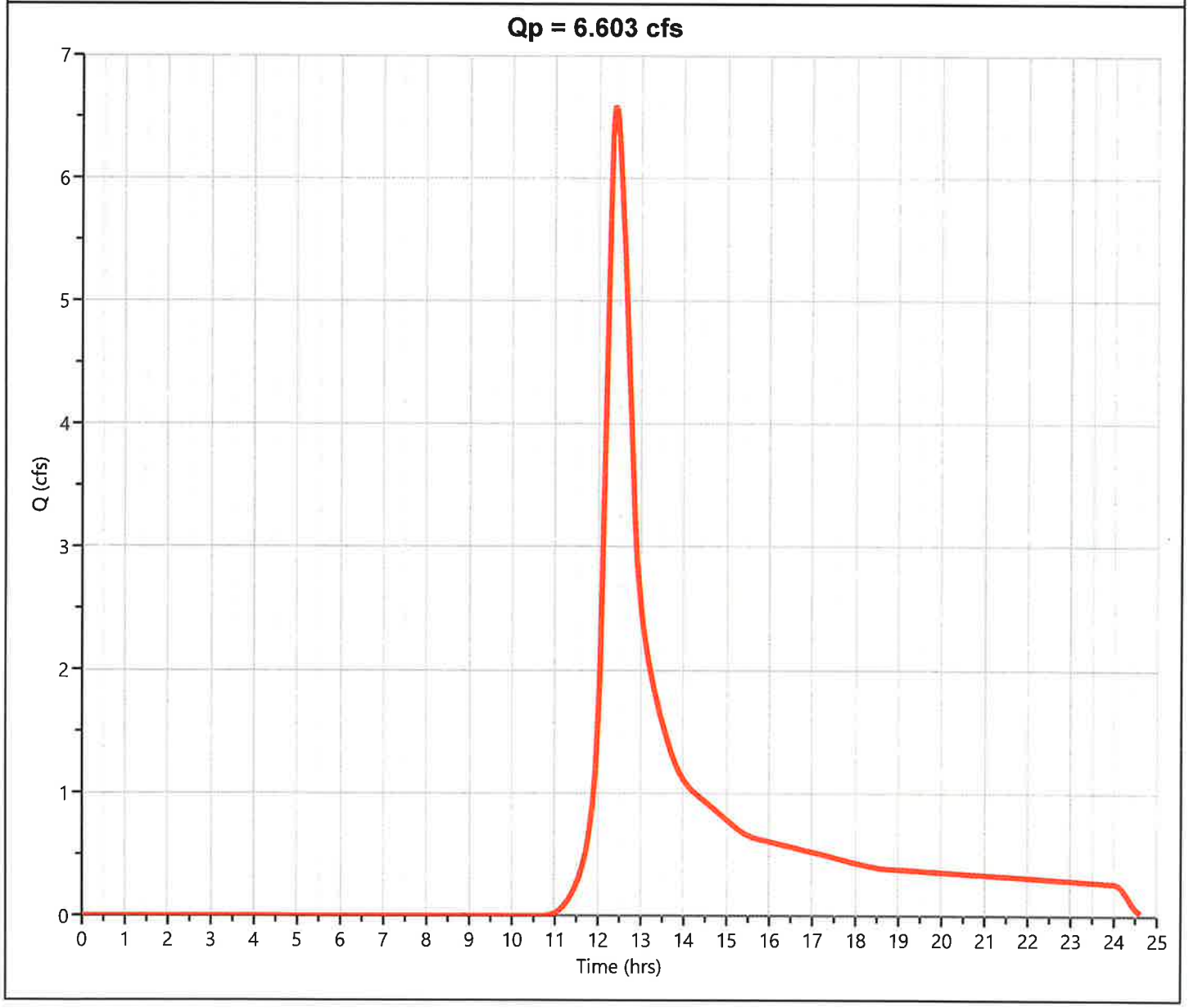
EX-01SW

Hyd. No. 1

Hydrograph Type	= NRCS Runoff	Peak Flow	= 6.603 cfs
Storm Frequency	= 50-yr	Time to Peak	= 12.40 hrs
Time Interval	= 1 min	Runoff Volume	= 40,704 cuft
Drainage Area	= 5.183 ac	Curve Number	= 55.00*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 31.45 min
Total Rainfall	= 7.04 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
5.183	55.00	Woods
5.183	**55.00**	Weighted CN Method Employed



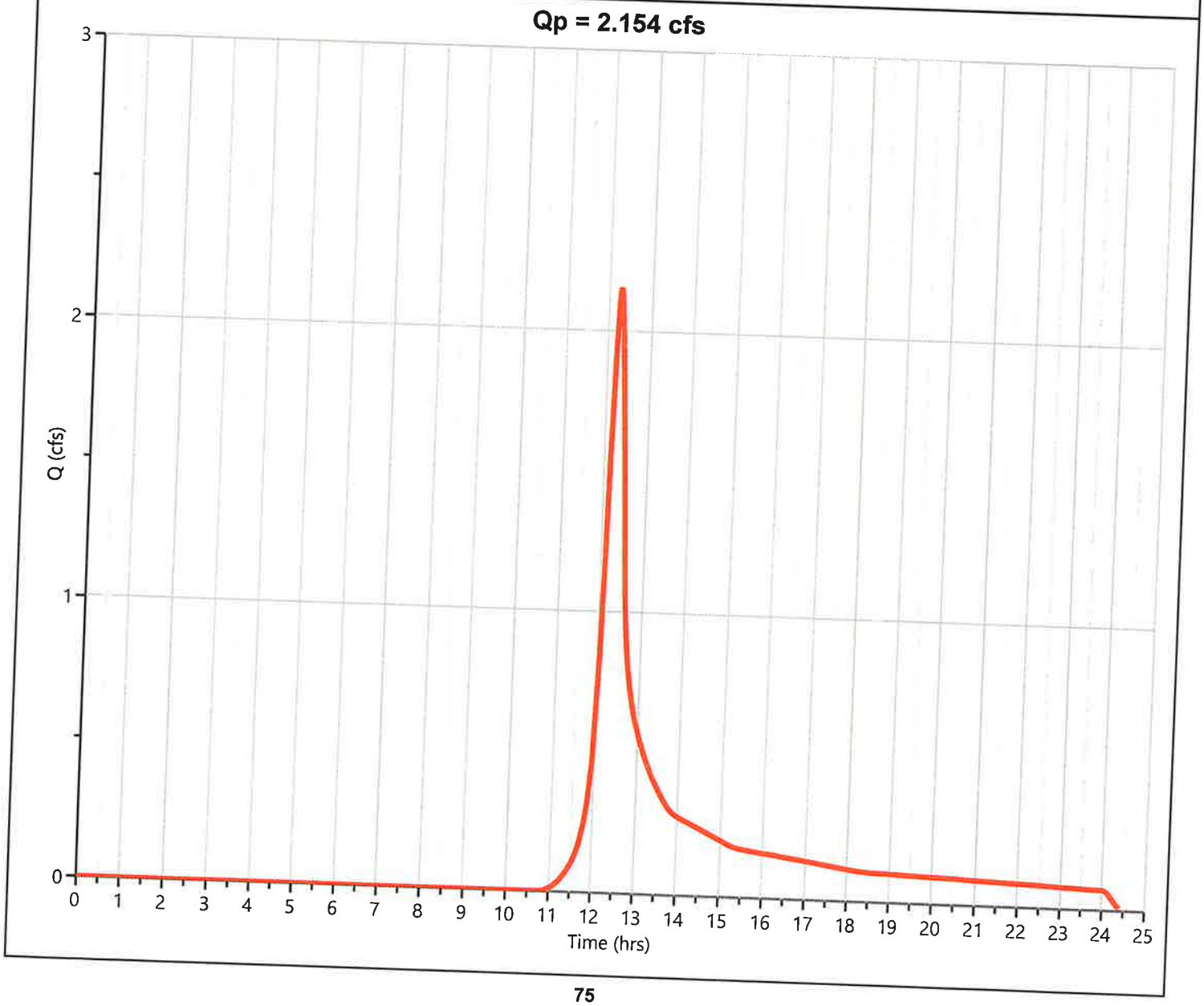
EX-02E

Hyd. No. 2

Hydrograph Type	= NRCS Runoff	Peak Flow	= 2.154 cfs
Storm Frequency	= 50-yr	Time to Peak	= 12.28 hrs
Time Interval	= 1 min	Runoff Volume	= 10,941 cuft
Drainage Area	= 1.389 ac	Curve Number	= 55.00*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 20.61 min
Total Rainfall	= 7.04 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
1.389	55.00	Woods
1.389	**55.00**	Weighted CN Method Employed



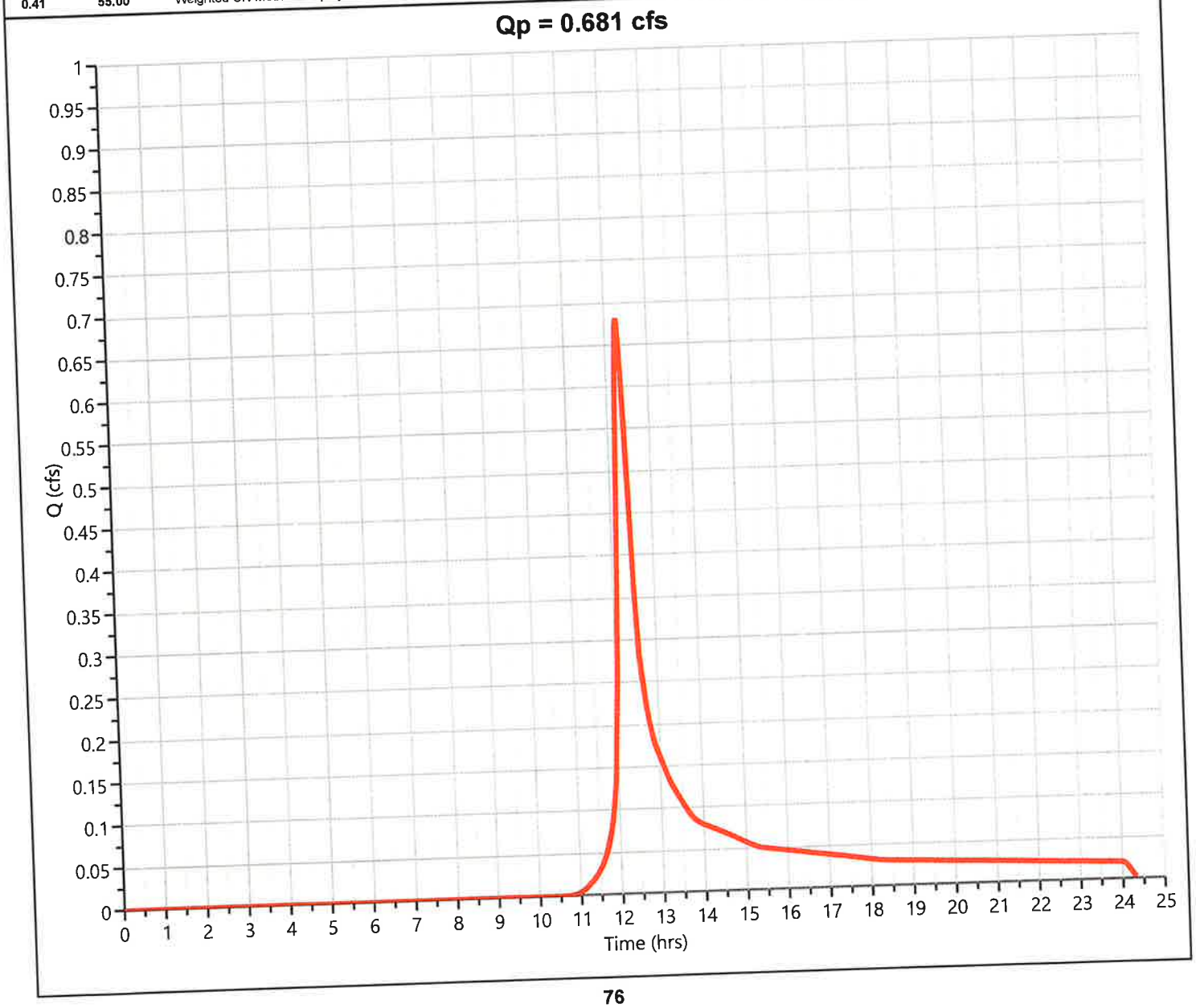
Hyd. No. 3

EX-03S

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.681 cfs
Storm Frequency	= 50-yr	Time to Peak	= 12.25 hrs
Time Interval	= 1 min	Runoff Volume	= 3,162 cuft
Drainage Area	= 0.41 ac	Curve Number	= 55.00*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 18.32 min
Total Rainfall	= 7.04 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

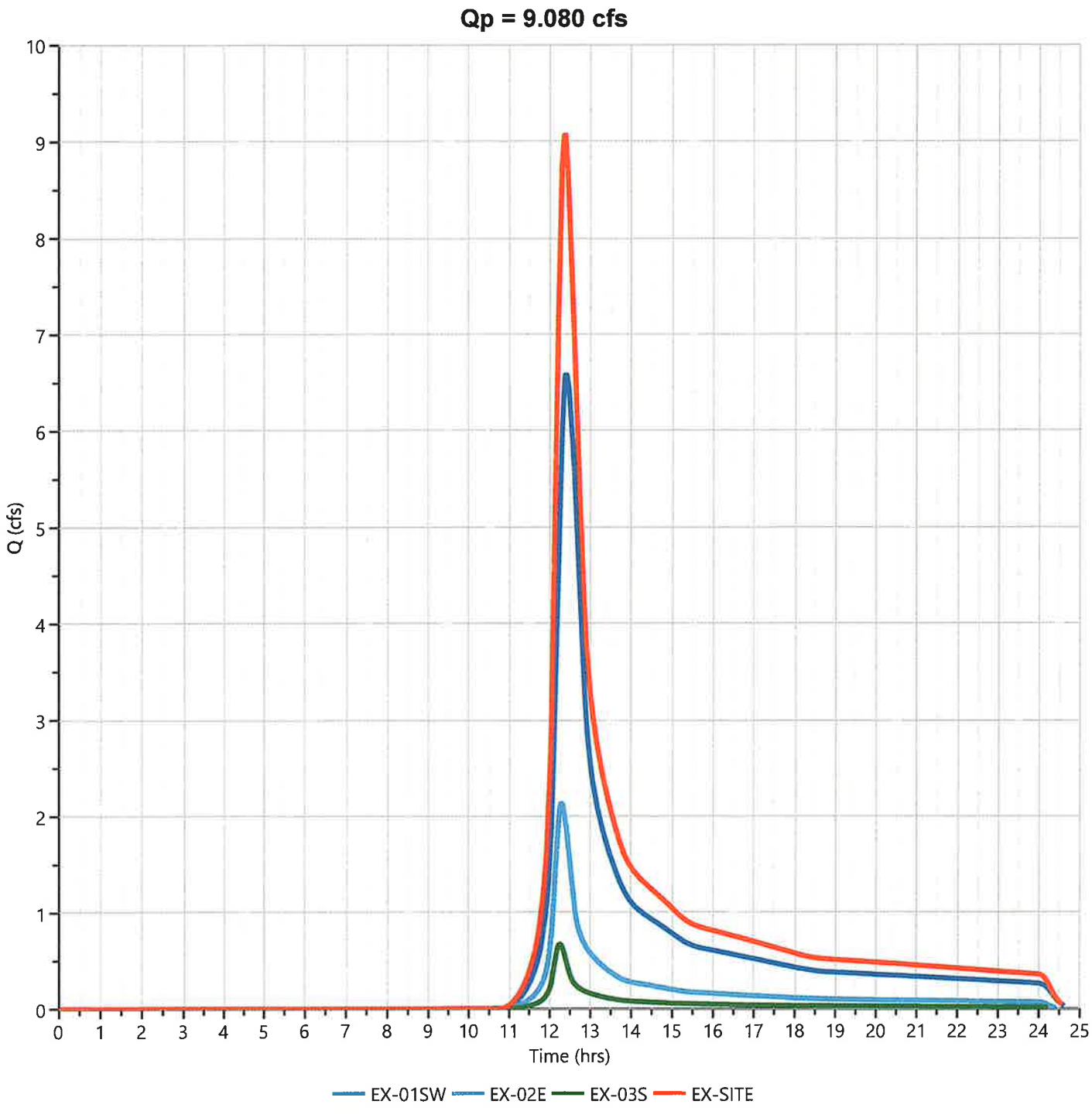
AREA (ac)	CN	DESCRIPTION
0.41	55.00	Woods
0.41	**55.00**	Weighted CN Method Employed



EX-SITE

Hyd. No. 4

Hydrograph Type	= Junction	Peak Flow	= 9.080 cfs
Storm Frequency	= 50-yr	Time to Peak	= 12.37 hrs
Time Interval	= 1 min	Hydrograph Volume	= 54,807 cuft
Inflow Hydrographs	= 1, 2, 3	Total Contrib. Area	= 6.982 ac



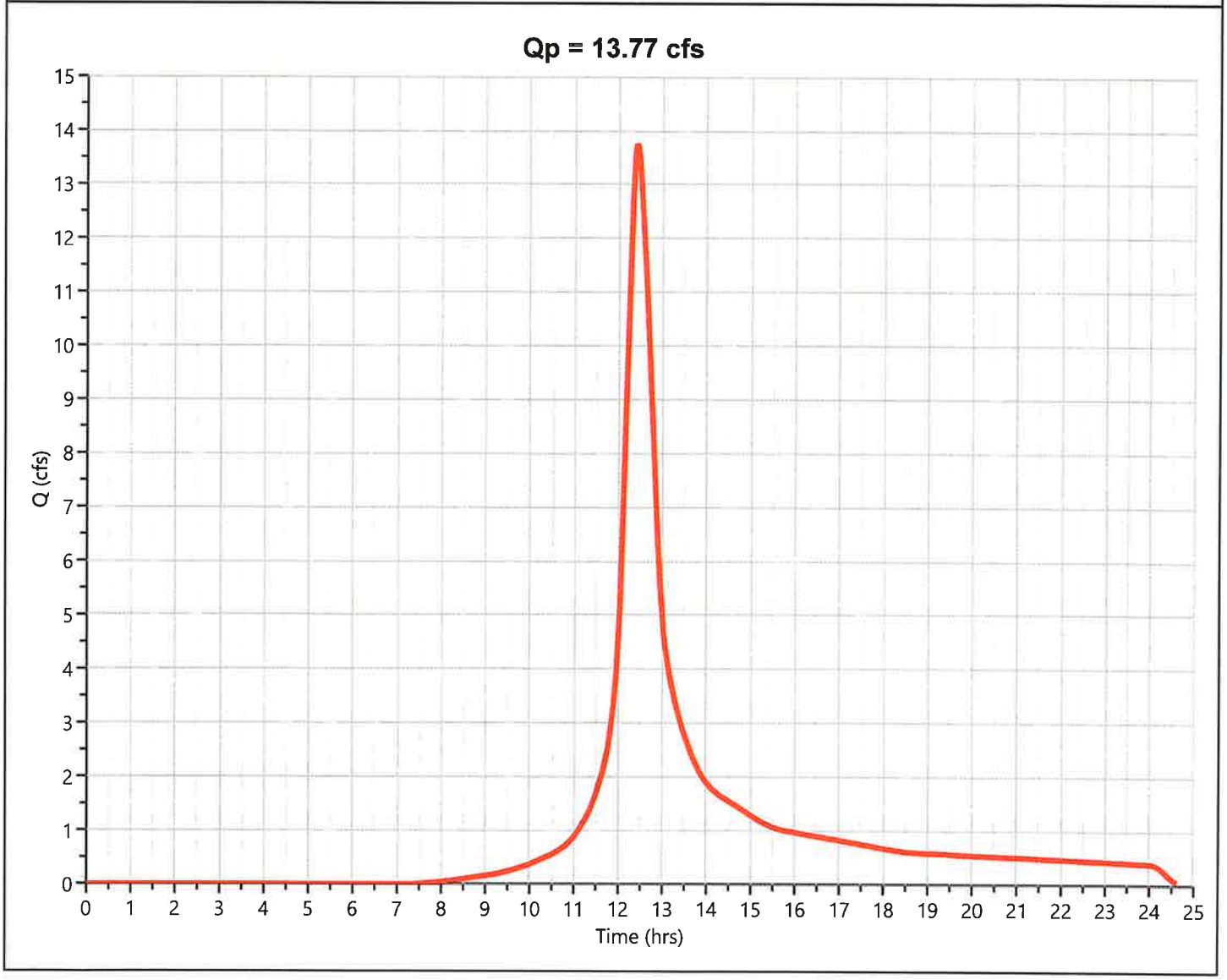
PR-01SW

Hyd. No. 5

Hydrograph Type	= NRCS Runoff	Peak Flow	= 13.77 cfs
Storm Frequency	= 50-yr	Time to Peak	= 12.42 hrs
Time Interval	= 1 min	Runoff Volume	= 83,150 cuft
Drainage Area	= 5.852 ac	Curve Number	= 72.48*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 34.6 min
Total Rainfall	= 7.04 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
2.095	98.00	Impervious
1.395	61.00	Landscape
1.277	58.00	Conservation
1.085	55.00	Woods
5.852	**72.48**	Weighted CN Method Employed



