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Subsection: Elevation-Area Volume Curve
 Label: BASIN 20

Return Event: 2 years
 Storm Event: TypeII 24hr (2.4 in)

Elevation (ft)	Planimeter (ft ²)	Area (acres)	A1+A2+sqr (A1*A2) (acres)	Volume (ac-ft)	Volume (Total) (ac-ft)
648.00	0.0	0.976	0.000	0.000	0.000
650.00	0.0	1.102	3.115	2.077	2.077
652.00	0.0	1.231	3.497	2.332	4.408
654.00	0.0	1.363	3.888	2.592	7.001
656.00	0.0	1.497	4.288	2.859	9.860
658.00	0.0	1.635	4.697	3.131	12.991

Subsection: Volume Equations
Label: BASIN 20

Return Event: 2 years
Storm Event: TypeII 24hr (2.4 in)

Pond Volume Equations

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

$$\text{Volume} = (1/3) * (\text{EL2} - \text{EL1}) * (\text{Area1} + \text{Area2} + \text{sqr}(\text{Area1} * \text{Area2}))$$

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

Subsection: Outlet Input Data

Label: Composite Outlet Structure - 1

Return Event: 2 years
Storm Event: TypeII 24hr (2.4 in)

Requested Pond Water Surface Elevations	
Minimum (Headwater)	648.00 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	658.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Stand Pipe	Riser - 1	Forward	Culvert - 1	655.50	658.00
Culvert-Circular	Culvert - 1	Forward	TW	648.00	658.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Subsection: Outlet Input Data

Label: Composite Outlet Structure - 1

Return Event: 2 years

Storm Event: TypeII 24hr (2.4 in)

Structure ID: Riser - 1	
Structure Type: Stand Pipe	
Number of Openings	1
Elevation	655.50 ft
Diameter	2.0 in
Orifice Area	0.0 ft ²
Orifice Coefficient	0.600
Weir Length	0.52 ft
Weir Coefficient	3.00 (ft ^{0.5})/s
K Reverse	1.000
Manning's n	0.000
Kev, Charged Riser	0.000
Weir Submergence	False
Orifice H to crest	False
Structure ID: Culvert - 1	
Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	18.0 in
Length	50.00 ft
Length (Computed Barrel)	50.00 ft
Slope (Computed)	0.008 ft/ft
Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.018
Kr	0.000
Convergence Tolerance	0.00 ft
Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.091
T2 ratio (HW/D)	1.193
Slope Correction Factor	-0.500

Subsection: Outlet Input Data
Label: Composite Outlet Structure - 1

Return Event: 2 years
Storm Event: TypeII 24hr (2.4 in)

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	649.64 ft	T1 Flow	7.58 ft ³ /s
T2 Elevation	649.79 ft	T2 Flow	8.66 ft ³ /s

Subsection: Outlet Input Data
Label: Composite Outlet Structure - 1

Return Event: 2 years
Storm Event: TypeII 24hr (2.4 in)

Structure ID: TW	
Structure Type: TW Setup, DS Channel	
Tailwater Type	Free Outfall
Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft ³ /s
Flow Tolerance (Maximum)	10.000 ft ³ /s

Subsection: Individual Outlet Curves
Label: Composite Outlet Structure - 1

Return Event: 2 years
Storm Event: TypeII 24hr (2.4 in)

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Stand Pipe)

Upstream ID = (Pond Water Surface)
Downstream ID = Culvert - 1 (Culvert-Circular)

Water Surface Elevation (ft)	Device Flow (ft ³ /s)	(into) Headwater Hydraulic Grade Line (ft)	Converge Downstream Hydraulic Grade Line (ft)	Next Downstream Hydraulic Grade Line (ft)	Downstream Hydraulic Grade Line Error (ft)	Convergence Error (ft ³ /s)	Downstream Channel Tailwater (ft)	Tailwater Error (ft)
648.00	0.00	0.00	0.00	0.00	0.00	0.00	(N/A)	0.00
648.50	0.00	0.00	0.00	0.00	0.00	0.00	(N/A)	0.00
649.00	0.00	0.00	0.00	0.00	0.00	0.00	(N/A)	0.00
649.50	0.00	0.00	0.00	0.00	0.00	0.00	(N/A)	0.00
650.00	0.00	0.00	0.00	0.00	0.00	0.00	(N/A)	0.00
650.50	0.00	0.00	0.00	0.00	0.00	0.00	(N/A)	0.00
651.00	0.00	0.00	0.00	0.00	0.00	0.00	(N/A)	0.00
651.50	0.00	0.00	0.00	0.00	0.00	0.00	(N/A)	0.00
652.00	0.00	0.00	0.00	0.00	0.00	0.00	(N/A)	0.00
652.50	0.00	0.00	0.00	0.00	0.00	0.00	(N/A)	0.00
653.00	0.00	0.00	0.00	0.00	0.00	0.00	(N/A)	0.00
653.50	0.00	0.00	0.00	0.00	0.00	0.00	(N/A)	0.00
654.00	0.00	0.00	0.00	0.00	0.00	0.00	(N/A)	0.00
654.50	0.00	0.00	0.00	0.00	0.00	0.00	(N/A)	0.00
655.00	0.00	0.00	0.00	0.00	0.00	0.00	(N/A)	0.00
655.50	0.00	0.00	0.00	0.00	0.00	0.00	(N/A)	0.00
656.00	0.07	656.00	Free Outfall	648.14	0.00	0.00	(N/A)	0.00
656.50	0.11	656.50	Free Outfall	648.17	0.00	0.00	(N/A)	0.00
657.00	0.13	657.00	Free Outfall	648.19	0.00	0.00	(N/A)	0.00
657.50	0.15	657.50	Free Outfall	648.20	0.00	0.00	(N/A)	0.00
658.00	0.17	658.00	Free Outfall	648.22	0.00	0.00	(N/A)	0.00

Message

WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.

Subsection: Individual Outlet Curves
Label: Composite Outlet Structure - 1

Return Event: 2 years
Storm Event: TypeII 24hr (2.4 in)

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Stand Pipe)

Upstream ID = (Pond Water Surface)
Downstream ID = Culvert - 1 (Culvert-Circular)

Message

WS below an invert; no flow.
Orifice: H =.50; Riser orifice equation
controlling.
Orifice: H =1.00; Riser orifice equation
controlling.
Orifice: H =1.50; Riser orifice equation
controlling.
Orifice: H =2.00; Riser orifice equation
controlling.
Orifice: H =2.50; Riser orifice equation
controlling.

Subsection: Individual Outlet Curves
Label: Composite Outlet Structure - 1

Return Event: 2 years
Storm Event: TypeII 24hr (2.4 in)

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 10.11 ft³/s
Upstream ID = Riser - 1 (Stand Pipe)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Device Flow (ft ³ /s)	(into) Headwater Hydraulic Grade Line (ft)	Converge Downstream Hydraulic Grade Line (ft)	Next Downstream Hydraulic Grade Line (ft)	Downstream Hydraulic Grade Line Error (ft)	Convergence Error (ft ³ /s)	Downstream Channel Tailwater (ft)	Tailwater Error (ft)
648.00	0.00	0.00	0.00	Free Outfall	0.00	0.00	(N/A)	0.00
648.50	0.00	0.00	0.00	Free Outfall	0.00	0.00	(N/A)	0.00
649.00	0.00	0.00	0.00	Free Outfall	0.00	0.00	(N/A)	0.00
649.50	0.00	0.00	0.00	Free Outfall	0.00	0.00	(N/A)	0.00
650.00	0.00	0.00	0.00	Free Outfall	0.00	0.00	(N/A)	0.00
650.50	0.00	0.00	0.00	Free Outfall	0.00	0.00	(N/A)	0.00
651.00	0.00	0.00	0.00	Free Outfall	0.00	0.00	(N/A)	0.00
651.50	0.00	0.00	0.00	Free Outfall	0.00	0.00	(N/A)	0.00
652.00	0.00	0.00	0.00	Free Outfall	0.00	0.00	(N/A)	0.00
652.50	0.00	0.00	0.00	Free Outfall	0.00	0.00	(N/A)	0.00
653.00	0.00	0.00	0.00	Free Outfall	0.00	0.00	(N/A)	0.00
653.50	0.00	0.00	0.00	Free Outfall	0.00	0.00	(N/A)	0.00
654.00	0.00	0.00	0.00	Free Outfall	0.00	0.00	(N/A)	0.00
654.50	0.00	0.00	0.00	Free Outfall	0.00	0.00	(N/A)	0.00
655.00	0.00	0.00	0.00	Free Outfall	0.00	0.00	(N/A)	0.00
655.50	0.00	0.00	0.00	Free Outfall	0.00	0.00	(N/A)	0.00
656.00	0.07	648.14	Free Outfall	Free Outfall	0.00	0.00	(N/A)	0.00
656.50	0.11	648.17	Free Outfall	Free Outfall	0.00	0.00	(N/A)	0.00
657.00	0.13	648.19	Free Outfall	Free Outfall	0.00	0.00	(N/A)	0.00
657.50	0.15	648.20	Free Outfall	Free Outfall	0.00	0.00	(N/A)	0.00
658.00	0.16	648.22	Free Outfall	Free Outfall	0.00	0.00	(N/A)	0.00

Message

WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.

Subsection: Individual Outlet Curves
Label: Composite Outlet Structure - 1

Return Event: 2 years
Storm Event: TypeII 24hr (2.4 in)

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 10.11 ft³/s
Upstream ID = Riser - 1 (Stand Pipe)
Downstream ID = Tailwater (Pond Outfall)

Message

WS below an invert; no flow.
WS below an invert; no flow.
CRIT.DEPTH CONTROL Vh= .034ft
Dcr= .100ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .040ft
Dcr= .119ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .045ft
Dcr= .132ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .048ft
Dcr= .141ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .051ft
Dcr= .149ft CRIT.DEPTH Hev= .00ft

Subsection: Composite Rating Curve
 Label: Composite Outlet Structure - 1

Return Event: 2 years
 Storm Event: TypeII 24hr (2.4 in)

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft ³ /s)	Tailwater Elevation (ft)	Convergence Error (ft)
648.00	0.00	(N/A)	0.00
648.50	0.00	(N/A)	0.00
649.00	0.00	(N/A)	0.00
649.50	0.00	(N/A)	0.00
650.00	0.00	(N/A)	0.00
650.50	0.00	(N/A)	0.00
651.00	0.00	(N/A)	0.00
651.50	0.00	(N/A)	0.00
652.00	0.00	(N/A)	0.00
652.50	0.00	(N/A)	0.00
653.00	0.00	(N/A)	0.00
653.50	0.00	(N/A)	0.00
654.00	0.00	(N/A)	0.00
654.50	0.00	(N/A)	0.00
655.00	0.00	(N/A)	0.00
655.50	0.00	(N/A)	0.00
656.00	0.07	(N/A)	0.00
656.50	0.11	(N/A)	0.00
657.00	0.13	(N/A)	0.00
657.50	0.15	(N/A)	0.00
658.00	0.17	(N/A)	0.00

Contributing Structures

(no Q: Riser - 1,Culvert - 1)
(no Q: Riser - 1,Culvert - 1)
(no Q: Riser - 1,Culvert - 1)
(no Q: Riser - 1,Culvert - 1)
(no Q: Riser - 1,Culvert - 1)
(no Q: Riser - 1,Culvert - 1)
(no Q: Riser - 1,Culvert - 1)
(no Q: Riser - 1,Culvert - 1)
(no Q: Riser - 1,Culvert - 1)
(no Q: Riser - 1,Culvert - 1)
(no Q: Riser - 1,Culvert - 1)
(no Q: Riser - 1,Culvert - 1)
(no Q: Riser - 1,Culvert - 1)
(no Q: Riser - 1,Culvert - 1)
(no Q: Riser - 1,Culvert - 1)
(no Q: Riser - 1,Culvert - 1)
Riser - 1,Culvert - 1
Riser - 1,Culvert - 1
Riser - 1,Culvert - 1
Riser - 1,Culvert - 1
Riser - 1,Culvert - 1

Subsection: Level Pool Pond Routing Summary
Label: BASIN 20 (IN)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Infiltration			
Infiltration Method (Computed)	Average Infiltration Rate		
Infiltration Rate (Average)	1.0000 in/h		
Initial Conditions			
Elevation (Water Surface, Initial)	648.00 ft		
Volume (Initial)	0.000 ac-ft		
Flow (Initial Outlet)	0.00 ft³/s		
Flow (Initial Infiltration)	0.00 ft³/s		
Flow (Initial, Total)	0.00 ft³/s		
Time Increment	0.017 hours		
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	48.50 ft³/s	Time to Peak (Flow, In)	11.933 hours
Infiltration (Peak)	1.09 ft³/s	Time to Peak (Infiltration)	15.783 hours
Flow (Peak Outlet)	0.00 ft³/s	Time to Peak (Flow, Outlet)	0.000 hours
Peak Conditions			
Elevation (Water Surface, Peak)	649.75 ft		
Volume (Peak)	1.799 ac-ft		
Mass Balance (ac-ft)			
Volume (Initial)	0.000 ac-ft		
Volume (Total Inflow)	2.694 ac-ft		
Volume (Total Infiltration)	2.125 ac-ft		
Volume (Total Outlet Outflow)	0.000 ac-ft		
Volume (Retained)	0.569 ac-ft		
Volume (Unrouted)	-0.001 ac-ft		
Error (Mass Balance)	0.0 %		

Subsection: Level Pool Pond Routing Summary
Label: BASIN 20 (IN)

Return Event: 10 years
Storm Event: TypeII 24hr (4.1 in)

Infiltration			
Infiltration Method (Computed)	Average Infiltration Rate		
Infiltration Rate (Average)	1.0000 in/h		
Initial Conditions			
Elevation (Water Surface, Initial)	648.00 ft		
Volume (Initial)	0.000 ac-ft		
Flow (Initial Outlet)	0.00 ft³/s		
Flow (Initial Infiltration)	0.00 ft³/s		
Flow (Initial, Total)	0.00 ft³/s		
Time Increment	0.017 hours		
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	74.97 ft³/s	Time to Peak (Flow, In)	11.933 hours
Infiltration (Peak)	1.17 ft³/s	Time to Peak (Infiltration)	18.050 hours
Flow (Peak Outlet)	0.00 ft³/s	Time to Peak (Flow, Outlet)	0.000 hours
Elevation (Water Surface, Peak)	650.88 ft		
Volume (Peak)	3.069 ac-ft		
Mass Balance (ac-ft)			
Volume (Initial)	0.000 ac-ft		
Volume (Total Inflow)	4.254 ac-ft		
Volume (Total Infiltration)	2.358 ac-ft		
Volume (Total Outlet Outflow)	0.000 ac-ft		
Volume (Retained)	1.894 ac-ft		
Volume (Unrouted)	-0.002 ac-ft		
Error (Mass Balance)	0.0 %		

Subsection: Level Pool Pond Routing Summary
Label: BASIN 20 (IN)

Return Event: 25 years
Storm Event: TypeII 24hr (5.0 in)

Infiltration			
Infiltration Method (Computed)		Average Infiltration Rate	
Infiltration Rate (Average)		1.0000 in/h	
Initial Conditions			
Elevation (Water Surface, Initial)		648.00 ft	
Volume (Initial)		0.000 ac-ft	
Flow (Initial Outlet)		0.00 ft³/s	
Flow (Initial Infiltration)		0.00 ft³/s	
Flow (Initial, Total)		0.00 ft³/s	
Time Increment		0.017 hours	
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)		96.01 ft³/s	Time to Peak (Flow, In)
Infiltration (Peak)		1.23 ft³/s	Time to Peak (Infiltration)
Flow (Peak Outlet)		0.00 ft³/s	Time to Peak (Flow, Outlet)
Elevation (Water Surface, Peak)		651.79 ft	
Volume (Peak)		4.148 ac-ft	
Mass Balance (ac-ft)			
Volume (Initial)		0.000 ac-ft	
Volume (Total Inflow)		5.528 ac-ft	
Volume (Total Infiltration)		2.545 ac-ft	
Volume (Total Outlet Outflow)		0.000 ac-ft	
Volume (Retained)		2.982 ac-ft	
Volume (Unrouted)		-0.002 ac-ft	
Error (Mass Balance)		0.0 %	

Subsection: Level Pool Pond Routing Summary
Label: BASIN 20 (IN)

Return Event: 100 years
Storm Event: TypeII 24hr (7.0 in)

Infiltration			
Infiltration Method (Computed)		Average Infiltration Rate	
Infiltration Rate (Average)		1.0000 in/h	
Initial Conditions			
Elevation (Water Surface, Initial)		648.00 ft	
Volume (Initial)		0.000 ac-ft	
Flow (Initial Outlet)		0.00 ft³/s	
Flow (Initial Infiltration)		0.00 ft³/s	
Flow (Initial, Total)		0.00 ft³/s	
Time Increment		0.017 hours	
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)		137.68 ft³/s	Time to Peak (Flow, In)
Infiltration (Peak)		1.34 ft³/s	Time to Peak (Infiltration)
Flow (Peak Outlet)		0.00 ft³/s	Time to Peak (Flow, Outlet)
Elevation (Water Surface, Peak)		653.56 ft	
Volume (Peak)		6.409 ac-ft	
Mass Balance (ac-ft)			
Volume (Initial)		0.000 ac-ft	
Volume (Total Inflow)		8.111 ac-ft	
Volume (Total Infiltration)		2.895 ac-ft	
Volume (Total Outlet Outflow)		0.000 ac-ft	
Volume (Retained)		5.215 ac-ft	
Volume (Unrouted)		-0.002 ac-ft	
Error (Mass Balance)		0.0 %	

Subsection: Pond Routed Hydrograph (total out)
Label: BASIN 20 (OUT)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Peak Discharge	0.00 ft ³ /s
Time to Peak	11.650 hours
Hydrograph Volume	0.000 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
0.000	0.00	0.00	(N/A)	(N/A)	(N/A)

Subsection: Pond Routed Hydrograph (total out)
 Label: BASIN 20 (OUT)

Return Event: 10 years
 Storm Event: TypeII 24hr (4.1 in)

Peak Discharge	0.00 ft ³ /s
Time to Peak	11.650 hours
Hydrograph Volume	0.000 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
0.000	0.00	0.00	(N/A)	(N/A)	(N/A)

Subsection: Pond Routed Hydrograph (total out)
Label: BASIN 20 (OUT)

Return Event: 25 years
Storm Event: TypeII 24hr (5.0 in)

Peak Discharge	0.00 ft ³ /s
Time to Peak	11.650 hours
Hydrograph Volume	0.000 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
0.000	0.00	0.00	(N/A)	(N/A)	(N/A)

Subsection: Pond Routed Hydrograph (total out)
Label: BASIN 20 (OUT)

Return Event: 100 years
Storm Event: TypeII 24hr (7.0 in)

Peak Discharge	0.00 ft ³ /s
Time to Peak	11.650 hours
Hydrograph Volume	0.000 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
0.000	0.00	0.00	(N/A)	(N/A)	(N/A)

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Subsection: Elevation-Area Volume Curve
 Label: BASIN 21

Return Event: 2 years
 Storm Event: TypeII 24hr (2.4 in)

Elevation (ft)	Planimeter (ft ²)	Area (acres)	A1+A2+sqr (A1*A2) (acres)	Volume (ac-ft)	Volume (Total) (ac-ft)
603.00	0.0	1.171	0.000	0.000	0.000
605.00	0.0	1.360	3.793	2.529	2.529
607.00	0.0	1.556	4.371	2.914	5.442
609.00	0.0	1.753	4.961	3.307	8.749
611.00	0.0	1.953	5.556	3.704	12.454
613.00	0.0	2.156	6.161	4.107	16.561
614.00	0.0	2.259	6.622	2.207	18.768

Subsection: Volume Equations
Label: BASIN 21

Return Event: 2 years
Storm Event: TypeII 24hr (2.4 in)

Pond Volume Equations

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

$$\text{Volume} = (1/3) * (\text{EL2} - \text{EL1}) * (\text{Area1} + \text{Area2} + \text{sqr}(\text{Area1} * \text{Area2}))$$

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

Subsection: Outlet Input Data

Label: Composite Outlet Structure - 1

Return Event: 2 years
Storm Event: TypeII 24hr (2.4 in)

Requested Pond Water Surface Elevations	
Minimum (Headwater)	603.00 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	614.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Stand Pipe	Riser - 1	Forward	Culvert - 1	612.50	614.00
Orifice-Circular	Orifice - 1	Forward	Culvert - 1	604.50	614.00
Culvert-Circular	Culvert - 1	Forward	TW	603.00	614.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Subsection: Outlet Input Data

Label: Composite Outlet Structure - 1

Return Event: 2 years

Storm Event: TypeII 24hr (2.4 in)

Structure ID: Culvert - 1	
Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	24.0 in
Length	358.00 ft
Length (Computed Barrel)	361.07 ft
Slope (Computed)	0.131 ft/ft
Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.012
Kr	0.000
Convergence Tolerance	0.00 ft
Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.030
T2 ratio (HW/D)	1.132
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.

Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control, interpolate between flows at T1 & T2...

T1 Elevation	605.06 ft	T1 Flow	15.55 ft ³ /s
T2 Elevation	605.26 ft	T2 Flow	17.77 ft ³ /s

Subsection: Outlet Input Data
Label: Composite Outlet Structure - 1

Return Event: 2 years
Storm Event: TypeII 24hr (2.4 in)

Structure ID: Riser - 1	
Structure Type: Stand Pipe	
Number of Openings	1
Elevation	612.50 ft
Diameter	24.0 in
Orifice Area	3.1 ft ²
Orifice Coefficient	0.600
Weir Length	6.28 ft
Weir Coefficient	3.00 (ft ^{0.5})/s
K Reverse	1.000
Manning's n	0.000
Kev, Charged Riser	0.000
Weir Submergence	False
Orifice H to crest	False
Structure ID: Orifice - 1	
Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	604.50 ft
Orifice Diameter	6.0 in
Orifice Coefficient	0.600
Structure ID: TW	
Structure Type: TW Setup, DS Channel	
Tailwater Type	Free Fall
Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft ³ /s
Flow Tolerance (Maximum)	10.000 ft ³ /s

Subsection: Individual Outlet Curves
Label: Composite Outlet Structure - 1

Return Event: 2 years
Storm Event: TypeII 24hr (2.4 in)

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 88.17 ft³/s
Upstream ID = Riser - 1, Orifice - 1
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Device Flow (ft ³ /s)	(into) Headwater Hydraulic Grade Line (ft)	Converge Downstream Hydraulic Grade Line (ft)	Next Downstream Hydraulic Grade Line (ft)	Downstream Hydraulic Grade Line Error (ft)	Convergence Error (ft ³ /s)	Downstream Channel Tailwater (ft)	Tailwater Error (ft)
603.00	0.00	0.00	0.00	Free Outfall	0.00	0.00	(N/A)	0.00
603.50	0.00	0.00	0.00	Free Outfall	0.00	0.00	(N/A)	0.00
604.00	0.00	0.00	0.00	Free Outfall	0.00	0.00	(N/A)	0.00
604.50	0.00	0.00	0.00	Free Outfall	0.00	0.00	(N/A)	0.00
605.00	0.00	603.00	Free Outfall	Free Outfall	0.00	0.00	(N/A)	0.00
605.50	0.00	603.00	Free Outfall	Free Outfall	0.00	0.00	(N/A)	0.00
606.00	1.05	603.51	Free Outfall	Free Outfall	0.00	0.00	(N/A)	0.00
606.50	1.25	603.55	Free Outfall	Free Outfall	0.00	0.00	(N/A)	0.00
607.00	1.42	603.58	Free Outfall	Free Outfall	0.00	0.00	(N/A)	0.00
607.50	1.57	603.62	Free Outfall	Free Outfall	0.00	0.00	(N/A)	0.00
608.00	1.70	603.64	Free Outfall	Free Outfall	0.00	0.00	(N/A)	0.00
608.50	1.83	603.67	Free Outfall	Free Outfall	0.00	0.00	(N/A)	0.00
609.00	1.95	603.69	Free Outfall	Free Outfall	0.00	0.00	(N/A)	0.00
609.50	2.06	603.71	Free Outfall	Free Outfall	0.00	0.00	(N/A)	0.00
610.00	2.17	603.73	Free Outfall	Free Outfall	0.00	0.00	(N/A)	0.00
610.50	2.27	603.75	Free Outfall	Free Outfall	0.00	0.00	(N/A)	0.00
611.00	2.36	603.76	Free Outfall	Free Outfall	0.00	0.00	(N/A)	0.00
611.50	2.45	603.78	Free Outfall	Free Outfall	0.00	0.00	(N/A)	0.00
612.00	2.54	603.80	Free Outfall	Free Outfall	0.00	0.00	(N/A)	0.00
612.50	2.64	603.81	Free Outfall	Free Outfall	0.00	0.00	(N/A)	0.00
613.00	9.37	604.62	Free Outfall	Free Outfall	0.00	0.00	(N/A)	0.00
613.50	17.79	605.42	Free Outfall	Free Outfall	0.00	0.02	(N/A)	0.00
614.00	21.22	605.74	Free Outfall	Free Outfall	0.00	0.02	(N/A)	0.00

Message

WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
FLOW PRECEDENCE SET TO
UPSTREAM CONTROLLING
STRUCTURE
FLOW PRECEDENCE SET TO
UPSTREAM CONTROLLING
STRUCTURE
CRIT.DEPTH CONTROL Vh= .123ft
Dcr= .354ft CRIT.DEPTH Hev= .00ft

Subsection: Individual Outlet Curves
Label: Composite Outlet Structure - 1

Return Event: 2 years
Storm Event: TypeII 24hr (2.4 in)

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Culvert - 1 (Culvert-Circular)

Mannings open channel maximum capacity: 88.17 ft³/s
Upstream ID = Riser - 1, Orifice - 1
Downstream ID = Tailwater (Pond Outfall)

Message

CRIT.DEPTH CONTROL Vh= .134ft
Dcr= .386ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .144ft
Dcr= .412ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .152ft
Dcr= .433ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .159ft
Dcr= .452ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .165ft
Dcr= .469ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .171ft
Dcr= .485ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .177ft
Dcr= .498ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .182ft
Dcr= .512ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .186ft
Dcr= .523ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .191ft
Dcr= .535ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .195ft
Dcr= .545ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .198ft
Dcr= .555ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .203ft
Dcr= .566ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .442ft
Dcr= 1.094ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .750ft
Dcr= 1.520ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .911ft
Dcr= 1.649ft CRIT.DEPTH Hev= .00ft

Subsection: Individual Outlet Curves
Label: Composite Outlet Structure - 1

Return Event: 2 years
Storm Event: TypeII 24hr (2.4 in)

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Stand Pipe)

Upstream ID = (Pond Water Surface)
Downstream ID = Culvert - 1 (Culvert-Circular)

Water Surface Elevation (ft)	Device Flow (ft ³ /s)	(into) Headwater Hydraulic Grade Line (ft)	Converge Downstream Hydraulic Grade Line (ft)	Next Downstream Hydraulic Grade Line (ft)	Downstream Hydraulic Grade Line Error (ft)	Convergence Error (ft ³ /s)	Downstream Channel Tailwater (ft)	Tailwater Error (ft)
603.00	0.00	0.00	0.00	0.00	0.00	0.00	(N/A)	0.00
603.50	0.00	0.00	0.00	0.00	0.00	0.00	(N/A)	0.00
604.00	0.00	0.00	0.00	0.00	0.00	0.00	(N/A)	0.00
604.50	0.00	0.00	0.00	0.00	0.00	0.00	(N/A)	0.00
605.00	0.00	0.00	0.00	603.00	0.00	0.00	(N/A)	0.00
605.50	0.00	0.00	0.00	603.00	0.00	0.00	(N/A)	0.00
606.00	0.00	0.00	0.00	603.51	0.00	0.00	(N/A)	0.00
606.50	0.00	0.00	0.00	603.55	0.00	0.00	(N/A)	0.00
607.00	0.00	0.00	0.00	603.58	0.00	0.00	(N/A)	0.00
607.50	0.00	0.00	0.00	603.62	0.00	0.00	(N/A)	0.00
608.00	0.00	0.00	0.00	603.64	0.00	0.00	(N/A)	0.00
608.50	0.00	0.00	0.00	603.67	0.00	0.00	(N/A)	0.00
609.00	0.00	0.00	0.00	603.69	0.00	0.00	(N/A)	0.00
609.50	0.00	0.00	0.00	603.71	0.00	0.00	(N/A)	0.00
610.00	0.00	0.00	0.00	603.73	0.00	0.00	(N/A)	0.00
610.50	0.00	0.00	0.00	603.75	0.00	0.00	(N/A)	0.00
611.00	0.00	0.00	0.00	603.76	0.00	0.00	(N/A)	0.00
611.50	0.00	0.00	0.00	603.78	0.00	0.00	(N/A)	0.00
612.00	0.00	0.00	0.00	603.80	0.00	0.00	(N/A)	0.00
612.50	0.00	0.00	0.00	603.81	0.00	0.00	(N/A)	0.00
613.00	6.66	613.00	Free Outfall	604.62	0.00	0.00	(N/A)	0.00
613.50	15.12	613.50	Free Outfall	605.42	0.00	0.00	(N/A)	0.00
614.00	18.52	614.00	Free Outfall	605.74	0.00	0.00	(N/A)	0.00

Message

WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.

Subsection: Individual Outlet Curves
Label: Composite Outlet Structure - 1

Return Event: 2 years
Storm Event: TypeII 24hr (2.4 in)

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Stand Pipe)

Upstream ID = (Pond Water Surface)
Downstream ID = Culvert - 1 (Culvert-Circular)

Message

WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
Weir: H =0.5ft
Orifice: H =1.00; Riser orifice equation
controlling.
Orifice: H =1.50; Riser orifice equation
controlling.

Subsection: Individual Outlet Curves
Label: Composite Outlet Structure - 1

Return Event: 2 years
Storm Event: TypeII 24hr (2.4 in)

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Orifice - 1 (Orifice-Circular)

Upstream ID = (Pond Water Surface)
Downstream ID = Culvert - 1 (Culvert-Circular)

Water Surface Elevation (ft)	Device Flow (ft ³ /s)	(into) Headwater Hydraulic Grade Line (ft)	Converge Downstream Hydraulic Grade Line (ft)	Next Downstream Hydraulic Grade Line (ft)	Downstream Hydraulic Grade Line Error (ft)	Convergence Error (ft ³ /s)	Downstream Channel Tailwater (ft)	Tailwater Error (ft)
603.00	0.00	0.00	0.00	0.00	0.00	0.00	(N/A)	0.00
603.50	0.00	0.00	0.00	0.00	0.00	0.00	(N/A)	0.00
604.00	0.00	0.00	0.00	0.00	0.00	0.00	(N/A)	0.00
604.50	0.00	0.00	0.00	0.00	0.00	0.00	(N/A)	0.00
605.00	0.47	605.00	Free Outfall	603.00	0.00	0.00	(N/A)	0.00
605.50	0.82	605.50	Free Outfall	603.00	0.00	0.00	(N/A)	0.00
606.00	1.06	606.00	Free Outfall	603.51	0.00	0.00	(N/A)	0.00
606.50	1.25	606.50	Free Outfall	603.55	0.00	0.00	(N/A)	0.00
607.00	1.42	607.00	Free Outfall	603.58	0.00	0.00	(N/A)	0.00
607.50	1.57	607.50	Free Outfall	603.62	0.00	0.00	(N/A)	0.00
608.00	1.70	608.00	Free Outfall	603.64	0.00	0.00	(N/A)	0.00
608.50	1.83	608.50	Free Outfall	603.67	0.00	0.00	(N/A)	0.00
609.00	1.95	609.00	Free Outfall	603.69	0.00	0.00	(N/A)	0.00
609.50	2.06	609.50	Free Outfall	603.71	0.00	0.00	(N/A)	0.00
610.00	2.17	610.00	Free Outfall	603.73	0.00	0.00	(N/A)	0.00
610.50	2.27	610.50	Free Outfall	603.75	0.00	0.00	(N/A)	0.00
611.00	2.36	611.00	Free Outfall	603.76	0.00	0.00	(N/A)	0.00
611.50	2.46	611.50	Free Outfall	603.78	0.00	0.00	(N/A)	0.00
612.00	2.54	612.00	Free Outfall	603.80	0.00	0.00	(N/A)	0.00
612.50	2.63	612.50	Free Outfall	603.81	0.00	0.00	(N/A)	0.00
613.00	2.71	613.00	604.62	604.62	0.00	0.00	(N/A)	0.00
613.50	2.69	613.50	605.42	605.42	0.00	0.00	(N/A)	0.00
614.00	2.72	614.00	605.74	605.74	0.00	0.00	(N/A)	0.00

Message

WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
WS below an invert; no flow.
H =.25
H =.75
H =1.25
H =1.75
H =2.25
H =2.75
H =3.25
H =3.75
H =4.25

Subsection: Individual Outlet Curves
Label: Composite Outlet Structure - 1

Return Event: 2 years
Storm Event: TypeII 24hr (2.4 in)

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Orifice - 1 (Orifice-Circular)

Upstream ID = (Pond Water Surface)
Downstream ID = Culvert - 1 (Culvert-Circular)

Message

H =4.75
H =5.25
H =5.75
H =6.25
H =6.75
H =7.25
H =7.75
H =8.25
H =8.08
H =8.26

Subsection: Composite Rating Curve
Label: Composite Outlet Structure - 1

Return Event: 2 years
Storm Event: TypeII 24hr (2.4 in)

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft ³ /s)	Tailwater Elevation (ft)	Convergence Error (ft)
603.00	0.00	(N/A)	0.00
603.50	0.00	(N/A)	0.00
604.00	0.00	(N/A)	0.00
604.50	0.00	(N/A)	0.00
605.00	0.47	(N/A)	0.00
605.50	0.82	(N/A)	0.00
606.00	1.06	(N/A)	0.00
606.50	1.25	(N/A)	0.00
607.00	1.42	(N/A)	0.00
607.50	1.57	(N/A)	0.00
608.00	1.70	(N/A)	0.00
608.50	1.83	(N/A)	0.00
609.00	1.95	(N/A)	0.00
609.50	2.06	(N/A)	0.00
610.00	2.17	(N/A)	0.00
610.50	2.27	(N/A)	0.00
611.00	2.36	(N/A)	0.00
611.50	2.45	(N/A)	0.00
612.00	2.54	(N/A)	0.00
612.50	2.63	(N/A)	0.00
613.00	9.37	(N/A)	0.00
613.50	17.79	(N/A)	0.00
614.00	21.22	(N/A)	0.00

Contributing Structures

(no Q: Riser - 1,Orifice - 1,Culvert - 1)
(no Q: Riser - 1,Orifice - 1,Culvert - 1)
(no Q: Riser - 1,Orifice - 1,Culvert - 1)
(no Q: Riser - 1,Orifice - 1,Culvert - 1)
Orifice - 1,Culvert - 1 (no Q: Riser - 1)
Orifice - 1,Culvert - 1 (no Q: Riser - 1)
Orifice - 1,Culvert - 1 (no Q: Riser - 1)
Orifice - 1,Culvert - 1 (no Q: Riser - 1)
Orifice - 1,Culvert - 1 (no Q: Riser - 1)
Orifice - 1,Culvert - 1 (no Q: Riser - 1)
Orifice - 1,Culvert - 1 (no Q: Riser - 1)
Orifice - 1,Culvert - 1 (no Q: Riser - 1)
Orifice - 1,Culvert - 1 (no Q: Riser - 1)
Orifice - 1,Culvert - 1 (no Q: Riser - 1)
Orifice - 1,Culvert - 1 (no Q: Riser - 1)
Orifice - 1,Culvert - 1 (no Q: Riser - 1)
Orifice - 1,Culvert - 1 (no Q: Riser - 1)
Orifice - 1,Culvert - 1 (no Q: Riser - 1)
Orifice - 1,Culvert - 1 (no Q: Riser - 1)
Orifice - 1,Culvert - 1 (no Q: Riser - 1)
Orifice - 1,Culvert - 1 (no Q: Riser - 1)

Subsection: Composite Rating Curve
Label: Composite Outlet Structure - 1

Return Event: 2 years
Storm Event: TypeII 24hr (2.4 in)

Composite Outflow Summary

Contributing Structures

Riser - 1, Orifice - 1, Culvert - 1
Riser - 1, Orifice - 1, Culvert - 1
Riser - 1, Orifice - 1, Culvert - 1

Subsection: Level Pool Pond Routing Summary
Label: BASIN 21 (IN)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Infiltration			
Infiltration Method (Computed)		Average Infiltration Rate	
Infiltration Rate (Average)		1.0000 in/h	
Initial Conditions			
Elevation (Water Surface, Initial)		603.00 ft	
Volume (Initial)		0.000 ac-ft	
Flow (Initial Outlet)		0.00 ft³/s	
Flow (Initial Infiltration)		0.00 ft³/s	
Flow (Initial, Total)		0.00 ft³/s	
Time Increment		0.017 hours	
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	35.57 ft³/s	Time to Peak (Flow, In)	12.017 hours
Infiltration (Peak)	1.27 ft³/s	Time to Peak (Infiltration)	17.867 hours
Flow (Peak Outlet)	0.00 ft³/s	Time to Peak (Flow, Outlet)	0.000 hours
Elevation (Water Surface, Peak)		603.98 ft	
Volume (Peak)		1.186 ac-ft	
Mass Balance (ac-ft)			
Volume (Initial)		0.000 ac-ft	
Volume (Total Inflow)		2.293 ac-ft	
Volume (Total Infiltration)		2.103 ac-ft	
Volume (Total Outlet Outflow)		0.000 ac-ft	
Volume (Retained)		0.187 ac-ft	
Volume (Unrouted)		-0.002 ac-ft	
Error (Mass Balance)		0.1 %	

Subsection: Level Pool Pond Routing Summary
Label: BASIN 21 (IN)

Return Event: 10 years
Storm Event: TypeII 24hr (4.1 in)

Infiltration	
Infiltration Method (Computed)	Average Infiltration Rate
Infiltration Rate (Average)	1.0000 in/h

Initial Conditions	
Elevation (Water Surface, Initial)	603.00 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	0.00 ft ³ /s
Flow (Initial Infiltration)	0.00 ft ³ /s
Flow (Initial, Total)	0.00 ft ³ /s
Time Increment	0.017 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	90.87 ft ³ /s	Time to Peak (Flow, In)	11.950 hours
Infiltration (Peak)	1.43 ft ³ /s	Time to Peak (Infiltration)	18.400 hours
Flow (Peak Outlet)	0.86 ft ³ /s	Time to Peak (Flow, Outlet)	18.400 hours

Elevation (Water Surface, Peak)	605.59 ft
Volume (Peak)	3.346 ac-ft

Mass Balance (ac-ft)	
Volume (Initial)	0.000 ac-ft
Volume (Total Inflow)	5.322 ac-ft
Volume (Total Infiltration)	2.655 ac-ft
Volume (Total Outlet Outflow)	1.046 ac-ft
Volume (Retained)	1.618 ac-ft
Volume (Unrouted)	-0.003 ac-ft
Error (Mass Balance)	0.1 %

Subsection: Level Pool Pond Routing Summary
Label: BASIN 21 (IN)

Return Event: 25 years
Storm Event: TypeII 24hr (5.0 in)

Infiltration				
Infiltration Method (Computed)		Average Infiltration Rate		
Infiltration Rate (Average)		1.0000 in/h		
Initial Conditions				
Elevation (Water Surface, Initial)		603.00 ft		
Volume (Initial)		0.000 ac-ft		
Flow (Initial Outlet)		0.00 ft³/s		
Flow (Initial Infiltration)		0.00 ft³/s		
Flow (Initial, Total)		0.00 ft³/s		
Time Increment		0.017 hours		
Inflow/Outflow Hydrograph Summary				
Flow (Peak In)		145.83 ft³/s	Time to Peak (Flow, In)	11.950 hours
Infiltration (Peak)		1.57 ft³/s	Time to Peak (Infiltration)	18.917 hours
Flow (Peak Outlet)		1.43 ft³/s	Time to Peak (Flow, Outlet)	18.917 hours
Elevation (Water Surface, Peak)		607.05 ft		
Volume (Peak)		5.525 ac-ft		
Mass Balance (ac-ft)				
Volume (Initial)		0.000 ac-ft		
Volume (Total Inflow)		8.236 ac-ft		
Volume (Total Infiltration)		2.924 ac-ft		
Volume (Total Outlet Outflow)		2.328 ac-ft		
Volume (Retained)		2.980 ac-ft		
Volume (Unrouted)		-0.004 ac-ft		
Error (Mass Balance)		0.0 %		

Subsection: Level Pool Pond Routing Summary
Label: BASIN 21 (IN)

Return Event: 100 years
Storm Event: TypeII 24hr (7.0 in)

Infiltration			
Infiltration Method (Computed)		Average Infiltration Rate	
Infiltration Rate (Average)		1.0000 in/h	
Initial Conditions			
Elevation (Water Surface, Initial)		603.00 ft	
Volume (Initial)		0.000 ac-ft	
Flow (Initial Outlet)		0.00 ft³/s	
Flow (Initial Infiltration)		0.00 ft³/s	
Flow (Initial, Total)		0.00 ft³/s	
Time Increment		0.017 hours	
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)		271.17 ft³/s	Time to Peak (Flow, In)
Infiltration (Peak)		1.89 ft³/s	Time to Peak (Infiltration)
Flow (Peak Outlet)		2.20 ft³/s	Time to Peak (Flow, Outlet)
Elevation (Water Surface, Peak)		610.20 ft	
Volume (Peak)		10.920 ac-ft	
Mass Balance (ac-ft)			
Volume (Initial)		0.000 ac-ft	
Volume (Total Inflow)		14.890 ac-ft	
Volume (Total Infiltration)		3.570 ac-ft	
Volume (Total Outlet Outflow)		3.928 ac-ft	
Volume (Retained)		7.387 ac-ft	
Volume (Unrouted)		-0.005 ac-ft	
Error (Mass Balance)		0.0 %	

