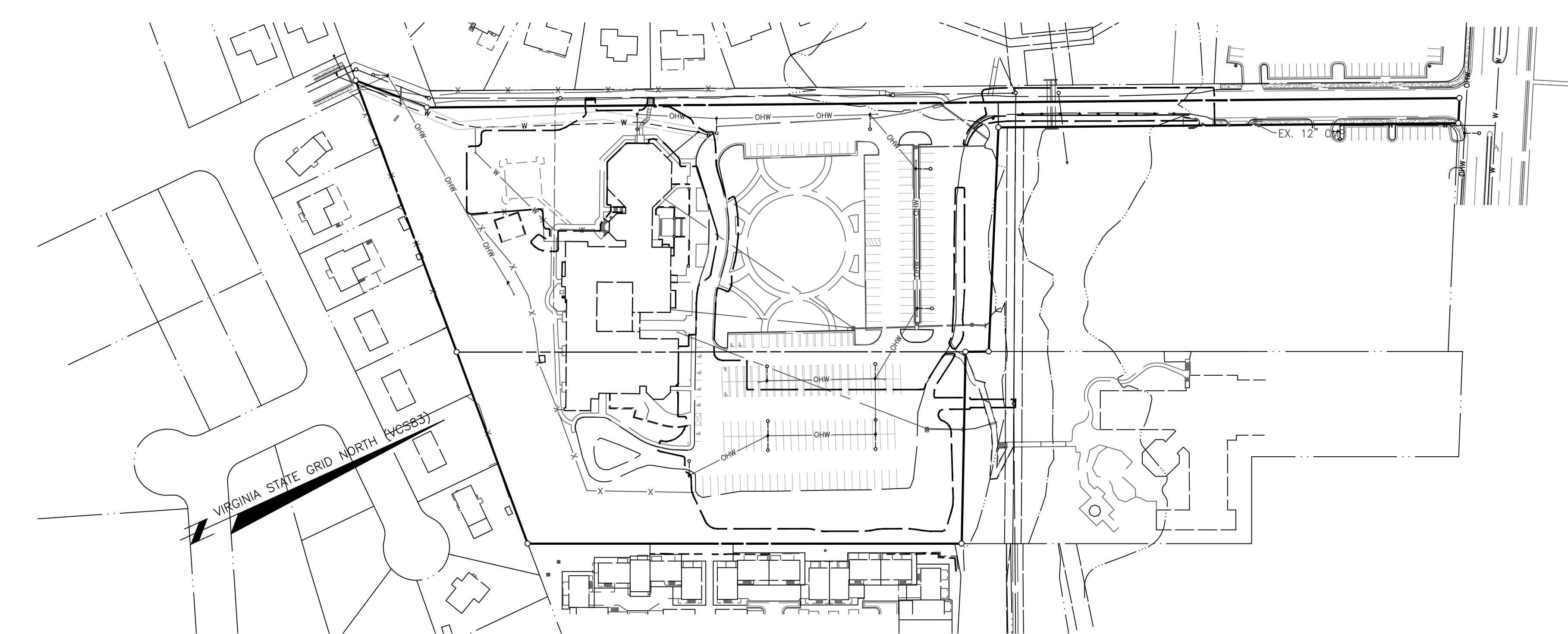
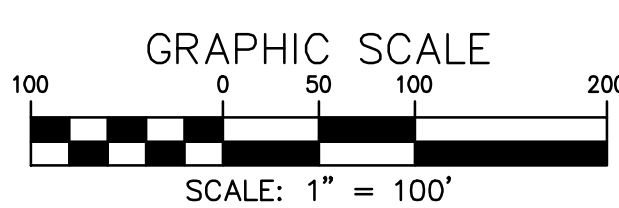


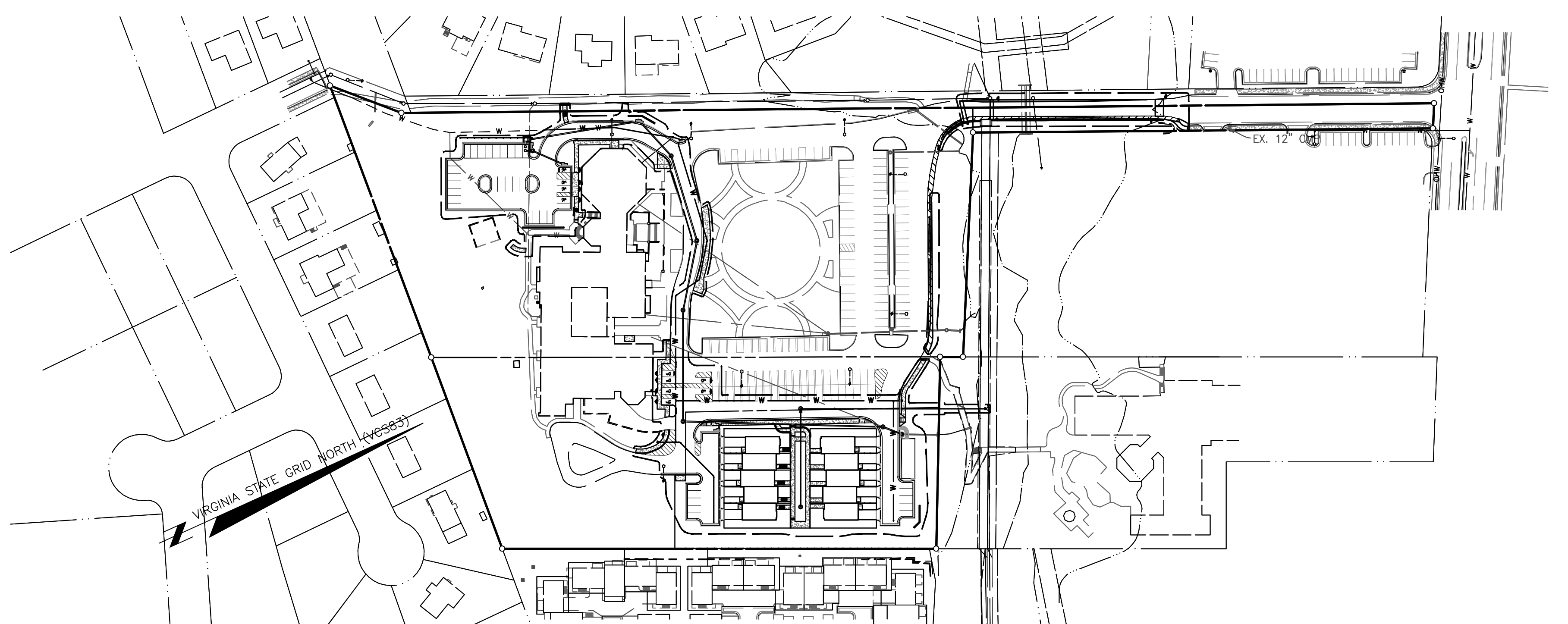


PRE-DEVELOPMENT
OVERALL DEVELOPMENT
SCALE: 1" = 100'

*FOR DETAILED INFORMATION OF EACH PHASE OF DEVELOPMENT, PLEASE SEE SHEETS 43 AND 44.



Pre-ReDevelopment Land Cover (acres)					
	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) -- undisturbed forest/open space		0.67	0.00	0.09	0.76
Managed Turf (acres) -- disturbed, graded for yards or other turf to be		0.08	0.11	0.34	0.53
Impervious Cover (acres)		0.04	0.11	0.95	1.10
					2.39



POST-DEVELOPMENT
OVERALL DEVELOPMENT
SCALE: 1" = 100'

*FOR DETAILED INFORMATION OF EACH PHASE OF DEVELOPMENT, PLEASE SEE SHEETS 43 AND 44.

Post-Development Land Cover (acres)					
	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) -- undisturbed, protected forest/open space or reforested		0.00	0.00	0.00	0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be		0.42	0.09	0.43	0.94
Impervious Cover (acres)		0.37	0.13	0.95	1.45
Area Check	OK.	OK.	OK.	OK.	2.39

Stormwater Best Management Practices (RR = Runoff Reduction)

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft³)	Runoff Reduction (ft³)	Remaining Runoff Volume (ft³)	Total BMP Treatment Volume (ft³)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed By Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
6. Bioretention (RR)													
6.a. Bioretention #1 or Micro-Bioretention #1 or Urban Bioretention (Spec #9)	40	0.34	0.71	0	1,090	1,635	2,726	25	0.00	1.71	0.94	0.77	

14. Manufactured Treatment Devices (no RR)													
14.a. Manufactured Treatment Device- Hydrodynamic	0	0.21	0.32	0	0	1,275	1,275	20	0.00	0.80	0.16	0.64	14.b. MTD - Filtering
14.b. ISOLATOR ROW	0			1,275	0	1,275	1,275	40	0.64	0.00	0.26	0.38	

14. Manufactured BMP (no RR)				
0	0.00	5.72	0.00	5.72
0	5.72	0.00	0.00	5.72

OVERALL STORMWATER/OUTFALL NARRATIVE

THE OUTFALL POINT OF THIS PROJECT IS AT ACCOTINK CREEK, ABOUT 340' DOWNSTREAM OF THE EXISTING CULVERTS UNDER PRESBYTERIAN WAY, PER 9VAC25-870-66-B-4. AT THIS POINT, ONSITE RUNOFF DISCHARGES INTO A NATURAL CHANNEL, THROUGH AN EXISTING MAN-MADE STORM SEWER. A LEVEL 1 BIORETENTION AREA AND A MANUFACTURED TREATMENT FACILITY ARE PROPOSED TO MITIGATE THE IMPACTS OF THE PROPOSED DEVELOPMENT ON THE EXISTING PARKING LOT AND FORESTED AREAS WITHIN THE LIMITS OF CLEARING AND GRADING.

CHANNEL PROTECTION:
POST DEVELOPMENT RUNOFF DURING THE 1-YEAR STORM EVENT HAS BEEN REDUCED IN ACCORDANCE WITH 9VAC25-870-66-B-3-A, AND AS SUCH, CHANNEL PROTECTION REQUIREMENTS HAVE BEEN MET FOR THIS PORTION OF THE SITE.

FLOOD PROTECTION:
THE POST DEVELOPMENT 2-YEAR STORM AND 10-YEAR 24-HOUR STORMS WILL HAVE PEAK RUNOFF RATES WHICH ARE LESS THAN THE PRE DEVELOPMENT CONDITION, PER 9VAC25-870-66-C-1. THE LIMIT OF ANALYSIS FOR FLOOD PROTECTION IS WITHIN ACCOTINK CREEK, 340' DOWNSTREAM OF THE EXISTING CULVERTS UNDER PRESBYTERIAN WAY, PER 9VAC25-870-66-C-3-C.

SEE RUNOFF SUMMARY TABLE ON THIS SHEET.

WATER QUALITY:
BIORETENTION, A LOW IMPACT DEVELOPMENT (LID) TECHNIQUE, IS BEING PROPOSED ON THE TOWN HOME PORTION OF THE PROJECT TO MEET WATER QUALITY REQUIREMENTS. TWO MANUFACTURED FILTERING DEVICES ARE PROPOSED ON THE ADDITIONAL PARKING PORTION OF THE PROJECT TO ADDRESS WATER QUALITY REQUIREMENTS. THE BIORETENTION FACILITY AND THE MANUFACTURED TREATMENT DEVICES WILL BE PRIVATELY OWNED AND MAINTAINED.

SEE VRRM SUMMARY ON THIS SHEET.

THE BMP AND SWM DESIGN SHOWN ARE PRELIMINARY AND MAY CHANGE AT THE TIME OF FINAL ENGINEERING. THE PROJECT MAY USE NUTRIENT CREDITS OR ALTERNATE BMP/SWM FACILITIES TO MEET THE WATER QUALITY AND WATER QUANTITY REQUIREMENTS FOR THIS PROJECT AS NECESSARY.

OVERALL DEVELOPMENT 1-Year Storm Channel Protection	
Pre Dev. Q Onsite	3.13 cfs
Pre Dev Rv	8,704 cf
Post Dev Rv	12,634 cf
Pre/post vol. ratio	0.69
Improvement Factor	0.8
Post Dev Q allowable	1.73 cfs
Offsite Controlled (UGS 1) (pre dev bypass)	0.55 cfs
Offsite Controlled (UGS 2) (pre dev bypass)	0.26 cfs
Total Allowable release	2.54 cfs
Post Dev Onsite Uncontrolled	1.57 cfs
Post Dev UGS 1 Release	0.87 cfs
Post Dev UGS 2 Release	0.05 cfs
Total Post Dev Release	2.49 cfs

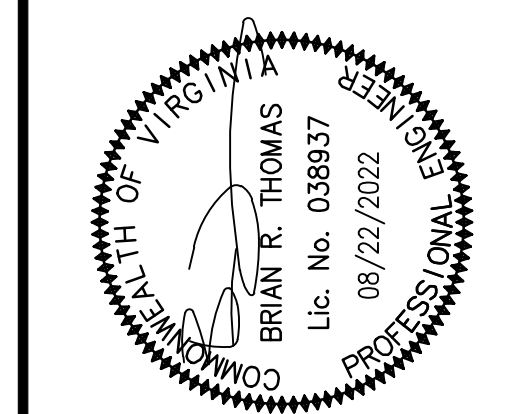
Stormwater Quantity Summary - Overall Development			
	1-Year Storm Channel Protection (cfs)	2-Year Storm (cfs)	10-Year Storm Flood Protection (cfs)
Pre Development	3.94	5.65	11.41
Post Development allowable release	2.54	5.65	11.41
Post Development Release	2.49	5.03	10.97

Total Phosphorus	
FINAL POST-DEVELOPMENT TP LOAD (lb/yr)	3.62
TP LOAD REDUCTION REQUIRED (lb/yr)	1.33
TP LOAD REDUCTION ACHIEVED (lb/yr)	1.36
TP LOAD REMAINING (lb/yr):	2.27
REMAINING TP LOAD REDUCTION REQUIRED (lb/yr):	0.00 **
** TARGET TP REDUCTION EXCEEDED BY 0.03 LB/YEAR **	