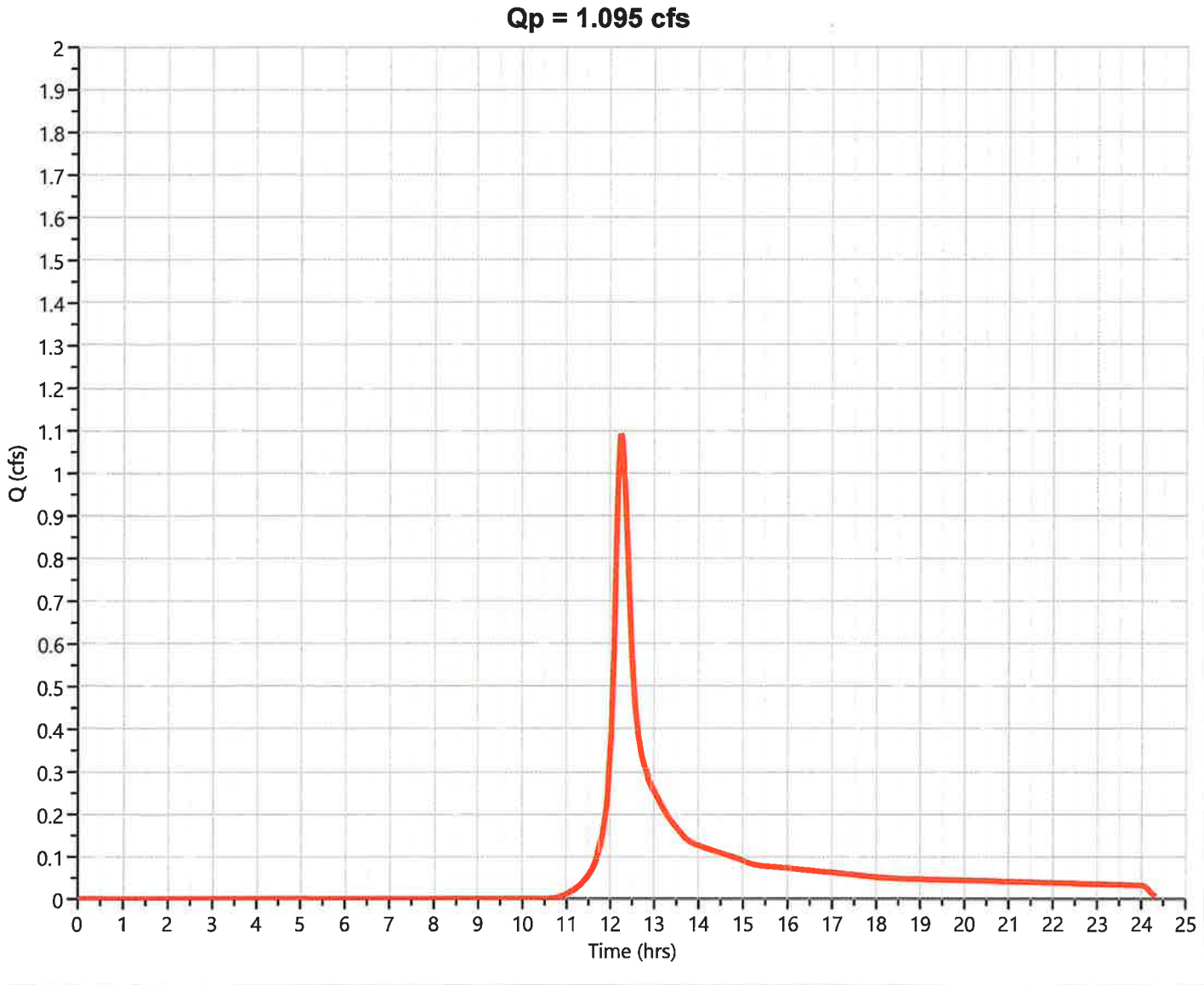
PR-02E

Hyd. No. 6

Hydrograph Type	= NRCS Runoff	Peak Flow	= 1.095 cfs
Storm Frequency	= 50-yr	Time to Peak	= 12.25 hrs
Time Interval	= 1 min	Runoff Volume	= 5,043 cuft
Drainage Area	= 0.627 ac	Curve Number	= 55.97*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 18.27 min
Total Rainfall	= 7.04 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
0.016	61.00	Landscape
0.171	58.00	Conservation
0.44	55.00	Woods
0.627	**55.97**	Weighted CN Method Employed



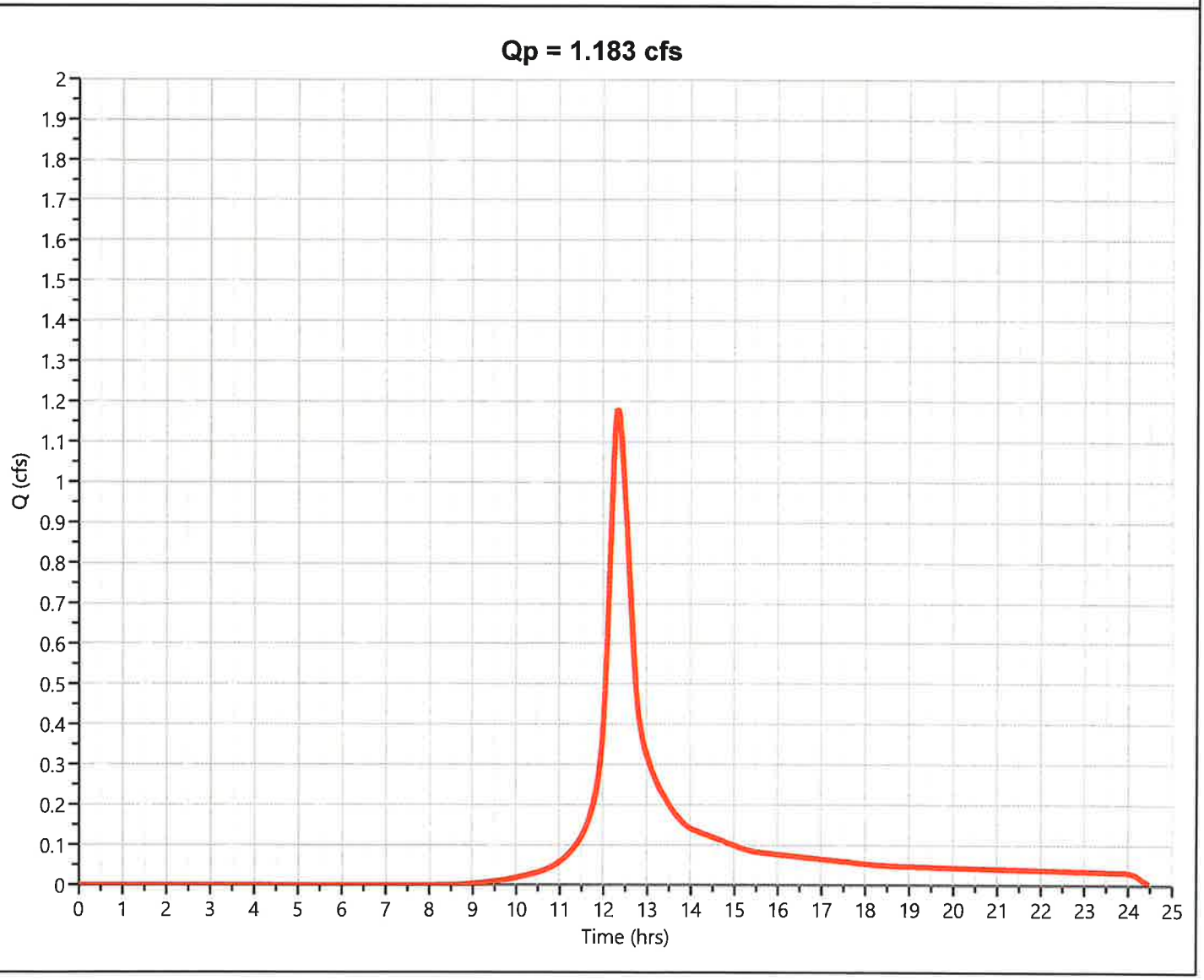
PR-03S

Hyd. No. 7

Hydrograph Type	= NRCS Runoff	Peak Flow	= 1.183 cfs
Storm Frequency	= 50-yr	Time to Peak	= 12.33 hrs
Time Interval	= 1 min	Runoff Volume	= 6,265 cuft
Drainage Area	= 0.504 ac	Curve Number	= 67.57*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 26.4 min
Total Rainfall	= 7.04 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

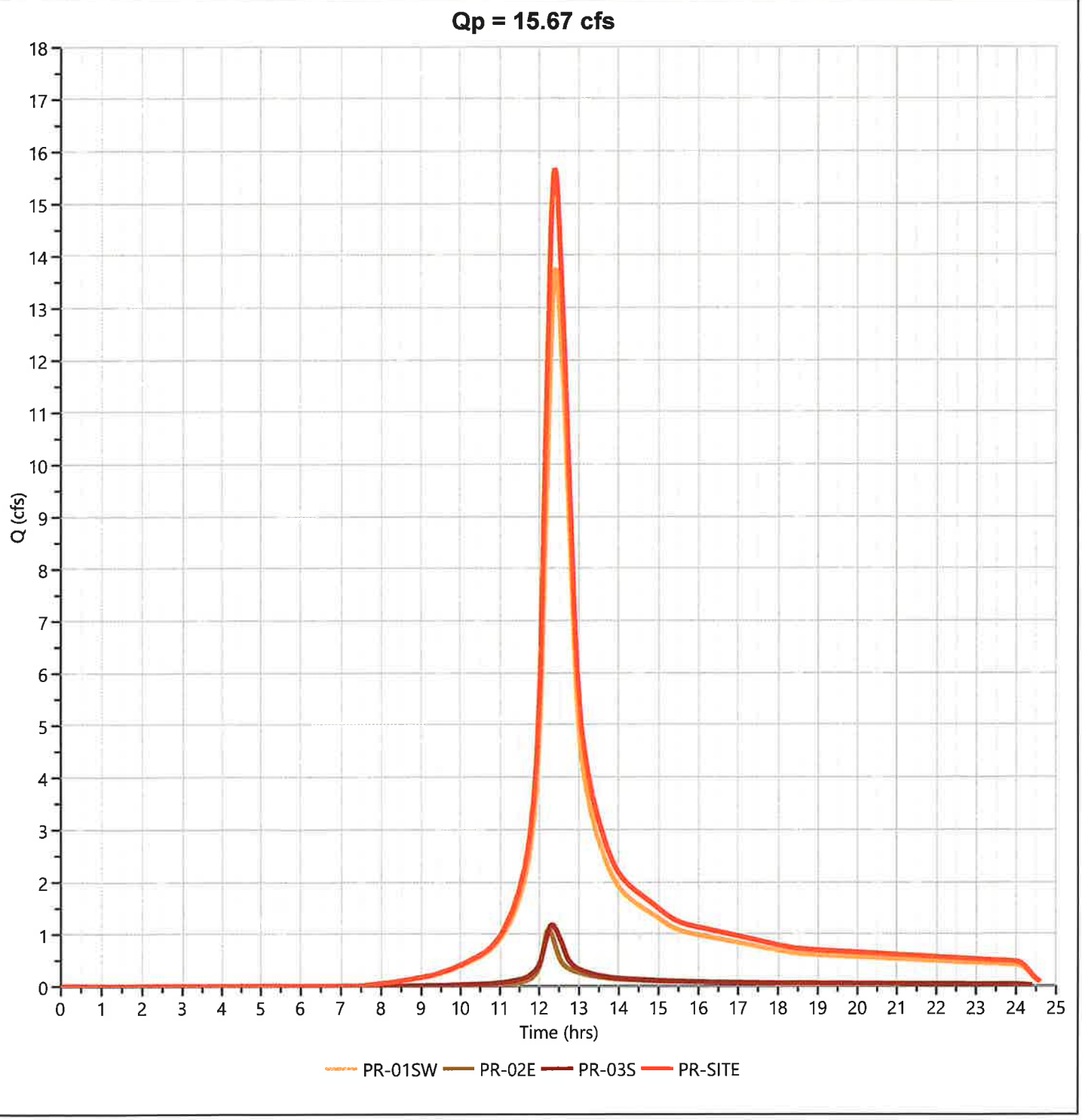
AREA (ac)	CN	DESCRIPTION
0.12	98.00	Impervious
0.122	61.00	Landscape
0.147	58.00	Conservation
0.115	55.00	Woods
0.504	**67.57**	Weighted CN Method Employed



PR-SITE

Hyd. No. 8

Hydrograph Type	= Junction	Peak Flow	= 15.67 cfs
Storm Frequency	= 50-yr	Time to Peak	= 12.40 hrs
Time Interval	= 1 min	Hydrograph Volume	= 94,458 cuft
Inflow Hydrographs	= 5, 6, 7	Total Contrib. Area	= 6.983 ac



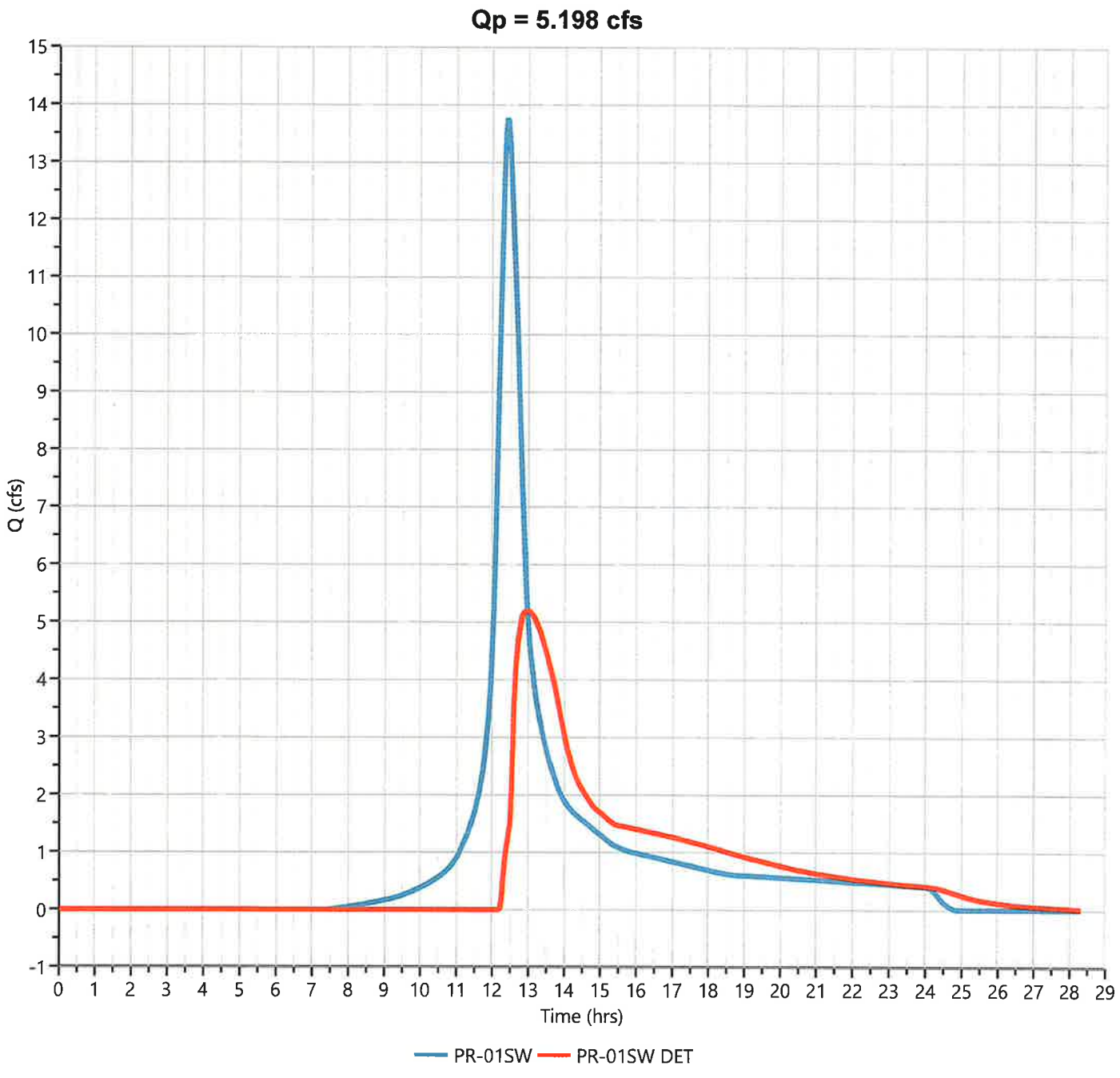
PR-01SW DET

Hyd. No. 9

Hydrograph Type	= Pond Route	Peak Flow	= 5.198 cfs
Storm Frequency	= 50-yr	Time to Peak	= 12.97 hrs
Time Interval	= 1 min	Hydrograph Volume	= 64,010 cuft
Inflow Hydrograph	= 5 - PR-01SW	Max. Elevation	= 30.34 ft
Pond Name	= PR-01 DETENTION	Max. Storage	= 35,927 cuft

Pond Routing by Storage Indication Method

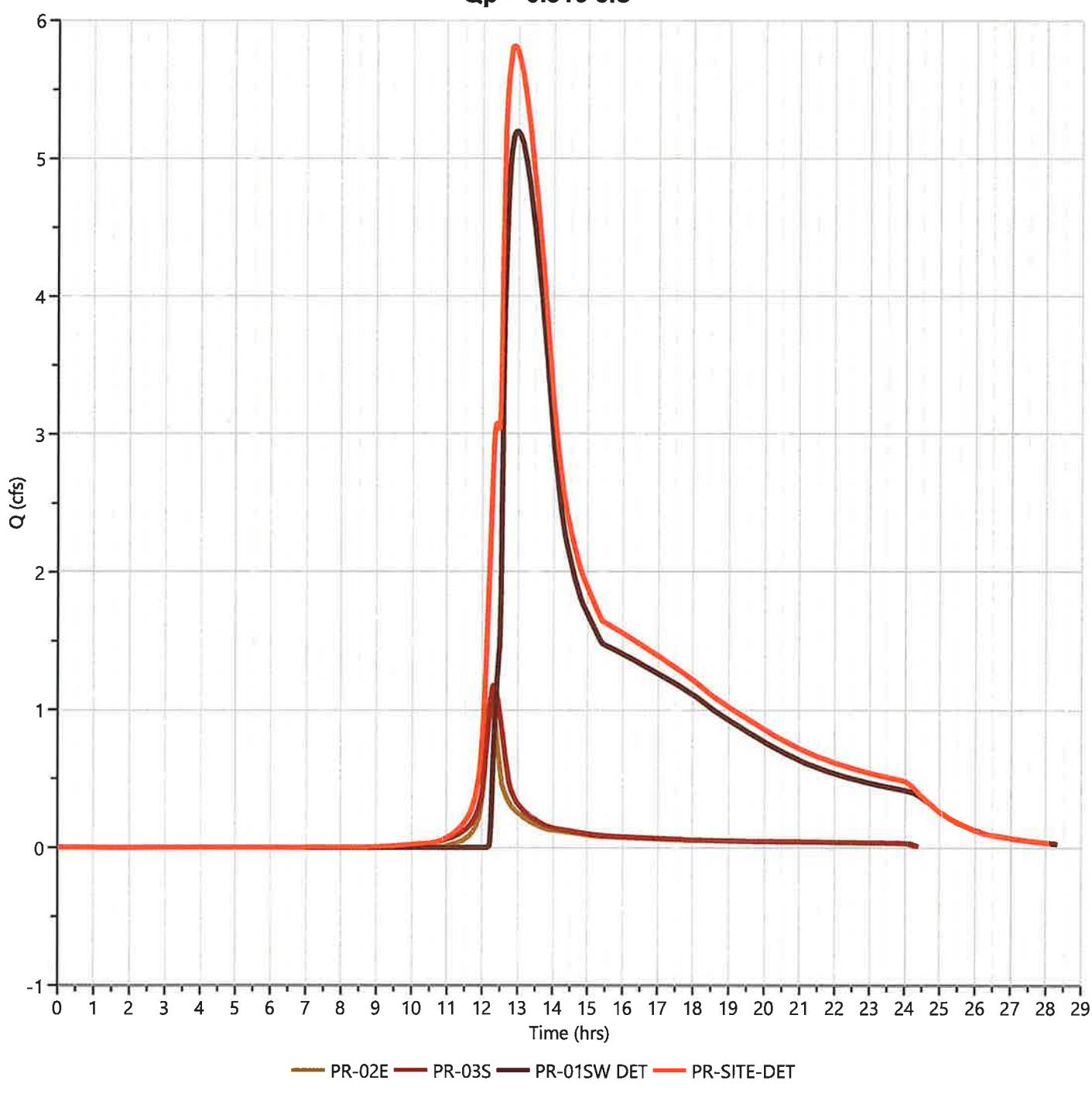
Center of mass detention time = 1.97 hrs



PR-SITE-DET

Hyd. No. 10

Hydrograph Type	= Junction	Peak Flow	= 5.816 cfs
Storm Frequency	= 50-yr	Time to Peak	= 12.88 hrs
Time Interval	= 1 min	Hydrograph Volume	= 75,319 cuft
Inflow Hydrographs	= 6, 7	Total Contrib. Area	= 1.131 ac



Design Storm Report

Custom Storm filename:

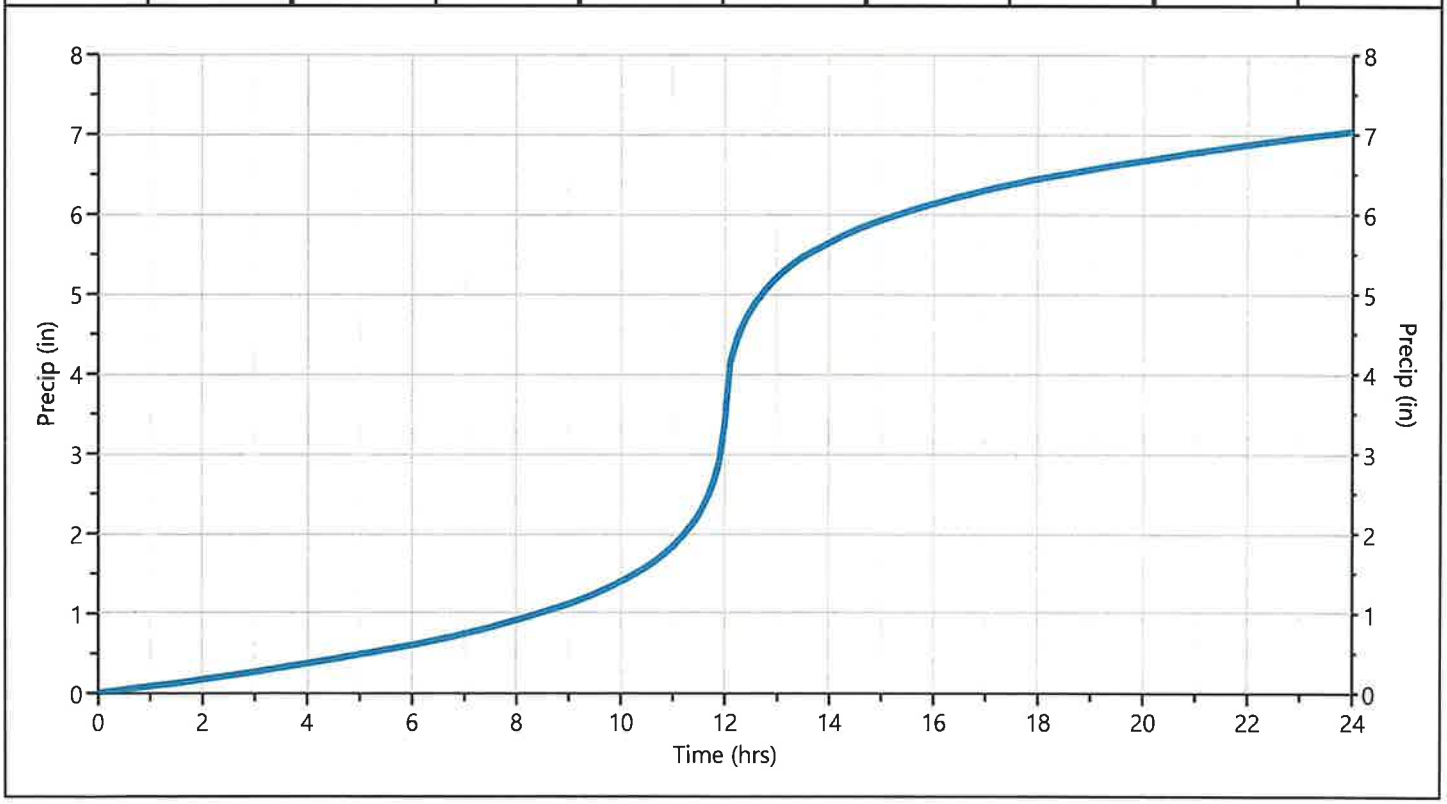
Hydrology Studio v 3.0.0.38

10-06-2025

Storm Distribution: NOAA-D, 24-hr

Storm Duration	Total Rainfall Volume (in)								
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	✔ 50-yr	100-yr	
24 hrs	2.87	3.44	0.00	4.38	5.17	6.24	7.04	7.90	