Subsection: Pond Routed Hydrograph (total out)
 Label: BASIN 21 (OUT)

Return Event: 2 years
 Storm Event: TypeII 24hr (2.9 in)

Peak Discharge	0.00 ft ³ /s
Time to Peak	11.650 hours
Hydrograph Volume	0.000 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
0.000	0.00	0.00	(N/A)	(N/A)	(N/A)

Subsection: Pond Routed Hydrograph (total out)
 Label: BASIN 21 (OUT)

Return Event: 10 years
 Storm Event: TypeII 24hr (4.1 in)

Peak Discharge	0.86 ft ³ /s
Time to Peak	18.400 hours
Hydrograph Volume	1.046 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
12.083	0.00	0.01	0.04	0.07	0.09
12.167	0.11	0.13	0.15	0.16	0.18
12.250	0.20	0.21	0.23	0.24	0.25
12.333	0.27	0.28	0.29	0.30	0.32
12.417	0.33	0.34	0.35	0.36	0.37
12.500	0.38	0.39	0.40	0.41	0.42
12.583	0.42	0.43	0.44	0.45	0.45
12.667	0.46	0.47	0.48	0.48	0.48
12.750	0.49	0.49	0.50	0.50	0.51
12.833	0.51	0.52	0.52	0.53	0.53
12.917	0.53	0.54	0.54	0.55	0.55
13.000	0.55	0.56	0.56	0.57	0.57
13.083	0.57	0.58	0.58	0.58	0.59
13.167	0.59	0.59	0.60	0.60	0.60
13.250	0.61	0.61	0.61	0.61	0.62
13.333	0.62	0.62	0.63	0.63	0.63
13.417	0.64	0.64	0.64	0.64	0.65
13.500	0.65	0.65	0.65	0.66	0.66
13.583	0.66	0.66	0.67	0.67	0.67
13.667	0.67	0.68	0.68	0.68	0.68
13.750	0.68	0.69	0.69	0.69	0.69
13.833	0.69	0.70	0.70	0.70	0.70
13.917	0.70	0.71	0.71	0.71	0.71
14.000	0.71	0.72	0.72	0.72	0.72
14.083	0.72	0.72	0.73	0.73	0.73
14.167	0.73	0.73	0.73	0.73	0.74
14.250	0.74	0.74	0.74	0.74	0.74
14.333	0.75	0.75	0.75	0.75	0.75
14.417	0.75	0.75	0.76	0.76	0.76
14.500	0.76	0.76	0.76	0.76	0.77
14.583	0.77	0.77	0.77	0.77	0.77
14.667	0.77	0.77	0.78	0.78	0.78
14.750	0.78	0.78	0.78	0.78	0.78
14.833	0.79	0.79	0.79	0.79	0.79
14.917	0.79	0.79	0.79	0.80	0.80
15.000	0.80	0.80	0.80	0.80	0.80
15.083	0.80	0.80	0.80	0.81	0.81
15.167	0.81	0.81	0.81	0.81	0.81
15.250	0.81	0.81	0.81	0.82	0.82

Subsection: Pond Routed Hydrograph (total out)
 Label: BASIN 21 (OUT)

Return Event: 10 years
 Storm Event: TypeII 24hr (4.1 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
15.333	0.82	0.82	0.82	0.82	0.82
15.417	0.82	0.82	0.82	0.82	0.82
15.500	0.82	0.82	0.82	0.83	0.83
15.583	0.83	0.83	0.83	0.83	0.83
15.667	0.83	0.83	0.83	0.83	0.83
15.750	0.83	0.83	0.83	0.83	0.83
15.833	0.83	0.83	0.83	0.83	0.83
15.917	0.84	0.84	0.84	0.84	0.84
16.000	0.84	0.84	0.84	0.84	0.84
16.083	0.84	0.84	0.84	0.84	0.84
16.167	0.84	0.84	0.84	0.84	0.84
16.250	0.84	0.84	0.84	0.84	0.84
16.333	0.84	0.84	0.84	0.84	0.84
16.417	0.84	0.84	0.84	0.85	0.85
16.500	0.85	0.85	0.85	0.85	0.85
16.583	0.85	0.85	0.85	0.85	0.85
16.667	0.85	0.85	0.85	0.85	0.85
16.750	0.85	0.85	0.85	0.85	0.85
16.833	0.85	0.85	0.85	0.85	0.85
16.917	0.85	0.85	0.85	0.85	0.85
17.000	0.85	0.85	0.85	0.85	0.85
17.083	0.85	0.85	0.85	0.85	0.85
17.167	0.85	0.85	0.85	0.85	0.85
17.250	0.86	0.86	0.86	0.86	0.86
17.333	0.86	0.86	0.86	0.86	0.86
17.417	0.86	0.86	0.86	0.86	0.86
17.500	0.86	0.86	0.86	0.86	0.86
17.583	0.86	0.86	0.86	0.86	0.86
17.667	0.86	0.86	0.86	0.86	0.86
17.750	0.86	0.86	0.86	0.86	0.86
17.833	0.86	0.86	0.86	0.86	0.86
17.917	0.86	0.86	0.86	0.86	0.86
18.000	0.86	0.86	0.86	0.86	0.86
18.083	0.86	0.86	0.86	0.86	0.86
18.167	0.86	0.86	0.86	0.86	0.86
18.250	0.86	0.86	0.86	0.86	0.86
18.333	0.86	0.86	0.86	0.86	0.86
18.417	0.86	0.86	0.86	0.86	0.86
18.500	0.86	0.86	0.86	0.86	0.86
18.583	0.86	0.86	0.86	0.86	0.86
18.667	0.86	0.86	0.86	0.86	0.86
18.750	0.86	0.86	0.86	0.86	0.86
18.833	0.86	0.86	0.86	0.86	0.86
18.917	0.86	0.86	0.86	0.86	0.86

Subsection: Pond Routed Hydrograph (total out)
Label: BASIN 21 (OUT)

Return Event: 10 years
Storm Event: TypeII 24hr (4.1 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
19.000	0.86	0.86	0.86	0.86	0.86
19.083	0.86	0.86	0.86	0.86	0.86
19.167	0.86	0.86	0.86	0.86	0.86
19.250	0.86	0.86	0.86	0.86	0.86
19.333	0.86	0.86	0.86	0.86	0.86
19.417	0.86	0.86	0.86	0.86	0.86
19.500	0.86	0.86	0.86	0.86	0.86
19.583	0.85	0.85	0.85	0.85	0.85
19.667	0.85	0.85	0.85	0.85	0.85
19.750	0.85	0.85	0.85	0.85	0.85
19.833	0.85	0.85	0.85	0.85	0.85
19.917	0.85	0.85	0.85	0.85	0.85
20.000	0.85	0.85	0.85	0.85	0.85
20.083	0.85	0.85	0.85	0.85	0.85
20.167	0.85	0.85	0.85	0.85	0.85
20.250	0.85	0.85	0.85	0.85	0.85
20.333	0.85	0.85	0.84	0.84	0.84
20.417	0.84	0.84	0.84	0.84	0.84
20.500	0.84	0.84	0.84	0.84	0.84
20.583	0.84	0.84	0.84	0.84	0.84
20.667	0.84	0.84	0.84	0.84	0.84
20.750	0.84	0.84	0.84	0.84	0.84
20.833	0.84	0.84	0.84	0.84	0.84
20.917	0.84	0.84	0.84	0.84	0.84
21.000	0.84	0.84	0.84	0.84	0.83
21.083	0.83	0.83	0.83	0.83	0.83
21.167	0.83	0.83	0.83	0.83	0.83
21.250	0.83	0.83	0.83	0.83	0.83
21.333	0.83	0.83	0.83	0.83	0.83
21.417	0.83	0.83	0.83	0.83	0.83
21.500	0.83	0.83	0.83	0.83	0.83
21.583	0.83	0.83	0.83	0.83	0.83
21.667	0.83	0.83	0.83	0.82	0.82
21.750	0.82	0.82	0.82	0.82	0.82
21.833	0.82	0.82	0.82	0.82	0.82
21.917	0.82	0.82	0.82	0.82	0.82
22.000	0.82	0.82	0.82	0.82	0.82
22.083	0.82	0.82	0.82	0.82	0.82
22.167	0.82	0.82	0.82	0.82	0.82
22.250	0.82	0.81	0.81	0.81	0.81
22.333	0.81	0.81	0.81	0.81	0.81
22.417	0.81	0.81	0.81	0.81	0.81
22.500	0.81	0.81	0.81	0.81	0.81
22.583	0.81	0.81	0.81	0.81	0.81

Subsection: Pond Routed Hydrograph (total out)
 Label: BASIN 21 (OUT)

Return Event: 10 years
 Storm Event: TypeII 24hr (4.1 in)

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
22.667	0.81	0.80	0.80	0.80	0.80
22.750	0.80	0.80	0.80	0.80	0.80
22.833	0.80	0.80	0.80	0.80	0.80
22.917	0.80	0.80	0.80	0.80	0.80
23.000	0.80	0.80	0.80	0.80	0.80
23.083	0.79	0.79	0.79	0.79	0.79
23.167	0.79	0.79	0.79	0.79	0.79
23.250	0.79	0.79	0.79	0.79	0.79
23.333	0.79	0.79	0.79	0.79	0.79
23.417	0.79	0.79	0.79	0.79	0.78
23.500	0.78	0.78	0.78	0.78	0.78
23.583	0.78	0.78	0.78	0.78	0.78
23.667	0.78	0.78	0.78	0.78	0.78
23.750	0.78	0.78	0.78	0.78	0.78
23.833	0.78	0.78	0.77	0.77	0.77
23.917	0.77	0.77	0.77	0.77	0.77
24.000	0.77	0.77	0.77	0.77	0.77
24.083	0.77	0.77	0.77	0.76	0.76
24.167	0.76	0.76	0.76	0.76	0.76
24.250	0.75	0.75	0.75	0.75	0.75
24.333	0.75	0.74	0.74	0.74	0.74
24.417	0.74	0.74	0.74	0.73	0.73
24.500	0.73	0.73	0.73	0.73	0.73
24.583	0.72	0.72	0.72	0.72	0.72
24.667	0.72	0.72	0.71	0.71	0.71
24.750	0.71	0.71	0.71	0.71	0.70
24.833	0.70	0.70	0.70	0.70	0.70
24.917	0.70	0.69	0.69	0.69	0.69
25.000	0.69	0.69	0.69	0.68	0.68
25.083	0.68	0.68	0.68	0.68	0.67
25.167	0.67	0.67	0.67	0.67	0.67
25.250	0.67	0.67	0.66	0.66	0.66
25.333	0.66	0.66	0.66	0.66	0.65
25.417	0.65	0.65	0.65	0.65	0.65
25.500	0.65	0.64	0.64	0.64	0.64
25.583	0.64	0.64	0.64	0.63	0.63
25.667	0.63	0.63	0.63	0.63	0.63
25.750	0.62	0.62	0.62	0.62	0.62
25.833	0.62	0.62	0.61	0.61	0.61
25.917	0.61	0.61	0.61	0.61	0.60
26.000	0.60	0.60	0.60	0.60	0.60
26.083	0.60	0.60	0.59	0.59	0.59
26.167	0.59	0.59	0.59	0.59	0.58
26.250	0.58	0.58	0.58	0.58	0.58

Subsection: Pond Routed Hydrograph (total out)
 Label: BASIN 21 (OUT)

Return Event: 10 years
 Storm Event: TypeII 24hr (4.1 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
26.333	0.58	0.57	0.57	0.57	0.57
26.417	0.57	0.57	0.57	0.57	0.56
26.500	0.56	0.56	0.56	0.56	0.56
26.583	0.56	0.55	0.55	0.55	0.55
26.667	0.55	0.55	0.55	0.55	0.54
26.750	0.54	0.54	0.54	0.54	0.54
26.833	0.54	0.53	0.53	0.53	0.53
26.917	0.53	0.53	0.53	0.53	0.52
27.000	0.52	0.52	0.52	0.52	0.52
27.083	0.52	0.52	0.51	0.51	0.51
27.167	0.51	0.51	0.51	0.51	0.50
27.250	0.50	0.50	0.50	0.50	0.50
27.333	0.50	0.50	0.49	0.49	0.49
27.417	0.49	0.49	0.49	0.49	0.49
27.500	0.48	0.48	0.48	0.48	0.48
27.583	0.48	0.48	0.48	0.47	0.47
27.667	0.47	0.47	0.47	0.47	0.46
27.750	0.46	0.46	0.46	0.46	0.46
27.833	0.45	0.45	0.45	0.45	0.45
27.917	0.44	0.44	0.44	0.44	0.44
28.000	0.44	0.43	0.43	0.43	0.43
28.083	0.43	0.43	0.42	0.42	
28.167	0.42	0.42	0.41	0.41	0.
28.250	0.41	0.41	0.41	0.40	0.40
28.333	0.40	0.40	0.40	0.40	0.39
28.417	0.39	0.39	0.39	0.39	0.39
28.500	0.38	0.38	0.38	0.38	0.38
28.583	0.38	0.37	0.37	0.37	0.37
28.667	0.37	0.37	0.36	0.36	0.36
28.750	0.36	0.36	0.36	0.35	0.35
28.833	0.35	0.35	0.35	0.35	0.34
28.917	0.34	0.34	0.34	0.34	0.34
29.000	0.33	0.33	0.33	0.33	0.33
29.083	0.33	0.32	0.32	0.32	0.32
29.167	0.32	0.32	0.31	0.31	0.31
29.250	0.31	0.31	0.31	0.30	0.30
29.333	0.30	0.30	0.30	0.30	0.29
29.417	0.29	0.29	0.29	0.29	0.29
29.500	0.28	0.28	0.28	0.28	0.28
29.583	0.28	0.28	0.27	0.27	0.27
29.667	0.27	0.27	0.27	0.26	0.26
29.750	0.26	0.26	0.26	0.26	0.25
29.833	0.25	0.25	0.25	0.25	0.25
29.917	0.25	0.24	0.24	0.24	0.24

Subsection: Pond Routed Hydrograph (total out)
Label: BASIN 21 (OUT)

Return Event: 10 years
Storm Event: TypeII 24hr (4.1 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
30.000	0.24	0.24	0.23	0.23	0.23
30.083	0.23	0.23	0.23	0.23	0.22
30.167	0.22	0.22	0.22	0.22	0.22
30.250	0.21	0.21	0.21	0.21	0.21
30.333	0.21	0.21	0.20	0.20	0.20
30.417	0.20	0.20	0.20	0.20	0.19
30.500	0.19	0.19	0.19	0.19	0.19
30.583	0.18	0.18	0.18	0.18	0.18
30.667	0.18	0.18	0.17	0.17	0.17
30.750	0.17	0.17	0.17	0.17	0.16
30.833	0.16	0.16	0.16	0.16	0.16
30.917	0.16	0.15	0.15	0.15	0.15
31.000	0.15	0.15	0.15	0.14	0.14
31.083	0.14	0.14	0.14	0.14	0.14
31.167	0.13	0.13	0.13	0.13	0.13
31.250	0.13	0.13	0.12	0.12	0.12
31.333	0.12	0.12	0.12	0.12	0.11
31.417	0.11	0.11	0.11	0.11	0.11
31.500	0.11	0.10	0.10	0.10	0.10
31.583	0.10	0.10	0.10	0.09	0.09
31.667	0.09	0.09	0.09	0.09	0.09
31.750	0.08	0.08	0.08	0.08	
31.833	0.08	0.08	0.07	0.07	0.07
31.917	0.07	0.07	0.07	0.07	0.07
32.000	0.06	0.06	0.06	0.06	0.06
32.083	0.06	0.06	0.05	0.05	0.05
32.167	0.05	0.05	0.05	0.05	0.05
32.250	0.04	0.04	0.04	0.04	0.04
32.333	0.04	0.04	0.03	0.03	0.03
32.417	0.03	0.03	0.03	0.03	0.03
32.500	0.02	0.02	0.02	0.02	0.02
32.583	0.02	0.02	0.01	0.01	0.01
32.667	0.01	0.01	0.01	0.01	0.01
32.750	0.00	0.00	0.00	0.00	(N/A)

Subsection: Pond Routed Hydrograph (total out)
 Label: BASIN 21 (OUT)

Return Event: 25 years
 Storm Event: TypeII 24hr (5.0 in)

Peak Discharge	1.43 ft ³ /s
Time to Peak	18.917 hours
Hydrograph Volume	2.328 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
11.950	0.00	0.12	0.26	0.39	0.51
12.033	0.60	0.68	0.74	0.80	0.83
12.117	0.85	0.87	0.89	0.90	0.92
12.200	0.93	0.94	0.95	0.96	0.97
12.283	0.98	0.99	1.00	1.01	1.02
12.367	1.03	1.04	1.05	1.06	1.06
12.450	1.07	1.07	1.08	1.08	1.09
12.533	1.09	1.10	1.10	1.11	1.11
12.617	1.12	1.12	1.12	1.13	1.13
12.700	1.14	1.14	1.14	1.15	1.15
12.783	1.15	1.16	1.16	1.16	1.17
12.867	1.17	1.17	1.18	1.18	1.18
12.950	1.19	1.19	1.19	1.20	1.20
13.033	1.20	1.21	1.21	1.21	1.21
13.117	1.22	1.22	1.22	1.22	1.23
13.200	1.23	1.23	1.23	1.24	1.24
13.283	1.24	1.24	1.25	1.25	1.25
13.367	1.25	1.25	1.26	1.26	1.26
13.450	1.26	1.26	1.27	1.27	1.27
13.533	1.27	1.27	1.27	1.28	1.28
13.617	1.28	1.28	1.28	1.28	1.28
13.700	1.29	1.29	1.29	1.29	1.29
13.783	1.29	1.29	1.30	1.30	1.30
13.867	1.30	1.30	1.30	1.30	1.31
13.950	1.31	1.31	1.31	1.31	1.31
14.033	1.31	1.31	1.31	1.32	1.32
14.117	1.32	1.32	1.32	1.32	1.32
14.200	1.32	1.32	1.33	1.33	1.33
14.283	1.33	1.33	1.33	1.33	1.33
14.367	1.33	1.33	1.34	1.34	1.34
14.450	1.34	1.34	1.34	1.34	1.34
14.533	1.34	1.34	1.34	1.35	1.35
14.617	1.35	1.35	1.35	1.35	1.35
14.700	1.35	1.35	1.35	1.35	1.36
14.783	1.36	1.36	1.36	1.36	1.36
14.867	1.36	1.36	1.36	1.36	1.36
14.950	1.36	1.37	1.37	1.37	1.37
15.033	1.37	1.37	1.37	1.37	1.37
15.117	1.37	1.37	1.37	1.37	1.38

Subsection: Pond Routed Hydrograph (total out)
Label: BASIN 21 (OUT)

Return Event: 25 years
Storm Event: TypeII 24hr (5.0 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
15.200	1.38	1.38	1.38	1.38	1.38
15.283	1.38	1.38	1.38	1.38	1.38
15.367	1.38	1.38	1.38	1.38	1.39
15.450	1.39	1.39	1.39	1.39	1.39
15.533	1.39	1.39	1.39	1.39	1.39
15.617	1.39	1.39	1.39	1.39	1.39
15.700	1.39	1.39	1.40	1.40	1.40
15.783	1.40	1.40	1.40	1.40	1.40
15.867	1.40	1.40	1.40	1.40	1.40
15.950	1.40	1.40	1.40	1.40	1.40
16.033	1.40	1.40	1.40	1.40	1.40
16.117	1.40	1.41	1.41	1.41	1.41
16.200	1.41	1.41	1.41	1.41	1.41
16.283	1.41	1.41	1.41	1.41	1.41
16.367	1.41	1.41	1.41	1.41	1.41
16.450	1.41	1.41	1.41	1.41	1.41
16.533	1.41	1.41	1.41	1.41	1.41
16.617	1.42	1.42	1.42	1.42	1.42
16.700	1.42	1.42	1.42	1.42	1.42
16.783	1.42	1.42	1.42	1.42	1.42
16.867	1.42	1.42	1.42	1.42	1.42
16.950	1.42	1.42	1.42	1.42	1.42
17.033	1.42	1.42	1.42	1.42	1.42
17.117	1.42	1.42	1.42	1.42	1.42
17.200	1.42	1.42	1.42	1.42	1.42
17.283	1.42	1.42	1.42	1.42	1.43
17.367	1.43	1.43	1.43	1.43	1.43
17.450	1.43	1.43	1.43	1.43	1.43
17.533	1.43	1.43	1.43	1.43	1.43
17.617	1.43	1.43	1.43	1.43	1.43
17.700	1.43	1.43	1.43	1.43	1.43
17.783	1.43	1.43	1.43	1.43	1.43
17.867	1.43	1.43	1.43	1.43	1.43
17.950	1.43	1.43	1.43	1.43	1.43
18.033	1.43	1.43	1.43	1.43	1.43
18.117	1.43	1.43	1.43	1.43	1.43
18.200	1.43	1.43	1.43	1.43	1.43
18.283	1.43	1.43	1.43	1.43	1.43
18.367	1.43	1.43	1.43	1.43	1.43
18.450	1.43	1.43	1.43	1.43	1.43
18.533	1.43	1.43	1.43	1.43	1.43
18.617	1.43	1.43	1.43	1.43	1.43
18.700	1.43	1.43	1.43	1.43	1.43
18.783	1.43	1.43	1.43	1.43	1.43

Subsection: Pond Routed Hydrograph (total out)
Label: BASIN 21 (OUT)

Return Event: 25 years
Storm Event: TypeII 24hr (5.0 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
18.867	1.43	1.43	1.43	1.43	1.43
18.950	1.43	1.43	1.43	1.43	1.43
19.033	1.43	1.43	1.43	1.43	1.43
19.117	1.43	1.43	1.43	1.43	1.43
19.200	1.43	1.43	1.43	1.43	1.43
19.283	1.43	1.43	1.43	1.43	1.43
19.367	1.43	1.43	1.43	1.43	1.43
19.450	1.43	1.43	1.43	1.43	1.43
19.533	1.43	1.43	1.43	1.43	1.43
19.617	1.43	1.43	1.43	1.43	1.43
19.700	1.43	1.43	1.43	1.43	1.43
19.783	1.43	1.43	1.43	1.43	1.43
19.867	1.43	1.43	1.43	1.43	1.43
19.950	1.43	1.43	1.43	1.43	1.43
20.033	1.43	1.43	1.43	1.43	1.43
20.117	1.43	1.43	1.43	1.43	1.43
20.200	1.43	1.43	1.43	1.43	1.43
20.283	1.43	1.43	1.43	1.43	1.43
20.367	1.43	1.43	1.43	1.43	1.43
20.450	1.43	1.43	1.43	1.43	1.43
20.533	1.42	1.42	1.42	1.42	1.42
20.617	1.42	1.42	1.42	1.42	1.42
20.700	1.42	1.42	1.42	1.42	1.42
20.783	1.42	1.42	1.42	1.42	1.42
20.867	1.42	1.42	1.42	1.42	1.42
20.950	1.42	1.42	1.42	1.42	1.42
21.033	1.42	1.42	1.42	1.42	1.42
21.117	1.42	1.42	1.42	1.42	1.42
21.200	1.42	1.42	1.42	1.42	1.42
21.283	1.42	1.42	1.42	1.42	1.42
21.367	1.42	1.42	1.42	1.42	1.42
21.450	1.42	1.42	1.42	1.42	1.42
21.533	1.42	1.42	1.42	1.41	1.41
21.617	1.41	1.41	1.41	1.41	1.41
21.700	1.41	1.41	1.41	1.41	1.41
21.783	1.41	1.41	1.41	1.41	1.41
21.867	1.41	1.41	1.41	1.41	1.41
21.950	1.41	1.41	1.41	1.41	1.41
22.033	1.41	1.41	1.41	1.41	1.41
22.117	1.41	1.41	1.41	1.41	1.41
22.200	1.41	1.41	1.41	1.41	1.41
22.283	1.41	1.41	1.41	1.41	1.41
22.367	1.41	1.41	1.41	1.40	1.40
22.450	1.40	1.40	1.40	1.40	1.40

Subsection: Pond Routed Hydrograph (total out)
Label: BASIN 21 (OUT)

Return Event: 25 years
Storm Event: TypeII 24hr (5.0 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
22.533	1.40	1.40	1.40	1.40	1.40
22.617	1.40	1.40	1.40	1.40	1.40
22.700	1.40	1.40	1.40	1.40	1.40
22.783	1.40	1.40	1.40	1.40	1.40
22.867	1.40	1.40	1.40	1.40	1.40
22.950	1.40	1.40	1.40	1.40	1.40
23.033	1.40	1.40	1.40	1.40	1.40
23.117	1.40	1.40	1.40	1.40	1.40
23.200	1.39	1.39	1.39	1.39	1.39
23.283	1.39	1.39	1.39	1.39	1.39
23.367	1.39	1.39	1.39	1.39	1.39
23.450	1.39	1.39	1.39	1.39	1.39
23.533	1.39	1.39	1.39	1.39	1.39
23.617	1.39	1.39	1.39	1.39	1.39
23.700	1.39	1.39	1.39	1.39	1.39
23.783	1.39	1.39	1.39	1.39	1.39
23.867	1.39	1.39	1.39	1.39	1.38
23.950	1.38	1.38	1.38	1.38	1.38
24.033	1.38	1.38	1.38	1.38	1.38
24.117	1.38	1.38	1.38	1.38	1.38
24.200	1.38	1.38	1.37	1.37	1.37
24.283	1.37	1.37	1.37	1.37	1.37
24.367	1.37	1.37	1.37	1.36	1.36
24.450	1.36	1.36	1.36	1.36	1.36
24.533	1.36	1.36	1.36	1.36	1.36
24.617	1.35	1.35	1.35	1.35	1.35
24.700	1.35	1.35	1.35	1.35	1.35
24.783	1.35	1.34	1.34	1.34	1.34
24.867	1.34	1.34	1.34	1.34	1.34
24.950	1.34	1.34	1.33	1.33	1.33
25.033	1.33	1.33	1.33	1.33	1.33
25.117	1.33	1.33	1.33	1.33	1.32
25.200	1.32	1.32	1.32	1.32	1.32
25.283	1.32	1.32	1.32	1.32	1.32
25.367	1.31	1.31	1.31	1.31	1.31
25.450	1.31	1.31	1.31	1.31	1.31
25.533	1.31	1.31	1.30	1.30	1.30
25.617	1.30	1.30	1.30	1.30	1.30
25.700	1.30	1.30	1.30	1.30	1.29
25.783	1.29	1.29	1.29	1.29	1.29
25.867	1.29	1.29	1.29	1.29	1.29
25.950	1.28	1.28	1.28	1.28	1.28
26.033	1.28	1.28	1.28	1.28	1.28
26.117	1.28	1.28	1.27	1.27	1.27

Subsection: Pond Routed Hydrograph (total out)
Label: BASIN 21 (OUT)

Return Event: 25 years
Storm Event: TypeII 24hr (5.0 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
26.200	1.27	1.27	1.27	1.27	1.27
26.283	1.27	1.27	1.27	1.27	1.26
26.367	1.26	1.26	1.26	1.26	1.26
26.450	1.26	1.26	1.26	1.26	1.26
26.533	1.26	1.25	1.25	1.25	1.25
26.617	1.25	1.25	1.25	1.25	1.25
26.700	1.25	1.25	1.24	1.24	1.24
26.783	1.24	1.24	1.24	1.24	1.24
26.867	1.24	1.24	1.23	1.23	1.23
26.950	1.23	1.23	1.23	1.23	1.23
27.033	1.23	1.23	1.22	1.22	1.22
27.117	1.22	1.22	1.22	1.22	1.22
27.200	1.22	1.22	1.21	1.21	1.21
27.283	1.21	1.21	1.21	1.21	1.21
27.367	1.21	1.21	1.20	1.20	1.20
27.450	1.20	1.20	1.20	1.20	1.20
27.533	1.20	1.20	1.20	1.19	1.19
27.617	1.19	1.19	1.19	1.19	1.19
27.700	1.19	1.19	1.19	1.18	1.18
27.783	1.18	1.18	1.18	1.18	1.18
27.867	1.18	1.18	1.18	1.17	1.17
27.950	1.17	1.17	1.17	1.17	1.17
28.033	1.17	1.17	1.17	1.17	1.16
28.117	1.16	1.16	1.16	1.16	1.16
28.200	1.16	1.16	1.16	1.16	1.15
28.283	1.15	1.15	1.15	1.15	1.15
28.367	1.15	1.15	1.15	1.15	1.15
28.450	1.14	1.14	1.14	1.14	1.14
28.533	1.14	1.14	1.14	1.14	1.14
28.617	1.13	1.13	1.13	1.13	1.13
28.700	1.13	1.13	1.13	1.13	1.13
28.783	1.13	1.12	1.12	1.12	1.12
28.867	1.12	1.12	1.12	1.12	1.12
28.950	1.12	1.12	1.11	1.11	1.11
29.033	1.11	1.11	1.11	1.11	1.11
29.117	1.11	1.11	1.10	1.10	1.10
29.200	1.10	1.10	1.10	1.10	1.10
29.283	1.10	1.10	1.10	1.09	1.09
29.367	1.09	1.09	1.09	1.09	1.09
29.450	1.09	1.09	1.09	1.09	1.08
29.533	1.08	1.08	1.08	1.08	1.08
29.617	1.08	1.08	1.08	1.08	1.08
29.700	1.07	1.07	1.07	1.07	1.07
29.783	1.07	1.07	1.07	1.07	1.07

Subsection: Pond Routed Hydrograph (total out)
Label: BASIN 21 (OUT)

Return Event: 25 years
Storm Event: TypeII 24hr (5.0 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
29.867	1.07	1.06	1.06	1.06	1.06
29.950	1.06	1.06	1.06	1.06	1.06
30.033	1.06	1.06	1.05	1.05	1.05
30.117	1.05	1.05	1.05	1.05	1.05
30.200	1.04	1.04	1.04	1.04	1.04
30.283	1.04	1.04	1.04	1.04	1.03
30.367	1.03	1.03	1.03	1.03	1.03
30.450	1.03	1.03	1.03	1.02	1.02
30.533	1.02	1.02	1.02	1.02	1.02
30.617	1.02	1.02	1.01	1.01	1.01
30.700	1.01	1.01	1.01	1.01	1.01
30.783	1.01	1.00	1.00	1.00	1.00
30.867	1.00	1.00	1.00	1.00	1.00
30.950	0.99	0.99	0.99	0.99	0.99
31.033	0.99	0.99	0.99	0.99	0.98
31.117	0.98	0.98	0.98	0.98	0.98
31.200	0.98	0.98	0.98	0.97	0.97
31.283	0.97	0.97	0.97	0.97	0.97
31.367	0.97	0.97	0.96	0.96	0.96
31.450	0.96	0.96	0.96	0.96	0.96
31.533	0.96	0.95	0.95	0.95	0.95
31.617	0.95	0.95	0.95	0.95	0.95
31.700	0.94	0.94	0.94	0.94	0.94
31.783	0.94	0.94	0.94	0.94	0.93
31.867	0.93	0.93	0.93	0.93	0.93
31.950	0.93	0.93	0.93	0.92	0.92
32.033	0.92	0.92	0.92	0.92	0.92
32.117	0.92	0.92	0.92	0.91	0.91
32.200	0.91	0.91	0.91	0.91	0.91
32.283	0.91	0.91	0.90	0.90	0.90
32.367	0.90	0.90	0.90	0.90	0.90
32.450	0.90	0.89	0.89	0.89	0.89
32.533	0.89	0.89	0.89	0.89	0.89
32.617	0.89	0.88	0.88	0.88	0.88
32.700	0.88	0.88	0.88	0.88	0.88
32.783	0.87	0.87	0.87	0.87	0.87
32.867	0.87	0.87	0.87	0.87	0.87
32.950	0.86	0.86	0.86	0.86	0.86
33.033	0.86	0.86	0.86	0.86	0.85
33.117	0.85	0.85	0.85	0.85	0.85
33.200	0.85	0.85	0.85	0.85	0.84
33.283	0.84	0.84	0.84	0.84	0.84
33.367	0.84	0.84	0.84	0.84	0.83
33.450	0.83	0.83	0.83	0.83	0.83

Subsection: Pond Routed Hydrograph (total out)
 Label: BASIN 21 (OUT)

Return Event: 25 years
 Storm Event: TypeII 24hr (5.0 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
33.533	0.83	0.83	0.83	0.82	0.82
33.617	0.82	0.82	0.82	0.82	0.82
33.700	0.82	0.82	0.81	0.81	0.81
33.783	0.81	0.81	0.81	0.81	0.80
33.867	0.80	0.80	0.80	0.80	0.80
33.950	0.79	0.79	0.79	0.79	0.79
34.033	0.79	0.79	0.78	0.78	0.78
34.117	0.78	0.78	0.78	0.77	0.77
34.200	0.77	0.77	0.77	0.77	0.77
34.283	0.76	0.76	0.76	0.76	0.76
34.367	0.76	0.76	0.75	0.75	0.75
34.450	0.75	0.75	0.75	0.74	0.74
34.533	0.74	0.74	0.74	0.74	0.74
34.617	0.73	0.73	0.73	0.73	0.73
34.700	0.73	0.73	0.72	0.72	0.72
34.783	0.72	0.72	0.72	0.72	0.71
34.867	0.71	0.71	0.71	0.71	0.71
34.950	0.71	0.70	0.70	0.70	(N/A)

Subsection: Pond Routed Hydrograph (total out)
 Label: BASIN 21 (OUT)

Return Event: 100 years
 Storm Event: TypeII 24hr (7.0 in)

Peak Discharge	2.20 ft ³ /s
Time to Peak	19.900 hours
Hydrograph Volume	3.928 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
11.817	0.00	0.09	0.24	0.41	0.57
11.900	0.73	0.88	1.00	1.11	1.20
11.983	1.29	1.36	1.43	1.49	1.54
12.067	1.59	1.62	1.64	1.66	1.68
12.150	1.69	1.70	1.72	1.73	1.73
12.233	1.74	1.75	1.76	1.77	1.78
12.317	1.78	1.79	1.80	1.81	1.81
12.400	1.82	1.82	1.83	1.84	1.84
12.483	1.85	1.85	1.86	1.86	1.86
12.567	1.87	1.87	1.88	1.88	1.88
12.650	1.89	1.89	1.89	1.90	1.90
12.733	1.91	1.91	1.91	1.92	1.92
12.817	1.92	1.93	1.93	1.93	1.93
12.900	1.94	1.94	1.94	1.95	1.95
12.983	1.95	1.95	1.96	1.96	1.96
13.067	1.96	1.97	1.97	1.97	1.97
13.150	1.97	1.98	1.98	1.98	1.98
13.233	1.99	1.99	1.99	1.99	1.99
13.317	2.00	2.00	2.00	2.00	2.00
13.400	2.00	2.01	2.01	2.01	2.01
13.483	2.01	2.02	2.02	2.02	2.02
13.567	2.02	2.02	2.03	2.03	2.03
13.650	2.03	2.03	2.03	2.03	2.04
13.733	2.04	2.04	2.04	2.04	2.04
13.817	2.04	2.05	2.05	2.05	2.05
13.900	2.05	2.05	2.05	2.06	2.06
13.983	2.06	2.06	2.06	2.06	2.06
14.067	2.06	2.06	2.07	2.07	2.07
14.150	2.07	2.07	2.07	2.07	2.07
14.233	2.07	2.08	2.08	2.08	2.08
14.317	2.08	2.08	2.08	2.08	2.08
14.400	2.08	2.09	2.09	2.09	2.09
14.483	2.09	2.09	2.09	2.09	2.09
14.567	2.09	2.10	2.10	2.10	2.10
14.650	2.10	2.10	2.10	2.10	2.10
14.733	2.10	2.10	2.11	2.11	2.11
14.817	2.11	2.11	2.11	2.11	2.11
14.900	2.11	2.11	2.11	2.11	2.12
14.983	2.12	2.12	2.12	2.12	2.12

Subsection: Pond Routed Hydrograph (total out)
 Label: BASIN 21 (OUT)

Return Event: 100 years
 Storm Event: TypeII 24hr (7.0 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
15.067	2.12	2.12	2.12	2.12	2.12
15.150	2.12	2.12	2.13	2.13	2.13
15.233	2.13	2.13	2.13	2.13	2.13
15.317	2.13	2.13	2.13	2.13	2.13
15.400	2.13	2.14	2.14	2.14	2.14
15.483	2.14	2.14	2.14	2.14	2.14
15.567	2.14	2.14	2.14	2.14	2.14
15.650	2.14	2.14	2.14	2.15	2.15
15.733	2.15	2.15	2.15	2.15	2.15
15.817	2.15	2.15	2.15	2.15	2.15
15.900	2.15	2.15	2.15	2.15	2.15
15.983	2.15	2.15	2.16	2.16	2.16
16.067	2.16	2.16	2.16	2.16	2.16
16.150	2.16	2.16	2.16	2.16	2.16
16.233	2.16	2.16	2.16	2.16	2.16
16.317	2.16	2.16	2.16	2.16	2.17
16.400	2.17	2.17	2.17	2.17	2.17
16.483	2.17	2.17	2.17	2.17	2.17
16.567	2.17	2.17	2.17	2.17	2.17
16.650	2.17	2.17	2.17	2.17	2.17
16.733	2.17	2.17	2.17	2.17	2.17
16.817	2.17	2.17	2.17	2.18	2.18
16.900	2.18	2.18	2.18	2.18	2.18
16.983	2.18	2.18	2.18	2.18	2.18
17.067	2.18	2.18	2.18	2.18	2.18
17.150	2.18	2.18	2.18	2.18	2.18
17.233	2.18	2.18	2.18	2.18	2.18
17.317	2.18	2.18	2.18	2.18	2.18
17.400	2.18	2.18	2.19	2.19	2.19
17.483	2.19	2.19	2.19	2.19	2.19
17.567	2.19	2.19	2.19	2.19	2.19
17.650	2.19	2.19	2.19	2.19	2.19
17.733	2.19	2.19	2.19	2.19	2.19
17.817	2.19	2.19	2.19	2.19	2.19
17.900	2.19	2.19	2.19	2.19	2.19
17.983	2.19	2.19	2.19	2.19	2.19
18.067	2.19	2.19	2.19	2.19	2.19
18.150	2.19	2.20	2.20	2.20	2.20
18.233	2.20	2.20	2.20	2.20	2.20
18.317	2.20	2.20	2.20	2.20	2.20
18.400	2.20	2.20	2.20	2.20	2.20
18.483	2.20	2.20	2.20	2.20	2.20
18.567	2.20	2.20	2.20	2.20	2.20
18.650	2.20	2.20	2.20	2.20	2.20

Subsection: Pond Routed Hydrograph (total out)
 Label: BASIN 21 (OUT)

Return Event: 100 years
 Storm Event: TypeII 24hr (7.0 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
18.733	2.20	2.20	2.20	2.20	2.20
18.817	2.20	2.20	2.20	2.20	2.20
18.900	2.20	2.20	2.20	2.20	2.20
18.983	2.20	2.20	2.20	2.20	2.20
19.067	2.20	2.20	2.20	2.20	2.20
19.150	2.20	2.20	2.20	2.20	2.20
19.233	2.20	2.20	2.20	2.20	2.20
19.317	2.20	2.20	2.20	2.20	2.20
19.400	2.20	2.20	2.20	2.20	2.20
19.483	2.20	2.20	2.20	2.20	2.20
19.567	2.20	2.20	2.20	2.20	2.20
19.650	2.20	2.20	2.20	2.20	2.20
19.733	2.20	2.20	2.20	2.20	2.20
19.817	2.20	2.20	2.20	2.20	2.20
19.900	2.20	2.20	2.20	2.20	2.20
19.983	2.20	2.20	2.20	2.20	2.20
20.067	2.20	2.20	2.20	2.20	2.20
20.150	2.20	2.20	2.20	2.20	2.20
20.233	2.20	2.20	2.20	2.20	2.20
20.317	2.20	2.20	2.20	2.20	2.20
20.400	2.20	2.20	2.20	2.20	2.20
20.483	2.20	2.20	2.20	2.20	2.20
20.567	2.20	2.20	2.20	2.20	2.20
20.650	2.20	2.20	2.20	2.20	2.20
20.733	2.20	2.20	2.20	2.20	2.20
20.817	2.20	2.20	2.20	2.20	2.20
20.900	2.20	2.20	2.20	2.20	2.20
20.983	2.20	2.20	2.20	2.20	2.20
21.067	2.20	2.20	2.20	2.20	2.20
21.150	2.20	2.20	2.20	2.20	2.20
21.233	2.20	2.20	2.20	2.20	2.20
21.317	2.20	2.20	2.20	2.20	2.20
21.400	2.20	2.20	2.20	2.20	2.20
21.483	2.20	2.20	2.20	2.20	2.20
21.567	2.20	2.20	2.20	2.20	2.20
21.650	2.20	2.20	2.20	2.20	2.20
21.733	2.20	2.20	2.20	2.20	2.20
21.817	2.20	2.20	2.20	2.20	2.20
21.900	2.20	2.20	2.20	2.20	2.20
21.983	2.20	2.20	2.20	2.20	2.20
22.067	2.20	2.20	2.20	2.20	2.20
22.150	2.20	2.20	2.20	2.20	2.20
22.233	2.20	2.20	2.20	2.20	2.20
22.317	2.20	2.20	2.20	2.20	2.20

Subsection: Pond Routed Hydrograph (total out)
Label: BASIN 21 (OUT)