OVERALL STORMWATER MANAGEMENT/BMP DESIGN

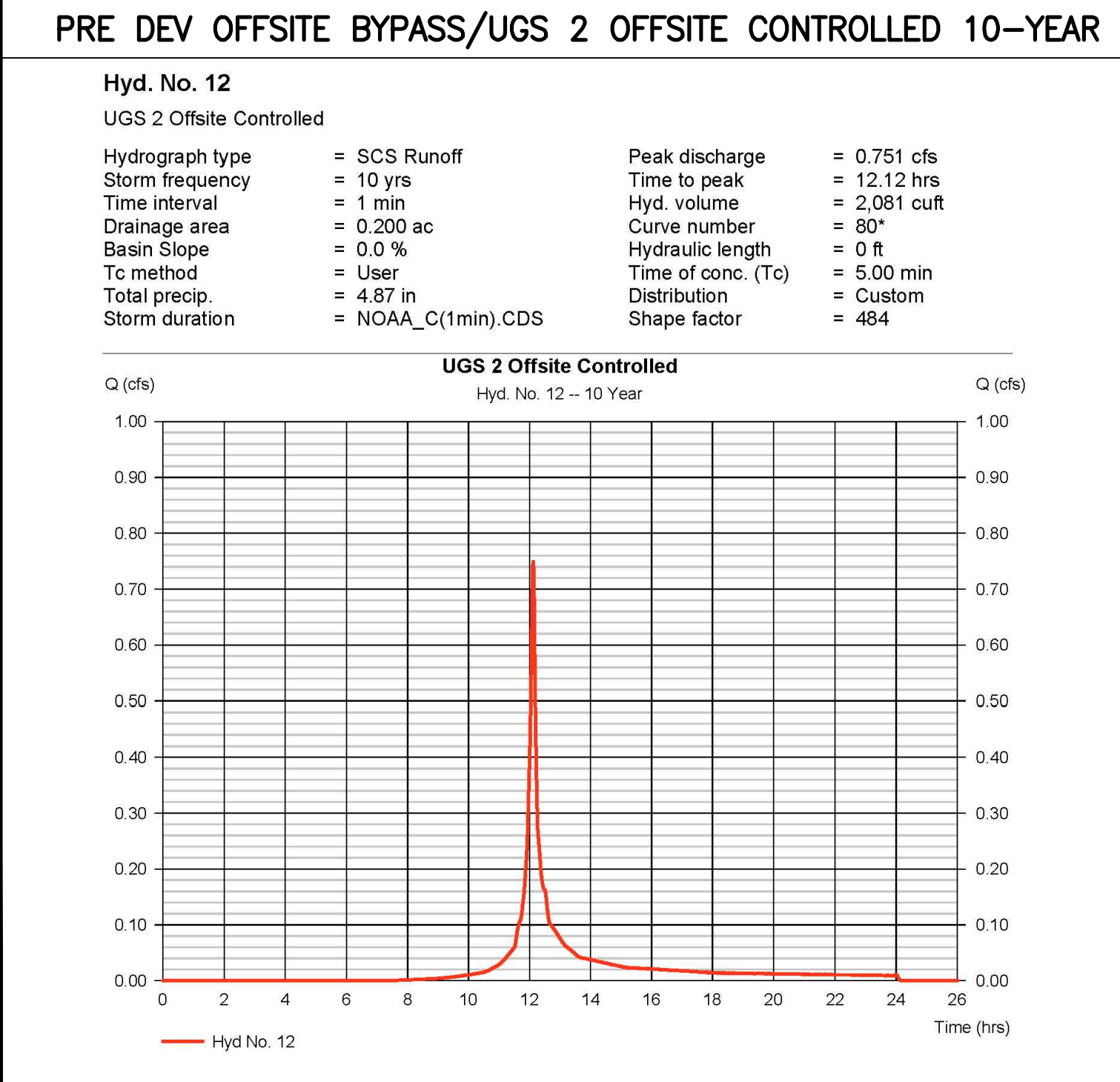
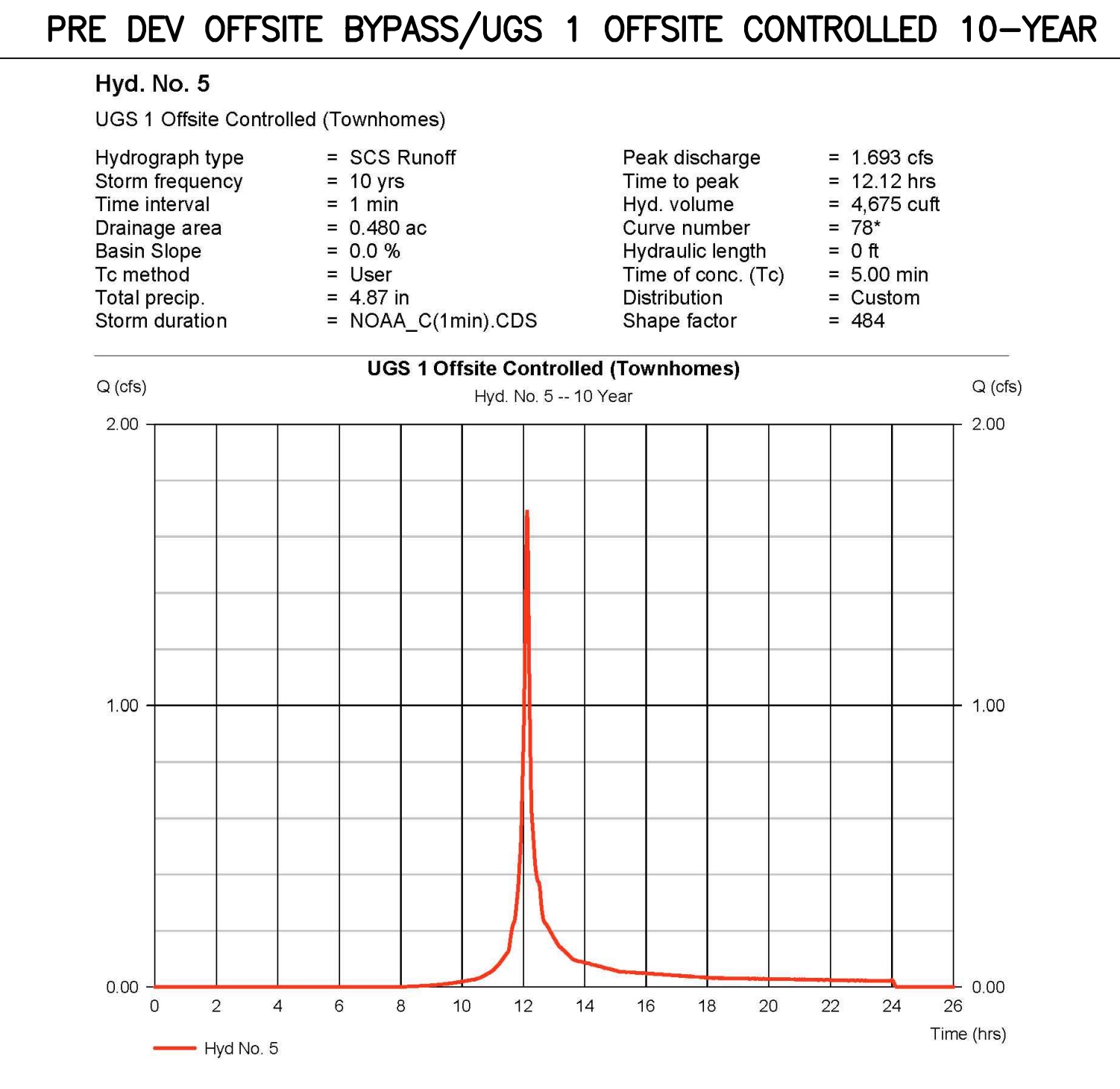
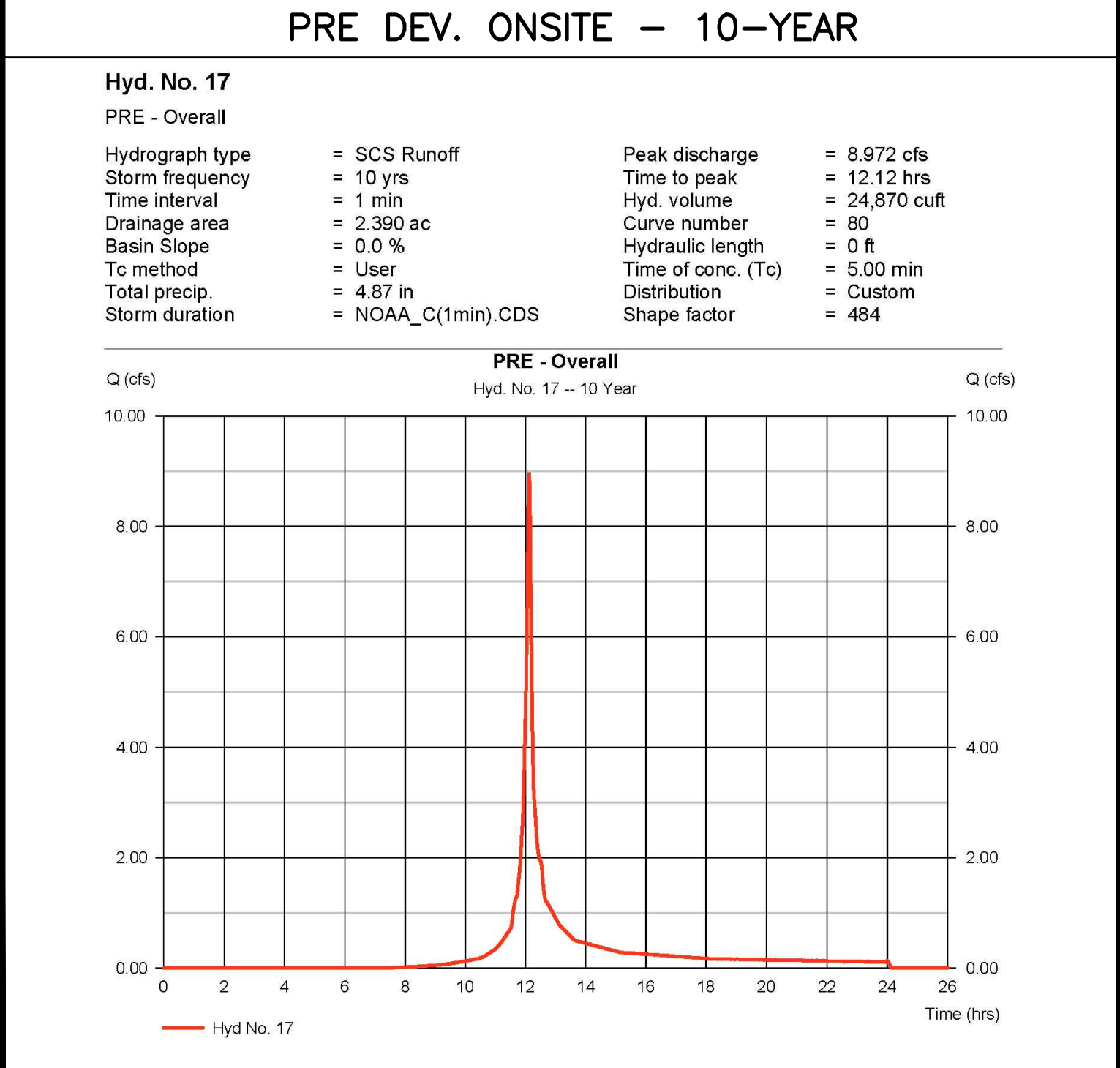
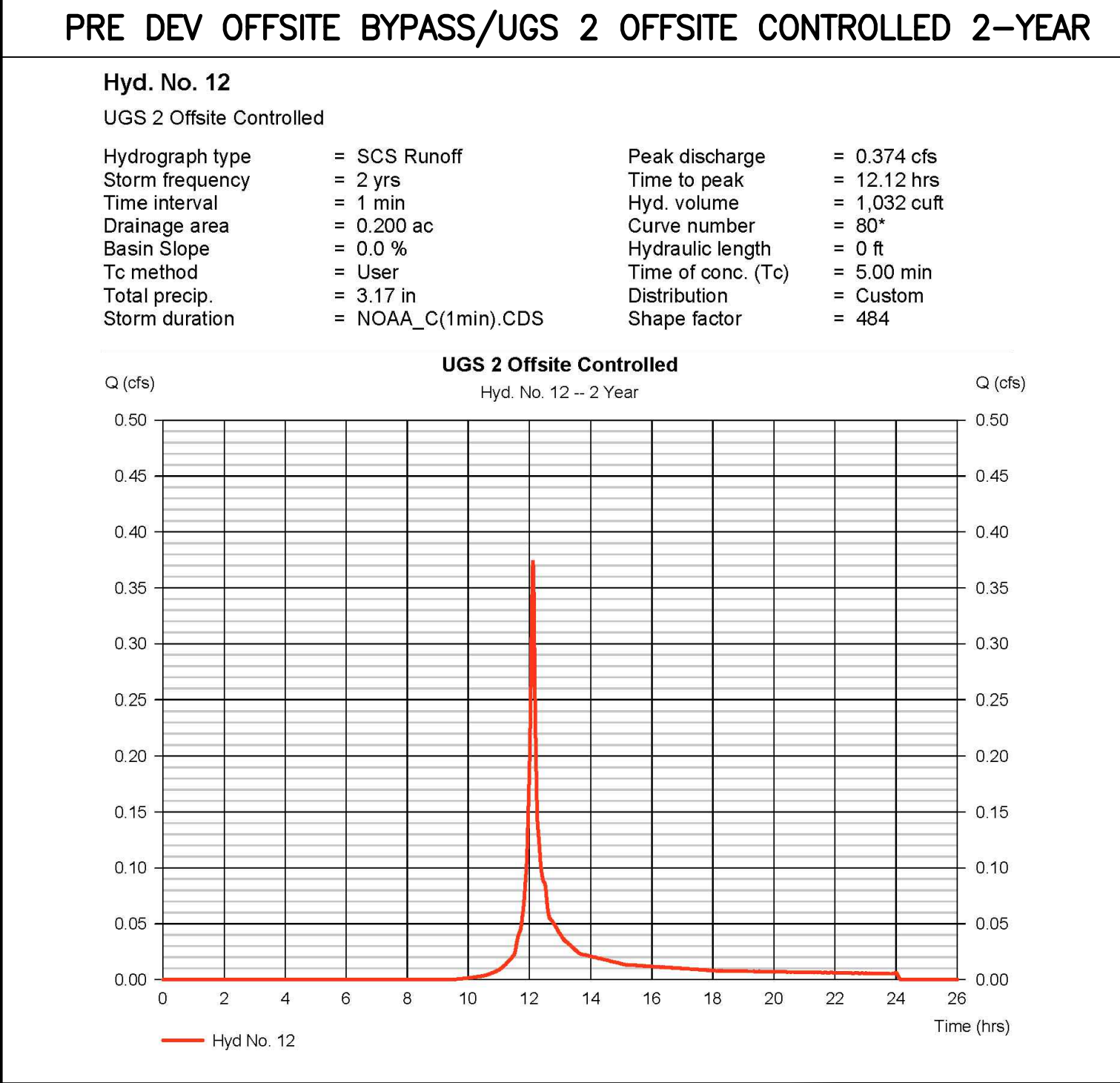
