Hydrologic & Hydraulic Narrative
To analyze the impact of the Three Lot Residential Subdivision of
Lots 37 & 38, Block 1303
Located in
The Village of South Orange Township, Essex County, New Jersey
February 13, 2021
Revised: March 13, 2021

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Overall Narrative of Calculations:

As described in these pages and as shown on the accompanying drainage maps, the area under consideration is the area slated for disturbance and all on-site areas that drain not this area. An analysis of the methodology & assumptions employed is provided below under separate headings. This section will provide a narrative of the calculation report. First a description of each of the hydrographs included in the appendix is as follows:

- Hydrograph #1 represents the flow under existing conditions for the entire area under consideration.
- Hydrograph #2 represents the flow from the undetained areas under proposed conditions for a Tc of 10 minutes.
- Hydrograph #3 represents the flow to the drywell on Lot 37 under proposed conditions for a Tc of 10 minutes.
- Hydrograph #4 represents the routing through the drywell on Lot 37 for a Tc of 10 minutes.
- Hydrograph #5 represents the flow to the drywell on Lot 38 under proposed conditions for a Tc of 10 minutes.
- Hydrograph #6 represents the routing through the drywell on Lot 38 for a Tc of 10 minutes.
- Hydrograph #7 adds the hydrographs out of the drywells and represents the total flow out of these facilities for a Tc of 10 minutes..
- Hydrograph #8 adds the undetained area to the total drywell outflow and is the total flow from the area under proposed conditions for a Tc of 10 minutes. This is the value that is compared with Hydrograph #1.
- Hydrographs #9-15 are exactly analogous to Hydrographs #2-8 for a Tc of 20 minutes.

In the appendix of this report pages A-1 through A-17 display all of the above (including details of the drywells) for a 2 year storm. Pages A-18 through A-26 display the hydrographs for a 10 year storm and pages A-27 through A-35 display the hydrographs for a 100 year storm. Only the storm with a Tc of 10 minutes is printed because this is the critical storm that produces the greatest outflow discharge rates.

Appendix B calculates the water quality storm volumes to each drywell for use in determining the drain time of the drywells. (The data for each drywell is identical).

Methodology & Assumptions:

The following methodology & assumptions are employed in this analysis:

1. The area being considered includes all of the area on-site that will be disturbed and all on-site areas that drain onto this area.
2. The runoff is calculated using the Modified Rational Method. Runoff coefficients (c values) are based on the RSISD table. Where the RSIS table does not include a c value for a particular combination of soil type and land use, then a value has been extrapolated from other values in the table.
3. The 2 year, 10 year, and 100 year storms are analyzed. A variety of storm durations are analyzed to determine the critical storm durations that cause

the peak runoff from the site. A minimum Tc of 10 minutes is assumed in all cases.

4. All hydrographs are calculated using the "Hydrology Studio" software package.
5. The geometry of the drywells are shown on Sheet 4 of the Minor Subdivision Development Plans prepared by this office.
6. The NRCS web soil survey indicates that both drywells will be installed within soils designated as DunB (Dunellen sandy loam, 3-8% slopes). This soil is described as having a depth to water table of more than 80" and the layer from 42" to 70" deep is classified as "loamy sand". According to the soil textural triangle, loamy sand has a permeability of K-4 or 6-20 inches per hour. This value is used solely for the determination the "drain time of the drywells. No credit is taken during the routings for exfiltration.

Summary:

Storm Frequency (Years)	Existing Peak Q (CFS)	Proposed peak Q (CFS)
2	1.435	1.429
10	1.855	1.846
100	2.316	2.305

The table above shows that there will be a decrease in the peak runoff from the site during all design storms.

Determination of Weighted C Values:

Existing Conditions:

Land Use	Soil Type	c	Area (acres)	C X Area
Woods	C	0.45	0.05	0.0225
Gravel	A	0.57	0.07	0.0399
Impervious	A	0.99	0.10	0.099
Woods	A	0.17	0.20	0.034
Lawn	A	0.19	0.74	0.1406
Total	----	----	1.16	0.3360

Weighted C= 0.3360/1.16=0.29

Undetained Area:

Land Use	Soil Type	c	Area (acres)	C X Area
Woods	C	0.45	0.05	0.0225
Impervious	A	0.99	0.15	0.1485
Woods	A	0.17	0.07	0.0119
Lawn	A	0.19	0.81	0.1539
Total	----	----	1.08	0.3368

Weighted C= 0.3368/0.80=0.31

Determination of Drain Time:

As discussed in Section 9.5 of the NJDEP's BMP Manual, the drain time is calculated as: Drain Time = WQ Design Storm Volume/(Infiltration Area X Permeability Rate).
The WQ Design storm volume is calculated in Appendix B and the denominator is based on the following:
AS shown in the Methodology & Assumptions, above, the material at the bottom of the drywell is expected to be loamy sand. According to the soil textural triangle, loamy sand has a permeability of K-4 or 6-20 inches per hour. To be conservative (and, in the absence of on-site data) a permeability of K-3 or 2 to 6 inches per houris assumed . Using the minimum of this range (i.e. 2 inches per hour) and dividing by 2 to account for siltation over time yields a final permeability value of 1 inches per hour. Therefore the exfiltration rate through the bottom of the drywell is 22'X14' X 1 in/hr X 1/12 X 1/3600 = 0.007 CFS. This is the same for both drywells.

Each Drywell
WQ design storm volume) = 150 CF
Drain time = 150 CF/0.007CFS = 44,286 seconds =12.3 hours

Hydrograph 2-yr Summary

Project Name:

Hydrology Studio v 3.0.0.17

03-12-2021

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	Rational	Existing	1.435	0.17	1,077	----		
2	Rational	Undetained	1.429	0.17	1,071	----		
3	Rational	Lot 37	0.169	0.17	127	----		
4	Pond Route	Lot 37 Routing	0.000	0.00	0.000	3	99.21	127
5	Rational	Lot 38	0.169	0.17	127	----		
6	Pond Route	Lot 38 Routing	0.000	0.00	0.000	5	90.51	127
7	Junction	Tot from Drywells	0.000	0.00	0.000	4, 6		
8	Junction	Total	1.429	0.17	1,071	2, 7		
9	Rational	Undet 20	1.028	0.33	1,543	----		
10	Rational	Lot 37 20	0.122	0.33	182	----		
11	Pond Route	37 Rout 20	0.000	0.00	0.000	10	99.63	182
12	Rational	Lot 38 20	0.122	0.33	182	----		
13	Pond Route	38 Rout 20	0.000	0.00	0.000	12	90.93	182
14	Junction	20 Tot Drywells	0.000	0.00	0.000	11, 13		
15	Junction	Toal 20	1.028	0.33	1,543	9, 14		

Hydrograph Report

Project Name:

Hydrology Studio v 3.0.0.17

03-12-2021

Existing

Hyd. No. 1

Hydrograph Type	= Rational	Peak Flow	= 1.435 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.17 hrs
Time Interval	= 1 min	Runoff Volume	= 1,077 cuft
Drainage Area	= 1.16 ac	Runoff Coeff.	= 0.29
Tc Method	= User	Time of Conc. (Tc)	= 10.0 min
IDF Curve	= NJRSIS.idf	Intensity	= 4.27 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.5

Hydrograph Discharge Table

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
3	0.431								
4	0.574								
5	0.718								
6	0.861								
7	1.005								
8	1.148								
9	1.292								
10	**1.435**								
11	1.340								
12	1.244								
13	1.148								
14	1.053								
15	0.957								
16	0.861								
17	0.766								
18	0.670								
19	0.574								
20	0.478								
21	0.383								
...end	*...end*								

Printed values > 30% of Qpeak. nth-point print interval = 1

Hydrograph Report

Project Name:

Hydrology Studio v 3.0.0.17

03-12-2021

Undetained

Hyd. No. 2

Hydrograph Type	= Rational	Peak Flow	= 1.429 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.17 hrs
Time Interval	= 1 min	Runoff Volume	= 1,071 cuft
Drainage Area	= 1.08 ac	Runoff Coeff.	= 0.31
Tc Method	= User	Time of Conc. (Tc)	= 10.0 min
IDF Curve	= NJRSIS.idf	Intensity	= 4.27 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.5

Hydrograph Discharge Table

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
3	0.429								
4	0.571								
5	0.714								
6	0.857								
7	1.000								
8	1.143								
9	1.286								
10	**1.429**								
11	1.333								
12	1.238								
13	1.143								
14	1.048								
15	0.952								
16	0.857								
17	0.762								
18	0.667								
19	0.571								
20	0.476								
21	0.381								
...end	*...end*								