Return Event: 100 years
Storm Event: TypeII 24hr (7.0 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
22.400	2.20	2.20	2.20	2.20	2.20
22.483	2.20	2.20	2.20	2.20	2.20
22.567	2.20	2.20	2.20	2.20	2.20
22.650	2.20	2.20	2.20	2.20	2.20
22.733	2.20	2.20	2.20	2.20	2.20
22.817	2.20	2.20	2.20	2.20	2.20
22.900	2.20	2.20	2.20	2.20	2.20
22.983	2.20	2.20	2.20	2.20	2.20
23.067	2.20	2.20	2.20	2.20	2.20
23.150	2.20	2.20	2.20	2.20	2.20
23.233	2.20	2.20	2.20	2.20	2.19
23.317	2.19	2.19	2.19	2.19	2.19
23.400	2.19	2.19	2.19	2.19	2.19
23.483	2.19	2.19	2.19	2.19	2.19
23.567	2.19	2.19	2.19	2.19	2.19
23.650	2.19	2.19	2.19	2.19	2.19
23.733	2.19	2.19	2.19	2.19	2.19
23.817	2.19	2.19	2.19	2.19	2.19
23.900	2.19	2.19	2.19	2.19	2.19
23.983	2.19	2.19	2.19	2.19	2.19
24.067	2.19	2.19	2.19	2.19	2.19
24.150	2.19	2.19	2.19	2.19	2.19
24.233	2.19	2.18	2.18	2.18	2.18
24.317	2.18	2.18	2.18	2.18	2.18
24.400	2.18	2.18	2.18	2.18	2.18
24.483	2.18	2.18	2.18	2.17	2.17
24.567	2.17	2.17	2.17	2.17	2.17
24.650	2.17	2.17	2.17	2.17	2.17
24.733	2.17	2.17	2.17	2.17	2.17
24.817	2.16	2.16	2.16	2.16	2.16
24.900	2.16	2.16	2.16	2.16	2.16
24.983	2.16	2.16	2.16	2.16	2.16
25.067	2.15	2.15	2.15	2.15	2.15
25.150	2.15	2.15	2.15	2.15	2.15
25.233	2.15	2.15	2.15	2.15	2.15
25.317	2.14	2.14	2.14	2.14	2.14
25.400	2.14	2.14	2.14	2.14	2.14
25.483	2.14	2.14	2.14	2.14	2.14
25.567	2.14	2.13	2.13	2.13	2.13
25.650	2.13	2.13	2.13	2.13	2.13
25.733	2.13	2.13	2.13	2.13	2.13
25.817	2.13	2.12	2.12	2.12	2.12
25.900	2.12	2.12	2.12	2.12	2.12
25.983	2.12	2.12	2.12	2.12	2.12

Subsection: Pond Routed Hydrograph (total out)
 Label: BASIN 21 (OUT)

Return Event: 100 years
 Storm Event: TypeII 24hr (7.0 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
26.067	2.12	2.12	2.11	2.11	2.11
26.150	2.11	2.11	2.11	2.11	2.11
26.233	2.11	2.11	2.11	2.11	2.11
26.317	2.11	2.11	2.11	2.10	2.10
26.400	2.10	2.10	2.10	2.10	2.10
26.483	2.10	2.10	2.10	2.10	2.10
26.567	2.10	2.10	2.10	2.09	2.09
26.650	2.09	2.09	2.09	2.09	2.09
26.733	2.09	2.09	2.09	2.09	2.09
26.817	2.09	2.09	2.09	2.09	2.08
26.900	2.08	2.08	2.08	2.08	2.08
26.983	2.08	2.08	2.08	2.08	2.08
27.067	2.08	2.08	2.08	2.08	2.08
27.150	2.07	2.07	2.07	2.07	2.07
27.233	2.07	2.07	2.07	2.07	2.07
27.317	2.07	2.07	2.07	2.07	2.07
27.400	2.07	2.06	2.06	2.06	2.06
27.483	2.06	2.06	2.06	2.06	2.06
27.567	2.06	2.06	2.06	2.06	2.06
27.650	2.06	2.06	2.05	2.05	2.05
27.733	2.05	2.05	2.05	2.05	2.05
27.817	2.05	2.05	2.05	2.05	2.05
27.900	2.05	2.05	2.04	2.04	2.04
27.983	2.04	2.04	2.04	2.04	2.04
28.067	2.04	2.04	2.04	2.04	2.04
28.150	2.04	2.04	2.03	2.03	2.03
28.233	2.03	2.03	2.03	2.03	2.03
28.317	2.03	2.03	2.03	2.03	2.03
28.400	2.03	2.03	2.02	2.02	2.02
28.483	2.02	2.02	2.02	2.02	2.02
28.567	2.02	2.02	2.02	2.02	2.02
28.650	2.02	2.02	2.02	2.01	2.01
28.733	2.01	2.01	2.01	2.01	2.01
28.817	2.01	2.01	2.01	2.01	2.01
28.900	2.01	2.01	2.01	2.00	2.00
28.983	2.00	2.00	2.00	2.00	2.00
29.067	2.00	2.00	2.00	2.00	2.00
29.150	2.00	2.00	2.00	2.00	1.99
29.233	1.99	1.99	1.99	1.99	1.99
29.317	1.99	1.99	1.99	1.99	1.99
29.400	1.99	1.99	1.99	1.99	1.98
29.483	1.98	1.98	1.98	1.98	1.98
29.567	1.98	1.98	1.98	1.98	1.98
29.650	1.98	1.98	1.98	1.98	1.98

Subsection: Pond Routed Hydrograph (total out)
Label: BASIN 21 (OUT)

Return Event: 100 years
Storm Event: TypeII 24hr (7.0 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
29.733	1.97	1.97	1.97	1.97	1.97
29.817	1.97	1.97	1.97	1.97	1.97
29.900	1.97	1.97	1.97	1.97	1.97
29.983	1.96	1.96	1.96	1.96	1.96
30.067	1.96	1.96	1.96	1.96	1.96
30.150	1.96	1.96	1.96	1.96	1.96
30.233	1.96	1.95	1.95	1.95	1.95
30.317	1.95	1.95	1.95	1.95	1.95
30.400	1.95	1.95	1.95	1.95	1.95
30.483	1.95	1.94	1.94	1.94	1.94
30.567	1.94	1.94	1.94	1.94	1.94
30.650	1.94	1.94	1.94	1.94	1.94
30.733	1.94	1.93	1.93	1.93	1.93
30.817	1.93	1.93	1.93	1.93	1.93
30.900	1.93	1.93	1.93	1.93	1.93
30.983	1.92	1.92	1.92	1.92	1.92
31.067	1.92	1.92	1.92	1.92	1.92
31.150	1.92	1.92	1.92	1.92	1.92
31.233	1.91	1.91	1.91	1.91	1.91
31.317	1.91	1.91	1.91	1.91	1.91
31.400	1.91	1.91	1.91	1.91	1.90
31.483	1.90	1.90	1.90	1.90	1.90
31.567	1.90	1.90	1.90	1.90	1.90
31.650	1.90	1.90	1.90	1.89	1.89
31.733	1.89	1.89	1.89	1.89	1.89
31.817	1.89	1.89	1.89	1.89	1.89
31.900	1.89	1.89	1.89	1.88	1.88
31.983	1.88	1.88	1.88	1.88	1.88
32.067	1.88	1.88	1.88	1.88	1.88
32.150	1.88	1.88	1.88	1.87	1.87
32.233	1.87	1.87	1.87	1.87	1.87
32.317	1.87	1.87	1.87	1.87	1.87
32.400	1.87	1.87	1.86	1.86	1.86
32.483	1.86	1.86	1.86	1.86	1.86
32.567	1.86	1.86	1.86	1.86	1.86
32.650	1.86	1.86	1.85	1.85	1.85
32.733	1.85	1.85	1.85	1.85	1.85
32.817	1.85	1.85	1.85	1.85	1.85
32.900	1.85	1.85	1.84	1.84	1.84
32.983	1.84	1.84	1.84	1.84	1.84
33.067	1.84	1.84	1.84	1.84	1.84
33.150	1.84	1.84	1.83	1.83	1.83
33.233	1.83	1.83	1.83	1.83	1.83
33.317	1.83	1.83	1.83	1.83	1.83

Subsection: Pond Routed Hydrograph (total out)
 Label: BASIN 21 (OUT)

Return Event: 100 years
 Storm Event: TypeII 24hr (7.0 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
33.400	1.83	1.82	1.82	1.82	1.82
33.483	1.82	1.82	1.82	1.82	1.82
33.567	1.82	1.82	1.82	1.82	1.82
33.650	1.81	1.81	1.81	1.81	1.81
33.733	1.81	1.81	1.81	1.81	1.81
33.817	1.81	1.81	1.81	1.80	1.80
33.900	1.80	1.80	1.80	1.80	1.80
33.983	1.80	1.80	1.80	1.80	1.80
34.067	1.80	1.80	1.79	1.79	1.79
34.150	1.79	1.79	1.79	1.79	1.79
34.233	1.79	1.79	1.79	1.79	1.79
34.317	1.79	1.78	1.78	1.78	1.78
34.400	1.78	1.78	1.78	1.78	1.78
34.483	1.78	1.78	1.78	1.78	1.78
34.567	1.77	1.77	1.77	1.77	1.77
34.650	1.77	1.77	1.77	1.77	1.77
34.733	1.77	1.77	1.77	1.76	1.76
34.817	1.76	1.76	1.76	1.76	1.76
34.900	1.76	1.76	1.76	1.76	1.76
34.983	1.76	1.76	(N/A)	(N/A)	(N/A)

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Subsection: Elevation-Area Volume Curve
 Label: RG-1

Return Event: 25 years
 Storm Event: TypeII 24hr (2.4 in)

Elevation (ft)	Planimeter (ft ²)	Area (acres)	A1+A2+sqr (A1*A2) (acres)	Volume (ac-ft)	Volume (Total) (ac-ft)
685.00	0.0	0.097	0.000	0.000	0.000
686.00	0.0	0.136	0.348	0.116	0.116

Subsection: Volume Equations
Label: RG-1

Return Event: 25 years
Storm Event: TypeII 24hr (2.4 in)

Pond Volume Equations

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

$$\text{Volume} = (1/3) * (\text{EL2} - \text{EL1}) * (\text{Area1} + \text{Area2} + \text{sqr}(\text{Area1} * \text{Area2}))$$

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

Subsection: Elevation-Area Volume Curve
 Label: RG-2

Return Event: 25 years
 Storm Event: TypeII 24hr (2.4 in)

Elevation (ft)	Planimeter (ft ²)	Area (acres)	A1+A2+sqr (A1*A2) (acres)	Volume (ac-ft)	Volume (Total) (ac-ft)
687.00	0.0	0.076	0.000	0.000	0.000
688.00	0.0	0.101	0.265	0.088	0.088

Subsection: Volume Equations
Label: RG-2

Return Event: 25 years
Storm Event: TypeII 24hr (2.4 in)

Pond Volume Equations

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

$$\text{Volume} = (1/3) * (\text{EL2} - \text{EL1}) * (\text{Area1} + \text{Area2} + \text{sqr}(\text{Area1} * \text{Area2}))$$

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

Subsection: Elevation-Area Volume Curve
Label: RG-3

Return Event: 25 years
Storm Event: TypeII 24hr (2.4 in)

Elevation (ft)	Planimeter (ft ²)	Area (acres)	A1+A2+sqr (A1*A2) (acres)	Volume (ac-ft)	Volume (Total) (ac-ft)
683.00	0.0	0.154	0.000	0.000	0.000
684.00	0.0	0.206	0.538	0.179	0.179

Subsection: Volume Equations
Label: RG-3

Return Event: 25 years
Storm Event: TypeII 24hr (2.4 in)

Pond Volume Equations

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

$$\text{Volume} = (1/3) * (\text{EL2} - \text{EL1}) * (\text{Area1} + \text{Area2} + \text{sqr}(\text{Area1} * \text{Area2}))$$

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

Subsection: Elevation-Area Volume Curve
Label: RG-4

Return Event: 25 years
Storm Event: TypeII 24hr (2.4 in)

Elevation (ft)	Planimeter (ft ²)	Area (acres)	A1+A2+sqr (A1*A2) (acres)	Volume (ac-ft)	Volume (Total) (ac-ft)
680.00	0.0	0.218	0.000	0.000	0.000
681.00	0.0	0.284	0.751	0.250	0.250

Subsection: Volume Equations
Label: RG-4

Return Event: 25 years
Storm Event: TypeII 24hr (2.4 in)

Pond Volume Equations

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

$$\text{Volume} = (1/3) * (\text{EL2} - \text{EL1}) * (\text{Area1} + \text{Area2} + \text{sqr}(\text{Area1} * \text{Area2}))$$

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

Subsection: Outlet Input Data
Label: Composite Outlet Structure - 01

Return Event: 25 years
Storm Event: TypeII 24hr (2.4 in)

Requested Pond Water Surface Elevations	
Minimum (Headwater)	685.00 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	686.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Inlet Box	Riser - 1	Forward	TW	685.50	686.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Subsection: Outlet Input Data

Label: Composite Outlet Structure - 01

Return Event: 25 years

Storm Event: TypeII 24hr (2.4 in)

Structure ID: Riser - 1	
Structure Type: Inlet Box	
Number of Openings	1
Elevation	685.50 ft
Orifice Area	9.0 ft ²
Orifice Coefficient	0.600
Weir Length	15.54 ft
Weir Coefficient	3.00 (ft ^{0.5})/s
K Reverse	1.000
Manning's n	0.000
Kev, Charged Riser	0.000
Weir Submergence	False
Orifice H to crest	True

Structure ID: TW	
Structure Type: TW Setup, DS Channel	
Tailwater Type	Free Outfall

Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft ³ /s
Flow Tolerance (Maximum)	10.000 ft ³ /s

Subsection: Individual Outlet Curves
Label: Composite Outlet Structure - 01

Return Event: 25 years
Storm Event: TypeII 24hr (2.4 in)

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (ft ³ /s)	Tailwater Elevation (ft)	Convergence Error (ft)
685.00	0.00	(N/A)	0.00
685.50	0.00	(N/A)	0.00
686.00	16.48	(N/A)	0.00

Computation Messages

HW & TW < Inv.El.=685.500
Weir: H =0ft
Weir: H =0.5ft

Subsection: Composite Rating Curve
Label: Composite Outlet Structure - 01

Return Event: 25 years
Storm Event: TypeII 24hr (2.4 in)

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft ³ /s)	Tailwater Elevation (ft)	Convergence Error (ft)
685.00	0.00	(N/A)	0.00
685.50	0.00	(N/A)	0.00
686.00	16.48	(N/A)	0.00

Contributing Structures

None Contributing
Riser - 1
Riser - 1

Subsection: Outlet Input Data

Label: Composite Outlet Structure - 02

Return Event: 25 years

Storm Event: TypeII 24hr (2.4 in)

Requested Pond Water Surface Elevations	
Minimum (Headwater)	687.00 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	688.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Inlet Box	Riser - 1	Forward	TW	687.50	688.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Subsection: Outlet Input Data

Label: Composite Outlet Structure - 02

Return Event: 25 years

Storm Event: TypeII 24hr (2.4 in)

 Structure ID: Riser - 1
 Structure Type: Inlet Box

Number of Openings	1
Elevation	687.50 ft
Orifice Area	9.0 ft ²
Orifice Coefficient	0.600
Weir Length	15.54 ft
Weir Coefficient	3.00 (ft ^{0.5})/s
K Reverse	1.000
Manning's n	0.000
Kev, Charged Riser	0.000
Weir Submergence	False
Orifice H to crest	True

 Structure ID: TW
 Structure Type: TW Setup, DS Channel

Tailwater Type	Free Outfall
----------------	--------------

 Convergence Tolerances

Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft ³ /s
Flow Tolerance (Maximum)	10.000 ft ³ /s

Subsection: Individual Outlet Curves
Label: Composite Outlet Structure - 02

Return Event: 25 years
Storm Event: TypeII 24hr (2.4 in)

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (ft ³ /s)	Tailwater Elevation (ft)	Convergence Error (ft)
687.00	0.00	(N/A)	0.00
687.50	0.00	(N/A)	0.00
688.00	16.48	(N/A)	0.00

Computation Messages

HW & TW < Inv.El.=687.500
Weir: H =0ft
Weir: H =0.5ft

Subsection: Composite Rating Curve
 Label: Composite Outlet Structure - 02

Return Event: 25 years
 Storm Event: TypeII 24hr (2.4 in)

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft ³ /s)	Tailwater Elevation (ft)	Convergence Error (ft)
687.00	0.00	(N/A)	0.00
687.50	0.00	(N/A)	0.00
688.00	16.48	(N/A)	0.00

Contributing Structures

None Contributing
Riser - 1
Riser - 1

Subsection: Outlet Input Data

Label: Composite Outlet Structure - 03

Return Event: 25 years

Storm Event: TypeII 24hr (2.4 in)

Requested Pond Water Surface Elevations

Minimum (Headwater)	683.00 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	684.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Inlet Box	Riser - 1	Forward	TW	683.50	684.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Subsection: Outlet Input Data

Label: Composite Outlet Structure - 03

Return Event: 25 years

Storm Event: TypeII 24hr (2.4 in)

 Structure ID: Riser - 1
 Structure Type: Inlet Box

Number of Openings	1
Elevation	683.50 ft
Orifice Area	9.0 ft ²
Orifice Coefficient	0.600
Weir Length	15.54 ft
Weir Coefficient	3.00 (ft ^{0.5})/s
K Reverse	1.000
Manning's n	0.000
Kev, Charged Riser	0.000
Weir Submergence	False
Orifice H to crest	True

 Structure ID: TW
 Structure Type: TW Setup, DS Channel

Tailwater Type	Free Outfall
----------------	--------------

 Convergence Tolerances

Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft ³ /s
Flow Tolerance (Maximum)	10.000 ft ³ /s

Subsection: Individual Outlet Curves
Label: Composite Outlet Structure - 03

Return Event: 25 years
Storm Event: TypeII 24hr (2.4 in)

RATING TABLE FOR ONE OUTLET TYPE
Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (ft ³ /s)	Tailwater Elevation (ft)	Convergence Error (ft)
683.00	0.00	(N/A)	0.00
683.50	0.00	(N/A)	0.00
684.00	16.48	(N/A)	0.00

Computation Messages

HW & TW < Inv.El.=683.500
Weir: H =0ft
Weir: H =0.5ft

Subsection: Composite Rating Curve
Label: Composite Outlet Structure - 03

Return Event: 25 years
Storm Event: TypeII 24hr (2.4 in)

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft ³ /s)	Tailwater Elevation (ft)	Convergence Error (ft)
683.00	0.00	(N/A)	0.00
683.50	0.00	(N/A)	0.00
684.00	16.48	(N/A)	0.00

Contributing Structures

None Contributing
Riser - 1
Riser - 1

Subsection: Outlet Input Data
 Label: Composite Outlet Structure - 04

Return Event: 25 years
 Storm Event: TypeII 24hr (2.4 in)

Requested Pond Water Surface Elevations	
Minimum (Headwater)	680.00 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	681.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Inlet Box	Riser - 1	Forward	TW	680.50	681.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Subsection: Outlet Input Data

Label: Composite Outlet Structure - 04

Return Event: 25 years

Storm Event: TypeII 24hr (2.4 in)

 Structure ID: Riser - 1
 Structure Type: Inlet Box

Number of Openings	1
Elevation	680.50 ft
Orifice Area	9.0 ft ²
Orifice Coefficient	0.600
Weir Length	15.54 ft
Weir Coefficient	3.00 (ft ^{0.5})/s
K Reverse	1.000
Manning's n	0.000
Kev, Charged Riser	0.000
Weir Submergence	False
Orifice H to crest	True

 Structure ID: TW
 Structure Type: TW Setup, DS Channel

Tailwater Type	Free Outfall
----------------	--------------

 Convergence Tolerances

Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft ³ /s
Flow Tolerance (Maximum)	10.000 ft ³ /s

Subsection: Individual Outlet Curves
 Label: Composite Outlet Structure - 04

Return Event: 25 years
 Storm Event: TypeII 24hr (2.4 in)

RATING TABLE FOR ONE OUTLET TYPE
 Structure ID = Riser - 1 (Inlet Box)

Upstream ID = (Pond Water Surface)
 Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (ft ³ /s)	Tailwater Elevation (ft)	Convergence Error (ft)
680.00	0.00	(N/A)	0.00
680.50	0.00	(N/A)	0.00
681.00	16.48	(N/A)	0.00

Computation Messages

HW & TW < Inv.El.=680.500
 Weir: H =0ft
 Weir: H =0.5ft

Subsection: Composite Rating Curve
Label: Composite Outlet Structure - 04

Return Event: 25 years
Storm Event: TypeII 24hr (2.4 in)

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft ³ /s)	Tailwater Elevation (ft)	Convergence Error (ft)
680.00	0.00	(N/A)	0.00
680.50	0.00	(N/A)	0.00
681.00	16.48	(N/A)	0.00

Contributing Structures

None Contributing
Riser - 1
Riser - 1

Subsection: Level Pool Pond Routing Summary
Label: RG-1 (IN)

Return Event: 25 years
Storm Event: TypeII 24hr (5.0 in)

Infiltration			
Infiltration Method (Computed)		No Infiltration	
Initial Conditions			
Elevation (Water Surface, Initial)	685.00 ft		
Volume (Initial)	0.000 ac-ft		
Flow (Initial Outlet)	0.00 ft³/s		
Flow (Initial Infiltration)	0.00 ft³/s		
Flow (Initial, Total)	0.00 ft³/s		
Time Increment	0.017 hours		
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	0.86 ft³/s	Time to Peak (Flow, In)	11.933 hours
Flow (Peak Outlet)	0.01 ft³/s	Time to Peak (Flow, Outlet)	22.333 hours
Elevation (Water Surface, Peak)	685.50 ft		
Volume (Peak)	0.053 ac-ft		
Mass Balance (ac-ft)			
Volume (Initial)	0.000 ac-ft		
Volume (Total Inflow)	0.054 ac-ft		
Volume (Total Infiltration)	0.000 ac-ft		
Volume (Total Outlet Outflow)	0.001 ac-ft		
Volume (Retained)	0.053 ac-ft		
Volume (Unrouted)	0.000 ac-ft		
Error (Mass Balance)	0.0 %		

Subsection: Pond Routed Hydrograph (total out)
Label: RG-1 (OUT)

Return Event: 25 years
Storm Event: TypeII 24hr (5.0 in)

Peak Discharge	0.01 ft ³ /s
Time to Peak	22.333 hours
Hydrograph Volume	0.001 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
22.050	0.00	0.00	0.00	0.01	0.01
22.133	0.01	0.01	0.01	0.01	0.01
22.217	0.01	0.01	0.01	0.01	0.01
22.300	0.01	0.01	0.01	0.01	0.01
22.383	0.01	0.01	0.01	0.01	0.01
22.467	0.01	0.01	0.01	0.01	0.01
22.550	0.01	0.01	0.01	0.01	0.01
22.633	0.01	0.01	0.01	0.01	0.01
22.717	0.01	0.01	0.01	0.01	0.01
22.800	0.01	0.01	0.01	0.01	0.01
22.883	0.01	0.01	0.01	0.01	0.01
22.967	0.01	0.01	0.01	0.01	0.01
23.050	0.01	0.01	0.01	0.01	0.01
23.133	0.01	0.01	0.01	0.01	0.01
23.217	0.01	0.01	0.01	0.01	0.01
23.300	0.01	0.01	0.01	0.01	0.01
23.383	0.01	0.01	0.01	0.01	0.01
23.467	0.01	0.01	0.01	0.01	0.01
23.550	0.01	0.01	0.01	0.01	0.01
23.633	0.01	0.01	0.01	0.01	0.01
23.717	0.01	0.01	0.01	0.01	0.01
23.800	0.01	0.01	0.01	0.01	0.01
23.883	0.01	0.01	0.01	0.01	0.01
23.967	0.01	0.01	0.01	0.01	0.01
24.050	0.01	0.01	0.01	0.00	0.00
24.133	0.00	0.00	0.00	0.00	0.00

Subsection: Level Pool Pond Routing Summary
Label: RG-2 (IN)

Return Event: 25 years
Storm Event: TypeII 24hr (5.0 in)

Infiltration			
Infiltration Method (Computed)		No Infiltration	
Initial Conditions			
Elevation (Water Surface, Initial)	687.00 ft		
Volume (Initial)	0.000 ac-ft		
Flow (Initial Outlet)	0.00 ft³/s		
Flow (Initial Infiltration)	0.00 ft³/s		
Flow (Initial, Total)	0.00 ft³/s		
Time Increment	0.017 hours		
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	0.64 ft³/s	Time to Peak (Flow, In)	11.933 hours
Flow (Peak Outlet)	0.00 ft³/s	Time to Peak (Flow, Outlet)	0.000 hours
Elevation (Water Surface, Peak)	687.49 ft		
Volume (Peak)	0.040 ac-ft		
Mass Balance (ac-ft)			
Volume (Initial)	0.000 ac-ft		
Volume (Total Inflow)	0.040 ac-ft		
Volume (Total Infiltration)	0.000 ac-ft		
Volume (Total Outlet Outflow)	0.000 ac-ft		
Volume (Retained)	0.040 ac-ft		
Volume (Unrouted)	0.000 ac-ft		
Error (Mass Balance)	0.1 %		

Subsection: Pond Routed Hydrograph (total out)
Label: RG-2 (OUT)

Return Event: 25 years
Storm Event: TypeII 24hr (5.0 in)

Peak Discharge	0.00 ft ³ /s
Time to Peak	11.650 hours
Hydrograph Volume	0.000 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
0.000	0.00	0.00	(N/A)	(N/A)	(N/A)

Subsection: Level Pool Pond Routing Summary
Label: RG-3 (IN)

Return Event: 25 years
Storm Event: TypeII 24hr (5.0 in)

Infiltration			
Infiltration Method (Computed)		No Infiltration	
Initial Conditions			
Elevation (Water Surface, Initial)	683.00 ft		
Volume (Initial)	0.000 ac-ft		
Flow (Initial Outlet)	0.00 ft³/s		
Flow (Initial Infiltration)	0.00 ft³/s		
Flow (Initial, Total)	0.00 ft³/s		
Time Increment	0.017 hours		
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	1.31 ft³/s	Time to Peak (Flow, In)	11.933 hours
Flow (Peak Outlet)	0.00 ft³/s	Time to Peak (Flow, Outlet)	0.000 hours
Elevation (Water Surface, Peak)	683.50 ft		
Volume (Peak)	0.082 ac-ft		
Mass Balance (ac-ft)			
Volume (Initial)	0.000 ac-ft		
Volume (Total Inflow)	0.082 ac-ft		
Volume (Total Infiltration)	0.000 ac-ft		
Volume (Total Outlet Outflow)	0.000 ac-ft		
Volume (Retained)	0.082 ac-ft		
Volume (Unrouted)	0.000 ac-ft		
Error (Mass Balance)	0.1 %		

Subsection: Pond Routed Hydrograph (total out)
 Label: RG-3 (OUT)

Return Event: 25 years
 Storm Event: TypeII 24hr (5.0 in)

Peak Discharge	0.00 ft ³ /s
Time to Peak	11.650 hours
Hydrograph Volume	0.000 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
0.000	0.00	0.00	(N/A)	(N/A)	(N/A)

Subsection: Level Pool Pond Routing Summary
Label: RG-4 (IN)

Return Event: 25 years
Storm Event: TypeII 24hr (5.0 in)

Infiltration			
Infiltration Method (Computed)		No Infiltration	
Initial Conditions			
Elevation (Water Surface, Initial)	680.00 ft		
Volume (Initial)	0.000 ac-ft		
Flow (Initial Outlet)	0.00 ft³/s		
Flow (Initial Infiltration)	0.00 ft³/s		
Flow (Initial, Total)	0.00 ft³/s		
Time Increment	0.017 hours		
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	1.80 ft³/s	Time to Peak (Flow, In)	11.933 hours
Flow (Peak Outlet)	0.00 ft³/s	Time to Peak (Flow, Outlet)	0.000 hours
Elevation (Water Surface, Peak)	680.49 ft		
Volume (Peak)	0.113 ac-ft		
Mass Balance (ac-ft)			
Volume (Initial)	0.000 ac-ft		
Volume (Total Inflow)	0.114 ac-ft		
Volume (Total Infiltration)	0.000 ac-ft		
Volume (Total Outlet Outflow)	0.000 ac-ft		
Volume (Retained)	0.113 ac-ft		
Volume (Unrouted)	0.000 ac-ft		
Error (Mass Balance)	0.2 %		

Subsection: Pond Routed Hydrograph (total out)
Label: RG-4 (OUT)

Return Event: 25 years
Storm Event: TypeII 24hr (5.0 in)

Peak Discharge	0.00 ft ³ /s
Time to Peak	11.650 hours
Hydrograph Volume	0.000 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
0.000	0.00	0.00	(N/A)	(N/A)	(N/A)

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APPENDIX I
Volume & Infiltration Calculations

Worksheet 1. General Site Information

INSTRUCTIONS: Fill out Worksheet 1 for each watershed

Date: November 12, 2010

Project Name: Bell Bend Nuclear Power Plant

Municipality: Salem Township

County: Luzerne

Total Area (acres): 1124

Major River Basin: Susquehanna

<http://www.dep.state.pa.us/river/Maps/PAbasins.htm>

Watershed: Susquehanna River

Sub-Basin: Walker Run & unnamed tributaries of Susquehanna River

Nearest Surface Water(s) to Receive Runoff: Walker Run / Susquehanna River

Chapter 93 – Designated Water Use: CWF-MF / WWF-MF

<http://www.pacode.com/secure/data/025/chapter93/chap93toc.html>

Impaired according to Chapter 303(d) List? Yes ☐ No ☒

<http://www.depweb.state.pa.us/watersupply/cwp/view.asp?a=1261&q=480056>

List Causes of Impairment:

Is project subject to, or part of:

Municipal Separate Storm Sewer System (MS4) Requirements? Yes ☐ No ☒

<http://www.depweb.state.pa.us/watershedmgmt/cwp/view.asp?a=1437&q=519543&watershedmgmtNav=>

Existing or planned drinking water supply? Yes ☐ No ☒

If yes, distance from proposed discharge (miles):

Approved Act 167 Plan? Yes ☐ No ☒

<http://www.depweb.state.pa.us/watershedmgmt/cwp/view.asp?a=1437&q=519879>

Existing River Conservation Plan? Yes ☐ No ☒

<http://www.dcnr.state.pa.us/brc/rivers/riversconservation/registry/>

WORKSHEET 2. SENSITIVE NATURAL RESOURCES**INSTRUCTIONS:**

1. Provide Sensitive Resources Map according to non-structural BMP 5.4.1 in Chapter 5. This map should identify wetlands, woodlands, natural drainage ways, steep slopes, and other sensitive natural areas. **PLEASE SEE ATTACHED BMP-MAP-1 AND BMP-MAP-2.**

2. Summarize the existing extent of each sensitive resource in the Existing Sensitive Resources Table (below, using Acres). If none present, insert 0.

3. Summarize Total Protected Area as defined under BMPs in Chapter 5

4. Do not count any area twice. For example, an area that is both a floodplain and a wetland may only be considered once.

EXISTING NATURAL SENSITIVE RESOURCE	MAPPED? Yes/No/N/A	TOTAL AREA (Ac.)	PROTECTED AREA (Ac.)
Waterbodies	YES	3.40	3.40
Floodplains	YES	N/A	N/A
Riparian Areas	YES	28.25	23.38
Wetlands	YES	108.66	92.64
Woodlands	YES	360.51	164.01
Natural Drainage Ways	YES	2.76	1.52
Steep Slopes, 15% - 25%	YES	98.81	48.74
Steep Slopes, over 25%	YES	97.98	48.60
Other:			
Other:			
TOTAL EXISTING:		700.37	382.29

WORKSHEET 3. NONSTRUCTURAL BMP CREDITS**PROTECTED AREA**

1.1 Area of Protected Sensitives/Special Value Features (see WS 2)	<u>382.29</u> Ac.
1.2 Area of Riparian Forest Buffer Protection	<u>0.00</u> Ac.
3.1 Area of Minimum Disturbance/Reduced Grading	<u>0.00</u> Ac.
TOTAL	<u>382.29</u> Ac.

Site Area	Protected Area	=	Stormwater Management Area
<u>1124.00</u>	<u>382.29</u>	=	<u>741.71</u>
This is the area that requires stormwater management			

VOLUME CREDITS

3.1 Minimum Soil Compaction

Lawn 0.00 ft² x 1/4" x 1/12 = 0.00 ft³

Meadow 0.00 ft² x 1/3" x 1/12 = 0.00 ft³

3.3 Protect Existing Trees

For Trees within 100 feet of impervious area:

Tree Canopy 0.00 ft² x 1/2" x 1/12 = 0.00 ft³

5.1 Disconnected Roof Leaders to Vegetated Areas

For runoff directed to areas protected under 5.8.1 and 5.8.2

Runoff 0.00 ft² x 1/3" x 1/12 = 0.00 ft³

For all other disconnected roof areas

Roof Area 0.00 ft² x 1/4" x 1/12 = 0.00 ft³

5.2 Disconnected Non-Roof impervious to Vegetated Areas

For runoff directed to areas protected under 5.8.1 and 5.8.2

Impervious Area 0.00 ft² x 1/3" x 1/12 = 0.00 ft³

For all other disconnected roof areas

Impervious Area 0.00 ft² x 1/4" x 1/12 = 0.00 ft³

TOTAL NON-STRUCTURAL VOLUME CREDIT*

0.00 ft³

*For use on Worksheet 5

WORKSHEET 4. - CHANGE IN RUNOFF VOLUME FOR 2-YR STORM EVENT

PROJECT: PPL Bell Bend Nuclear Power Plant
Drainage Area: POI-1: 48.27 (acres)
2-Year Rainfall: 2.88 in.

Total Site Area: 1124.00 acres
Protected Site Area: 382.29 acres
Managed Area: 741.71 acres

Existing Conditions:

Cover Type/Condition	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious		29185	0.67	98.00	0.20	0.04	2.65	6442.12
Woodland	A	693040	15.91	36.00	17.78	3.56	0.03	1541.16
Meadow	A	1088564	24.99	30.00	23.33	4.67	0.15	13439.40
Woodland	C	10890	0.25	73.00	3.70	0.74	0.78	711.96
Woodland	B/D	148975	3.42	69.00	4.49	0.90	0.61	7528.57
Woodland	C/D	102802	2.36	76.00	3.16	0.63	0.94	8010.74
Meadow	C/D	29185	0.67	74.00	3.51	0.70	0.83	2026.02
TOTAL:		2102641	48.27					39699.95

Developed Conditions:

Cover Type	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious	NA	1525036	35.01	98.00	0.20	0.04	2.65	336624.64
Compacted Stone	NA	0		91.00	0.99	0.20	1.96	0.00
Woods A	A	17424	0.40	36.00	17.78	3.56	0.03	38.75
Open Space A	A	206910	4.75	39.00	15.64	3.13	0.00	69.01
Meadow A	A	19166	0.44	30.00	23.33	4.67	0.15	236.63
Woods C	C	6098	0.14	73.00	3.70	0.74	0.78	398.70
Open Space C	C	192100	4.41	74.00	3.51	0.70	0.83	13335.41
Meadow CD	C	47916	1.10	74.00	3.51	0.70	0.83	3326.29
Open Space BD	BD	163786	3.76	70.00	4.29	0.86	0.65	8853.07
Woods CD	CD	0		76.00	3.16	0.63	0.94	0.00
Open Space CD	CD	8276	0.19	77.00				
Woods BD	BD	102366	2.35	69.00	4.49	0.90	0.61	5173.14
TOTAL:		2289078	52.55					368055.63

2-Year Volume Increase (cubic feet): 328355.68

2-Year Volume Increase = Developed Conditions Runoff Volume - Existing Conditions Runoff Volume

1. Runoff (in) = $Q = (P - 0.2S)^2 / (P + 0.8S)$ where

P = 2-Year Rainfall (in)

S = $(1000/CN) - 10$

2. Runoff Volume (CF) = $Q \times \text{Area} \times 1/12 \times 43,560 \text{ ft}^2/\text{acres}$

Q = Runoff (in)

Area = Land use area (sq. ft)

Note: Runoff Volume must be calculated for EACH land use type and soil.
The use of a weighted CN value for volume calculations is not acceptable.

WORKSHEET 4. - CHANGE IN RUNOFF VOLUME FOR 2-YR STORM EVENT

PROJECT: PPL Bell Bend Nuclear Power Plant
 Drainage Area: POI-2: 11.76 (acres)
 2-Year Rainfall: 2.88 in.

Total Site Area: 1124.00 acres
 Protected Site Area: 382.29 acres
 Managed Area: 741.71 acres

Existing Conditions:

Cover Type/Condition	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious		10890	0.25	98.00	0.20	0.04	2.65	2403.77
Woodland	C	33977	0.78	73.00	3.70	0.74	0.78	2221.31
Meadow	C	362855	8.33	71.00	4.08	0.82	0.69	20935.61
Woodland	B/D	104544	2.40	69.00	4.49	0.90	0.61	5283.21
		0						
TOTAL:		512266	11.76					30843.90

Developed Conditions:

Cover Type	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious	NA	54886	1.26	98.00	0.20	0.04	2.65	12115.03
Compacted Stone	NA	27007	0.62	91.00	0.99	0.20	1.96	4410.33
Woods A	A	0		36.00	17.78	3.56	0.03	0.00
Open Space A	A	0		39.00	15.64	3.13	0.00	0.00
Meadow A	A	0		30.00	23.33	4.67	0.15	0.00
Woods C	C	0		73.00	3.70	0.74	0.78	0.00
Open Space C	C	151153	3.47	74.00	3.51	0.70	0.83	10492.95
Meadow C	C	0		71.00	4.08	0.82	0.69	0.00
Open Space BD	BD	0		70.00				
Woods CD	CD	0		76.00				
Open Space CD	CD	105851	2.43	77.00				
Meadow CD	CD	0		74.00	3.51	0.70	0.83	0.00
TOTAL:		338897	7.78					27018.30

2-Year Volume Increase (cubic feet): -3825.60

2-Year Volume Increase = Developed Conditions Runoff Volume - Existing Conditions Runoff Volume

1. Runoff (in) = $Q = (P - 0.2S)^2 / (P + 0.8S)$ where

P = 2-Year Rainfall (in)

S = $(1000/CN) - 10$

2. Runoff Volume (CF) = $Q \times \text{Area} \times 1/12 \times 43,560 \text{ ft}^2/\text{acres}$

Q = Runoff (in)

Area = Land use area (sq. ft)

Note: Runoff Volume must be calculated for EACH land use type and soil.
 The use of a weighted CN value for volume calculations is not acceptable.

WORKSHEET 4. - CHANGE IN RUNOFF VOLUME FOR 2-YR STORM EVENT

PROJECT: PPL Bell Bend Nuclear Power Plant
Drainage Area: POI-3: 92.69 (acres)
2-Year Rainfall: 2.88 in.

Total Site Area: 1124.00 acres
Protected Site Area: 382.29 acres
Managed Area: 741.71 acres

Existing Conditions:

Cover Type/Condition	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious		38333	0.88	98.00	0.20	0.04	2.65	8461.29
Woodland	A	646866	14.85	36.00	17.78	3.56	0.03	1438.48
Meadow	A	652529	14.98	30.00	23.33	4.67	0.15	8056.11
Woodland	C	1243638	28.55	73.00	3.70	0.74	0.78	81305.54
Meadow	C	1456211	33.43	71.00	4.08	0.82	0.69	84018.90
TOTAL:		4037576	92.69					183280.31

Developed Conditions:

Cover Type	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious	NA	211702	4.86	98.00	0.20	0.04	2.65	46729.38
Compacted Stone	NA	645559	14.82	91.00	0.99	0.20	1.96	105421.05
Woods A	A	0		36.00	17.78	3.56	0.03	0.00
Open Space A	A	0		39.00	15.64	3.13	0.00	0.00
Meadow A	A	0		30.00	23.33	4.67	0.15	0.00
Woods C	C	292288	6.71	73.00	3.70	0.74	0.78	19108.94
Open Space C	C	2809620	64.50	74.00	3.51	0.70	0.83	195041.78
Meadow C	C	0		71.00	4.08	0.82	0.69	0.00
Open Space BD	BD	0		70.00				
Woods CD	CD	0		76.00				
Open Space CD	CD	0		77.00				
Meadow CD	CD	0		74.00	3.51	0.70	0.83	0.00
TOTAL:		3959168	90.89					366301.16

2-Year Volume Increase (cubic feet): 183020.85

2-Year Volume Increase = Developed Conditions Runoff Volume - Existing Conditions Runoff Volume

1. Runoff (in) = $Q = (P - 0.2S)^2 / (P + 0.8S)$ where

P = 2-Year Rainfall (in)

S = $(1000/CN) - 10$

2. Runoff Volume (CF) = $Q \times \text{Area} \times 1/12 \times 43,560 \text{ ft}^2/\text{acres}$

Q = Runoff (in)

Area = Land use area (sq. ft)

Note: Runoff Volume must be calculated for EACH land use type and soil.
 The use of a weighted CN value for volume calculations is not acceptable.

WORKSHEET 4. - CHANGE IN RUNOFF VOLUME FOR 2-YR STORM EVENT

PROJECT: PPL Bell Bend Nuclear Power Plant
 Drainage Area: POI-4: 23.11 (acres)
 2-Year Rainfall: 2.88 in.