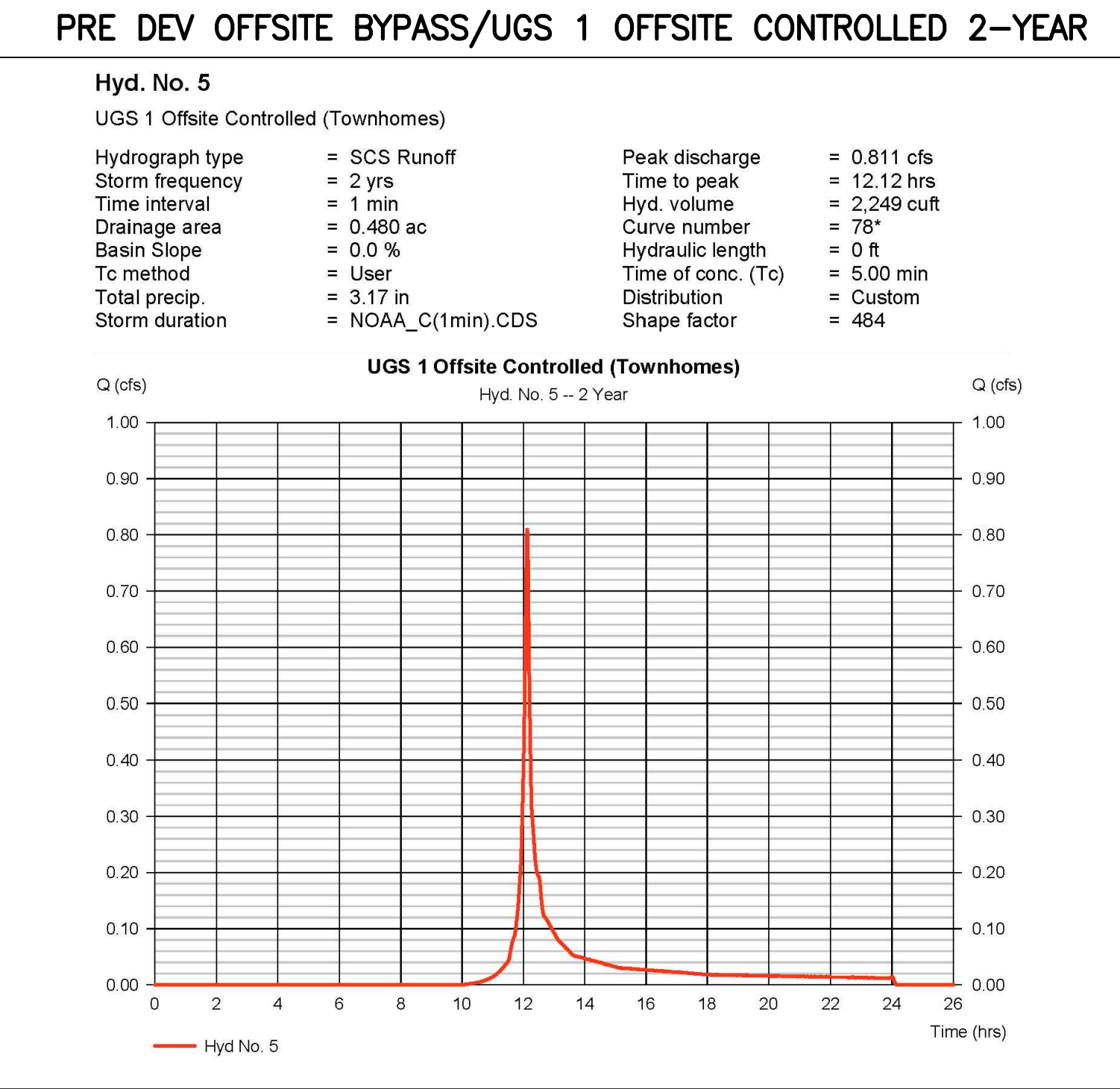
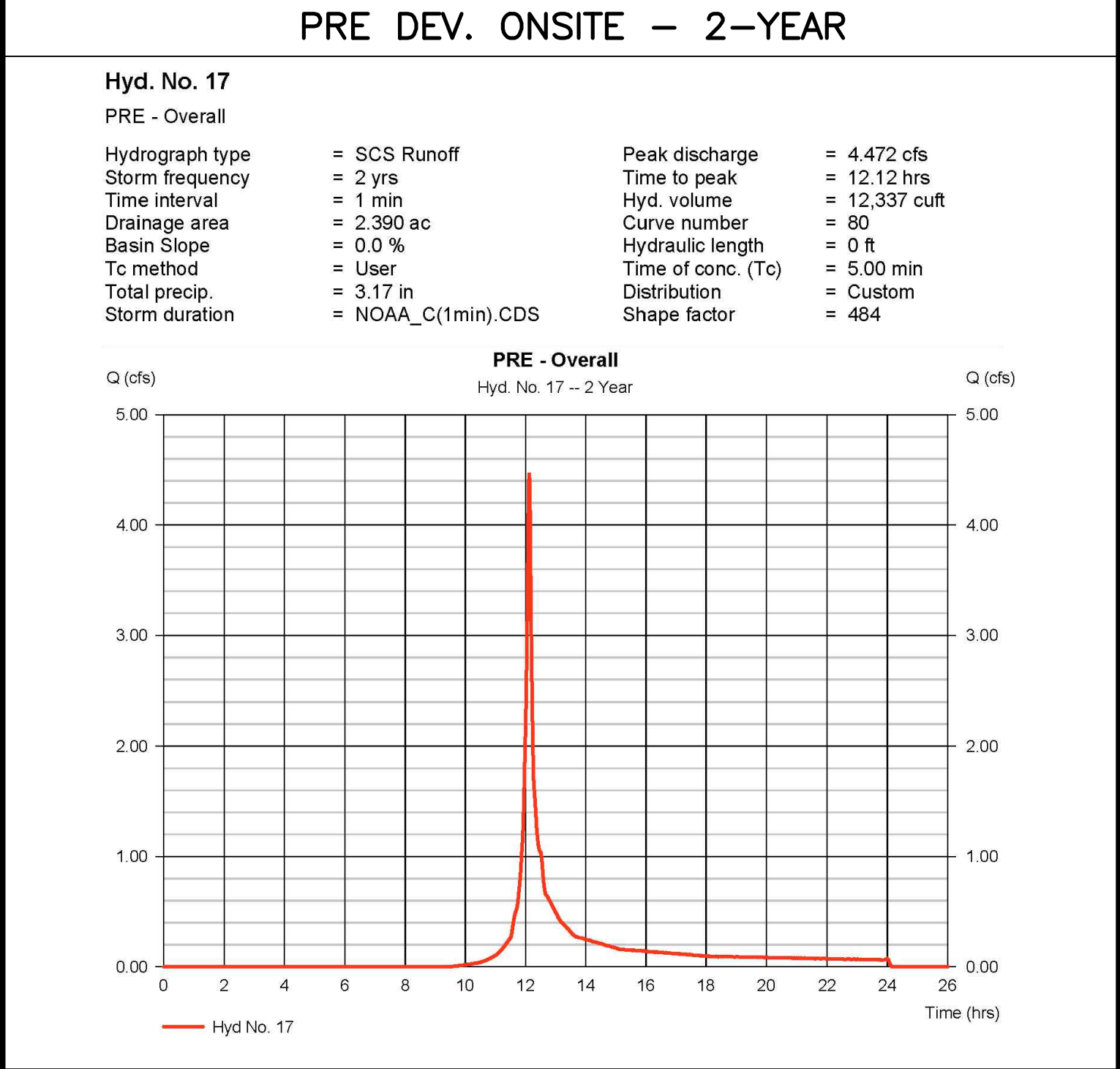
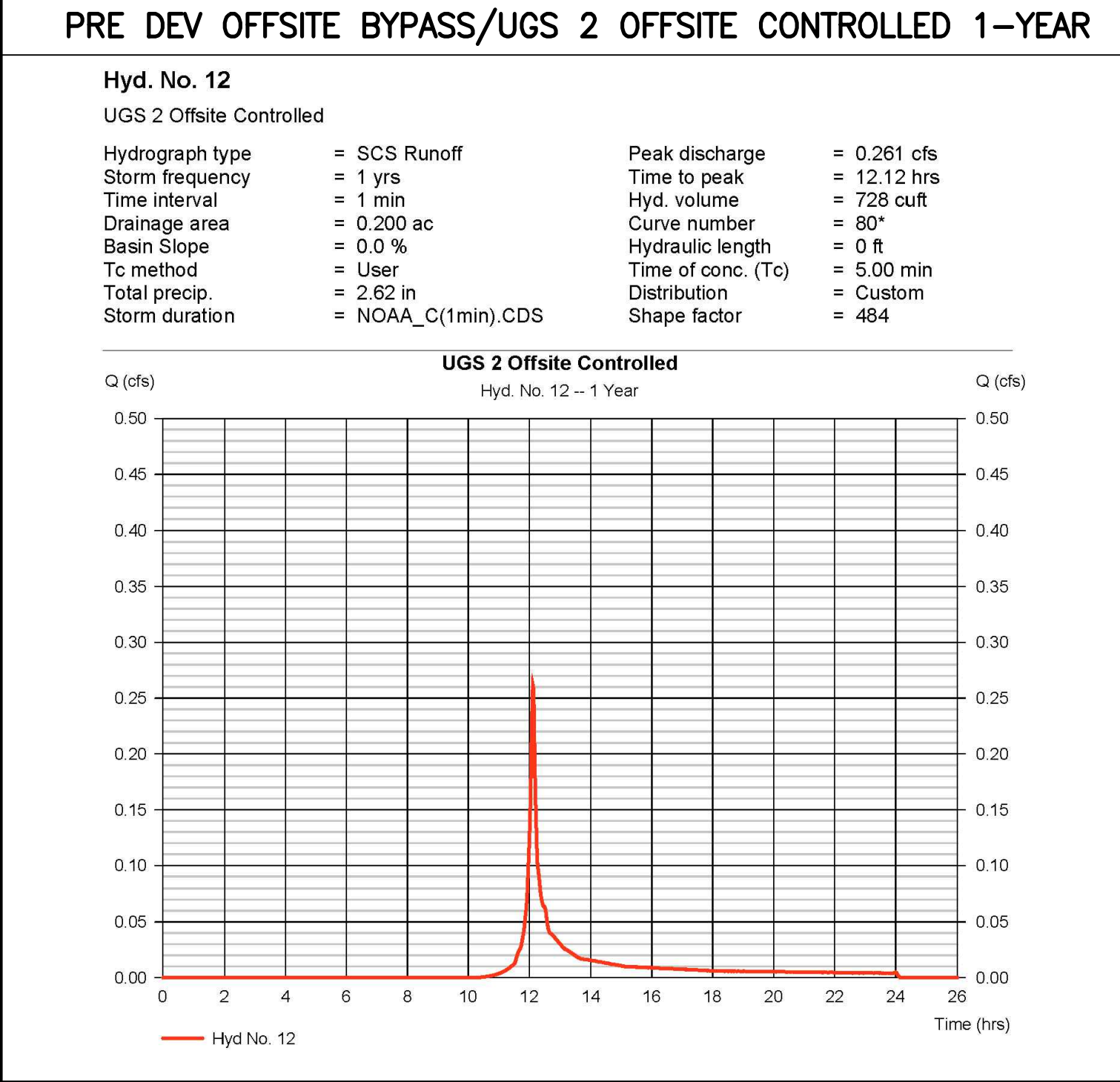
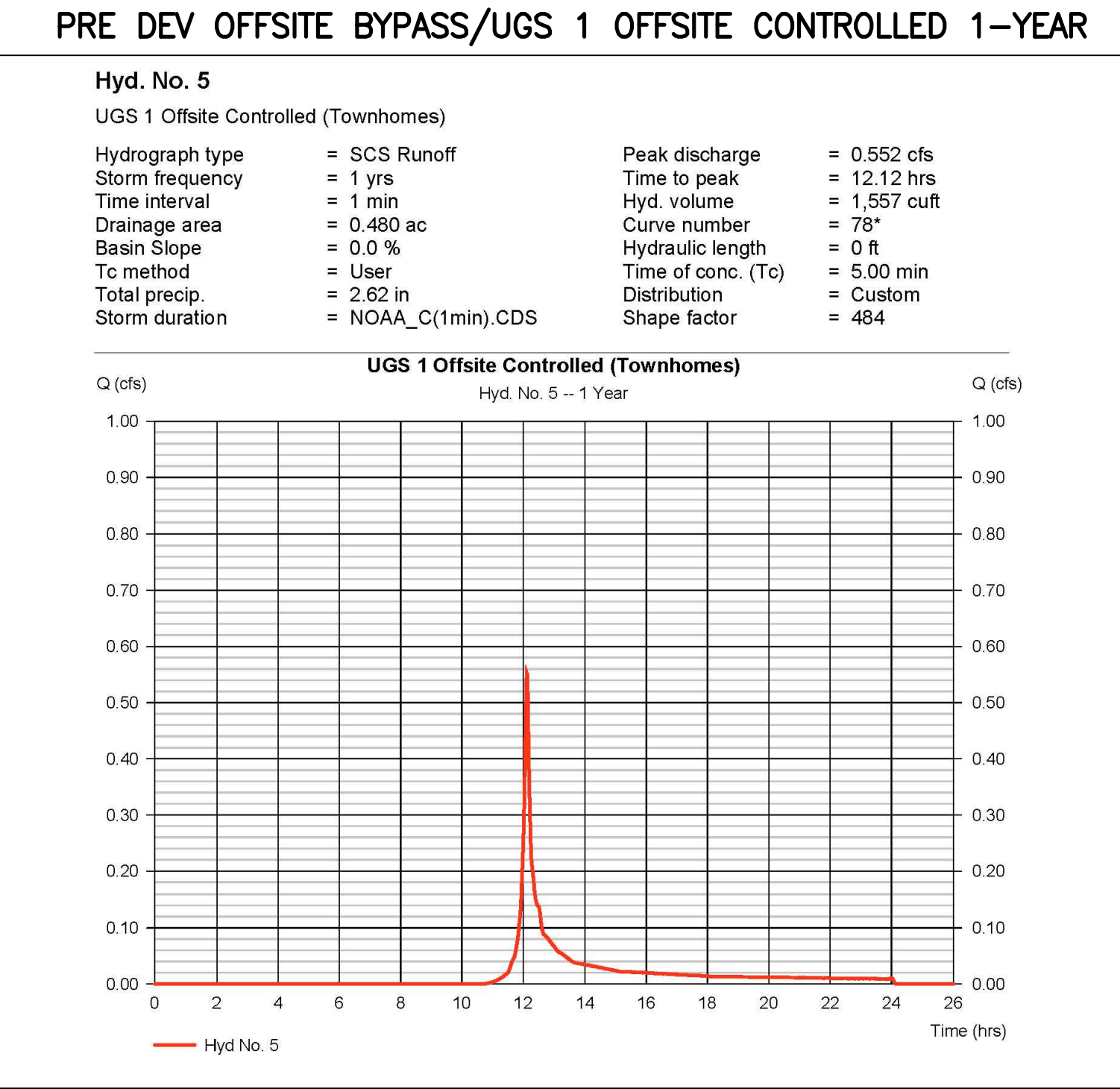
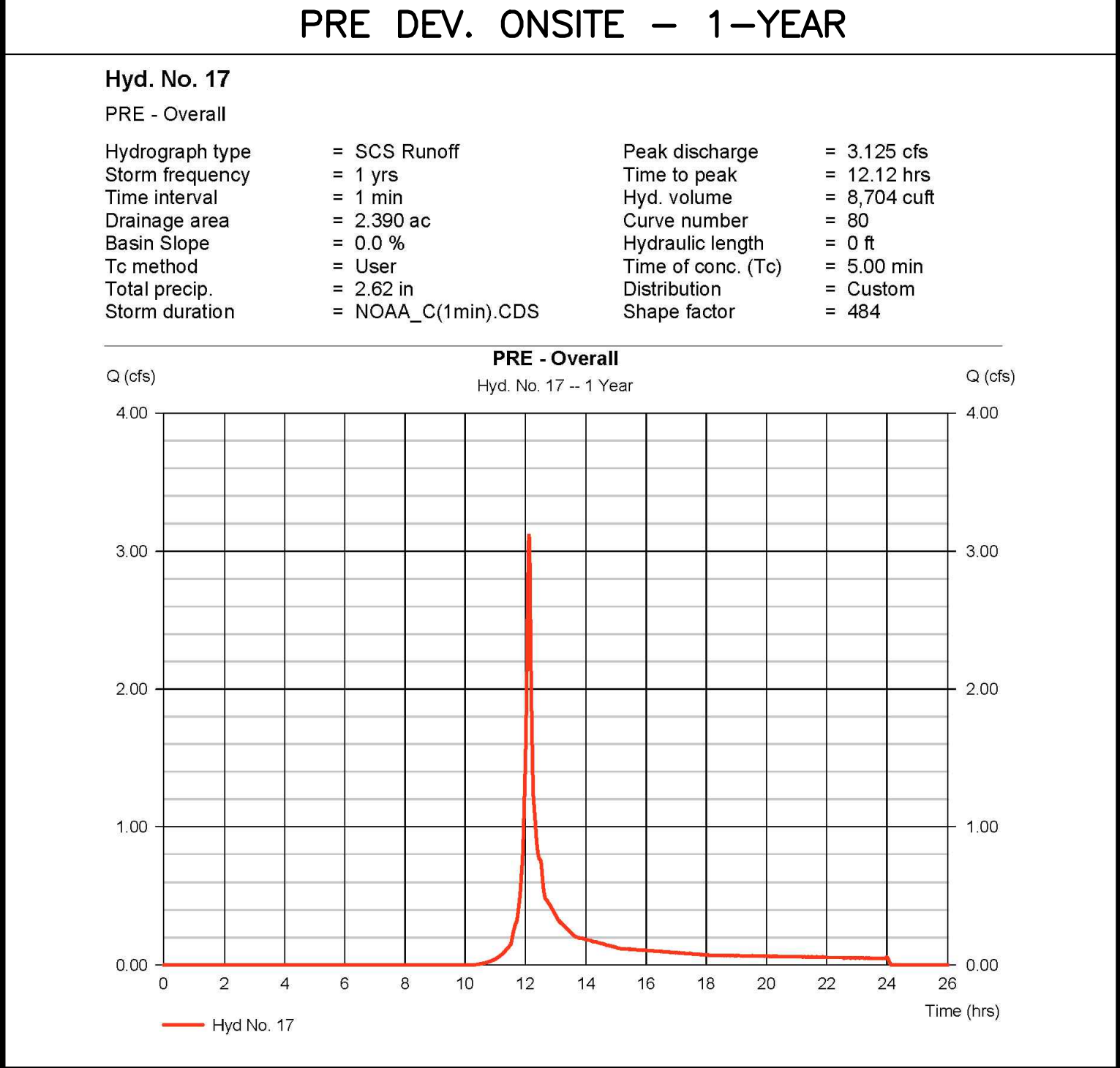
FAIRFAX
PRESBYTERIAN
CHURCH