Printed values > 30% of Qpeak. nth-point print interval = 1

Hydrograph Report

Project Name:

Hydrology Studio v 3.0.0.17

03-12-2021

Lot 37

Hyd. No. 3

Hydrograph Type	= Rational	Peak Flow	= 0.169 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.17 hrs
Time Interval	= 1 min	Runoff Volume	= 127 cuft
Drainage Area	= 0.04 ac	Runoff Coeff.	= 0.99
Tc Method	= User	Time of Conc. (Tc)	= 10.0 min
IDF Curve	= NJRSIS.idf	Intensity	= 4.27 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.5

Hydrograph Discharge Table

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
4	0.068								
5	0.084								
6	0.101								
7	0.118								
8	0.135								
9	0.152								
10	**0.169**								
11	0.158								
12	0.146								
13	0.135								
14	0.124								
15	0.113								
16	0.101								
17	0.090								
18	0.079								
19	0.068								
20	0.056								
21	0.045								
...end	*...end*								

Printed values > 30% of Qpeak. nth-point print interval = 1

Hydrograph Report

Project Name:

Hydrology Studio v 3.0.0.17

03-12-2021

Lot 37 Routing

Hyd. No. 4

Hydrograph Type	= Pond Route	Peak Flow	= 0.000 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.00 hrs
Time Interval	= 1 min	Hydrograph Volume	= 0.000 cuft
Inflow Hydrograph	= 3 - Lot 37	Max. Elevation	= 99.21 ft
Pond Name	= Lot 37	Max. Storage	= 127 cuft

Pond Routing by Storage Indication Method

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
0.02	0.000								
...end	...end								

Printed values > 30% of Qpeak. nth-point print interval = 1

Pond Report

Project Name:

Hydrology Studio v 3.0.0.17

03-12-2021

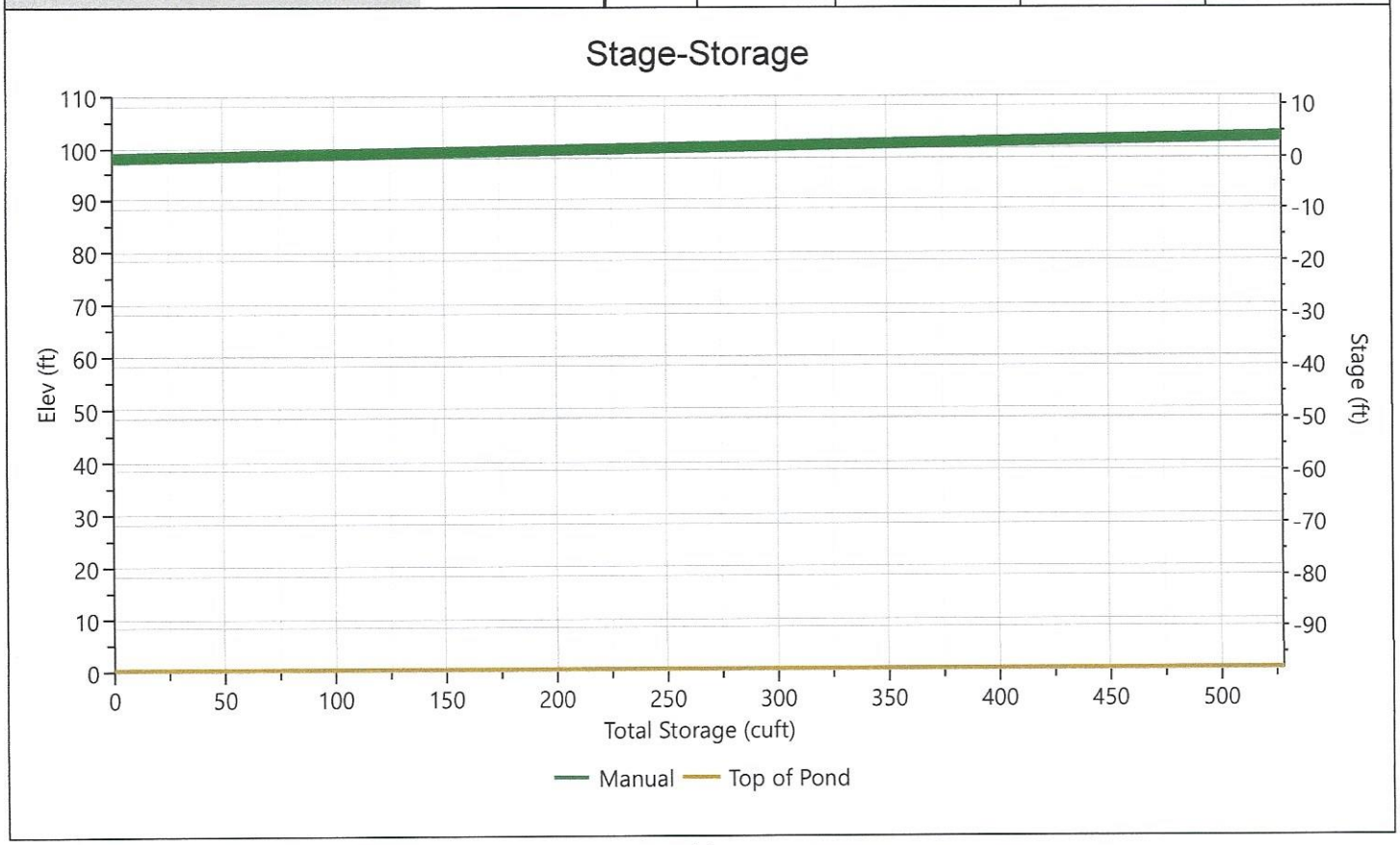
Lot 37

Stage-Storage

User Defined Storage	
Description	**Input**
Bottom Elevation, ft	98.25

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour Area (sqft)	Incr. Storage (cuft)	Total Storage (cuft)
0.00	98.25	n/a	0.000	0.000
1.00	99.25	n/a	132	132
2.00	100.25	n/a	132	264
2.83	101.08	n/a	110	374
3.00	101.25	n/a	22.0	396
4.00	102.25	n/a	132	528



Pond Report

Project Name:

Hydrology Studio v 3.0.0.17

03-12-2021

Lot 37

Stage-Discharge

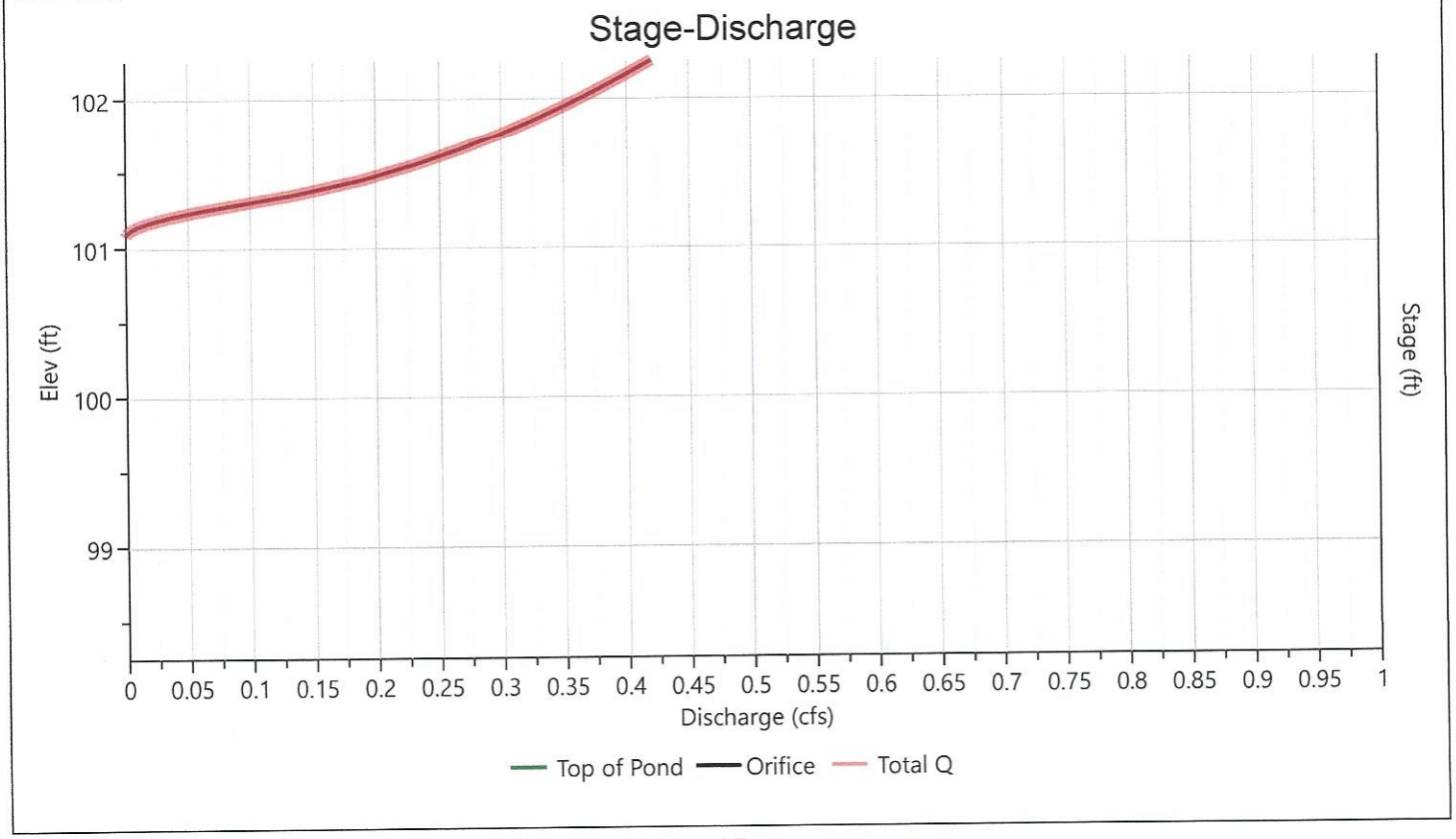
Culvert / Orifices	Culvert	Orifices		
		1	2	3
Rise, in		4		
Span, in		4		
No. Barrels	1	1		
Invert Elevation, ft	98.25	101.08		
Orifice Coefficient, Co	0.60	0.60		
Length, ft				
Barrel Slope, %				
N-Value, n	0.000			