Total Site Area: 1124.00 acres
 Protected Site Area: 382.29 acres
 Managed Area: 741.71 acres

Existing Conditions:

Cover Type/Condition	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious		10454	0.24	98.00	0.20	0.04	2.65	2307.62
Woodland	A	143748	3.30	36.00	17.78	3.56	0.03	319.66
Meadow	A	498762	11.45	30.00	23.33	4.67	0.15	6157.71
Woodland	C	132422	3.04	73.00	3.70	0.74	0.78	8657.40
Meadow	C	221285	5.08	71.00	4.08	0.82	0.69	12767.45
TOTAL:		1006672	23.11					30209.85

Developed Conditions:

Cover Type	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious	NA	449104	10.31	98.00	0.20	0.04	2.65	99131.68
Compacted Stone	NA	229518	5.27	91.00	0.99	0.20	1.96	37480.67
Woods A	A	0			17.78	3.56	0.03	0.00
Open Space A	A	586753	13.47	39.00	15.64	3.13	0.00	195.69
Meadow A	A	0		30.00		4.67	0.15	0.00
Woods C	C	0		73.00	3.70	0.74	0.78	0.00
Open Space C	C	331971	7.62	74.00	3.51	0.70	0.83	23045.17
Meadow C	C	0		71.00	4.08	0.82	0.69	0.00
Open Space BD	BD	0		70.00				
Woods BD	CD	270595	6.21	69.00				
Open Space CD	CD	0		77.00				
Meadow CD	CD	0		74.00	3.51	0.70	0.83	0.00
TOTAL:		1867940	42.88					159853.21

2-Year Volume Increase (cubic feet): 129643.36

2-Year Volume Increase = Developed Conditions Runoff Volume - Existing Conditions Runoff Volume

1. Runoff (in) = $Q = (P-0.2S)^2 / (P+0.8S)$ where

P = 2-Year Rainfall (in)

S = $(1000/CN) - 10$

2. Runoff Volume (CF) = $Q \times \text{Area} \times 1/12 \times 43,560 \text{ ft}^2/\text{acres}$

Q = Runoff (in)

Area = Land use area (sq. ft)

Note: Runoff Volume must be calculated for EACH land use type and soil.
 The use of a weighted CN value for volume calculations is not acceptable.

WORKSHEET 4. - CHANGE IN RUNOFF VOLUME FOR 2-YR STORM EVENT

PROJECT: PPL Bell Bend Nuclear Power Plant
 Drainage Area: POI-5: 67.04 (acres)
 2-Year Rainfall: 2.88 in.

Total Site Area: 1124.00 acres
 Protected Site Area: 382.29 acres
 Managed Area: 741.71 acres

Existing Conditions:

Cover Type/Condition	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious		40511	0.93	98.00	0.20	0.04	2.65	8942.04
Woodland	A	144619	3.32	36.00	17.78	3.56	0.03	321.60
Meadow	A	1631758	37.46	30.00	23.33	4.67	0.15	20145.65
Woodland	C	144619	3.32	73.00	3.70	0.74	0.78	9454.79
Meadow	C	958756	22.01	71.00	4.08	0.82	0.69	55317.26
TOTAL:		2920262	67.04					94181.35

Developed Conditions:

Cover Type	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious	NA	0		98.00	0.20	0.04	2.65	0.00
Compacted Stone	NA	225989	5.19	91.00	0.99	0.20	1.96	36904.48
Woods A	A	611974	14.05	36.00	17.78	3.56	0.03	1360.89
Open Space A	A	0		39.00	15.64	3.13	0.00	0.00
Meadow A	A	1354063	31.09	30.00	23.33	4.67	0.15	16717.24
Woods C	C	128981	2.96	73.00	3.70	0.74	0.78	8432.42
Open Space C	C	0		74.00	3.51	0.70	0.83	0.00
Meadow C	C	469664	10.78	71.00	4.08	0.82	0.69	27098.17
Open Space BD	BD	0		70.00				
Woods CD	CD	0		76.00				
Open Space CD	CD	0		77.00				
Meadow CD	CD	0		74.00	3.51	0.70	0.83	0.00
TOTAL:		2790671	64.07					90513.19

2-Year Volume Increase (cubic feet): -3668.15

2-Year Volume Increase = Developed Conditions Runoff Volume - Existing Conditions Runoff Volume

1. Runoff (in) = $Q = (P-0.2S)^2 / (P+0.8S)$ where

P = 2-Year Rainfall (in)

S = $(1000/CN) - 10$

2. Runoff Volume (CF) = $Q \times \text{Area} \times 1/12 \times 43,560 \text{ ft}^2/\text{acres}$

Q = Runoff (in)

Area = Land use area (sq. ft)

Note: Runoff Volume must be calculated for EACH land use type and soil.
 The use of a weighted CN value for volume calculations is not acceptable.

WORKSHEET 4. - CHANGE IN RUNOFF VOLUME FOR 2-YR STORM EVENT

PROJECT: PPL Bell Bend Nuclear Power Plant
 Drainage Area: POI-6: 36.83 (acres)
 2-Year Rainfall: 2.88 in.

Total Site Area: 1124.00 acres
 Protected Site Area: 382.29 acres
 Managed Area: 741.71 acres

Existing Conditions:

Cover Type/Condition	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious		38333	0.88	98.00	0.20	0.04	2.65	8461.29
Meadow	A	0		30.00	23.33	4.67	0.15	0.00
Meadow	C	1565982	35.95	71.00	4.08	0.82	0.69	90352.36
TOTAL:		1604315	36.83					98813.64

Developed Conditions:

Cover Type	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious	NA	194931	4.48	98.00	0.20	0.04	2.65	43027.57
Compacted Stone	NA	400142	9.19	91.00	0.99	0.20	1.96	65343.98
Woods A	A	0		36.00	17.78	3.56	0.03	0.00
Open Space A	A	0		39.00	15.64	3.13	0.00	0.00
Meadow A	A	0		30.00	23.33	4.67	0.15	0.00
Woods C	C	0		73.00	3.70	0.74	0.78	0.00
Open Space C	C	259269	5.95	74.00	3.51	0.70	0.83	17998.27
Meadow C	C	0		71.00	4.08	0.82	0.69	0.00
Open Space BD	BD	0		70.00				
Woods CD	CD	0		76.00				
Open Space CD	CD	0		77.00				
Meadow CD	CD	0		74.00	3.51	0.70	0.83	0.00
TOTAL:		854342	19.61					126369.83

2-Year Volume Increase (cubic feet): 27556.18

2-Year Volume Increase = Developed Conditions Runoff Volume - Existing Conditions Runoff Volume

1. Runoff (in) = $Q = (P - 0.2S)^2 / (P + 0.8S)$ where

P = 2-Year Rainfall (in)

S = $(1000/CN) - 10$

2. Runoff Volume (CF) = $Q \times \text{Area} \times 1/12 \times 43,560 \text{ ft}^2/\text{acres}$

Q = Runoff (in)

Area = Land use area (sq. ft)

**Note: Runoff Volume must be calculated for EACH land use type and soil.
 The use of a weighted CN value for volume calculations is not acceptable.**

WORKSHEET 4. - CHANGE IN RUNOFF VOLUME FOR 2-YR STORM EVENT

PROJECT: PPL Bell Bend Nuclear Power Plant
 Drainage Area: POI-7: 13.95 (acres)
 2-Year Rainfall: 2.88 in.

Total Site Area: 1124.00 acres
 Protected Site Area: 382.29 acres
 Managed Area: 741.71 acres

Existing Conditions:

Cover Type/Condition	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious		5663	0.13	98.00	0.20	0.04	2.65	1249.96
Woodland	A	30928	0.71	36.00	17.78	3.56	0.03	68.78
Meadow	A	497020	11.41	30.00	23.33	4.67	0.15	6136.20
Meadow	C	74052	1.70	71.00	4.08	0.82	0.69	4272.57
		0						
TOTAL:		607662	13.95					11727.51

Developed Conditions:

Cover Type	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious	NA	11761	0.27	98.00	0.20	0.04	2.65	2596.08
Compacted Stone	NA	0		91.00	0.99	0.20	1.96	0.00
Woods A	A	31363	0.72	36.00	17.78	3.56	0.03	69.74
Open Space A	A	0		39.00	15.64	3.13	0.00	0.00
Meadow A	A	64904	1.49	30.00	23.33	4.67	0.15	801.31
Woods C	C	0		73.00	3.70	0.74	0.78	0.00
Open Space C	C	0		74.00	3.51	0.70	0.83	0.00
Meadow C	C	112820	2.59	71.00	4.08	0.82	0.69	6509.39
Open Space BD	BD	0		70.00				
Woods CD	CD	0		76.00				
Open Space CD	CD	0		77.00				
Meadow CD	CD	0		74.00	3.51	0.70	0.83	0.00
TOTAL:		220849	5.07					9976.52

2-Year Volume Increase (cubic feet): -1750.99

2-Year Volume Increase = Developed Conditions Runoff Volume - Existing Conditions Runoff Volume

1. Runoff (in) = $Q = (P-0.2S)^2 / (P+0.8S)$ where

P = 2-Year Rainfall (in)

S = $(1000/CN) - 10$

2. Runoff Volume (CF) = $Q \times \text{Area} \times 1/12 \times 43,560 \text{ ft}^2/\text{acres}$

Q = Runoff (in)

Area = Land use area (sq. ft)

Note: Runoff Volume must be calculated for EACH land use type and soil.
 The use of a weighted CN value for volume calculations is not acceptable.

WORKSHEET 4. - CHANGE IN RUNOFF VOLUME FOR 2-YR STORM EVENT

PROJECT: PPL Bell Bend Nuclear Power Plant
Drainage Area: POI-8: 37.62 (acres)
2-Year Rainfall: 2.88 in.

Total Site Area: 1124.00 acres
Protected Site Area: 382.29 acres
Managed Area: 741.71 acres

Existing Conditions:

Cover Type/Condition	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious		27007	0.62	98.00	0.20	0.04	2.65	5961.36
Woodland	A	95832	2.20	36.00	17.78	3.56	0.03	213.11
Meadow	A	827204	18.99	30.00	23.33	4.67	0.15	10212.65
Woodland	C	23522	0.54	73.00	3.70	0.74	0.78	1537.83
Meadow	C	361984	8.31	71.00	4.08	0.82	0.69	20885.34
Woodland	C/D	83200	1.91	76.00	3.16	0.63	0.94	6483.27
Meadow	C/D	219978	5.05	74.00	3.51	0.70	0.83	15270.71
		0						
TOTAL:		1638727	37.62					60564.27

Developed Conditions:

Cover Type	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious	NA	190488	4.37	98.00	0.20	0.04	2.65	42046.83
Compacted Stone	NA	0		91.00	0.99	0.20	1.96	0.00
Woods A	A	78190	1.80	36.00	17.78	3.56	0.03	173.88
Open Space A	A	183954	4.22	39.00	15.64	3.13	0.00	61.35
Meadow A	A	312717	7.18	30.00	23.33	4.67	0.15	3860.80
Woods C	C	21693	0.50	73.00	3.70	0.74	0.78	1418.22
Open Space C	C	0		74.00	3.51	0.70	0.83	0.00
Meadow C	C	257440	5.91	71.00	4.08	0.82	0.69	14853.48
Open Space BD	BD	0		70.00				
Woods BD	CD	0		76.00				
Open Space CD	CD	129591	2.98	77.00				
Meadow CD	CD	0		74.00	3.51	0.70	0.83	0.00
TOTAL:		1174073	26.95					62414.56

2-Year Volume Increase (cubic feet): 1850.28

2-Year Volume Increase = Developed Conditions Runoff Volume - Existing Conditions Runoff Volume

1. Runoff (in) = $Q = (P-0.2S)^2 / (P+0.8S)$ where

P = 2-Year Rainfall (in)

S = $(1000/CN) - 10$

2. Runoff Volume (CF) = $Q \times \text{Area} \times 1/12 \times 43,560 \text{ ft}^2/\text{acres}$

Q = Runoff (in)

Area = Land use area (sq. ft)

Note: Runoff Volume must be calculated for EACH land use type and soil.
The use of a weighted CN value for volume calculations is not acceptable.

WORKSHEET 4. - CHANGE IN RUNOFF VOLUME FOR 2-YR STORM EVENT

PROJECT: PPL Bell Bend Nuclear Power Plant
Drainage Area: POI-9: 28.81 (acres)
2-Year Rainfall: 2.88 in.

Total Site Area: 1124.00 acres
Protected Site Area: 382.29 acres
Managed Area: 741.71 acres

Existing Conditions:

Cover Type/Condition	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious		7405	0.17	98.00	0.20	0.04	2.65	1634.57
Woodland	A	593723	13.63	36.00	17.78	3.56	0.03	1320.30
Meadow	A	440827	10.12	30.00	23.33	4.67	0.15	5442.45
Meadow	C	213008	4.89	71.00	4.08	0.82	0.69	12289.93
TOTAL:		1254964	28.81					20687.24

Developed Conditions:

Cover Type	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious	NA	7405	0.17	98.00	0.20	0.04	2.65	1634.57
Compacted Stone	NA	347173	7.97	91.00	0.99	0.20	1.96	56694.05
Woods A	A	270072	6.20	36.00	17.78	3.56	0.03	600.58
Open Space A	A	335325	7.70	39.00	15.64	3.13	0.00	111.84
Meadow A	A	301000	6.91	30.00	23.33	4.67	0.15	3716.14
Woods C	C	48352	1.11	73.00	3.70	0.74	0.78	3161.09
Open Space C	C	0		74.00	3.51	0.70	0.83	0.00
Meadow C	C	190793	4.38	71.00	4.08	0.82	0.69	11008.16
Open Space BD	BD	0		70.00				
Woods CD	CD	0		76.00				
Open Space CD	CD	31537	0.72	77.00				
Meadow CD	CD	0		74.00	3.51	0.70	0.83	0.00
TOTAL:		1531657	35.16					76926.41

2-Year Volume Increase (cubic feet): 56239.17

2-Year Volume Increase = Developed Conditions Runoff Volume - Existing Conditions Runoff Volume

1. Runoff (in) = $Q = (P - 0.2S)^2 / (P + 0.8S)$ where

P = 2-Year Rainfall (in)

S = $(1000/CN) - 10$

2. Runoff Volume (CF) = $Q \times \text{Area} \times 1/12 \times 43,560 \text{ ft}^2/\text{acres}$

Q = Runoff (in)

Area = Land use area (sq. ft)

Note: Runoff Volume must be calculated for EACH land use type and soil.
The use of a weighted CN value for volume calculations is not acceptable.

WORKSHEET 4. - CHANGE IN RUNOFF VOLUME FOR 2-YR STORM EVENT

PROJECT: PPL Bell Bend Nuclear Power Plant
Drainage Area: POI-10: 92.96 (acres)
2-Year Rainfall: 2.88 in.

Total Site Area: 1124.00 acres
Protected Site Area: 382.29 acres
Managed Area: 741.71 acres

Existing Conditions:

Cover Type/Condition	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious		203861	4.68	98.00	0.20	0.04	2.65	44998.67
Woodland	A	674744	15.49	36.00	17.78	3.56	0.03	1500.47
Meadow	A	2550002	58.54	30.00	23.33	4.67	0.15	31482.29
Meadow	C	284882	6.54	71.00	4.08	0.82	0.69	16436.84
Woodland	D	3485	0.08	79.00	2.66	0.53	1.10	319.88
Woodland	C/D	59677	1.37	76.00	3.16	0.63	0.94	4650.30
Meadow	C/D	272686	6.26	74.00	3.51	0.70	0.83	18929.64
TOTAL:		4049338	92.96					118318.08

Developed Conditions:

Cover Type	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious	NA	1483654	34.06	98.00	0.20	0.04	2.65	327490.29
Loose Fill	NA	1469279	33.73	80.00	2.50	0.50	1.16	142120.61
Woods A	A	0		36.00	17.78	3.56	0.03	0.00
Open Space A	A	624476	14.34	39.00	15.60	3.13	0.00	208.28
Meadow A	A	265629	6.10	30.00	23.33	4.67	0.15	3279.45
Woods C	C	12981	0.30	73.00	3.70	0.74	0.78	848.65
Open Space C	C	271379	6.23	74.00	3.51	0.70	0.83	18838.92
Meadow C	C	132074	3.03	71.00	4.08	0.82	0.69	7620.26
Open Space BD	BD	0		70.00				
Woods CD	CD	0		76.00				
Open Space CD	CD	0		77.00				
Meadow CD	CD	0		74.00	3.51	0.70	0.83	0.00
TOTAL:		4259471	97.78					500406.46

2-Year Volume Increase (cubic feet): 382088.38

2-Year Volume Increase = Developed Conditions Runoff Volume - Existing Conditions Runoff Volume

1. Runoff (in) = $Q = (P-0.2S)^2 / (P+0.8S)$ where

P = 2-Year Rainfall (in)

S = $(1000/CN) - 10$

2. Runoff Volume (CF) = $Q \times \text{Area} \times 1/12 \times 43,560 \text{ ft}^2/\text{acres}$

Q = Runoff (in)

Area = Land use area (sq. ft)

Note: Runoff Volume must be calculated for EACH land use type and soil.
The use of a weighted CN value for volume calculations is not acceptable.

WORKSHEET 4. - CHANGE IN RUNOFF VOLUME FOR 2-YR STORM EVENT

PROJECT: PPL Bell Bend Nuclear Power Plant
 Drainage Area: POI-11: 27.60 (acres)
 2-Year Rainfall: 2.88 in.

Total Site Area: 1124.00 acres
 Protected Site Area: 382.29 acres
 Managed Area: 741.71 acres

Existing Conditions:

Cover Type/Condition	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious		12632	0.29	98.00	0.20	0.04	2.65	2788.38
Woodland	A	485258	11.14	36.00	17.78	3.56	0.03	1079.10
Meadow	A	239144	5.49	30.00	23.33	4.67	0.15	2952.47
Woodland	C	225641	5.18	73.00	3.70	0.74	0.78	14751.76
Meadow	C	93218	2.14	71.00	4.08	0.82	0.69	5378.42
Woodland	C/D	51401	1.18	76.00	3.16	0.63	0.94	4005.37
Meadow	C/D	94961	2.18	74.00	3.51	0.70	0.83	6592.11
TOTAL:		1202256	27.60					37547.60

Developed Conditions:

Cover Type	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious	NA	29621	0.68	98.00	0.20	0.04	2.65	6538.27
Loose Fill	NA	30928	0.71	80.00	2.50	0.50	1.16	2991.57
Woods A	A	240016	5.51	36.00	17.78	3.56	0.03	533.74
Open Space A	A	0		39.00	15.64	3.13	0.00	0.00
Meadow A	A	198198	4.55	30.00	23.33	4.67	0.15	2446.95
Woods C	C	0		73.00	3.70	0.74	0.78	0.00
Open Space C	C	0		74.00	3.51	0.70	0.83	0.00
Meadow C	C	0		71.00	4.08	0.82	0.69	0.00
Open Space BD	BD	0		70.00				
Woods CD	CD	0		76.00				
Open Space CD	CD	0		77.00				
Meadow CD	CD	0		74.00	3.51	0.70	0.83	0.00
TOTAL:		498762	11.45					12510.52

2-Year Volume Increase (cubic feet): -25037.08

2-Year Volume Increase = Developed Conditions Runoff Volume - Existing Conditions Runoff Volume

1. Runoff (in) = $Q = (P - 0.2S)^2 / (P + 0.8S)$ where

P = 2-Year Rainfall (in)

S = $(1000/CN) - 10$

2. Runoff Volume (CF) = Q x Area x 1/12 x 43,560 ft²/acres

Q = Runoff (in)

Area = Land use area (sq. ft)

Note: Runoff Volume must be calculated for EACH land use type and soil.
 The use of a weighted CN value for volume calculations is not acceptable.

WORKSHEET 4. - CHANGE IN RUNOFF VOLUME FOR 2-YR STORM EVENT

PROJECT: PPL Bell Bend Nuclear Power Plant
Drainage Area: POI-12: 46.96 (acres)
2-Year Rainfall: 2.88 in.

Total Site Area: 1124.00 acres
Protected Site Area: 382.29 acres
Managed Area: 741.71 acres

Existing Conditions:

Cover Type/Condition	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious		22216	0.51	98.00	0.20	0.04	2.65	4903.70
Woodland	A	522720	12.00	36.00	17.78	3.56	0.03	1162.40
Meadow	A	348916	8.01	30.00	23.33	4.67	0.15	4307.71
Woodland	C	186872	4.29	73.00	3.70	0.74	0.78	12217.19
Meadow	C	395960	9.09	71.00	4.08	0.82	0.69	22845.70
Woodland	B/D	115434	2.65	69.00	4.49	0.90	0.61	5833.54
Woodland	C/D	311454	7.15	76.00	3.16	0.63	0.94	24269.82
Meadow	C/D	142006	3.26	74.00	3.51	0.70	0.83	9857.93
TOTAL:		2045578	46.96					85397.99

Developed Conditions:

Cover Type	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious	NA	342382	7.86	98.00	0.20	0.04	2.65	75574.68
Compacted Stone	NA	469751	10.78	91.00	0.99	0.20	1.96	76711.24
Woods A	A	0		36.00	17.78	3.56	0.03	0.00
Open Space A	A	112820	2.59	39.00	15.64	3.13	0.00	37.63
Meadow A	A	158950	3.65	30.00	23.33	4.67	0.15	1962.40
Woods C	C	0		73.00	3.70	0.74	0.78	0.00
Open Space C	C	609404	13.99	74.00	3.51	0.70	0.83	42304.41
Meadow C	C	0		71.00	4.08	0.82	0.69	0.00
Open Space BD	BD	0		70.00				
Woods CD	CD	0		76.00				
Open Space CD	CD	239057	5.49	77.00				
Meadow CD	CD	0		74.00	3.51	0.70	0.83	0.00
TOTAL:		1932365	44.36					196590.37

2-Year Volume Increase (cubic feet): 111192.38

2-Year Volume Increase = Developed Conditions Runoff Volume - Existing Conditions Runoff Volume

1. Runoff (in) = $Q = (P - 0.2S)^2 / (P + 0.8S)$ where

P = 2-Year Rainfall (in)

S = $(1000/CN) - 10$

2. Runoff Volume (CF) = $Q \times \text{Area} \times 1/12 \times 43,560 \text{ ft}^2/\text{acres}$

Q = Runoff (in)

Area = Land use area (sq. ft)

**Note: Runoff Volume must be calculated for EACH land use type and soil.
The use of a weighted CN value for volume calculations is not acceptable.**

WORKSHEET 4. - CHANGE IN RUNOFF VOLUME FOR 2-YR STORM EVENT

PROJECT: PPL Bell Bend Nuclear Power Plant
Drainage Area: POI-13: 23.81 (acres)
2-Year Rainfall: 2.88 in.

Total Site Area: 1124.00 acres
Protected Site Area: 382.29 acres
Managed Area: 741.71 acres

Existing Conditions:

Cover Type/Condition	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious		15682	0.36	98.00	0.20	0.04	2.65	3461.44
Woodland	A	142441	3.27	36.00	17.78	3.56	0.03	316.76
Meadow	A	338897	7.78	30.00	23.33	4.67	0.15	4184.01
Woodland	C	168577	3.87	73.00	3.70	0.74	0.78	11021.10
Meadow	C	168142	3.86	71.00	4.08	0.82	0.69	9701.25
Woodland	C/D	179903	4.13	76.00	3.16	0.63	0.94	14018.79
Meadow	C/D	23522	0.54	74.00	3.51	0.70	0.83	1632.91
TOTAL:		1037164	23.81					44336.26

Developed Conditions:

Cover Type	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious	NA	71700	1.65	98.00	0.20	0.04	2.65	15826.45
Compacted Stone	NA	384678	8.83	91.00	0.99	0.20	1.96	62818.71
Woods A	A	35414	0.81	36.00	17.78	3.56	0.03	78.75
Open Space A	A	89995	2.07	39.00	15.64	3.13	0.00	30.02
Meadow A	A	0		30.00	23.33	4.67	0.15	0.00
Woods C	C	0		73.00	3.70	0.74	0.78	0.00
Open Space C	C	264888	6.08	74.00	3.51	0.70	0.83	18388.36
Meadow C	C	0		71.00	4.08	0.82	0.69	0.00
Open Space BD	BD	0		70.00				
Woods CD	CD	0		76.00				
Open Space CD	CD	25091	0.58	77.00				
Meadow CD	CD	0		74.00	3.51	0.70	0.83	0.00
TOTAL:		871766	20.01					97142.29

2-Year Volume Increase (cubic feet): 52806.03

2-Year Volume Increase = Developed Conditions Runoff Volume - Existing Conditions Runoff Volume

1. Runoff (in) = $Q = (P - 0.2S)^2 / (P + 0.8S)$ where

P = 2-Year Rainfall (in)

S = $(1000/CN) - 10$

2. Runoff Volume (CF) = Q x Area x 1/12 x 43,560 ft²/acres

Q = Runoff (in)

Area = Land use area (sq. ft)

Note: Runoff Volume must be calculated for EACH land use type and soil.
 The use of a weighted CN value for volume calculations is not acceptable.

WORKSHEET 4. - CHANGE IN RUNOFF VOLUME FOR 2-YR STORM EVENT

PROJECT: PPL Bell Bend Nuclear Power Plant
Drainage Area: POI-14: 60.08 (acres)
2-Year Rainfall: 2.88 in.

Total Site Area: 1124.00 acres
Protected Site Area: 382.29 acres
Managed Area: 741.71 acres

Existing Conditions:

Cover Type/Condition	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious		62726	1.44	98.00	0.20	0.04	2.65	13845.74
Woodland	C	2192375	50.33	73.00	3.70	0.74	0.78	143331.27
Meadow	C	361984	8.31	71.00	4.08	0.82	0.69	20885.34
TOTAL:		2617085	60.08					178062.36

Developed Conditions:

Cover Type	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious	NA	41382	0.95	98.00	0.20	0.04	2.65	9134.34
Compacted Stone	NA	0		91.00	0.99	0.20	1.96	0.00
Woods A	A	0		36.00	17.78	3.56	0.03	0.00
Open Space A	A	0		39.00	15.64	3.13	0.00	0.00
Meadow A	A	0		30.00	23.33	4.67	0.15	0.00
Woods C	C	1454904	33.40	73.00	3.70	0.74	0.78	95117.51
Open Space C	C	0		74.00	3.51	0.70	0.83	0.00
Meadow C	C	930442	21.36	71.00	4.08	0.82	0.69	53683.63
Open Space BD	BD	0		70.00				
Woods CD	CD	0		76.00				
Open Space CD	CD	0		77.00				
Meadow CD	CD	0		74.00	3.51	0.70	0.83	0.00
TOTAL:		2426728	55.71					157935.48

2-Year Volume Increase (cubic feet): -20126.87

2-Year Volume Increase = Developed Conditions Runoff Volume - Existing Conditions Runoff Volume

1. Runoff (in) = $Q = (P - 0.2S)^2 / (P + 0.8S)$ where

P = 2-Year Rainfall (in)

S = $(1000/CN) - 10$

2. Runoff Volume (CF) = $Q \times \text{Area} \times 1/12 \times 43,560 \text{ ft}^2/\text{acres}$

Q = Runoff (in)

Area = Land use area (sq. ft)

Note: Runoff Volume must be calculated for EACH land use type and soil.
 The use of a weighted CN value for volume calculations is not acceptable.

WORKSHEET 4. - CHANGE IN RUNOFF VOLUME FOR 2-YR STORM EVENT

PROJECT: PPL Bell Bend Nuclear Power Plant
 Drainage Area: POI-15: 67.34 (acres)
 2-Year Rainfall: 2.88 in.

Total Site Area: 1124.00 acres
 Protected Site Area: 382.29 acres
 Managed Area: 741.71 acres

Existing Conditions:

Cover Type/Condition	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious		33106	0.76	98.00	0.20	0.04	2.65	7307.48
Woodland	C	2407126	55.26	73.00	3.70	0.74	0.78	157371.07
Meadow	C	493099	11.32	71.00	4.08	0.82	0.69	28450.31
TOTAL:		2933330	67.34					193128.86

Developed Conditions:

Cover Type	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious	NA	97574	2.24	98.00	0.20	0.04	2.65	21537.82
Compacted Stone	NA	355450	8.16	91.00	0.99	0.20	1.96	58045.60
Loose Stone	NA	266587	6.12	80.00	2.50	0.50	1.16	25786.48
Open Space A	A	0		39.00	15.64	3.13	0.00	0.00
Meadow A	A	0		30.00	23.33	4.67	0.15	0.00
Woods C	C	1397405	32.08	73.00	3.70	0.74	0.78	91358.38
Open Space C	C	730501	16.77	74.00	3.51	0.70	0.83	50710.86
Meadow C	C	750103	17.22	71.00	4.08	0.82	0.69	43278.65
Open Space BD	BD	0		70.00				
Woods CD	CD	0		76.00				
Open Space CD	CD	0		77.00				
Meadow CD	CD	0		74.00	3.51	0.70	0.83	0.00
TOTAL:		3597620	82.59					290717.80

2-Year Volume Increase (cubic feet): 97588.94

2-Year Volume Increase = Developed Conditions Runoff Volume - Existing Conditions Runoff Volume

1. Runoff (in) = $Q = (P - 0.2S)^2 / (P + 0.8S)$ where

P = 2-Year Rainfall (in)

S = $(1000/CN) - 10$

2. Runoff Volume (CF) = $Q \times \text{Area} \times 1/12 \times 43,560 \text{ ft}^2/\text{acres}$

Q = Runoff (in)

Area = Land use area (sq. ft)

Note: Runoff Volume must be calculated for EACH land use type and soil.
 The use of a weighted CN value for volume calculations is not acceptable.

WORKSHEET 4. - CHANGE IN RUNOFF VOLUME FOR 2-YR STORM EVENT

PROJECT: PPL Bell Bend Nuclear Power Plant
Drainage Area: POI-16: 35.52 (acres)
2-Year Rainfall: 2.88 in.

Total Site Area: 1124.00 acres
Protected Site Area: 382.29 acres
Managed Area: 741.71 acres

Existing Conditions:

Cover Type/Condition	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious		47916	1.10	98.00	0.20	0.04	2.65	10576.61
Woodland	C	1204870	27.66	73.00	3.70	0.74	0.78	78770.97
Meadow	C	294466	6.76	71.00	4.08	0.82	0.69	16989.76
TOTAL:		1547251	35.52					106337.34

Developed Conditions:

Cover Type	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious	NA	41382	0.95	98.00	0.20	0.04	2.65	9134.34
Compacted Stone	NA	0		91.00	0.95	0.20	1.96	0.00
Woods A	A	0		36.00	17.78	3.56	0.03	0.00
Open Space A	A	0		39.00	15.64	3.13	0.00	0.00
Meadow A	A	0		30.00	23.33	4.67	0.15	0.00
Woods C	C	1153904	26.49	73.00	3.70	0.74	0.78	75439.01
Open Space C	C	0		74.00	3.51	0.70	0.83	0.00
Meadow C	C	287060	6.59	71.00	4.08	0.82	0.69	16562.50
Open Space BD	BD	0		70.00				
Woods CD	CD	0		76.00				
Open Space CD	CD	0		77.00				
Meadow CD	CD	0		74.00	3.51	0.70	0.83	0.00
TOTAL:		1482347	34.03					101135.86

2-Year Volume Increase (cubic feet): -5201.48

2-Year Volume Increase = Developed Conditions Runoff Volume - Existing Conditions Runoff Volume

1. Runoff (in) = $Q = (P-0.2S)^2 / (P+0.8S)$ where

$P = 2\text{-Year Rainfall (in)}$

$S = (1000/CN) - 10$

2. Runoff Volume (CF) = $Q \times \text{Area} \times 1/12 \times 43,560 \text{ ft}^2/\text{acres}$

$Q = \text{Runoff (in)}$

$\text{Area} = \text{Land use area (sq. ft)}$

**Note: Runoff Volume must be calculated for EACH land use type and soil.
The use of a weighted CN value for volume calculations is not acceptable.**

WORKSHEET 4. - CHANGE IN RUNOFF VOLUME FOR 2-YR STORM EVENT

PROJECT: PPL Bell Bend Nuclear Power Plant
Drainage Area: POI-17: 14.92 (acres)
2-Year Rainfall: 2.88 in.

Total Site Area: 1124.00 acres
Protected Site Area: 382.29 acres
Managed Area: 741.71 acres

Existing Conditions:

Cover Type/Condition	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious		2178	0.05	98.00	0.20	0.04	2.65	480.75
Woodland	C	627700	14.41	73.00	3.70	0.74	0.78	41037.23
Meadow	C	20038	0.46	71.00	4.08	0.82	0.69	1156.11
TOTAL:		649915	14.92					42674.09

Developed Conditions:

Cover Type	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious	NA	0		98.00	0.20	0.04	2.65	0.00
Compacted Stone	NA	0		91.00	0.99	0.20	1.96	0.00
Woods A	A	0		36.00	17.78	3.51	0.03	0.00
Open Space A	A	0		39.00	15.64	3.13	0.00	0.00
Meadow A	A	0		30.00	23.33	4.67	0.15	0.00
Woods C	C	0		73.00	3.70	0.74	0.78	0.00
Open Space C	C	342382	7.86	74.00	3.51	0.70	0.83	23767.88
Meadow C	C	0		71.00	4.08	0.82	0.69	0.00
Open Space BD	BD	0		70.00				
Woods CD	CD	0		76.00				
Open Space CD	CD	0		77.00				
Meadow CD	CD	0		74.00	3.51	0.70	0.83	0.00
TOTAL:		342382	7.86					23767.88

2-Year Volume Increase (cubic feet): -18906.21

2-Year Volume Increase = Developed Conditions Runoff Volume - Existing Conditions Runoff Volume

1. Runoff (in) = $Q = (P - 0.2S)^2 / (P + 0.8S)$ where

P = 2-Year Rainfall (in)

S = $(1000/CN) - 10$

2. Runoff Volume (CF) = $Q \times \text{Area} \times 1/12 \times 43,560 \text{ ft}^2/\text{acres}$

Q = Runoff (in)

Area = Land use area (sq. ft)

Note: Runoff Volume must be calculated for EACH land use type and soil.
 The use of a weighted CN value for volume calculations is not acceptable.

WORKSHEET 4. - CHANGE IN RUNOFF VOLUME FOR 2-YR STORM EVENT

PROJECT: PPL Bell Bend Nuclear Power Plant
Drainage Area: POI-18: 8.63 (acres)
2-Year Rainfall: 2.88 in.

Total Site Area: 1124.00 acres
Protected Site Area: 382.29 acres
Managed Area: 741.71 acres

Existing Conditions:

Cover Type/Condition	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious		3049	0.07	98.00	0.20	0.04	2.65	673.06
Woodland	A	16553	0.38	36.00	17.78	3.56	0.03	36.81
Meadow	A	141134	3.24	30.00	23.33	4.67	0.15	1742.44
Woodland	C	76666	1.76	73.00	3.70	0.74	0.78	5012.18
Meadow	C	138521	3.18	71.00	4.08	0.82	0.69	7992.23
TOTAL:		375923	8.63					15456.72

Developed Conditions:

Cover Type	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious	NA	46086	1.06	98.00	0.20	0.04	2.65	10172.78
Compacted Stone	NA	457032	10.49	91.00	0.99	0.19	1.96	74634.12
Woods A	A	0		36.00	17.78	3.56	0.03	0.00
Open Space A	A	107593	2.47	39.00	15.64	3.13		35.88
Meadow A	A	0		30.00	23.33	4.67	0.15	0.00
Woods C	C	0		73.00	3.70	0.74	0.78	0.00
Open Space C	C	174240	4.00	74.00	3.51	0.70	0.83	12095.61
Meadow C	C	0		71.00	4.08	0.82	0.69	0.00
Open Space BD	BD	0		70.00				
Woods CD	CD	0		76.00				
Open Space CD	CD	0		77.00				
Meadow CD	CD	0		74.00	3.51	0.70	0.83	0.00
TOTAL:		784951	18.02					96938.40

2-Year Volume Increase (cubic feet): 81481.68

2-Year Volume Increase = Developed Conditions Runoff Volume - Existing Conditions Runoff Volume

1. Runoff (in) = $Q = (P - 0.2S)^2 / (P + 0.8S)$ where

P = 2-Year Rainfall (in)

S = $(1000/CN) - 10$

2. Runoff Volume (CF) = $Q \times \text{Area} \times 1/12 \times 43,560 \text{ ft}^2/\text{acres}$

Q = Runoff (in)

Area = Land use area (sq. ft)

Note: Runoff Volume must be calculated for EACH land use type and soil.
The use of a weighted CN value for volume calculations is not acceptable.

WORKSHEET 4. - CHANGE IN RUNOFF VOLUME FOR 2-YR STORM EVENT

PROJECT: PPL Bell Bend Nuclear Power Plant
Drainage Area: POI-19: 5.69 (acres)
2-Year Rainfall: 2.88 in.

Total Site Area: 1124.00 acres
Protected Site Area: 382.29 acres
Managed Area: 741.71 acres

Existing Conditions:

Cover Type/Condition	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious		4792	0.11	98.00	0.20	0.04	2.65	1057.66
Woodland	A	119790	2.75	36.00	17.78	3.56	0.03	266.38
Meadow	A	123275	2.83	30.00	23.33	4.67	0.15	1521.95
TOTAL:		247856	5.69					2845.99

Developed Conditions:

Cover Type	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious	NA	4792	0.11	98.00	0.20	0.04	2.65	1057.66
Compacted Stone	NA	0		91.00	0.99	0.19	1.96	0.00
Woods A	A	115434	2.65	36.00	17.78	3.56	0.03	256.70
Open Space A	A	4356	0.10	39.00	15.64	3.13	0.03	1.45
Meadow A	A	87120	2.00	30.00	23.33	4.67	0.15	1075.58
Woods C	C	0		73.00	3.70	0.74	0.78	0.00
Open Space C	C	0		74.00	3.51	0.70	0.83	0.00
Meadow C	C	0		71.00	4.08	0.82	0.69	0.00
Open Space BD	BD	0		70.00				
Woods CD	CD	0		76.00				
Open Space CD	CD	0		77.00				
Meadow CD	CD	0		74.00	3.51	0.70	0.83	0.00
TOTAL:		211702	4.86					2391.39

2-Year Volume Increase (cubic feet): -454.60

2-Year Volume Increase = Developed Conditions Runoff Volume - Existing Conditions Runoff Volume

1. Runoff (in) = $Q = (P - 0.2S)^2 / (P + 0.8S)$ where

P = 2-Year Rainfall (in)

S = $(1000/CN) - 10$

2. Runoff Volume (CF) = $Q \times \text{Area} \times 1/12 \times 43,560 \text{ ft}^2/\text{acres}$

Q = Runoff (in)

Area = Land use area (sq. ft)

Note: Runoff Volume must be calculated for EACH land use type and soil.
 The use of a weighted CN value for volume calculations is not acceptable.

WORKSHEET 4. - CHANGE IN RUNOFF VOLUME FOR 2-YR STORM EVENT

PROJECT: PPL Bell Bend Nuclear Power Plant
Drainage Area: POI-20: 40.73 (acres)
2-Year Rainfall: 2.88 in.

Total Site Area: 1124.00 acres
Protected Site Area: 382.29 acres
Managed Area: 741.71 acres

Existing Conditions:

Cover Type/Condition	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious		44431	1.02	98.00	0.20	0.04	2.65	9807.40
Woodland	A	711335	16.33	36.00	17.78	3.56	0.03	1581.84
Meadow	A	1018433	23.38	30.00	23.33	4.67	0.15	12573.56
TOTAL:		1774199	40.73					23962.80

Developed Conditions:

Cover Type	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious	NA	111165	2.55	98.00	0.20	0.04	2.65	24537.73
Compacted Stone	NA	698964	16.05	91.00	0.99	0.20	1.96	114142.12
Woods A	A	0		36.00	17.78	3.56	0.03	0.00
Open Space A	A	286102	6.57	39.00	15.64	3.13	0.00	95.42
Meadow A	A	198067	4.55	30.00	23.33	4.67	0.15	2445.34
Woods C	C	0		73.00	3.70	0.74	0.78	0.00
Open Space C	C	0		74.00	3.51	0.70	0.83	0.00
Meadow C	C	0		71.00	4.08	0.82	0.69	0.00
Open Space BD	BD	0		70.00				
Woods CD	CD	0		76.00				
Open Space CD	CD	0		77.00				
Meadow CD	CD	0		74.00	3.51	0.70	0.83	0.00
TOTAL:		1294298	29.71					141220.61

2-Year Volume Increase (cubic feet): 117257.81

$$2\text{-Year Volume Increase} = \text{Developed Conditions Runoff Volume} - \text{Existing Conditions Runoff Volume}$$

$$1. \text{Runoff (in)} = Q = (P - 0.2S)^2 / (P + 0.8S) \text{ where}$$

$$P = 2\text{-Year Rainfall (in)}$$

$$S = (1000/CN) - 10$$

$$2. \text{Runoff Volume (CF)} = Q \times \text{Area} \times 1/12 \times 43,560 \text{ ft}^2/\text{acres}$$

$$Q = \text{Runoff (in)}$$

$$\text{Area} = \text{Land use area (sq. ft)}$$

Note: Runoff Volume must be calculated for EACH land use type and soil.
 The use of a weighted CN value for volume calculations is not acceptable.

WORKSHEET 4. - CHANGE IN RUNOFF VOLUME FOR 2-YR STORM EVENT

PROJECT: PPL Bell Bend Nuclear Power Plant
 Drainage Area: POI-21: 141.05 (acres)
 2-Year Rainfall: 2.88 in.

Total Site Area: 1124.00 acres
 Protected Site Area: 382.29 acres
 Managed Area: 741.71 acres

Existing Conditions:

Cover Type/Condition	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious		171626	3.94	98.00	0.20	0.04	2.65	37883.49
Woodland	A	3034390	69.66	36.00	17.78	3.56	0.03	6747.76
Meadow	A	2864070	65.75	30.00	23.33	4.67	0.15	35359.76
Woodland	C	74052	1.70	73.00	3.70	0.74	0.78	4841.31
TOTAL:		6144138	141.05					84832.33

Developed Conditions:

Cover Type	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Impervious	NA	203861	4.68	98.00	0.20	0.04	2.65	44998.67
Compacted Stone	NA	1196332	27.46	91.00	0.99	0.20	1.96	195363.28
Woods A	A	1728853	39.69	36.00	17.78	3.56	0.03	3844.56
Open Space A	A	727888	16.71	39.00	15.64	3.13	0.00	242.77
Meadow A	A	2198299	50.47	30.00	23.33	4.67	0.15	27140.17
Woods C	C	74052	1.70	73.00	3.70	0.74	0.78	4841.31
Open Space C	C	0		74.00	3.51	0.70	0.83	0.00
Meadow C	C	0		71.00	4.08	0.82	0.69	0.00
Open Space BD	BD	0		70.00				
Woods CD	CD	0		76.00				
Open Space CD	CD	0		77.00				
Meadow CD	CD	0		74.00	3.51	0.70	0.83	0.00
TOTAL:		6129284	140.71					276430.74

2-Year Volume Increase (cubic feet): 191598.42

2-Year Volume Increase = Developed Conditions Runoff Volume - Existing Conditions Runoff Volume

1. Runoff (in) = $Q = (P - 0.2S)^2 / (P + 0.8S)$ where

P = 2-Year Rainfall (in)

S = $(1000/CN) - 10$

2. Runoff Volume (CF) = $Q \times \text{Area} \times 1/12 \times 43,560 \text{ ft}^2/\text{acres}$

Q = Runoff (in)

Area = Land use area (sq. ft)

Note: Runoff Volume must be calculated for EACH land use type and soil.
 The use of a weighted CN value for volume calculations is not acceptable.

