DRAINAGE REPORT
FOR
AMENDED SITE PLAN

535 JEROME ROAD
YORKTOWN HEIGHTS, NY

Prepared by:

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3871 Danbury Road
Brewster, NY 10509
Date: November 18, 2020

I. DRAINAGE REPORT

Design Analysis
The project shall include an analysis of the pre and post development runoff generated from the proposed site development based upon the NYSDEC criteria.

The following rainfall values for the site as noted on the NRCC Interactive Website, shown in the Table Below, were used in the analysis. For the purposes of the hydrologic analysis the runoff was based on Type III rainfall distribution for the northeast region. The following rainfall values represent the rainfall distribution for various 24-hour storm frequencies.

Rainfall Values

Rainfall Value (inches)	24-hour Storm Event (Year) NRCC
2.78	1
3.40	2
5.12	10
6.49	25
9.29	100

Source: NYSDEC NRC Extreme Precipitation File

All Piping & Drainage Structures shall be designed for the 25-year storm event using the Rational Method.

II. WATERSHED DESCRIPTIONS & QUANTITIES

A. PRE-DEVELOPMENT ANALYSIS
The Pre-Development watershed areas are listed as follows. Please also refer to the Pre-Development Drainage Overlay. The site is modeled as one drainage analysis point with each watershed below draining as noted below.

Computer Input:

WATERSHED #	AREA	CN	Tc: Hr.	Tt: Hr.	ANALYSIS POINT
EX1	2.09	55.1	.129	0.0	Point A

Total = 2.09 Acres to Point A

The remaining portions of the lot are not impacted by the project and are diverted around the disturbances and continue to discharge down the hillside.

B. POST-DEVELOPMENT ANALYSIS
The Post-Development watersheds are listed as follows. Please also refer to the Post-Development Watershed Plan, and the tabular worksheets, Tc calculations and storm event hydrographs, for the watershed areas listed below in Appendix B.

Computer Input: Model Analysis Point A

WATERSHED #	AREA	CN	Tc HOUR	Tt HOUR	ANALYSIS POINT
1 (Direct to infiltration Basin)	0.66	56.0	0.127	0.00	Point A
2 (colleted to swale #5&splitter)	0.79	69.6	0.10	0.00	Point A
3 (Direct to neighbors)	0.64	48.0	0.129	0.00	Point A

Total = 2.09 Acres to Point A

III. INFILTRATION BASIN DESIGN DESCRIPTION

THIS IS A TREATMENT BMP

SOIL TEST: SW7: refer to Insite Deep Holes
EXISTING GRADE AT SOIL DEEP TEST: 358.0
DEPTH TO RESTRUCTURED LAYER (LEDGE): 90" mottling
NO LEDGE, NO WATER
PERCOLATION RATE: 16 MIN./INCH

0-3" topsoil
3"-42" light brown mod compact fine sand w/trace silt
42"-90" Compact light brown, fine sand with trace silt/gravel

Refer to detail sheet #: SY4

DESIGN TYPE: INFILTRATION STRUCTURE

HYDROGRAPH NAME; IN: INFIL BASIN (1, 10, 25, 100)
OUT: INFIL BASIN (1, 10, 25, 100)

1) BASIN GEOMETRY: BOTTOM: UNIT INV: 355.0

TOP OF STRUCTURE: 358.50

OVERALL SIZE: 33' X 85'(FOREBAY&BASIN)
PRE-TREATMENT: SEEPAGE FOREBAY W/ GRAVEL WEIR

2) OUTLET STRUCTURES:

RECTANGULAR WEIR:
2/1 SIDE SLOPES(RIP-RAP)
10.0' BASE WIDTH @ ELEVATION: 357.5

3) HYDRAULIC ROUTING
STANDARD STORMS:

Storm Event	Input (CFS)	Discharge (CFS)	Elevation
1 Year	0.41	0.00	355.50
10 Year	1.27	0.00	357.12

25 Year	1.88	0.5	357.76
100 Year	3.30	2.74	357.71

Infiltration rate of 4.0 in/hr ave. included in the routing

IV. PRE & POST DEVELOPMENT DISCHARGE RATE

Comparison at Analysis Point A

The Pre & Post Discharges are listed as follows: (Includes offsite components not impacted with this property).

Analysis Point A					
	1 YR	2 YR	10 YR	25 YR	100 YR
PRE	0.08	0.30	1.83	3.49	7.51
POST	0.00	0.19	1.23	2.41	7.52
NET	-0.08	-0.11	-0.60	-1.08	+0.00
%	-100%	-38%	-33%	-30%	+0%

NYSDEC Attenuation Requirements

A) 1 Year Storm Event – Channel Protection
Detain 1 Year Storm – 24 Hours
Reduce by 100% from pre-development levels.

B) 2 Year Storm Event
Peak Discharge 50% reduction not met due to large area of WS#1 which is not disturbed

C) 10 Year Storm Event – Overbank Control
Attenuate to Pre-Development Levels

D) 100 Year Storm Event – Extreme Flood Control
Attenuate to Pre-Development Levels

Findings

The following is an overall review of the project relative to hydraulic requirements of NYSDEC Storm water Management:

V. SWALE DESIGN

The collection system for the Cultec system is based upon swales along the hillside. These are designed based upon the FlowMaster computer program for open channel flow based upon the Rational Method, refer to the attached worksheets in the appendix. Analysis based upon $I_{25} = 230/Tc + 30$.

Watershed Calculations – Refer to drainage overlay

Swale ID	WS#	Area	Cover - B Soils		WOODS C = .18	C Weighted	Tc Cumulative	I 25-year
			IMP C = .98	LAWN C = .26				
1	SW1	0.37	0.04	0.278	0.052	0.33	206@7.8%=13.5	5.3
2	SW2	0.24	0.11	0.129	-	0.58	35@14%=6.0	6.4
2A	SW2A	0.04	0.02	0.023	-	0.64	35@14%=6.0	6.4
3	SW3	0.026	0.016	0.01	–	0.7	35@14%=6.0	6.4
3A	SW3A	0.85	-	0.51	0.34	0.23	292@10.2=14.0	5.2
3B	SW3B	0.45	-	0.38	0.07	0.25	266@9.8%=14.6	5.16
4	SW4	0.49	0.05	0.25	0.19	0.3	266@9.8%=14.6	5.16
5	SW5	0.4	0.12	0.14	0.14	0.45	135@17%=9.8	5.8
6	SW4	-	-	-	-			-

Swale Design – Refer to Appendix E – Flow Master Printouts – Upon Request

The concept is to provide a triangular swale on the uphill side of all driveways. The stability and rip-rap sizing is as follows:

With grass cover: n based upon flow depth – Appendix L, With rip-rap: n = From Figure 8-27

Swale 1D	Total Flows	Slope .	Q 25 Yr Flow (cfs)	Grass	Ref Detail	Swale Type	Depth Flow	N Value	Rip-Rap Size	Velocity (FPS) MAX	Bottom Width
Swale 1	SW1	8.0%	0.64	X	9/SY2	Tri	0.42	0.13	N/A	1.13	N/A
Swale 2	SW2	4.3%	0.89	X	9/SY2	Tri	0.54	0.12	N/A	1.00	N/A
Swale 2A	SW2A	3%	0.17	X	9/SY2	Tri	0.34	0.15	N/A	0.5	N/A
Swale 3	SW3	8.0%	0.12	X	9/SY2	Tri	0.25	0.15	N/A	0.67	N/A
Swale 3A	SW3A	6.5%	1.02	X	9/SY2	Tri	0.52	0.12	N/A	1.25	N/A
Swale 3B	SW3B	14%	0.58	X	9/SY2	Tri	0.38	0.13	N/A	1.36	N/A
Swale 4	SW4	9.5%	0.75	X	9/SY2	Tri	0.43	0.12	N/A	1.3	N/A

Tri = Triangular Trap = Trapezoidal

Swale 5	SW5+SW2	13%	1.85	X	9/SY2	Trap	0.37	0.14	N/A	1.6	2.0
Swale 6	SW4	8.0%	0.75	X	9/SY2	Tri	0.45	0.125	N/A	1.21	N/A