Weirs	Riser*	Weirs		
		1	2	3
Shape / Type				
Crest Elevation, ft				
Crest Length, ft				
Angle, deg				
Weir Coefficient, Cw				

Perforated Riser	
Hole Diameter, in	
No. holes	
Invert Elevation, ft	
Height, ft	
Orifice Coefficient, Co	

Ancillary	
Exfiltration, in/hr	

*Routes through Culvert.



Pond Report

Project Name:

Hydrology Studio v 3.0.0.17

03-12-2021

Lot 37

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	98.25	0.000		0.000										0.000
1.00	99.25	132		0.000										0.000
2.00	100.25	264		0.000										0.000
2.83	101.08	374		0.000										0.000
3.00	101.25	396		0.063										0.063
4.00	102.25	528		0.421										0.421

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

Pond Report

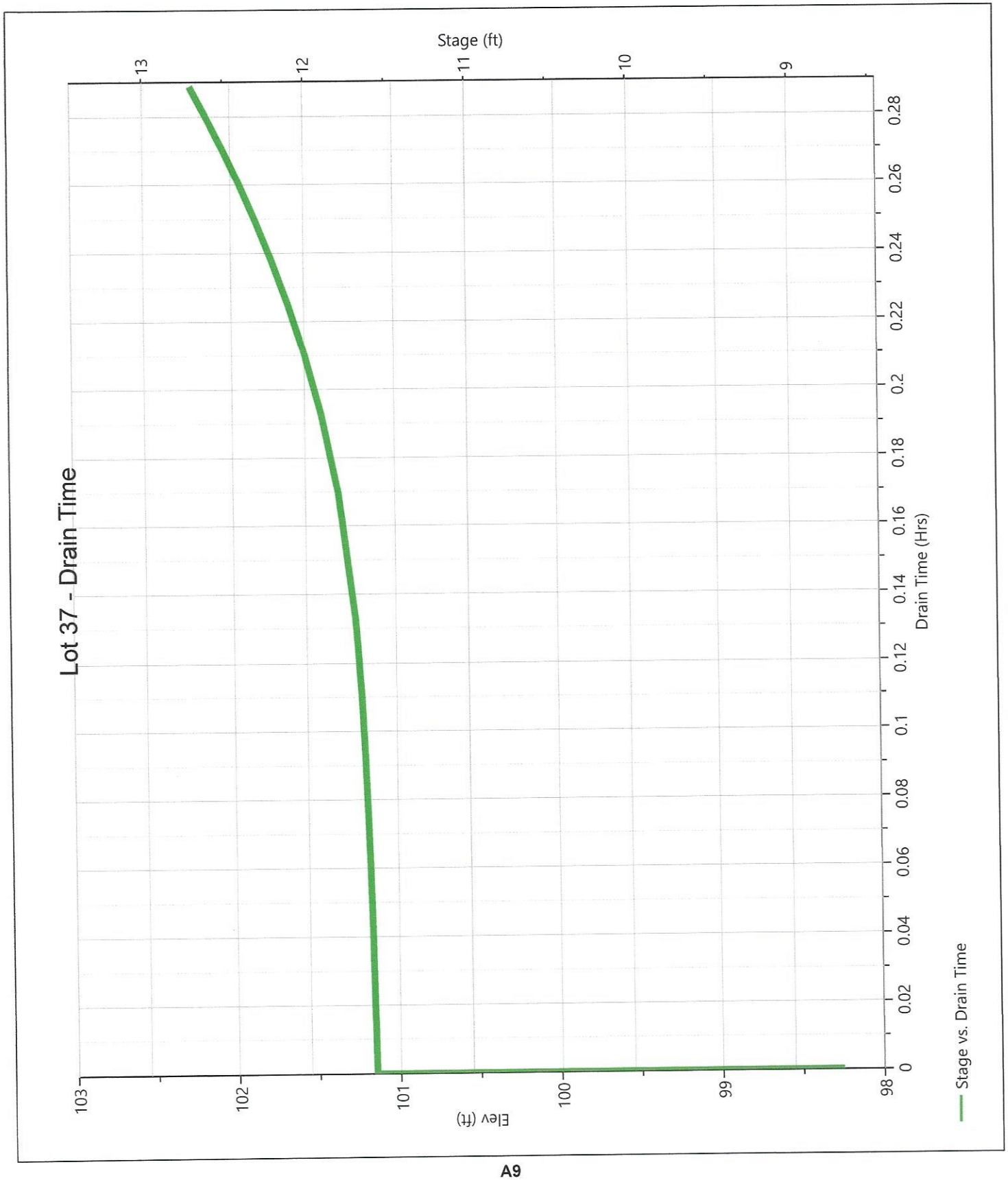
Project Name:

Hydrology Studio v 3.0.0.17

03-12-2021

Lot 37

Pond Drawdown



Hydrograph Report

Project Name:

Hydrology Studio v 3.0.0.17

03-12-2021

Lot 38

Hyd. No. 5

Hydrograph Type	= Rational	Peak Flow	= 0.169 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.17 hrs
Time Interval	= 1 min	Runoff Volume	= 127 cuft
Drainage Area	= 0.04 ac	Runoff Coeff.	= 0.99
Tc Method	= User	Time of Conc. (Tc)	= 10.0 min
IDF Curve	= NJRSIS.idf	Intensity	= 4.27 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.5

Hydrograph Discharge Table

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
4	0.068								
5	0.084								
6	0.101								
7	0.118								
8	0.135								
9	0.152								
10	**0.169**								
11	0.158								
12	0.146								
13	0.135								
14	0.124								
15	0.113								
16	0.101								
17	0.090								
18	0.079								
19	0.068								
20	0.056								
21	0.045								
...end	*...end*								

Printed values > 30% of Qpeak. nth-point print interval = 1

Hydrograph Report

Project Name:

Hydrology Studio v 3.0.0.17

03-12-2021

Lot 38 Routing

Hyd. No. 6

Hydrograph Type	= Pond Route	Peak Flow	= 0.000 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.00 hrs
Time Interval	= 1 min	Hydrograph Volume	= 0.000 cuft
Inflow Hydrograph	= 5 - Lot 38	Max. Elevation	= 90.51 ft
Pond Name	= Lot 38	Max. Storage	= 127 cuft

Pond Routing by Storage Indication Method

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
0.02	0.000								
...end	...end								

Printed values > 30% of Qpeak. nth-point print interval = 1

Pond Report

Project Name:

Hydrology Studio v 3.0.0.17

03-12-2021

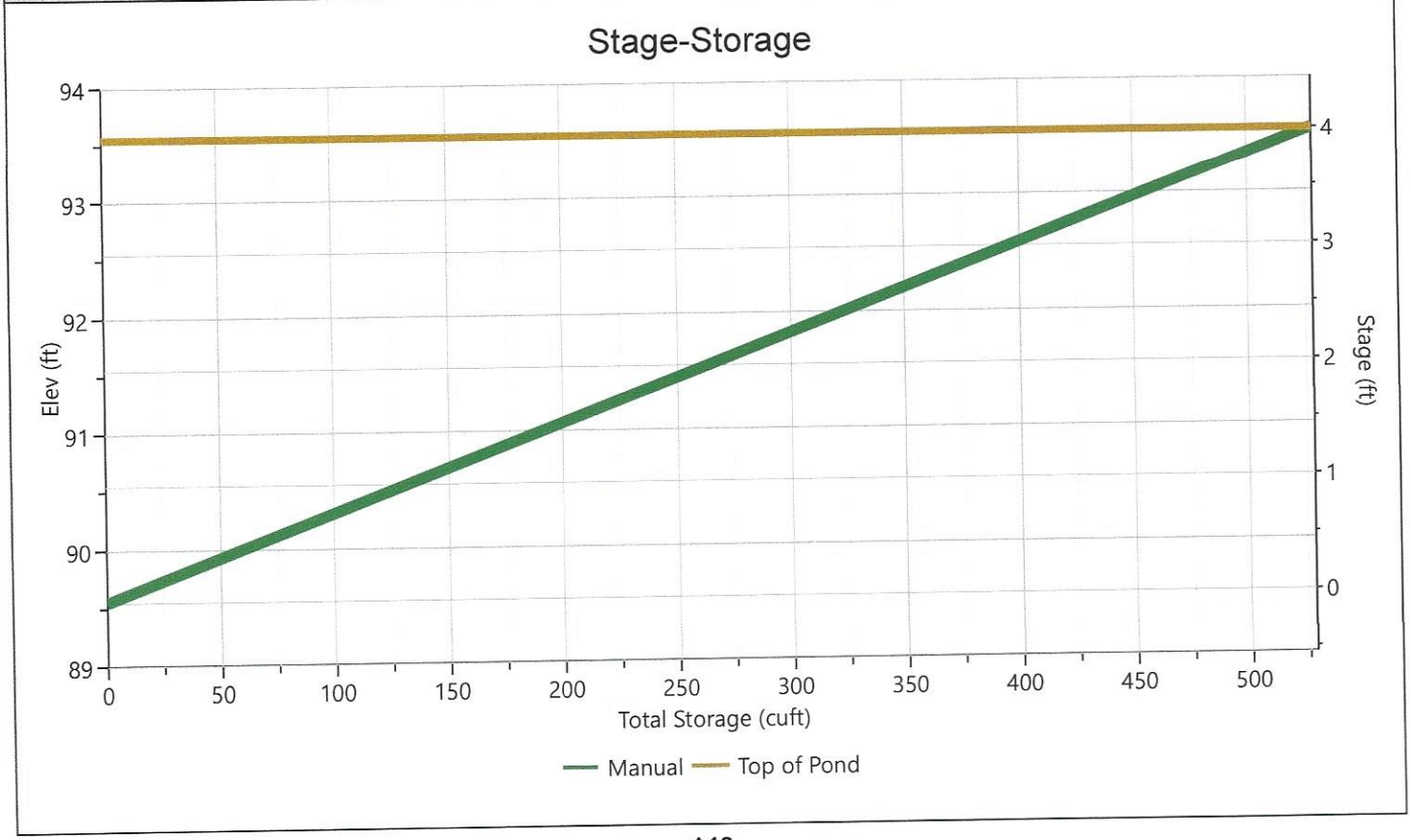
Lot 38

Stage-Storage

User Defined Storage	
Description	**Input**
Bottom Elevation, ft	89.55

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour Area (sqft)	Incr. Storage (cuft)	Total Storage (cuft)
0.00	89.55	n/a	0.000	0.000
1.00	90.55	n/a	132	132
2.00	91.55	n/a	132	264
3.00	92.55	n/a	132	396
4.00	93.55	n/a	132	528



Pond Report

Project Name:

Hydrology Studio v 3.0.0.17

03-12-2021

Lot 38

Stage-Discharge

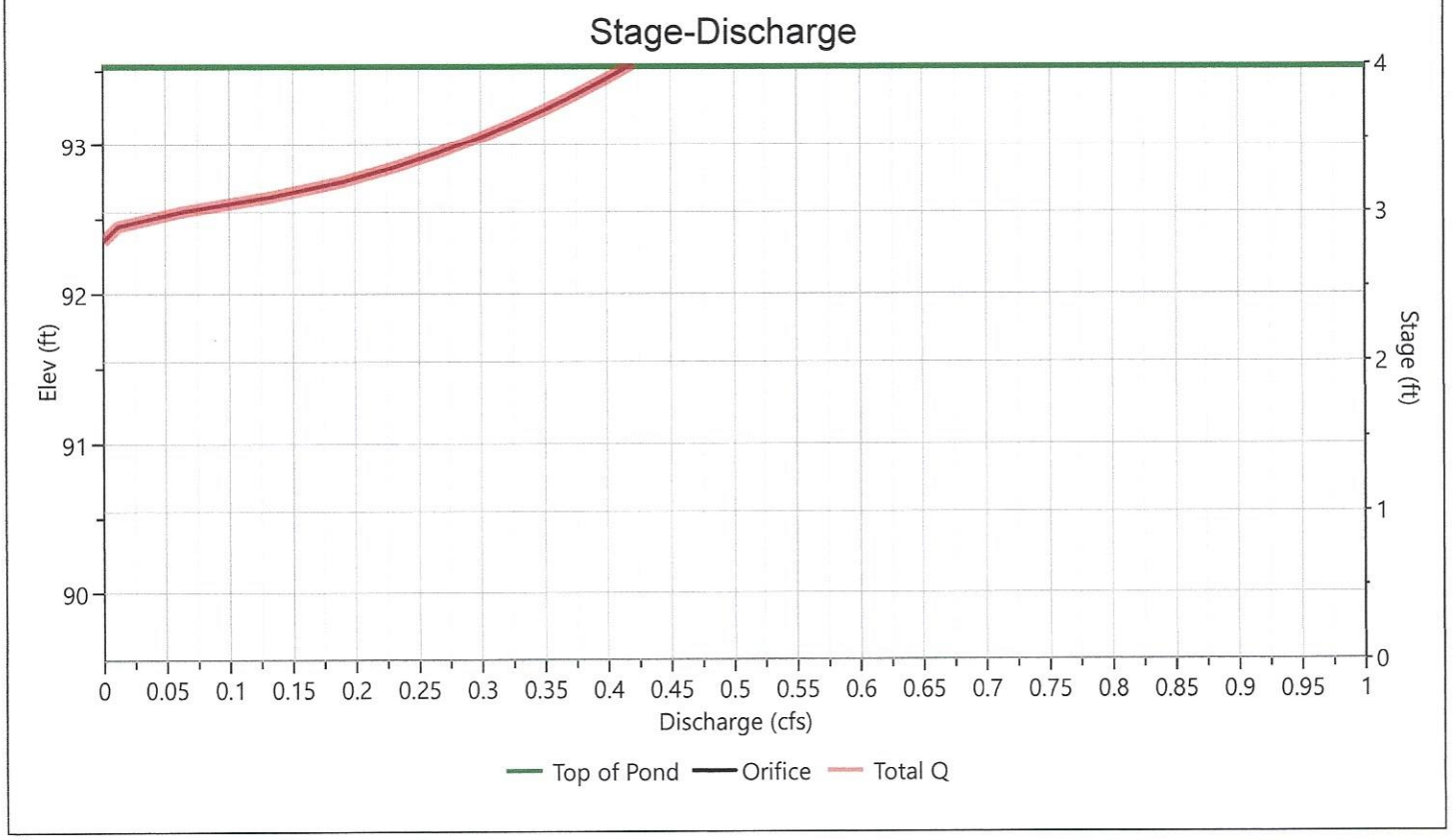
Culvert / Orifices	Culvert	Orifices		
		1	2	3
Rise, in		4		
Span, in		4		
No. Barrels		1		
Invert Elevation, ft		92.38		
Orifice Coefficient, Co		0.60		
Length, ft				
Barrel Slope, %				
N-Value, n	0.000			

Weirs	Riser*	Weirs		
		1	2	3
Shape / Type				
Crest Elevation, ft				
Crest Length, ft				
Angle, deg				
Weir Coefficient, Cw				

Perforated Riser	
Hole Diameter, in	
No. holes	
Invert Elevation, ft	
Height, ft	
Orifice Coefficient, Co	

Ancillary	
Exfiltration, in/hr	

*Routes through Culvert.