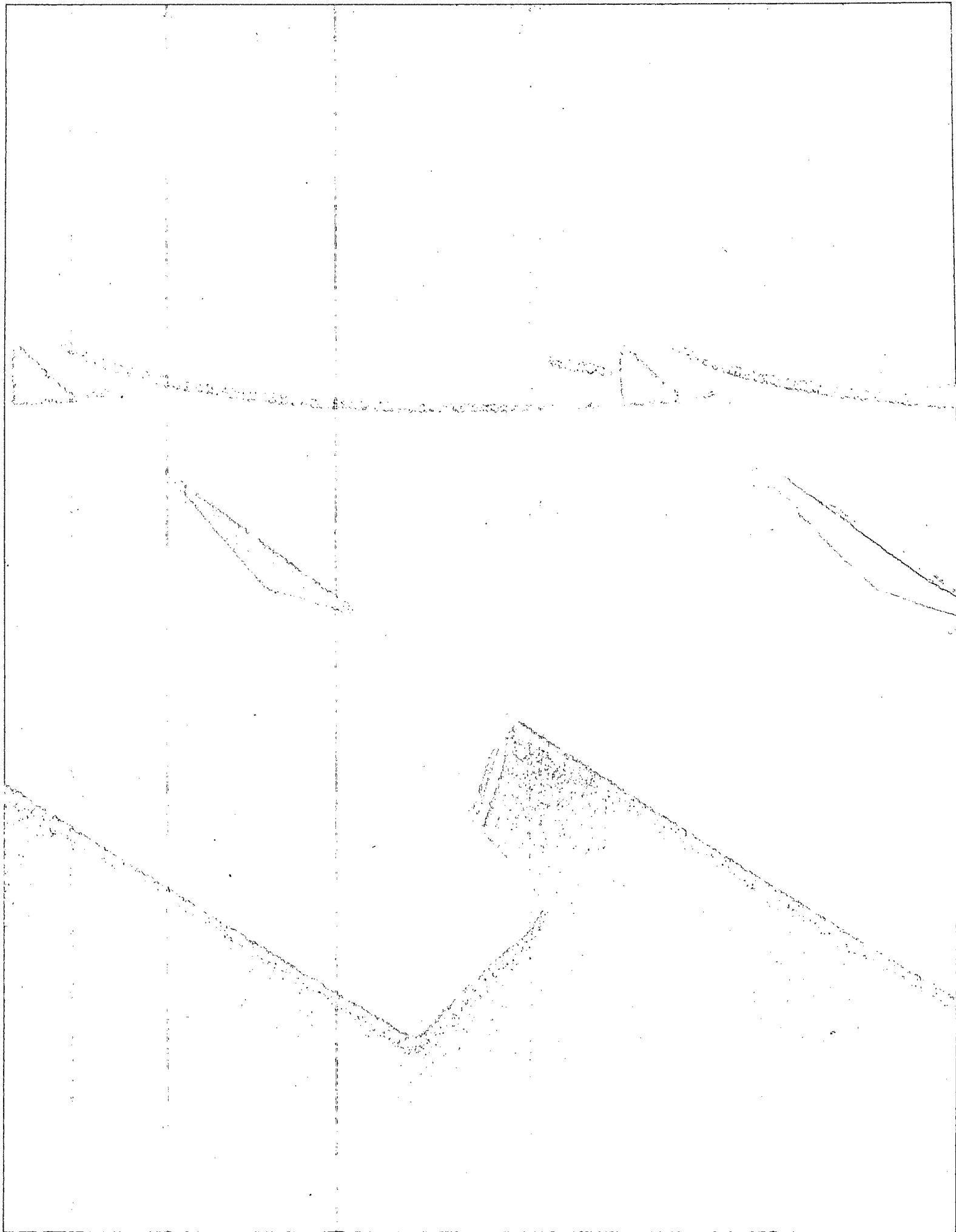


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Subsection: Level Pool Pond Routing Summary
Label: BASIN 15.1 (IN)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Infiltration			
Infiltration Method (Computed)	Average Infiltration Rate		
Infiltration Rate (Average)	0.2000 in/h		
Initial Conditions			
Elevation (Water Surface, Initial)	990.00 ft		
Volume (Initial)	0.000 ac-ft		
Flow (Initial Outlet)	0.00 ft³/s		
Flow (Initial Infiltration)	0.00 ft³/s		
Flow (Initial, Total)	0.00 ft³/s		
Time Increment	0.017 hours		
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	23.37 ft³/s	Time to Peak (Flow, In)	11.933 hours
Infiltration (Peak)	0.30 ft³/s	Time to Peak (Infiltration)	11.917 hours
Flow (Peak Outlet)	0.64 ft³/s	Time to Peak (Flow, Outlet)	13.950 hours
Peak Conditions			
Elevation (Water Surface, Peak)	991.24 ft		
Volume (Peak)	0.746 ac-ft		
Mass Balance (ac-ft)			
Volume (Initial)	0.000 ac-ft		
Volume (Total Inflow)	1.279 ac-ft		
Volume (Total Infiltration)	0.553 ac-ft		
Volume (Total Outlet Outflow)	0.545 ac-ft		
Volume (Retained)	0.181 ac-ft		
Volume (Unrouted)	0.000 ac-ft		
Error (Mass Balance)	0.0 %		

Subsection: Pond Infiltration Hydrograph
 Label: BASIN 15.1 (INF)

Return Event: 2 years
 Storm Event: TypeII 24hr (2.9 in)

Peak Discharge	0.30 ft ³ /s
Time to Peak	19.617 hours
Hydrograph Volume	0.552 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
9.133	0.00	0.00	0.00	0.00	0.00
9.217	0.00	0.00	0.00	0.00	0.00
9.300	0.00	0.00	0.00	0.00	0.00
9.383	0.00	0.00	0.00	0.00	0.00
9.467	0.00	0.00	0.00	0.00	0.00
9.550	0.00	0.00	0.00	0.00	0.00
9.633	0.00	0.00	0.00	0.00	0.00
9.717	0.00	0.00	0.00	0.00	0.01
9.800	0.01	0.01	0.01	0.01	0.01
9.883	0.01	0.01	0.01	0.01	0.01
9.967	0.01	0.01	0.01	0.01	0.01
10.050	0.01	0.01	0.01	0.01	0.01
10.133	0.01	0.01	0.01	0.01	0.01
10.217	0.01	0.01	0.01	0.01	0.01
10.300	0.01	0.01	0.01	0.01	0.01
10.383	0.01	0.01	0.01	0.01	0.01
10.467	0.02	0.02	0.02	0.02	0.02
10.550	0.02	0.02	0.02	0.02	0.02
10.633	0.02	0.02	0.02	0.02	0.02
10.717	0.02	0.02	0.02	0.02	0.02
10.800	0.02	0.02	0.02	0.03	0.03
10.883	0.03	0.03	0.03	0.03	0.03
10.967	0.03	0.03	0.03	0.03	0.03
11.050	0.03	0.03	0.03	0.04	0.04
11.133	0.04	0.04	0.04	0.04	0.04
11.217	0.04	0.04	0.04	0.04	0.05
11.300	0.05	0.05	0.05	0.05	0.05
11.383	0.05	0.05	0.05	0.06	0.06
11.467	0.06	0.06	0.06	0.06	0.07
11.550	0.07	0.07	0.07	0.07	0.08
11.633	0.08	0.09	0.09	0.10	0.10
11.717	0.11	0.12	0.13	0.14	0.15
11.800	0.16	0.18	0.19	0.21	0.23
11.883	0.26	0.29	0.30	0.30	0.30
11.967	0.30	0.30	0.30	0.30	0.30
12.050	0.30	0.30	0.30	0.30	0.30
12.133	0.30	0.30	0.30	0.30	0.30
12.217	0.30	0.30	0.30	0.30	0.30
12.300	0.30	0.30	0.30	0.30	0.30

Subsection: Pond Infiltration Hydrograph
Label: BASIN 15.1 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
12.383	0.30	0.30	0.30	0.30	0.30
12.467	0.30	0.30	0.30	0.30	0.30
12.550	0.30	0.30	0.30	0.30	0.30
12.633	0.30	0.30	0.30	0.30	0.30
12.717	0.30	0.30	0.30	0.30	0.30
12.800	0.30	0.30	0.30	0.30	0.30
12.883	0.30	0.30	0.30	0.30	0.30
12.967	0.30	0.30	0.30	0.30	0.30
13.050	0.30	0.30	0.30	0.30	0.30
13.133	0.30	0.30	0.30	0.30	0.30
13.217	0.30	0.30	0.30	0.30	0.30
13.300	0.30	0.30	0.30	0.30	0.30
13.383	0.30	0.30	0.30	0.30	0.30
13.467	0.30	0.30	0.30	0.30	0.30
13.550	0.30	0.30	0.30	0.30	0.30
13.633	0.30	0.30	0.30	0.30	0.30
13.717	0.30	0.30	0.30	0.30	0.30
13.800	0.30	0.30	0.30	0.30	0.30
13.883	0.30	0.30	0.30	0.30	0.30
13.967	0.30	0.30	0.30	0.30	0.30
14.050	0.30	0.30	0.30	0.30	0.30
14.133	0.30	0.30	0.30	0.30	0.30
14.217	0.30	0.30	0.30	0.30	0.30
14.300	0.30	0.30	0.30	0.30	0.30
14.383	0.30	0.30	0.30	0.30	0.30
14.467	0.30	0.30	0.30	0.30	0.30
14.550	0.30	0.30	0.30	0.30	0.30
14.633	0.30	0.30	0.30	0.30	0.30
14.717	0.30	0.30	0.30	0.30	0.30
14.800	0.30	0.30	0.30	0.30	0.30
14.883	0.30	0.30	0.30	0.30	0.30
14.967	0.30	0.30	0.30	0.30	0.30
15.050	0.30	0.30	0.30	0.30	0.30
15.133	0.30	0.30	0.30	0.30	0.30
15.217	0.30	0.30	0.30	0.30	0.30
15.300	0.30	0.30	0.30	0.30	0.30
15.383	0.30	0.30	0.30	0.30	0.30
15.467	0.30	0.30	0.30	0.30	0.30
15.550	0.30	0.30	0.30	0.30	0.30
15.633	0.30	0.30	0.30	0.30	0.30
15.717	0.30	0.30	0.30	0.30	0.30
15.800	0.30	0.30	0.30	0.30	0.30
15.883	0.30	0.30	0.30	0.30	0.30
15.967	0.30	0.30	0.30	0.30	0.30

Subsection: Pond Infiltration Hydrograph
Label: BASIN 15.1 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
16.050	0.30	0.30	0.30	0.30	0.30
16.133	0.30	0.30	0.30	0.30	0.30
16.217	0.30	0.30	0.30	0.30	0.30
16.300	0.30	0.30	0.30	0.30	0.30
16.383	0.30	0.30	0.30	0.30	0.30
16.467	0.30	0.30	0.30	0.30	0.30
16.550	0.30	0.30	0.30	0.30	0.30
16.633	0.30	0.30	0.30	0.30	0.30
16.717	0.30	0.30	0.30	0.30	0.30
16.800	0.30	0.30	0.30	0.30	0.30
16.883	0.30	0.30	0.30	0.30	0.30
16.967	0.30	0.30	0.30	0.30	0.30
17.050	0.30	0.30	0.30	0.30	0.30
17.133	0.30	0.30	0.30	0.30	0.30
17.217	0.30	0.30	0.30	0.30	0.30
17.300	0.30	0.30	0.30	0.30	0.30
17.383	0.30	0.30	0.30	0.30	0.30
17.467	0.30	0.30	0.30	0.30	0.30
17.550	0.30	0.30	0.30	0.30	0.30
17.633	0.30	0.30	0.30	0.30	0.30
17.717	0.30	0.30	0.30	0.30	0.30
17.800	0.30	0.30	0.30	0.30	0.30
17.883	0.30	0.30	0.30	0.30	0.30
17.967	0.30	0.30	0.30	0.30	0.30
18.050	0.30	0.30	0.30	0.30	0.30
18.133	0.30	0.30	0.30	0.30	0.30
18.217	0.30	0.30	0.30	0.30	0.30
18.300	0.30	0.30	0.30	0.30	0.30
18.383	0.30	0.30	0.30	0.30	0.30
18.467	0.30	0.30	0.30	0.30	0.30
18.550	0.30	0.30	0.30	0.30	0.30
18.633	0.30	0.30	0.30	0.30	0.30
18.717	0.30	0.30	0.30	0.30	0.30
18.800	0.30	0.30	0.30	0.30	0.30
18.883	0.30	0.30	0.30	0.30	0.30
18.967	0.30	0.30	0.30	0.30	0.30
19.050	0.30	0.30	0.30	0.30	0.30
19.133	0.30	0.30	0.30	0.30	0.30
19.217	0.30	0.30	0.30	0.30	0.30
19.300	0.30	0.30	0.30	0.30	0.30
19.383	0.30	0.30	0.30	0.30	0.30
19.467	0.30	0.30	0.30	0.30	0.30
19.550	0.30	0.30	0.30	0.30	0.30
19.633	0.30	0.30	0.30	0.30	0.30

Subsection: Pond Infiltration Hydrograph
Label: BASIN 15.1 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
19.717	0.30	0.30	0.30	0.30	0.30
19.800	0.30	0.30	0.30	0.30	0.30
19.883	0.30	0.30	0.30	0.30	0.30
19.967	0.30	0.30	0.30	0.30	0.30
20.050	0.30	0.30	0.30	0.30	0.30
20.133	0.30	0.30	0.30	0.30	0.30
20.217	0.30	0.30	0.30	0.30	0.30
20.300	0.30	0.30	0.30	0.30	0.30
20.383	0.30	0.30	0.30	0.30	0.30
20.467	0.30	0.30	0.30	0.30	0.30
20.550	0.30	0.30	0.30	0.30	0.30
20.633	0.30	0.30	0.30	0.30	0.30
20.717	0.30	0.30	0.30	0.30	0.30
20.800	0.30	0.30	0.30	0.30	0.30
20.883	0.30	0.30	0.30	0.30	0.30
20.967	0.30	0.30	0.30	0.30	0.30
21.050	0.30	0.30	0.30	0.30	0.30
21.133	0.30	0.30	0.30	0.30	0.30
21.217	0.30	0.30	0.30	0.30	0.30
21.300	0.30	0.30	0.30	0.30	0.30
21.383	0.30	0.30	0.30	0.30	0.30
21.467	0.30	0.30	0.30	0.30	0.30
21.550	0.30	0.30	0.30	0.30	0.30
21.633	0.30	0.30	0.30	0.30	0.30
21.717	0.30	0.30	0.30	0.30	0.30
21.800	0.30	0.30	0.30	0.30	0.30
21.883	0.30	0.30	0.30	0.30	0.30
21.967	0.30	0.30	0.30	0.30	0.30
22.050	0.30	0.30	0.30	0.30	0.30
22.133	0.30	0.30	0.30	0.30	0.30
22.217	0.30	0.30	0.30	0.30	0.30
22.300	0.30	0.30	0.30	0.30	0.30
22.383	0.30	0.30	0.30	0.30	0.30
22.467	0.30	0.30	0.30	0.30	0.30
22.550	0.30	0.30	0.30	0.30	0.30
22.633	0.30	0.30	0.30	0.30	0.30
22.717	0.30	0.30	0.30	0.30	0.30
22.800	0.30	0.30	0.30	0.30	0.30
22.883	0.30	0.30	0.30	0.30	0.30
22.967	0.30	0.30	0.30	0.30	0.30
23.050	0.30	0.30	0.30	0.30	0.30
23.133	0.30	0.30	0.30	0.30	0.30
23.217	0.30	0.30	0.30	0.30	0.30
23.300	0.30	0.30	0.30	0.30	0.30

Subsection: Pond Infiltration Hydrograph
Label: BASIN 15.1 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
23.383	0.30	0.30	0.30	0.30	0.30
23.467	0.30	0.30	0.30	0.30	0.30
23.550	0.30	0.30	0.30	0.30	0.30
23.633	0.30	0.30	0.30	0.30	0.30
23.717	0.30	0.30	0.30	0.30	0.30
23.800	0.30	0.30	0.30	0.30	0.30
23.883	0.30	0.30	0.30	0.30	0.30
23.967	0.30	0.30	0.30	0.30	0.30
24.050	0.30	0.30	0.30	0.30	0.30
24.133	0.30	0.30	0.30	0.30	0.30
24.217	0.30	0.30	0.30	0.30	0.30
24.300	0.30	0.30	0.30	0.30	0.30
24.383	0.30	0.30	0.30	0.30	0.30
24.467	0.30	0.30	0.30	0.30	0.30
24.550	0.30	0.30	0.30	0.30	0.30
24.633	0.30	0.30	0.30	0.30	0.30
24.717	0.30	0.30	0.30	0.30	0.30
24.800	0.30	0.30	0.30	0.30	0.30
24.883	0.30	0.30	0.30	0.30	0.30
24.967	0.30	0.30	0.30	0.30	0.30
25.050	0.30	0.30	0.30	0.30	0.30
25.133	0.30	0.30	0.30	0.30	0.30
25.217	0.30	0.30	0.30	0.30	0.30
25.300	0.30	0.30	0.30	0.30	0.30
25.383	0.30	0.30	0.30	0.30	0.30
25.467	0.30	0.30	0.30	0.30	0.30
25.550	0.30	0.30	0.30	0.30	0.30
25.633	0.30	0.30	0.30	0.30	0.30
25.717	0.30	0.30	0.30	0.30	0.30
25.800	0.30	0.30	0.30	0.30	0.30
25.883	0.30	0.30	0.30	0.30	0.30
25.967	0.30	0.30	0.30	0.30	0.30
26.050	0.30	0.30	0.30	0.30	0.30
26.133	0.30	0.30	0.30	0.30	0.30
26.217	0.30	0.30	0.30	0.30	0.30
26.300	0.30	0.30	0.30	0.30	0.30
26.383	0.30	0.30	0.30	0.30	0.30
26.467	0.30	0.30	0.30	0.30	0.30
26.550	0.30	0.30	0.30	0.30	0.30
26.633	0.30	0.30	0.30	0.30	0.30
26.717	0.30	0.30	0.30	0.30	0.30
26.800	0.30	0.30	0.30	0.30	0.30
26.883	0.30	0.30	0.30	0.30	0.30
26.967	0.30	0.30	0.30	0.30	0.30

Subsection: Pond Infiltration Hydrograph
Label: BASIN 15.1 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
27.050	0.30	0.30	0.30	0.30	0.30
27.133	0.30	0.30	0.30	0.30	0.30
27.217	0.30	0.30	0.30	0.30	0.30
27.300	0.30	0.30	0.30	0.30	0.30
27.383	0.30	0.30	0.30	0.30	0.30
27.467	0.30	0.30	0.30	0.30	0.30
27.550	0.30	0.30	0.30	0.30	0.30
27.633	0.30	0.30	0.30	0.30	0.30
27.717	0.30	0.30	0.30	0.30	0.30
27.800	0.30	0.30	0.30	0.30	0.30
27.883	0.30	0.30	0.30	0.30	0.30
27.967	0.30	0.30	0.30	0.30	0.30
28.050	0.30	0.30	0.30	0.30	0.30
28.133	0.30	0.30	0.30	0.30	0.30
28.217	0.30	0.30	0.30	0.30	0.30
28.300	0.30	0.30	0.30	0.30	0.30
28.383	0.30	0.30	0.30	0.30	0.30
28.467	0.30	0.30	0.30	0.30	0.30
28.550	0.30	0.30	0.30	0.30	0.30
28.633	0.30	0.30	0.30	0.30	0.30
28.717	0.30	0.30	0.30	0.30	0.30
28.800	0.30	0.30	0.30	0.30	0.30
28.883	0.30	0.30	0.30	0.30	0.30
28.967	0.30	0.30	0.30	0.30	0.30
29.050	0.30	0.30	0.30	0.30	0.30
29.133	0.30	0.30	0.30	0.30	0.30
29.217	0.30	0.29	0.29	0.29	0.29
29.300	0.29	0.29	0.29	0.29	0.29
29.383	0.29	0.29	0.29	0.29	0.29
29.467	0.29	0.29	0.29	0.29	0.29
29.550	0.29	0.29	0.29	0.29	0.29
29.633	0.29	0.28	0.28	0.28	0.28
29.717	0.28	0.28	0.28	0.28	0.28
29.800	0.28	0.28	0.28	0.28	0.28
29.883	0.28	0.28	0.28	0.28	0.28
29.967	0.28	0.28	0.28	0.28	0.28
30.050	0.28	0.28	0.27	0.27	0.27
30.133	0.27	0.27	0.27	0.27	0.27
30.217	0.27	0.27	0.27	0.27	0.27
30.300	0.27	0.27	0.27	0.27	0.27
30.383	0.27	0.27	0.27	0.27	0.27
30.467	0.27	0.27	0.27	0.26	0.26
30.550	0.26	0.26	0.26	0.26	0.26
30.633	0.26	0.26	0.26	0.26	0.26

Subsection: Pond Infiltration Hydrograph
Label: BASIN 15.1 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
30.717	0.26	0.26	0.26	0.26	0.26
30.800	0.26	0.26	0.26	0.26	0.26
30.883	0.26	0.26	0.26	0.26	0.26
30.967	0.26	0.25	0.25	0.25	0.25
31.050	0.25	0.25	0.25	0.25	0.25
31.133	0.25	0.25	0.25	0.25	0.25
31.217	0.25	0.25	0.25	0.25	0.25
31.300	0.25	0.25	0.25	0.25	0.25
31.383	0.25	0.25	0.25	0.25	0.25
31.467	0.24	0.24	0.24	0.24	0.24
31.550	0.24	0.24	0.24	0.24	0.24
31.633	0.24	0.24	0.24	0.24	0.24
31.717	0.24	0.24	0.24	0.24	0.24
31.800	0.24	0.24	0.24	0.24	0.24
31.883	0.24	0.24	0.24	0.24	0.24
31.967	0.23	0.23	0.23	0.23	0.23
32.050	0.23	0.23	0.23	0.23	0.23
32.133	0.23	0.23	0.23	0.23	0.23
32.217	0.23	0.23	0.23	0.23	0.23
32.300	0.23	0.23	0.23	0.23	0.23
32.383	0.23	0.23	0.23	0.23	0.23
32.467	0.23	0.22	0.22	0.22	0.22
32.550	0.22	0.22	0.22	0.22	0.22
32.633	0.22	0.22	0.22	0.22	0.22
32.717	0.22	0.22	0.22	0.22	0.22
32.800	0.22	0.22	0.22	0.22	0.22
32.883	0.22	0.22	0.22	0.22	0.22
32.967	0.22	0.22	0.22	0.22	0.21
33.050	0.21	0.21	0.21	0.21	0.21
33.133	0.21	0.21	0.21	0.21	0.21
33.217	0.21	0.21	0.21	0.21	0.21
33.300	0.21	0.21	0.21	0.21	0.21
33.383	0.21	0.21	0.21	0.21	0.21
33.467	0.21	0.21	0.21	0.21	0.21
33.550	0.21	0.21	0.21	0.20	0.20
33.633	0.20	0.20	0.20	0.20	0.20
33.717	0.20	0.20	0.20	0.20	0.20
33.800	0.20	0.20	0.20	0.20	0.20
33.883	0.20	0.20	0.20	0.20	0.20
33.967	0.20	0.20	0.20	0.20	0.20
34.050	0.20	0.20	0.20	0.20	0.20
34.133	0.20	0.20	0.20	0.20	0.19
34.217	0.19	0.19	0.19	0.19	0.19
34.300	0.19	0.19	0.19	0.19	0.19

Subsection: Pond Infiltration Hydrograph
 Label: BASIN 15.1 (INF)

Return Event: 2 years
 Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
34.383	0.19	0.19	0.19	0.19	0.19
34.467	0.19	0.19	0.19	0.19	0.19
34.550	0.19	0.19	0.19	0.19	0.19
34.633	0.19	0.19	0.19	0.19	0.19
34.717	0.19	0.19	0.19	0.19	0.19
34.800	0.19	0.19	0.18	0.18	0.18
34.883	0.18	0.18	0.18	0.18	0.18
34.967	0.18	0.18	0.18	(N/A)	(N/A)

Subsection: Level Pool Pond Routing Summary
Label: BASIN-15.2 (IN)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Infiltration			
Infiltration Method (Computed)		Average Infiltration Rate	
Infiltration Rate (Average)		0.2000 in/h	
Initial Conditions			
Elevation (Water Surface, Initial)		990.00 ft	
Volume (Initial)		0.000 ac-ft	
Flow (Initial Outlet)		0.00 ft³/s	
Flow (Initial Infiltration)		0.00 ft³/s	
Flow (Initial, Total)		0.00 ft³/s	
Time Increment		0.017 hours	
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)		32.54 ft³/s	Time to Peak (Flow, In)
Infiltration (Peak)		0.45 ft³/s	Time to Peak (Infiltration)
Flow (Peak Outlet)		0.31 ft³/s	Time to Peak (Flow, Outlet)
Elevation (Water Surface, Peak)		991.33 ft	
Volume (Peak)		1.195 ac-ft	
Mass Balance (ac-ft)			
Volume (Initial)		0.000 ac-ft	
Volume (Total Inflow)		1.805 ac-ft	
Volume (Total Infiltration)		0.872 ac-ft	
Volume (Total Outlet Outflow)		0.282 ac-ft	
Volume (Retained)		0.651 ac-ft	
Volume (Unrouted)		0.000 ac-ft	
Error (Mass Balance)		0.0 %	

Subsection: Pond Infiltration Hydrograph
Label: BASIN-15.2 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Peak Discharge	0.45 ft ³ /s
Time to Peak	19.633 hours
Hydrograph Volume	0.872 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
10.233	0.00	0.00	0.00	0.00	0.00
10.317	0.00	0.00	0.00	0.00	0.00
10.400	0.00	0.00	0.00	0.00	0.00
10.483	0.00	0.00	0.00	0.00	0.00
10.567	0.00	0.00	0.00	0.01	0.01
10.650	0.01	0.01	0.01	0.01	0.01
10.733	0.01	0.01	0.01	0.01	0.01
10.817	0.01	0.01	0.01	0.01	0.01
10.900	0.01	0.01	0.01	0.01	0.01
10.983	0.01	0.01	0.02	0.02	0.02
11.067	0.02	0.02	0.02	0.02	0.02
11.150	0.02	0.02	0.02	0.02	0.02
11.233	0.03	0.03	0.03	0.03	0.03
11.317	0.03	0.03	0.03	0.03	0.04
11.400	0.04	0.04	0.04	0.04	0.04
11.483	0.04	0.05	0.05	0.05	0.05
11.567	0.05	0.06	0.06	0.06	0.07
11.650	0.07	0.08	0.08	0.09	0.10
11.733	0.11	0.12	0.14	0.15	0.17
11.817	0.19	0.21	0.23	0.26	0.29
11.900	0.33	0.37	0.42	0.45	0.45
11.983	0.45	0.45	0.45	0.45	0.45
12.067	0.45	0.45	0.45	0.45	0.45
12.150	0.45	0.45	0.45	0.45	0.45
12.233	0.45	0.45	0.45	0.45	0.45
12.317	0.45	0.45	0.45	0.45	0.45
12.400	0.45	0.45	0.45	0.45	0.45
12.483	0.45	0.45	0.45	0.45	0.45
12.567	0.45	0.45	0.45	0.45	0.45
12.650	0.45	0.45	0.45	0.45	0.45
12.733	0.45	0.45	0.45	0.45	0.45
12.817	0.45	0.45	0.45	0.45	0.45
12.900	0.45	0.45	0.45	0.45	0.45
12.983	0.45	0.45	0.45	0.45	0.45
13.067	0.45	0.45	0.45	0.45	0.45
13.150	0.45	0.45	0.45	0.45	0.45
13.233	0.45	0.45	0.45	0.45	0.45
13.317	0.45	0.45	0.45	0.45	0.45
13.400	0.45	0.45	0.45	0.45	0.45

Subsection: Pond Infiltration Hydrograph
Label: BASIN-15.2 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
13.483	0.45	0.45	0.45	0.45	0.45
13.567	0.45	0.45	0.45	0.45	0.45
13.650	0.45	0.45	0.45	0.45	0.45
13.733	0.45	0.45	0.45	0.45	0.45
13.817	0.45	0.45	0.45	0.45	0.45
13.900	0.45	0.45	0.45	0.45	0.45
13.983	0.45	0.45	0.45	0.45	0.45
14.067	0.45	0.45	0.45	0.45	0.45
14.150	0.45	0.45	0.45	0.45	0.45
14.233	0.45	0.45	0.45	0.45	0.45
14.317	0.45	0.45	0.45	0.45	0.45
14.400	0.45	0.45	0.45	0.45	0.45
14.483	0.45	0.45	0.45	0.45	0.45
14.567	0.45	0.45	0.45	0.45	0.45
14.650	0.45	0.45	0.45	0.45	0.45
14.733	0.45	0.45	0.45	0.45	0.45
14.817	0.45	0.45	0.45	0.45	0.45
14.900	0.45	0.45	0.45	0.45	0.45
14.983	0.45	0.45	0.45	0.45	0.45
15.067	0.45	0.45	0.45	0.45	0.45
15.150	0.45	0.45	0.45	0.45	0.45
15.233	0.45	0.45	0.45	0.45	0.45
15.317	0.45	0.45	0.45	0.45	0.45
15.400	0.45	0.45	0.45	0.45	0.45
15.483	0.45	0.45	0.45	0.45	0.45
15.567	0.45	0.45	0.45	0.45	0.45
15.650	0.45	0.45	0.45	0.45	0.45
15.733	0.45	0.45	0.45	0.45	0.45
15.817	0.45	0.45	0.45	0.45	0.45
15.900	0.45	0.45	0.45	0.45	0.45
15.983	0.45	0.45	0.45	0.45	0.45
16.067	0.45	0.45	0.45	0.45	0.45
16.150	0.45	0.45	0.45	0.45	0.45
16.233	0.45	0.45	0.45	0.45	0.45
16.317	0.45	0.45	0.45	0.45	0.45
16.400	0.45	0.45	0.45	0.45	0.45
16.483	0.45	0.45	0.45	0.45	0.45
16.567	0.45	0.45	0.45	0.45	0.45
16.650	0.45	0.45	0.45	0.45	0.45
16.733	0.45	0.45	0.45	0.45	0.45
16.817	0.45	0.45	0.45	0.45	0.45
16.900	0.45	0.45	0.45	0.45	0.45
16.983	0.45	0.45	0.45	0.45	0.45
17.067	0.45	0.45	0.45	0.45	0.45

Subsection: Pond Infiltration Hydrograph
Label: BASIN-15.2 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
17.150	0.45	0.45	0.45	0.45	0.45
17.233	0.45	0.45	0.45	0.45	0.45
17.317	0.45	0.45	0.45	0.45	0.45
17.400	0.45	0.45	0.45	0.45	0.45
17.483	0.45	0.45	0.45	0.45	0.45
17.567	0.45	0.45	0.45	0.45	0.45
17.650	0.45	0.45	0.45	0.45	0.45
17.733	0.45	0.45	0.45	0.45	0.45
17.817	0.45	0.45	0.45	0.45	0.45
17.900	0.45	0.45	0.45	0.45	0.45
17.983	0.45	0.45	0.45	0.45	0.45
18.067	0.45	0.45	0.45	0.45	0.45
18.150	0.45	0.45	0.45	0.45	0.45
18.233	0.45	0.45	0.45	0.45	0.45
18.317	0.45	0.45	0.45	0.45	0.45
18.400	0.45	0.45	0.45	0.45	0.45
18.483	0.45	0.45	0.45	0.45	0.45
18.567	0.45	0.45	0.45	0.45	0.45
18.650	0.45	0.45	0.45	0.45	0.45
18.733	0.45	0.45	0.45	0.45	0.45
18.817	0.45	0.45	0.45	0.45	0.45
18.900	0.45	0.45	0.45	0.45	0.45
18.983	0.45	0.45	0.45	0.45	0.45
19.067	0.45	0.45	0.45	0.45	0.45
19.150	0.45	0.45	0.45	0.45	0.45
19.233	0.45	0.45	0.45	0.45	0.45
19.317	0.45	0.45	0.45	0.45	0.45
19.400	0.45	0.45	0.45	0.45	0.45
19.483	0.45	0.45	0.45	0.45	0.45
19.567	0.45	0.45	0.45	0.45	0.45
19.650	0.45	0.45	0.45	0.45	0.45
19.733	0.45	0.45	0.45	0.45	0.45
19.817	0.45	0.45	0.45	0.45	0.45
19.900	0.45	0.45	0.45	0.45	0.45
19.983	0.45	0.45	0.45	0.45	0.45
20.067	0.45	0.45	0.45	0.45	0.45
20.150	0.45	0.45	0.45	0.45	0.45
20.233	0.45	0.45	0.45	0.45	0.45
20.317	0.45	0.45	0.45	0.45	0.45
20.400	0.45	0.45	0.45	0.45	0.45
20.483	0.45	0.45	0.45	0.45	0.45
20.567	0.45	0.45	0.45	0.45	0.45
20.650	0.45	0.45	0.45	0.45	0.45
20.733	0.45	0.45	0.45	0.45	0.45

Subsection: Pond Infiltration Hydrograph
Label: BASIN-15.2 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
20.817	0.45	0.45	0.45	0.45	0.45
20.900	0.45	0.45	0.45	0.45	0.45
20.983	0.45	0.45	0.45	0.45	0.45
21.067	0.45	0.45	0.45	0.45	0.45
21.150	0.45	0.45	0.45	0.45	0.45
21.233	0.45	0.45	0.45	0.45	0.45
21.317	0.45	0.45	0.45	0.45	0.45
21.400	0.45	0.45	0.45	0.45	0.45
21.483	0.45	0.45	0.45	0.45	0.45
21.567	0.45	0.45	0.45	0.45	0.45
21.650	0.45	0.45	0.45	0.45	0.45
21.733	0.45	0.45	0.45	0.45	0.45
21.817	0.45	0.45	0.45	0.45	0.45
21.900	0.45	0.45	0.45	0.45	0.45
21.983	0.45	0.45	0.45	0.45	0.45
22.067	0.45	0.45	0.45	0.45	0.45
22.150	0.45	0.45	0.45	0.45	0.45
22.233	0.45	0.45	0.45	0.45	0.45
22.317	0.45	0.45	0.45	0.45	0.45
22.400	0.45	0.45	0.45	0.45	0.45
22.483	0.45	0.45	0.45	0.45	0.45
22.567	0.45	0.45	0.45	0.45	0.45
22.650	0.45	0.45	0.45	0.45	0.45
22.733	0.45	0.45	0.45	0.45	0.45
22.817	0.45	0.45	0.45	0.45	0.45
22.900	0.45	0.45	0.45	0.45	0.45
22.983	0.45	0.45	0.45	0.45	0.45
23.067	0.45	0.45	0.45	0.45	0.45
23.150	0.45	0.45	0.45	0.45	0.45
23.233	0.45	0.45	0.45	0.45	0.45
23.317	0.45	0.45	0.45	0.45	0.45
23.400	0.45	0.45	0.45	0.45	0.45
23.483	0.45	0.45	0.45	0.45	0.45
23.567	0.45	0.45	0.45	0.45	0.45
23.650	0.45	0.45	0.45	0.45	0.45
23.733	0.45	0.45	0.45	0.45	0.45
23.817	0.45	0.45	0.45	0.45	0.45
23.900	0.45	0.45	0.45	0.45	0.45
23.983	0.45	0.45	0.45	0.45	0.45
24.067	0.45	0.45	0.45	0.45	0.45
24.150	0.45	0.45	0.45	0.45	0.45
24.233	0.45	0.45	0.45	0.45	0.45
24.317	0.45	0.45	0.45	0.45	0.45
24.400	0.45	0.45	0.45	0.45	0.45

Subsection: Pond Infiltration Hydrograph
Label: BASIN-15.2 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
24.483	0.45	0.45	0.45	0.45	0.45
24.567	0.45	0.45	0.45	0.45	0.45
24.650	0.45	0.45	0.45	0.45	0.45
24.733	0.45	0.45	0.45	0.45	0.45
24.817	0.45	0.45	0.45	0.45	0.45
24.900	0.45	0.45	0.45	0.45	0.45
24.983	0.45	0.45	0.45	0.45	0.45
25.067	0.45	0.45	0.45	0.45	0.45
25.150	0.45	0.45	0.45	0.45	0.45
25.233	0.45	0.45	0.45	0.45	0.45
25.317	0.45	0.45	0.45	0.45	0.45
25.400	0.45	0.45	0.45	0.45	0.45
25.483	0.45	0.45	0.45	0.45	0.45
25.567	0.45	0.45	0.45	0.45	0.45
25.650	0.45	0.45	0.45	0.45	0.45
25.733	0.45	0.45	0.45	0.45	0.45
25.817	0.45	0.45	0.45	0.45	0.45
25.900	0.45	0.45	0.45	0.45	0.45
25.983	0.45	0.45	0.45	0.45	0.45
26.067	0.45	0.45	0.45	0.45	0.45
26.150	0.45	0.45	0.45	0.45	0.45
26.233	0.45	0.45	0.45	0.45	0.45
26.317	0.45	0.45	0.45	0.45	0.45
26.400	0.45	0.45	0.45	0.45	0.45
26.483	0.45	0.45	0.45	0.45	0.45
26.567	0.45	0.45	0.45	0.45	0.45
26.650	0.45	0.45	0.45	0.45	0.45
26.733	0.45	0.45	0.45	0.45	0.45
26.817	0.45	0.45	0.45	0.45	0.45
26.900	0.45	0.45	0.45	0.45	0.45
26.983	0.45	0.45	0.45	0.45	0.45
27.067	0.45	0.45	0.45	0.45	0.45
27.150	0.45	0.45	0.45	0.45	0.45
27.233	0.45	0.45	0.45	0.45	0.45
27.317	0.45	0.45	0.45	0.45	0.45
27.400	0.45	0.45	0.45	0.45	0.45
27.483	0.45	0.45	0.45	0.45	0.45
27.567	0.45	0.45	0.45	0.45	0.45
27.650	0.45	0.45	0.45	0.45	0.45
27.733	0.45	0.45	0.45	0.45	0.45
27.817	0.45	0.45	0.45	0.45	0.45
27.900	0.45	0.45	0.45	0.45	0.45
27.983	0.45	0.45	0.45	0.45	0.45
28.067	0.45	0.45	0.45	0.45	0.45

Subsection: Pond Infiltration Hydrograph
Label: BASIN-15.2 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
28.150	0.45	0.45	0.45	0.45	0.45
28.233	0.45	0.45	0.45	0.45	0.45
28.317	0.45	0.45	0.45	0.45	0.45
28.400	0.45	0.45	0.45	0.45	0.45
28.483	0.45	0.45	0.45	0.45	0.45
28.567	0.45	0.45	0.45	0.45	0.45
28.650	0.45	0.45	0.45	0.45	0.45
28.733	0.45	0.45	0.45	0.45	0.45
28.817	0.45	0.45	0.45	0.45	0.45
28.900	0.45	0.45	0.45	0.45	0.45
28.983	0.45	0.45	0.45	0.45	0.45
29.067	0.45	0.45	0.45	0.45	0.45
29.150	0.45	0.45	0.45	0.45	0.45
29.233	0.45	0.45	0.45	0.45	0.45
29.317	0.45	0.45	0.45	0.45	0.45
29.400	0.45	0.45	0.45	0.45	0.45
29.483	0.45	0.45	0.45	0.45	0.45
29.567	0.45	0.45	0.45	0.45	0.45
29.650	0.45	0.45	0.45	0.45	0.45
29.733	0.45	0.45	0.45	0.45	0.45
29.817	0.45	0.45	0.45	0.45	0.45
29.900	0.45	0.45	0.45	0.45	0.45
29.983	0.45	0.45	0.45	0.45	0.45
30.067	0.45	0.45	0.45	0.45	0.45
30.150	0.45	0.45	0.45	0.45	0.45
30.233	0.45	0.45	0.45	0.45	0.45
30.317	0.45	0.45	0.45	0.45	0.45
30.400	0.45	0.45	0.45	0.45	0.45
30.483	0.45	0.45	0.45	0.45	0.45
30.567	0.45	0.45	0.45	0.45	0.45
30.650	0.45	0.45	0.45	0.45	0.45
30.733	0.45	0.45	0.45	0.45	0.45
30.817	0.45	0.45	0.45	0.45	0.45
30.900	0.45	0.45	0.45	0.45	0.45
30.983	0.45	0.45	0.45	0.45	0.45
31.067	0.45	0.45	0.45	0.45	0.45
31.150	0.45	0.45	0.45	0.45	0.45
31.233	0.45	0.45	0.45	0.45	0.45
31.317	0.45	0.45	0.45	0.45	0.45
31.400	0.45	0.45	0.45	0.45	0.45
31.483	0.45	0.45	0.45	0.45	0.45
31.567	0.45	0.45	0.45	0.45	0.45
31.650	0.45	0.45	0.45	0.45	0.45
31.733	0.45	0.45	0.45	0.45	0.45