Tri = Triangular Trap = Trapezoidal

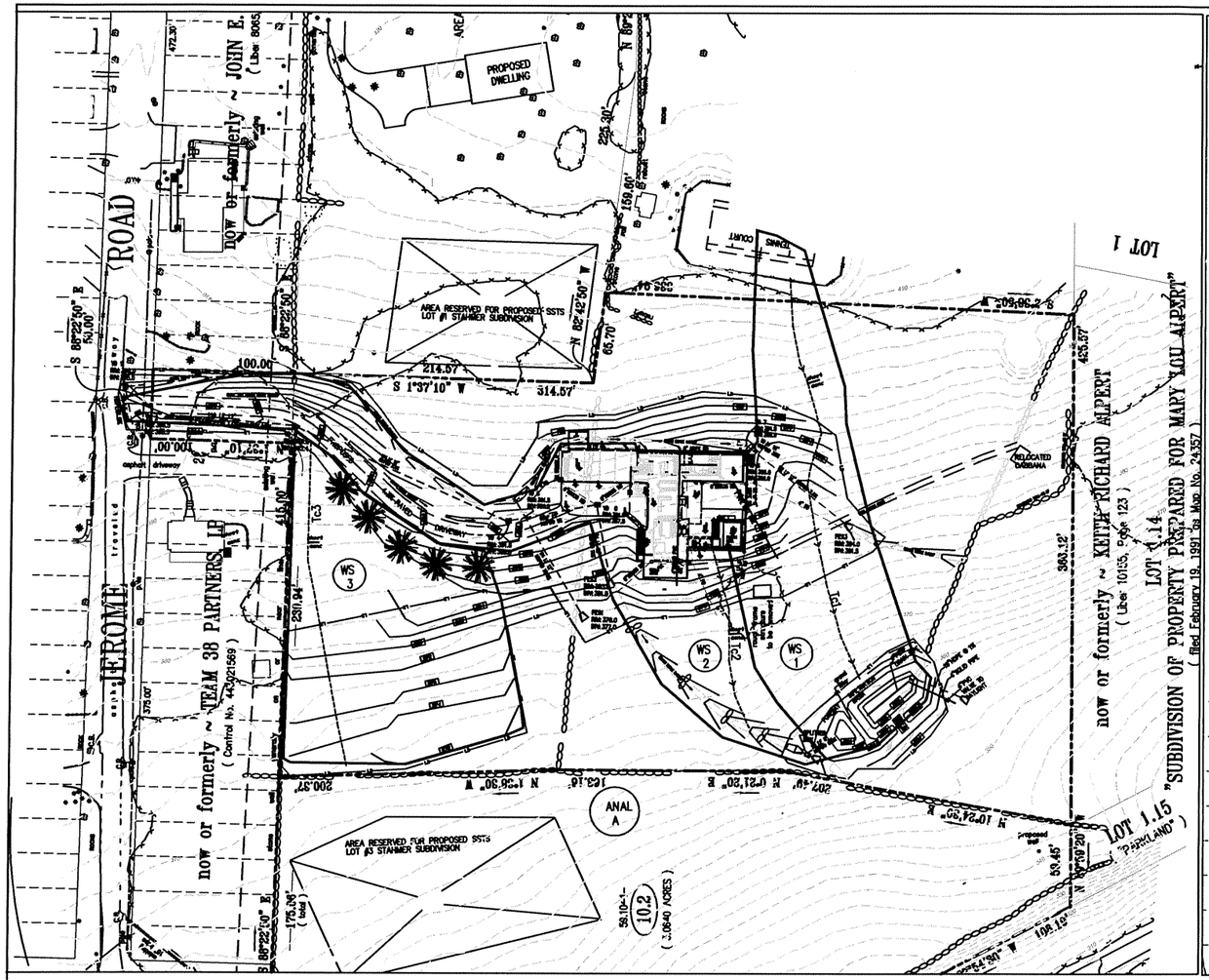
VI. PIPE ANALYSIS

There are proposed a piping and catch basin drainage system along the driveway plus diversion piping to the Infiltration basin. Pipes are 15" or 12" dia. based upon flow. HDPE piping design based upon the 25-year storm event for the proposed infiltration basin by-pass pipe.

Watershed Calculations – based upon swale collected-see calcs above

Pipe Calculations

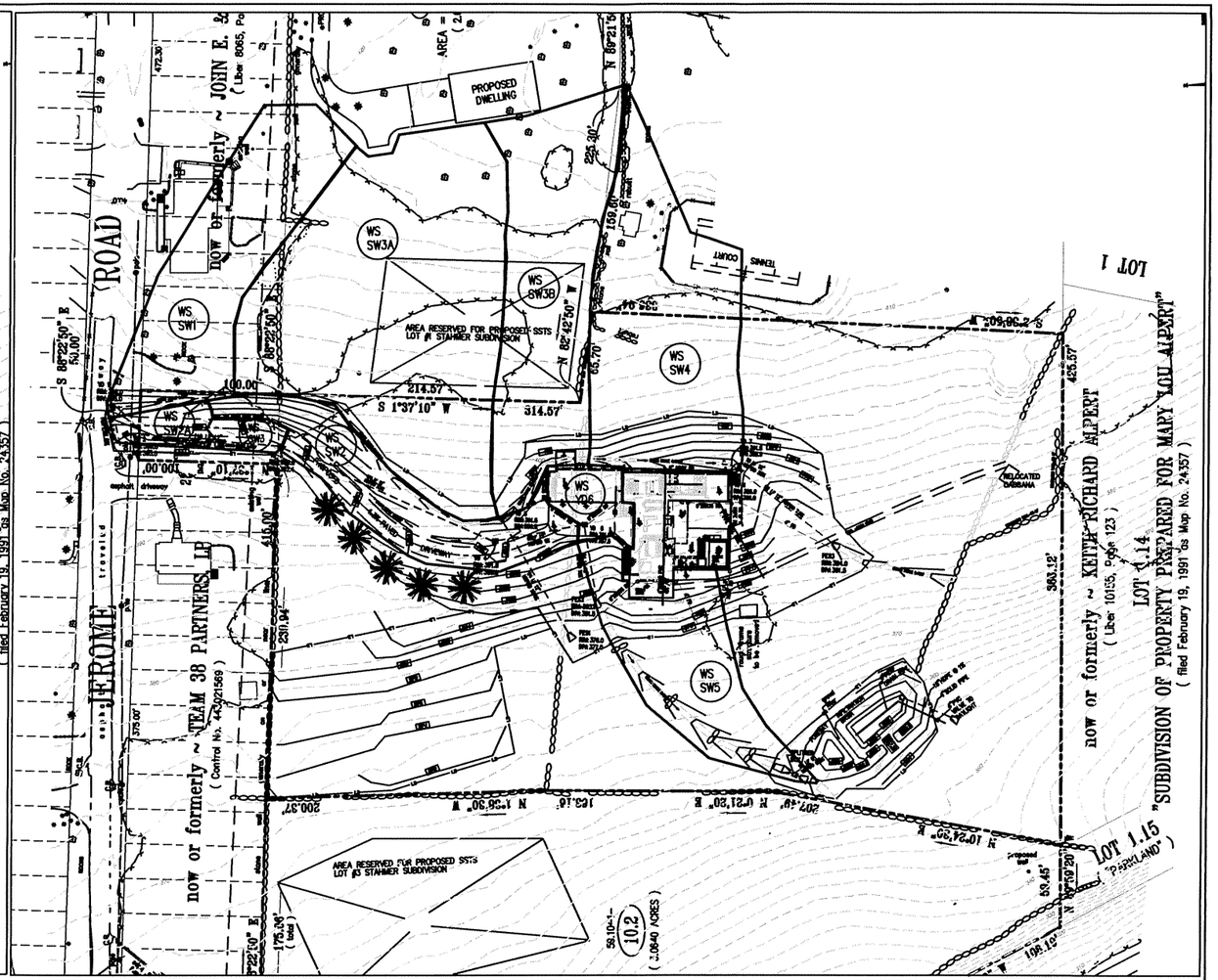
	Pipe Size	Slope %	Water-shed	25 Yr	Flow Depth	Velocity FPS	% Full
YD1 TO EXCB	15	1.0	Sw1	0.64	0.27	3.4	22
YD2-YD3	12	1.0	Sw2a	0.17	0.15	2.23	15
YD3-YD4	12	2.2	Sw 2a+3	0.29	0.16	3.6	16
YD4-YD6	12	1.0	Sw 2+2a+3	1.18	0.40	4.0	39
YD6 to FES2	12	11.0	Sw 2+2a+3+ Yd6	1.53	0.24	10.3	24
YD5 to FES1	12	10.0	Sw 3a+3b	1.60	0.25	10.2	25
YD7 to FES3	12	7.6	Sw4	0.75	0.19	7.4	19
SPLIT IN	15	1.0	1.5	1.5	0.41	4.2	33
SPLIT OUT	15	1.0	4.5	4.5	0.77	5.7	62



DRAINAGE OVERLAY

GRAPHIC SCALE

1 inch = 50 ft.
(IN FEET)



SWALE OVERLAY

GRAPHIC SCALE

1 inch = 50 ft.
(IN FEET)

All soils are CuD: Charlton Hollis Rock Outcroppings

P. W. SCOTT	Revisions			Dwg. Title	DRAINAGE-OVERLAYS	Seal
ENGINEERING & ARCHITECTURE, P.C.	No.	Date	Description	Project Title	535_JEROME_ROAD,_YORKTOWN_HEIGHTS	
3871 ROUTE 6				Proj. No.	20-116	Drawn by PWS
BREWSTER, NY 10509 845-278-2110				Date	07/24/20	Scale AS_NOTED

Dwg. No. D1

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Smoothing	Yes
State	New York
Location	
Longitude	73.786 degrees West
Latitude	41.239 degrees North
Elevation	0 feet
Date/Time	Mon, 16 Nov 2020 17:20:27 -0500