Incremental Rainfall Distribution, 50-yr									
Time (hrs)	Precip (in)	Time (hrs)	Precip (in)	Time (hrs)	Precip (in)	Time (hrs)	Precip (in)	Time (hrs)	Precip (in)
11.60	0.021237	11.78	0.030658	11.97	0.073390	12.15	0.042544	12.33	0.022353
11.62	0.022352	11.80	0.030662	11.98	0.073394	12.17	0.042544	12.35	0.022351
11.63	0.022352	11.82	0.042544	12.00	0.073389	12.18	0.042546	12.37	0.022353
11.65	0.022353	11.83	0.042546	12.02	0.122458	12.20	0.042544	12.38	0.022351
11.67	0.022351	11.85	0.042544	12.03	0.122464	12.22	0.030659	12.40	0.022353
11.68	0.022353	11.87	0.042544	12.05	0.122458	12.23	0.030658	12.42	0.021237
11.70	0.022351	11.88	0.042546	12.07	0.122464	12.25	0.030660	12.43	0.021238
11.72	0.030658	11.90	0.042544	12.08	0.122458	12.27	0.030659	12.45	0.021237
11.73	0.030660	11.92	0.073394	**12.10**	**0.122465**	12.28	0.030660	12.47	0.021237
11.75	0.030658	11.93	0.073390	12.12	0.042544	12.30	0.030658	12.48	0.021238
11.77	0.030660	11.95	0.073394	12.13	0.042547	12.32	0.022351	12.50	0.021236



Hydrograph 100-yr Summary

Hydrology Studio v 3.0.0.38

File: 20250924PARKERS PLACE Hydrology.hys

10-06-2025

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (hrs)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)
1	NRCS Runoff	EX-01SW	8.545	12.40	51,435	----		
2	NRCS Runoff	EX-02E	2.784	12.28	13,826	----		
3	NRCS Runoff	EX-03S	0.879	12.25	3,996	----		
4	Junction	EX-SITE	11.74	12.37	69,257	1, 2, 3		
5	NRCS Runoff	PR-01SW	16.38	12.42	99,029	----		
6	NRCS Runoff	PR-02E	1.403	12.25	6,346	----		
7	NRCS Runoff	PR-03S	1.432	12.33	7,565	----		
8	Junction	PR-SITE	18.74	12.40	112,940	5, 6, 7		
9	Pond Route	PR-01SW DET	8.316	12.85	79,712	5	30.75	40,314
10	Junction	PR-SITE-DET	9.147	12.83	93,622	6, 7, 9		

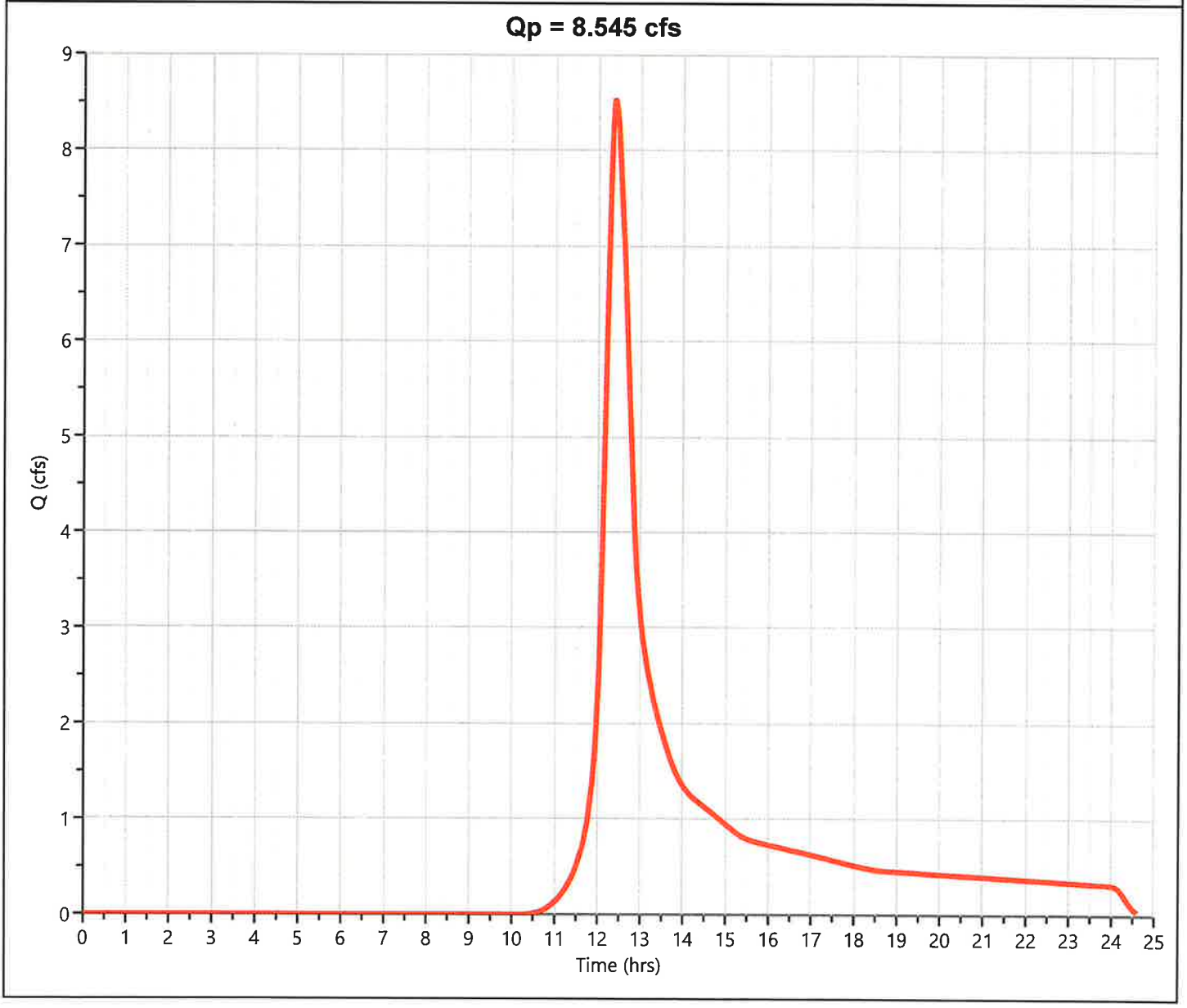
EX-01SW

Hyd. No. 1

Hydrograph Type	= NRCS Runoff	Peak Flow	= 8.545 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.40 hrs
Time Interval	= 1 min	Runoff Volume	= 51,435 cuft
Drainage Area	= 5.183 ac	Curve Number	= 55.00*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 31.45 min
Total Rainfall	= 7.90 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
5.183	55.00	Woods
5.183	**55.00**	Weighted CN Method Employed



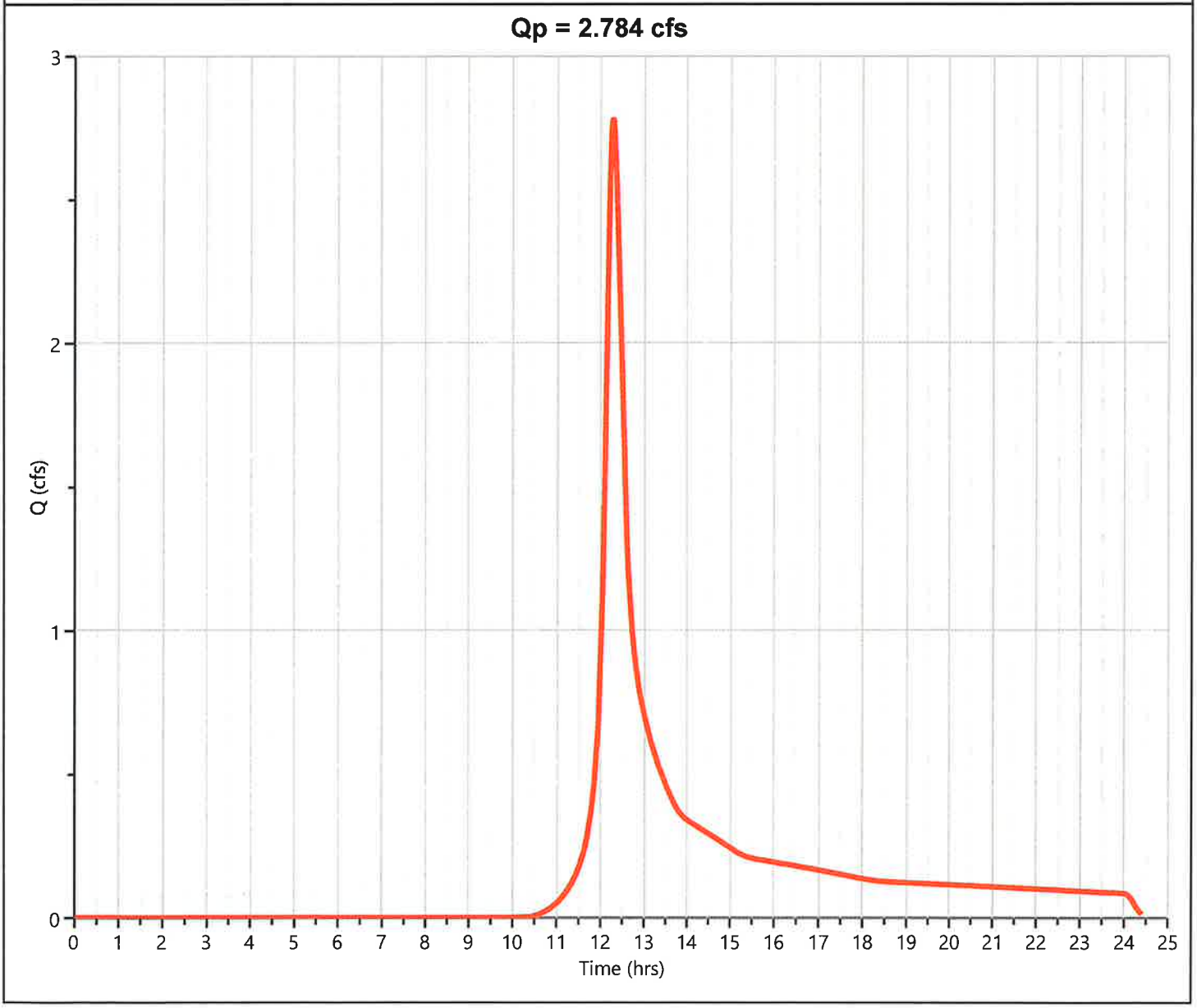
EX-02E

Hyd. No. 2

Hydrograph Type	= NRCS Runoff	Peak Flow	= 2.784 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.28 hrs
Time Interval	= 1 min	Runoff Volume	= 13,826 cuft
Drainage Area	= 1.389 ac	Curve Number	= 55.00*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 20.61 min
Total Rainfall	= 7.90 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
1.389	55.00	Woods
1.389	**55.00**	Weighted CN Method Employed



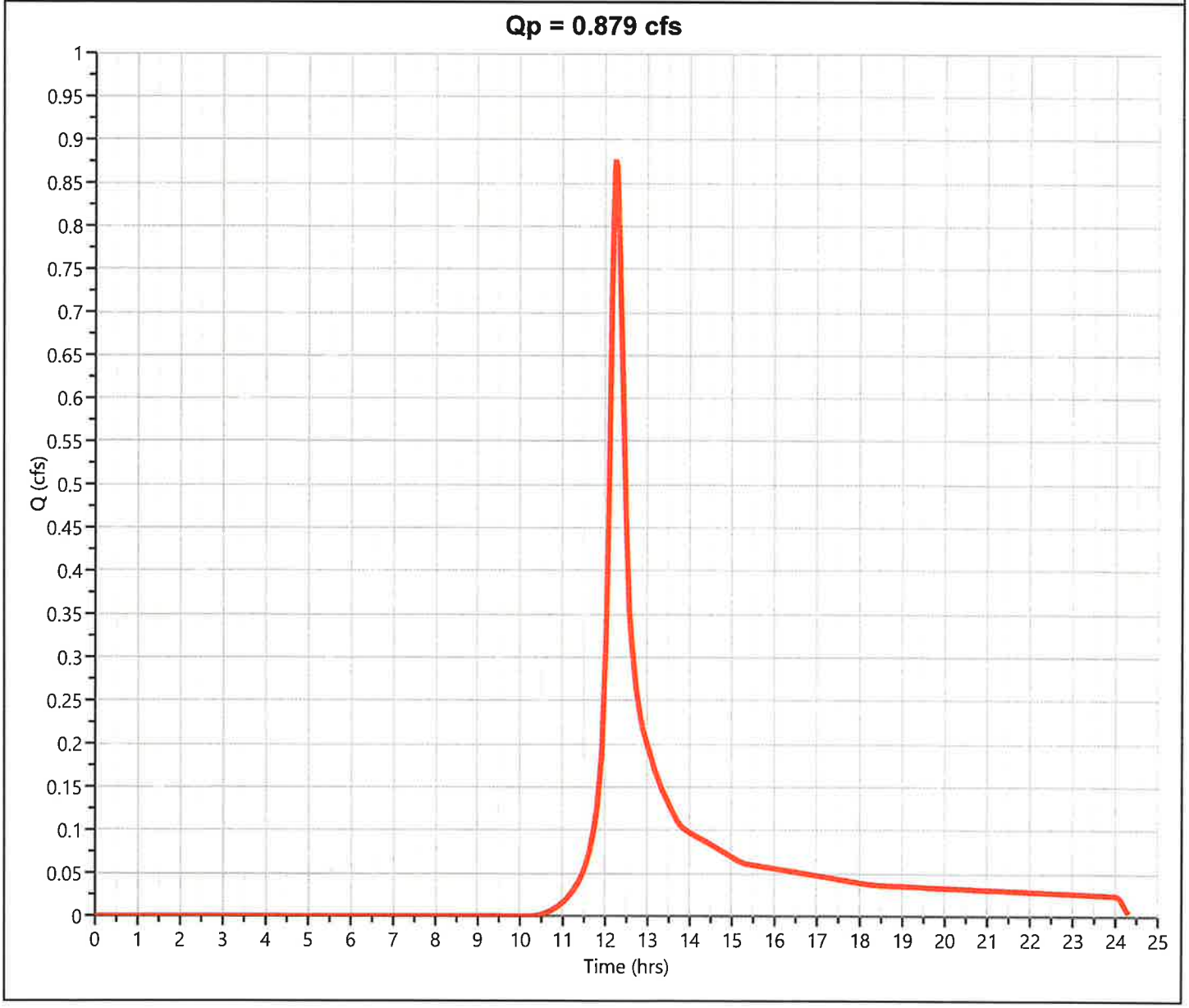
EX-03S

Hyd. No. 3

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.879 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.25 hrs
Time Interval	= 1 min	Runoff Volume	= 3,996 cuft
Drainage Area	= 0.41 ac	Curve Number	= 55.00*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 18.32 min
Total Rainfall	= 7.90 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

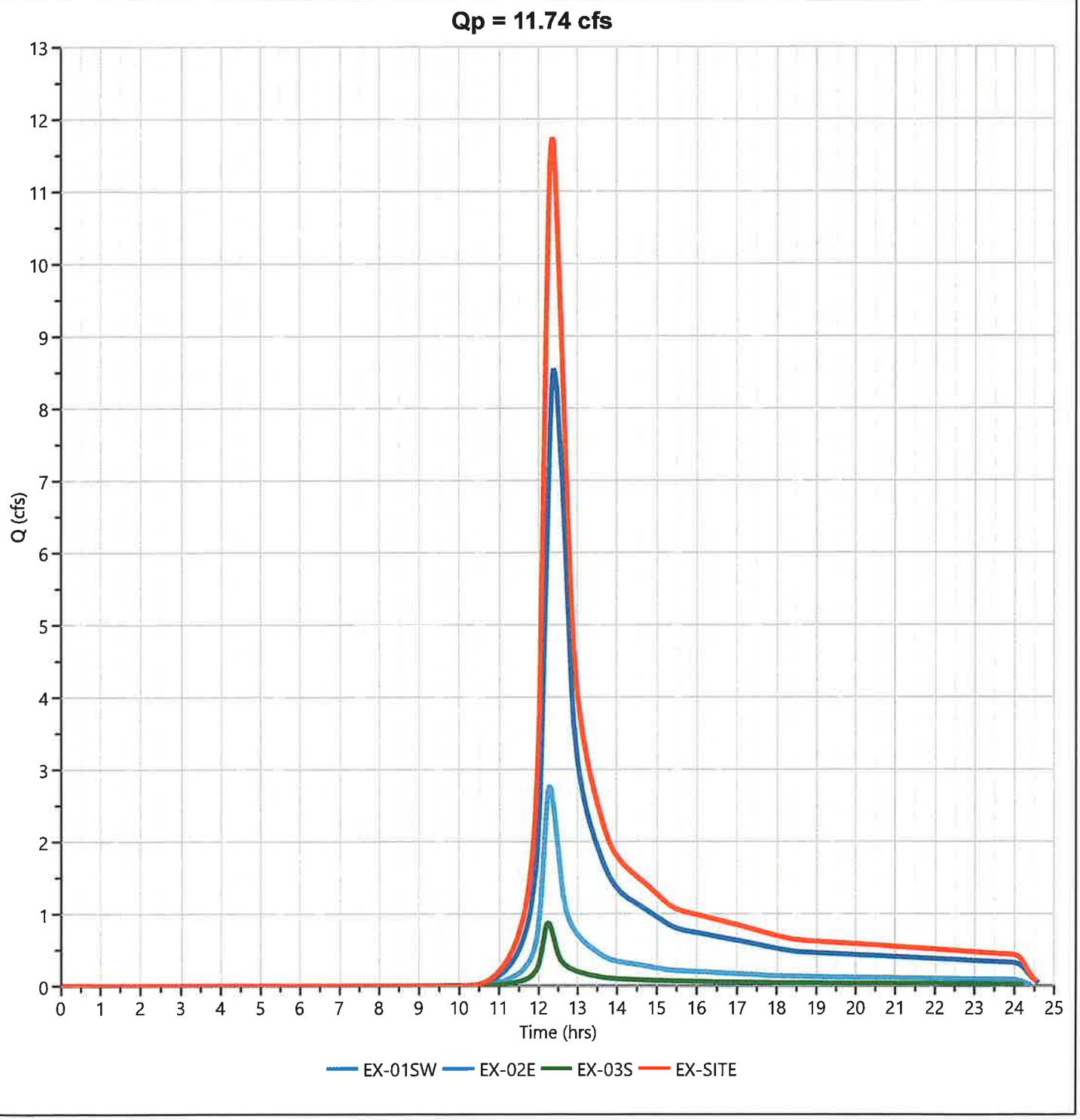
AREA (ac)	CN	DESCRIPTION
0.41	55.00	Woods
0.41	**55.00**	Weighted CN Method Employed



EX-SITE

Hyd. No. 4

Hydrograph Type	= Junction	Peak Flow	= 11.74 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.37 hrs
Time Interval	= 1 min	Hydrograph Volume	= 69,257 cuft
Inflow Hydrographs	= 1, 2, 3	Total Contrib. Area	= 6.982 ac