CITY OF FAIRFAX, VIRGINIA



DESIGN	DRAFT	GMP	APPROVED	BRT	DATE	SCALE	NO.	REVISIONS	DESCRIPTION	REVIEW	APPROD	DATE

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		GMP								
		SHEET		OF						
		42		52						
		PRJ NO: 2017-2570								
TYPE: MDP										



OVERALL DEVELOPMENT HYDROGRAPHS 1

FAIRFAX PRESBYTERIAN CHURCH

CITY OF FAIRFAX, VIRGINIA

DESIGN	DRAFT	GMP	APPROVED	DATE	SCALE	NO.	REVISIONS	REVIEW	BY	DATE
				JAN. 2021	1" = 100'					

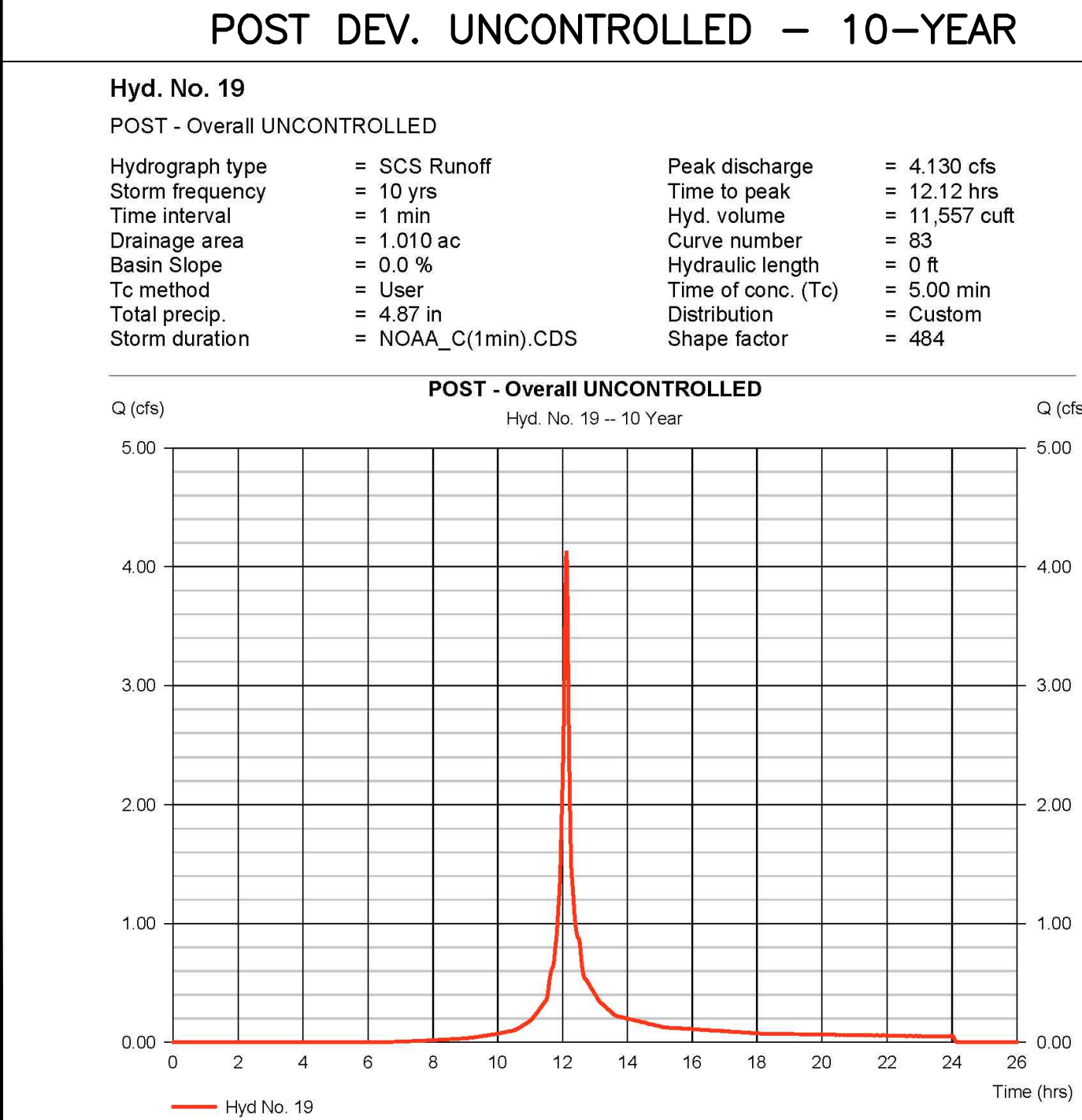
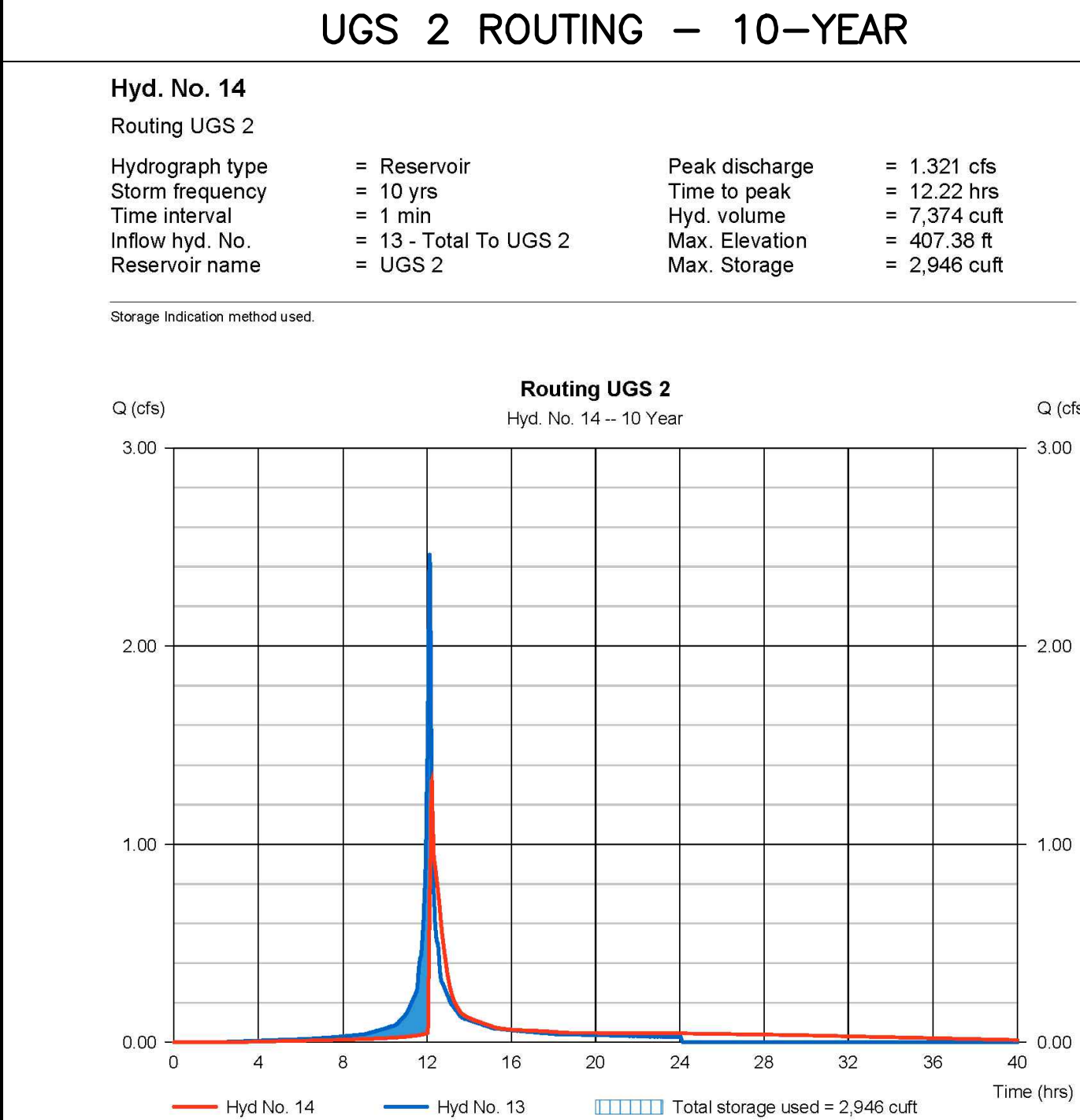
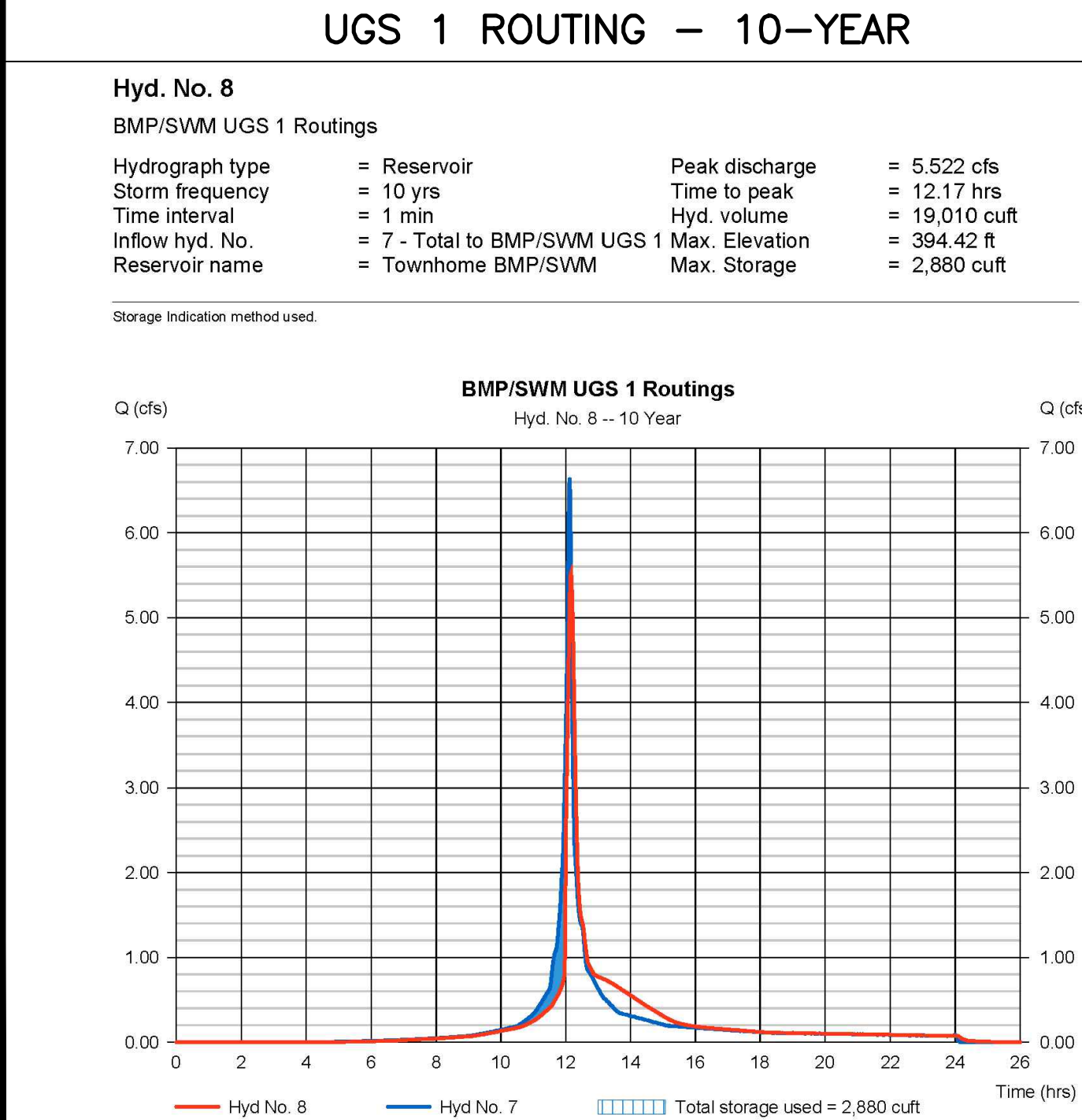
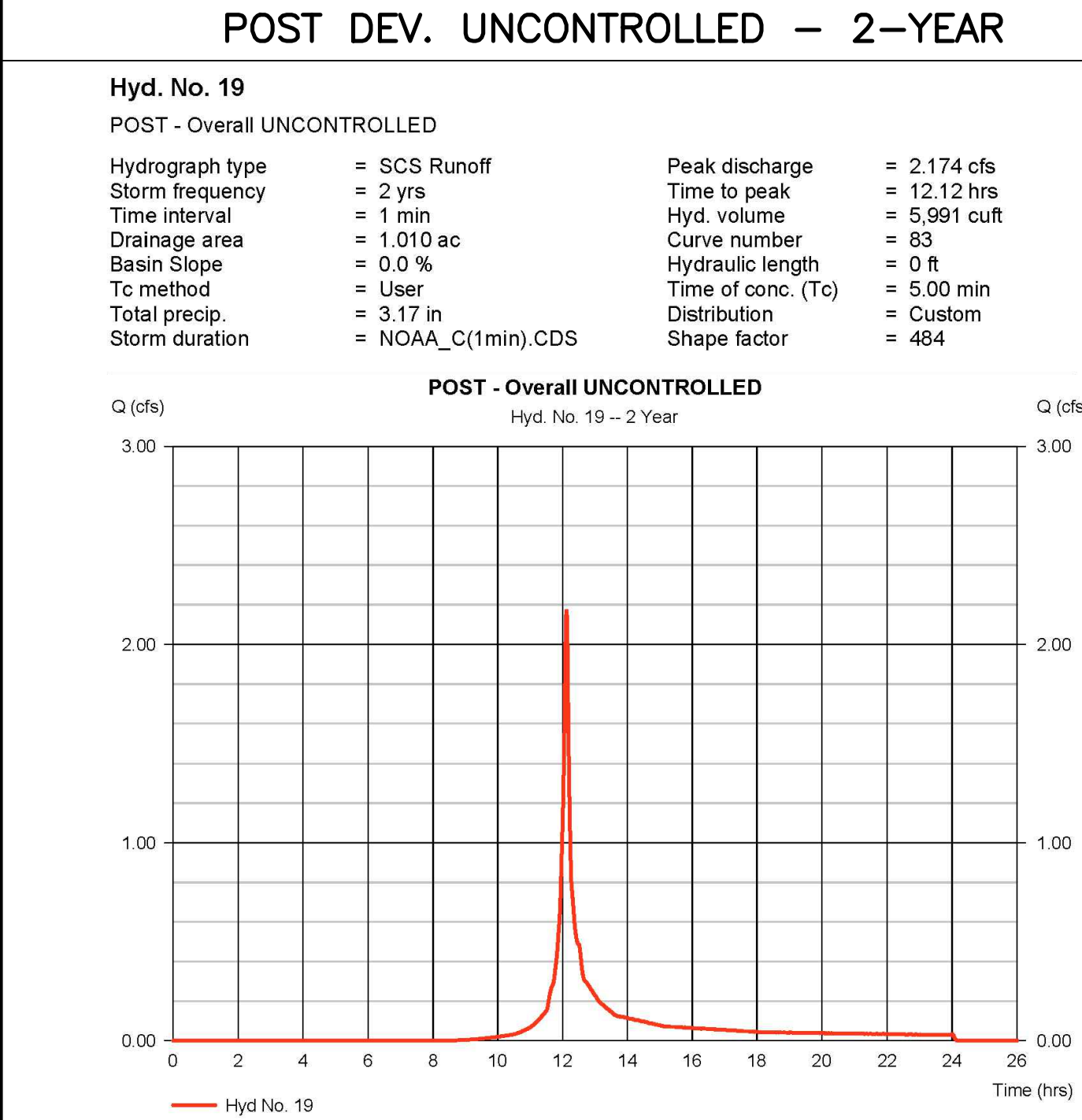
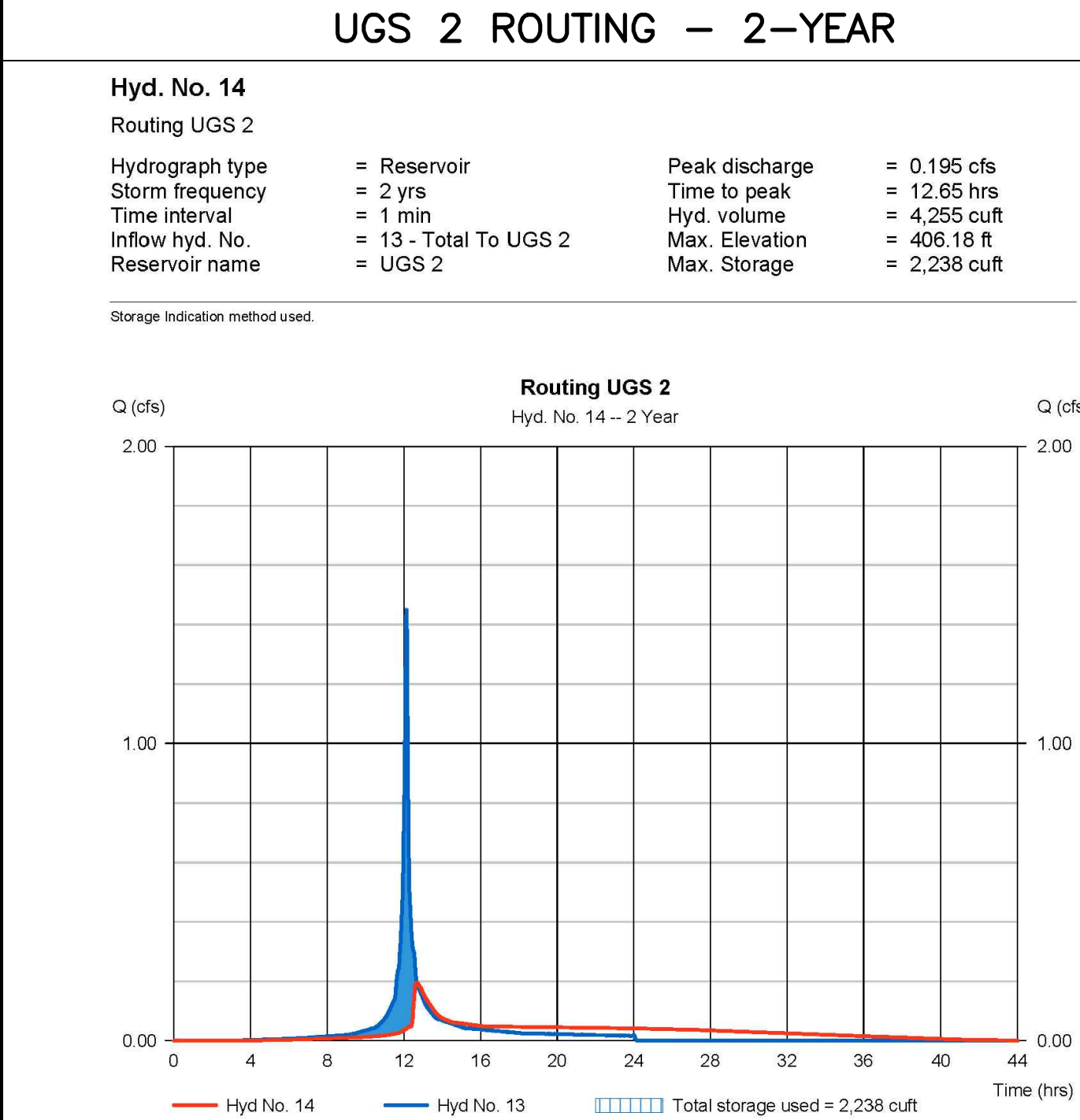
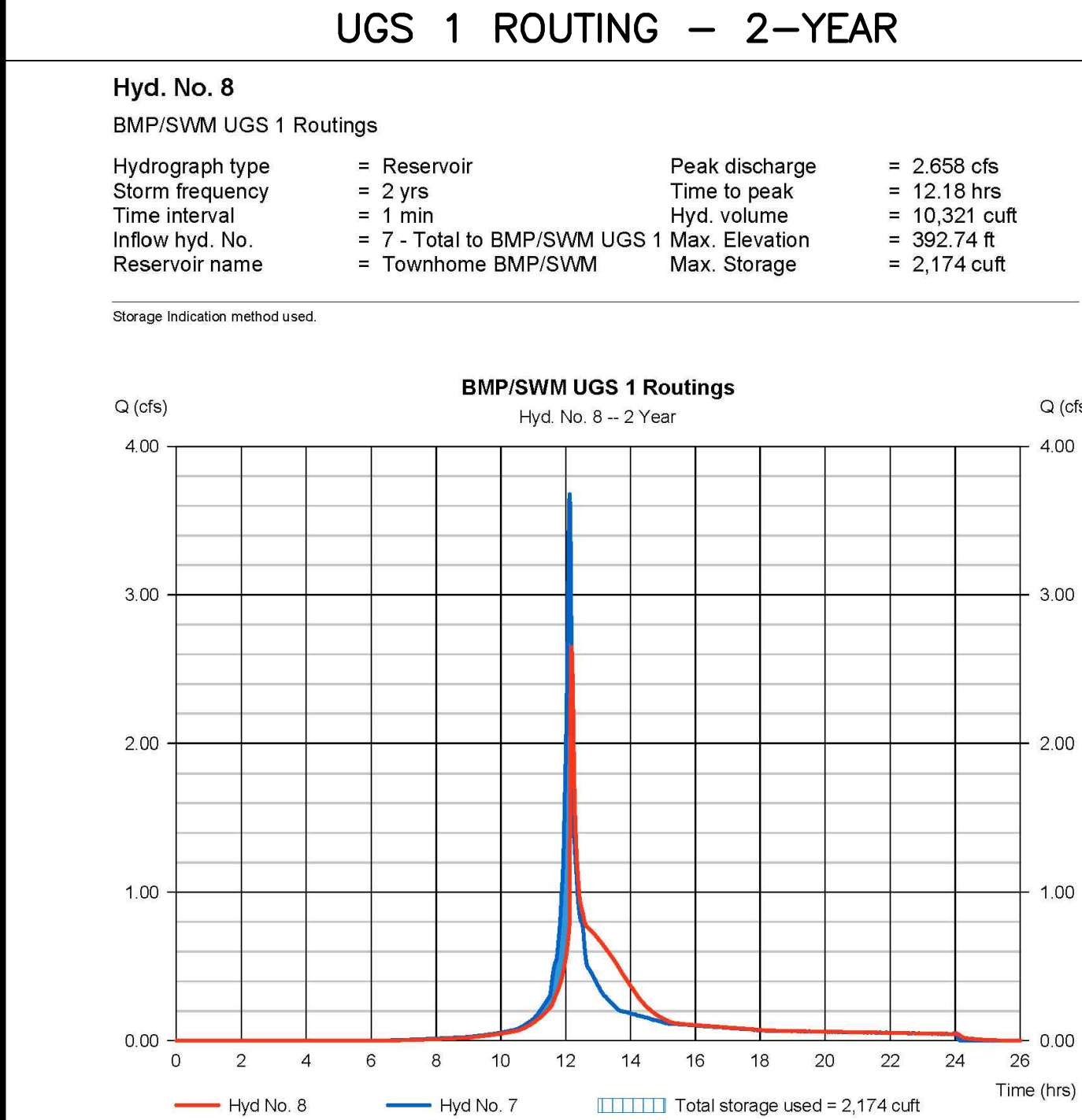
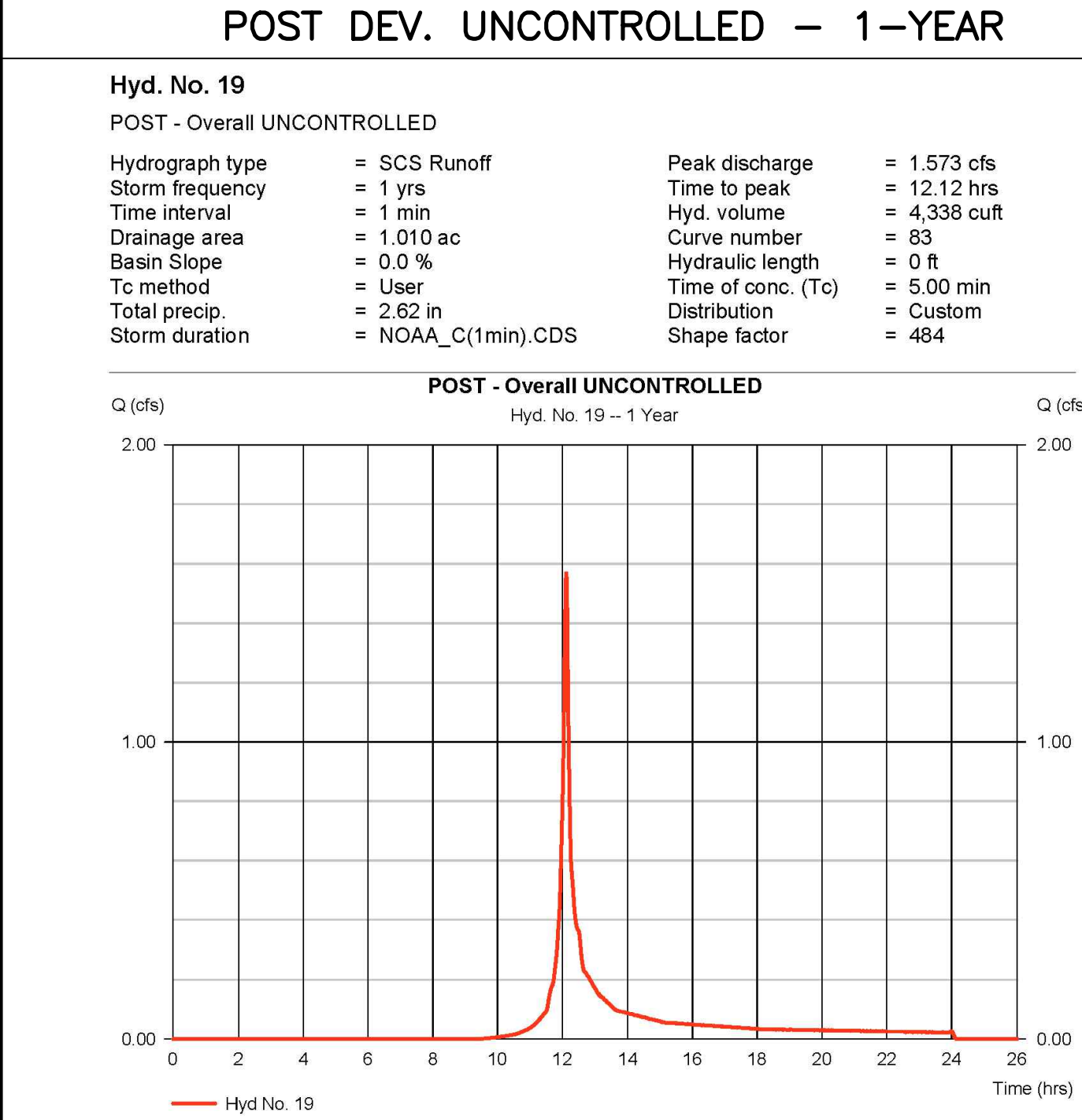
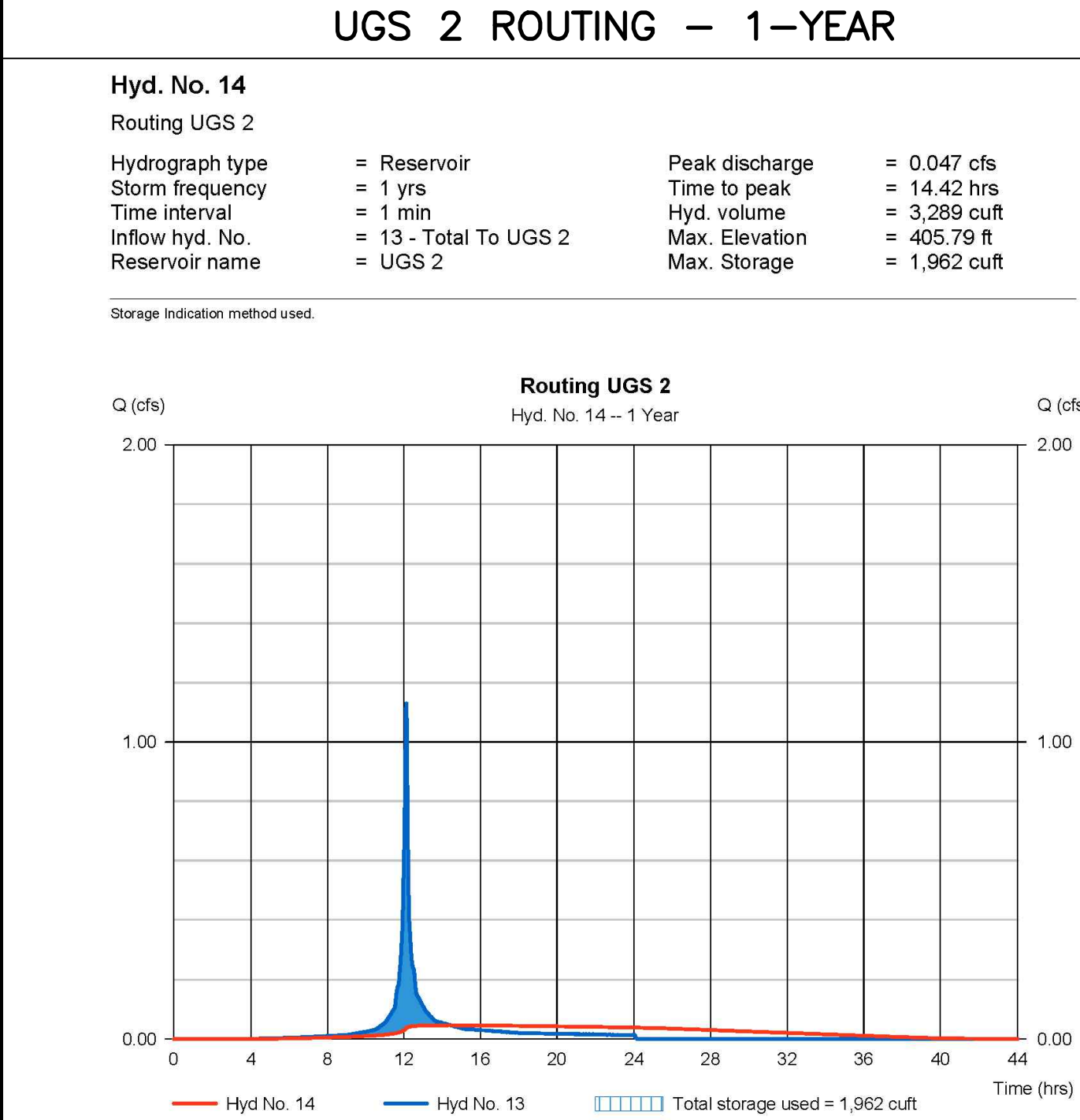
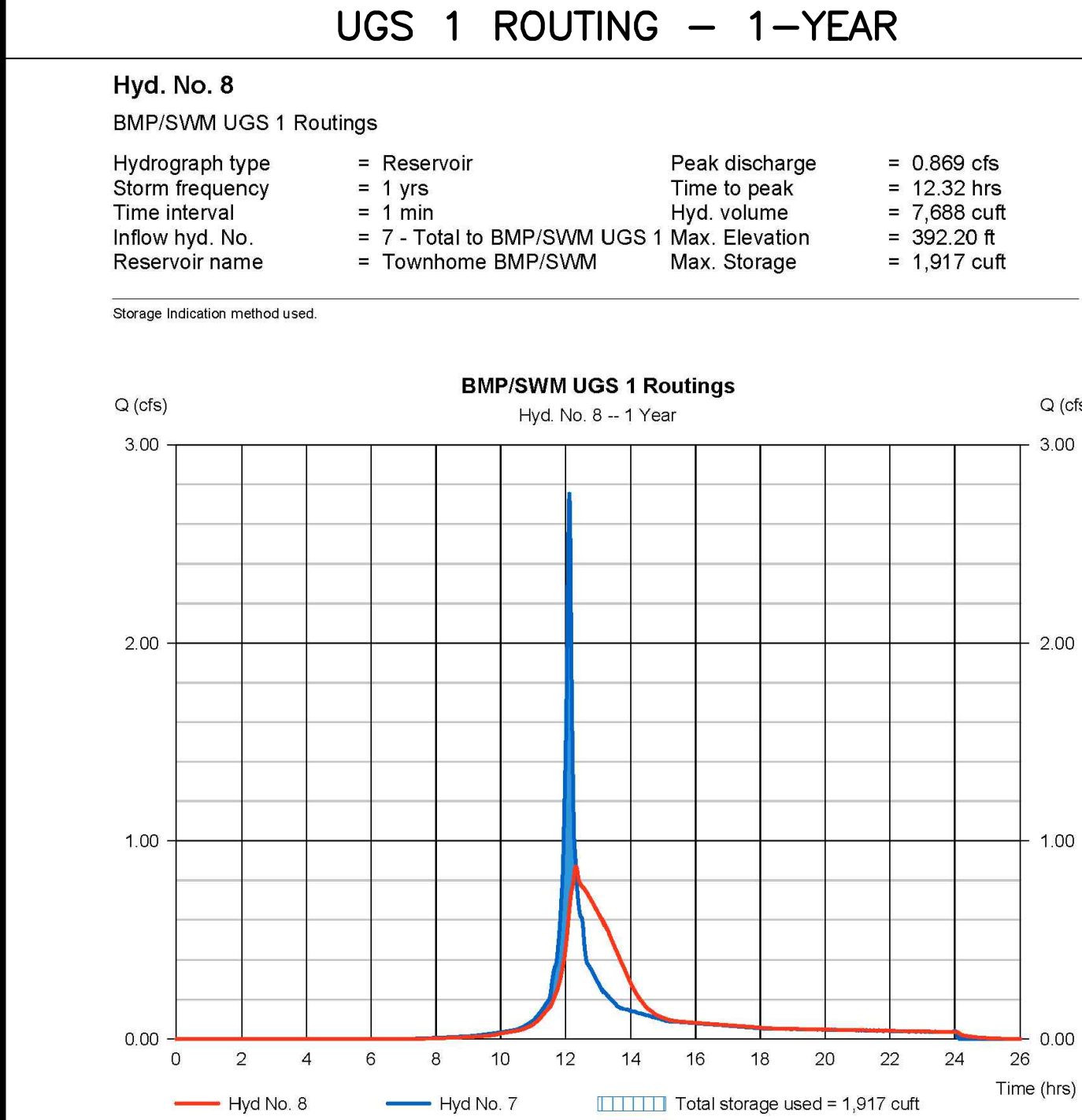
SHEET	OF
45	52