Extreme Precipitation Estimates

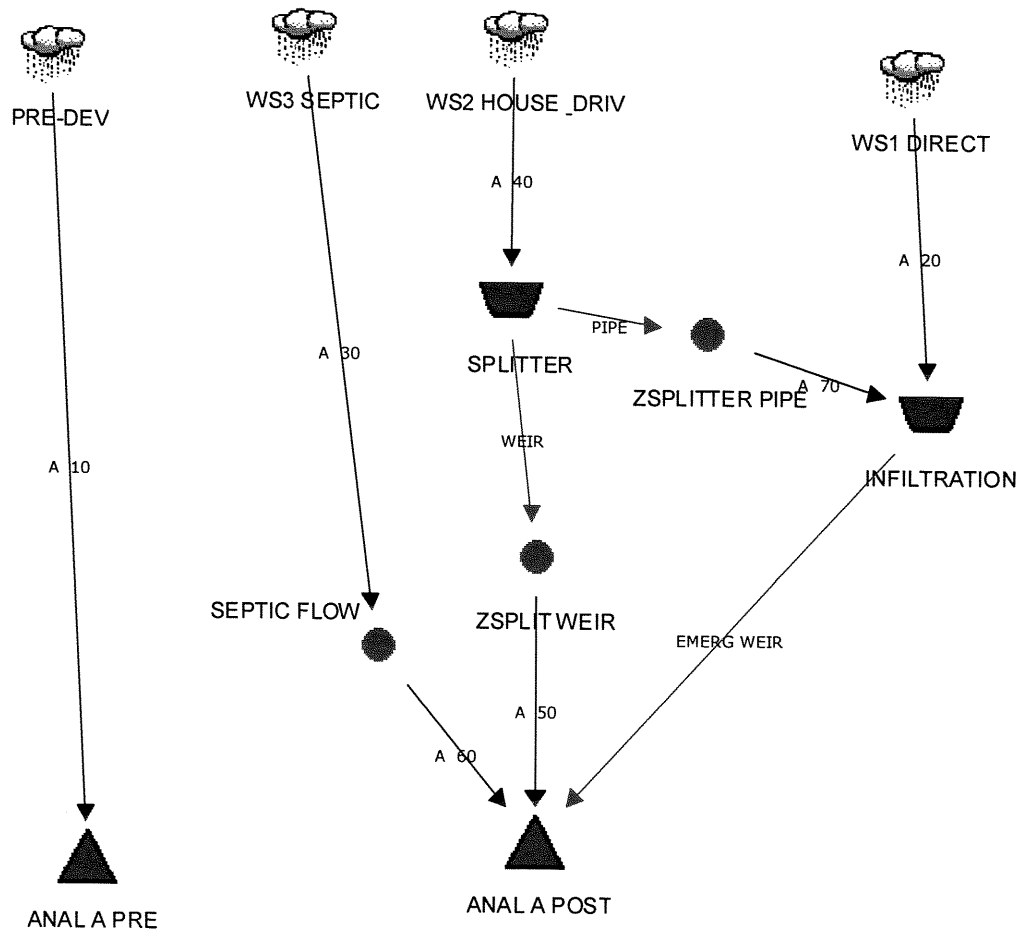
	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.34	0.52	0.64	0.84	1.06	1.31	**1yr**	0.91	1.24	1.51	1.85	2.27	2.78	3.15	**1yr**	2.46	3.03	3.53	4.21	4.85	**1yr**
2yr	0.40	0.62	0.77	1.02	1.28	1.60	**2yr**	1.10	1.48	1.83	2.26	2.78	3.40	3.81	**2yr**	3.01	3.67	4.23	4.98	5.65	**2yr**
5yr	0.47	0.72	0.91	1.22	1.56	1.97	**5yr**	1.34	1.82	2.27	2.83	3.49	4.29	4.85	**5yr**	3.80	4.66	5.41	6.23	7.01	**5yr**
10yr	0.52	0.81	1.02	1.39	1.81	2.31	**10yr**	1.56	2.13	2.68	3.35	4.16	5.12	5.82	**10yr**	4.54	5.60	6.52	7.39	8.26	**10yr**
25yr	0.59	0.94	1.20	1.66	2.21	2.86	**25yr**	1.91	2.62	3.34	4.21	5.25	6.49	7.42	**25yr**	5.74	7.13	8.35	9.26	10.26	**25yr**
50yr	0.66	1.07	1.37	1.91	2.58	3.37	**50yr**	2.22	3.06	3.95	5.00	6.26	7.76	8.91	**50yr**	6.87	8.57	10.07	10.98	12.09	**50yr**
100yr	0.74	1.20	1.55	2.20	3.01	3.97	**100yr**	2.60	3.59	4.68	5.96	7.47	9.29	10.72	**100yr**	8.22	10.31	12.16	13.03	14.26	**100yr**
200yr	0.85	1.38	1.78	2.55	3.52	4.68	**200yr**	3.04	4.20	5.54	7.08	8.92	11.13	12.90	**200yr**	9.85	12.40	14.69	15.47	16.82	**200yr**
500yr	1.00	1.64	2.14	3.11	4.35	5.84	**500yr**	3.75	5.19	6.94	8.93	11.30	14.16	16.49	**500yr**	12.53	15.86	18.87	19.40	20.93	**500yr**

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.49	0.66	0.81	1.13	1yr	0.70	1.11	1.38	1.73	2.10	2.49	2.83	1yr	2.21	2.73	3.25	3.80	4.43	1yr
2yr	0.39	0.60	0.74	1.00	1.23	1.48	2yr	1.06	1.45	1.69	2.15	2.70	3.25	3.66	2yr	2.88	3.52	4.05	4.77	5.45	2yr
5yr	0.44	0.68	0.84	1.15	1.47	1.74	5yr	1.27	1.70	1.98	2.51	3.15	4.01	4.39	5yr	3.55	4.22	4.85	5.66	6.33	5yr
10yr	0.48	0.74	0.92	1.29	1.66	1.95	10yr	1.44	1.91	2.24	2.81	3.55	4.41	5.04	10yr	3.90	4.84	5.56	6.33	6.92	10yr
25yr	0.55	0.84	1.04	1.48	1.95	2.26	25yr	1.68	2.21	2.62	3.25	4.17	5.26	6.06	25yr	4.66	5.82	7.14	7.39	7.82	25yr
50yr	0.61	0.92	1.15	1.65	2.23	2.55	50yr	1.92	2.49	2.98	3.66	4.72	6.05	6.96	50yr	5.35	6.69	8.31	8.30	8.56	50yr
100yr	0.68	1.03	1.29	1.86	2.55	2.89	100yr	2.20	2.82	3.38	4.10	5.36	6.97	8.02	100yr	6.16	7.71	9.69	9.31	9.35	100yr
200yr	0.76	1.15	1.45	2.10	2.93	3.27	200yr	2.53	3.20	3.86	4.63	6.10	8.05	9.25	200yr	7.12	8.90	11.33	10.41	10.21	200yr
500yr	0.90	1.33	1.71	2.49	3.54	3.87	500yr	3.06	3.79	4.62	5.45	7.28	9.78	11.19	500yr	8.66	10.76	13.93	12.09	11.42	500yr

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.38	0.58	0.71	0.95	1.17	1.44	1yr	1.01	1.41	1.62	2.09	2.54	3.00	3.38	1yr	2.65	3.25	3.81	4.71	5.35	1yr
2yr	0.42	0.65	0.80	1.08	1.33	1.59	2yr	1.15	1.55	1.80	2.34	2.90	3.56	4.00	2yr	3.15	3.84	4.42	5.26	5.98	2yr
5yr	0.50	0.77	0.95	1.30	1.66	1.99	5yr	1.43	1.94	2.31	3.00	3.79	4.59	5.35	5yr	4.06	5.15	5.98	6.82	7.63	5yr
10yr	0.58	0.89	1.10	1.54	1.98	2.37	10yr	1.71	2.31	2.77	3.64	4.63	5.94	6.71	10yr	5.25	6.46	7.56	8.51	9.40	10yr
25yr	0.71	1.07	1.34	1.91	2.51	2.99	25yr	2.17	2.92	3.53	4.75	6.04	7.91	9.05	25yr	7.00	8.70	9.52	11.29	12.24	25yr
50yr	0.82	1.25	1.55	2.23	3.01	3.58	50yr	2.59	3.50	4.24	5.79	7.38	9.84	11.32	50yr	8.71	10.88	11.82	13.99	14.94	50yr
100yr	0.96	1.46	1.82	2.63	3.61	4.29	100yr	3.12	4.19	5.09	7.10	8.99	12.23	14.19	100yr	10.82	13.64	14.67	17.34	18.24	100yr
200yr	1.12	1.69	2.14	3.10	4.32	5.12	200yr	3.73	5.01	6.10	8.63	10.96	15.20	17.78	200yr	13.45	17.09	18.22	21.44	22.30	200yr
500yr	1.39	2.07	2.67	3.87	5.51	6.49	500yr	4.75	6.35	7.74	11.26	14.24	20.24	23.95	500yr	17.91	23.03	24.27	28.55	29.12	500yr


PRE-DEV
WS3 SEPTIC
WS2 HOUSE _DRIV
WS1 DIRECT
A 40
A 20
PIPE
SPLITTER
ZSPLITTER PIPE
A 70
A 30
WEIR
INFILTRATION
A 10
SEPTIC FLOW
ZSPLIT WEIR
EMERG WEIR
A 50
A 60
ANAL A PRE
ANAL A POST

Drainage Area # EX 1			
Development	Pre		**91,040**
	Post		
		TOTAL	**2.09**

Drainage Area Description					
Use	Soil Type	Soil Class	CN	Area	CN x Area
Pavement	CuD	**B**	**98**	**0.00**	**0.000**
Impervious`	CuD	**B**	**98**	**0.00**	**0.000**
Lawn	CuD	**B**	**61**	**0.04**	**2.440**
Brush	CuD	**B**	**48**	**0.00**	**0.000**
Woods	CuD	**B**	**55**	**2.05**	**112.750**
		TOTAL =		**2.09**	**115.190**
CN (Weighted) =sum(CN x A) divided by Sum (A) =					**55.1**

Runoff:	Storm Event Type III = 24 Hour Rainfall				NRCC	
	1 Year =	2.70	in		**2.78**	in
	2 Year =	3.50	in		**3.40**	in
	10 Year =	5.00	in		**5.12**	in
	25 Year =	6.00	in		**6.49**	in
	100 Year	7.50	in		**9.29**	in

Annual Rainfall: 40.2 in

Tc Analysis Calculations							
A	Sheet Flow			**Tc**	Flow Length:	**70.0**	
				0.120	Slope:	**14.00%**	
					Cover:	**WOODS**	
B	Shallow Concentrated Flow				Paved:		
				0.009	Unpaved:		**YES**
					Hydraulic Length:		**226**
			Velocity	7.1	Average Land		**18%**
C	Channel Flow				FlowArea:	Q	
					Descrip.	N=	
					Length:	Width:	
					Depth	Slope:	
					V	Wp	
			Minimum Tc = 0.10		V	Wp	
			Total T_c	**0.129**			

TRAVEL TIME TO A 0.0 HR.