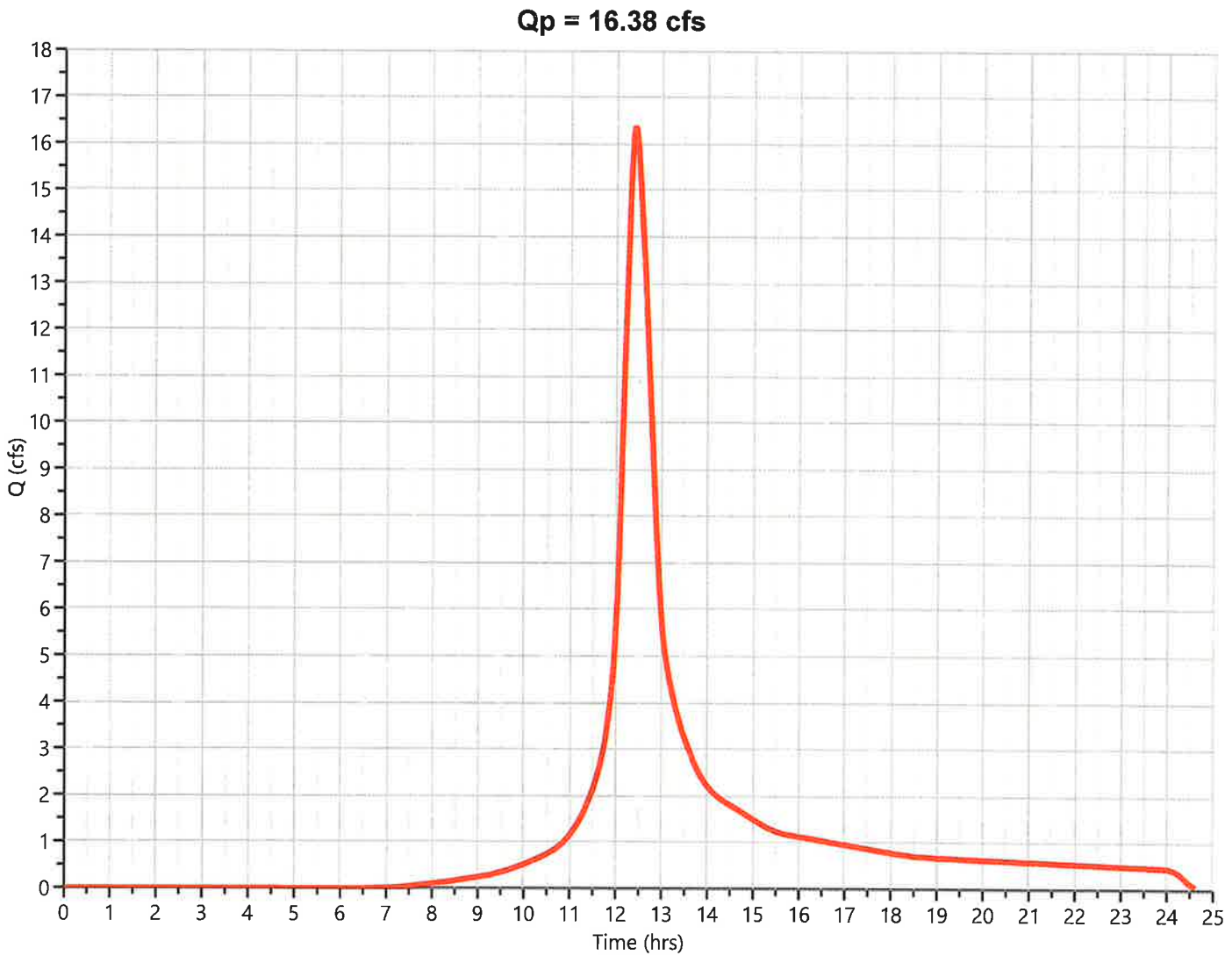
PR-01SW

Hyd. No. 5

Hydrograph Type	= NRCS Runoff	Peak Flow	= 16.38 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.42 hrs
Time Interval	= 1 min	Runoff Volume	= 99,029 cuft
Drainage Area	= 5.852 ac	Curve Number	= 72.48*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 34.6 min
Total Rainfall	= 7.90 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
2.095	98.00	Impervious
1.395	61.00	Landscape
1.277	58.00	Conservation
1.085	55.00	Woods
5.852	**72.48**	Weighted CN Method Employed



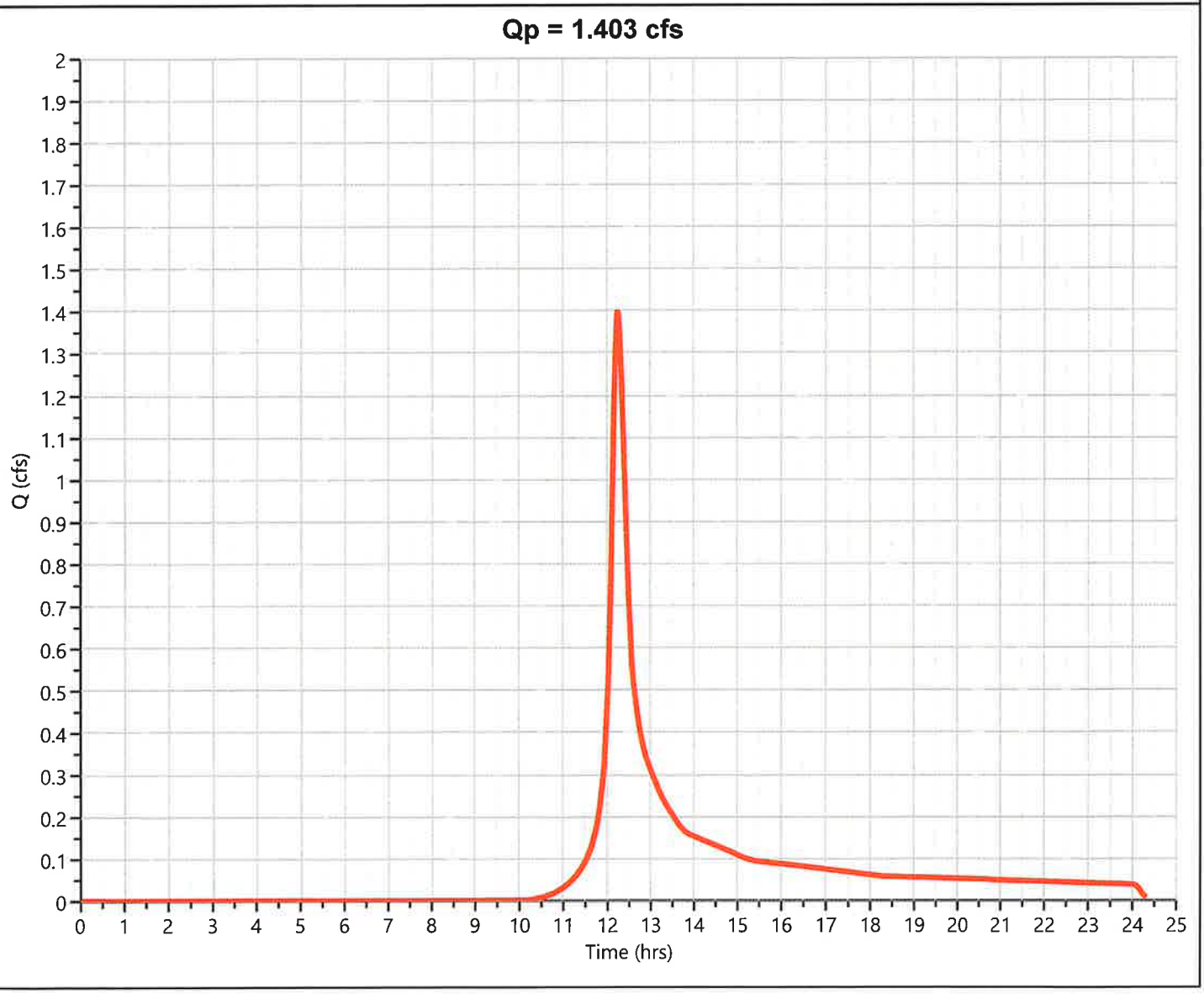
PR-02E

Hyd. No. 6

Hydrograph Type	= NRCS Runoff	Peak Flow	= 1.403 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.25 hrs
Time Interval	= 1 min	Runoff Volume	= 6,346 cuft
Drainage Area	= 0.627 ac	Curve Number	= 55.97*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 18.27 min
Total Rainfall	= 7.90 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

AREA (ac)	CN	DESCRIPTION
0.016	61.00	Landscape
0.171	58.00	Conservation
0.44	55.00	Woods
0.627	**55.97**	Weighted CN Method Employed



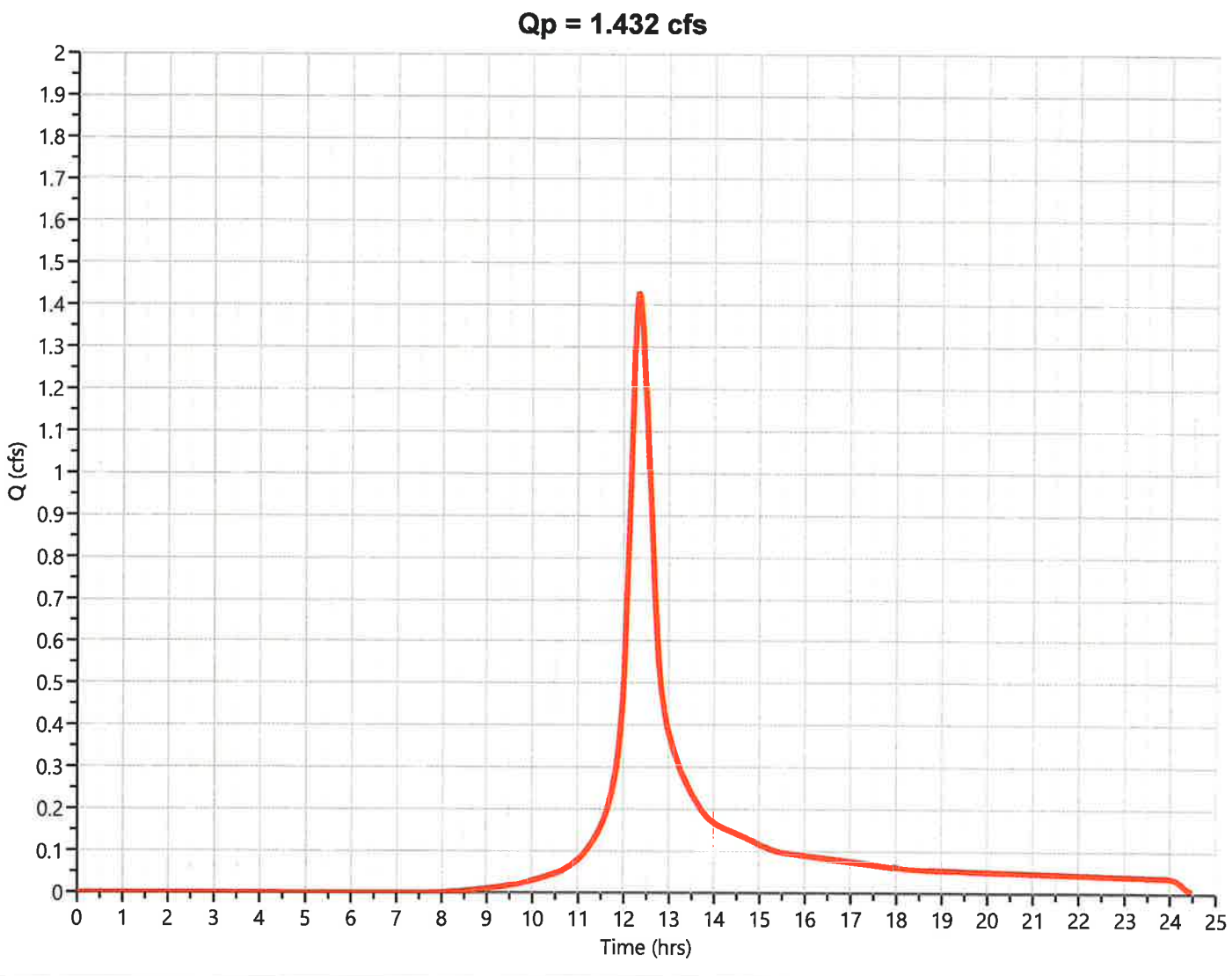
PR-03S

Hyd. No. 7

Hydrograph Type	= NRCS Runoff	Peak Flow	= 1.432 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.33 hrs
Time Interval	= 1 min	Runoff Volume	= 7,565 cuft
Drainage Area	= 0.504 ac	Curve Number	= 67.57*
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 26.4 min
Total Rainfall	= 7.90 in	Design Storm	= NOAA-D
Storm Duration	= 24 hrs	Shape Factor	= 484

*** Composite CN Worksheet**

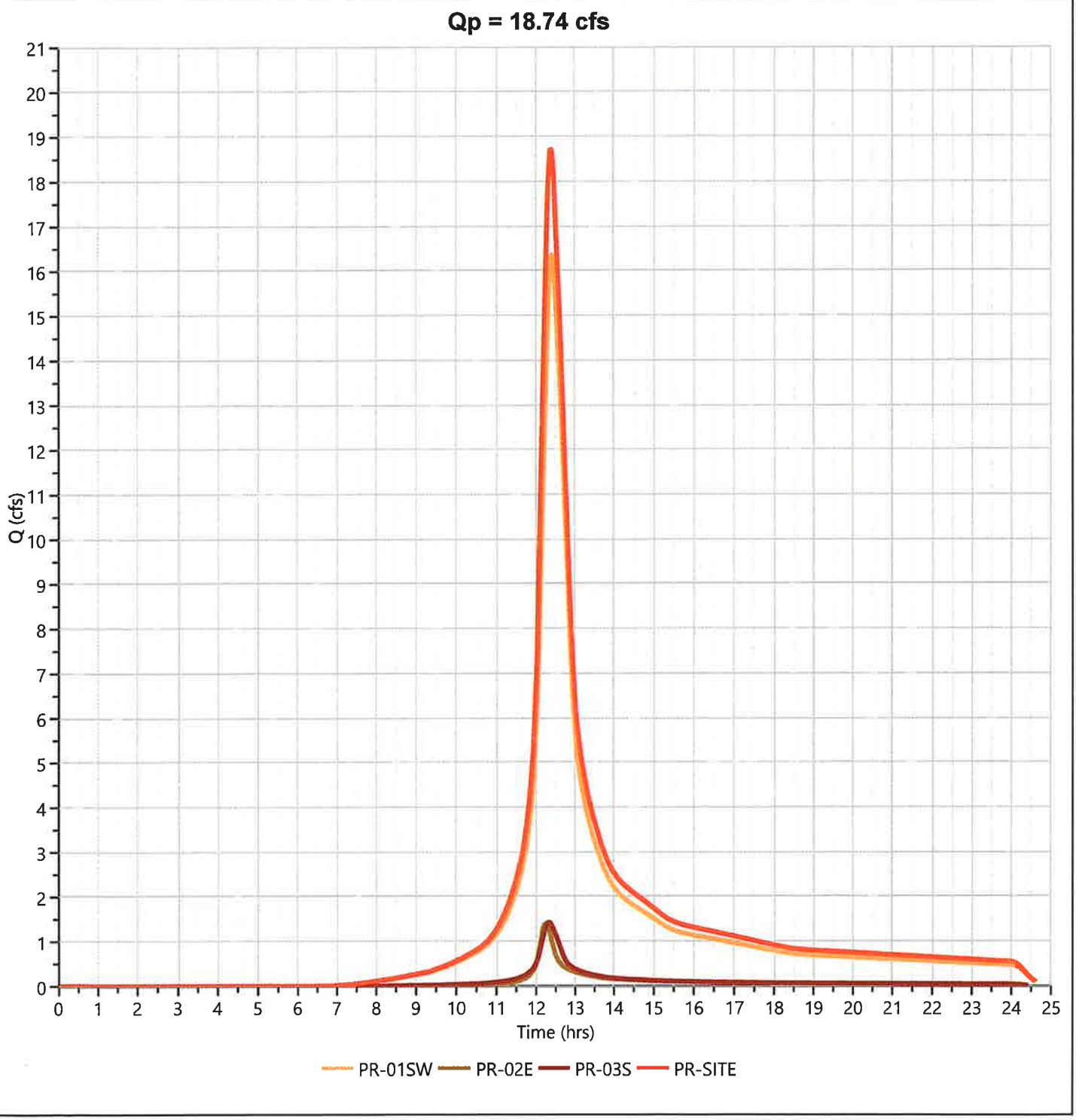
AREA (ac)	CN	DESCRIPTION
0.12	98.00	Impervious
0.122	61.00	Landscape
0.147	58.00	Conservation
0.115	55.00	Woods
0.504	**67.57**	Weighted CN Method Employed



PR-SITE

Hyd. No. 8

Hydrograph Type	= Junction	Peak Flow	= 18.74 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.40 hrs
Time Interval	= 1 min	Hydrograph Volume	= 112,940 cuft
Inflow Hydrographs	= 5, 6, 7	Total Contrib. Area	= 6.983 ac



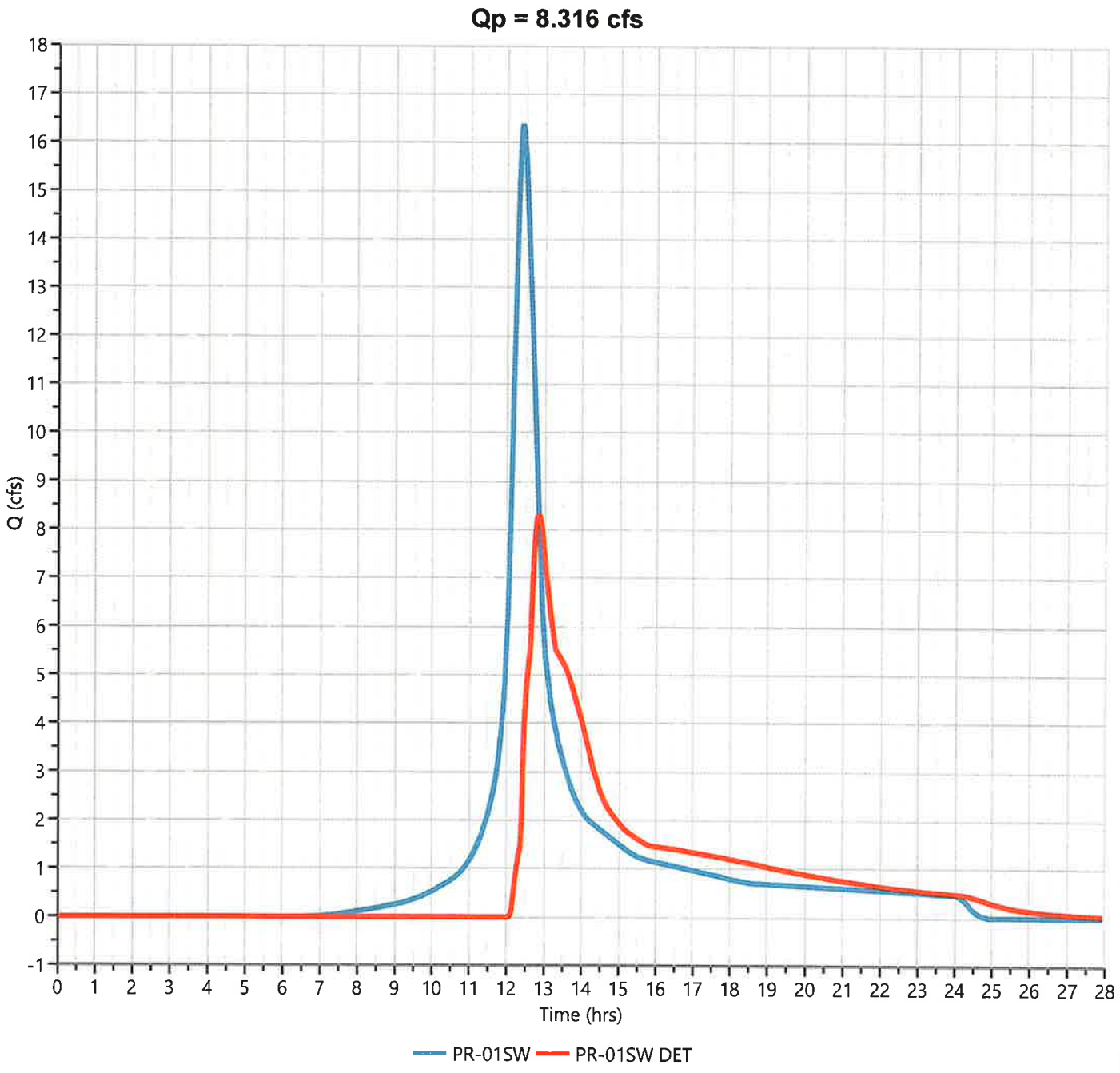
PR-01SW DET

Hyd. No. 9

Hydrograph Type	= Pond Route	Peak Flow	= 8.316 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.85 hrs
Time Interval	= 1 min	Hydrograph Volume	= 79,712 cuft
Inflow Hydrograph	= 5 - PR-01SW	Max. Elevation	= 30.75 ft
Pond Name	= PR-01 DETENTION	Max. Storage	= 40,314 cuft

Pond Routing by Storage Indication Method

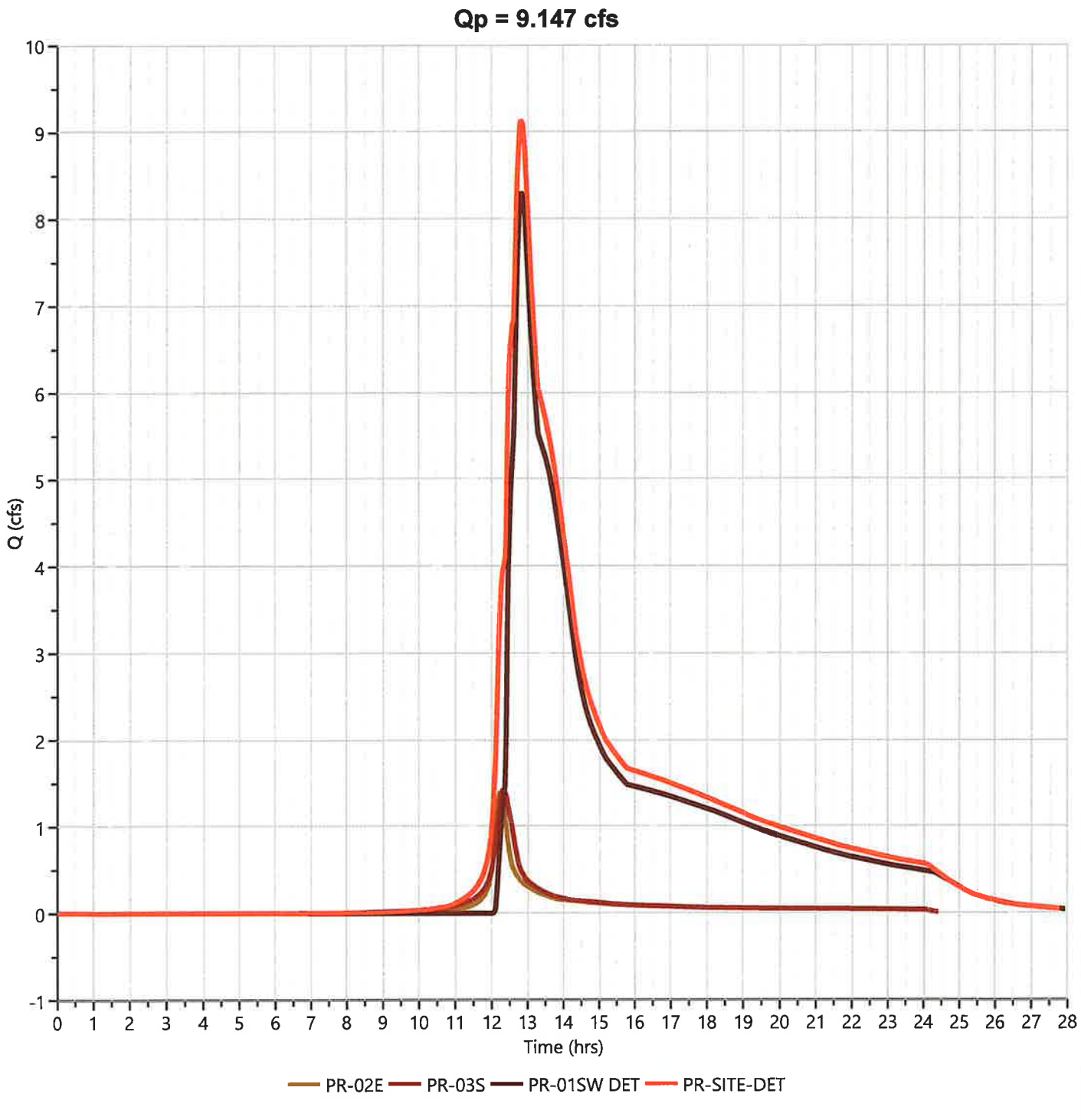
Center of mass detention time = 1.79 hrs