PRJ NO: 2017-2570
TYPE: MDP

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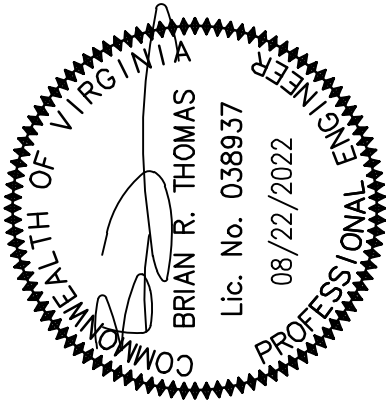
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OVERALL DEVELOPMENT HYDROGRAPHS 2

FAIRFAX
PRESBYTERIAN
CHURCH

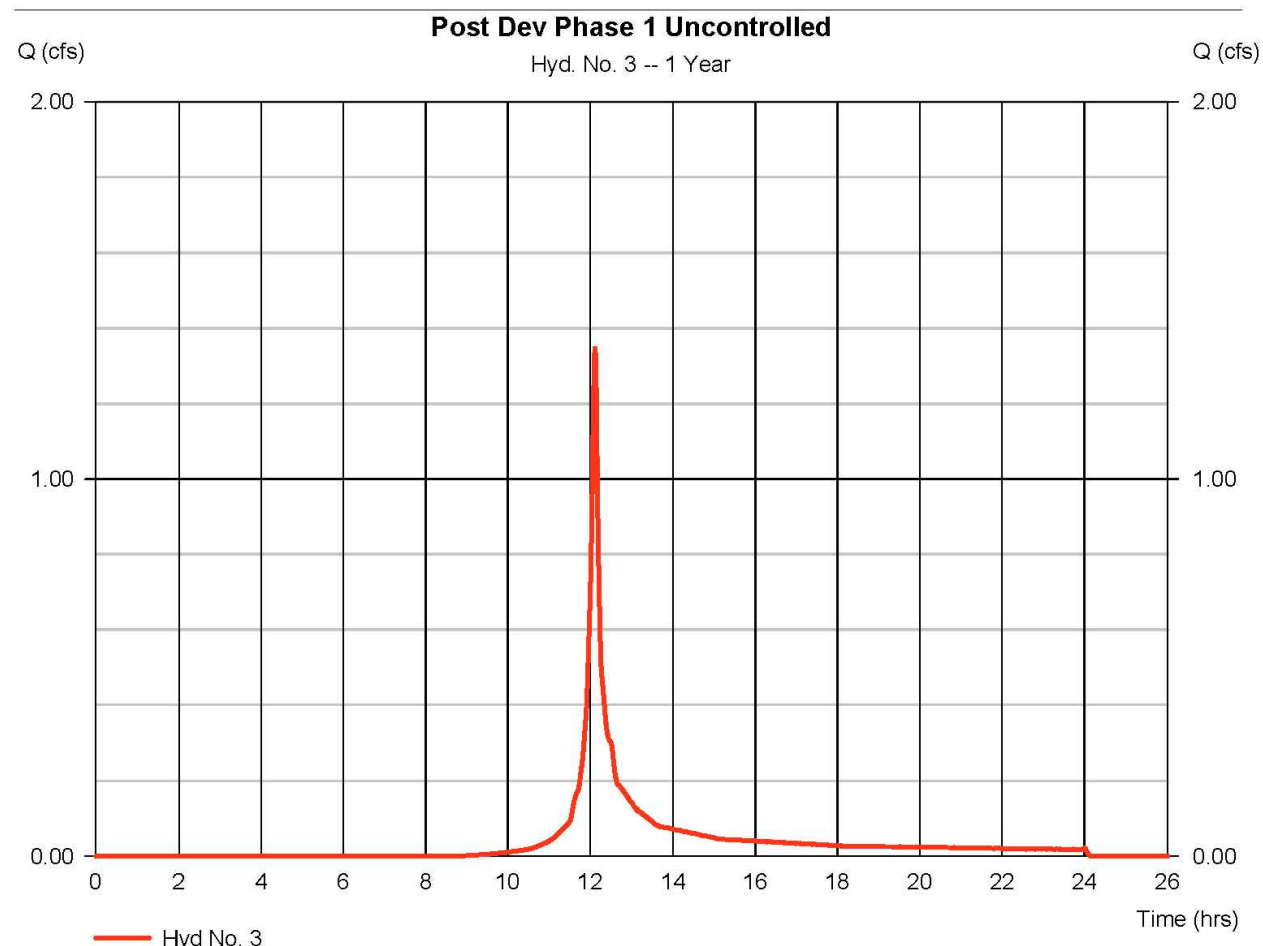
CITY OF FAIRFAX, VIRGINIA



DESIGN	DRAFT	GMP	DATE	JAN. 2021	SCALE	HORIZ: 1"=100'	VERT: ---
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SHEET		OF					
46		52					
PRJ NO: 2017-2570							
TYPE: MDP							