Drainage Area # WS 1			
Development	Pre		0
	Post		28,750
		TOTAL	0.66

Drainage Area Description					
Use	Soil Type	Soil Class	CN	Area	CN x Area
Impervious`	CuD	B	98	0.00	0.000
Pool Area	CuD	B	98	0.00	0.000
Lawn	CuD	B	61	0.32	19.520
Brush	CuD	B	48	0.18	8.784
Woods	CuD	B	55	0.16	8.525
		TOTAL =		0.66	36.829
CN (Weighted) =sum(CN x A) divided by Sum (A) =					56.0

Runoff:	Storm Event Type III = 24 Hour Rainfall				NRCC	
	1 Year =	2.70	in		2.78	in
	2 Year =	3.50	in		3.40	in
	10 Year =	5.00	in		5.12	in
	25 Year =	6.00	in		6.49	in
	100 Year	7.50	in		9.29	in

Annual Rainfall: 40.2 in

Tc Analysis Calculations							
A	Sheet Flow			Tc	Flow Length:	78.0	
				0.118	Slope:	18.00%	
					Cover:	WOODS	
B	Shallow Concentrated Flow				Paved:		
				0.009	Unpaved:		YES
					Hydraulic Length:		220
			Velocity	7.1	Average Land		18%
C	Channel Flow				FlowArea:	Q	
					Descrip.	N=	
					Length:	Width:	
					Depth	Slope:	
					V	Wp	
			Minimum Tc = 0.10		V	Wp	
			Total T_c	0.127			

TRAVEL TIME TO A INSIG FROM BASIN 0.0 HR

Drainage Area # WS 2			
Development	Pre		**0**
	Post		**33,977**
		TOTAL	**0.78**

Drainage Area Description					
Use	Soil Type	Soil Class	CN	Area	CN x Area
Impervious`	CuD	**B**	**98**	**0.28**	**27.440**
Pool Area	CuD	**B**	**98**	**0.03**	**3.136**
Lawn	CuD	**B**	**61**	**0.10**	**5.978**
Brush	CuD	**B**	**48**	**0.37**	**17.760**
Woods	CuD	**B**	**55**	**0.00**	**0.000**
		TOTAL =		**0.78**	**54.314**
CN (Weighted) =sum(CN x A) divided by Sum (A) =					**69.6**

Runoff:	Storm Event Type III = 24 Hour Rainfall				NRCC	
	1 Year =	2.70	in		**2.78**	in
	2 Year =	3.50	in		**3.40**	in
	10 Year =	5.00	in		**5.12**	in
	25 Year =	6.00	in		**6.49**	in
	100 Year	7.50	in		**9.29**	in

Annual Rainfall: 40.2 in

Tc Analysis Calculations							
A	Sheet Flow			**Tc**	Flow Length:	**62.0**	
				0.060	Slope:	**22.00%**	
					Cover:	**LAWN**	
B	Shallow Concentrated Flow				Paved:		
				0.003	Unpaved:		**YES**
					Hydraulic Length:		**67**
			Velocity	6.5	Average Land		**12%**
C	Channel Flow				FlowArea:	Q	
					Descrip.	N=	
					Length:	Width:	
					Depth	Slope:	
					V	Wp	
			Minimum Tc = 0.10		V	Wp	
			Total T_c	**0.063**			

TRAVEL TIME TO A INSIG FROM BASIN 0.0 HR

Drainage Area # WS 3			
Development	Pre		0
	Post		28,053
		TOTAL	0.64

Drainage Area Description					
Use	Soil Type	Soil Class	CN	Area	CN x Area
Impervious`	CuD	B	98	0.000	0.000
Lawn	CuD	B	61	0.00	0.000
Brush	CuD	B	48	0.64	30.720
Woods	CuD	B	55	0.00	0.000
		TOTAL =		0.640	30.720
CN (Weighted) =sum(CN x A) divided by Sum (A) =					48.0

Runoff:	Storm Event Type III = 24 Hour Rainfall				NRCC	
	1 Year =	2.70	in		2.78	in
	2 Year =	3.50	in		3.40	in
	10 Year =	5.00	in		5.12	in
	25 Year =	6.00	in		6.49	in
	100 Year	7.50	in		9.29	in

Annual Rainfall: 40.2 in

Tc Analysis Calculations							
A	Sheet Flow			Tc	Flow Length:	70.0	
				0.120	Slope:	14.00%	
					Cover:	WOODS	
B	Shallow Concentrated Flow				Paved:		
				0.009	Unpaved:		YES
					Hydraulic Length:		160
			Velocity	5.00	Average Land		10%
C	Channel Flow			none	FlowArea:	Q	
					Descrip.	GRASS	N=	0.1
					Length:	0	Width:	2
					Depth	1	Slope:	0.00%
					V	1.5	Wp	
			Minimum Tc = 0.10	-	tc=L/V		Wp	
			Total T_c	0.129				

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MASTER DESIGN STORM SUMMARY

Default Network Design Storm File, ID STORMS.RNQ WESTCHESTER-BREN

Return Event	Total Depth in	Rainfall Type	RNF File	RNF ID
1-YR	2.6605	Synthetic Curve	SCSTYPES	TypeIII 24hr
2-YR	3.2538	Synthetic Curve	SCSTYPES	TypeIII 24hr
10-YR	4.8998	Synthetic Curve	SCSTYPES	TypeIII 24hr
25-YR	6.2109	Synthetic Curve	SCSTYPES	TypeIII 24hr
100-yr	8.8905	Synthetic Curve	SCSTYPES	TypeIII 24hr

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Storage Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond ac-ft
*ANAL A POST	JCT	1	.001		13.8950	.00		
*ANAL A POST	JCT	2	.007		12.1200	.19		
*ANAL A POST	JCT	10	.052		12.1200	1.23		
*ANAL A POST	JCT	25	.131		12.1200	2.41		
*ANAL A POST	JCT	100	.399		12.1350	7.52		
*ANAL A PRE	JCT	1	.020		12.4100	.08		
*ANAL A PRE	JCT	2	.047		12.2900	.30		
*ANAL A PRE	JCT	10	.163		12.1450	1.83		
*ANAL A PRE	JCT	25	.287		12.1450	3.49		
*ANAL A PRE	JCT	100	.596		12.1250	7.51		
INFILTRATION IN	POND	1	.040		12.1200	.41		
INFILTRATION IN	POND	2	.068		12.1400	.61		
INFILTRATION IN	POND	10	.156		12.1350	1.27		
INFILTRATION IN	POND	25	.235		12.1350	1.88		
INFILTRATION IN	POND	100	.413		12.1200	3.30		
INFILTRATION OUT	POND	1	.000		11.9300	.00	355.50	.008
INFILTRATION OUT	POND	2	.000		11.7200	.00	355.99	.018
INFILTRATION OUT	POND	10	.000		10.5650	.00	357.12	.053
INFILTRATION OUT	POND	25	.023		12.5550	.50	357.56	.071

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Storage Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond ac-ft
INFILTRATION OUT POND		100	.144		12.1700	2.74	357.71	.079
PRE-DEV	AREA	1	.020		12.4100	.08		
PRE-DEV	AREA	2	.047		12.2900	.30		
PRE-DEV	AREA	10	.163		12.1450	1.83		
PRE-DEV	AREA	25	.287		12.1450	3.49		
PRE-DEV	AREA	100	.596		12.1250	7.51		
SEPTIC FLOW	JCT	1	.001		13.8950	.00		
SEPTIC FLOW	JCT	2	.005		12.4450	.01		
SEPTIC FLOW	JCT	10	.029		12.1650	.24		
SEPTIC FLOW	JCT	25	.059		12.1450	.64		
SEPTIC FLOW	JCT	100	.137		12.1400	1.69		
SPLITTER IN	POND	1	.034		12.1200	.41		
SPLITTER IN	POND	2	.055		12.1200	.71		
SPLITTER IN	POND	10	.126		12.1200	1.67		
SPLITTER IN	POND	25	.191		12.1100	2.53		
SPLITTER IN	POND	100	.337		12.1050	4.40		
SPLITTER OUT	POND	1	.033		12.1200	.41	359.26	.001
SPLITTER OUT	POND	2	.054		12.1200	.71	359.36	.001
SPLITTER OUT	POND	10	.125		12.1200	1.67	359.52	.001
SPLITTER OUT	POND	25	.190		12.1100	2.53	359.63	.001
SPLITTER OUT	POND	100	.337		12.1050	4.40	359.82	.001
WS1 DIRECT	AREA	1	.007		12.3800	.03		
WS1 DIRECT	AREA	2	.016		12.1750	.11		
WS1 DIRECT	AREA	10	.054		12.1400	.63		
WS1 DIRECT	AREA	25	.095		12.1350	1.16		
WS1 DIRECT	AREA	100	.194		12.1350	2.46		
WS2 HOUSE & DRIV	AREA	1	.034		12.1200	.41		
WS2 HOUSE & DRIV	AREA	2	.055		12.1200	.71		
WS2 HOUSE & DRIV	AREA	10	.126		12.1200	1.67		