Subsection: Pond Infiltration Hydrograph
 Label: BASIN-15.2 (INF)

Return Event: 2 years
 Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
31.817	0.45	0.45	0.45	0.45	0.45
31.900	0.45	0.45	0.45	0.45	0.45
31.983	0.45	0.45	0.45	0.45	0.45
32.067	0.45	0.45	0.45	0.45	0.45
32.150	0.45	0.45	0.45	0.45	0.45
32.233	0.45	0.45	0.45	0.45	0.45
32.317	0.45	0.45	0.45	0.45	0.45
32.400	0.45	0.45	0.45	0.45	0.45
32.483	0.45	0.45	0.45	0.45	0.45
32.567	0.45	0.45	0.45	0.45	0.45
32.650	0.45	0.45	0.45	0.45	0.45
32.733	0.45	0.45	0.45	0.45	0.45
32.817	0.45	0.45	0.45	0.45	0.45
32.900	0.45	0.45	0.45	0.45	0.45
32.983	0.45	0.45	0.45	0.45	0.45
33.067	0.45	0.45	0.45	0.45	0.45
33.150	0.45	0.45	0.45	0.45	0.45
33.233	0.45	0.45	0.45	0.45	0.45
33.317	0.45	0.45	0.45	0.45	0.45
33.400	0.45	0.45	0.45	0.45	0.45
33.483	0.45	0.45	0.45	0.45	0.45
33.567	0.45	0.45	0.45	0.45	0.45
33.650	0.45	0.45	0.45	0.45	0.45
33.733	0.45	0.45	0.45	0.45	0.45
33.817	0.45	0.45	0.45	0.45	0.45
33.900	0.45	0.45	0.45	0.45	0.45
33.983	0.45	0.45	0.45	0.45	0.45
34.067	0.45	0.45	0.45	0.45	0.45
34.150	0.45	0.45	0.45	0.45	0.45
34.233	0.45	0.45	0.45	0.45	0.45
34.317	0.45	0.45	0.45	0.45	0.45
34.400	0.45	0.45	0.45	0.45	0.45
34.483	0.45	0.45	0.45	0.45	0.45
34.567	0.45	0.45	0.45	0.45	0.45
34.650	0.45	0.45	0.45	0.45	0.45
34.733	0.45	0.45	0.45	0.45	0.45
34.817	0.45	0.45	0.45	0.45	0.45
34.900	0.45	0.45	0.45	0.45	0.45
34.983	0.45	0.45	(N/A)	(N/A)	(N/A)

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Subsection: Level Pool Pond Routing Summary
Label: BASIN 18 (IN)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Infiltration				
Infiltration Method (Computed)		Average Infiltration Rate		
Infiltration Rate (Average)		3.5000 in/h		
Initial Conditions				
Elevation (Water Surface, Initial)		619.00 ft		
Volume (Initial)		0.000 ac-ft		
Flow (Initial Outlet)		0.00 ft³/s		
Flow (Initial Infiltration)		0.00 ft³/s		
Flow (Initial, Total)		0.00 ft³/s		
Time Increment		0.017 hours		
Inflow/Outflow Hydrograph Summary				
Flow (Peak In)		18.69 ft³/s	Time to Peak (Flow, In)	12.200 hours
Infiltration (Peak)		2.33 ft³/s	Time to Peak (Infiltration)	13.183 hours
Flow (Peak Outlet)		0.38 ft³/s	Time to Peak (Flow, Outlet)	13.183 hours
Elevation (Water Surface, Peak)		620.40 ft		
Volume (Peak)		0.872 ac-ft		
Mass Balance (ac-ft)				
Volume (Initial)		0.000 ac-ft		
Volume (Total Inflow)		1.872 ac-ft		
Volume (Total Infiltration)		1.801 ac-ft		
Volume (Total Outlet Outflow)		0.071 ac-ft		
Volume (Retained)		0.000 ac-ft		
Volume (Unrouted)		0.000 ac-ft		
Error (Mass Balance)		0.0 %		

Subsection: Pond Infiltration Hydrograph
Label: BASIN 18 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Peak Discharge	2.33 ft ³ /s
Time to Peak	13.183 hours
Hydrograph Volume	1.801 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
8.617	0.00	0.00	0.00	0.00	0.00
8.700	0.00	0.00	0.00	0.00	0.00
8.783	0.00	0.00	0.00	0.00	0.00
8.867	0.00	0.00	0.00	0.01	0.01
8.950	0.01	0.01	0.01	0.01	0.01
9.033	0.01	0.01	0.01	0.01	0.01
9.117	0.01	0.01	0.01	0.01	0.01
9.200	0.01	0.01	0.01	0.02	0.02
9.283	0.02	0.02	0.02	0.02	0.02
9.367	0.02	0.02	0.02	0.02	0.02
9.450	0.02	0.03	0.03	0.03	0.03
9.533	0.03	0.03	0.03	0.03	0.03
9.617	0.03	0.03	0.04	0.04	0.04
9.700	0.04	0.04	0.04	0.04	0.04
9.783	0.04	0.05	0.05	0.05	0.05
9.867	0.05	0.05	0.05	0.05	0.05
9.950	0.06	0.06	0.06	0.06	0.06
10.033	0.06	0.06	0.07	0.07	0.07
10.117	0.07	0.07	0.07	0.07	0.08
10.200	0.08	0.08	0.08	0.08	0.08
10.283	0.09	0.09	0.09	0.09	0.09
10.367	0.10	0.10	0.10	0.10	0.10
10.450	0.11	0.11	0.11	0.11	0.11
10.533	0.12	0.12	0.12	0.12	0.13
10.617	0.13	0.13	0.13	0.14	0.14
10.700	0.14	0.14	0.15	0.15	0.15
10.783	0.16	0.16	0.16	0.17	0.17
10.867	0.17	0.18	0.18	0.18	0.19
10.950	0.19	0.19	0.20	0.20	0.20
11.033	0.21	0.21	0.22	0.22	0.22
11.117	0.23	0.23	0.24	0.24	0.25
11.200	0.25	0.26	0.26	0.27	0.27
11.283	0.28	0.28	0.29	0.30	0.30
11.367	0.31	0.31	0.32	0.33	0.33
11.450	0.34	0.35	0.36	0.36	0.37
11.533	0.38	0.39	0.40	0.41	0.41
11.617	0.43	0.44	0.45	0.46	0.47
11.700	0.49	0.50	0.52	0.54	0.56
11.783	0.59	0.62	0.65	0.68	0.72

Subsection: Pond Infiltration Hydrograph
Label: BASIN 18 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
11.867	0.76	0.81	0.87	0.93	1.00
11.950	1.07	1.16	1.25	1.35	1.46
12.033	1.57	1.70	1.83	1.97	2.11
12.117	2.16	2.17	2.17	2.18	2.19
12.200	2.19	2.20	2.21	2.21	2.22
12.283	2.23	2.23	2.24	2.24	2.25
12.367	2.25	2.26	2.26	2.27	2.27
12.450	2.28	2.28	2.28	2.29	2.29
12.533	2.29	2.29	2.30	2.30	2.30
12.617	2.30	2.31	2.31	2.31	2.31
12.700	2.31	2.31	2.31	2.32	2.32
12.783	2.32	2.32	2.32	2.32	2.32
12.867	2.32	2.32	2.32	2.32	2.32
12.950	2.32	2.32	2.32	2.33	2.33
13.033	2.33	2.33	2.33	2.33	2.33
13.117	2.33	2.33	2.33	2.33	2.33
13.200	2.33	2.33	2.33	2.33	2.33
13.283	2.33	2.33	2.33	2.33	2.33
13.367	2.33	2.33	2.33	2.33	2.32
13.450	2.32	2.32	2.32	2.32	2.32
13.533	2.32	2.32	2.32	2.32	2.32
13.617	2.32	2.32	2.32	2.32	2.32
13.700	2.32	2.32	2.32	2.32	2.32
13.783	2.32	2.32	2.32	2.32	2.32
13.867	2.32	2.32	2.32	2.32	2.31
13.950	2.31	2.31	2.31	2.31	2.31
14.033	2.31	2.31	2.31	2.31	2.31
14.117	2.31	2.31	2.31	2.31	2.31
14.200	2.31	2.31	2.31	2.31	2.31
14.283	2.31	2.30	2.30	2.30	2.30
14.367	2.30	2.30	2.30	2.30	2.30
14.450	2.30	2.30	2.30	2.30	2.30
14.533	2.30	2.30	2.30	2.30	2.30
14.617	2.30	2.29	2.29	2.29	2.29
14.700	2.29	2.29	2.29	2.29	2.29
14.783	2.29	2.29	2.29	2.29	2.29
14.867	2.29	2.29	2.29	2.29	2.29
14.950	2.28	2.28	2.28	2.28	2.28
15.033	2.28	2.28	2.28	2.28	2.28
15.117	2.28	2.28	2.28	2.28	2.28
15.200	2.28	2.28	2.28	2.28	2.27
15.283	2.27	2.27	2.27	2.27	2.27
15.367	2.27	2.27	2.27	2.27	2.27
15.450	2.27	2.27	2.27	2.27	2.27

Subsection: Pond Infiltration Hydrograph
Label: BASIN 18 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
15.533	2.27	2.27	2.26	2.26	2.26
15.617	2.26	2.26	2.26	2.26	2.26
15.700	2.26	2.26	2.26	2.26	2.26
15.783	2.26	2.26	2.26	2.26	2.26
15.867	2.26	2.25	2.25	2.25	2.25
15.950	2.25	2.25	2.25	2.25	2.25
16.033	2.25	2.25	2.25	2.25	2.25
16.117	2.25	2.25	2.25	2.25	2.24
16.200	2.24	2.24	2.24	2.24	2.24
16.283	2.24	2.24	2.24	2.24	2.24
16.367	2.24	2.24	2.24	2.24	2.24
16.450	2.24	2.23	2.23	2.23	2.23
16.533	2.23	2.23	2.23	2.23	2.23
16.617	2.23	2.23	2.23	2.23	2.23
16.700	2.23	2.23	2.23	2.22	2.22
16.783	2.22	2.22	2.22	2.22	2.22
16.867	2.22	2.22	2.22	2.22	2.22
16.950	2.22	2.22	2.22	2.22	2.22
17.033	2.21	2.21	2.21	2.21	2.21
17.117	2.21	2.21	2.21	2.21	2.21
17.200	2.21	2.21	2.21	2.21	2.21
17.283	2.21	2.20	2.20	2.20	2.20
17.367	2.20	2.20	2.20	2.20	2.20
17.450	2.20	2.20	2.20	2.20	2.20
17.533	2.20	2.20	2.19	2.19	2.19
17.617	2.19	2.19	2.19	2.19	2.19
17.700	2.19	2.19	2.19	2.19	2.19
17.783	2.19	2.19	2.19	2.19	2.18
17.867	2.18	2.18	2.18	2.18	2.18
17.950	2.18	2.18	2.18	2.18	2.18
18.033	2.18	2.18	2.18	2.18	2.18
18.117	2.17	2.17	2.17	2.17	2.17
18.200	2.17	2.17	2.17	2.17	2.17
18.283	2.17	2.17	2.17	2.17	2.17
18.367	2.17	2.16	2.16	2.16	2.16
18.450	2.16	2.16	2.16	2.16	2.16
18.533	2.16	2.16	2.16	2.16	2.16
18.617	2.15	2.13	2.12	2.10	2.09
18.700	2.07	2.06	2.04	2.03	2.02
18.783	2.00	1.99	1.97	1.96	1.95
18.867	1.93	1.92	1.91	1.89	1.88
18.950	1.87	1.86	1.84	1.83	1.82
19.033	1.81	1.79	1.78	1.77	1.76
19.117	1.75	1.74	1.72	1.71	1.70

Subsection: Pond Infiltration Hydrograph
 Label: BASIN 18 (INF)

Return Event: 2 years
 Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
19.200	1.69	1.68	1.67	1.66	1.65
19.283	1.64	1.63	1.62	1.60	1.59
19.367	1.58	1.57	1.56	1.55	1.54
19.450	1.53	1.52	1.52	1.51	1.50
19.533	1.49	1.48	1.47	1.46	1.45
19.617	1.44	1.43	1.42	1.41	1.41
19.700	1.40	1.39	1.38	1.37	1.36
19.783	1.35	1.35	1.34	1.33	1.32
19.867	1.31	1.31	1.30	1.29	1.28
19.950	1.28	1.27	1.26	1.25	1.24
20.033	1.24	1.23	1.22	1.22	1.21
20.117	1.20	1.19	1.19	1.18	1.17
20.200	1.17	1.16	1.15	1.15	1.14
20.283	1.13	1.13	1.12	1.11	1.11
20.367	1.10	1.10	1.09	1.08	1.08
20.450	1.07	1.07	1.06	1.05	1.05
20.533	1.04	1.04	1.03	1.03	1.02
20.617	1.01	1.01	1.00	1.00	0.99
20.700	0.99	0.98	0.98	0.97	0.97
20.783	0.96	0.96	0.95	0.95	0.94
20.867	0.94	0.93	0.93	0.92	0.92
20.950	0.92	0.91	0.91	0.90	0.90
21.033	0.89	0.89	0.88	0.88	0.88
21.117	0.87	0.87	0.86	0.86	0.86
21.200	0.85	0.85	0.84	0.84	0.84
21.283	0.83	0.83	0.82	0.82	0.82
21.367	0.81	0.81	0.81	0.80	0.80
21.450	0.80	0.79	0.79	0.79	0.78
21.533	0.78	0.78	0.77	0.77	0.77
21.617	0.76	0.76	0.76	0.75	0.75
21.700	0.75	0.75	0.74	0.74	0.74
21.783	0.73	0.73	0.73	0.72	0.72
21.867	0.72	0.72	0.71	0.71	0.71
21.950	0.71	0.70	0.70	0.70	0.70
22.033	0.69	0.69	0.69	0.69	0.68
22.117	0.68	0.68	0.68	0.67	0.67
22.200	0.67	0.67	0.66	0.66	0.66
22.283	0.66	0.66	0.65	0.65	0.65
22.367	0.65	0.65	0.64	0.64	0.64
22.450	0.64	0.63	0.63	0.63	0.63
22.533	0.63	0.62	0.62	0.62	0.62
22.617	0.62	0.62	0.61	0.61	0.61
22.700	0.61	0.61	0.60	0.60	0.60
22.783	0.60	0.60	0.60	0.59	0.59

Subsection: Pond Infiltration Hydrograph
Label: BASIN 18 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
22.867	0.59	0.59	0.59	0.59	0.58
22.950	0.58	0.58	0.58	0.58	0.58
23.033	0.58	0.57	0.57	0.57	0.57
23.117	0.57	0.57	0.57	0.56	0.56
23.200	0.56	0.56	0.56	0.56	0.56
23.283	0.55	0.55	0.55	0.55	0.55
23.367	0.55	0.55	0.55	0.54	0.54
23.450	0.54	0.54	0.54	0.54	0.54
23.533	0.54	0.53	0.53	0.53	0.53
23.617	0.53	0.53	0.53	0.53	0.53
23.700	0.52	0.52	0.52	0.52	0.52
23.783	0.52	0.52	0.52	0.52	0.51
23.867	0.51	0.51	0.51	0.51	0.51
23.950	0.51	0.51	0.51	0.51	0.50
24.033	0.50	0.50	0.50	0.50	0.50
24.117	0.50	0.50	0.50	0.49	0.49
24.200	0.49	0.49	0.49	0.49	0.48
24.283	0.48	0.48	0.48	0.48	0.47
24.367	0.47	0.47	0.47	0.46	0.46
24.450	0.46	0.45	0.45	0.45	0.44
24.533	0.44	0.44	0.43	0.43	0.43
24.617	0.42	0.42	0.41	0.41	0.41
24.700	0.40	0.40	0.40	0.39	0.39
24.783	0.39	0.38	0.38	0.38	0.37
24.867	0.37	0.37	0.36	0.36	0.35
24.950	0.35	0.35	0.34	0.34	0.34
25.033	0.34	0.33	0.33	0.33	0.32
25.117	0.32	0.32	0.31	0.31	0.31
25.200	0.30	0.30	0.30	0.30	0.29
25.283	0.29	0.29	0.28	0.28	0.28
25.367	0.28	0.27	0.27	0.27	0.26
25.450	0.26	0.26	0.26	0.25	0.25
25.533	0.25	0.25	0.24	0.24	0.24
25.617	0.24	0.23	0.23	0.23	0.23
25.700	0.23	0.22	0.22	0.22	0.22
25.783	0.21	0.21	0.21	0.21	0.21
25.867	0.20	0.20	0.20	0.20	0.20
25.950	0.19	0.19	0.19	0.19	0.19
26.033	0.19	0.18	0.18	0.18	0.18
26.117	0.18	0.17	0.17	0.17	0.17
26.200	0.17	0.17	0.16	0.16	0.16
26.283	0.16	0.16	0.16	0.15	0.15
26.367	0.15	0.15	0.15	0.15	0.15
26.450	0.14	0.14	0.14	0.14	0.14

Subsection: Pond Infiltration Hydrograph
Label: BASIN 18 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
26.533	0.14	0.14	0.13	0.13	0.13
26.617	0.13	0.13	0.13	0.13	0.13
26.700	0.12	0.12	0.12	0.12	0.12
26.783	0.12	0.12	0.12	0.11	0.11
26.867	0.11	0.11	0.11	0.11	0.11
26.950	0.11	0.11	0.11	0.10	0.10
27.033	0.10	0.10	0.10	0.10	0.10
27.117	0.10	0.10	0.10	0.09	0.09
27.200	0.09	0.09	0.09	0.09	0.09
27.283	0.09	0.09	0.09	0.09	0.08
27.367	0.08	0.08	0.08	0.08	0.08
27.450	0.08	0.08	0.08	0.08	0.08
27.533	0.08	0.07	0.07	0.07	0.07
27.617	0.07	0.07	0.07	0.07	0.07
27.700	0.07	0.07	0.07	0.07	0.07
27.783	0.07	0.06	0.06	0.06	0.06
27.867	0.06	0.06	0.06	0.06	0.06
27.950	0.06	0.06	0.06	0.06	0.06
28.033	0.06	0.06	0.06	0.05	0.05
28.117	0.05	0.05	0.05	0.05	0.05
28.200	0.05	0.05	0.05	0.05	0.05
28.283	0.05	0.05	0.05	0.05	0.05
28.367	0.05	0.05	0.05	0.04	0.04
28.450	0.04	0.04	0.04	0.04	0.04
28.533	0.04	0.04	0.04	0.04	0.04
28.617	0.04	0.04	0.04	0.04	0.04
28.700	0.04	0.04	0.04	0.04	0.04
28.783	0.04	0.04	0.04	0.03	0.03
28.867	0.03	0.03	0.03	0.03	0.03
28.950	0.03	0.03	0.03	0.03	0.03
29.033	0.03	0.03	0.03	0.03	0.03
29.117	0.03	0.03	0.03	0.03	0.03
29.200	0.03	0.03	0.03	0.03	0.03
29.283	0.03	0.03	0.03	0.03	0.03
29.367	0.03	0.03	0.02	0.02	0.02
29.450	0.02	0.02	0.02	0.02	0.02
29.533	0.02	0.02	0.02	0.02	0.02
29.617	0.02	0.02	0.02	0.02	0.02
29.700	0.02	0.02	0.02	0.02	0.02
29.783	0.02	0.02	0.02	0.02	0.02
29.867	0.02	0.02	0.02	0.02	0.02
29.950	0.02	0.02	0.02	0.02	0.02
30.033	0.02	0.02	0.02	0.02	0.02
30.117	0.02	0.02	0.02	0.02	0.02

Subsection: Pond Infiltration Hydrograph
Label: BASIN 18 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
30.200	0.02	0.02	0.02	0.01	0.01
30.283	0.01	0.01	0.01	0.01	0.01
30.367	0.01	0.01	0.01	0.01	0.01
30.450	0.01	0.01	0.01	0.01	0.01
30.533	0.01	0.01	0.01	0.01	0.01
30.617	0.01	0.01	0.01	0.01	0.01
30.700	0.01	0.01	0.01	0.01	0.01
30.783	0.01	0.01	0.01	0.01	0.01
30.867	0.01	0.01	0.01	0.01	0.01
30.950	0.01	0.01	0.01	0.01	0.01
31.033	0.01	0.01	0.01	0.01	0.01
31.117	0.01	0.01	0.01	0.01	0.01
31.200	0.01	0.01	0.01	0.01	0.01
31.283	0.01	0.01	0.01	0.01	0.01
31.367	0.01	0.01	0.01	0.01	0.01
31.450	0.01	0.01	0.01	0.01	0.01
31.533	0.01	0.01	0.01	0.01	0.01
31.617	0.01	0.01	0.01	0.01	0.01
31.700	0.01	0.01	0.01	0.01	0.01
31.783	0.01	0.01	0.01	0.01	0.01
31.867	0.01	0.01	0.01	0.01	0.01
31.950	0.01	0.01	0.01	0.01	0.01
32.033	0.01	0.01	0.01	0.01	0.00
32.117	0.00	0.00	0.00	0.00	0.00
32.200	0.00	0.00	0.00	0.00	0.00
32.283	0.00	0.00	0.00	0.00	0.00
32.367	0.00	0.00	0.00	0.00	0.00
32.450	0.00	0.00	0.00	0.00	0.00
32.533	0.00	0.00	0.00	0.00	0.00
32.617	0.00	0.00	0.00	0.00	0.00
32.700	0.00	0.00	0.00	0.00	0.00
32.783	0.00	0.00	0.00	0.00	0.00
32.867	0.00	0.00	0.00	0.00	0.00
32.950	0.00	0.00	0.00	0.00	0.00
33.033	0.00	0.00	0.00	0.00	0.00
33.117	0.00	0.00	0.00	0.00	0.00
33.200	0.00	0.00	0.00	0.00	0.00
33.283	0.00	0.00	0.00	0.00	0.00
33.367	0.00	0.00	0.00	0.00	0.00
33.450	0.00	0.00	0.00	0.00	0.00
33.533	0.00	0.00	0.00	0.00	0.00
33.617	0.00	0.00	0.00	0.00	0.00
33.700	0.00	0.00	0.00	0.00	0.00
33.783	0.00	0.00	0.00	0.00	0.00

Subsection: Pond Infiltration Hydrograph
Label: BASIN 18 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
33.867	0.00	0.00	0.00	0.00	0.00
33.950	0.00	0.00	0.00	0.00	0.00
34.033	0.00	0.00	0.00	0.00	0.00
34.117	0.00	0.00	0.00	0.00	0.00
34.200	0.00	0.00	0.00	0.00	0.00
34.283	0.00	0.00	0.00	0.00	0.00
34.367	0.00	0.00	0.00	0.00	0.00
34.450	0.00	0.00	0.00	0.00	0.00
34.533	0.00	0.00	0.00	0.00	0.00
34.617	0.00	0.00	0.00	0.00	0.00
34.700	0.00	0.00	(N/A)	(N/A)	(N/A)

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	Pond Infiltration Hydrograph	2

Subsection: Level Pool Pond Routing Summary
Label: BASIN 20 (IN)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Infiltration			
Infiltration Method (Computed)	Average Infiltration Rate		
Infiltration Rate (Average)	1.0000 in/h		
Initial Conditions			
Elevation (Water Surface, Initial)	648.00 ft		
Volume (Initial)	0.000 ac-ft		
Flow (Initial Outlet)	0.00 ft³/s		
Flow (Initial Infiltration)	0.00 ft³/s		
Flow (Initial, Total)	0.00 ft³/s		
Time Increment	0.017 hours		
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	48.50 ft³/s	Time to Peak (Flow, In)	11.933 hours
Infiltration (Peak)	1.09 ft³/s	Time to Peak (Infiltration)	15.783 hours
Flow (Peak Outlet)	0.00 ft³/s	Time to Peak (Flow, Outlet)	0.000 hours
Elevation (Water Surface, Peak)	649.75 ft		
Volume (Peak)	1.799 ac-ft		
Mass Balance (ac-ft)			
Volume (Initial)	0.000 ac-ft		
Volume (Total Inflow)	2.694 ac-ft		
Volume (Total Infiltration)	2.125 ac-ft		
Volume (Total Outlet Outflow)	0.000 ac-ft		
Volume (Retained)	0.569 ac-ft		
Volume (Unrouted)	-0.001 ac-ft		
Error (Mass Balance)	0.0 %		

Subsection: Pond Infiltration Hydrograph
 Label: BASIN 20 (INF)

Return Event: 2 years
 Storm Event: TypeII 24hr (2.9 in)

Peak Discharge	1.09 ft ³ /s
Time to Peak	15.767 hours
Hydrograph Volume	2.123 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
5.817	0.00	0.00	0.00	0.00	0.00
5.900	0.00	0.00	0.00	0.00	0.00
5.983	0.00	0.00	0.00	0.00	0.00
6.067	0.00	0.00	0.00	0.00	0.00
6.150	0.00	0.00	0.00	0.00	0.00
6.233	0.00	0.00	0.00	0.00	0.01
6.317	0.01	0.01	0.01	0.01	0.01
6.400	0.01	0.01	0.01	0.01	0.01
6.483	0.01	0.01	0.01	0.01	0.01
6.567	0.01	0.01	0.01	0.01	0.01
6.650	0.01	0.01	0.01	0.01	0.01
6.733	0.01	0.01	0.01	0.01	0.01
6.817	0.01	0.01	0.01	0.01	0.01
6.900	0.01	0.01	0.02	0.02	0.02
6.983	0.02	0.02	0.02	0.02	0.02
7.067	0.02	0.02	0.02	0.02	0.02
7.150	0.02	0.02	0.02	0.02	0.02
7.233	0.02	0.02	0.02	0.02	0.02
7.317	0.02	0.02	0.02	0.03	0.03
7.400	0.03	0.03	0.03	0.03	0.03
7.483	0.03	0.03	0.03	0.03	0.03
7.567	0.03	0.03	0.03	0.03	0.03
7.650	0.03	0.03	0.03	0.03	0.04
7.733	0.04	0.04	0.04	0.04	0.04
7.817	0.04	0.04	0.04	0.04	0.04
7.900	0.04	0.04	0.04	0.04	0.04
7.983	0.04	0.04	0.04	0.05	0.05
8.067	0.05	0.05	0.05	0.05	0.05
8.150	0.05	0.05	0.05	0.05	0.05
8.233	0.05	0.05	0.05	0.05	0.06
8.317	0.06	0.06	0.06	0.06	0.06
8.400	0.06	0.06	0.06	0.06	0.06
8.483	0.06	0.06	0.07	0.07	0.07
8.567	0.07	0.07	0.07	0.07	0.07
8.650	0.07	0.07	0.07	0.08	0.08
8.733	0.08	0.08	0.08	0.08	0.08
8.817	0.08	0.08	0.08	0.08	0.09
8.900	0.09	0.09	0.09	0.09	0.09
8.983	0.09	0.09	0.09	0.10	0.10

Subsection: Pond Infiltration Hydrograph
Label: BASIN 20 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
9.067	0.10	0.10	0.10	0.10	0.10
9.150	0.10	0.11	0.11	0.11	0.11
9.233	0.11	0.11	0.11	0.11	0.11
9.317	0.12	0.12	0.12	0.12	0.12
9.400	0.12	0.12	0.12	0.13	0.13
9.483	0.13	0.13	0.13	0.13	0.13
9.567	0.14	0.14	0.14	0.14	0.14
9.650	0.14	0.14	0.14	0.15	0.15
9.733	0.15	0.15	0.15	0.15	0.15
9.817	0.16	0.16	0.16	0.16	0.16
9.900	0.16	0.17	0.17	0.17	0.17
9.983	0.17	0.17	0.18	0.18	0.18
10.067	0.18	0.18	0.18	0.19	0.19
10.150	0.19	0.19	0.19	0.20	0.20
10.233	0.20	0.20	0.20	0.21	0.21
10.317	0.21	0.21	0.22	0.22	0.22
10.400	0.22	0.23	0.23	0.23	0.23
10.483	0.24	0.24	0.24	0.24	0.25
10.567	0.25	0.25	0.25	0.26	0.26
10.650	0.26	0.27	0.27	0.27	0.27
10.733	0.28	0.28	0.28	0.29	0.29
10.817	0.29	0.30	0.30	0.30	0.31
10.900	0.31	0.32	0.32	0.32	0.33
10.983	0.33	0.34	0.34	0.34	0.35
11.067	0.35	0.36	0.36	0.37	0.37
11.150	0.37	0.38	0.38	0.39	0.40
11.233	0.40	0.41	0.41	0.42	0.42
11.317	0.43	0.44	0.44	0.45	0.46
11.400	0.46	0.47	0.48	0.48	0.49
11.483	0.50	0.51	0.52	0.52	0.53
11.567	0.55	0.56	0.57	0.59	0.61
11.650	0.63	0.66	0.69	0.72	0.76
11.733	0.80	0.84	0.90	0.95	1.01
11.817	1.02	1.02	1.02	1.02	1.03
11.900	1.03	1.04	1.04	1.04	1.05
11.983	1.05	1.05	1.06	1.06	1.06
12.067	1.07	1.07	1.07	1.07	1.07
12.150	1.07	1.07	1.07	1.07	1.07
12.233	1.08	1.08	1.08	1.08	1.08
12.317	1.08	1.08	1.08	1.08	1.08
12.400	1.08	1.08	1.08	1.08	1.08
12.483	1.08	1.08	1.08	1.08	1.08
12.567	1.08	1.08	1.08	1.08	1.08
12.650	1.08	1.08	1.08	1.08	1.08

Subsection: Pond Infiltration Hydrograph
Label: BASIN 20 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
12.733	1.08	1.08	1.08	1.09	1.09
12.817	1.09	1.09	1.09	1.09	1.09
12.900	1.09	1.09	1.09	1.09	1.09
12.983	1.09	1.09	1.09	1.09	1.09
13.067	1.09	1.09	1.09	1.09	1.09
13.150	1.09	1.09	1.09	1.09	1.09
13.233	1.09	1.09	1.09	1.09	1.09
13.317	1.09	1.09	1.09	1.09	1.09
13.400	1.09	1.09	1.09	1.09	1.09
13.483	1.09	1.09	1.09	1.09	1.09
13.567	1.09	1.09	1.09	1.09	1.09
13.650	1.09	1.09	1.09	1.09	1.09
13.733	1.09	1.09	1.09	1.09	1.09
13.817	1.09	1.09	1.09	1.09	1.09
13.900	1.09	1.09	1.09	1.09	1.09
13.983	1.09	1.09	1.09	1.09	1.09
14.067	1.09	1.09	1.09	1.09	1.09
14.150	1.09	1.09	1.09	1.09	1.09
14.233	1.09	1.09	1.09	1.09	1.09
14.317	1.09	1.09	1.09	1.09	1.09
14.400	1.09	1.09	1.09	1.09	1.09
14.483	1.09	1.09	1.09	1.09	1.09
14.567	1.09	1.09	1.09	1.09	1.09
14.650	1.09	1.09	1.09	1.09	1.09
14.733	1.09	1.09	1.09	1.09	1.09
14.817	1.09	1.09	1.09	1.09	1.09
14.900	1.09	1.09	1.09	1.09	1.09
14.983	1.09	1.09	1.09	1.09	1.09
15.067	1.09	1.09	1.09	1.09	1.09
15.150	1.09	1.09	1.09	1.09	1.09
15.233	1.09	1.09	1.09	1.09	1.09
15.317	1.09	1.09	1.09	1.09	1.09
15.400	1.09	1.09	1.09	1.09	1.09
15.483	1.09	1.09	1.09	1.09	1.09
15.567	1.09	1.09	1.09	1.09	1.09
15.650	1.09	1.09	1.09	1.09	1.09
15.733	1.09	1.09	1.09	1.09	1.09
15.817	1.09	1.09	1.09	1.09	1.09
15.900	1.09	1.09	1.09	1.09	1.09
15.983	1.09	1.09	1.09	1.09	1.09
16.067	1.09	1.09	1.09	1.09	1.09
16.150	1.09	1.09	1.09	1.09	1.09
16.233	1.09	1.09	1.09	1.09	1.09
16.317	1.09	1.09	1.09	1.09	1.09

Subsection: Pond Infiltration Hydrograph
Label: BASIN 20 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
16.400	1.09	1.09	1.09	1.09	1.09
16.483	1.09	1.09	1.09	1.09	1.09
16.567	1.09	1.09	1.09	1.09	1.09
16.650	1.09	1.09	1.09	1.09	1.09
16.733	1.09	1.09	1.09	1.09	1.09
16.817	1.09	1.09	1.09	1.09	1.09
16.900	1.09	1.09	1.09	1.09	1.09
16.983	1.09	1.09	1.09	1.09	1.09
17.067	1.09	1.09	1.09	1.09	1.09
17.150	1.09	1.09	1.09	1.09	1.09
17.233	1.09	1.09	1.09	1.09	1.09
17.317	1.09	1.09	1.09	1.09	1.09
17.400	1.09	1.09	1.09	1.09	1.09
17.483	1.09	1.09	1.09	1.09	1.09
17.567	1.09	1.09	1.09	1.09	1.09
17.650	1.09	1.09	1.09	1.09	1.09
17.733	1.09	1.09	1.09	1.09	1.09
17.817	1.09	1.09	1.09	1.09	1.09
17.900	1.09	1.09	1.09	1.09	1.09
17.983	1.09	1.09	1.09	1.09	1.09
18.067	1.09	1.09	1.09	1.09	1.09
18.150	1.09	1.09	1.09	1.09	1.09
18.233	1.09	1.09	1.09	1.09	1.09
18.317	1.09	1.09	1.09	1.09	1.09
18.400	1.09	1.09	1.09	1.09	1.09
18.483	1.09	1.09	1.09	1.09	1.09
18.567	1.09	1.09	1.09	1.09	1.09
18.650	1.09	1.09	1.09	1.09	1.09
18.733	1.09	1.09	1.09	1.09	1.09
18.817	1.09	1.09	1.09	1.09	1.09
18.900	1.09	1.09	1.09	1.09	1.09
18.983	1.09	1.09	1.09	1.09	1.09
19.067	1.09	1.09	1.09	1.09	1.09
19.150	1.09	1.09	1.09	1.09	1.09
19.233	1.09	1.09	1.09	1.09	1.09
19.317	1.09	1.09	1.09	1.09	1.09
19.400	1.09	1.09	1.09	1.09	1.09
19.483	1.09	1.09	1.09	1.09	1.09
19.567	1.09	1.09	1.09	1.09	1.09
19.650	1.09	1.09	1.09	1.09	1.09
19.733	1.09	1.09	1.09	1.09	1.09
19.817	1.09	1.09	1.09	1.09	1.09
19.900	1.09	1.09	1.09	1.09	1.09
19.983	1.09	1.09	1.09	1.09	1.09

Subsection: Pond Infiltration Hydrograph
Label: BASIN 20 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
20.067	1.09	1.09	1.09	1.09	1.09
20.150	1.09	1.09	1.09	1.09	1.09
20.233	1.09	1.09	1.09	1.09	1.09
20.317	1.09	1.09	1.09	1.09	1.09
20.400	1.09	1.09	1.09	1.09	1.09
20.483	1.09	1.09	1.09	1.09	1.09
20.567	1.09	1.09	1.09	1.09	1.09
20.650	1.09	1.09	1.09	1.09	1.09
20.733	1.09	1.09	1.09	1.09	1.09
20.817	1.09	1.09	1.09	1.09	1.09
20.900	1.09	1.09	1.09	1.09	1.09
20.983	1.09	1.09	1.09	1.09	1.09
21.067	1.09	1.09	1.09	1.09	1.09
21.150	1.09	1.09	1.09	1.09	1.09
21.233	1.09	1.09	1.09	1.09	1.09
21.317	1.09	1.09	1.09	1.09	1.09
21.400	1.09	1.09	1.09	1.09	1.09
21.483	1.08	1.08	1.08	1.08	1.08
21.567	1.08	1.08	1.08	1.08	1.08
21.650	1.08	1.08	1.08	1.08	1.08
21.733	1.08	1.08	1.08	1.08	1.08
21.817	1.08	1.08	1.08	1.08	1.08
21.900	1.08	1.08	1.08	1.08	1.08
21.983	1.08	1.08	1.08	1.08	1.08
22.067	1.08	1.08	1.08	1.08	1.08
22.150	1.08	1.08	1.08	1.08	1.08
22.233	1.08	1.08	1.08	1.08	1.08
22.317	1.08	1.08	1.08	1.08	1.08
22.400	1.08	1.08	1.08	1.08	1.08
22.483	1.08	1.08	1.08	1.08	1.08
22.567	1.08	1.08	1.08	1.08	1.08
22.650	1.08	1.08	1.08	1.08	1.08
22.733	1.08	1.08	1.08	1.08	1.08
22.817	1.08	1.08	1.08	1.08	1.08
22.900	1.08	1.08	1.08	1.08	1.08
22.983	1.08	1.08	1.08	1.08	1.08
23.067	1.08	1.08	1.08	1.08	1.08
23.150	1.08	1.08	1.08	1.08	1.08
23.233	1.08	1.08	1.08	1.08	1.08
23.317	1.08	1.08	1.08	1.08	1.08
23.400	1.08	1.08	1.08	1.08	1.08
23.483	1.08	1.08	1.08	1.08	1.08
23.567	1.08	1.08	1.08	1.08	1.08
23.650	1.08	1.08	1.08	1.08	1.08

Subsection: Pond Infiltration Hydrograph
Label: BASIN 20 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
23.733	1.08	1.08	1.08	1.08	1.08
23.817	1.08	1.08	1.08	1.08	1.08
23.900	1.08	1.08	1.08	1.08	1.08
23.983	1.08	1.08	1.08	1.08	1.08
24.067	1.08	1.08	1.08	1.08	1.08
24.150	1.08	1.08	1.08	1.08	1.08
24.233	1.08	1.08	1.08	1.08	1.08
24.317	1.08	1.08	1.08	1.08	1.08
24.400	1.08	1.08	1.08	1.08	1.08
24.483	1.08	1.08	1.08	1.08	1.08
24.567	1.08	1.08	1.07	1.07	1.07
24.650	1.07	1.07	1.07	1.07	1.07
24.733	1.07	1.07	1.07	1.07	1.07
24.817	1.07	1.07	1.07	1.07	1.07
24.900	1.07	1.07	1.07	1.07	1.07
24.983	1.07	1.07	1.07	1.07	1.07
25.067	1.07	1.07	1.07	1.07	1.07
25.150	1.07	1.07	1.07	1.07	1.07
25.233	1.07	1.07	1.07	1.07	1.07
25.317	1.07	1.07	1.07	1.07	1.07
25.400	1.07	1.07	1.07	1.07	1.07
25.483	1.07	1.07	1.07	1.07	1.07
25.567	1.07	1.07	1.07	1.07	1.07
25.650	1.07	1.07	1.07	1.07	1.07
25.733	1.07	1.07	1.07	1.07	1.07
25.817	1.07	1.07	1.07	1.07	1.07
25.900	1.07	1.07	1.07	1.07	1.07
25.983	1.07	1.07	1.07	1.07	1.07
26.067	1.07	1.07	1.07	1.07	1.07
26.150	1.07	1.07	1.07	1.07	1.07
26.233	1.07	1.07	1.07	1.07	1.07
26.317	1.07	1.07	1.07	1.07	1.07
26.400	1.07	1.07	1.07	1.06	1.06
26.483	1.06	1.06	1.06	1.06	1.06
26.567	1.06	1.06	1.06	1.06	1.06
26.650	1.06	1.06	1.06	1.06	1.06
26.733	1.06	1.06	1.06	1.06	1.06
26.817	1.06	1.06	1.06	1.06	1.06
26.900	1.06	1.06	1.06	1.06	1.06
26.983	1.06	1.06	1.06	1.06	1.06
27.067	1.06	1.06	1.06	1.06	1.06
27.150	1.06	1.06	1.06	1.06	1.06
27.233	1.06	1.06	1.06	1.06	1.06
27.317	1.06	1.06	1.06	1.06	1.06

Subsection: Pond Infiltration Hydrograph
Label: BASIN 20 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
27.400	1.06	1.06	1.06	1.06	1.06
27.483	1.06	1.06	1.06	1.06	1.06
27.567	1.06	1.06	1.06	1.06	1.06
27.650	1.06	1.06	1.06	1.06	1.06
27.733	1.06	1.06	1.06	1.06	1.06
27.817	1.06	1.06	1.06	1.06	1.06
27.900	1.06	1.06	1.06	1.06	1.06
27.983	1.06	1.06	1.06	1.06	1.06
28.067	1.06	1.06	1.06	1.06	1.06
28.150	1.06	1.06	1.06	1.06	1.06
28.233	1.06	1.06	1.06	1.06	1.06
28.317	1.06	1.05	1.05	1.05	1.05
28.400	1.05	1.05	1.05	1.05	1.05
28.483	1.05	1.05	1.05	1.05	1.05
28.567	1.05	1.05	1.05	1.05	1.05
28.650	1.05	1.05	1.05	1.05	1.05
28.733	1.05	1.05	1.05	1.05	1.05
28.817	1.05	1.05	1.05	1.05	1.05
28.900	1.05	1.05	1.05	1.05	1.05
28.983	1.05	1.05	1.05	1.05	1.05
29.067	1.05	1.05	1.05	1.05	1.05
29.150	1.05	1.05	1.05	1.05	1.05
29.233	1.05	1.05	1.05	1.05	1.05
29.317	1.05	1.05	1.05	1.05	1.05
29.400	1.05	1.05	1.05	1.05	1.05
29.483	1.05	1.05	1.05	1.05	1.05
29.567	1.05	1.05	1.05	1.05	1.05
29.650	1.05	1.05	1.05	1.05	1.05
29.733	1.05	1.05	1.05	1.05	1.05
29.817	1.05	1.05	1.05	1.05	1.05
29.900	1.05	1.05	1.05	1.05	1.05
29.983	1.05	1.05	1.05	1.05	1.05
30.067	1.05	1.05	1.05	1.05	1.05
30.150	1.05	1.05	1.05	1.05	1.05
30.233	1.04	1.04	1.04	1.04	1.04
30.317	1.04	1.04	1.04	1.04	1.04
30.400	1.04	1.04	1.04	1.04	1.04
30.483	1.04	1.04	1.04	1.04	1.04
30.567	1.04	1.04	1.04	1.04	1.04
30.650	1.04	1.04	1.04	1.04	1.04
30.733	1.04	1.04	1.04	1.04	1.04
30.817	1.04	1.04	1.04	1.04	1.04
30.900	1.04	1.04	1.04	1.04	1.04
30.983	1.04	1.04	1.04	1.04	1.04