PR-SITE-DET

Hyd. No. 10

Hydrograph Type	= Junction	Peak Flow	= 9.147 cfs
Storm Frequency	= 100-yr	Time to Peak	= 12.83 hrs
Time Interval	= 1 min	Hydrograph Volume	= 93,622 cuft
Inflow Hydrographs	= 6, 7	Total Contrib. Area	= 1.131 ac



Design Storm Report

Custom Storm filename:

Hydrology Studio v 3.0.0.38

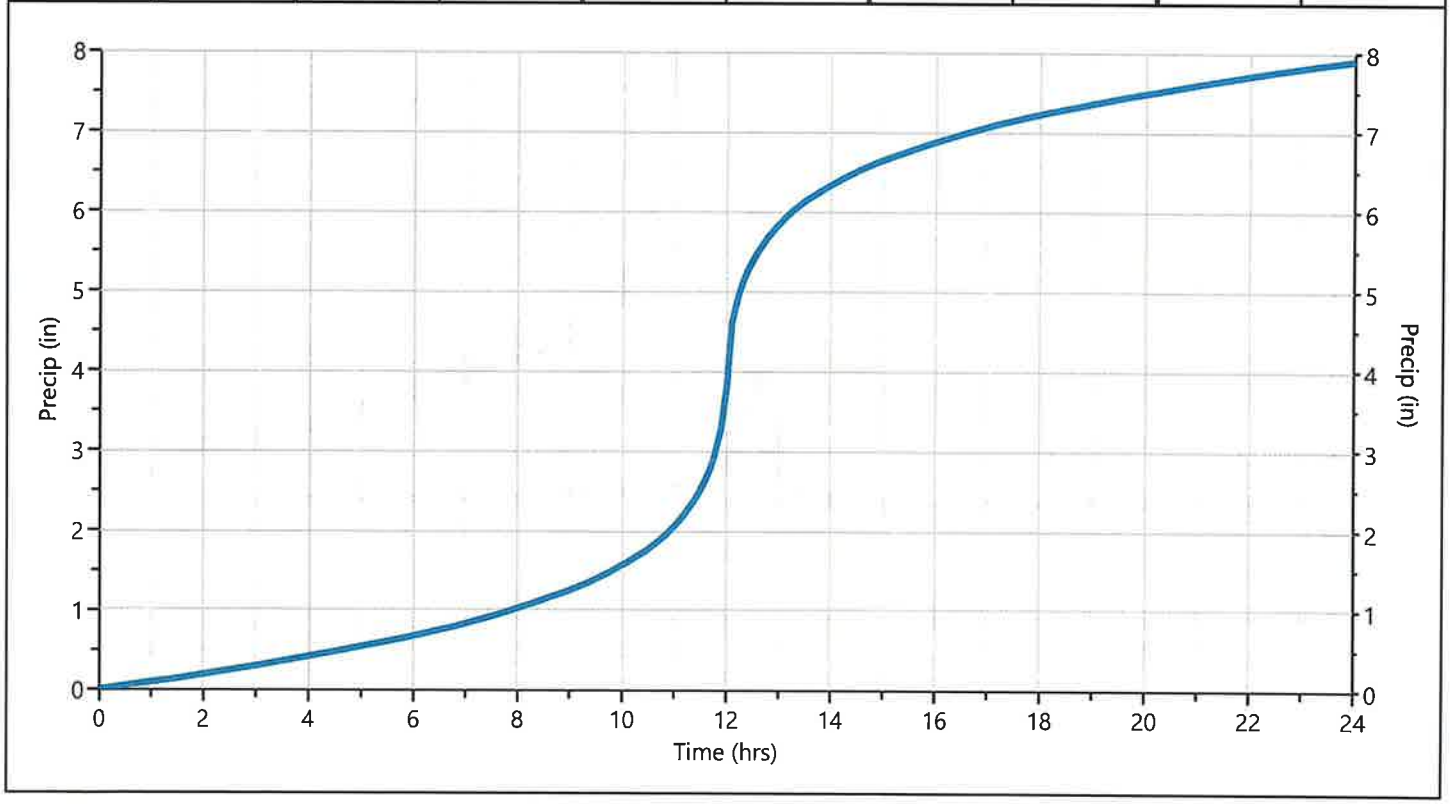
10-06-2025

Storm Distribution: NOAA-D, 24-hr

Storm Duration	Total Rainfall Volume (in)								
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	✔ 100-yr	
24 hrs	2.87	3.44	0.00	4.38	5.17	6.24	7.04	7.90	

Incremental Rainfall Distribution, 100-yr

Time (hrs)	Precip (in)	Time (hrs)	Precip (in)	Time (hrs)	Precip (in)	Time (hrs)	Precip (in)	Time (hrs)	Precip (in)
11.60	0.023831	11.78	0.034404	11.97	0.082356	12.15	0.047741	12.33	0.025084
11.62	0.025083	11.80	0.034408	11.98	0.082360	12.17	0.047741	12.35	0.025082
11.63	0.025082	11.82	0.047741	12.00	0.082354	12.18	0.047744	12.37	0.025084
11.65	0.025083	11.83	0.047744	12.02	0.137417	12.20	0.047741	12.38	0.025082
11.67	0.025082	11.85	0.047741	12.03	0.137425	12.22	0.034404	12.40	0.025085
11.68	0.025083	11.87	0.047741	12.05	0.137417	12.23	0.034404	12.42	0.023831
11.70	0.025081	11.88	0.047744	12.07	0.137425	12.25	0.034406	12.43	0.023833
11.72	0.034404	11.90	0.047741	12.08	0.137417	12.27	0.034403	12.45	0.023831
11.73	0.034405	11.92	0.082359	**12.10**	**0.137425**	12.28	0.034406	12.47	0.023831
11.75	0.034404	11.93	0.082356	12.12	0.047741	12.30	0.034402	12.48	0.023833
11.77	0.034405	11.95	0.082360	12.13	0.047744	12.32	0.025082	12.50	0.023831



IDF Report

IDF filename: 20250924PARKERS PLACE NOAA IDF.idf

Hydrology Studio v 3.0.0.38

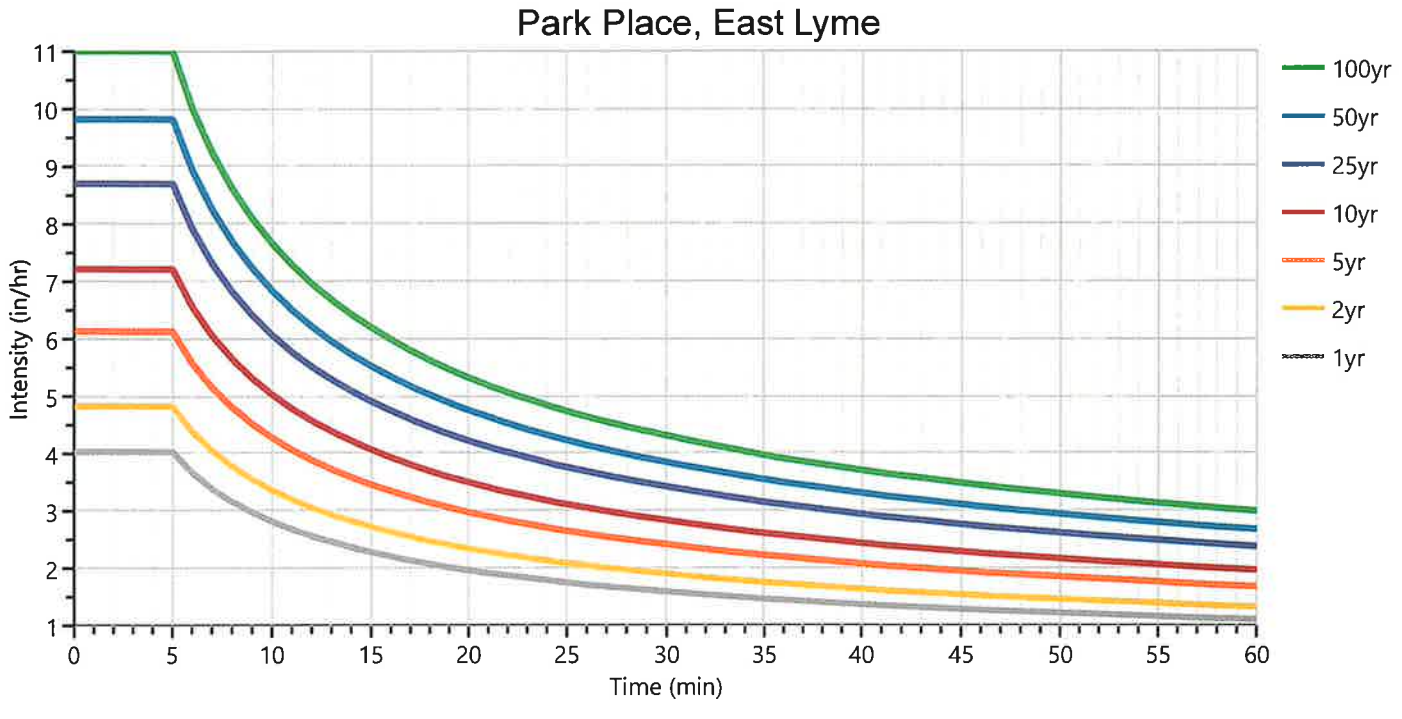
10-06-2025

Equation Coefficients	Intensity = B / (Tc + D)^E (in/hr)								
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
B	9.3449	11.1753	0.0000	14.2321	16.7547	20.1787	22.8243	25.5746	
D	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
E	0.5226	0.5225	0.0000	0.5234	0.5239	0.5227	0.5240	0.5242	

Minimum Tc = 5 minutes

Tc (min)	Intensity Values (in/hr)								
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
Cf	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
5	4.03	4.82	0	6.13	7.21	8.70	9.82	11.00	
10	2.81	3.36	0	4.26	5.01	6.06	6.83	7.65	
15	2.27	2.71	0	3.45	4.05	4.90	5.52	6.18	
20	1.95	2.34	0	2.97	3.49	4.22	4.75	5.32	
25	1.74	2.08	0	2.64	3.10	3.75	4.22	4.73	
30	1.58	1.89	0	2.40	2.82	3.41	3.84	4.30	
35	1.46	1.74	0	2.21	2.60	3.15	3.54	3.97	
40	1.36	1.63	0	2.06	2.43	2.93	3.30	3.70	
45	1.28	1.53	0	1.94	2.28	2.76	3.10	3.48	
50	1.21	1.45	0	1.84	2.16	2.61	2.94	3.29	
55	1.15	1.38	0	1.75	2.05	2.48	2.80	3.13	
60	1.10	1.32	0	1.67	1.96	2.37	2.67	2.99	

Cf = Correction Factor applied to Rational Method runoff coefficient.



Precipitation Report

Precipitation filename: 20250924PARKERS PLACE NOAA Precipitation.pcp

Hydrology Studio v 3.0.0.38 (Rainfall totals in Inches)

10-06-2025

	Active	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
Active		✔	✔		✔	✔	✔	✔	✔
SCS Storms	**> SCS Dimensionless Storms**								
SCS 6hr		1.97	2.36	0	2.99	3.51	4.24	4.77	5.35
Type I, 24-hr		2.87	3.44	0	4.38	5.17	6.24	7.04	7.90
Type IA, 24-hr		2.87	3.44	0	4.38	5.17	6.24	7.04	7.90
Type II, 24-hr		2.87	3.44	0	4.38	5.17	6.24	7.04	7.90
Type II FL, 24-hr		2.87	3.44	0	4.38	5.17	6.24	7.04	7.90
Type III, 24-hr		2.87	3.44	0	4.38	5.17	6.24	7.04	7.90
Synthetic Storms	**> IDF-Based Synthetic Storms**								
1-hr		1.10	1.32	0	1.67	1.96	2.37	2.67	2.99
2-hr		1.53	1.83	0	2.32	2.73	3.30	3.71	4.16
3-hr		1.86	2.22	0	2.82	3.31	4.01	4.50	5.04
6-hr		2.59	3.10	0	3.92	4.60	5.58	6.27	7.01
12-hr		3.60	4.31	0	5.46	6.40	7.77	8.71	9.75
24-hr		5.02	6.00	0	7.60	8.90	10.82	12.12	13.56
Huff Distribution	**> 1st Quartile (0 to 6 hrs)**								
1-hr		1.02	1.22	0	1.55	1.82	2.20	2.48	2.78
2-hr		1.34	1.60	0	2.03	2.39	2.89	3.26	3.65
3-hr		1.55	1.86	0	2.36	2.78	3.35	3.78	4.23
6-hr		1.97	2.36	0	2.99	3.51	4.24	4.77	5.35
Huff Distribution	**> 2nd Quartile (>6 to 12 hrs)**								
8-hr		0	0	0	0	0	0	0	0
12-hr		2.45	2.92	0	3.70	4.34	5.23	5.89	6.59
Huff Distribution	**> 3rd Quartile (>12 to 24 hrs)**								
18-hr		0	0	0	0	0	0	0	0
24-hr		2.87	3.44	0	4.38	5.17	6.24	7.04	7.90
Custom Storms	**> Custom Storm Distributions**								
My Custom Storm 1		0	0	0	0	0	0	0	0
My Custom Storm 2		0	0	0	0	0	0	0	0
My Custom Storm 3		0	0	0	0	0	0	0	0
My Custom Storm 4		0	0	0	0	0	0	0	0
My Custom Storm 5		0	0	0	0	0	0	0	0
My Custom Storm 6		0	0	0	0	0	0	0	0
My Custom Storm 7		0	0	0	0	0	0	0	0
My Custom Storm 8		0	0	0	0	0	0	0	0
My Custom Storm 9		0	0	0	0	0	0	0	0
My Custom Storm 10		0	0	0	0	0	0	0	0

Precipitation Report Cont'd

Precipitation filename: 20250924PARKERS PLACE NOAA Precipitation.pcp

Rainfall totals in Inches

10-06-2025

	Active	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
Active		✔	✔		✔	✔	✔	✔	✔
Huff Indiana	**> Indianapolis**								
30-min		0.79	0.95	0	1.20	1.41	1.70	1.92	2.15
1-hr		1.02	1.22	0	1.55	1.82	2.20	2.48	2.78
2-hr		1.34	1.60	0	2.03	2.39	2.89	3.26	3.65
3-hr		1.55	1.86	0	2.36	2.78	3.35	3.78	4.23
6-hr		1.97	2.36	0	2.99	3.51	4.24	4.77	5.35
12-hr		2.45	2.92	0	3.70	4.34	5.23	5.89	6.59
24-hr		2.87	3.44	0	4.38	5.17	6.24	7.04	7.90
Huff Indiana	**> Evansville**								
30-min		0.79	0.95	0	1.20	1.41	1.70	1.92	2.15
1-hr		1.02	1.22	0	1.55	1.82	2.20	2.48	2.78
2-hr		1.34	1.60	0	2.03	2.39	2.89	3.26	3.65
3-hr		1.55	1.86	0	2.36	2.78	3.35	3.78	4.23
6-hr		1.97	2.36	0	2.99	3.51	4.24	4.77	5.35
12-hr		2.45	2.92	0	3.70	4.34	5.23	5.89	6.59
24-hr		2.87	3.44	0	4.38	5.17	6.24	7.04	7.90
Huff Indiana	**> Fort Wayne**								
30-min		0.79	0.95	0	1.20	1.41	1.70	1.92	2.15
1-hr		1.02	1.22	0	1.55	1.82	2.20	2.48	2.78
2-hr		1.34	1.60	0	2.03	2.39	2.89	3.26	3.65
3-hr		1.55	1.86	0	2.36	2.78	3.35	3.78	4.23
6-hr		1.97	2.36	0	2.99	3.51	4.24	4.77	5.35
12-hr		2.45	2.92	0	3.70	4.34	5.23	5.89	6.59
24-hr		2.87	3.44	0	4.38	5.17	6.24	7.04	7.90
Huff Indiana	**> South Bend**								
30-min		0.79	0.95	0	1.20	1.41	1.70	1.92	2.15
1-hr		1.02	1.22	0	1.55	1.82	2.20	2.48	2.78
2-hr		1.34	1.60	0	2.03	2.39	2.89	3.26	3.65
3-hr		1.55	1.86	0	2.36	2.78	3.35	3.78	4.23
6-hr		1.97	2.36	0	2.99	3.51	4.24	4.77	5.35
12-hr		2.45	2.92	0	3.70	4.34	5.23	5.89	6.59
24-hr		2.87	3.44	0	4.38	5.17	6.24	7.04	7.90

Precipitation Report Cont'd

Precipitation filename: 20250924PARKERS PLACE NOAA Precipitation.pcp

Rainfall totals in Inches

10-06-2025

	Active	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
Active		✔	✔		✔	✔	✔	✔	✔
NRCS Storms	**> NRCS Dimensionless Storms**								
NRCS MSE1, 24-hr		2.87	3.44	0	4.38	5.17	6.24	7.04	7.90
NRCS MSE2, 24-hr		2.87	3.44	0	4.38	5.17	6.24	7.04	7.90
NRCS MSE3, 24-hr		2.87	3.44	0	4.38	5.17	6.24	7.04	7.90
NRCS MSE4, 24-hr		2.87	3.44	0	4.38	5.17	6.24	7.04	7.90
NRCS MSE5, 24-hr		2.87	3.44	0	4.38	5.17	6.24	7.04	7.90
NRCS MSE6, 24-hr		2.87	3.44	0	4.38	5.17	6.24	7.04	7.90
NOAA-A, 24-hr		2.87	3.44	0	4.38	5.17	6.24	7.04	7.90
NOAA-B, 24-hr		2.87	3.44	0	4.38	5.17	6.24	7.04	7.90
NOAA-C, 24-hr		2.87	3.44	0	4.38	5.17	6.24	7.04	7.90
NOAA-D, 24-hr	✔	2.87	3.44	0	4.38	5.17	6.24	7.04	7.90
NRCC-A, 24-hr		2.87	3.44	0	4.38	5.17	6.24	7.04	7.90
NRCC-B, 24-hr		2.87	3.44	0	4.38	5.17	6.24	7.04	7.90
NRCC-C, 24-hr		2.87	3.44	0	4.38	5.17	6.24	7.04	7.90
NRCC-D, 24-hr		2.87	3.44	0	4.38	5.17	6.24	7.04	7.90
CA-1, 24-hr		2.87	3.44	0	4.38	5.17	6.24	7.04	7.90
CA-2, 24-hr		2.87	3.44	0	4.38	5.17	6.24	7.04	7.90
CA-3, 24-hr		2.87	3.44	0	4.38	5.17	6.24	7.04	7.90
CA-4, 24-hr		2.87	3.44	0	4.38	5.17	6.24	7.04	7.90
CA-5, 24-hr		2.87	3.44	0	4.38	5.17	6.24	7.04	7.90
CA-6, 24-hr		2.87	3.44	0	4.38	5.17	6.24	7.04	7.90
FDOT Storms	**> Florida DOT Storms**								
FDOT, 1-hr		1.02	1.22	0	1.55	1.82	2.20	2.48	2.78
FDOT, 2-hr		1.34	1.60	0	2.03	2.39	2.89	3.26	3.65
FDOT, 4-hr		0	0	0	0	0	0	0	0
FDOT, 8-hr		0	0	0	0	0	0	0	0
FDOT, 24-hr		2.87	3.44	0	4.38	5.17	6.24	7.04	7.90
FDOT, 72-hr		0	0	0	0	0	0	0	0
SFWMD, 72-hr		0	0	0	0	0	0	0	0
Austin Storms	**> Austin Frequency Storms**								
Austin Zone 1, 24-hr		0	0	0	0	0	0	0	0
Austin Zone 2, 24-hr		0	0	0	0	0	0	0	0

STORMWATER TREATMENT CALCULATIONS [PR-01SW]

Compute Water Quality Volume

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

WQV = Water Quality Volume (acre-feet)
P = 1.3" (90th percentile rainfall event)
R = Volumetric Runoff Coefficient, 0.050 + 0.009(I)
I = Percent Impervious Cover, Impervious Area / Total Area
DA = Drainage Area (Acres)
DCIA = Directly Connected Impervious Area (Acres)

DA = **5.852** acres
DCIA = **2.095** acres

Determine Percent Impervious Cover (I)

I = 36%

Calculate Volumetric Runoff Coefficient (R)

R = 0.37

Calculate WQV					Calculate Sediment Forebay Volume			
	ac-ft		V(req) cf	V(prop) cf	Required	Percent	V(req) cf	V(prop) cf
WQV =	0.236	=	10278	14750	Yes	25%	2570	2580

Compute Runoff Depth

$$Q = \frac{WQV}{DA}$$

Q = Runoff Depth (in watershed inches)
WQV = Water Quality Volume (acre-feet)
DA = Drainage Area (acres)

$Q_{(in)}$ = 0.48 watershed inches

Determine NCRS Curve Number (CN)

$Q_{(in)}$ = 0.48 watershed inches P = **1.3** in

TR-55 Figure 2-1

CN = **89**

Determine Initial Abstraction (I_a)

TR-55 Table 4-1

I_a = **0.247** inches

Determine Unit Peak Discharge (q_u)