MASTER NETWORK SUMMARY
SCS Unit Hydrograph Method

(*Node=Outfall; +Node=Diversion;)
(Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Storage Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Qpeak cfs	Max WSEL ft	Max Pond ac-ft
WS2 HOUSE & DRIV	AREA	25	.191		12.1100	2.53		
WS2 HOUSE & DRIV	AREA	100	.337		12.1050	4.40		
WS3 SEPTIC	AREA	1	.001		13.8950	.00		
WS3 SEPTIC	AREA	2	.005		12.4450	.01		
WS3 SEPTIC	AREA	10	.029		12.1650	.24		
WS3 SEPTIC	AREA	25	.059		12.1450	.64		
WS3 SEPTIC	AREA	100	.137		12.1400	1.69		
ZSPLIT WEIR	JCT	1	.000		.0050	.00		
ZSPLIT WEIR	JCT	2	.002		12.1200	.19		
ZSPLIT WEIR	JCT	10	.023		12.1200	1.02		
ZSPLIT WEIR	JCT	25	.049		12.1100	1.81		
ZSPLIT WEIR	JCT	100	.118		12.1050	3.55		
ZSPLITTER PIPE	JCT	1	.033		12.1200	.41		
ZSPLITTER PIPE	JCT	2	.052		12.1200	.52		
ZSPLITTER PIPE	JCT	10	.102		12.0950	.65		
ZSPLITTER PIPE	JCT	25	.141		12.0950	.72		
ZSPLITTER PIPE	JCT	100	.219		12.0950	.84		

File.... C:\HAESTAD\PPKW\RAINFALL\STORMS.RNQ
Title...

JOB TITLE NOT SPECIFIED
Click Project Summary on the File Menu to enter title

DESIGN STORMS SUMMARY

Design Storm File,ID = STORMS.RNQ WESTCHESTER-BREN

Storm Tag Name = 1-YR
Description: 1 YEAR FIRST FLUSH

Data Type, File, ID = Synthetic Storm SCSTYPES.RNF TypeIII 24hr
Storm Frequency = 1 yr
Total Rainfall Depth= 2.6605 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Storm Tag Name = 2-YR
Description: 2 YEAR

Data Type, File, ID = Synthetic Storm SCSTYPES.RNF TypeIII 24hr
Storm Frequency = 2 yr
Total Rainfall Depth= 3.2538 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Storm Tag Name = 10-YR
Description: 10 YEAR

Data Type, File, ID = Synthetic Storm SCSTYPES.RNF TypeIII 24hr
Storm Frequency = 10 yr
Total Rainfall Depth= 4.8998 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

Storm Tag Name = 25-YR
Description: 25 YR

Data Type, File, ID = Synthetic Storm SCSTYPES.RNF TypeIII 24hr
Storm Frequency = 25 yr
Total Rainfall Depth= 6.2109 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

File.... C:\HAESTAD\PPKW\RAINFALL\STORMS.RNQ
Title...

JOB TITLE NOT SPECIFIED
Click Project Summary on the File Menu to enter title

DESIGN STORMS SUMMARY

Design Storm File,ID = STORMS.RNQ WESTCHESTER-BREN

Storm Tag Name = 100-yr
Description: 100 yr

Data Type, File, ID = Synthetic Storm SCSTYPES.RNF TypeIII 24hr
Storm Frequency = 100 yr
Total Rainfall Depth= 8.8905 in
Duration Multiplier = 1
Resulting Duration = 24.0000 hrs
Resulting Start Time= .0000 hrs Step= .1000 hrs End= 24.0000 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 1 year storm
Duration = 24.0000 hrs Rain Depth = 2.6605 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = Z:\PROGRAMS\PONDPACK\JEROME ROAD\
HYG File - ID = - PRE-DEV 1-YR
Tc = .1410 hrs
Drainage Area = 2.090 acres Runoff CN= 55

==========
Computational Time Increment = .01880 hrs
Computed Peak Time = 12.4456 hrs
Computed Peak Flow = .08 cfs

Time Increment for HYG File = .0050 hrs
Peak Time, Interpolated Output = 12.4452 hrs
Peak Flow, Interpolated Output = .08 cfs
==========

DRAINAGE AREA

ID:None Selected
CN = 55
Area = 2.090 acres
S = 8.1488 in
0.2S = 1.6298 in

Cumulative Runoff

.1157 in
.020 ac-ft

HYG Volume... .020 ac-ft (area under HYG curve)

***** UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .14100 hrs (ID: None Selected)
Computational Incr, Tm = .01880 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 16.79 cfs
Unit peak time Tp = .09400 hrs
Unit receding limb, Tr = .37600 hrs
Total unit time, Tb = .47000 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm
Duration = 24.0000 hrs Rain Depth = 3.2538 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = Z:\PROGRAMS\PONDPACK\JEROME ROAD\
HYG File - ID = - PRE-DEV 2-YR
Tc = .1410 hrs
Drainage Area = 2.090 acres Runoff CN= 55

==========
Computational Time Increment = .01880 hrs
Computed Peak Time = 12.3140 hrs
Computed Peak Flow = .30 cfs

Time Increment for HYG File = .0050 hrs
Peak Time, Interpolated Output = 12.3152 hrs
Peak Flow, Interpolated Output = .30 cfs
==========

DRAINAGE AREA

ID:None Selected
CN = 55
Area = 2.090 acres
S = 8.1488 in
0.2S = 1.6298 in

Cumulative Runoff

.2699 in
.047 ac-ft

HYG Volume... .047 ac-ft (area under HYG curve)

***** UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .14100 hrs (ID: None Selected)
Computational Incr, Tm = .01880 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 16.79 cfs
Unit peak time Tp = .09400 hrs
Unit receding limb, Tr = .37600 hrs
Total unit time, Tb = .47000 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 10 year storm
Duration = 24.0000 hrs Rain Depth = 4.8998 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = Z:\PROGRAMS\PONDPACK\JEROME ROAD\
HYG File - ID = - PRE-DEV 10-YR
Tc = .1410 hrs
Drainage Area = 2.090 acres Runoff CN= 55

==========
Computational Time Increment = .01880 hrs
Computed Peak Time = 12.1448 hrs
Computed Peak Flow = 1.83 cfs

Time Increment for HYG File = .0050 hrs
Peak Time, Interpolated Output = 12.1452 hrs
Peak Flow, Interpolated Output = 1.83 cfs
==========

DRAINAGE AREA

ID:None Selected
CN = 55
Area = 2.090 acres
S = 8.1488 in
0.2S = 1.6298 in

Cumulative Runoff

.9365 in
.163 ac-ft

HYG Volume... .163 ac-ft (area under HYG curve)

***** UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .14100 hrs (ID: None Selected)
Computational Incr, Tm = .01880 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 16.79 cfs
Unit peak time Tp = .09400 hrs
Unit receding limb, Tr = .37600 hrs
Total unit time, Tb = .47000 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm
Duration = 24.0000 hrs Rain Depth = 6.2109 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = Z:\PROGRAMS\PONDPACK\JEROME ROAD\
HYG File - ID = - PRE-DEV 25-YR
Tc = .1410 hrs
Drainage Area = 2.090 acres Runoff CN= 55

==========
Computational Time Increment = .01880 hrs
Computed Peak Time = 12.1448 hrs
Computed Peak Flow = 3.49 cfs

Time Increment for HYG File = .0050 hrs
Peak Time, Interpolated Output = 12.1452 hrs
Peak Flow, Interpolated Output = 3.49 cfs
==========

DRAINAGE AREA

ID:None Selected
CN = 55
Area = 2.090 acres
S = 8.1488 in
0.2S = 1.6298 in

Cumulative Runoff

1.6486 in
.287 ac-ft

HYG Volume... .287 ac-ft (area under HYG curve)

***** UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .14100 hrs (ID: None Selected)
Computational Incr, Tm = .01880 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 16.79 cfs
Unit peak time Tp = .09400 hrs
Unit receding limb, Tr = .37600 hrs
Total unit time, Tb = .47000 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm
Duration = 24.0000 hrs Rain Depth = 8.8905 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = Z:\PROGRAMS\PONDPACK\JEROME ROAD\
HYG File - ID = - PRE-DEV 100-yr
Tc = .1410 hrs
Drainage Area = 2.090 acres Runoff CN= 55

==========
Computational Time Increment = .01880 hrs
Computed Peak Time = 12.1260 hrs
Computed Peak Flow = 7.52 cfs

Time Increment for HYG File = .0050 hrs
Peak Time, Interpolated Output = 12.1252 hrs
Peak Flow, Interpolated Output = 7.51 cfs
==========

DRAINAGE AREA

ID:None Selected
CN = 55
Area = 2.090 acres
S = 8.1488 in
0.2S = 1.6298 in

Cumulative Runoff

3.4212 in
.596 ac-ft

HYG Volume... .596 ac-ft (area under HYG curve)

***** UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .14100 hrs (ID: None Selected)
Computational Incr, Tm = .01880 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 16.79 cfs
Unit peak time Tp = .09400 hrs
Unit receding limb, Tr = .37600 hrs
Total unit time, Tb = .47000 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 1 year storm
Duration = 24.0000 hrs Rain Depth = 2.6605 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = Z:\PROGRAMS\PONDPACK\JEROME ROAD\
HYG File - ID = - WS1 DIRECT 1-YR
Tc = .1390 hrs
Drainage Area = .660 acres Runoff CN= 56

==========
Computational Time Increment = .01853 hrs
Computed Peak Time = 12.4173 hrs
Computed Peak Flow = .03 cfs