Subsection: Pond Infiltration Hydrograph
Label: BASIN 20 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
31.067	1.04	1.04	1.04	1.04	1.04
31.150	1.04	1.04	1.04	1.04	1.04
31.233	1.04	1.04	1.04	1.04	1.04
31.317	1.04	1.04	1.04	1.04	1.04
31.400	1.04	1.04	1.04	1.04	1.04
31.483	1.04	1.04	1.04	1.04	1.04
31.567	1.04	1.04	1.04	1.04	1.04
31.650	1.04	1.04	1.04	1.04	1.04
31.733	1.04	1.04	1.04	1.04	1.04
31.817	1.04	1.04	1.04	1.04	1.04
31.900	1.04	1.04	1.04	1.04	1.04
31.983	1.04	1.04	1.04	1.04	1.04
32.067	1.04	1.04	1.04	1.03	1.03
32.150	1.03	1.03	1.03	1.03	1.03
32.233	1.03	1.03	1.03	1.03	1.03
32.317	1.03	1.03	1.03	1.03	1.03
32.400	1.03	1.03	1.03	1.03	1.03
32.483	1.03	1.03	1.03	1.03	1.03
32.567	1.03	1.03	1.03	1.03	1.03
32.650	1.03	1.03	1.03	1.03	1.03
32.733	1.03	1.03	1.03	1.03	1.03
32.817	1.03	1.03	1.03	1.03	1.03
32.900	1.03	1.03	1.03	1.03	1.03
32.983	1.03	1.03	1.03	1.03	1.03
33.067	1.03	1.03	1.03	1.03	1.03
33.150	1.03	1.03	1.03	1.03	1.03
33.233	1.03	1.03	1.03	1.03	1.03
33.317	1.03	1.03	1.03	1.03	1.03
33.400	1.03	1.03	1.03	1.03	1.03
33.483	1.03	1.03	1.03	1.03	1.03
33.567	1.03	1.03	1.03	1.03	1.03
33.650	1.03	1.03	1.03	1.03	1.03
33.733	1.03	1.03	1.03	1.03	1.03
33.817	1.03	1.03	1.03	1.03	1.03
33.900	1.03	1.03	1.03	1.03	1.03
33.983	1.03	1.03	1.03	1.02	1.02
34.067	1.02	1.02	1.02	1.02	1.02
34.150	1.02	1.02	1.02	1.02	1.02
34.233	1.02	1.02	1.02	1.02	1.02
34.317	1.02	1.02	1.02	1.02	1.02
34.400	1.02	1.02	1.02	1.02	1.02
34.483	1.02	1.02	1.02	1.02	1.02
34.567	1.02	1.02	1.02	1.02	1.02
34.650	1.02	1.02	1.02	1.02	1.02

Subsection: Pond Infiltration Hydrograph
Label: BASIN 20 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
34.733	1.02	1.02	1.02	1.02	1.02
34.817	1.02	1.02	1.02	1.02	1.02
34.900	1.02	1.02	1.02	1.02	1.02
34.983	1.02	1.02	(N/A)	(N/A)	(N/A)

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Subsection: Level Pool Pond Routing Summary
Label: BASIN 21 (IN)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Infiltration				
Infiltration Method (Computed)		Average Infiltration Rate		
Infiltration Rate (Average)		1.0000 in/h		
Initial Conditions				
Elevation (Water Surface, Initial)		603.00 ft		
Volume (Initial)		0.000 ac-ft		
Flow (Initial Outlet)		0.00 ft³/s		
Flow (Initial Infiltration)		0.00 ft³/s		
Flow (Initial, Total)		0.00 ft³/s		
Time Increment		0.017 hours		
Inflow/Outflow Hydrograph Summary				
Flow (Peak In)		35.57 ft³/s	Time to Peak (Flow, In)	12.017 hours
Infiltration (Peak)		1.27 ft³/s	Time to Peak (Infiltration)	17.867 hours
Flow (Peak Outlet)		0.00 ft³/s	Time to Peak (Flow, Outlet)	0.000 hours
Elevation (Water Surface, Peak)		603.98 ft		
Volume (Peak)		1.186 ac-ft		
Mass Balance (ac-ft)				
Volume (Initial)		0.000 ac-ft		
Volume (Total Inflow)		2.293 ac-ft		
Volume (Total Infiltration)		2.103 ac-ft		
Volume (Total Outlet Outflow)		0.000 ac-ft		
Volume (Retained)		0.187 ac-ft		
Volume (Unrouted)		-0.002 ac-ft		
Error (Mass Balance)		0.1 %		

Subsection: Pond Infiltration Hydrograph
Label: BASIN 21 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Peak Discharge	1.27 ft ³ /s
Time to Peak	17.867 hours
Hydrograph Volume	2.103 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
11.750	0.00	0.00	0.01	0.01	0.02
11.833	0.04	0.06	0.10	0.14	0.20
11.917	0.27	0.35	0.44	0.53	0.63
12.000	0.72	0.82	0.92	1.01	1.08
12.083	1.14	1.19	1.23	1.23	1.23
12.167	1.23	1.23	1.23	1.23	1.23
12.250	1.23	1.23	1.24	1.24	1.24
12.333	1.24	1.24	1.24	1.24	1.24
12.417	1.24	1.24	1.24	1.24	1.24
12.500	1.24	1.24	1.24	1.24	1.24
12.583	1.24	1.24	1.25	1.25	1.25
12.667	1.25	1.25	1.25	1.25	1.25
12.750	1.25	1.25	1.25	1.25	1.25
12.833	1.25	1.25	1.25	1.25	1.25
12.917	1.25	1.25	1.25	1.25	1.25
13.000	1.25	1.25	1.25	1.25	1.25
13.083	1.25	1.25	1.25	1.25	1.25
13.167	1.25	1.25	1.25	1.25	1.26
13.250	1.26	1.26	1.26	1.26	1.26
13.333	1.26	1.26	1.26	1.26	1.26
13.417	1.26	1.26	1.26	1.26	1.26
13.500	1.26	1.26	1.26	1.26	1.26
13.583	1.26	1.26	1.26	1.26	1.26
13.667	1.26	1.26	1.26	1.26	1.26
13.750	1.26	1.26	1.26	1.26	1.26
13.833	1.26	1.26	1.26	1.26	1.26
13.917	1.26	1.26	1.26	1.26	1.26
14.000	1.26	1.26	1.26	1.26	1.26
14.083	1.26	1.26	1.26	1.26	1.26
14.167	1.26	1.26	1.26	1.26	1.26
14.250	1.26	1.26	1.26	1.26	1.26
14.333	1.26	1.26	1.26	1.26	1.26
14.417	1.26	1.26	1.26	1.26	1.27
14.500	1.27	1.27	1.27	1.27	1.27
14.583	1.27	1.27	1.27	1.27	1.27
14.667	1.27	1.27	1.27	1.27	1.27
14.750	1.27	1.27	1.27	1.27	1.27
14.833	1.27	1.27	1.27	1.27	1.27
14.917	1.27	1.27	1.27	1.27	1.27

Subsection: Pond Infiltration Hydrograph
Label: BASIN 21 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
15.000	1.27	1.27	1.27	1.27	1.27
15.083	1.27	1.27	1.27	1.27	1.27
15.167	1.27	1.27	1.27	1.27	1.27
15.250	1.27	1.27	1.27	1.27	1.27
15.333	1.27	1.27	1.27	1.27	1.27
15.417	1.27	1.27	1.27	1.27	1.27
15.500	1.27	1.27	1.27	1.27	1.27
15.583	1.27	1.27	1.27	1.27	1.27
15.667	1.27	1.27	1.27	1.27	1.27
15.750	1.27	1.27	1.27	1.27	1.27
15.833	1.27	1.27	1.27	1.27	1.27
15.917	1.27	1.27	1.27	1.27	1.27
16.000	1.27	1.27	1.27	1.27	1.27
16.083	1.27	1.27	1.27	1.27	1.27
16.167	1.27	1.27	1.27	1.27	1.27
16.250	1.27	1.27	1.27	1.27	1.27
16.333	1.27	1.27	1.27	1.27	1.27
16.417	1.27	1.27	1.27	1.27	1.27
16.500	1.27	1.27	1.27	1.27	1.27
16.583	1.27	1.27	1.27	1.27	1.27
16.667	1.27	1.27	1.27	1.27	1.27
16.750	1.27	1.27	1.27	1.27	1.27
16.833	1.27	1.27	1.27	1.27	1.27
16.917	1.27	1.27	1.27	1.27	1.27
17.000	1.27	1.27	1.27	1.27	1.27
17.083	1.27	1.27	1.27	1.27	1.27
17.167	1.27	1.27	1.27	1.27	1.27
17.250	1.27	1.27	1.27	1.27	1.27
17.333	1.27	1.27	1.27	1.27	1.27
17.417	1.27	1.27	1.27	1.27	1.27
17.500	1.27	1.27	1.27	1.27	1.27
17.583	1.27	1.27	1.27	1.27	1.27
17.667	1.27	1.27	1.27	1.27	1.27
17.750	1.27	1.27	1.27	1.27	1.27
17.833	1.27	1.27	1.27	1.27	1.27
17.917	1.27	1.27	1.27	1.27	1.27
18.000	1.27	1.27	1.27	1.27	1.27
18.083	1.27	1.27	1.27	1.27	1.27
18.167	1.27	1.27	1.27	1.27	1.27
18.250	1.27	1.27	1.27	1.27	1.27
18.333	1.27	1.27	1.27	1.27	1.27
18.417	1.27	1.27	1.27	1.27	1.27
18.500	1.27	1.27	1.27	1.27	1.27
18.583	1.27	1.27	1.27	1.27	1.27

Subsection: Pond Infiltration Hydrograph
Label: BASIN-21 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
18.667	1.27	1.27	1.27	1.27	1.27
18.750	1.27	1.27	1.27	1.27	1.27
18.833	1.27	1.27	1.27	1.27	1.27
18.917	1.27	1.27	1.27	1.27	1.27
19.000	1.27	1.27	1.27	1.27	1.27
19.083	1.27	1.27	1.27	1.27	1.27
19.167	1.27	1.27	1.27	1.27	1.27
19.250	1.27	1.27	1.27	1.27	1.27
19.333	1.27	1.27	1.27	1.27	1.27
19.417	1.27	1.27	1.27	1.27	1.27
19.500	1.27	1.27	1.27	1.27	1.27
19.583	1.27	1.27	1.27	1.27	1.27
19.667	1.27	1.27	1.27	1.27	1.27
19.750	1.27	1.27	1.27	1.27	1.27
19.833	1.27	1.27	1.27	1.27	1.27
19.917	1.27	1.27	1.27	1.27	1.27
20.000	1.27	1.27	1.27	1.27	1.27
20.083	1.27	1.27	1.27	1.27	1.27
20.167	1.27	1.27	1.27	1.27	1.27
20.250	1.27	1.27	1.27	1.27	1.27
20.333	1.27	1.27	1.27	1.27	1.27
20.417	1.27	1.27	1.27	1.27	1.27
20.500	1.27	1.27	1.27	1.27	1.27
20.583	1.27	1.27	1.27	1.27	1.27
20.667	1.27	1.27	1.27	1.27	1.27
20.750	1.27	1.27	1.27	1.27	1.27
20.833	1.27	1.27	1.27	1.27	1.27
20.917	1.27	1.27	1.27	1.27	1.27
21.000	1.27	1.27	1.27	1.27	1.27
21.083	1.27	1.27	1.27	1.27	1.27
21.167	1.27	1.27	1.27	1.27	1.27
21.250	1.27	1.27	1.27	1.27	1.27
21.333	1.27	1.27	1.27	1.27	1.27
21.417	1.27	1.27	1.27	1.27	1.27
21.500	1.27	1.27	1.27	1.27	1.27
21.583	1.27	1.27	1.27	1.27	1.27
21.667	1.27	1.27	1.27	1.27	1.27
21.750	1.27	1.27	1.27	1.27	1.27
21.833	1.27	1.27	1.27	1.27	1.27
21.917	1.27	1.27	1.27	1.27	1.27
22.000	1.27	1.27	1.27	1.27	1.27
22.083	1.27	1.26	1.26	1.26	1.26
22.167	1.26	1.26	1.26	1.26	1.26
22.250	1.26	1.26	1.26	1.26	1.26

Subsection: Pond Infiltration Hydrograph
Label: BASIN 21 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
22.333	1.26	1.26	1.26	1.26	1.26
22.417	1.26	1.26	1.26	1.26	1.26
22.500	1.26	1.26	1.26	1.26	1.26
22.583	1.26	1.26	1.26	1.26	1.26
22.667	1.26	1.26	1.26	1.26	1.26
22.750	1.26	1.26	1.26	1.26	1.26
22.833	1.26	1.26	1.26	1.26	1.26
22.917	1.26	1.26	1.26	1.26	1.26
23.000	1.26	1.26	1.26	1.26	1.26
23.083	1.26	1.26	1.26	1.26	1.26
23.167	1.26	1.26	1.26	1.26	1.26
23.250	1.26	1.26	1.26	1.26	1.26
23.333	1.26	1.26	1.26	1.26	1.26
23.417	1.26	1.26	1.26	1.26	1.26
23.500	1.26	1.26	1.26	1.26	1.26
23.583	1.26	1.26	1.26	1.26	1.26
23.667	1.26	1.26	1.26	1.26	1.26
23.750	1.26	1.26	1.26	1.26	1.26
23.833	1.26	1.26	1.26	1.26	1.26
23.917	1.26	1.26	1.26	1.26	1.26
24.000	1.26	1.26	1.26	1.26	1.26
24.083	1.26	1.26	1.26	1.26	1.26
24.167	1.26	1.26	1.26	1.26	1.26
24.250	1.26	1.26	1.26	1.26	1.26
24.333	1.26	1.26	1.26	1.26	1.26
24.417	1.26	1.26	1.26	1.26	1.26
24.500	1.26	1.26	1.26	1.26	1.26
24.583	1.26	1.26	1.26	1.26	1.26
24.667	1.26	1.26	1.25	1.25	1.25
24.750	1.25	1.25	1.25	1.25	1.25
24.833	1.25	1.25	1.25	1.25	1.25
24.917	1.25	1.25	1.25	1.25	1.25
25.000	1.25	1.25	1.25	1.25	1.25
25.083	1.25	1.25	1.25	1.25	1.25
25.167	1.25	1.25	1.25	1.25	1.25
25.250	1.25	1.25	1.25	1.25	1.25
25.333	1.25	1.25	1.25	1.25	1.25
25.417	1.25	1.25	1.25	1.25	1.25
25.500	1.25	1.25	1.25	1.25	1.25
25.583	1.25	1.25	1.25	1.25	1.25
25.667	1.25	1.25	1.25	1.25	1.25
25.750	1.25	1.25	1.25	1.25	1.25
25.833	1.25	1.25	1.25	1.25	1.25
25.917	1.25	1.25	1.25	1.25	1.24

Subsection: Pond Infiltration Hydrograph
Label: BASIN 21 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
26.000	1.24	1.24	1.24	1.24	1.24
26.083	1.24	1.24	1.24	1.24	1.24
26.167	1.24	1.24	1.24	1.24	1.24
26.250	1.24	1.24	1.24	1.24	1.24
26.333	1.24	1.24	1.24	1.24	1.24
26.417	1.24	1.24	1.24	1.24	1.24
26.500	1.24	1.24	1.24	1.24	1.24
26.583	1.24	1.24	1.24	1.24	1.24
26.667	1.24	1.24	1.24	1.24	1.24
26.750	1.24	1.24	1.24	1.24	1.24
26.833	1.24	1.24	1.24	1.24	1.24
26.917	1.24	1.24	1.24	1.24	1.24
27.000	1.24	1.24	1.24	1.24	1.24
27.083	1.24	1.24	1.24	1.24	1.24
27.167	1.24	1.24	1.24	1.24	1.24
27.250	1.24	1.23	1.23	1.23	1.23
27.333	1.23	1.23	1.23	1.23	1.23
27.417	1.23	1.23	1.23	1.23	1.23
27.500	1.23	1.23	1.23	1.23	1.23
27.583	1.23	1.23	1.23	1.23	1.23
27.667	1.23	1.23	1.23	1.23	1.23
27.750	1.23	1.23	1.23	1.23	1.23
27.833	1.23	1.23	1.23	1.23	1.23
27.917	1.23	1.23	1.23	1.23	1.23
28.000	1.23	1.23	1.23	1.23	1.23
28.083	1.23	1.23	1.23	1.23	1.23
28.167	1.23	1.23	1.23	1.23	1.23
28.250	1.23	1.23	1.23	1.22	1.22
28.333	1.22	1.21	1.21	1.20	1.20
28.417	1.20	1.19	1.19	1.19	1.18
28.500	1.18	1.18	1.17	1.17	1.17
28.583	1.16	1.16	1.16	1.15	1.15
28.667	1.15	1.15	1.14	1.14	1.14
28.750	1.13	1.13	1.13	1.12	1.12
28.833	1.12	1.11	1.11	1.11	1.10
28.917	1.10	1.10	1.09	1.09	1.09
29.000	1.09	1.08	1.08	1.08	1.07
29.083	1.07	1.07	1.06	1.06	1.06
29.167	1.05	1.05	1.05	1.05	1.04
29.250	1.04	1.04	1.03	1.03	1.03
29.333	1.03	1.02	1.02	1.02	1.01
29.417	1.01	1.01	1.01	1.00	1.00
29.500	1.00	0.99	0.99	0.99	0.99
29.583	0.98	0.98	0.98	0.97	0.97

Subsection: Pond Infiltration Hydrograph
Label: BASIN 21 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
29.667	0.97	0.97	0.96	0.96	0.96
29.750	0.96	0.95	0.95	0.95	0.94
29.833	0.94	0.94	0.94	0.93	0.93
29.917	0.93	0.93	0.92	0.92	0.92
30.000	0.92	0.91	0.91	0.91	0.91
30.083	0.90	0.90	0.90	0.90	0.89
30.167	0.89	0.89	0.88	0.88	0.88
30.250	0.88	0.87	0.87	0.87	0.87
30.333	0.87	0.86	0.86	0.86	0.86
30.417	0.85	0.85	0.85	0.85	0.84
30.500	0.84	0.84	0.84	0.83	0.83
30.583	0.83	0.83	0.82	0.82	0.82
30.667	0.82	0.82	0.81	0.81	0.81
30.750	0.81	0.80	0.80	0.80	0.80
30.833	0.79	0.79	0.79	0.79	0.79
30.917	0.78	0.78	0.78	0.78	0.77
31.000	0.77	0.77	0.77	0.77	0.76
31.083	0.76	0.76	0.76	0.76	0.75
31.167	0.75	0.75	0.75	0.74	0.74
31.250	0.74	0.74	0.74	0.73	0.73
31.333	0.73	0.73	0.73	0.72	0.72
31.417	0.72	0.72	0.72	0.71	0.71
31.500	0.71	0.71	0.71	0.70	0.70
31.583	0.70	0.70	0.70	0.69	0.69
31.667	0.69	0.69	0.69	0.68	0.68
31.750	0.68	0.68	0.68	0.67	0.67
31.833	0.67	0.67	0.67	0.66	0.66
31.917	0.66	0.66	0.66	0.66	0.65
32.000	0.65	0.65	0.65	0.65	0.64
32.083	0.64	0.64	0.64	0.64	0.64
32.167	0.63	0.63	0.63	0.63	0.63
32.250	0.62	0.62	0.62	0.62	0.62
32.333	0.62	0.61	0.61	0.61	0.61
32.417	0.61	0.61	0.60	0.60	0.60
32.500	0.60	0.60	0.60	0.59	0.59
32.583	0.59	0.59	0.59	0.59	0.58
32.667	0.58	0.58	0.58	0.58	0.58
32.750	0.57	0.57	0.57	0.57	0.57
32.833	0.57	0.56	0.56	0.56	0.56
32.917	0.56	0.56	0.55	0.55	0.55
33.000	0.55	0.55	0.55	0.55	0.54
33.083	0.54	0.54	0.54	0.54	0.54
33.167	0.53	0.53	0.53	0.53	0.53
33.250	0.53	0.53	0.52	0.52	0.52

Subsection: Pond Infiltration Hydrograph
 Label: BASIN 21 (INF)

Return Event: 2 years
 Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
33.333	0.52	0.52	0.52	0.52	0.51
33.417	0.51	0.51	0.51	0.51	0.51
33.500	0.51	0.50	0.50	0.50	0.50
33.583	0.50	0.50	0.50	0.49	0.49
33.667	0.49	0.49	0.49	0.49	0.49
33.750	0.48	0.48	0.48	0.48	0.48
33.833	0.48	0.48	0.47	0.47	0.47
33.917	0.47	0.47	0.47	0.47	0.47
34.000	0.46	0.46	0.46	0.46	0.46
34.083	0.46	0.46	0.45	0.45	0.45
34.167	0.45	0.45	0.45	0.45	0.45
34.250	0.44	0.44	0.44	0.44	0.44
34.333	0.44	0.44	0.44	0.43	0.43
34.417	0.43	0.43	0.43	0.43	0.43
34.500	0.43	0.43	0.42	0.42	0.42
34.583	0.42	0.42	0.42	0.42	0.42
34.667	0.41	0.41	0.41	0.41	0.41
34.750	0.41	0.41	0.41	0.41	0.40
34.833	0.40	0.40	0.40	0.40	0.40
34.917	0.40	0.40	0.39	0.39	0.39
35.000	0.39	(N/A)	(N/A)	(N/A)	(N/A)

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BASIN 21 (IN) (Level Pool Pond Routing Summary, 2 years)...1

BASIN 21 (INF) (Pond Infiltration Hydrograph, 2 years)...2, 3, 4, 5, 6, 7, 8

RAINGARDEN PLANTINGS

	Rain Garden Bottom Area (ACRES)	Shrubs Needed (each)	Shrubs Provided (each)	Trees Needed (each)	Trees Provided (each)	Ratio
Rain Garden 1	0.097	67.90	69.00	29.10	30.00	2.30
Rain Garden 2	0.097	53.20	54.00	22.80	23.00	2.35
Rain Garden 3	0.153	107.10	108.00	45.90	46.00	2.35
Rain Garden 4	0.218	152.60	153.00	65.40	66.00	2.32
Totals	0.544	380.8	384	163.20	165.00	
Notes:						
700 Shrubs per Acre of rain garden is required						
300 Trees per Acre of rain garden is required						
The shrub to tree ratio is to be in between 2:1 and 3:1						
A minimum of 3 different types of shrubs and 3 different types of tree are required						

Table of Contents

RG-1 (IN)	TypeII 24hr (5.0 in)	
	Level Pool Pond Routing Summary	1
RG-2 (IN)	TypeII 24hr (5.0 in)	
	Level Pool Pond Routing Summary	2
RG-3 (IN)	TypeII 24hr (5.0 in)	
	Level Pool Pond Routing Summary	3
RG-4 (IN)	TypeII 24hr (5.0 in)	
	Level Pool Pond Routing Summary	4

Subsection: Level Pool Pond Routing Summary
 Label: RG-1 (IN)

Return Event: 25 years
 Storm Event: TypeII 24hr (5.0 in)

Infiltration			
Infiltration Method (Computed)		No Infiltration	
Initial Conditions			
Elevation (Water Surface, Initial)	685.00 ft		
Volume (Initial)	0.000 ac-ft		
Flow (Initial Outlet)	0.00 ft ³ /s		
Flow (Initial Infiltration)	0.00 ft ³ /s		
Flow (Initial, Total)	0.00 ft ³ /s		
Time Increment	0.017 hours		
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	0.86 ft ³ /s	Time to Peak (Flow, In)	11.933 hours
Flow (Peak Outlet)	0.01 ft ³ /s	Time to Peak (Flow, Outlet)	22.333 hours
Peak Conditions			
Elevation (Water Surface, Peak)	685.50 ft		
Volume (Peak)	0.053 ac-ft		
Mass Balance (ac-ft)			
Volume (Initial)	0.000 ac-ft		
Volume (Total Inflow)	0.054 ac-ft		
Volume (Total Infiltration)	0.000 ac-ft		
Volume (Total Outlet Outflow)	0.001 ac-ft		
Volume (Retained)	0.053 ac-ft		
Volume (Unrouted)	0.000 ac-ft		
Error (Mass Balance)	0.0 %		

Subsection: Level Pool Pond Routing Summary
Label: RG-2 (IN)

Return Event: 25 years
Storm Event: TypeII 24hr (5.0 in)

Infiltration			
Infiltration Method (Computed)		No Infiltration	
Initial Conditions			
Elevation (Water Surface, Initial)	687.00 ft		
Volume (Initial)	0.000 ac-ft		
Flow (Initial Outlet)	0.00 ft³/s		
Flow (Initial Infiltration)	0.00 ft³/s		
Flow (Initial, Total)	0.00 ft³/s		
Time Increment	0.017 hours		
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	0.64 ft³/s	Time to Peak (Flow, In)	11.933 hours
Flow (Peak Outlet)	0.00 ft³/s	Time to Peak (Flow, Outlet)	0.000 hours
Elevation (Water Surface, Peak)			
687.49 ft		Volume (Peak)	
0.040 ac-ft			
Mass Balance (ac-ft)			
Volume (Initial)	0.000 ac-ft		
Volume (Total Inflow)	0.040 ac-ft		
Volume (Total Infiltration)	0.000 ac-ft		
Volume (Total Outlet Outflow)	0.000 ac-ft		
Volume (Retained)	0.040 ac-ft		
Volume (Unrouted)	0.000 ac-ft		
Error (Mass Balance)	0.1 %		

Subsection: Level Pool Pond Routing Summary
Label: RG-3 (IN)

Return Event: 25 years
Storm Event: TypeII 24hr (5.0 in)

Infiltration			
Infiltration Method (Computed)		No Infiltration	
Initial Conditions			
Elevation (Water Surface, Initial)	683.00 ft		
Volume (Initial)	0.000 ac-ft		
Flow (Initial Outlet)	0.00 ft³/s		
Flow (Initial Infiltration)	0.00 ft³/s		
Flow (Initial, Total)	0.00 ft³/s		
Time Increment	0.017 hours		
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	1.31 ft³/s	Time to Peak (Flow, In)	11.933 hours
Flow (Peak Outlet)	0.00 ft³/s	Time to Peak (Flow, Outlet)	0.000 hours
Elevation (Water Surface, Peak)	683.50 ft		
Volume (Peak)	0.082 ac-ft		
Mass Balance (ac-ft)			
Volume (Initial)	0.000 ac-ft		
Volume (Total Inflow)	0.082 ac-ft		
Volume (Total Infiltration)	0.000 ac-ft		
Volume (Total Outlet Outflow)	0.000 ac-ft		
Volume (Retained)	0.082 ac-ft		
Volume (Unrouted)	0.000 ac-ft		
Error (Mass Balance)	0.1 %		

Subsection: Level Pool Pond Routing Summary
Label: RG-4 (IN)

Return Event: 25 years
Storm Event: TypeII 24hr (5.0 in)

Infiltration			
Infiltration Method (Computed)		No Infiltration	
Initial Conditions			
Elevation (Water Surface, Initial)	680.00 ft		
Volume (Initial)	0.000 ac-ft		
Flow (Initial Outlet)	0.00 ft³/s		
Flow (Initial Infiltration)	0.00 ft³/s		
Flow (Initial, Total)	0.00 ft³/s		
Time Increment	0.017 hours		
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	1.80 ft³/s	Time to Peak (Flow, In)	11.933 hours
Flow (Peak Outlet)	0.00 ft³/s	Time to Peak (Flow, Outlet)	0.000 hours
Elevation (Water Surface, Peak)	680.49 ft		
Volume (Peak)	0.113 ac-ft		
Mass Balance (ac-ft)			
Volume (Initial)	0.000 ac-ft		
Volume (Total Inflow)	0.114 ac-ft		
Volume (Total Infiltration)	0.000 ac-ft		
Volume (Total Outlet Outflow)	0.000 ac-ft		
Volume (Retained)	0.113 ac-ft		
Volume (Unrouted)	0.000 ac-ft		
Error (Mass Balance)	0.2 %		

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RG-1 (IN) (Level Pool Pond Routing Summary, 25 years)...1

RG-2 (IN) (Level Pool Pond Routing Summary, 25 years)...2

RG-3 (IN) (Level Pool Pond Routing Summary, 25 years)...3

RG-4 (IN) (Level Pool Pond Routing Summary, 25 years)...4

APPENDIX J
Infiltration Testing Results

MEMORANDUM

TO: Joseph Mullen, PE, Chad Lello, PE, Lee Borthwick, EIT
FROM: Michael Morykin, Jr., PG 
DATE: November 9, 2010
SUBJECT: Bell Bend Nuclear Power Plant, Salem Township, Luzerne Co., PA – PPLS 0902

Beginning on August 30, 2010 and continuing through September 8, 2010 Pennoni personnel conducted a series of preliminary infiltration testing at 14 proposed infiltration basins at the above referenced subject property. The locations and testing depths were provided by our Site Civil Technology. The infiltration testing and test pit locations were established in the field by our Survey Technology.

Between October 19 and October 27, 2010, 18 additional infiltration tests were performed to supplement the preliminary testing completed in September. The supplemental infiltration testing depth and test locations were where provided by our Site Civil Technology and established in the field by our Geotechnical Technology.

The infiltration tests were conducted in general accordance with the *Pennsylvania Stormwater Best Management Practices Manual, Appendix C*. Test pit logs for the testing completed to date are attached. The test pit and testing locations are provided on the PCSM Plan.

Prior to the infiltration testing, test pits were excavated adjacent to the testing locations to identify potential limiting zones, if present, as well as confirm the uniformity of subsoil conditions. The test pits revealed the soils to consist of primarily of glacial till deposits.

In general, the composition of the glacial till varied (see attached test pit logs). Refusals to further excavation were encountered at some locations. The refusal has been interpreted as an indication of top of bedrock. Additionally, ground water seepage and/or mottling was observed at 9 test pits locations. Ground water seepage and/or mottling is interpreted to be an indication of a seasonal high water table (SHWT). The observed SHWT and bedrock are considered to be limiting zones. As directed by our Site Civil Technology, the infiltration testing depths were either adjusted to 2 ft above the interpreted limiting zone, or the test abandoned. A summary of the observed limiting zones and the depths below surrounding grades at which they were encountered are presented on the Infiltration Testing Summary Table on the following pages.

Infiltration Testing Summary Table

<i>Location</i>	<i>Depth to Testing (ft)</i>	<i>Depth to Mottling (ft)</i>	<i>Depth to Ground Water (ft)</i>	<i>Depth to Seasonal High Water Table (ft)</i>	<i>Depth to Bedrock (ft)</i>	<i>Infiltration Rate (in./hr)</i>
3.1	5.0	NE	NE	NE	NE	40.9
3.2	3.0	NE	NE	NE	NE	35.1
4.1	8.0	NE	NE	NE	NE	0.8
4.2	NT	2.5	NE	2.5	NE	NT
4.2A	3.5	5.5	NE	5.5	NE	1.1
5.1	NT	2.3	7.0	2.3	NE	NT
5.2	4.0	NE	NE	NE	NE	1.1
6.1	8.5	NE	NE	NE	NE	0.4
6.2	8.5	NE	NE	NE	NE	3.8
7.1	NT	NE	NE	NE	3.0	NT
7.2	NT	NE	NE	NE	2.0	NT
8.1	8.0	NE	NE	NE	NE	42.5
9.1	7.0	NE	NE	NE	NE	5.0
9.2	3.0	NE	NE	NE	NE	0.5
10.1	3.5	NE	NE	NE	NE	0.1
10.2	1.2	3.2	6.0	3.2	NE	0.5
11.1	6.0	8.0	NE	8.0	NE	1.5
11.2	4.0	NE	NE	NE	6.0	1.9
12A.1	4.0	NE	NE	NE	NE	0.2
12A.2	4.0	NE	NE	NE	NE	< 0.1
14.1	3.0	NE	NE	NE	NE	1.0
14.2	3.0	NE	NE	NE	NE	0.7
15.1	5.0	NE	NE	NE	NE	1.5
15.2	5.0	NE	NE	NE	NE	0.5
16.1	5.0	NE	NE	NE	NE	6.2
16.2	3.0	5.0	NE	5.0	NE	10.9
17.1	8.0	NE	NE	NE	NE	5.7
17.2	8.0	NE	NE	NE	NE	11.2
201.A	2.0	4.0	7.0	4.0	10.0	0.3

Infiltration Testing Summary Table

Location	Depth to Testing (ft)	Depth to Mottling (ft)	Depth to Ground Water (ft)	Depth to Seasonal High Water Table (ft)	Depth to Bedrock (ft)	Infiltration Rate (in./hr)
201.B-2	4.5	6.5	7.0	NE	NE	0.5
202.B	5.5	NE	NE	NE	7.5	0.2
203.1.B	4.0	NE	NE	NE	NE	< 0.1
203.2.A	0.5	NE	NE	NE	NE	1.5
203.2.B	5.0	NE	NE	NE	NE	119.2
208.A	5.0	NE	NE	NE	NE	455.1
208.B	1.5	NE	NE	NE	NE	11.4
210.4.A	7.0	NE	NE	NE	NE	25.4
210.4.B	5.0	NE	NE	NE	NE	239.9
213.1.A	3.0	5.0	6.5	5.0	NE	7.2
213.1.B	Alternate	NE	NE	NE	NE	NT
213.1.B(2)	Alternate	NE	NE	NE	NE	NT
215.C	2.0	NE	NE	NE	4.0	5.2
215.D	1.5	NE	NE	NE	3.5	5.3
218.A	NT	3.0	3.0	3.0	NE	NT
218.B	3.0	NE	NE	NE	NE	3.1
220.A	3.0	NE	NE	NE	NE	0.5
220.B	1.5	NE	NE	NE	NE	1.5
221.A	4.0	NE	NE	NE	NE	480.0
221.B	5.0	NE	NE	NE	NE	150.0

NT -- Denotes locations that were not tested

Alternate -- Alternate test location to be tested at the discretion of the Site Civil Technology (if needed)

NE -- Not Encountered

I trust that the information presented in this memorandum and the enclosures are what you require at this time. If you have any questions, or if you need any further assistance with this project, please contact me at your earliest convenience.

Attachments: Test Pit Logs



TEST PIT LOG

Test Pit No.: 3.1

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	8-31-10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	690
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	J. KIECHEL
DEPTH TO - Water: N/E		When checked:	Caving:

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS		REMARKS
	GRAPHIC	DESCRIPTION	
690 0		TOPSOIL	
		0.5	
		LIGHT TO MEDIUM YELLOW SAND, SOME SILT	
		2.8	
685 5		SOME FINE TO MEDIUM SAND, SOME CLAYEY SILT, BROWN GRAVEL, FINE TO MEDIUM TO COARSE COBBLES & BOULDERS	
		7.0	
		END OF TEST PIT AT 7.0 FT	
680 10			
675 15			
670 20			
665 25			
660 30			

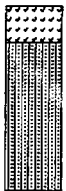
Notes:



TEST PIT LOG

Test Pit No.: 3.2

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	8/31/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	687
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	J. KIECHEL
DEPTH TO - Water: N/E		When checked: Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS		REMARKS
	GRAPHIC	DESCRIPTION	
0		TOPSOIL	
685		LIGHT TO MEDIUM BROWN COARSE TO MEDIUM TO FINE SANDSOME SILT, TRACE GRAVEL COARSE COBBLES	
5		END OF TEST PIT AT 5.0 FT	
680			
10			
675			
15			
670			
20			
665			
25			
660			
30			

Notes:



TEST PIT LOG

Test Pit No.: TP-4.1

PROJECT BELL BEND NUCLEAR POWER PLANT		PROJECT NO. PPLS 0902
LOCATION BERWICK, PA		DATE 8/31/10
EXCAVATOR/OPERATOR DENNIS WAHL EXCAVATING/D. WAHL		ELEV. 665
EXCAVATION METHOD CASE 580 BACKHOE		RECORDED BY M. MORYKIN
DEPTH TO - Water: N/E When checked: Caving:		

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS			REMARKS
	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
665 0			TOPSOIL	CONTAINS COBBLE AND BOULDER MATERIAL
			0.8	
			BROWN, FINE TO MEDIUM TO COARSE SAND AND FINE TO COARSE GRAVEL, LITTLE SILT	
660 5				
655 10			10	
			END OF TEST PIT AT 10.0 FT	
650 15				
645 20				
640 25				
635 30				

Notes:



TEST PIT LOG

Test Pit No.: TP-4.2

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	9/8/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	660
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	M. MORYKIN
DEPTH TO - Water: N/E		When checked: Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS			REMARKS
	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
660 0			TOPSOIL	MOTTling STARTING AT 30"
			1.5	
			YELLOW BROWN TO GRAY BROWN FINE TO MEDIUM SAND, LITTLE SILT	
			3.5	
655 5			ORANGE BROWN TO BROWN FINE TO MEDIUM TO COARSE SAND, SOME FINE TO COARSE GRAVEL, TRACE SILT	
			4.1	
			BROWN FINE TO MEDIUM TO COARSE SAND, LITTLE TO TRACE FINE TO COARSE GRAVEL, TRACE SILT	
			5.0	
650 10			END OF TEST PIT AT 5.0 FT	
645 15				
640 20				
635 25				
630 30				

Notes:



TEST PIT LOG

Test Pit No.: TP-4.2A

PROJECT BELL BEND NUCLEAR POWER PLANT		PROJECT NO. PPLS 0902
LOCATION BERWICK, PA		DATE 9-8-10
EXCAVATOR/OPERATOR DENNIS WAHL EXCAVATING/D. WAHL		ELEV. 660
EXCAVATION METHOD CASE 580 BACKHOE		RECORDED BY J. TERRY
DEPTH TO - Water: N/E When checked: Caving:		

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS			REMARKS
	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
660 0			TOPSOIL 0.4	MOTTLING OBSERVED STARTING AT 5.5 FT
			LIGHT BROWN FINE TO MEDIUM SAND, SOME SILT 1.5	
655 5			LIGHT BROWN COBBLES AND BOULDERS, COARSE TO FINE GRAVEL, SOME FINE TO MEDIUM SAND, TRACE SILT 4.0	
			BROWN COARSE TO FINE GRAVEL, SOME COARSE TO MEDIUM TO FINE SAND, LITTLE SILT 5.5	
650 10			DARK BROWN COBBLES AND BOULDERS; COARSE TO FINE GRAVEL, SOME COARSE TO MEDIUM TO FINE SAND, TRACE SILT (DARK DISCOLORATION AND MOIST CONDITION) 10.0	
			END OF TEST PIT AT 10.0 FT	
645 15				
640 20				
635 25				
630 30				

Notes:



TEST PIT LOG

Test Pit No.: TP-5.1

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	8/31/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	720
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	M. MORYKIN
DEPTH TO - Water: 7.0	When checked:	Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS			REMARKS
	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
720 0			TOPSOIL	TP OFFSET APPROX. 24FT TOWARD ACCESS ROAD
			0.6 YELLOW BROWN FINE TO MEDIUM SAND, LITTLE CLAYEY SILT	
715 5			4.0 GRAY TO YELLOW ORANGE BROWN CLAYEY FINE SAND, LITTLE SILT	MOTTILING OBSERVED STARTING AT 2.3 FT
			6.0 BROWN FINE TO MEDIUM TO COARSE SAND, LITTLE SILT	
			8.0 END OF TEST PIT AT 8.0 FT	
710 10				
705 15				
700 20				
695 25				
690 30				

Notes:



TEST PIT LOG

Test Pit No.: TP-5.2

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	8/31/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	710
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	M. MORYKIN
DEPTH TO - Water: N/E		When checked: Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS		REMARKS
	GRAPHIC	DESCRIPTION	
710 0		TOPSOIL	1.5
		YELLOW ORANGE BROWN FINE TO MEDIUM SAND, SOME TO LITTLE CLAYEY SILT	4.5
705 5		REDDISH BROWN TO BROWN FINE TO MEDIUM TO COARSE SAND, SOME FINE TO COARSE GRAVEL, LITTEL CLAYEY SILT	7.0
		END OF TEST PIT AT 7.0 FT	
700 10			
695 15			
690 20			
685 25			
680 30			

Notes:



TEST PIT LOG

Test Pit No.: TP-6.1

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	9/3/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	722.5
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	J. KIECHEL
DEPTH TO - Water: N/E		When checked:	Caving:

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS			REMARKS
	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
0			TOPSOIL	
			1.2	
720			LIGHT TO MEDIUM BROWN, FINE TO MEDIUM SAND, SOME SILT	
			3.7	
5			BROWN COARSE TO FINE GRAVEL, SOME COARSE TO MEDIUM TO FINE SAND, LITTLE SILT, FINE TO MEDIUM TO COARSE COBBLES	
715				
			10.0	
10			END OF TEST PIT AT 10.0 FT	
710				
15				
705				
20				
700				
25				
695				
30				

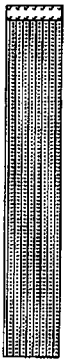
Notes:



TEST PIT LOG

Test Pit No.: TP-6.2

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	9/3/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	721
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	J. KIECHEL
DEPTH TO - Water:	When checked:	Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS		REMARKS
	GRAPHIC	DESCRIPTION	
720		TOPSOIL	
		0.4	
		LIGHT BROWN FINE TO MEDIUM SAND	
		4.0	
715		SOME COARSE TO MEDIUM TO FINE SAND, BROWN COARSE TO FINE GRAVEL, FINE TO COARSE COBBLES	
		9.5	
710		END OF TEST PIT AT 9.5 FT	
705			
700			
695			
690			