Pond Report

Project Name:

Hydrology Studio v 3.0.0.17

03-12-2021

Lot 38

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	89.55	0.000		0.000										0.000
1.00	90.55	132		0.000										0.000
2.00	91.55	264		0.000										0.000
3.00	92.55	396		0.063										0.063
4.00	93.55	528		0.421										0.421

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

Pond Report

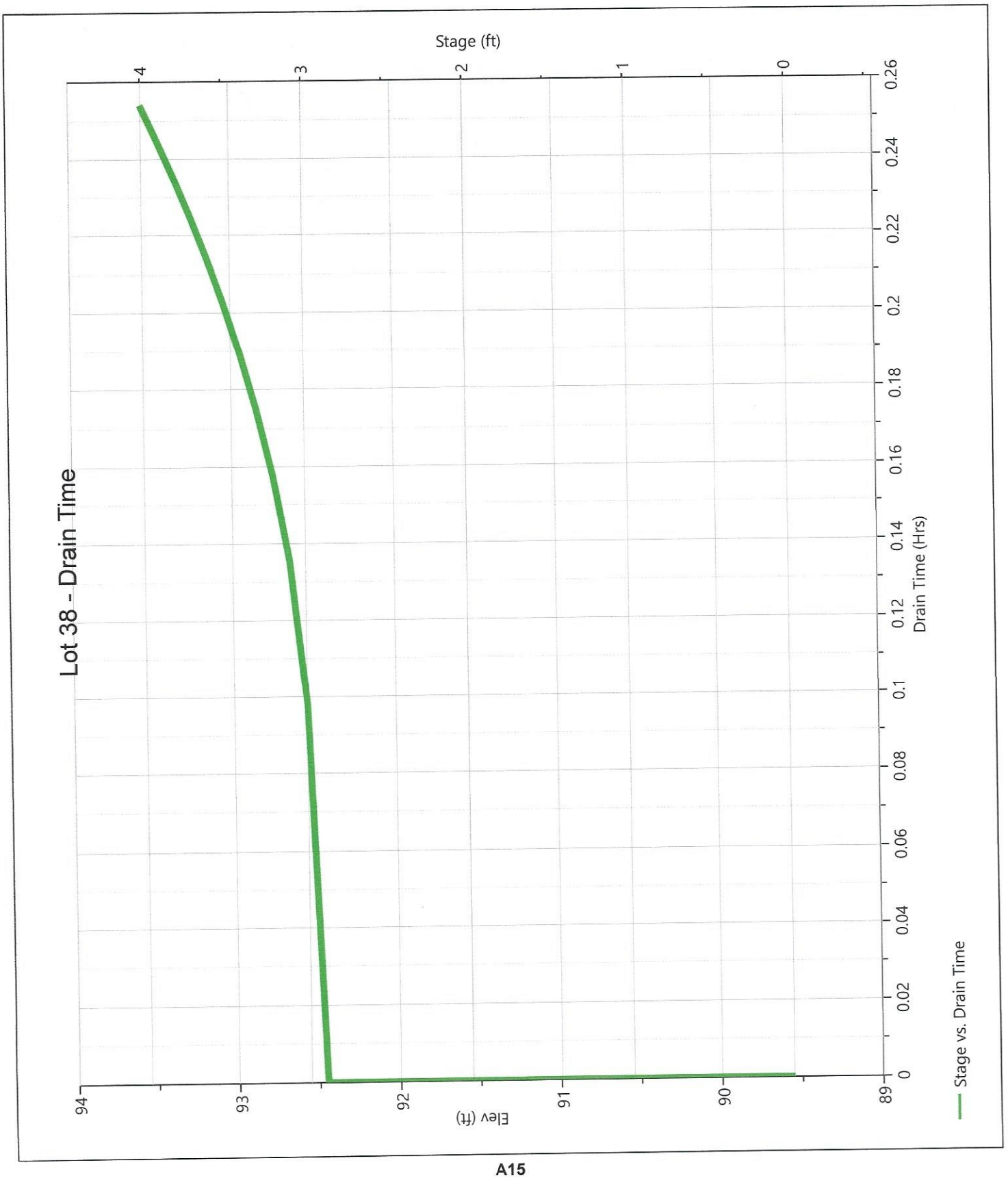
Project Name:

Hydrology Studio v 3.0.0.17

03-12-2021

Lot 38

Pond Drawdown



Hydrograph Report

Hydrology Studio v 3.0.0.17

03-12-2021

Tot from Drywells

Hyd. No. 7

Hydrograph Type	= Junction	Peak Flow	= 0.000 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.00 hrs
Time Interval	= 1 min	Hydrograph Volume	= 0.000 cuft
Inflow Hydrographs	= 4, 6	Total Contrib. Area	= 0.0 ac

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
0.02	0.000								
...end	*...end*								

Printed values > 30% of Qpeak. nth-point print interval = 1

Hydrograph Report

Project Name:

Hydrology Studio v 3.0.0.17

03-12-2021

Total

Hyd. No. 8

Hydrograph Type	= Junction	Peak Flow	= 1.429 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.17 hrs
Time Interval	= 1 min	Hydrograph Volume	= 1,071 cuft
Inflow Hydrographs	= 2, 7	Total Contrib. Area	= 1.08 ac

Hydrograph Discharge Table

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
3	0.429								
4	0.571								
5	0.714								
6	0.857								
7	1.000								
8	1.143								
9	1.286								
10	**1.429**								
11	1.333								
12	1.238								
13	1.143								
14	1.048								
15	0.952								
16	0.857								
17	0.762								
18	0.667								
19	0.571								
20	0.476								
21	0.381								
...end	*...end*								

Printed values > 30% of Qpeak. nth-point print interval = 1

Hydrograph 10-yr Summary

Project Name:

03-12-2021

Hydrology Studio v 3.0.0.17

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	Rational	Existing	1.855	0.17	1,391	----		
2	Rational	Undetained	1.846	0.17	1,385	----		
3	Rational	Lot 37	0.218	0.17	164	----		
4	Pond Route	Lot 37 Routing	0.000	0.00	0.000	3	99.49	164
5	Rational	Lot 38	0.218	0.17	164	----		
6	Pond Route	Lot 38 Routing	0.000	0.00	0.000	5	90.79	164
7	Junction	Tot from Drywells	0.000	0.00	0.000	4, 6		
8	Junction	Total	1.846	0.17	1,385	2, 7		
9	Rational	Undet 20	1.351	0.33	2,027	----		
10	Rational	Lot 37 20	0.160	0.33	240	----		
11	Pond Route	37 Rout 20	0.000	0.00	0.000	10	100.07	240
12	Rational	Lot 38 20	0.160	0.33	240	----		
13	Pond Route	38 Rout 20	0.000	0.00	0.000	12	91.37	240
14	Junction	20 Tot Drywells	0.000	0.00	0.000	11, 13		
15	Junction	Toal 20	1.351	0.33	2,027	9, 14		

Hydrograph Report

Project Name:

Hydrology Studio v 3.0.0.17

03-12-2021

Existing

Hyd. No. 1

Hydrograph Type	= Rational	Peak Flow	= 1.855 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.17 hrs
Time Interval	= 1 min	Runoff Volume	= 1,391 cuft
Drainage Area	= 1.16 ac	Runoff Coeff.	= 0.29
Tc Method	= User	Time of Conc. (Tc)	= 10.0 min
IDF Curve	= NJRSIS.idf	Intensity	= 5.52 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.5

Hydrograph Discharge Table

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
3	0.557								
4	0.742								
5	0.928								
6	1.113								
7	1.299								
8	1.484								
9	1.670								
10	**1.855**								
11	1.732								
12	1.608								
13	1.484								
14	1.361								
15	1.237								
16	1.113								
17	0.989								
18	0.866								
19	0.742								
20	0.618								
21	0.495								
...end	*...end*								

Printed values > 30% of Qpeak. nth-point print interval = 1

Hydrograph Report

Project Name:

Hydrology Studio v 3.0.0.17

03-12-2021

Undetained

Hyd. No. 2

Hydrograph Type	= Rational	Peak Flow	= 1.846 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.17 hrs
Time Interval	= 1 min	Runoff Volume	= 1,385 cuft
Drainage Area	= 1.08 ac	Runoff Coeff.	= 0.31
Tc Method	= User	Time of Conc. (Tc)	= 10.0 min
IDF Curve	= NJRSIS.idf	Intensity	= 5.52 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.5