Time Increment for HYG File = .0050 hrs
Peak Time, Interpolated Output = 12.4202 hrs
Peak Flow, Interpolated Output = .03 cfs
==========

DRAINAGE AREA

ID:None Selected
CN = 56
Area = .660 acres
S = 7.8571 in
0.2S = 1.5714 in

Cumulative Runoff

.1326 in
.007 ac-ft

HYG Volume... .007 ac-ft (area under HYG curve)

***** UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .13900 hrs (ID: None Selected)
Computational Incr, Tm = .01853 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 5.38 cfs
Unit peak time Tp = .09267 hrs
Unit receding limb, Tr = .37067 hrs
Total unit time, Tb = .46333 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm
Duration = 24.0000 hrs Rain Depth = 3.2538 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = Z:\PROGRAMS\PONDPACK\JEROME ROAD\
HYG File - ID = - WS1 DIRECT 2-YR
Tc = .1390 hrs
Drainage Area = .660 acres Runoff CN= 56

==========
Computational Time Increment = .01853 hrs
Computed Peak Time = 12.2135 hrs
Computed Peak Flow = .11 cfs

Time Increment for HYG File = .0050 hrs
Peak Time, Interpolated Output = 12.2102 hrs
Peak Flow, Interpolated Output = .11 cfs
==========

DRAINAGE AREA

ID:None Selected
CN = 56
Area = .660 acres
S = 7.8571 in
0.2S = 1.5714 in

Cumulative Runoff

.2967 in
.016 ac-ft

HYG Volume... .016 ac-ft (area under HYG curve)

***** UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .13900 hrs (ID: None Selected)
Computational Incr, Tm = .01853 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 5.38 cfs
Unit peak time Tp = .09267 hrs
Unit receding limb, Tr = .37067 hrs
Total unit time, Tb = .46333 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 10 year storm
Duration = 24.0000 hrs Rain Depth = 4.8998 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = Z:\PROGRAMS\PONDPACK\JEROME ROAD\
HYG File - ID = - WS1 DIRECT 10-YR
Tc = .1390 hrs
Drainage Area = .660 acres Runoff CN= 56

==========
Computational Time Increment = .01853 hrs
Computed Peak Time = 12.1393 hrs
Computed Peak Flow = .63 cfs

Time Increment for HYG File = .0050 hrs
Peak Time, Interpolated Output = 12.1402 hrs
Peak Flow, Interpolated Output = .63 cfs
==========

DRAINAGE AREA

ID:None Selected
CN = 56
Area = .660 acres
S = 7.8571 in
0.2S = 1.5714 in

Cumulative Runoff

.9904 in
.054 ac-ft

HYG Volume... .054 ac-ft (area under HYG curve)

***** UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .13900 hrs (ID: None Selected)
Computational Incr, Tm = .01853 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 5.38 cfs
Unit peak time Tp = .09267 hrs
Unit receding limb, Tr = .37067 hrs
Total unit time, Tb = .46333 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm
Duration = 24.0000 hrs Rain Depth = 6.2109 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = Z:\PROGRAMS\PONDPACK\JEROME ROAD\
HYG File - ID = - WS1 DIRECT 25-YR
Tc = .1390 hrs
Drainage Area = .660 acres Runoff CN= 56

==========
Computational Time Increment = .01853 hrs
Computed Peak Time = 12.1393 hrs
Computed Peak Flow = 1.17 cfs

Time Increment for HYG File = .0050 hrs
Peak Time, Interpolated Output = 12.1402 hrs
Peak Flow, Interpolated Output = 1.17 cfs
==========

DRAINAGE AREA

ID:None Selected
CN = 56
Area = .660 acres
S = 7.8571 in
0.2S = 1.5714 in

Cumulative Runoff

1.7225 in
.095 ac-ft

HYG Volume... .095 ac-ft (area under HYG curve)

***** UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .13900 hrs (ID: None Selected)
Computational Incr, Tm = .01853 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 5.38 cfs
Unit peak time Tp = .09267 hrs
Unit receding limb, Tr = .37067 hrs
Total unit time, Tb = .46333 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm
Duration = 24.0000 hrs Rain Depth = 8.8905 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = Z:\PROGRAMS\PONDPACK\JEROME ROAD\
HYG File - ID = - WS1 DIRECT 100-yr
Tc = .1390 hrs
Drainage Area = .660 acres Runoff CN= 56

==========
Computational Time Increment = .01853 hrs
Computed Peak Time = 12.1393 hrs
Computed Peak Flow = 2.46 cfs

Time Increment for HYG File = .0050 hrs
Peak Time, Interpolated Output = 12.1352 hrs
Peak Flow, Interpolated Output = 2.46 cfs
==========

DRAINAGE AREA

ID:None Selected
CN = 56
Area = .660 acres
S = 7.8571 in
0.2S = 1.5714 in

Cumulative Runoff

3.5298 in
.194 ac-ft

HYG Volume... .194 ac-ft (area under HYG curve)

***** UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .13900 hrs (ID: None Selected)
Computational Incr, Tm = .01853 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 5.38 cfs
Unit peak time Tp = .09267 hrs
Unit receding limb, Tr = .37067 hrs
Total unit time, Tb = .46333 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 1 year storm
Duration = 24.0000 hrs Rain Depth = 2.6605 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = Z:\PROGRAMS\PONDPACK\JEROME ROAD\
HYG File - ID = - WS2 HOUSE & DRIV 1-YR
Tc = .1000 hrs
Drainage Area = .780 acres Runoff CN= 70

==========
Computational Time Increment = .01333 hrs
Computed Peak Time = 12.1200 hrs
Computed Peak Flow = .41 cfs

Time Increment for HYG File = .0050 hrs
Peak Time, Interpolated Output = 12.1202 hrs
Peak Flow, Interpolated Output = .41 cfs
==========

DRAINAGE AREA

ID:None Selected
CN = 70
Area = .780 acres
S = 4.3678 in
0.2S = .8736 in

Cumulative Runoff

.5188 in
.034 ac-ft

HYG Volume... .034 ac-ft (area under HYG curve)

***** UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .10000 hrs (ID: None Selected)
Computational Incr, Tm = .01333 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 8.84 cfs
Unit peak time Tp = .06667 hrs
Unit receding limb, Tr = .26667 hrs
Total unit time, Tb = .33333 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm
Duration = 24.0000 hrs Rain Depth = 3.2538 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = Z:\PROGRAMS\PONDPACK\JEROME ROAD\
HYG File - ID = - WS2 HOUSE & DRIV 2-YR
Tc = .1000 hrs
Drainage Area = .780 acres Runoff CN= 70

==========
Computational Time Increment = .01333 hrs
Computed Peak Time = 12.1200 hrs
Computed Peak Flow = .71 cfs

Time Increment for HYG File = .0050 hrs
Peak Time, Interpolated Output = 12.1202 hrs
Peak Flow, Interpolated Output = .71 cfs
==========

DRAINAGE AREA

ID:None Selected
CN = 70
Area = .780 acres
S = 4.3678 in
0.2S = .8736 in

Cumulative Runoff

.8396 in
.055 ac-ft

HYG Volume... .055 ac-ft (area under HYG curve)

***** UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .10000 hrs (ID: None Selected)
Computational Incr, Tm = .01333 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 8.84 cfs
Unit peak time Tp = .06667 hrs
Unit receding limb, Tr = .26667 hrs
Total unit time, Tb = .33333 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 10 year storm
Duration = 24.0000 hrs Rain Depth = 4.8998 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = Z:\PROGRAMS\PONDPACK\JEROME ROAD\
HYG File - ID = - WS2 HOUSE & DRIV 10-YR
Tc = .1000 hrs
Drainage Area = .780 acres Runoff CN= 70

==========
Computational Time Increment = .01333 hrs
Computed Peak Time = 12.1200 hrs
Computed Peak Flow = 1.67 cfs

Time Increment for HYG File = .0050 hrs
Peak Time, Interpolated Output = 12.1202 hrs
Peak Flow, Interpolated Output = 1.67 cfs
==========

DRAINAGE AREA

ID:None Selected
CN = 70
Area = .780 acres
S = 4.3678 in
0.2S = .8736 in

Cumulative Runoff

1.9312 in
.126 ac-ft

HYG Volume... .126 ac-ft (area under HYG curve)

***** UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .10000 hrs (ID: None Selected)
Computational Incr, Tm = .01333 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 8.84 cfs
Unit peak time Tp = .06667 hrs
Unit receding limb, Tr = .26667 hrs
Total unit time, Tb = .33333 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm
Duration = 24.0000 hrs Rain Depth = 6.2109 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = Z:\PROGRAMS\PONDPACK\JEROME ROAD\
HYG File - ID = - WS2 HOUSE & DRIV 25-YR
Tc = .1000 hrs
Drainage Area = .780 acres Runoff CN= 70

==========
Computational Time Increment = .01333 hrs
Computed Peak Time = 12.1067 hrs
Computed Peak Flow = 2.53 cfs

Time Increment for HYG File = .0050 hrs
Peak Time, Interpolated Output = 12.1102 hrs
Peak Flow, Interpolated Output = 2.53 cfs
==========

DRAINAGE AREA

ID:None Selected
CN = 70
Area = .780 acres
S = 4.3678 in
0.2S = .8736 in

Cumulative Runoff

2.9353 in
.191 ac-ft

HYG Volume... .191 ac-ft (area under HYG curve)

***** UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .10000 hrs (ID: None Selected)
Computational Incr, Tm = .01333 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 8.84 cfs
Unit peak time Tp = .06667 hrs
Unit receding limb, Tr = .26667 hrs
Total unit time, Tb = .33333 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm
Duration = 24.0000 hrs Rain Depth = 8.8905 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = Z:\PROGRAMS\PONDPACK\JEROME ROAD\
HYG File - ID = - WS2 HOUSE & DRIV 100-yr
Tc = .1000 hrs
Drainage Area = .780 acres Runoff CN= 70

==========
Computational Time Increment = .01333 hrs
Computed Peak Time = 12.1067 hrs
Computed Peak Flow = 4.40 cfs

Time Increment for HYG File = .0050 hrs
Peak Time, Interpolated Output = 12.1052 hrs
Peak Flow, Interpolated Output = 4.40 cfs
==========

DRAINAGE AREA

ID:None Selected
CN = 70
Area = .780 acres
S = 4.3678 in
0.2S = .8736 in

Cumulative Runoff

5.1896 in
.337 ac-ft

HYG Volume... .337 ac-ft (area under HYG curve)

***** UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .10000 hrs (ID: None Selected)
Computational Incr, Tm = .01333 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 8.84 cfs
Unit peak time Tp = .06667 hrs
Unit receding limb, Tr = .26667 hrs
Total unit time, Tb = .33333 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 1 year storm
Duration = 24.0000 hrs Rain Depth = 2.6605 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = Z:\PROGRAMS\PONDPACK\JEROME ROAD\
HYG File - ID = - WS3 SEPTIC 1-YR
Tc = .1410 hrs
Drainage Area = .640 acres Runoff CN= 48

==========
Computational Time Increment = .01880 hrs
Computed Peak Time = 15.5476 hrs
Computed Peak Flow = .00 cfs

Time Increment for HYG File = .0050 hrs
Peak Time, Interpolated Output = 15.5453 hrs
Peak Flow, Interpolated Output = .00 cfs
==========

DRAINAGE AREA

ID:None Selected
CN = 48
Area = .640 acres
S = 10.8333 in
0.2S = 2.1667 in

Cumulative Runoff

.0215 in
.001 ac-ft

HYG Volume... .001 ac-ft (area under HYG curve)

***** UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .14100 hrs (ID: None Selected)
Computational Incr, Tm = .01880 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 5.14 cfs
Unit peak time Tp = .09400 hrs
Unit receding limb, Tr = .37600 hrs
Total unit time, Tb = .47000 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 2 year storm
Duration = 24.0000 hrs Rain Depth = 3.2538 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = Z:\PROGRAMS\PONDPACK\JEROME ROAD\
HYG File - ID = - WS3 SEPTIC 2-YR
Tc = .1410 hrs
Drainage Area = .640 acres Runoff CN= 48

==========
Computational Time Increment = .01880 hrs
Computed Peak Time = 12.5396 hrs
Computed Peak Flow = .01 cfs

Time Increment for HYG File = .0050 hrs
Peak Time, Interpolated Output = 12.5402 hrs
Peak Flow, Interpolated Output = .01 cfs
==========

DRAINAGE AREA

ID:None Selected
CN = 48
Area = .640 acres
S = 10.8333 in
0.2S = 2.1667 in

Cumulative Runoff

.0991 in
.005 ac-ft

HYG Volume... .005 ac-ft (area under HYG curve)

***** UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .14100 hrs (ID: None Selected)
Computational Incr, Tm = .01880 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 5.14 cfs
Unit peak time Tp = .09400 hrs
Unit receding limb, Tr = .37600 hrs
Total unit time, Tb = .47000 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 10 year storm
Duration = 24.0000 hrs Rain Depth = 4.8998 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = Z:\PROGRAMS\PONDPACK\JEROME ROAD\
HYG File - ID = - WS3 SEPTIC 10-YR
Tc = .1410 hrs
Drainage Area = .640 acres Runoff CN= 48

==========
Computational Time Increment = .01880 hrs
Computed Peak Time = 12.1824 hrs
Computed Peak Flow = .24 cfs

Time Increment for HYG File = .0050 hrs
Peak Time, Interpolated Output = 12.1802 hrs
Peak Flow, Interpolated Output = .24 cfs
==========

DRAINAGE AREA

ID:None Selected
CN = 48
Area = .640 acres
S = 10.8333 in
0.2S = 2.1667 in

Cumulative Runoff

.5506 in
.029 ac-ft

HYG Volume... .029 ac-ft (area under HYG curve)

***** UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .14100 hrs (ID: None Selected)
Computational Incr, Tm = .01880 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 5.14 cfs
Unit peak time Tp = .09400 hrs
Unit receding limb, Tr = .37600 hrs
Total unit time, Tb = .47000 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 25 year storm
Duration = 24.0000 hrs Rain Depth = 6.2109 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = Z:\PROGRAMS\PONDPACK\JEROME ROAD\
HYG File - ID = - WS3 SEPTIC 25-YR
Tc = .1410 hrs
Drainage Area = .640 acres Runoff CN= 48

==========
Computational Time Increment = .01880 hrs
Computed Peak Time = 12.1448 hrs
Computed Peak Flow = .64 cfs

Time Increment for HYG File = .0050 hrs
Peak Time, Interpolated Output = 12.1452 hrs
Peak Flow, Interpolated Output = .64 cfs
==========

DRAINAGE AREA

ID:None Selected
CN = 48
Area = .640 acres
S = 10.8333 in
0.2S = 2.1667 in

Cumulative Runoff

1.0994 in
.059 ac-ft

HYG Volume... .059 ac-ft (area under HYG curve)

***** UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .14100 hrs (ID: None Selected)
Computational Incr, Tm = .01880 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 5.14 cfs
Unit peak time Tp = .09400 hrs
Unit receding limb, Tr = .37600 hrs
Total unit time, Tb = .47000 hrs

SCS UNIT HYDROGRAPH METHOD

STORM EVENT: 100 year storm
Duration = 24.0000 hrs Rain Depth = 8.8905 in
Rain Dir = C:\HAESTAD\PPKW\RAINFALL\
Rain File -ID = SCSTYPES.RNF - TypeIII 24hr
Unit Hyd Type = Default Curvilinear
HYG Dir = Z:\PROGRAMS\PONDPACK\JEROME ROAD\
HYG File - ID = - WS3 SEPTIC 100-yr
Tc = .1410 hrs
Drainage Area = .640 acres Runoff CN= 48

==========
Computational Time Increment = .01880 hrs
Computed Peak Time = 12.1448 hrs
Computed Peak Flow = 1.69 cfs

Time Increment for HYG File = .0050 hrs
Peak Time, Interpolated Output = 12.1452 hrs
Peak Flow, Interpolated Output = 1.69 cfs
==========

DRAINAGE AREA

ID:None Selected
CN = 48
Area = .640 acres
S = 10.8333 in
0.2S = 2.1667 in

Cumulative Runoff

2.5750 in
.137 ac-ft

HYG Volume... .137 ac-ft (area under HYG curve)

***** UNIT HYDROGRAPH PARAMETERS *****

Time Concentration, Tc = .14100 hrs (ID: None Selected)
Computational Incr, Tm = .01880 hrs = 0.20000 Tp

Unit Hyd. Shape Factor = 483.432 (37.46% under rising limb)
K = 483.43/645.333, K = .7491 (also, K = 2/(1+(Tr/Tp))
Receding/Rising, Tr/Tp = 1.6698 (solved from K = .7491)

Unit peak, qp = 5.14 cfs
Unit peak time Tp = .09400 hrs
Unit receding limb, Tr = .37600 hrs
Total unit time, Tb = .47000 hrs

File.... Z:\PROGRAMS\PONDPACK\JEROME ROAD\PRE-POST DEVELOPMENT.PPW
Title... INFILTRATION BASIN

POND VOLUME CALCULATIONS

Planimeter scale: 1.00 ft/in

Elevation (ft)	Planimeter (sq.in)	Area (acres)	A1+A2+sqr(A1*A2) (acres)	Volume (ac-ft)	Volume Sum (ac-ft)
355.00	600.000	.0138	.0000	.000	.000
356.00	1050.000	.0241	.0561	.019	.019
358.00	2250.000	.0517	.1110	.074	.093
358.50	3200.000	.0735	.1867	.031	.124

POND VOLUME EQUATIONS

* Incremental volume computed by the Conic Method for Reservoir Volumes.