Time of Concentration (T_c), referenced from Pipe Flow Calculation Worksheet

T_c = **0.58** hours

I_a/P = 0.19

TR-55 Exhibit 4-III

q_u = **350** csm/in

Compute Water Quality Flow

$$WQF = (qu)(DA)(Q)$$

WQF = Water Quality Flow (cfs)
qu = unit peak discharge (cfs/mi^2/inch)
DA = drainage area (mi^2)
Q(in) = runoff depth (watershed inches)

WQF = 1.548 cfs

Figure 2-1 Solution of Runoff Equation

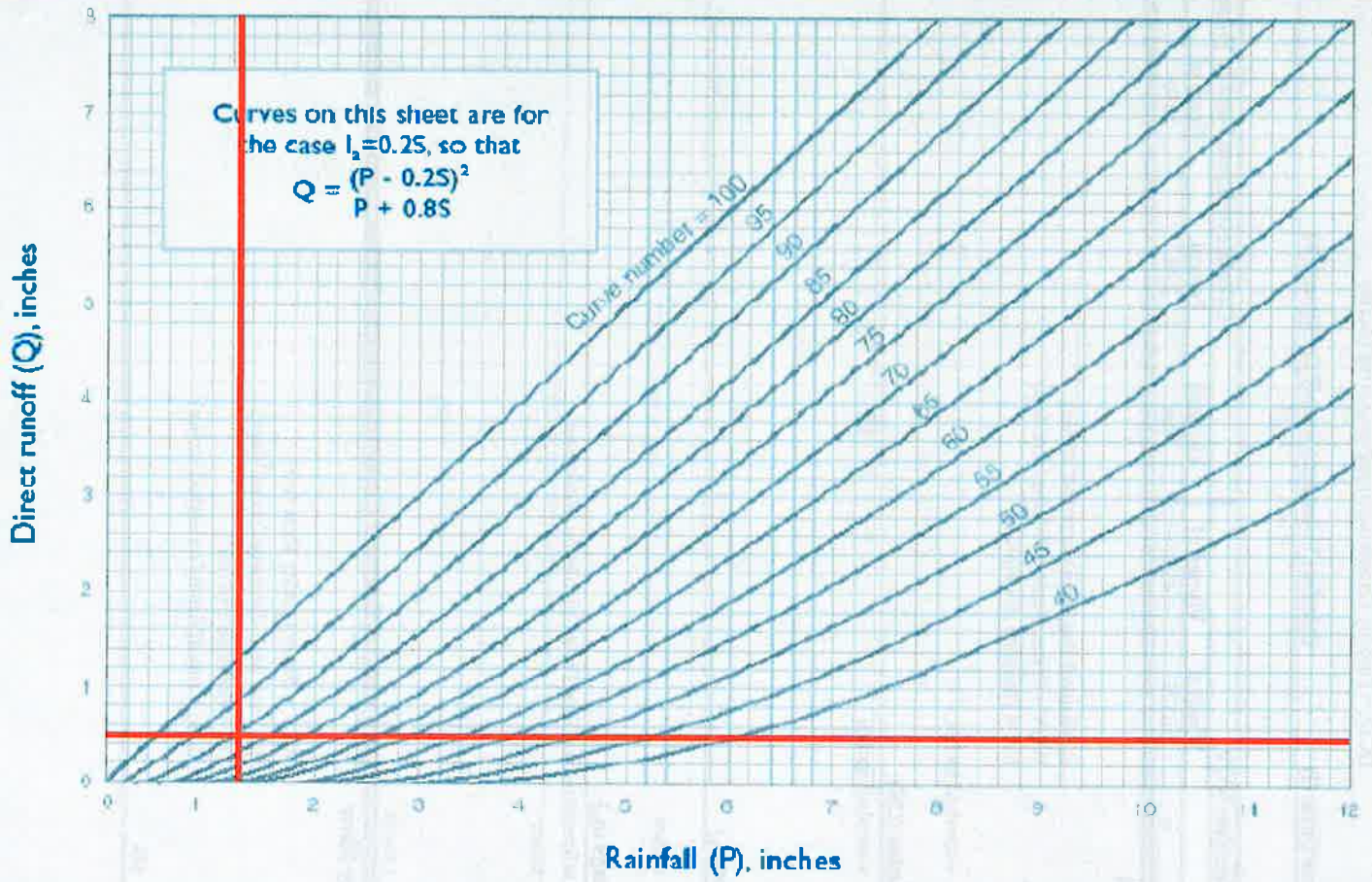
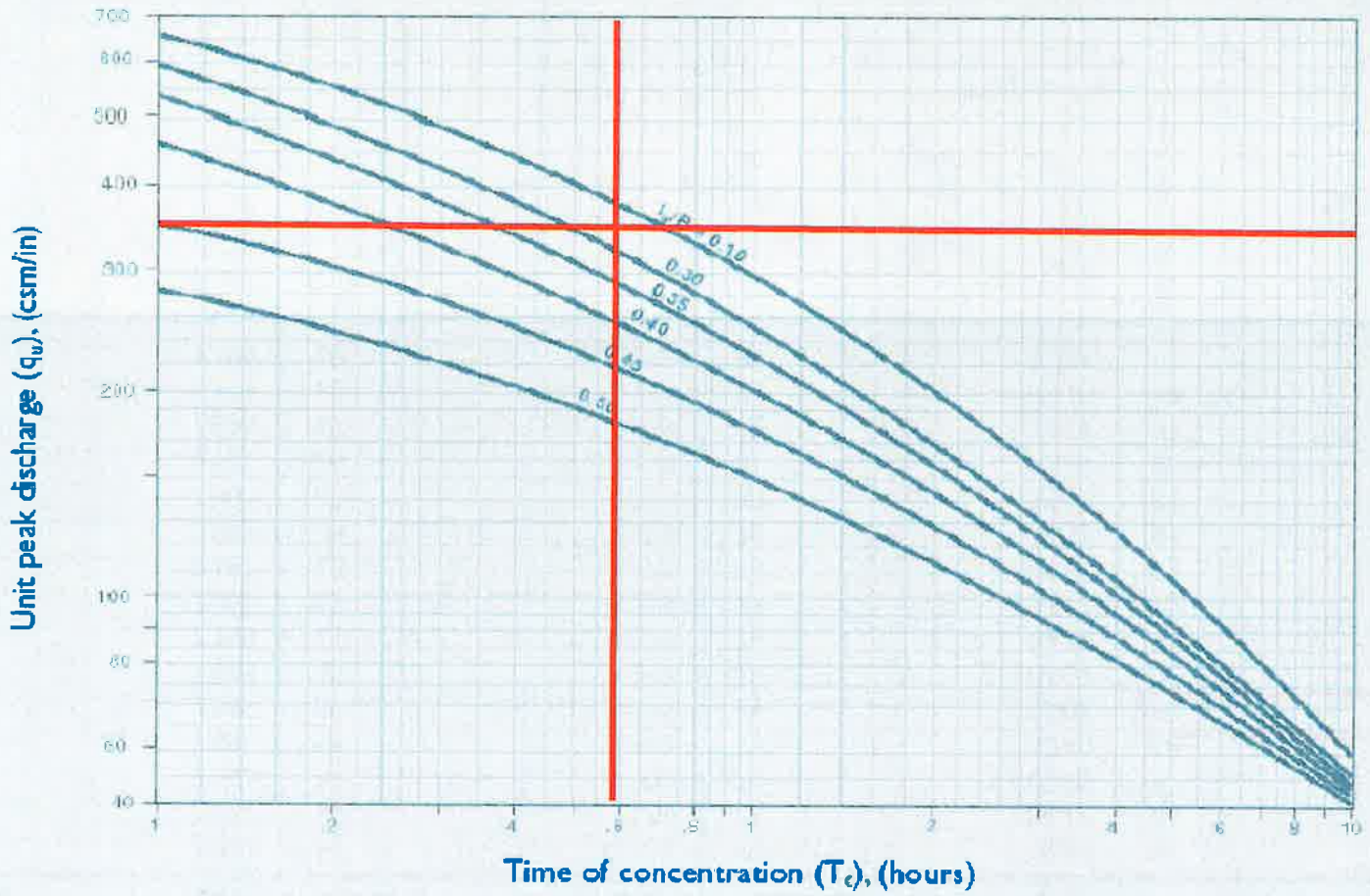


Table 4-1 I_a values for runoff curve numbers

Curve number	I_a (in)	Curve number	I_a (in)	Curve number	I_a (in)	Curve number	I_a (in)
40	3.000	55	1.636	70	0.857	85	0.353
41	2.878	56	1.571	71	0.817	86	0.326
42	2.762	57	1.509	72	0.778	87	0.299
43	2.651	58	1.448	73	0.740	88	0.273
44	2.545	59	1.390	74	0.703	89	0.247
45	2.444	60	1.333	75	0.667	90	0.222
46	2.348	61	1.279	76	0.632	91	0.198
47	2.255	62	1.226	77	0.597	92	0.174
48	2.167	63	1.175	78	0.564	93	0.151
49	2.082	64	1.125	79	0.532	94	0.128
50	2.000	65	1.077	80	0.500	95	0.105
51	1.922	66	1.030	81	0.469	96	0.083
52	1.846	67	0.985	82	0.439	97	0.062
53	1.774	68	0.941	83	0.410	98	0.041
54	1.704	69	0.899	84	0.381		

Exhibit 4-111 Unit peak discharge (q_u) for NRCS (SCS) type III rainfall distribution



Return to Outlet Treatment Summary

STORMWATER TREATMENT CALCULATIONS [PR-03S]

Compute Water Quality Volume

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

WQV = Water Quality Volume (acre-feet)
P = 1.3" (90th percentile rainfall event)
R = Volumetric Runoff Coefficient, 0.050 + 0.009(I)
I = Percent Impervious Cover, Impervious Area / Total Area
DA = Drainage Area (Acres)
DCIA = Directly Connected Impervious Area (Acres)

DA = **0.504** acres
DCIA = **0.120** acres

Determine Percent Impervious Cover (I)

I = 24%

Calculate Volumetric Runoff Coefficient (R)

R = 0.26

Calculate WQV					Calculate Sediment Forebay Volume			
	ac-ft		V(req) cf	V(prop) cf	Required	Percent	V(req) cf	V(prop) cf
WQV =	0.014	=	629	0	No	0%	0	0

Compute Runoff Depth

$$Q = \frac{WQV}{DA}$$

Q = Runoff Depth (in watershed inches)
WQV = Water Quality Volume (acre-feet)
DA = Drainage Area (acres)

$Q_{(in)}$ = 0.34 watershed inches

Determine NCRS Curve Number (CN)

$Q_{(in)}$ = 0.34 watershed inches P = **1.3** in

TR-55 Figure 2-1
CN = **89**

Determine Initial Abstraction (I_a)

TR-55 Table 4-1
I_a = **0.381** inches

Determine Unit Peak Discharge (q_u)

Time of Concentration (T_c), referenced from Pipe Flow Calculation Worksheet
T_c = **0.44** hours

I_a/P = 0.29

TR-55 Exhibit 4-III
q_u = **360** csm/in

Compute Water Quality Flow

$$WQF = (qu)(DA)(Q)$$

WQF = Water Quality Flow (cfs)
qu = unit peak discharge (cfs/mi^2/inch)
DA = drainage area (mi^2)
Q(in) = runoff depth (watershed inches)

WQF = 0.097 cfs

Figure 2-1 Solution of Runoff Equation

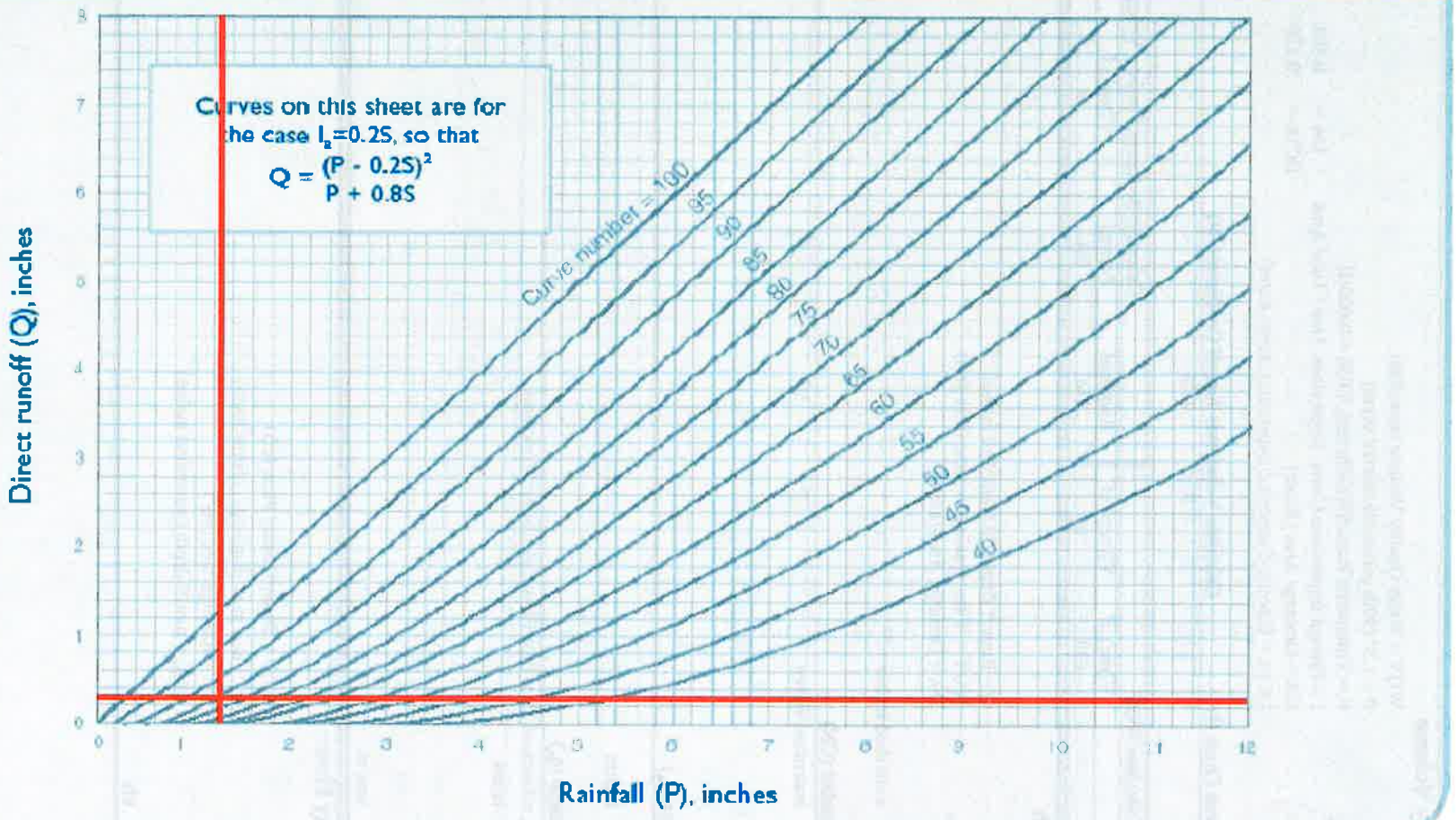
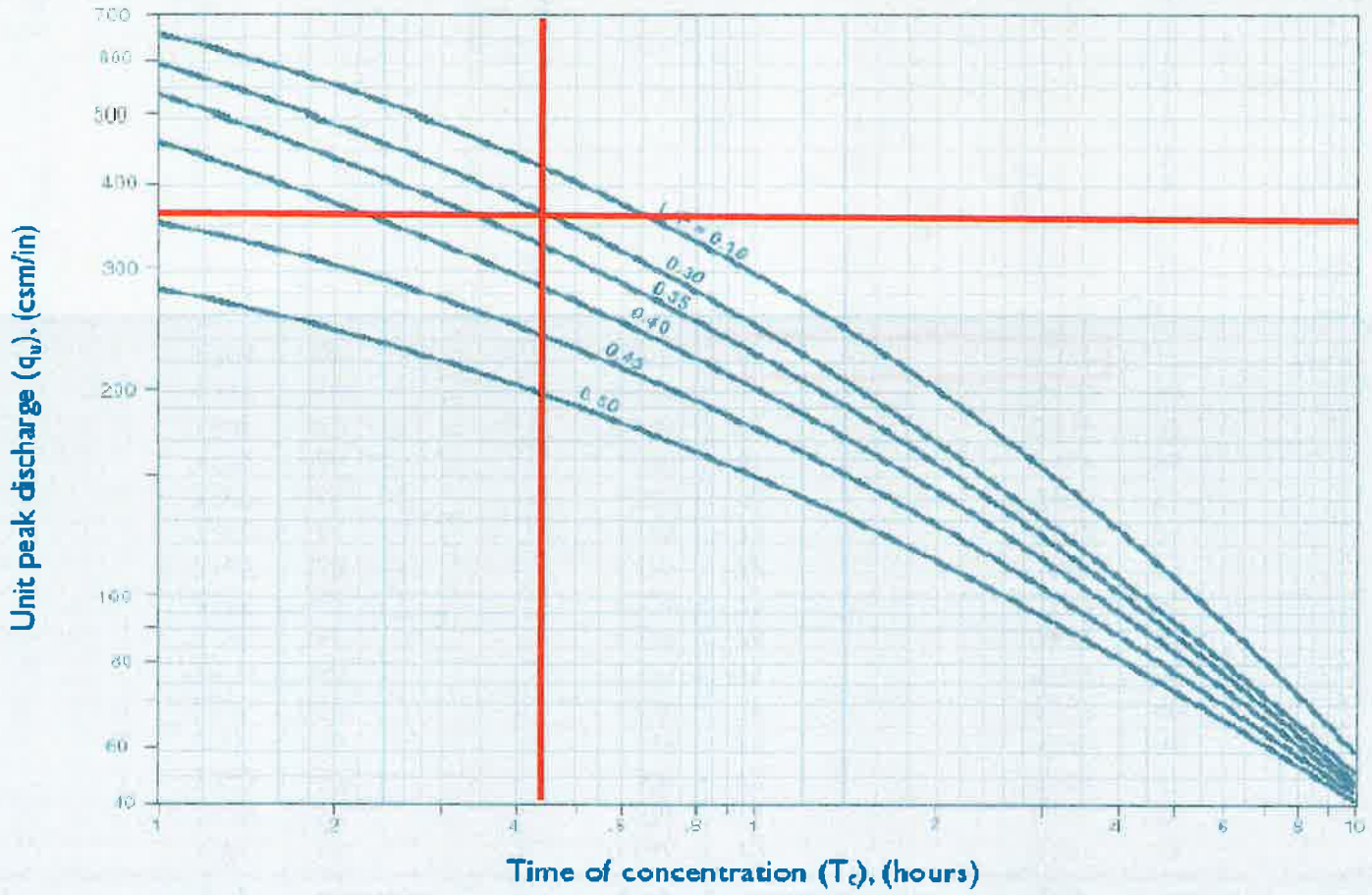


Table 4-1 I_a values for runoff curve numbers

Curve number	I_a (in)	Curve number	I_a (in)	Curve number	I_a (in)	Curve number	I_a (in)
40	3.000	55	1.636	70	0.857	85	0.353
41	2.878	56	1.571	71	0.817	86	0.326
42	2.762	57	1.509	72	0.778	87	0.299
43	2.651	58	1.448	73	0.740	88	0.273
44	2.545	59	1.390	74	0.703	89	0.247
45	2.444	60	1.333	75	0.667	90	0.222
46	2.348	61	1.279	76	0.632	91	0.198
47	2.255	62	1.226	77	0.597	92	0.174
48	2.167	63	1.175	78	0.564	93	0.151
49	2.082	64	1.125	79	0.532	94	0.128
50	2.000	65	1.077	80	0.500	95	0.105
51	1.922	66	1.030	81	0.469	96	0.083
52	1.846	67	0.985	82	0.439	97	0.062
53	1.774	68	0.941	83	0.410	98	0.041
54	1.704	69	0.899	84	0.381		

Exhibit 4-111 Unit peak discharge (q_u) for NRCS (SCS) type III rainfall distribution



Return to Outlet Treatment Summary

APPENDIX C

NRCS SOIL DATA
NOAA RAINFALL DATA

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for State of Connecticut, Eastern Part

PARKERS PLACE

September 24, 2025

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

Preface 2
How Soil Surveys Are Made 5
Soil Map 8
Soil Map (PARKERS PLACE) 9
Legend 10
Map Unit Legend (PARKERS PLACE) 11
Map Unit Descriptions (PARKERS PLACE) 11
State of Connecticut, Eastern Part 13
29B—Agawam fine sandy loam, 3 to 8 percent slopes 13
38C—Hinckley loamy sand, 3 to 15 percent slopes 14
62C—Canton and Charlton fine sandy loams, 3 to 15 percent slopes, extremely stony 16
73C—Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky 19
73E—Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky 21
Soil Information for All Uses 24
Soil Properties and Qualities 24
Soil Physical Properties 24
Saturated Hydraulic Conductivity (Ksat), Standard Classes (PARKERS PLACE) 24
Soil Qualities and Features 28
Hydrologic Soil Group (PARKERS PLACE) 29
References 33