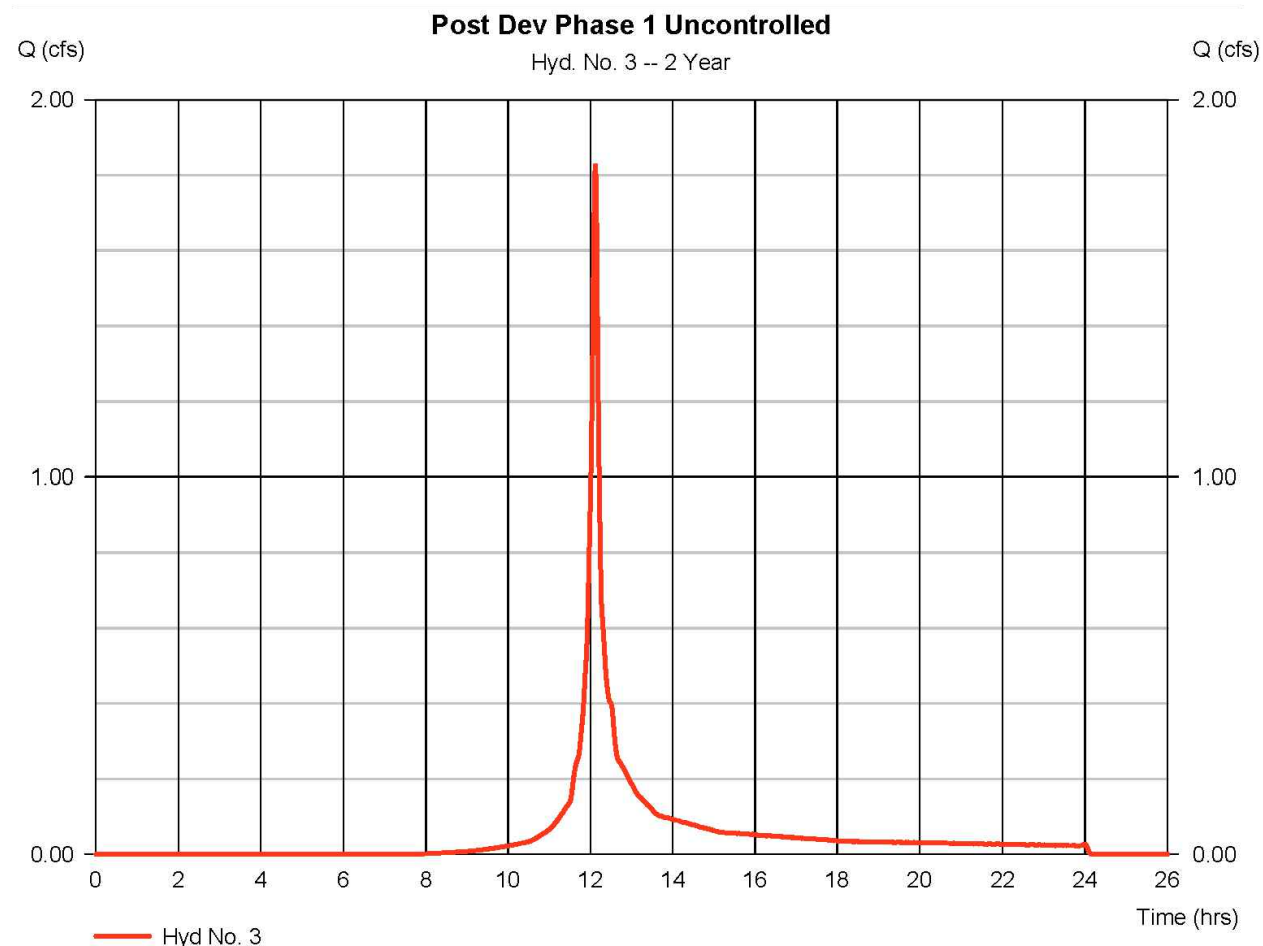
PHASE 1 POST DEV. UNCONTROLLED – 1-YEAR

Hydrograph type	= SCS Runoff	Peak discharge	= 1,351 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.12 hr
Time interval	= 1 min	Hyd. volume	= 3,722 cu ft
Drainage area	= 0.780 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 2.62 in	Distribution	= Custom
Storm duration	= NOAA_C(1min).CDS	Shape factor	= 484



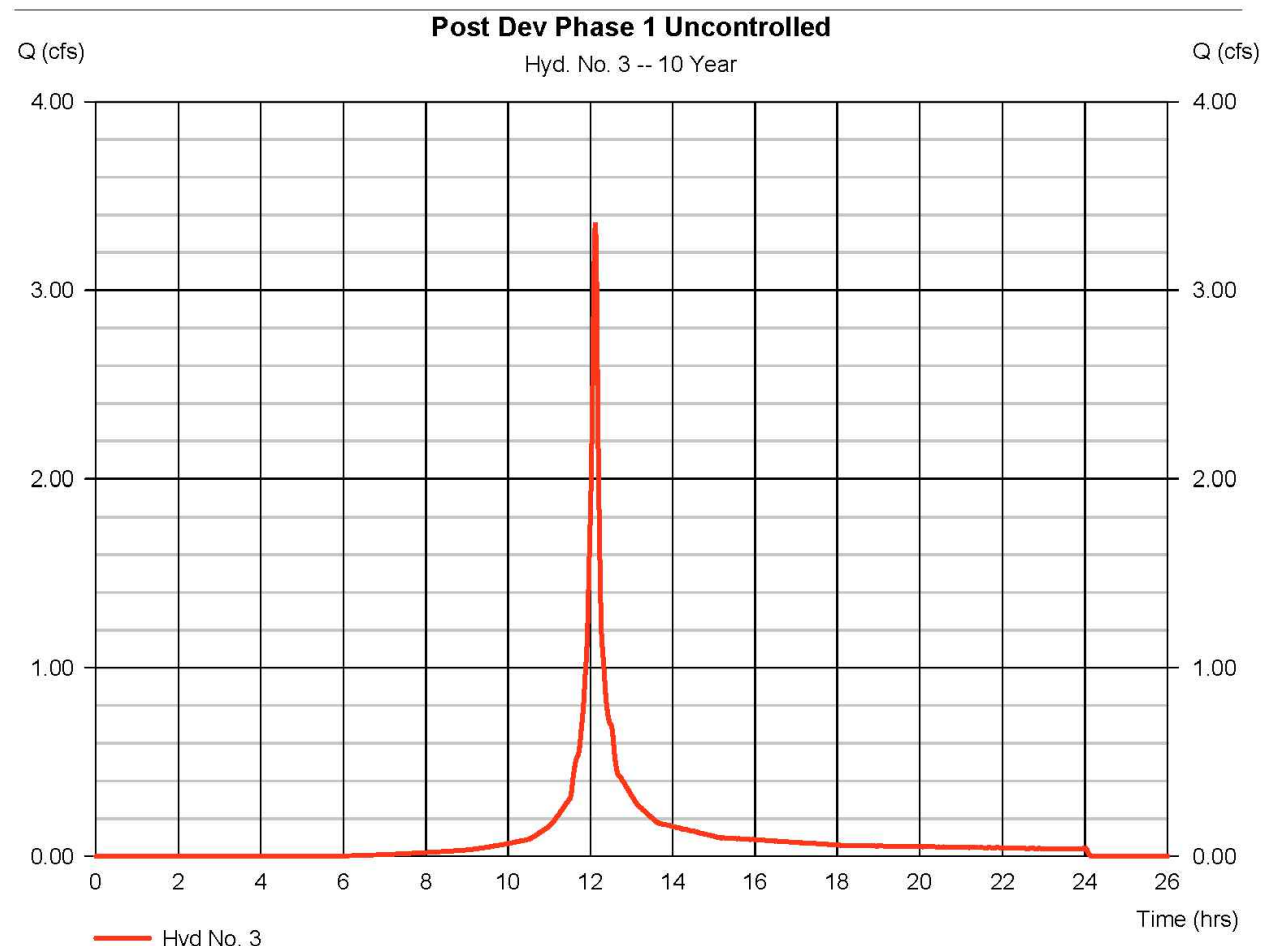
PHASE 1 POST DEV. UNCONTROLLED – 2-YEAR

Hydrograph type	= SCS Runoff	Peak discharge	= 1,830 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.12 hr
Time interval	= 1 min	Hyd. volume	= 5,057 cu ft
Drainage area	= 0.780 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.17 in	Distribution	= Custom
Storm duration	= NOAA_C(1min).CDS	Shape factor	= 484



PHASE 1 POST DEV. UNCONTROLLED – 10-YEAR

Hydrograph type	= SCS Runoff	Peak discharge	= 3,359 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.12 hr
Time interval	= 1 min	Hyd. volume	= 9,484 cu ft
Drainage area	= 0.780 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.87 in	Distribution	= Custom
Storm duration	= NOAA_C(1min).CDS	Shape factor	= 484



DESIGN GMP	DRAFT GMP	DATE JAN. 2021	SCALE HORIZ: 1"=100' VERT: ---
SHEET 47		OF 52	
PRJ NO: 2017-2570			
TYPE: MDP			



DESIGN		DATE	REVISION		PRIORITY		APPROVAL	
GMP	APPROVED	BRT	DATE		NO.		DATE	
SHEET		OF		PRJ NO:		2570		
48		52		TYPE:		MDP		