Hydrograph Discharge Table

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
3	0.554								
4	0.739								
5	0.923								
6	1.108								
7	1.293								
8	1.477								
9	1.662								
10	**1.846**								
11	1.723								
12	1.600								
13	1.477								
14	1.354								
15	1.231								
16	1.108								
17	0.985								
18	0.862								
19	0.739								
20	0.615								
21	0.492								
...end	*...end*								

Printed values > 30% of Qpeak. nth-point print interval = 1

Hydrograph Report

Project Name:

Hydrology Studio v 3.0.0.17

03-12-2021

Lot 37

Hyd. No. 3

Hydrograph Type	= Rational	Peak Flow	= 0.218 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.17 hrs
Time Interval	= 1 min	Runoff Volume	= 164 cuft
Drainage Area	= 0.04 ac	Runoff Coeff.	= 0.99
Tc Method	= User	Time of Conc. (Tc)	= 10.0 min
IDF Curve	= NJRSIS.idf	Intensity	= 5.52 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.5

Hydrograph Discharge Table

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
4	0.087								
5	0.109								
6	0.131								
7	0.153								
8	0.175								
9	0.197								
10	**0.218**								
11	0.204								
12	0.189								
13	0.175								
14	0.160								
15	0.146								
16	0.131								
17	0.116								
18	0.102								
19	0.087								
20	0.073								
21	0.058								
...end	*...end*								

Printed values > 30% of Qpeak. nth-point print interval = 1

Hydrograph Report

Project Name:

Hydrology Studio v 3.0.0.17

03-12-2021

Lot 37 Routing

Hyd. No. 4

Hydrograph Type	= Pond Route	Peak Flow	= 0.000 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.00 hrs
Time Interval	= 1 min	Hydrograph Volume	= 0.000 cuft
Inflow Hydrograph	= 3 - Lot 37	Max. Elevation	= 99.49 ft
Pond Name	= Lot 37	Max. Storage	= 164 cuft

Pond Routing by Storage Indication Method

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
0.02	0.000								
...end	...end								

Printed values > 30% of Qpeak. nth-point print interval = 1

Hydrograph Report

Project Name:

Hydrology Studio v 3.0.0.17

03-12-2021

Lot 38

Hyd. No. 5

Hydrograph Type	= Rational	Peak Flow	= 0.218 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.17 hrs
Time Interval	= 1 min	Runoff Volume	= 164 cuft
Drainage Area	= 0.04 ac	Runoff Coeff.	= 0.99
Tc Method	= User	Time of Conc. (Tc)	= 10.0 min
IDF Curve	= NJRSIS.idf	Intensity	= 5.52 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.5

Hydrograph Discharge Table

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
4	0.087								
5	0.109								
6	0.131								
7	0.153								
8	0.175								
9	0.197								
10	**0.218**								
11	0.204								
12	0.189								
13	0.175								
14	0.160								
15	0.146								
16	0.131								
17	0.116								
18	0.102								
19	0.087								
20	0.073								
21	0.058								
...end	*...end*								

Printed values > 30% of Qpeak. nth-point print interval = 1

Hydrograph Report

Project Name:

Hydrology Studio v 3.0.0.17

03-12-2021

Lot 38 Routing

Hyd. No. 6

Hydrograph Type	= Pond Route	Peak Flow	= 0.000 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.00 hrs
Time Interval	= 1 min	Hydrograph Volume	= 0.000 cuft
Inflow Hydrograph	= 5 - Lot 38	Max. Elevation	= 90.79 ft
Pond Name	= Lot 38	Max. Storage	= 164 cuft

Pond Routing by Storage Indication Method

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
0.02	0.000								
...end	...end								

Printed values > 30% of Qpeak. nth-point print interval = 1

Hydrograph Report

Project Name:

Hydrology Studio v 3.0.0.17

03-12-2021

Tot from Drywells

Hyd. No. 7

Hydrograph Type	= Junction	Peak Flow	= 0.000 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.00 hrs
Time Interval	= 1 min	Hydrograph Volume	= 0.000 cuft
Inflow Hydrographs	= 4, 6	Total Contrib. Area	= 0.0 ac

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
0.02	0.000								
...end	*...end*								

Printed values > 30% of Qpeak. nth-point print interval = 1

Hydrograph Report

Hydrology Studio v 3.0.0.17

Total

Hyd. No. 8

Hydrograph Type	= Junction	Peak Flow	= 1.846 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.17 hrs
Time Interval	= 1 min	Hydrograph Volume	= 1,385 cuft
Inflow Hydrographs	= 2, 7	Total Contrib. Area	= 1.08 ac

Hydrograph Discharge Table

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
3	0.554								
4	0.739								
5	0.923								
6	1.108								
7	1.293								
8	1.477								
9	1.662								
10	**1.846**								
11	1.723								
12	1.600								
13	1.477								
14	1.354								
15	1.231								
16	1.108								
17	0.985								
18	0.862								
19	0.739								
20	0.615								
21	0.492								
...end	*...end*								

Printed values > 30% of Qpeak. nth-point print interval = 1

Hydrograph 100-yr Summary

Project Name:

Hydrology Studio v 3.0.0.17

03-12-2021

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	Rational	Existing	2.316	0.17	1,737	----		
2	Rational	Undetained	2.305	0.17	1,729	----		
3	Rational	Lot 37	0.273	0.17	204	----		
4	Pond Route	Lot 37 Routing	0.000	0.00	0.000	3	99.80	204
5	Rational	Lot 38	0.273	0.17	204	----		
6	Pond Route	Lot 38 Routing	0.000	0.00	0.000	5	91.10	204
7	Junction	Tot from Drywells	0.000	0.00	0.000	4, 6		
8	Junction	Total	2.305	0.17	1,729	2, 7		
9	Rational	Undet 20	1.672	0.33	2,508	----		
10	Rational	Lot 37 20	0.198	0.33	297	----		
11	Pond Route	37 Rout 20	0.000	0.00	0.000	10	100.50	297
12	Rational	Lot 38 20	0.198	0.33	297	----		
13	Pond Route	38 Rout 20	0.000	0.00	0.000	12	91.80	297
14	Junction	20 Tot Drywells	0.000	0.00	0.000	11, 13		
15	Junction	Toal 20	1.672	0.33	2,508	9, 14		

Hydrograph Report

Project Name:

Hydrology Studio v 3.0.0.17

03-12-2021

Existing

Hyd. No. 1

Hydrograph Type	= Rational	Peak Flow	= 2.316 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.17 hrs
Time Interval	= 1 min	Runoff Volume	= 1,737 cuft
Drainage Area	= 1.16 ac	Runoff Coeff.	= 0.29
Tc Method	= User	Time of Conc. (Tc)	= 10.0 min
IDF Curve	= NJRSIS.idf	Intensity	= 6.88 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.5

Hydrograph Discharge Table

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
4	0.926								
5	1.158								
6	1.390								
7	1.621								
8	1.853								
9	2.084								
10	**2.316**								
11	2.161								
12	2.007								
13	1.853								
14	1.698								
15	1.544								
16	1.390								
17	1.235								
18	1.081								
19	0.926								
20	0.772								
21	0.618								
...end	*...end*								

Printed values > 30% of Qpeak. nth-point print interval = 1

Hydrograph Report

Project Name:

Hydrology Studio v 3.0.0.17

03-12-2021

Undetained

Hyd. No. 2

Hydrograph Type	= Rational	Peak Flow	= 2.305 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.17 hrs
Time Interval	= 1 min	Runoff Volume	= 1,729 cuft
Drainage Area	= 1.08 ac	Runoff Coeff.	= 0.31
Tc Method	= User	Time of Conc. (Tc)	= 10.0 min
IDF Curve	= NJRSIS.idf	Intensity	= 6.88 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.5

Hydrograph Discharge Table

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
3	0.691								
4	0.922								
5	1.152								
6	1.383								
7	1.613								
8	1.844								
9	2.074								
10	**2.305**								
11	2.151								
12	1.998								
13	1.844								
14	1.690								
15	1.537								
16	1.383								
17	1.229								
18	1.076								
19	0.922								
20	0.768								
21	0.615								
...end	*...end*								

Printed values > 30% of Qpeak. nth-point print interval = 1

Hydrograph Report

Project Name:

Hydrology Studio v 3.0.0.17

03-12-2021

Lot 37

Hyd. No. 3

Hydrograph Type	= Rational	Peak Flow	= 0.273 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.17 hrs
Time Interval	= 1 min	Runoff Volume	= 204 cuft
Drainage Area	= 0.04 ac	Runoff Coeff.	= 0.99
Tc Method	= User	Time of Conc. (Tc)	= 10.0 min
IDF Curve	= NJRSIS.idf	Intensity	= 6.88 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.5