Volume = (1/3) * (EL2-EL1) * (Area1 + Area2 + sq.rt.(Area1*Area2))

where: EL1, EL2 = Lower and upper elevations of the increment
Area1,Area2 = Areas computed for EL1, EL2, respectively
Volume = Incremental volume between EL1 and EL2

Type.... Outlet Input Data
Name.... EMERG WEIR

File.... Z:\PROGRAMS\PONDPACK\JEROME ROAD\PRE-POST DEVELOPMENT.PPW

REQUESTED POND WS ELEVATIONS:

Min. Elev.= 355.00 ft
Increment = .10 ft
Max. Elev.= 358.50 ft

****
OUTLET CONNECTIVITY
****

---> Forward Flow Only (UpStream to DnStream)
<--- Reverse Flow Only (DnStream to UpStream)
<---> Forward and Reverse Both Allowed

Structure	No.		Outfall	E1, ft	E2, ft
Weir-XY Points TW SETUP, DS Channel	A	--->	TW	357.500	358.500

OUTLET STRUCTURE INPUT DATA

Structure ID = A
Structure Type = Weir-XY Points

# of Openings = 1
WEIR X-Y GROUND POINTS

X, ft	Elev, ft
.00	358.50
2.00	357.50
12.00	357.50
14.00	358.50

Lowest Elev. = 357.50 ft

Weir Coeff. = 2.700000

Weir TW effects (Use adjustment equation)

Structure ID = TW
Structure Type = TW SETUP, DS Channel

FREE OUTFALL CONDITIONS SPECIFIED

CONVERGENCE TOLERANCES...
Maximum Iterations= 30
Min. TW tolerance = .01 ft
Max. TW tolerance = .01 ft
Min. HW tolerance = .01 ft
Max. HW tolerance = .01 ft
Min. Q tolerance = .10 cfs
Max. Q tolerance = .10 cfs

REQUESTED POND WS ELEVATIONS:

Min. Elev.= 356.00 ft
Increment = .10 ft
Max. Elev.= 364.00 ft

****
OUTLET CONNECTIVITY
****

---> Forward Flow Only (UpStream to DnStream)
<--- Reverse Flow Only (DnStream to UpStream)
<---> Forward and Reverse Both Allowed

Structure	No.		Outfall	E1, ft	E2, ft
Culvert-Circular	A	--->	TW	358.750	364.000
TW SETUP, DS Channel					

File.... Z:\PROGRAMS\PONDPACK\JEROME ROAD\PRE-POST DEVELOPMENT.PPW
Title... DIVERSION PIPE

OUTLET STRUCTURE INPUT DATA

Structure ID = A
Structure Type = Culvert-Circular

No. Barrels	=	1	
Barrel Diameter	=	.5000	ft
Upstream Invert	=	358.75	ft
Dnstream Invert	=	358.50	ft
Horiz. Length	=	20.00	ft
Barrel Length	=	20.00	ft
Barrel Slope	=	.01250	ft/ft

OUTLET CONTROL DATA...

Mannings n	=	.0130	
Ke	=	.5000	(forward entrance loss)
Kb	=	.078805	(per ft of full flow)
Kr	=	.5000	(reverse entrance loss)
HW Convergence	=	.001	+/- ft

INLET CONTROL DATA...

Equation form	=	1	
Inlet Control K	=	.0098	
Inlet Control M	=	2.0000	
Inlet Control c	=	.03980	
Inlet Control Y	=	.6700	
T1 ratio (HW/D)	=	1.153	
T2 ratio (HW/D)	=	1.301	
Slope Factor	=	-.500	
Calc inlet only	=	Yes	

Use unsubmerged inlet control Form 1 equ. below T1 elev.
Use submerged inlet control Form 1 equ. above T2 elev.

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...
At T1 Elev = 359.33 ft ---> Flow = .49 cfs
At T2 Elev = 359.40 ft ---> Flow = .56 cfs

File.... Z:\PROGRAMS\PONDPACK\JEROME ROAD\PRE-POST DEVELOPMENT.PPW
Title... DIVERSION PIPE

OUTLET STRUCTURE INPUT DATA

Structure ID = TW
Structure Type = TW SETUP, DS Channel

FREE OUTFALL CONDITIONS SPECIFIED

CONVERGENCE TOLERANCES...
Maximum Iterations= 30
Min. TW tolerance = .01 ft
Max. TW tolerance = .01 ft
Min. HW tolerance = .01 ft
Max. HW tolerance = .01 ft
Min. Q tolerance = .10 cfs
Max. Q tolerance = .10 cfs

File.... Z:\PROGRAMS\PONDPACK\JEROME ROAD\PRE-POST DEVELOPMENT.PPW

REQUESTED POND WS ELEVATIONS:

Min. Elev.= 356.00 ft
Increment = .10 ft
Max. Elev.= 364.00 ft

****
OUTLET CONNECTIVITY
****

---> Forward Flow Only (UpStream to DnStream)
<--- Reverse Flow Only (DnStream to UpStream)
<---> Forward and Reverse Both Allowed

Structure	No.		Outfall	E1, ft	E2, ft
Weir-Rectangular	A	--->	TW	359.300	364.000
TW SETUP, DS Channel					

OUTLET STRUCTURE INPUT DATA

Structure ID = A
Structure Type = Weir-Rectangular

# of Openings = 1
Crest Elev. = 359.30 ft
Weir Length = 3.00 ft
Weir Coeff. = 3.300000

Weir TW effects (Use adjustment equation)

Structure ID = TW
Structure Type = TW SETUP, DS Channel

FREE OUTFALL CONDITIONS SPECIFIED

CONVERGENCE TOLERANCES...
Maximum Iterations= 30
Min. TW tolerance = .01 ft
Max. TW tolerance = .01 ft
Min. HW tolerance = .01 ft
Max. HW tolerance = .01 ft
Min. Q tolerance = .10 cfs
Max. Q tolerance = .10 cfs

LEVEL POOL ROUTING SUMMARY

HYG Dir = Z:\PROGRAMS\PONDPACK\JEROME ROAD\
Inflow HYG file = NONE STORED - INFILTRATION IN 1-YR
Outflow HYG file = NONE STORED - INFILTRATION OUT 1-YR

Pond Node Data = INFILTRATION
Pond Volume Data = INFILTRATION
Pond Outlet Data = EMERG WEIR

Infiltration = 7.0000 in/hr

INITIAL CONDITIONS

Starting WS Elev	=	355.00 ft
Starting Volume	=	.000 ac-ft
Starting Outflow	=	.00 cfs
Starting Infiltr.	=	.00 cfs
Starting Total Qout	=	.00 cfs
Time Increment	=	.0050 hrs

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

Peak Inflow	=	.41 cfs	at	12.1200 hrs
Peak Outflow	=	.00 cfs	at	11.9300 hrs
Peak Infiltration	=	.13 cfs	at	12.5850 hrs
Peak Elevation	=	355.50 ft		
Peak Storage	=	.008 ac-ft		

MASS BALANCE (ac-ft)

+ Initial Vol	=	.000
+ HYG Vol IN	=	.040
- Infiltration	=	.040
- HYG Vol OUT	=	.000
- Retained Vol	=	.000
Unrouted Vol	=	-.000 ac-ft (.003% of Inflow Volume)

LEVEL POOL ROUTING SUMMARY

HYG Dir = Z:\PROGRAMS\PONDPACK\JEROME ROAD\
Inflow HYG file = NONE STORED - INFILTRATION IN 100-yr
Outflow HYG file = NONE STORED - INFILTRATION OUT 100-yr

Pond Node Data = INFILTRATION
Pond Volume Data = INFILTRATION
Pond Outlet Data = EMERG WEIR

Infiltration = 7.0000 in/hr

INITIAL CONDITIONS

Starting WS Elev	=	355.00 ft
Starting Volume	=	.000 ac-ft
Starting Outflow	=	.00 cfs
Starting Infiltr.	=	.00 cfs
Starting Total Qout	=	.00 cfs
Time Increment	=	.0050 hrs

INFLOW/OUTFLOW HYDROGRAPH SUMMARY

Peak Inflow	=	3.30 cfs	at	12.1200 hrs
Peak Outflow	=	2.74 cfs	at	12.1700 hrs
Peak Infiltration	=	.33 cfs	at	12.1700 hrs
Peak Elevation	=	357.71 ft		
Peak Storage	=	.079 ac-ft		

MASS BALANCE (ac-ft)

+ Initial Vol	=	.000
+ HYG Vol IN	=	.413
- Infiltration	=	.232
- HYG Vol OUT	=	.144
- Retained Vol	=	.037
Unrouted Vol	=	-.000 ac-ft (.004% of Inflow Volume)

Index of Starting Page Numbers for ID Names

SPLITTER BOX
DESIGN CALCS
INLET CONTROL

SEPARATOR #1 ANALYSIS: WS#1
SIMULTANEOUS FLOW ANALYSIS FOR CULVERT SUBMERGED AND ACROSS WEIR

SELECT H VALUES FOR SOLUTION; ELEVATION OF FLOW OVER TOP OF WEIR

WQf FLOW RATE:	0.39	CFS
Q100 YEAR	4.25	CFS
OUTLET CULVERT DIAMETER(Dc)	6	INCHES
CULVERT LENGTH "L"	20	FEET

FLOW THROUGH CULVERT
Hwi/D = C(Q/AD^.5) + Y -.5S^2 SOLVE FOR Q BASED UPON Hw IN (SUBMERGED)
H MEASURED FROM CULVERT INVERT
S= CULVERT SLOPE 0.5% PERCENT

FOR SMOOTH CULVERT: SQUARE EDGE W/HEADWALL

C=	0.0398	Y=	0.67
AD^.5=	0.14		

FLOW ACROSS WEIR

WEIR LENGTH	3	(FEET) PLATE OR PIPE AT UNSUBMERGED FLOW
weir coefficeint	3.3	unitless

WEIR ELEVATION(ABOVE TOP OF CULVERT) 0.60 inches
Qw= CL (H-Dc-Weir elev above top of culvert)^1.5 calculated height from d34
no tail water condition with weir

Qp+Qw = total flow at 100 year storm event

SET H VALUE FLOW ELEVATION ABOVE CULVERT INV

set H and solve for flow(ft)		0.50	**H VALUE**
CULVERT INVERT		358.75	
WEIR ELEVATION >H CALC	359.25	359.30	**selected**
FLOW ELEVATION		359.25	

FLOW CHECK

Qp	0.40	0.39	WQv
Qw	0.00		
total Q	0.40		

SET H VALUE FLOW ELEVATION ABOVE CULVERT INV

set H and solve for flow	1.05	**H VALUE**	
CULVERT INVERT	358.75		
WEIR ELEVATION	359.30	SET >H	
FLOW ELEVATION	359.80		

FLOW CHECK

Qp	0.83	4.25	100 year
Qw	3.50		
total Q	4.33		