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

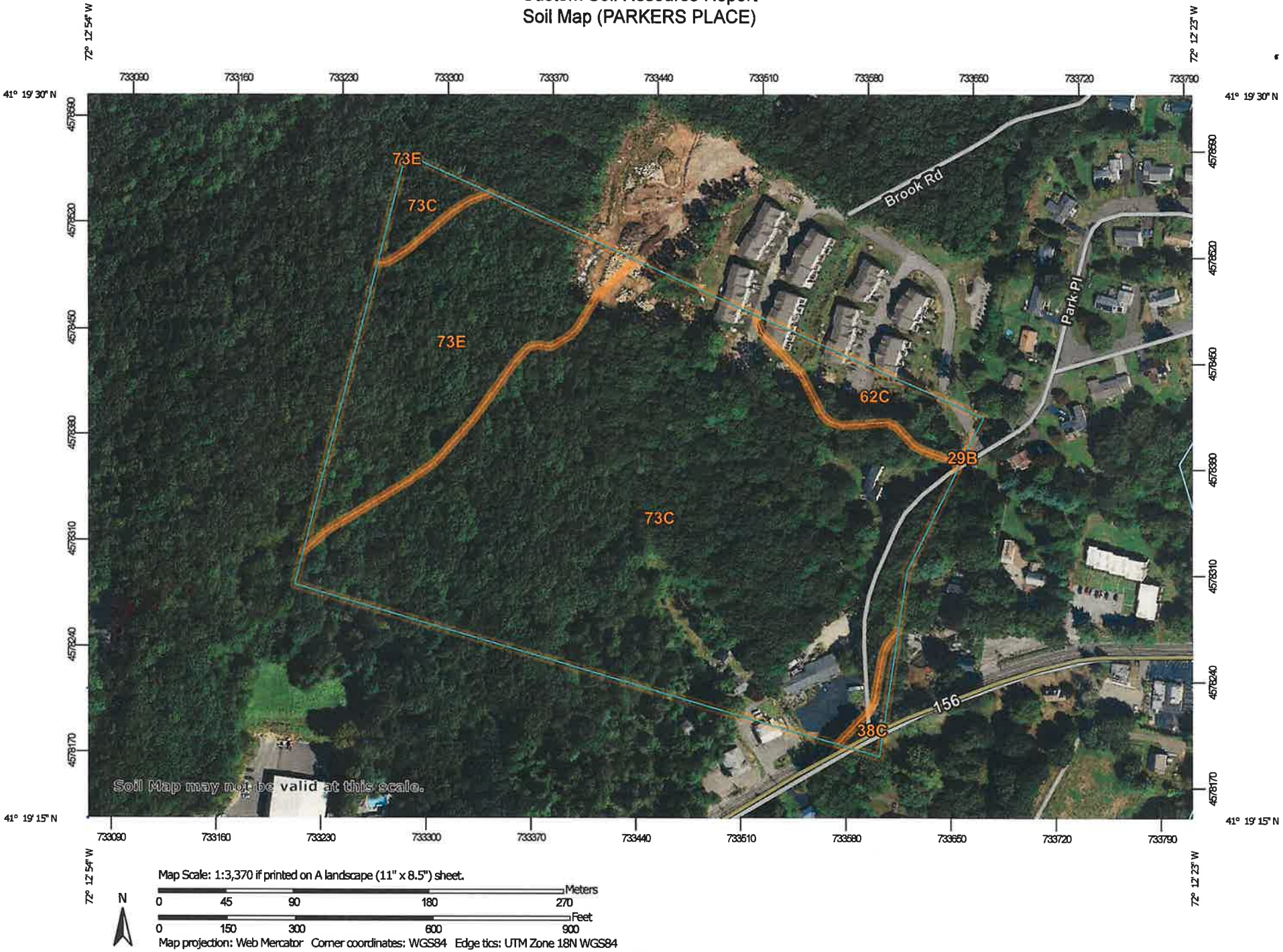
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map (PARKERS PLACE)



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut, Eastern Part
Survey Area Data: Version 2, Aug 30, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 14, 2022—Oct 6, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend (PARKERS PLACE)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
29B	Agawam fine sandy loam, 3 to 8 percent slopes	0.0	0.0%
38C	Hinckley loamy sand, 3 to 15 percent slopes	0.2	0.9%
62C	Canton and Charlton fine sandy loams, 3 to 15 percent slopes, extremely stony	1.2	4.6%
73C	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	19.6	74.1%
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	5.4	20.3%
Totals for Area of Interest		**26.4**	**100.0%**

Map Unit Descriptions (PARKERS PLACE)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not

mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

State of Connecticut, Eastern Part

29B—Agawam fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2tyqx
Elevation: 0 to 820 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 250 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Agawam and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Agawam

Setting

Landform: Outwash terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Coarse-loamy eolian deposits over sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist and/or phyllite

Typical profile

Ap - 0 to 11 inches: fine sandy loam
Bw1 - 11 to 16 inches: fine sandy loam
Bw2 - 16 to 26 inches: fine sandy loam
2C1 - 26 to 45 inches: loamy fine sand
2C2 - 45 to 55 inches: loamy fine sand
2C3 - 55 to 65 inches: loamy sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 15 to 35 inches to strongly contrasting textural stratification
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: B
Ecological site: F145XY008MA - Dry Outwash

Hydric soil rating: No

Minor Components

Merrimac

Percent of map unit: 5 percent
Landform: Outwash terraces
Landform position (three-dimensional): Riser, tread
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F145XY008MA - Dry Outwash
Hydric soil rating: No

Ninigret

Percent of map unit: 4 percent
Landform: Terraces
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: No

Hinckley

Percent of map unit: 3 percent
Landform: Eskers
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F145XY008MA - Dry Outwash
Hydric soil rating: No

Walpole

Percent of map unit: 3 percent
Landform: Deltas, depressions, outwash terraces, depressions, outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

38C—Hinckley loamy sand, 3 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2svmb
Elevation: 0 to 1,290 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Hinckley and similar soils: 85 percent
Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Outwash deltas, outwash terraces, moraines, eskers, kames, outwash plains, kame terraces
Landform position (two-dimensional): Shoulder, backslope, footslope, toeslope, summit
Landform position (three-dimensional): Nose slope, side slope, crest, head slope, riser, tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 8 inches: loamy sand
Bw1 - 8 to 11 inches: gravelly loamy sand
Bw2 - 11 to 16 inches: gravelly loamy sand
BC - 16 to 19 inches: very gravelly loamy sand
C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

Minor Components

Merrimac

Percent of map unit: 5 percent
Landform: Kames, outwash plains, outwash terraces, moraines, eskers
Landform position (two-dimensional): Backslope, footslope, shoulder, toeslope, summit
Landform position (three-dimensional): Side slope, crest, head slope, nose slope, riser, tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Windsor

Percent of map unit: 5 percent
Landform: Moraines, eskers, kames, outwash deltas, outwash terraces, outwash plains, kame terraces
Landform position (two-dimensional): Shoulder, backslope, footslope, toeslope, summit
Landform position (three-dimensional): Nose slope, side slope, crest, head slope, riser, tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Agawam

Percent of map unit: 3 percent
Landform: Outwash deltas, outwash terraces, moraines, eskers, kames, outwash plains, kame terraces
Landform position (two-dimensional): Shoulder, backslope, toeslope, summit, footslope
Landform position (three-dimensional): Nose slope, side slope, crest, head slope, riser, tread
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Sudbury

Percent of map unit: 2 percent
Landform: Outwash deltas, moraines, outwash plains, kame terraces, outwash terraces
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Base slope, tread
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: No

62C—Canton and Charlton fine sandy loams, 3 to 15 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 2wks7
Elevation: 0 to 1,310 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Canton, extremely stony, and similar soils: 50 percent
Charlton, extremely stony, and similar soils: 35 percent
Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canton, Extremely Stony

Setting

Landform: Moraines, hills, ridges
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope, crest, nose slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Coarse-loamy over sandy melt-out till derived from gneiss, granite, and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 5 inches: fine sandy loam
Bw1 - 5 to 16 inches: fine sandy loam
Bw2 - 16 to 22 inches: gravelly fine sandy loam
2C - 22 to 67 inches: gravelly loamy sand

Properties and qualities

Slope: 3 to 15 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 19 to 39 inches to strongly contrasting textural stratification
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Description of Charlton, Extremely Stony

Setting

Landform: Ridges, ground moraines, hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 4 inches: fine sandy loam
Bw - 4 to 27 inches: gravelly fine sandy loam

C - 27 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 15 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Minor Components

Chatfield, extremely stony

Percent of map unit: 5 percent
Landform: Ridges, hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Leicester, extremely stony

Percent of map unit: 5 percent
Landform: Hills, drainageways, depressions, ground moraines
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, linear
Across-slope shape: Concave
Hydric soil rating: Yes

Sutton, extremely stony

Percent of map unit: 5 percent
Landform: Ground moraines, hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

73C—Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky

Map Unit Setting

National map unit symbol: 2w698
Elevation: 0 to 1,550 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Charlton, very stony, and similar soils: 50 percent
Chatfield, very stony, and similar soils: 30 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Charlton, Very Stony

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope, crest, nose slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 4 inches: fine sandy loam
Bw - 4 to 27 inches: gravelly fine sandy loam
C - 27 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Description of Chatfield, Very Stony

Setting

Landform: Hills, ridges
Landform position (two-dimensional): Backslope, summit, shoulder
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Convex
Across-slope shape: Linear, convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
A - 1 to 2 inches: fine sandy loam
Bw - 2 to 30 inches: gravelly fine sandy loam
2R - 30 to 40 inches: bedrock

Properties and qualities

Slope: 3 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 20 to 41 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Minor Components

Rock outcrop

Percent of map unit: 5 percent
Hydric soil rating: No

Hollis, very stony

Percent of map unit: 5 percent
Landform: Hills, ridges
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, side slope, nose slope
Down-slope shape: Convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Leicester, very stony

Percent of map unit: 5 percent
Landform: Drainageways, depressions
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Sutton, very stony

Percent of map unit: 5 percent
Landform: Ground moraines, hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

73E—Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky

Map Unit Setting

National map unit symbol: 9lql
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Charlton and similar soils: 45 percent
Chatfield and similar soils: 30 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Charlton

Setting

Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Ap - 0 to 4 inches: fine sandy loam
Bw1 - 4 to 7 inches: fine sandy loam
Bw2 - 7 to 19 inches: fine sandy loam
Bw3 - 19 to 27 inches: gravelly fine sandy loam
C - 27 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 15 to 45 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Description of Chatfield

Setting

Landform: Ridges, hills
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Oa - 0 to 1 inches: highly decomposed plant material
A - 1 to 6 inches: gravelly fine sandy loam
Bw1 - 6 to 15 inches: gravelly fine sandy loam
Bw2 - 15 to 29 inches: gravelly fine sandy loam
2R - 29 to 80 inches: unweathered bedrock

Properties and qualities

Slope: 15 to 45 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Minor Components

Rock outcrop
Percent of map unit: 10 percent
Hydric soil rating: No

Leicester
Percent of map unit: 5 percent
Landform: Drainageways, depressions
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Sutton, very stony
Percent of map unit: 5 percent
Landform: Drainageways, depressions
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Hollis
Percent of map unit: 3 percent
Landform: Ridges, hills
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Unnamed, sandy subsoil
Percent of map unit: 1 percent
Hydric soil rating: No

Unnamed, red parent material
Percent of map unit: 1 percent
Hydric soil rating: No

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Physical Properties

Soil Physical Properties are measured or inferred from direct observations in the field or laboratory. Examples of soil physical properties include percent clay, organic matter, saturated hydraulic conductivity, available water capacity, and bulk density.

Saturated Hydraulic Conductivity (Ksat), Standard Classes (PARKERS PLACE)

Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity is considered in the design of soil drainage systems and septic tank absorption fields.

For each soil layer, this attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

The numeric Ksat values have been grouped according to standard Ksat class limits. The classes are:

Very low: 0.00 to 0.01

Low: 0.01 to 0.1

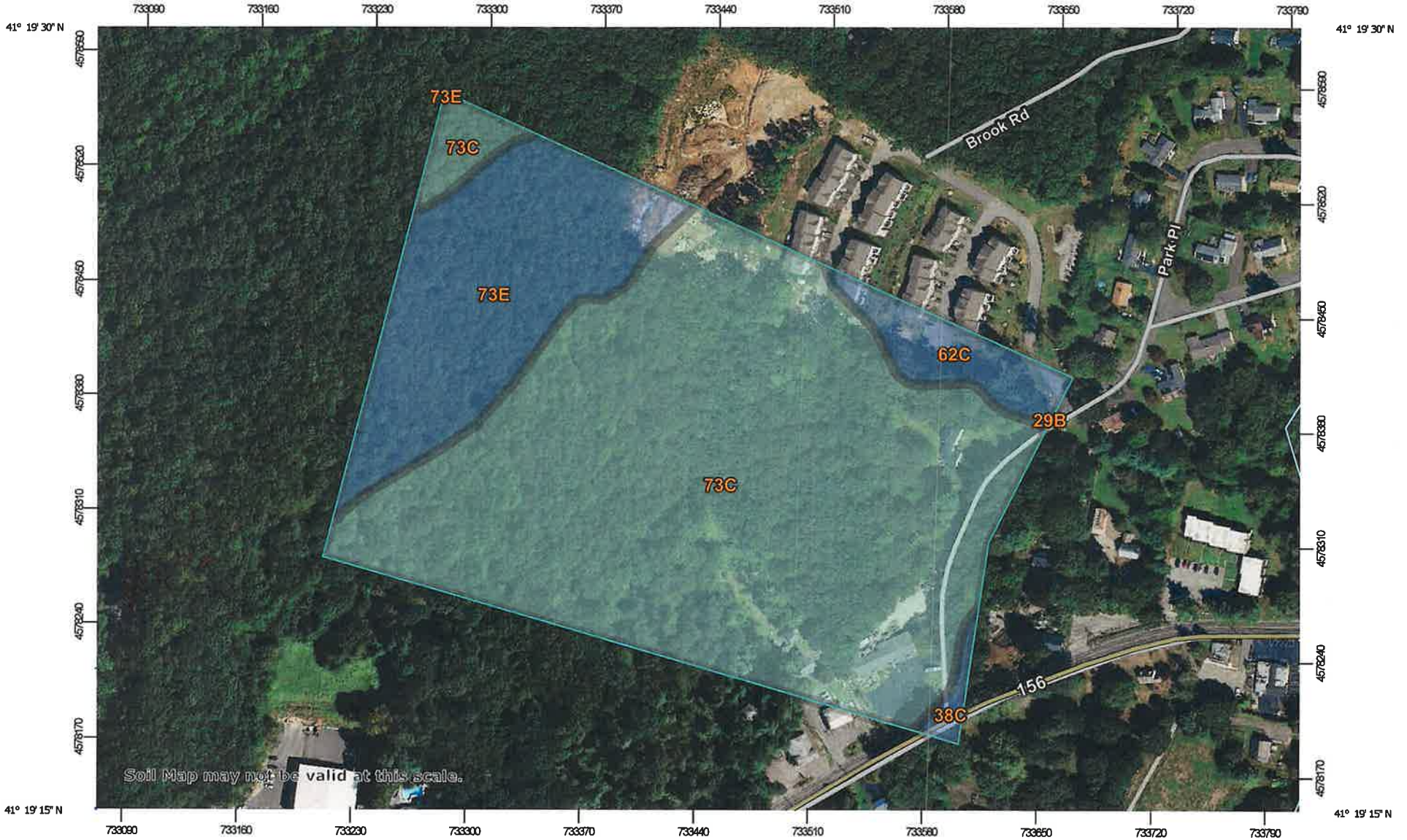
Moderately low: 0.1 to 1.0

Moderately high: 1 to 10

High: 10 to 100

Very high: 100 to 705

Custom Soil Resource Report
Map—Saturated Hydraulic Conductivity (Ksat), Standard Classes (PARKERS PLACE)



Map Scale: 1:3,370 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 45 90 180 270

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

- Very Low (0.0 - 0.01)
- Low (0.01 - 0.1)
- Moderately Low (0.1 - 1)
- Moderately High (1 - 10)
- High (10 - 100)
- Very High (100 - 705)
- Not rated or not available

Soil Rating Lines

- Very Low (0.0 - 0.01)
- Low (0.01 - 0.1)
- Moderately Low (0.1 - 1)
- Moderately High (1 - 10)
- High (10 - 100)
- Very High (100 - 705)
- Not rated or not available

Soil Rating Points

- Very Low (0.0 - 0.01)
- Low (0.01 - 0.1)
- Moderately Low (0.1 - 1)
- Moderately High (1 - 10)
- High (10 - 100)
- Very High (100 - 705)
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut, Eastern Part
Survey Area Data: Version 2, Aug 30, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 14, 2022—Oct 6, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Saturated Hydraulic Conductivity (Ksat), Standard Classes (PARKERS PLACE)

Map unit symbol	Map unit name	Rating (micrometers per second)	Acres in AOI	Percent of AOI
29B	Agawam fine sandy loam, 3 to 8 percent slopes	73.4426	0.0	0.0%
38C	Hinckley loamy sand, 3 to 15 percent slopes	100.0000	0.2	0.9%
62C	Canton and Charlton fine sandy loams, 3 to 15 percent slopes, extremely stony	57.2131	1.2	4.6%
73C	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	10.0000	19.6	74.1%
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	23.0000	5.4	20.3%
Totals for Area of Interest			**26.4**	**100.0%**

Rating Options—Saturated Hydraulic Conductivity (Ksat), Standard Classes (PARKERS PLACE)

Units of Measure: micrometers per second

Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

Tie-break Rule: Fastest

Interpret Nulls as Zero: No

Layer Options (Horizon Aggregation Method): Depth Range (Weighted Average)

Top Depth: 12

Bottom Depth: 60

Units of Measure: Inches

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features

include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group (PARKERS PLACE)

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

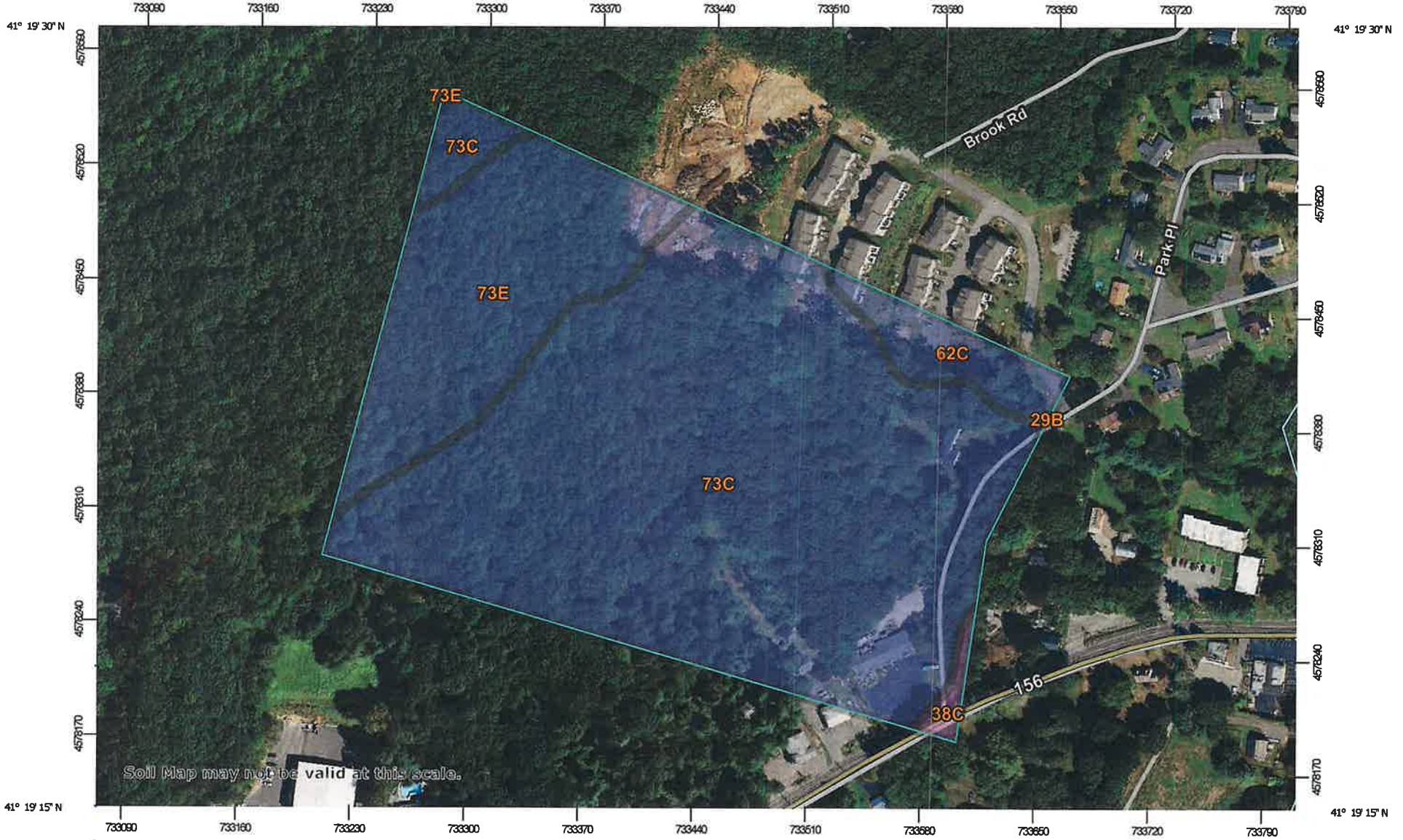
Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Custom Soil Resource Report
Map—Hydrologic Soil Group (PARKERS PLACE)



Map Scale: 1:3,370 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 45 90 180 270

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut, Eastern Part
Survey Area Data: Version 2, Aug 30, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 14, 2022—Oct 6, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydrologic Soil Group (PARKERS PLACE)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
29B	Agawam fine sandy loam, 3 to 8 percent slopes	B	0.0	0.0%
38C	Hinckley loamy sand, 3 to 15 percent slopes	A	0.2	0.9%
62C	Canton and Charlton fine sandy loams, 3 to 15 percent slopes, extremely stony	B	1.2	4.6%
73C	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	B	19.6	74.1%
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	B	5.4	20.3%
Totals for Area of Interest			**26.4**	**100.0%**

Rating Options—Hydrologic Soil Group (PARKERS PLACE)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

Precipitation Frequency Data Server

NOAA Atlas 14, Volume 10, Version 3
Location name: Niantic, Connecticut, USA*
Latitude: 41.3226°, Longitude: -72.2093°
Elevation: 32 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