Hydrograph Discharge Table

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
3	0.082								
4	0.109								
5	0.136								
6	0.164								
7	0.191								
8	0.218								
9	0.245								
10	**0.273**								
11	0.254								
12	0.236								
13	0.218								
14	0.200								
15	0.182								
16	0.164								
17	0.145								
18	0.127								
19	0.109								
20	0.091								
21	0.073								
...end	*...end*								

Printed values > 30% of Qpeak. nth-point print interval = 1

Lot 37 Routing

Hyd. No. 4

Hydrograph Type	= Pond Route	Peak Flow	= 0.000 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.00 hrs
Time Interval	= 1 min	Hydrograph Volume	= 0.000 cuft
Inflow Hydrograph	= 3 - Lot 37	Max. Elevation	= 99.80 ft
Pond Name	= Lot 37	Max. Storage	= 204 cuft

Pond Routing by Storage Indication Method

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
0.02	0.000								
...end	...end								

Printed values > 30% of Qpeak. nth-point print interval = 1

Hydrograph Report

Project Name:

Hydrology Studio v 3.0.0.17

03-12-2021

Lot 38

Hyd. No. 5

Hydrograph Type	= Rational	Peak Flow	= 0.273 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.17 hrs
Time Interval	= 1 min	Runoff Volume	= 204 cuft
Drainage Area	= 0.04 ac	Runoff Coeff.	= 0.99
Tc Method	= User	Time of Conc. (Tc)	= 10.0 min
IDF Curve	= NJRSIS.idf	Intensity	= 6.88 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.5

Hydrograph Discharge Table

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
3	0.082								
4	0.109								
5	0.136								
6	0.164								
7	0.191								
8	0.218								
9	0.245								
10	**0.273**								
11	0.254								
12	0.236								
13	0.218								
14	0.200								
15	0.182								
16	0.164								
17	0.145								
18	0.127								
19	0.109								
20	0.091								
21	0.073								
...end	*...end*								

Printed values > 30% of Qpeak. nth-point print interval = 1

Lot 38 Routing

Hyd. No. 6

Hydrograph Type	= Pond Route	Peak Flow	= 0.000 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.00 hrs
Time Interval	= 1 min	Hydrograph Volume	= 0.000 cuft
Inflow Hydrograph	= 5 - Lot 38	Max. Elevation	= 91.10 ft
Pond Name	= Lot 38	Max. Storage	= 204 cuft

Pond Routing by Storage Indication Method

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
0.02	0.000								
...end	...end								

Printed values > 30% of Qpeak. nth-point print interval = 1

Hydrograph Report

Project Name:

Hydrology Studio v 3.0.0.17

03-12-2021

Tot from Drywells

Hyd. No. 7

Hydrograph Type	= Junction	Peak Flow	= 0.000 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.00 hrs
Time Interval	= 1 min	Hydrograph Volume	= 0.000 cuft
Inflow Hydrographs	= 4, 6	Total Contrib. Area	= 0.0 ac

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
0.02	0.000								
...end	*...end*								

Printed values > 30% of Qpeak. nth-point print interval = 1

Hydrograph Report

Project Name:

Hydrology Studio v 3.0.0.17

03-12-2021

Total

Hyd. No. 8

Hydrograph Type	= Junction	Peak Flow	= 2.305 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.17 hrs
Time Interval	= 1 min	Hydrograph Volume	= 1,729 cuft
Inflow Hydrographs	= 2, 7	Total Contrib. Area	= 1.08 ac

Hydrograph Discharge Table

Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)	Time (min)	Outflow (cfs)
3	0.691								
4	0.922								
5	1.152								
6	1.383								
7	1.613								
8	1.844								
9	2.074								
10	**2.305**								
11	2.151								
12	1.998								
13	1.844								
14	1.690								
15	1.537								
16	1.383								
17	1.229								
18	1.076								
19	0.922								
20	0.768								
21	0.615								
...end	*...end*								

Printed values > 30% of Qpeak. nth-point print interval = 1

Hydrograph 1-yr Summary

Project Name:

Hydrology Studio v 3.0.0.17

03-13-2021

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (min)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)
1	NRCS Runoff	Area to Drywell	0.109	67	150	----		

Hydrograph Report

Project Name:

Hydrology Studio v 3.0.0.17

03-13-2021

Area to Drywell

Hyd. No. 1

Hydrograph Type	= NRCS Runoff	Peak Flow	= 0.109 cfs
Storm Frequency	= 1-yr	Time to Peak	= 67 min
Time Interval	= 1 min	Runoff Volume	= 150 cuft
Drainage Area	= 0.04 ac	Curve Number	= 98
Tc Method	= User	Time of Conc. (Tc)	= 10.0 min
Total Rainfall	= 1.25 in	Design Storm	= NJ WQ Storm
Storm Duration	= 2 hrs	Shape Factor	= 484

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
0.45	0.001	0.85	0.015	1.25	0.055	1.65	0.013	2.05	0.003
0.47	0.002	0.87	0.017	1.27	0.048	1.67	0.013	2.07	0.003
0.48	0.002	0.88	0.019	1.28	0.041	1.68	0.012	2.08	0.003
0.50	0.002	0.90	0.022	1.30	0.036	1.70	0.012	2.10	0.002
0.52	0.003	0.92	0.024	1.32	0.031	1.72	0.012	2.12	0.002
0.53	0.003	0.93	0.029	1.33	0.027	1.73	0.012	2.13	0.001
0.55	0.004	0.95	0.035	1.35	0.025	1.75	0.012	2.15	0.001
0.57	0.004	0.97	0.042	1.37	0.023	1.77	0.012	*...end*	*...end*
0.58	0.005	0.98	0.050	1.38	0.021	1.78	0.011		
0.60	0.005	1.00	0.059	1.40	0.019	1.80	0.011		
0.62	0.006	1.02	0.070	1.42	0.018	1.82	0.010		
0.63	0.006	1.03	0.080	1.43	0.017	1.83	0.009		
0.65	0.007	1.05	0.089	1.45	0.017	1.85	0.008		
0.67	0.007	1.07	0.097	1.47	0.016	1.87	0.008		
0.68	0.008	1.08	0.104	1.48	0.016	1.88	0.007		
0.70	0.008	1.10	0.108	1.50	0.016	1.90	0.006		
0.72	0.009	**1.12**	**0.109**	1.52	0.016	1.92	0.005		
0.73	0.009	1.13	0.108	1.53	0.015	1.93	0.005		
0.75	0.009	1.15	0.104	1.55	0.015	1.95	0.005		
0.77	0.010	1.17	0.098	1.57	0.015	1.97	0.004		
0.78	0.010	1.18	0.089	1.58	0.014	1.98	0.004		
0.80	0.011	1.20	0.079	1.60	0.014	2.00	0.004		
0.82	0.012	1.22	0.071	1.62	0.014	2.02	0.004		
0.83	0.013	1.23	0.063	1.63	0.013	2.03	0.004		