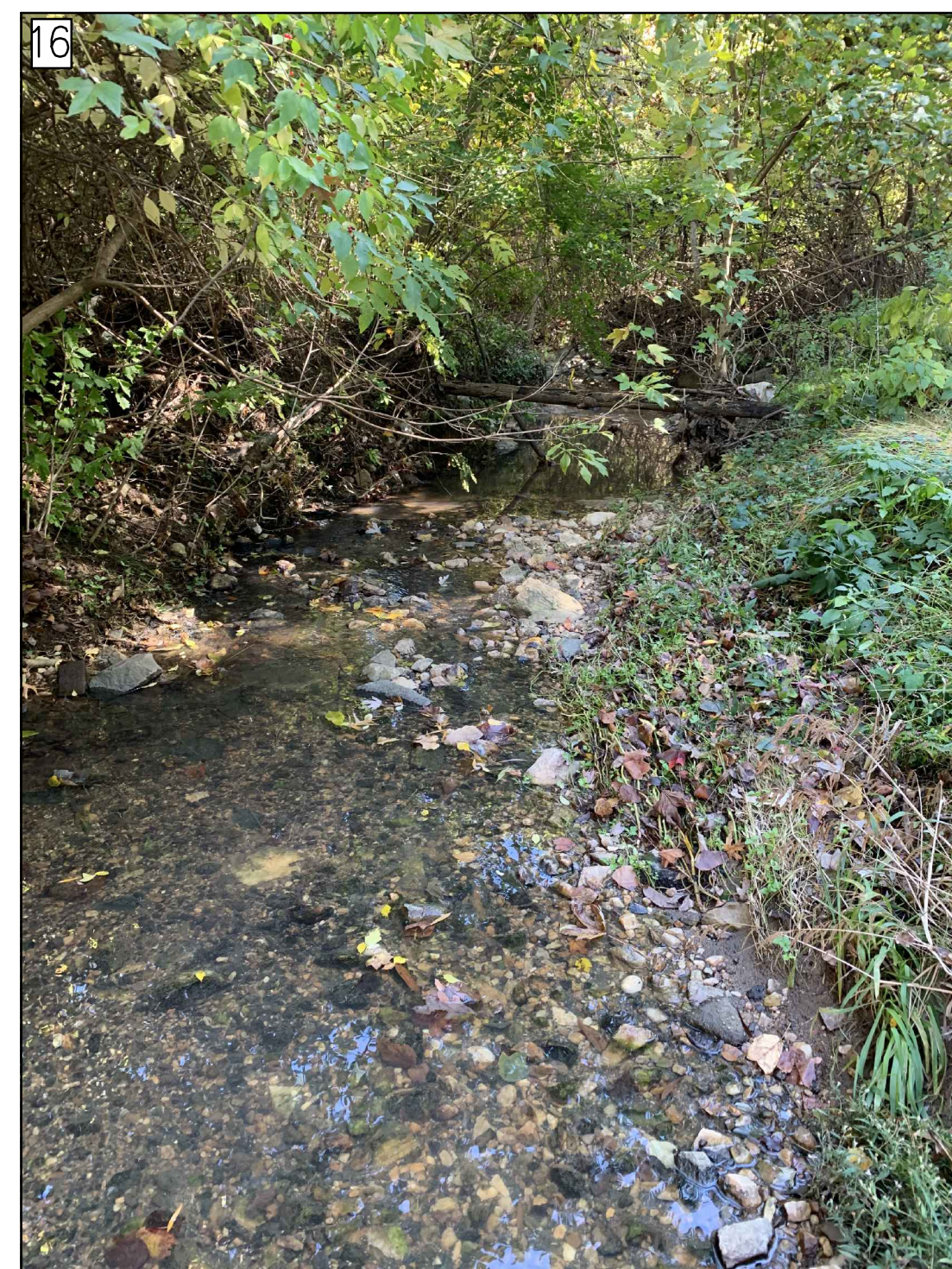
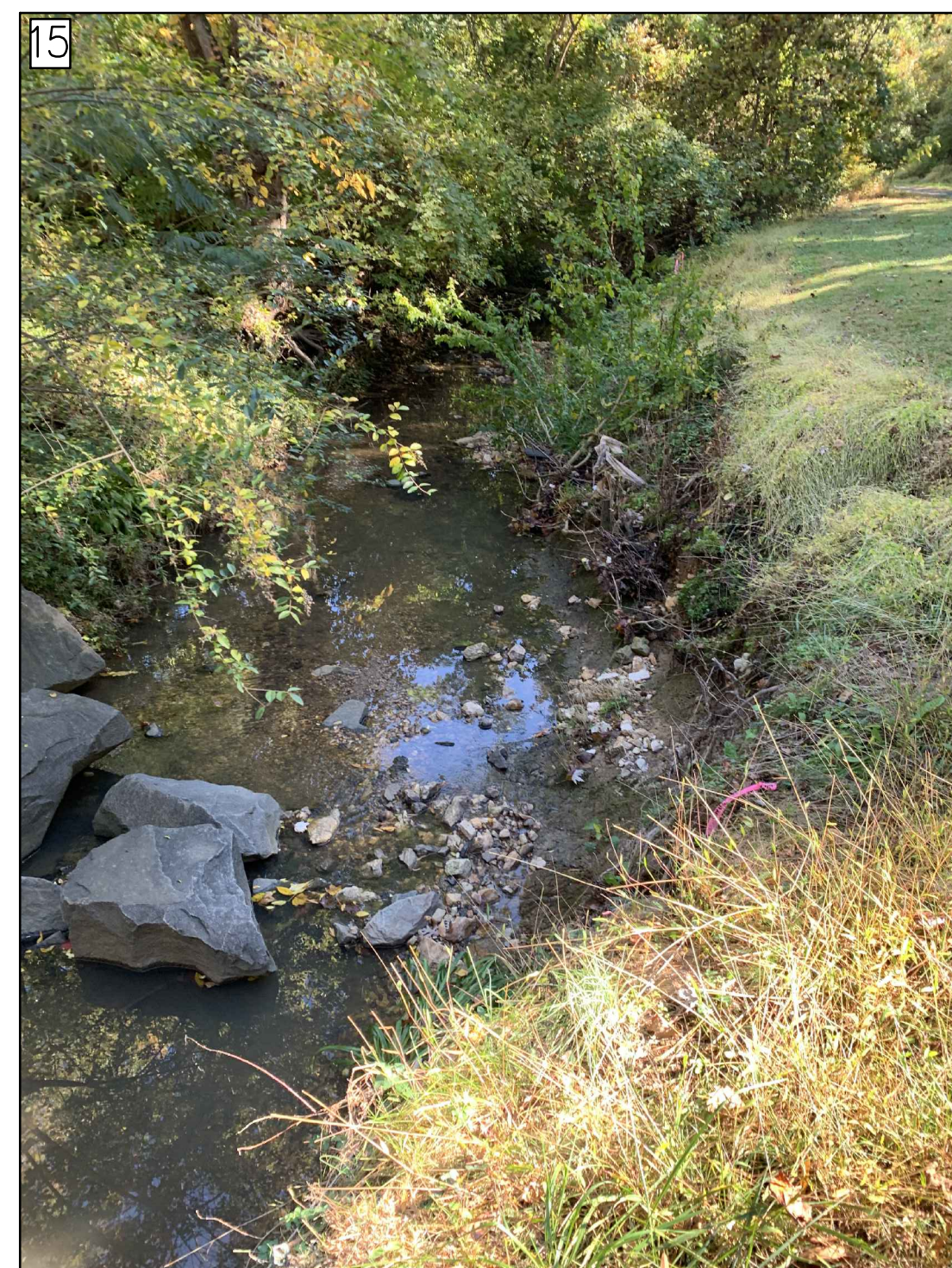
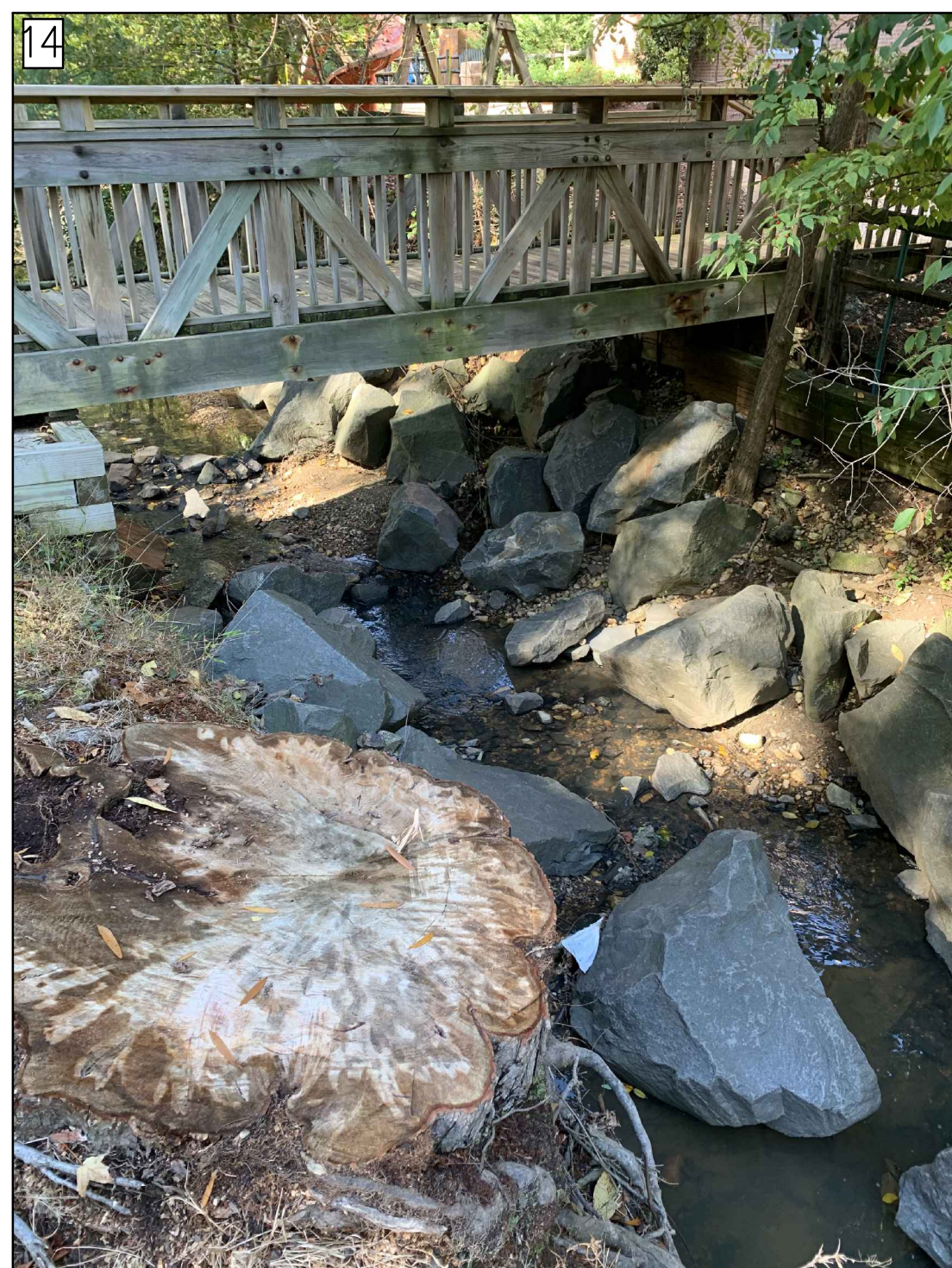
OUTFALL MAP & PHOTOS

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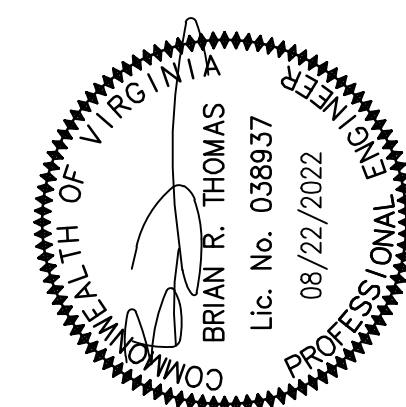
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[illegible]

OUTFALL PHOTOS

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[illegible]



SCALE : $1/8" = 1'-0"$



SCALE : 1/8" = 1'-0"



SCALE : $1/8" = 1'-0"$



SCALE : $1/8" = 1'-0"$

NOTE : THESE DRAWINGS ARE CONCEPTUAL AND INTENDED TO ILLUSTRATE THE GENERAL CHARACTER OF THE BUILDING, QUALITY OF CONSTRUCTION, AND QUALITY OF MATERIALS. THESE DRAWINGS ARE NOT INTENDED TO REPRESENT FINAL BUILDING DESIGN, OR TO BE INTERPRETED AS A COMMITMENT TO SPECIFIC DIMENSIONS OR BUILDING ELEMENTS. FINAL DESIGN WILL BE DETERMINED AT TIME OF SITE PLAN SUBMISSION.

[illegible]



SCALE : 1/8" = 1'-0"

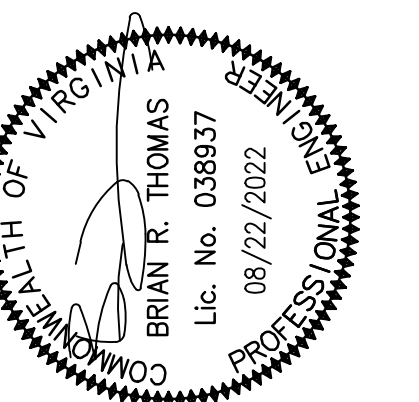


SCALE : 1/8" = 1'-0"

DASHED LINES INDICATE
PROPOSED PERGOLA
LOCATION

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ARCHITECTURAL ELEVATIONS

[illegible]

DESIGN KJV	UNV KJV	APPROVED HMF	DATE JAN. 2021	SCALE HORIZ: 1/8" = 1' VERT: 1/8" = 1'
SHEET 51		OF 52		
PRJ NO: 2017-2570				
TYPE: MDP				



TYPICAL PHASE TWO/THREE STREET LIGHT & POLE
OR EQUIVALENT



TYPICAL PERGOLA
OR EQUIVALENT



TYPICAL TRANSITIONAL & REAR YARD PRIVACY FENCE
OR EQUIVALENT

VA DEQ STORMWATER DESIGN SPECIFICATION NO. 7 PERMEABLE PAVEMENT

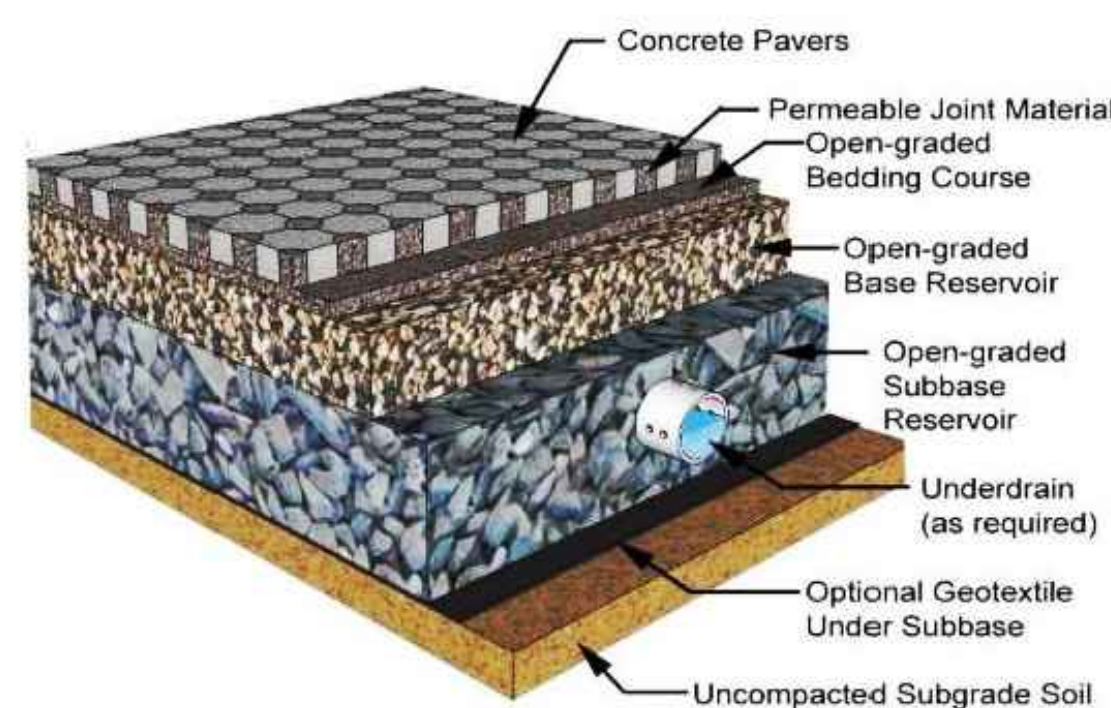


Figure 7.3. Typical Detail (Source: Smith, 2009)

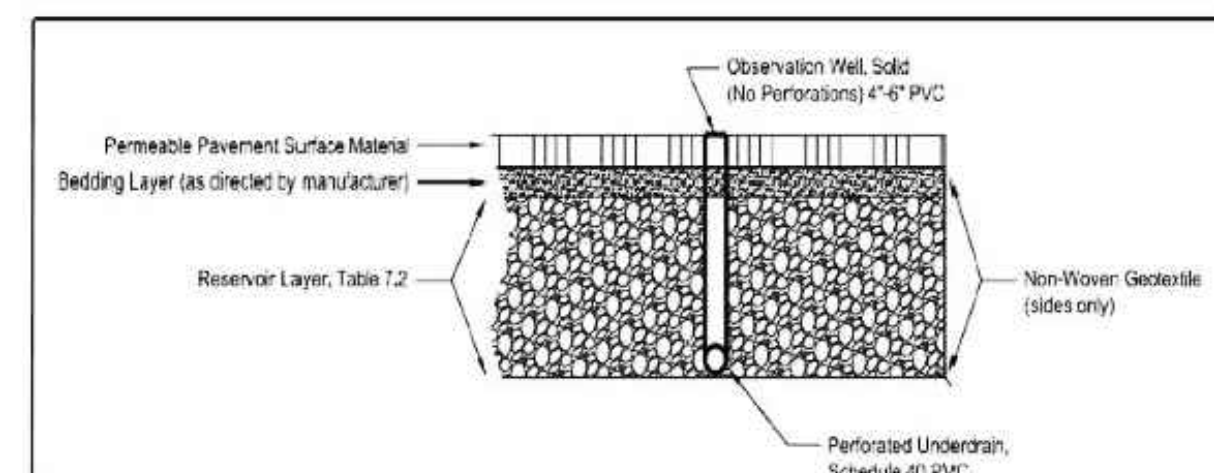


Figure 7.4. Typical Section Permeable Pavement Level 1

TYPICAL PERMEABLE PAVEMENT
OR EQUIVALENT



TYPICAL STAIR & PERGOLA LIGHTING
OR EQUIVALENT



TYPICAL SOLAR PATHWAY LIGHTING
OR EQUIVALENT



TYPICAL BIKE RACK
OR EQUIVALENT



TYPICAL BENCH
OR EQUIVALENT



TYPICAL FRONT DOOR LIGHT
OR EQUIVALENT

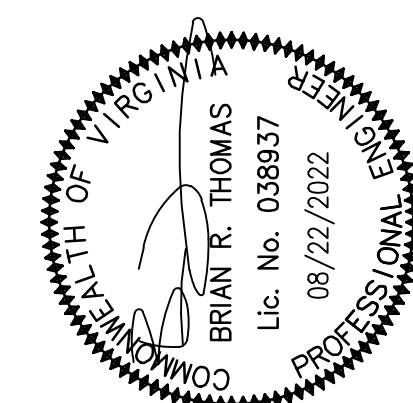


TYPICAL BACK DOOR LIGHT
OR EQUIVALENT

[illegible]

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[illegible]

	DESIGN	DRAFT	
	KJV	KJV	
	APPROVED	HM	
	DATE	SCALE	
		JAN. 2021	
		HORIZ: ---	
		VERT: ---	
SHEET		OF	
52		52	
PRJ NO: 2017-2570			
TYPE: MDP			