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

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.336 (0.259-0.427)	0.402 (0.310-0.512)	0.511 (0.393-0.651)	0.601 (0.459-0.770)	0.725 (0.538-0.962)	0.818 (0.595-1.10)	0.916 (0.650-1.28)	1.03 (0.691-1.45)	1.19 (0.772-1.72)	1.33 (0.841-1.95)
10-min	0.476 (0.367-0.605)	0.570 (0.439-0.725)	0.724 (0.556-0.923)	0.851 (0.650-1.09)	1.03 (0.762-1.36)	1.16 (0.843-1.56)	1.30 (0.920-1.81)	1.46 (0.979-2.05)	1.69 (1.09-2.44)	1.88 (1.19-2.76)
15-min	0.560 (0.432-0.712)	0.671 (0.517-0.853)	0.852 (0.654-1.09)	1.00 (0.765-1.28)	1.21 (0.897-1.60)	1.36 (0.993-1.84)	1.53 (1.08-2.12)	1.71 (1.15-2.41)	1.99 (1.29-2.87)	2.21 (1.40-3.25)
30-min	0.790 (0.609-1.00)	0.946 (0.729-1.20)	1.20 (0.922-1.53)	1.41 (1.08-1.81)	1.70 (1.26-2.26)	1.92 (1.40-2.59)	2.15 (1.52-2.99)	2.41 (1.62-3.40)	2.80 (1.81-4.04)	3.11 (1.97-4.57)
60-min	1.02 (0.787-1.30)	1.22 (0.941-1.55)	1.55 (1.19-1.98)	1.82 (1.39-2.33)	2.20 (1.63-2.91)	2.48 (1.80-3.34)	2.78 (1.97-3.86)	3.11 (2.09-4.38)	3.60 (2.33-5.21)	4.01 (2.54-5.89)
2-hr	1.34 (1.04-1.68)	1.60 (1.24-2.02)	2.03 (1.58-2.57)	2.39 (1.84-3.04)	2.89 (2.16-3.80)	3.26 (2.39-4.36)	3.65 (2.61-5.04)	4.10 (2.77-5.73)	4.78 (3.10-6.84)	5.34 (3.39-7.76)
3-hr	1.55 (1.21-1.94)	1.86 (1.45-2.33)	2.36 (1.84-2.97)	2.78 (2.15-3.51)	3.35 (2.52-4.39)	3.78 (2.78-5.03)	4.23 (3.04-5.82)	4.76 (3.22-6.61)	5.55 (3.62-7.91)	6.21 (3.96-8.99)
6-hr	1.97 (1.56-2.45)	2.36 (1.86-2.94)	2.99 (2.35-3.73)	3.51 (2.74-4.40)	4.24 (3.21-5.50)	4.77 (3.55-6.31)	5.35 (3.86-7.29)	6.02 (4.10-8.28)	7.01 (4.59-9.90)	7.85 (5.02-11.2)
12-hr	2.45 (1.95-3.02)	2.92 (2.32-3.61)	3.70 (2.93-4.58)	4.34 (3.42-5.39)	5.23 (3.99-6.73)	5.89 (4.41-7.71)	6.59 (4.80-8.90)	7.41 (5.08-10.1)	8.62 (5.68-12.1)	9.64 (6.20-13.7)
24-hr	2.87 (2.30-3.51)	3.44 (2.76-4.21)	4.38 (3.51-5.38)	5.17 (4.11-6.36)	6.24 (4.81-7.97)	7.04 (5.31-9.15)	7.90 (5.80-10.6)	8.91 (6.14-12.0)	10.4 (6.90-14.4)	11.7 (7.56-16.4)
2-day	3.20 (2.60-3.88)	3.88 (3.15-4.71)	5.00 (4.04-6.08)	5.93 (4.76-7.24)	7.21 (5.60-9.14)	8.15 (6.21-10.5)	9.18 (6.81-12.3)	10.4 (7.22-13.9)	12.3 (8.20-16.9)	14.0 (9.06-19.4)
3-day	3.47 (2.83-4.18)	4.20 (3.42-5.07)	5.41 (4.39-6.54)	6.41 (5.17-7.78)	7.78 (6.08-9.82)	8.80 (6.74-11.3)	9.90 (7.38-13.2)	11.2 (7.81-15.0)	13.3 (8.87-18.2)	15.1 (9.81-20.9)
4-day	3.72 (3.05-4.47)	4.49 (3.67-5.40)	5.75 (4.68-6.93)	6.79 (5.50-8.22)	8.22 (6.45-10.3)	9.29 (7.13-11.9)	10.4 (7.79-13.8)	11.8 (8.24-15.7)	14.0 (9.33-19.0)	15.8 (10.3-21.8)
7-day	4.44 (3.66-5.29)	5.26 (4.34-6.29)	6.62 (5.43-7.92)	7.74 (6.31-9.30)	9.28 (7.32-11.6)	10.4 (8.05-13.2)	11.7 (8.73-15.2)	13.1 (9.19-17.2)	15.3 (10.3-20.6)	17.2 (11.2-23.5)
10-day	5.14 (4.26-6.10)	6.00 (4.97-7.13)	7.41 (6.11-8.83)	8.58 (7.03-10.3)	10.2 (8.06-12.6)	11.4 (8.80-14.3)	12.7 (9.48-16.4)	14.1 (9.94-18.5)	16.3 (11.0-21.9)	18.1 (11.9-24.6)
20-day	7.28 (6.10-8.58)	8.21 (6.86-9.67)	9.72 (8.10-11.5)	11.0 (9.08-13.0)	12.7 (10.1-15.5)	14.0 (10.9-17.3)	15.4 (11.5-19.5)	16.8 (11.9-21.7)	18.8 (12.7-24.9)	20.3 (13.4-27.4)
30-day	9.08 (7.64-10.6)	10.0 (8.45-11.8)	11.6 (9.74-13.7)	12.9 (10.8-15.3)	14.8 (11.8-17.8)	16.1 (12.6-19.8)	17.5 (13.1-21.9)	18.9 (13.5-24.3)	20.7 (14.1-27.3)	22.1 (14.6-29.5)
45-day	11.3 (9.57-13.2)	12.3 (10.4-14.4)	14.0 (11.8-16.4)	15.4 (12.9-18.1)	17.3 (13.9-20.8)	18.8 (14.7-22.8)	20.3 (15.1-25.0)	21.6 (15.4-27.5)	23.2 (15.9-30.4)	24.4 (16.1-32.4)
60-day	13.2 (11.2-15.3)	14.2 (12.1-16.5)	16.0 (13.5-18.6)	17.5 (14.7-20.4)	19.5 (15.7-23.2)	21.1 (16.5-25.4)	22.6 (16.9-27.7)	23.9 (17.1-30.3)	25.4 (17.4-33.1)	26.4 (17.5-34.9)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

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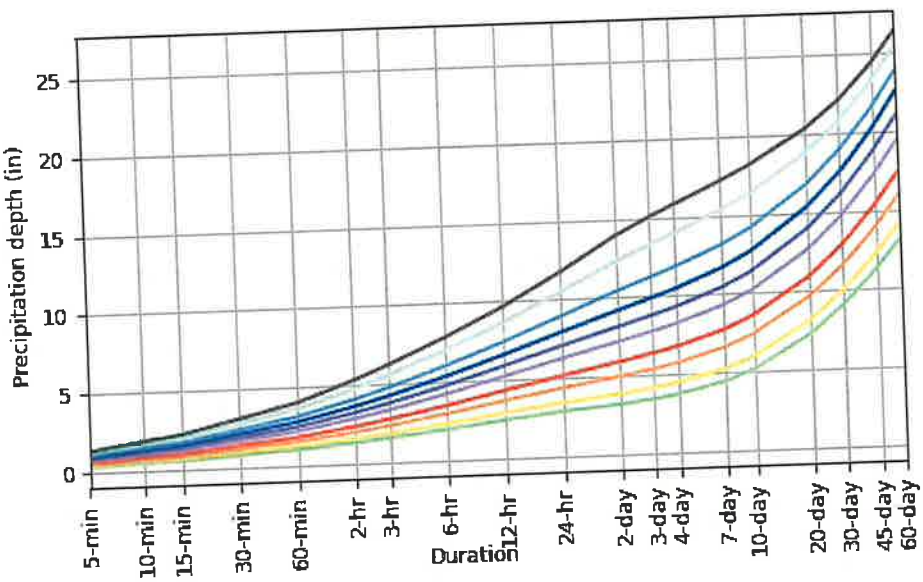
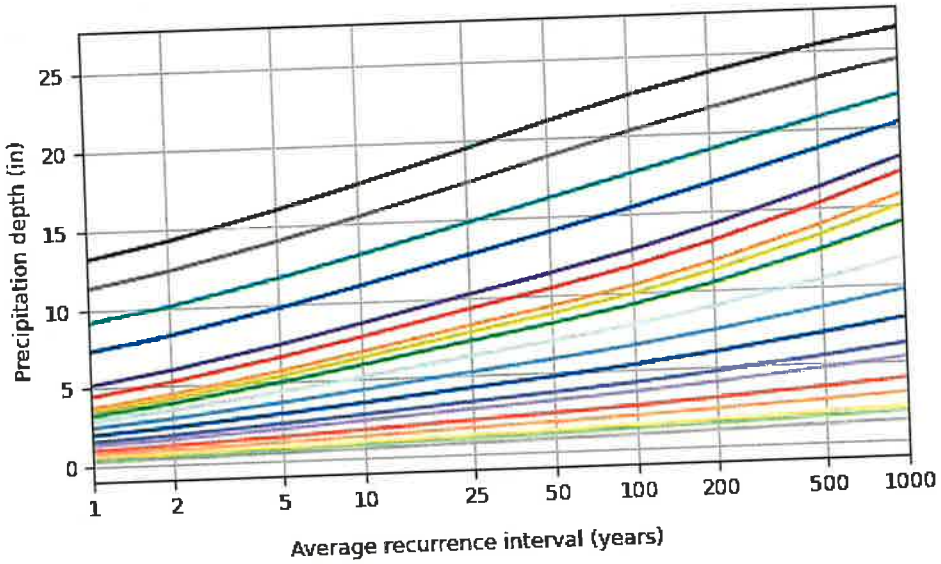
Back to Top

PF graphical

PDS-based depth-duration-frequency (DDF) curves
Latitude: 41.3226°, Longitude: -72.2093°





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Back to Top

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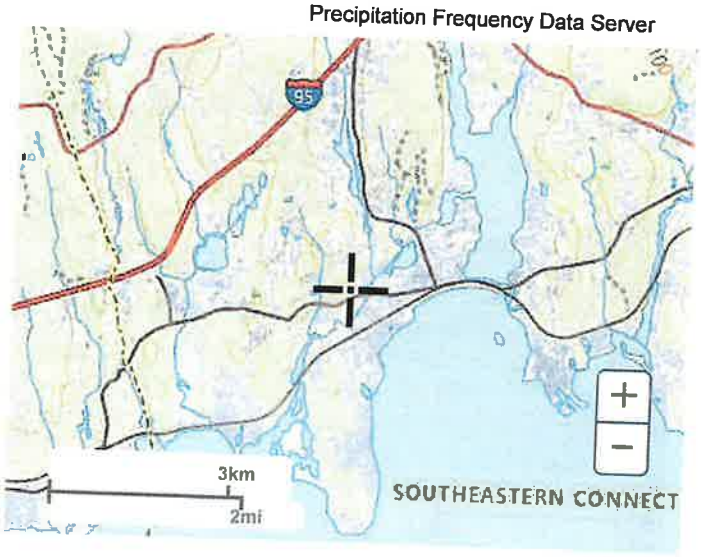

Large scale terrain

Large scale map

Large scale aerial

Back to Top

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National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

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Precipitation Frequency Data Server

NOAA Atlas 14, Volume 10, Version 3
Location name: Niantic, Connecticut, USA*
Latitude: 41.3226°, Longitude: -72.2093°
Elevation: 32 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

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

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	4.03 (3.11-5.12)	4.82 (3.72-6.14)	6.13 (4.72-7.81)	7.21 (5.51-9.24)	8.70 (6.46-11.5)	9.82 (7.14-13.2)	11.0 (7.80-15.3)	12.3 (8.29-17.4)	14.3 (9.26-20.7)	15.9 (10.1-23.4)
10-min	2.86 (2.20-3.63)	3.42 (2.63-4.35)	4.34 (3.34-5.54)	5.11 (3.90-6.54)	6.16 (4.57-8.18)	6.95 (5.06-9.38)	7.79 (5.52-10.8)	8.74 (5.87-12.3)	10.1 (6.56-14.7)	11.3 (7.15-16.6)
15-min	2.24 (1.73-2.85)	2.68 (2.07-3.41)	3.41 (2.62-4.34)	4.01 (3.06-5.14)	4.84 (3.59-6.42)	5.46 (3.97-7.36)	6.11 (4.33-8.50)	6.86 (4.60-9.66)	7.95 (5.14-11.5)	8.86 (5.60-13.0)
30-min	1.58 (1.22-2.01)	1.89 (1.46-2.41)	2.40 (1.84-3.06)	2.82 (2.16-3.62)	3.41 (2.53-4.52)	3.84 (2.80-5.18)	4.30 (3.05-5.98)	4.83 (3.24-6.80)	5.59 (3.62-8.09)	6.22 (3.94-9.15)
60-min	1.02 (0.787-1.30)	1.22 (0.941-1.55)	1.55 (1.19-1.98)	1.82 (1.39-2.33)	2.20 (1.63-2.91)	2.48 (1.80-3.34)	2.78 (1.97-3.86)	3.11 (2.09-4.38)	3.60 (2.33-5.21)	4.01 (2.54-5.89)
2-hr	0.668 (0.520-0.842)	0.800 (0.622-1.01)	1.02 (0.788-1.29)	1.20 (0.921-1.52)	1.44 (1.08-1.90)	1.63 (1.19-2.18)	1.82 (1.30-2.52)	2.05 (1.38-2.86)	2.39 (1.55-3.42)	2.67 (1.70-3.88)
3-hr	0.516 (0.403-0.647)	0.618 (0.483-0.776)	0.785 (0.611-0.989)	0.924 (0.715-1.17)	1.11 (0.837-1.46)	1.26 (0.926-1.68)	1.41 (1.01-1.94)	1.59 (1.07-2.20)	1.85 (1.20-2.63)	2.07 (1.32-2.99)
6-hr	0.329 (0.260-0.409)	0.393 (0.310-0.490)	0.499 (0.392-0.623)	0.586 (0.458-0.735)	0.707 (0.535-0.918)	0.797 (0.592-1.05)	0.892 (0.645-1.22)	1.00 (0.684-1.38)	1.17 (0.767-1.65)	1.31 (0.838-1.88)
12-hr	0.203 (0.161-0.250)	0.242 (0.192-0.299)	0.306 (0.243-0.379)	0.360 (0.283-0.447)	0.433 (0.331-0.558)	0.488 (0.365-0.639)	0.547 (0.398-0.738)	0.615 (0.421-0.838)	0.715 (0.471-1.00)	0.799 (0.514-1.14)
24-hr	0.119 (0.096-0.146)	0.143 (0.115-0.175)	0.182 (0.146-0.224)	0.215 (0.171-0.265)	0.260 (0.200-0.332)	0.293 (0.221-0.381)	0.329 (0.241-0.441)	0.371 (0.255-0.501)	0.434 (0.287-0.601)	0.487 (0.314-0.685)
2-day	0.066 (0.054-0.080)	0.080 (0.065-0.098)	0.104 (0.084-0.126)	0.123 (0.099-0.150)	0.150 (0.116-0.190)	0.169 (0.129-0.219)	0.191 (0.141-0.255)	0.217 (0.150-0.290)	0.256 (0.170-0.352)	0.291 (0.188-0.404)
3-day	0.048 (0.039-0.058)	0.058 (0.047-0.070)	0.075 (0.060-0.090)	0.088 (0.071-0.108)	0.108 (0.084-0.136)	0.122 (0.093-0.156)	0.137 (0.102-0.182)	0.156 (0.108-0.207)	0.184 (0.123-0.252)	0.209 (0.136-0.289)
4-day	0.038 (0.031-0.046)	0.046 (0.038-0.056)	0.059 (0.048-0.072)	0.070 (0.057-0.085)	0.085 (0.067-0.107)	0.096 (0.074-0.123)	0.108 (0.081-0.143)	0.123 (0.085-0.163)	0.145 (0.097-0.197)	0.164 (0.107-0.226)
7-day	0.026 (0.021-0.031)	0.031 (0.025-0.037)	0.039 (0.032-0.047)	0.046 (0.037-0.055)	0.055 (0.043-0.068)	0.062 (0.047-0.078)	0.069 (0.051-0.090)	0.078 (0.054-0.102)	0.091 (0.061-0.122)	0.102 (0.066-0.139)
10-day	0.021 (0.017-0.025)	0.024 (0.020-0.029)	0.030 (0.025-0.036)	0.035 (0.029-0.042)	0.042 (0.033-0.052)	0.047 (0.036-0.059)	0.052 (0.039-0.068)	0.058 (0.041-0.076)	0.068 (0.045-0.091)	0.075 (0.049-0.102)
20-day	0.015 (0.012-0.017)	0.017 (0.014-0.020)	0.020 (0.016-0.023)	0.022 (0.018-0.027)	0.026 (0.021-0.032)	0.029 (0.022-0.036)	0.032 (0.023-0.040)	0.034 (0.024-0.045)	0.039 (0.026-0.051)	0.042 (0.027-0.057)
30-day	0.012 (0.010-0.014)	0.013 (0.011-0.016)	0.016 (0.013-0.018)	0.017 (0.014-0.021)	0.020 (0.016-0.024)	0.022 (0.017-0.027)	0.024 (0.018-0.030)	0.026 (0.018-0.033)	0.028 (0.019-0.037)	0.030 (0.020-0.040)
45-day	0.010 (0.008-0.012)	0.011 (0.009-0.013)	0.012 (0.010-0.015)	0.014 (0.011-0.016)	0.016 (0.012-0.019)	0.017 (0.013-0.021)	0.018 (0.014-0.023)	0.019 (0.014-0.025)	0.021 (0.014-0.028)	0.022 (0.014-0.029)
60-day	0.009 (0.007-0.010)	0.009 (0.008-0.011)	0.011 (0.009-0.012)	0.012 (0.010-0.014)	0.013 (0.010-0.016)	0.014 (0.011-0.017)	0.015 (0.011-0.019)	0.016 (0.011-0.021)	0.017 (0.012-0.022)	0.018 (0.012-0.024)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

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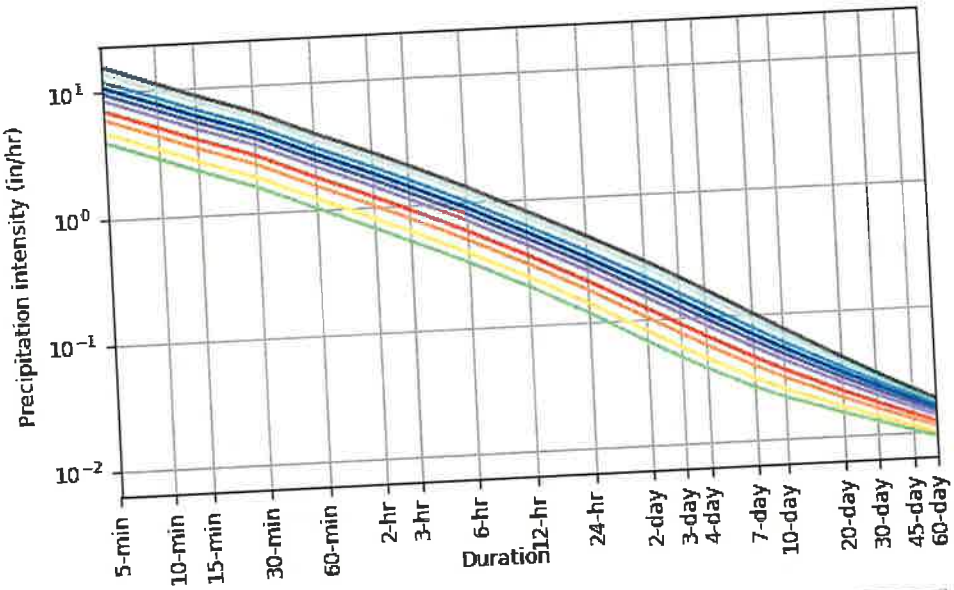
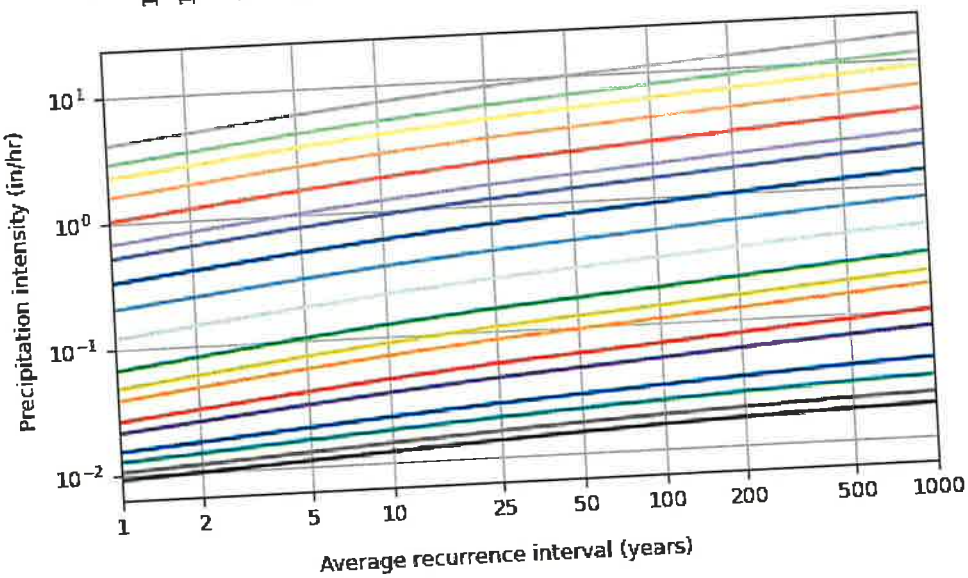
Back to Top

PF graphical

PDS-based intensity-duration-frequency (IDF) curves
Latitude: 41.3226°, Longitude: -72.2093°





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NOAA Atlas 14, Volume 10, Version 3

Back to Top

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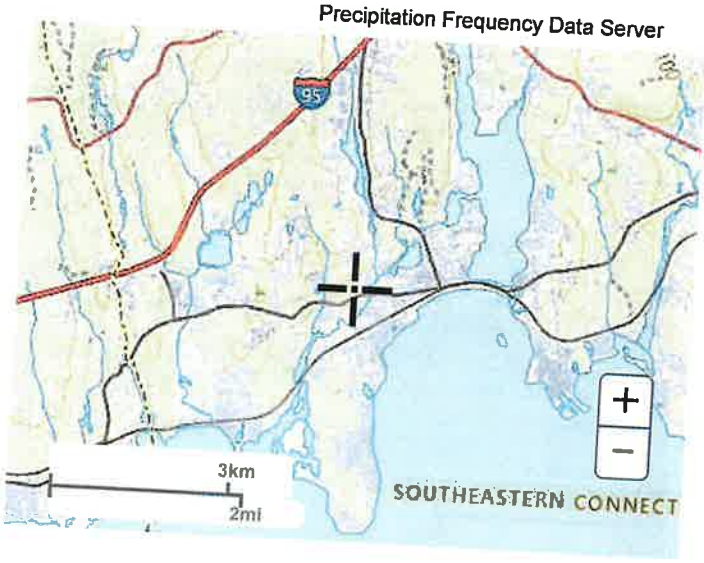

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Back to Top

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