Printed values > 1% of Qpeak. nth-point print interval = 1

IDF Report

IDF filename: NJRSIS.idf

Hydrology Studio v 3.0.0.17

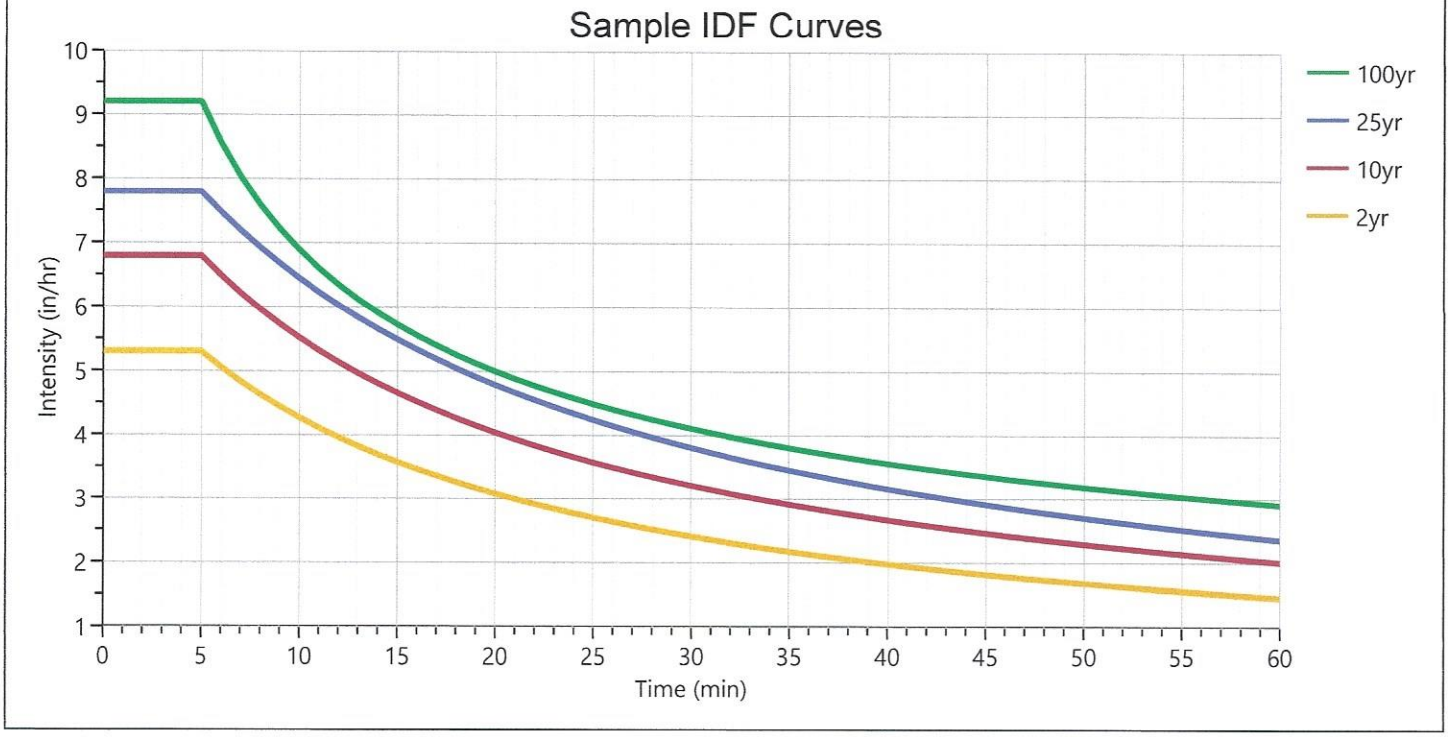
03-13-2021

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	0.0000	108.0896	0.0000	0.0000	101.9965	190.7437	0.0000	24.7329	
D	0.0000	15.6000	0.0000	0.0000	14.5000	19.0000	0.0000	1.7000	
E	0.0000	0.9967	0.0000	0.0000	0.9121	1.0062	0.0000	0.5200	

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	0	5.30	0	0	6.79	7.79	0	9.20	
10	0	4.27	0	0	5.52	6.44	0	6.88	
15	0	3.57	0	0	4.66	5.49	0	5.72	
20	0	3.07	0	0	4.04	4.78	0	4.99	
25	0	2.69	0	0	3.57	4.23	0	4.48	
30	0	2.40	0	0	3.20	3.80	0	4.10	
35	0	2.16	0	0	2.90	3.45	0	3.80	
40	0	1.97	0	0	2.66	3.15	0	3.56	
45	0	1.81	0	0	2.46	2.90	0	3.35	
50	0	1.67	0	0	2.28	2.69	0	3.18	
55	0	1.55	0	0	2.13	2.51	0	3.03	
60	0	1.45	0	0	2.00	2.35	0	2.90	

Cf = Correction Factor applied to Rational Method runoff coefficient.



Precipitation Report

Precipitation filename: NJDEP water quality.pcp

Hydrology Studio v 3.0.0.17 (Rainfall totals in Inches)

03-13-2021

	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		1.20	1.50	0	1.86	2.18	2.64	3.01	3.41
Type I, 24-hr		1.82	2.28	0	2.85	3.31	3.94	4.43	4.94
Type IA, 24-hr		1.82	2.28	0	2.85	3.31	3.94	4.43	4.94
Type II, 24-hr		1.82	2.28	0	2.85	3.31	3.94	4.43	4.94
Type II FL, 24-hr		1.82	2.28	0	2.85	3.31	3.94	4.43	4.94
Type III, 24-hr		2.90	3.40	0	4.30	5.00	6.10	7.00	8.00
Synthetic Storms	**> IDF-Based Synthetic Storms**								
1-hr		0	1.45	0	0	2.00	2.35	0	2.90
2-hr		0	1.62	0	0	2.33	2.66	0	4.07
3-hr		0	1.69	0	0	2.50	2.78	0	4.96
6-hr		0	1.76	0	0	2.75	2.91	0	6.94
12-hr		0	1.80	0	0	2.98	2.97	0	9.69
24-hr		0	1.82	0	0	3.19	3.00	0	13.52
Huff Distribution	**> 1st Quartile (0 to 6 hrs)**								
1-hr		0.76	0.98	0	1.33	1.61	2.01	2.34	2.69
2-hr		0.89	1.14	0	1.50	1.80	2.24	2.60	2.99
3-hr		0.98	1.24	0	1.59	1.90	2.33	2.68	3.07
6-hr		1.20	1.50	0	1.86	2.18	2.64	3.01	3.41
Huff Distribution	**> 2nd Quartile (>6 to 12 hrs)**								
8-hr		0	0	0	0	0	0	0	0
12-hr		0	0	0	0	0	0	0	0
Huff Distribution	**> 3rd Quartile (>12 to 24 hrs)**								
18-hr		0	0	0	0	0	0	0	0
24-hr		0	0	0	0	0	0	0	0
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: NJDEP water quality.pcp

Rainfall totals in Inches

03-13-2021

	Active	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
Active		✔	✔			✔			✔
Huff Indiana	**> Indianapolis**								
30-min		0.99	1.19	0	1.44	1.63	1.89	2.08	2.28
1-hr		1.21	1.46	0	1.81	2.08	2.45	2.75	3.06
2-hr		1.46	1.77	0	2.22	2.57	3.05	3.44	3.85
3-hr		1.57	1.90	0	2.38	2.76	3.30	3.75	4.21
6-hr		1.92	2.31	0	2.88	3.36	4.01	4.56	5.13
12-hr		0	0	0	0	0	0	0	0
24-hr		0	0	0	0	0	0	0	0
Huff Indiana	**> Evansville**								
30-min		0.99	1.19	0	1.44	1.63	1.89	2.08	2.28
1-hr		1.21	1.46	0	1.81	2.08	2.45	2.75	3.06
2-hr		1.46	1.77	0	2.22	2.57	3.05	3.44	3.85
3-hr		1.57	1.90	0	2.38	2.76	3.30	3.75	4.21
6-hr		1.92	2.31	0	2.88	3.36	4.01	4.56	5.13
12-hr		0	0	0	0	0	0	0	0
24-hr		0	0	0	0	0	0	0	0
Huff Indiana	**> Fort Wayne**								
30-min		0.99	1.19	0	1.44	1.63	1.89	2.08	2.28
1-hr		1.21	1.46	0	1.81	2.08	2.45	2.75	3.06
2-hr		1.46	1.77	0	2.22	2.57	3.05	3.44	3.85
3-hr		1.57	1.90	0	2.38	2.76	3.30	3.75	4.21
6-hr		1.92	2.31	0	2.88	3.36	4.01	4.56	5.13
12-hr		0	0	0	0	0	0	0	0
24-hr		0	0	0	0	0	0	0	0
Huff Indiana	**> South Bend**								
30-min		0.99	1.19	0	1.44	1.63	1.89	2.08	2.28
1-hr		1.21	1.46	0	1.81	2.08	2.45	2.75	3.06
2-hr		1.46	1.77	0	2.22	2.57	3.05	3.44	3.85
3-hr		1.57	1.90	0	2.38	2.76	3.30	3.75	4.21
6-hr		1.92	2.31	0	2.88	3.36	4.01	4.56	5.13
12-hr		0	0	0	0	0	0	0	0
24-hr		0	0	0	0	0	0	0	0

Precipitation Report Cont'd

Precipitation filename: NJDEP water quality.pcp

Rainfall totals in Inches

03-13-2021

	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		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
NRCS MSE2, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
NRCS MSE3, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
NRCS MSE4, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
NRCS MSE5, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
NRCS MSE6, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
NOAA-A, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
NOAA-B, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
NOAA-C, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
NOAA-D, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
NRCC-A, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
NRCC-B, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
NRCC-C, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
NRCC-D, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
CA-1, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
CA-2, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
CA-3, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
CA-4, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
CA-5, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15
CA-6, 24-hr		2.72	3.27	0	4.07	4.72	5.63	6.37	7.15