Notes:



TEST PIT LOG

Test Pit No.: TP-7.1

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	9-7-10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	715
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	M. MORYKIN
DEPTH TO - Water: N/E		When checked: Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS			REMARKS
	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
715 0			TOPSOIL	REFUSAL TO FURTHER EXCAVATION AT 3.0 FT
			0.8	
			YELLOW BROWN, FINE TO MEDIUM TO COARSE SAND, SOME FINE TO COARSE GRAVEL, LITTLE CLAYEY SILT	
710 5			3.0	
			END OF TEST PIT AT 3.0 FT	
705 10				
700 15				
695 20				
690 25				
685 30				

Notes:



TEST PIT LOG

Test Pit No.: TP-7.2

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	9-7-10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	715
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	M. MORYKIN
DEPTH TO - Water:		When checked:	Caving:

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS			REMARKS
	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
715 0			TOPSOIL	
			0.5	
			HIGHLY FRACTURED BEDROCK	
			2.0	
			END OF TEST PIT AT 2.0 FT	
710 5				
705 10				
700 15				
695 20				
690 25				
685 30				

Notes:



TEST PIT LOG

Test Pit No.: TP-8.1

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	8/31/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	645
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	M. MORYKIN
DEPTH TO - Water: N/E	When checked:	Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS			REMARKS
	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
645 0			TOPSOIL	
			1.5	
			YELLOW BROWN FINE TO MEDIUM SAND, SOME SILT	
			4.5	
640 5			BROWN TO YELLOW BROWN, FINE TO MEDIUM SAND	
635 10			10.0	
			END OF TEST PIT AT 10.0 FT	
630 15				
625 20				
620 25				
615 30				

Notes:



TEST PIT LOG

Test Pit No.: TP-9.1

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	9/2/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	670
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	J. KIECHEL
DEPTH TO - Water:	When checked:	Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS			REMARKS
	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
670 0			TOPSOIL	
			0.8	
			LIGHT TO MEDIUM BROWN FINE TO MEDIUM SAND	
			3.0	
665 5			SOME FINE TO MEDIUM TO SAND GRAY GRAVEL FINE TO COARSE COBBLES	
			9.0	
660 10			END OF TEST PIT AT 9.0 FT	
655 15				
650 20				
645 25				
640 30				

Notes:



TEST PIT LOG

Test Pit No.: TP-9.2

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	9/2/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	665.7
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	J. KIECHEL
DEPTH TO - Water: N/E		When checked: Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS			REMARKS
	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
665			TOPSOIL	
			0.3	
			LIGHT TO MEDIUM BROWN SAND, SOME SILT, TRACE COARSE TO FINE GRAVEL	
660			5.0	
			END OF TEST PIT AT 5.0 FT	
655				
650				
645				
640				
635				

Notes:



TEST PIT LOG

Test Pit No.: TP-10.1

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	9-2-10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	672.6
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	M. MORYKIN
DEPTH TO - Water: N/E	When checked:	Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS		REMARKS
	GRAPHIC	DESCRIPTION	
0		TOPSOIL	
670		YELLOW BROWN, FINE TO MEDIUM TO COARSE SAND, LITTLE CLAYEY SILT	
665		BROWN FINE TO MEDIUM TO COARSE SAND, SOME FINE TO COARSE GRAVEL (COBBLES AND BOULDERS) LITTLE CLAYEY SILT	
660		END OF TEST PIT AT 5.5 FT	
655			
650			
645			
640			
635			
630			
625			
620			
615			
610			
605			
600			
595			
590			
585			
580			
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15			
10			
5			
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Notes:



TEST PIT LOG

Test Pit No.: TP-10.2

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	9-2-10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	673.5
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	M. MORYKIN
DEPTH TO - Water: 6.0	When checked:	Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS		REMARKS
	GRAPHIC	DESCRIPTION	
0		TOPSOIL	MOTTLING OBSERVED STARTING AT 3.2 FT
		1.2	
670		YELLOW BROWN, FINE TO MEDIUM TO COARSE SAND, LITTLE CLAYEY SILT	
5		2.2	
		BROWN FINE TO MEDIUM TO COARSE SAND, AND FINE TO COARSE GRAVEL, LITTLE CLAYEY SILT COBBLES AND BOULDERS, GRAY TO ORANGE BROWN MOTTLING	
665		6.5	
		END OF TEST PIT AT 6.5 FT	
10			
660			
15			
655			
20			
650			
25			
645			
30			

Notes:



TEST PIT LOG

Test Pit No.: TP-11.1

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	9-2-10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	670
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	M. MORYKIN
DEPTH TO - Water: N/E		When checked: Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS		REMARKS
	GRAPHIC	DESCRIPTION	
670 0		TOPSOIL	MOTTLING OBSERVED STARTING AT 8.0'
		1.5	
		BROWN TO YELLOW BROWN FINE TO MEDIUM TO COARSE SAND, SOME FINE TO COARSE GRAVEL, LITTLE SILT	
665 5		3.5	
		BROWN, FINE TO MEDIUM TO COARSE SAND, AND FINE TO COARSE GRAVEL (COBBLES AND BOULDERS) SOME MOTTLING	
		8.0	
660 10		BROWN TO GRAYISH BROWN FINE TO COARSE SHALE GRAVEL, SOME FINE TO MEDIUM TO COARSE SAND, LITTLE CLAYEY SILT	
		12.0	
		END OF TEST PIT AT 12.0 FT	
655 15			
650 20			
645 25			
640 30			

Notes:



TEST PIT LOG

Test Pit No.: TP-11.2

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	9/7/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	665
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	M. MORYKIN
DEPTH TO - Water: N/E		When checked: Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS		REMARKS
	GRAPHIC	DESCRIPTION	
665 0		TOPSOIL 1.5	REFUSAL AT 6.0'
		BROWN TO YELLOW BROWN FINE TO MEDIUM TO COARSE SAND, SOME FINE TO COARSE GRAVEL, LITTLE CLAYEY SILT 4.0	
660 5		DARK GRAY-SLIGHTLY TO MODERATELY WEATHERED HIGHLY FRACTURED SHALE OR SILTSTONE BEDROCK 6.0	
		END OF TEST PIT AT 6.0 FT	
655 10			
650 15			
645 20			
640 25			
635 30			

Notes:



TEST PIT LOG

Test Pit No.: TP-12A.1

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	9/2/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	680
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	M. MORYKIN
DEPTH TO - Water: N/E When checked:		Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS			REMARKS
	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
680 0			TOPSOIL	
			1.5	
			YELLOW BROWN FINE TO MEDIUM TO COARSE SAND, LITTLE SILT, SOME FINE TO COARSE GRAVEL (COBBLES AND BOULDERS)	
675 5			6.0	
			END OF TEST PIT AT 6.0 FT	
670 10				
665 15				
660 20				
655 25				
650 30				

Notes:



TEST PIT LOG

Test Pit No.: TP-12A.2

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	9/2/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	680
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	M. MORYKIN
DEPTH TO - Water: N/E		When checked: Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS		REMARKS
	GRAPHIC	DESCRIPTION	
680 0		TOPSOIL	REFUSAL TO FURTHER EXCAVATION AT 6.5' SUSPECTED LARGE BOULDERS
675 5		YELLOW BROWN FINE TO MEDIUM TO COARSE SAND, LITTLE SILT, SOME FINE TO COARSE GRAVEL (COBBLES & BOULDERS)	
670 10		END OF TEST PIT AT 6.5 FT	
665 15			
660 20			
655 25			
650 30			

Notes:



TEST PIT LOG

Test Pit No.: TP-14.1

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	9/7/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	655
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	M. MORYKIN
DEPTH TO - Water: N/E		When checked: Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS			REMARKS
	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
655 0			TOPSOIL	
			1.3	
			5.0	
650 5			END OF TEST PIT AT 5.0 FT	
645 10				
640 15				
635 20				
630 25				
625 30				

Notes:



TEST PIT LOG

Test Pit No.: TP-14.2

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	9/7/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	655
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	M. MORYKIN
DEPTH TO - Water: N/E		When checked: Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS			REMARKS
	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
655 0			TOPSOIL	
			1.1	
			5.0	
650 5			YELLOW BROWN, FINE TO MEDIUM TO COARSE SAND, SOME FINE TO COARSE GRAVEL, LITTLE CLAYEY SILT, CONTAINS TRACE TO LITTLE COBBLES AND BOULDERS	
			END OF TEST PIT AT 5.0 FT	
645 10				
640 15				
635 20				
630 25				
625 30				

Notes:



TEST PIT LOG

Test Pit No.: TP-15.1

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	9/7/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	635
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	M. MORYKIN
DEPTH TO - Water: N/E When checked:		Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS		REMARKS
	GRAPHIC	DESCRIPTION	
635 0		TOPSOIL	
		YELLOW BROWN TO BROWN FINE TO MEDIUM SAND, LITTLE CLAYEY SILT	
630 5		END OF TEST PIT AT 7.0 FT	
625 10			
620 15			
615 20			
610 25			
605 30			

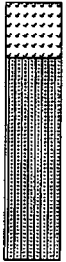
Notes:

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TEST PIT LOG

Test Pit No.: TP-15.2

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	9/7/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	635
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	M. MORYKIN
DEPTH TO - Water: N/E		When checked: Caving:	

ELEVATION			SOIL SYMBOLS AND SAMPLERS	REMARKS
	DEPTH	GRAPHIC	DESCRIPTION	
635	0		TOPSOIL	
			1.5	
			YELLOW BROWN TO BROWN FINE TO MEDIUM SAND, LITTLE CLAYEY SILT	
630	5		7.0	
			END OF TEST PIT AT 7.0 FT	
625	10			
620	15			
615	20			
610	25			
605	30			

Notes:



TEST PIT LOG

Test Pit No.: TP-16.1

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	9/8/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	668.3
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	J. KIECHEL
DEPTH TO - Water: N/E		When checked: Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS		REMARKS
	GRAPHIC	DESCRIPTION	
0		TOPSOIL	0.5
		LIGHT TO MEDIUM BROWN FINE SAND, SOME SILT	3.0
665		SOME FINE TO MEDIUM COARSE TO MEDIUM TO FINE SAND, BROWN COARSE TO FINE GRAVEL, LITTLE SILT, FINE TO COARSE COBBLES	7.5
		END OF TEST PIT AT 7.5 FT	
5			
660			
10			
655			
15			
650			
20			
645			
25			
640			
30			

Notes:



TEST PIT LOG

Test Pit No.: TP-16.2

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	9/1/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	666.3
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	J. KIECHEL
DEPTH TO - Water: N/E		When checked: Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS		REMARKS
	GRAPHIC	DESCRIPTION	
0		TOPSOIL	MOTTILING OBSERVED STARTING AT 5 FT
665		LIGHT TO MEDIUM FINE TO MEDIUM TO COARSE SAND, SOME SILT	
5		TEST PIT ENDED AT 5.0 FT	
660			
10			
655			
15			
650			
20			
645			
25			
640			
30			
635			

Notes:



TEST PIT LOG

Test Pit No.: TP-17.1

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	9/8/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	665
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	J. KIECHEL
DEPTH TO - Water: N/E		When checked: Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS			REMARKS
	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
665 0			TOPSOIL	
			0.8	
			LIGHT TO MEDIUM FINE TO MEDIUM SAND	
			2.0	
660 5			SOME DARK BROWN COARSE TO MEDIUM TO FINE SAND, BROWN COARSE TO FINE GRAVEL, TRACE SILT, FINE TO COARSE GRAVELS	
655 10			10.0	
			END OF TEST PIT AT 10.0 FT	
650 15				
645 20				
640 25				
635 30				

Notes:



TEST PIT LOG

Test Pit No.: TP-17.2

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	9/8/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	665
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	J. KIECHEL
DEPTH TO - Water: N/E		When checked: Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS			REMARKS
	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
665 0			TOPSOIL	
			0.8	
			LIGHT TO MEDIUM BROWN FINE SAND, LITTLE SILT	
			1.5	
660 5			DARK BROWN COARSE TO FINE GRAVEL, SOME COARSE TO MEDIUM TO FINE SAND, FINE TO COARSE COBBLES, TRACE SILT	
655 10			10.0	
			END OF TEST PIT AT 10.0 FT	
650 15				
645 20				
640 25				
635 30				

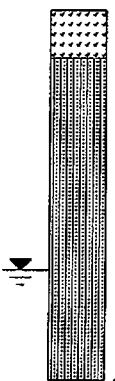
Notes:



TEST PIT LOG

Test Pit No.: TP-201.A

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	10/21/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	668.7
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	J. TERRY
DEPTH TO - Water: 7.0 FT	When checked:	Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS		REMARKS
	GRAPHIC	DESCRIPTION	
0		TOPSOIL	MOTTILING OBSERVED STARTING AT 4 FT
1.3		YELLOW BROWN, FINE TO MEDIUM SAND, SOME CLAYEY SILT	
7.0		BROWN FINE TO MEDIUM TO COARSE SAND, SOME FINE TO COARSE GRAVEL AND COBBLES LITTLE CLAYEY SILT	WATER SEEP AT 7 FT
10.0		SUSPECTED TOP OF ROCK STARTING 10.0 FT REFUSAL TO FURTHER EXCAVATION	
665			
5			
660			
10			
655			
15			
650			
20			
645			
25			
640			
30			

Notes:



TEST PIT LOG

Test Pit No.: TP-202.B

PROJECT BELL BEND NUCLEAR POWER PLANT		PROJECT NO. PPLS 0902
LOCATION BERWICK, PA		DATE 10/21/10
EXCAVATOR/OPERATOR DENNIS WAHL EXCAVATING/D. WAHL		ELEV. 676
EXCAVATION METHOD CASE 580 BACKHOE		RECORDED BY J. TERRY
DEPTH TO - Water: N/E When checked: Caving:		

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS			REMARKS
	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
0			TOPSOIL	
675			1.0	
			YELLOW TO ORANGISH BROWN FINE TO MEDIUM TO COARSE SAND	
			3.0	
5			BROWN FINE TO MEDIUM TO COARSE SAND, SOME FINE TO COARSE GRAVEL, LITTLE SILT & CLAY	SUSPECTED HARD PAN STARTING AT 4 FT TO 4.5 FT
670			7.0	
			FISSE SHALE BEDROCK STARTING AT 7.5 FT RIPPABLE TO SOFT	
			8.0	
10			END OF TEST PIT AT 8.0 FT	
665				
15				
660				
20				
655				
25				
650				
30				
645				

Notes:



TEST PIT LOG

Test Pit No.: TP-201.B-2

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	10/25/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	671
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	J. TERRY
DEPTH TO - Water: 7.0 FT	When checked:	Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS			REMARKS
	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
0			TOPSOIL	MOTTILING OBSERVED STARTING AT 6.5 FT WATER SEEP AT 7 FT
670			1.1 YELLOW BROWN FINE TO MEDIUM SAND, SOME CLAYEY SILT	
5			2.7 BROWN FINE TO MEDIUM TO COARSE SAND, SOME FINE TO COARSE GRAVEL, LITTLE TO TRACE SILT (CONTAINS COBBLES & BOULDERS)	
665			10.0 END OF TEST PIT AT 10.0 FT	
660				
15				
655				
20				
650				
25				
645				
30				
640				

Notes:



TEST PIT LOG

Test Pit No.: TP-203.1.B

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	10/21/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	678
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	J. TERRY
DEPTH TO - Water: N/E		When checked: Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS			REMARKS
	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
0			TOPSOIL	
675			1.0	
5			YELLOW BROWN FINE TO MEDIUM TO COARSE SAND AND SILT, TRACE FINE TO COARSE GRAVEL, TRACE CLAY	
670			2.5	
10			BROWN FINE TO MEDIUM TO COARSE SAND, SOME FINE TO COARSE GRAVEL AND COBBLES, SILT	
665			7.0	
15			END OF TEST PIT AT 7.0 FT	
660				
20				
655				
25				
650				
30				

Notes:



TEST PIT LOG

Test Pit No.: TP-203.2A

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	10/19/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	644
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	D. MARANO
DEPTH TO - Water:	When checked:	Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS			REMARKS
	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
0			TOPSOIL	
			1.0	
			TAN BROWN FINE SAND, SOME SILT	
			2.5	
640			END OF TEST PIT AT 2.5 FT	
5				
635				
10				
630				
15				
625				
20				
620				
25				
615				
30				

Notes:



TEST PIT LOG

Test Pit No.: TP-203.2B

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	10/19/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	653.5
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	D. MARANO
DEPTH TO - Water: N/E When checked:		Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS			REMARKS
	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
0			TOPSOIL	
			0.5	
			BROWN FINE SAND, SOME SILT	
			4.5	
650			GRAY/DARK BROWN COARSE TO FINE GRAVEL & COBBLES, LITTLE COARSE TO FINE SAND, TRACE SILT	
5			7.0	
645			END OF TEST PIT AT 7.0 FT	
10				
640				
15				
635				
20				
630				
25				
625				
30				

Notes:



TEST PIT LOG

Test Pit No.: TP-208.A

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	10/26/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	665
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	D. MARANO
DEPTH TO - Water: N/E		When checked: Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS			REMARKS
	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
665 0			TOPSOIL 1.2	
			BROWN SILT, SOME FINE SAND, FEW COBBLES 3.5	
660 5			GRAY/DARK BROWN MEDIUM TO FINE TO COARSE SAND, SOME COARSE TO FINE GRAVEL & COBBLES, TRACE SILT	
			DARK BROWN COARSE TO FINE GRAVEL, & COBBLES & BOULDERS LITTLE COARSE TO FINE SAND, TRACE SILT 7.0	
655 10			END OF TEST PIT AT 7.0 FT	
650 15				
645 20				
640 25				
635 30				

Notes:



TEST PIT LOG

Test Pit No.: TP-208.B

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	10/26/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	666
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	D. MARANO
DEPTH TO - Water: N/E		When checked: Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS		REMARKS
	GRAPHIC	DESCRIPTION	
0		TOPSOIL	
665		TAN BROWN FINE SAND AND SILT	
		ORANGE BROWN SILT, SOME MEDIUM TO FINE SAND, LITTLE COARSE TO FINE GRAVE	
5		BROWN FINE SAND, SOME COBBLES & BOULDER LITTLE SILT	
660		COBBLES & BOULDERS, SOME COARSE TO FINE GRAVEL, SOME COARSE TO FINE SAND, TRACE SILT	
10		END OF TEST PIT AT 8.0 FT	
655			
15			
650			
20			
645			
25			
640			
30			
635			

Notes:



TEST PIT LOG

Test Pit No.: TP-210-4A

PROJECT BELL BEND NUCLEAR POWER PLANT		PROJECT NO. PPLS 0902
LOCATION BERWICK, PA		DATE 10/20/10
EXCAVATOR/OPERATOR DENNIS WAHL EXCAVATING/D. WAHL		ELEV. 667
EXCAVATION METHOD CASE 580 BACKHOE		RECORDED BY D. MARANO
DEPTH TO - Water: N/E When checked: Caving:		

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS			REMARKS
	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
0			TOPSOIL	
665			BROWN FINE SAND, SOME SILT	
			TAN BROWN MEDIUM TO FINE TO COARSE SAND, SOME COARSE TO FINE GRAVEL & COBBLES, TR SILT	
660			DARK BROWN COARSE TO FINE GRAVEL AND COBBLES, SOME COARSE TO FINE SAND, TRACE SILT	
10			END OF TEST PIT AT 9.0 FT	
655				
15				
650				
20				
645				
25				
640				
30				

Notes:



TEST PIT LOG

Test Pit No.: TP-210.4B

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	10/26/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	665
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	D. MARANO
DEPTH TO - Water: N/E	When checked:	Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS			REMARKS
	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
665 0			TOPSOIL	
			TAN BROWN MEDIUM TO FINE TO COARSE SAND, SOME COARSE TO FINE GRAVEL & COBBLES, LITTLE SILT	
660 5			GRAY/BROWN COARSE TO FINE GRAVEL SIZE & COBBLES, SOME COARSE TO FINE SAND, TRACE SILT	
			END OF TEST PIT AT 7.0 FT.	
655 10				
650 15				
645 20				
640 25				
635 30				

Notes:



TEST PIT LOG

Test Pit No.: TP-213.1.A

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	10/22/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	718
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	J. TERRY
DEPTH TO - Water: 6.5 FT	When checked:	Caving:	

ELEVATION/	SOIL SYMBOLS AND SAMPLERS			REMARKS
DEPTH	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
0			TOPSOIL	MOTTLING AT 5.0' WET AT 6.5'
			0.9	
715			LIGHT BROWN FINE TO MEDIUM SAND, SOME SILT	
			3.5	
5			BROWN MEDIUM TO FINE SAND, LITTLE SILT, LITTLE COARSE TO FINE GRAVEL	
			5.0	
710			LIGHT BROWN/GRAY FINE TO MEDIUM SAND, LITTLE SILT	
			6.0	
10			BROWN COARSE TO FINE GRAVEL, SOME COARSE TO MEDIUM SAND, SOME COBBLES	
			7.0	
			END OF TEST PIT AT 7.0 FT	
705				
15				
700				
20				
695				
25				
690				
30				

Notes:



TEST PIT LOG

Test Pit No.: TP-213.1.B

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	10/22/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	723
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	J. TERRY
DEPTH TO - Water: N/E	When checked:	Caving:	

ELEVATION/ DEPTH	GRAPHIC	SAMPLE NUMBER	SOIL SYMBOLS AND SAMPLERS	DESCRIPTION	REMARKS
0				TOPSOIL	
720				BROWN FINE TO MEDIUM TO COARSE SAND, SOME SILT, LITTLE FINE TO COARSE GRAVEL	
5				LIGHT BROWN COBBLES, SOME FINE TO COARSE GRAVEL, SOME FINE TO MEDIUM TO COARSE SAND, LITTLE SILT	
715				BROWN BOULDERS AND COBBLES, SOME COARSE TO FINE GRAVEL, SOME FINE TO MEDIUM TO COARSE SAND, LITTLE SILT	
10				END OF TEST PIT AT 11.0 FT	
710					
15					
705					
20					
700					
25					
695					
30					

Notes:



TEST PIT LOG

Test Pit No.: TP-213.1.B (2)

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	10/22/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	723
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	J. TERRY
DEPTH TO - Water: N/E When checked:		Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS			REMARKS
	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
0			TOPSOIL	
			0.8	
720			LIGHT BROWN FINE TO MEDIUM SAND, SOME SILT	
			3.5	
5			LIGHT BROWN COBBLES, SOME FINE TO COARSE GRAVEL, SOME FINE TO MEDIUM TO COARSE SAND, LITTLE SILT	
			7.0	
715			DARK BROWN BOULDERS AND COBBLES, SOME COARSE TO FINE GRAVEL, SOME FINE TO MEDIUM TO COARSE SAND, LITTLE SILT	
10			11.0	
			END OF TEST PIT AT 11.0 FT	
710				
15				
705				
20				
700				
25				
695				
30				

Notes:



TEST PIT LOG

Test Pit No.: TP-215.C

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	10/26/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	999
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	D. MARANO
DEPTH TO - Water: N/E	When checked:	Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS			REMARKS
	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
0			TOPSOIL	
			0.8	
			TAN BROWN FINE SAND, SOME SILT, LITTLE COARSE TO FINE GRAVEL	
			2.5	
995			BROWN COARSE TO FINE GRAVEL SIZE ROCK FRAGMENTS, SOME COARSE TO FINE SAND, LITTLE SILT, FEW COBBLES	
5			4.0	
			BROWN COARSE TO FINE GRAVEL & COBBLES LITTLE COARSE TO FINE SAND, TRACE SILT	
			7.0	
990			END OF TEST PIT AT 7.0 FT REFUSAL TO FURTHER EXCAVATION	
10				
985				
15				
980				
20				
975				
25				
970				
30				

Notes:



TEST PIT LOG

Test Pit No.: TP-215.D

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	10/26/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	999
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	D. MARANO
DEPTH TO - Water: N/E	When checked:	Caving:	

ELEVATION/	SOIL SYMBOLS AND SAMPLERS			REMARKS
DEPTH	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
0			TOPSOIL	SUSPECTED HIGHLY FRACTURED BEDROCK STARTING AT 3.5 FT
			1.5	
			ORANGE BROWN SILT & CLAY, SOME FINE SAND	
			3.5	
995			ORANGE BROWN COARSE TO FINE GRAVEL & COBBLES (ANGULAR) LITTLE SILT, LITTLE MEDIUM TO FINE SAND	
5			7.0	
			END OF TEST PIT AT 7.0 FT	
990				
10				
985				
15				
980				
20				
975				
25				
970				
30				

Notes:

Pennoni

TEST PIT LOG

Test Pit No.: TP-218.A

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	10/19/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	625
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	D. MARANO
DEPTH TO - Water: 3.0 FT		When checked:	Caving:

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS		REMARKS
	GRAPHIC	SAMPLE NUMBER	
625 0			TOPSOIL 0.8 DARK BROWN FINE TO MEDIUM SAND, SOME SILT, LITTLE FINE TO COARSE GRAVEL AND COBBLES 3.0 END OF TEST PIT AT 3.0 FT
620 5			
615 10			
610 15			
605 20			
600 25			
595 30			

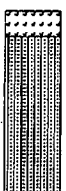
Notes:

Pennoni

TEST PIT LOG

Test Pit No.: TP-218.B

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	10/19/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	622
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	D. MARANO
DEPTH TO - Water: N/E		When checked:	Caving:

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS			REMARKS
	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
0			TOPSOIL	
620			DARK BROWN MEDIUM TO FINE SAND, SOME SILT, LITTLE COARSE TO FINE GRAVEL & COBBLES	0.7 2.0
5			DARK BROWN COARSE TO FINE SAND, SOME COARSE TO FINE GRAVEL, LITTLE SILT, COBBLES	4.5
615			DARK BROWN MEDIUM TO FINE SAND, AND COARSE TO FINE GRAVEL AND COBBLES, LITTLE SILT	5.0
			END OF TEST PIT AT 5.0 FT	
10				
610				
15				
605				
20				
600				
25				
595				
30				

Notes:



TEST PIT LOG

Test Pit No.: TP-220.A

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	10/22/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	651
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	J. TERRY
DEPTH TO - Water: N/E		When checked: Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS			REMARKS
	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
0			TOPSOIL	
650			0.8	
			BROWN/YELLOW FINE TO MEDIUM SAND, SOME SILT	
			3.5	
5			DARK BROWN COARSE TO MEDIUM TO FINE SAND AND COARSE TO FINE GRAVEL, SOME COBBLES	
645			5.0	
			END OF TEST PIT AT 5.0 FT	
10				
640				
15				
635				
20				
630				
25				
625				
30				
620				

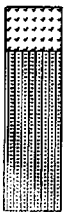
Notes:

Pennoni

TEST PIT LOG

Test Pit No.: TP-220.B

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	10/22/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	649.3
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	J. TERRY
DEPTH TO - Water: N/E		When checked:	Caving:

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS		REMARKS
	GRAPHIC	DESCRIPTION	
0		TOPSOIL	
		1.2	
		2.5	
645		5.5	
5		END OF TEST PIT AT 5.5 FT	
640			
10			
635			
15			
630			
20			
625			
25			
620			
30			

Notes:



TEST PIT LOG

Test Pit No.: TP-221.A

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	10/22/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	607
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	J. TERRY
DEPTH TO - Water: N/E		When checked: Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS			REMARKS
	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
0			TOPSOIL	
605			0.8	
			LIGHT BROWN FINE TO MEDIUM TO COARSE SAND, SOME SILT, LITTLE COARSE TO FINE GRAVEL	
5			2.2	
			DARK BROWN COARSE TO MEDIUM TO FINE SAND, SOME FINE TO COARSE GRAVEL, SOME COBBLES (GRADED BEDDING/ALLUVIAL)	
600			6.5	
			END OF TEST PIT AT 6.5 FT	
10				
595				
15				
590				
20				
585				
25				
580				
30				

Notes:



TEST PIT LOG

Test Pit No.: TP-221.B

PROJECT	BELL BEND NUCLEAR POWER PLANT	PROJECT NO.	PPLS 0902
LOCATION	BERWICK, PA	DATE	10/22/10
EXCAVATOR/OPERATOR	DENNIS WAHL EXCAVATING/D. WAHL	ELEV.	608
EXCAVATION METHOD	CASE 580 BACKHOE	RECORDED BY	J. TERRY
DEPTH TO - Water: N/E		When checked: Caving:	

ELEVATION/ DEPTH	SOIL SYMBOLS AND SAMPLERS			REMARKS
	GRAPHIC	SAMPLE NUMBER	DESCRIPTION	
0			TOPSOIL	
			0.8	
605			LIGHT BROWN FINE TO MEDIUM TO COARSE SAND, SOME COARSE TO FINE GRAVEL, LITTLE SILT	
			1.5	
5			DARK BROWN COARSE TO MEDIUM TO FINE SAND, AND COARSE TO FINE GRAVEL, SOME COBBLES (GRADED BEDDING)	
			7.5	
600			END OF TEST PIT AT 7.5 FT	
10				
595				
15				
590				
20				
585				
25				
580				
30				

Notes:

APPENDIX K
Intake Area Report



CALCULATION COVER SHEET

PROJECT Bell Bend Nuclear Power Plant		JOB NO. 25493		CALC NO. 25493-000- K0C-7400-00001		SHEET 1 of 19	
SUBJECT Intake Area Storm Water Management Analysis				DISCIPLINE G&HES			
CALCULATION STATUS DESIGNATION		PRELIMINARY ☐	CONFIRMED with PRELIMINARY INFORMATION ☒	CONFIRMED ☐	SUPERSEDED ☐	VOIDED ☐	
COMPUTER PROGRAM/TYPE	SCP ☐	PROGRAM NO. NONE	VERSION/RELEASE NO. --		OPERATING SYSTEM --		
NUCLEAR QUALITY CLASSIFICATION	SAFETY-RELATED ☐	AUGMENTED QUALITY ☐	NONSAFETY-RELATED ☒				

Preliminary Information:

Site grade at the intake area is based on preliminary data.

DIT 25493-000-30X-K01G-00001, Rev. 000

000	Issued for Use	19	Sht 19	YK	CMF	UB/MN	03 Nov. '10
NO.	REASON FOR REVISION	TOTAL NO. OF SHEETS	LAST SHEET NO.	BY	CHECKED	APPROVED/ ACCEPTED	DATE
RECORD OF REVISIONS							



CALCULATION SHEET

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SUBJECT Intake Area Storm Water Management Analysis

SHEET NO. 2 of 19

BY Y. Kinfu

DATE 26 Oct. 2010

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I. Objective and Methodology

The objective of this calculation is to determine the following for the intake area: 1) the pre- and post-development runoff volumes; 2) pre- and post-development peak discharges; and 3) guidelines on channel protection for points of discharge.

Applicable regulations and design criteria established by the Commonwealth of Pennsylvania were utilized in estimating the pre- and post-development runoff volumes and peak discharges; and also for the design of channel protection at discharge points. TR-55 methodology is used to determine peak discharges from sub-basins.

II. Site Description

The proposed Bell Bend Nuclear Power Plant (PPL Bell Bend, LLC / UniStar Nuclear Energy) is located in Salem Township, Luzerne County, Pennsylvania. The proposed site for this project is located north of S.R. 0011 and is bounded by Beachgrove Rd. The nearest intersection to the project is Market St. with Beachgrove Rd.

The proposed intake area is located on the west bank of Susquehanna River, east of the power block area and south of the existing intake for Susquehanna Units 1 & 2. Figure 1 shows the location of the intake area. Horizontal datum used in this calculation is the North American Datum, 1983 in conjunction with the State Plane coordinate system of Pennsylvania North FIPS 3701.

The land cover of the intake area is mostly grassland and wooded and covers approximately 14.9 acres. Currently there is no agricultural, industrial/commercial or residential facility at the site. All runoff from the area drains directly to the Susquehanna River, either through an unnamed stream that cuts across the site, or directly as overland flow to the river. There is a marsh area near the southwest corner of the site that potentially can retain precipitation and runoff.

For the post-development conditions, part of the unnamed stream will be filled to build the intake structure and the associated access road and parking area in addition to discontinuing overflow into the stream from the adjacent canal. The stream will be diverted from just upstream of the toe of the access road embankment to the river via a pipe. The area north of the proposed intake structure and south of the existing intake structure will be drained to the river via a pipe. In addition, the runoff from the southern embankment of the intake structure, access road and parking area will be intercepted by a swale and drain directly to the river. These three point discharges discussed above will be designed for scour and erosion protection stemming from peak runoff discharges. Figure 2 shows the location of these discharge points (Point of Interests (POIs) I-1, I-2 and I-5).



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III. Analysis and Design Data

A. Soil Properties

As indicated in Figure 3, the soils within the intake area consist of Holly silt loam (Ho) and Pope Soils (Ps). The soil types of the area fall into hydrological soil group (HSG) Type B.

B. 24-Hour Rainfall Depths

The 24-hour rainfall depths are obtained from the Reference 3 and are presented in Table 1.

Table 1: 24-Hour Rainfall Depths (P) for the Bell Bend Site

ARI ⁽¹⁾	2-year	10-Year	25-year	100-Year
Depth (in)	3.02	4.38	5.41	7.49

Note: (1) Average Recurrence Interval.

A Type-II rainfall distribution is used for the TR-55 method to determine peak discharges based on the rainfall depth values presented in Table 1.

C. Preliminary Information: Site grade is preliminary data and was obtained from Civil Discipline. The site grade is shown in Figures 1 and 2.

IV. Pre-Development Runoff Peak Discharges

The pre-development peak discharges are determined for the intake area. The details are described in the following sections:

A. Drainage Areas

The pre-development drainage areas (sub-basins) of the intake area are shown in Figure 1. Those areas are summarized in Table 2.



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SUBJECT Intake Area Storm Water Management Analysis

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Table 2: Pre-development Drainage Areas

Sub-basin	Area	
	(ft ²)	(ac)
I-3	115,158	2.64
I-4	14,010	0.32
I-5	367,213	8.43
I-6	153,532	3.52
Total	649,913	14.92

B. Runoff Curve Numbers

Runoff curve numbers (CNs) are a function of soil type and land use, as indicated by the NRCS hydrologic group rating, and were determined based on Tables 2-2a through 2-2d of TR-55. (Reference 2). As indicated in Figure 3, the HSG for the intake area is Type B. Table 3a details the CNs for the different types of land cover and Table 3b summarizes the composite CNs for the sub-basins. The composite CNs for the sub-basins were calculated based area-weighted averaging.

Table 3a. Pre-development Runoff Curve Number for Land Cover Types

Land Cover Type	HSG	Curve Number
Woods	B	60
Grass	B	58
Road/paved	B	98
Water	--	100

Table 3b. Pre-development Runoff Curve Number for Sub-basins

Sub-basin	Area (%)				Composite Curve Number
	Woods	Grass	Paved	Water	
I-3	10	90	0	0	58.2
I-4	50	50	0	0	59.0
I-5	20	75	2	3	60.4
I-6	40	50	0	10	63.0



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C. Time of Concentrations

NRCS methodologies described in TR-55, Reference 2, are used to estimate the time of concentration for each sub-basin. The time of concentration flow paths are divided into three segments: sheet flow; shallow concentrated flow; and ditch (stream) flow. The equations used to determine the travel time through each segment are described as follows:

Sheet Flow:

$$T_1 = \frac{0.007(nL)^{0.8}}{P_2^{0.5} S^{0.4}}$$

Where:

n = surface roughness coefficient (based on shallow surface flows) (Reference 2)

L = flow path length, ft; P₂ = 2-yr, 24-hr rainfall = 3.02 inches (Table 1);

S = Flow path slope

Shallow Concentrated Flow:

From Reference 2, page 3-2, velocity for unpaved surfaces, $V = 16.1345S^{0.5}$, where S is the flow path slope.

$$T_2 = \frac{L}{3600V}$$

Stream Flow:

The average flow velocity in the natural stream is assumed to be about 1.5 ft/s.

The time of concentration (T_c) flow path for each sub-basin POI is shown in Figure 1. For sub-basin I-6, the runoff does not discharge directly to the river, but accumulates within the marsh area. For sub-basins I-3 and I-4, there are no defined point discharge locations, but runoff would enter the river after traveling as overland flow. For sub-basin I-5, the POI is at the mouth of the unnamed stream where it enters the river. For the portion of the flow path past the small marsh area northeast of the sub-basin, it is conservatively assumed that the travel time is negligible. As indicated in Figure 1, there is a small area by the northeast corner this sub-basin that the runoff enters as overland flow to the river without draining to the stream first. Because this area is small (about 1.1% of the sub-basin), it is not delineated separately but is included with within sub-basin I-6.



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The T_c values for each sub-basin are calculated and summarized in Table 4.

Table 4 – Sub-Basin Outlet Time of Concentration Estimates for Pre-Development Conditions

Sub-Basin	Sheet Flow (Segment A-B)				Shallow Concentrated Flow (Segment B-C)				Stream Flow (Segment C-D)			Calculated Time of Conc. (min)
	Length L (ft)	Manning's n	Slope S	T_1 (hr)	Length L (ft)	Slope S	Calc. Velocity V (fps)	T_2 (hr)	Length L (ft)	Est. Vel. V (fps)	T_3 (hr)	
I-3	100	0.15	0.024	0.156	110	0.07	4.3	0.007	350	1.5	0.065	13.7
I-4	100	0.15	0.001	0.579	90	0.010	1.6	0.015	0	0	0.000	35.7
I-5	100	0.15	0.100	0.088	450	0.007	1.3	0.095	370	2.0	0.051	14.1
I-6	100	0.15	0.005	0.304	260	0.008	1.5	0.049	0	0	0.000	21.2

D. Peak Flows

The peak discharges are determined by the graphical method provided in Chapter 4 of TR-55 (Reference 2).

The formulation for the peak discharge is as follows:

$$q_p = q_u A_m Q F_p$$

where q_p is peak discharge (cfs); q_u is unit discharge (cms/in); A_m is drainage area (mile²); Q is runoff depth (in) and F_p is pond and swamp adjustment factor. Because the effect of pond/swamp is directly accounted in this analysis, the adjustment factor is set to one.

Details of the peak flow calculations are provided in Tables 5a through 5d.



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Table 5a. 2-Year; 24-Hour Rainfall Peak Flows for Pre-Development Conditions

Sub-basin	CN	Ia (in)	Ia /P	T _c (hours)	q _u (csm/in)	A _m		Q _{runoff} (in.)	Peak Flow (cfs)
						(ac)	(sq. mi.)		
I-3	58.2	1.44	0.48	0.228	410	2.64	0.00413	0.29	0.5
I-4	59.0	1.39	0.46	0.594	280	0.32	0.00050	0.31	0.04
I-5	60.4	1.31	0.43	0.235	480	8.43	0.01317	0.35	2.2
I-6	63.0	1.17	0.39	0.353	460	3.52	0.00550	0.44	1.1

Table 5b. 10-Year; 24-Hour Rainfall Peak Flows for Pre-Development Conditions

Sub-basin	CN	Ia (in)	Ia /P	T _c (hours)	q _u (csm/in)	A _m		Q _{runoff} (in.)	Peak Flow (cfs)
						(ac)	(sq. mi.)		
I-3	58.2	1.44	0.33	0.228	700	2.64	0.00413	0.86	2.5
I-4	59.0	1.39	0.32	0.594	420	0.32	0.00050	0.90	0.2
I-5	60.4	1.31	0.30	0.235	700	8.43	0.01317	0.98	9.0
I-6	63.0	1.17	0.27	0.353	610	3.52	0.00550	1.13	3.8

Table 5c. 25-Year; 24-Hour Rainfall Peak Flows for Pre-Development Conditions

Sub-basin	CN	Ia (in)	Ia /P	T _c (hours)	q _u (csm/in)	A _m		Q _{runoff} (in.)	Peak Flow (cfs)
						(ac)	(sq. mi.)		
I-3	58.2	1.44	0.27	0.228	710	2.64	0.00413	1.42	4.2
I-4	59.0	1.39	0.26	0.594	440	0.32	0.00050	1.47	0.3
I-5	60.4	1.31	0.24	0.235	710	8.43	0.01317	1.58	14.7
I-6	63.0	1.17	0.22	0.353	640	3.52	0.00550	1.77	6.3



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Table 5d. 100-Year; 24-Hour Rainfall Peak Flows for Pre-Development Conditions

Sub-basin	CN	Ia (in)	Ia /P	T _c (hours)	q _u (csm/in)	A _m		Q runoff (in.)	Peak Flow (cfs)
						(ac)	(sq. mi.)		
I-3	58.2	1.44	0.19	0.228	760	2.64	0.00413	2.77	8.7
I-4	59.0	1.39	0.19	0.594	490	0.32	0.00050	2.85	0.7
I-5	60.4	1.31	0.18	0.235	720	8.43	0.01317	3.00	28.4
I-6	63.0	1.17	0.16	0.353	690	3.52	0.00550	3.27	12.4

V. Post-Development Runoff Peak Discharges

The post-development peak discharges are determined for the intake area. The details are described in the following sections.

A. Drainage Areas

The post-development drainage areas (sub-basins) of the intake area are shown in Figure 2. Those areas are summarized in Table 6. The sub-basin I-4 for post-development conditions is identical to sub-basin I-4 for the pre-development conditions, as no area will be disturbed within the sub-basin. Sub-basin I-5 in the pre-development conditions is represented by sub-basins I-5, I-1 and I-2 in the post-development conditions. Therefore, the summation of the peak discharges from sub-basins I-5, I-1 and I-2 for post-development conditions will be compared to the sub-basin I-5 peak discharge under pre-development conditions. The land cover type for the sub-basin changes because of the intake structure and the associated access road and parking lot, in addition to the dredging stockpile within the sub-basin. The major difference between pre- and post-development for the sub-basins I-3 and I-6 is land cover type change due to the dredging stockpile.



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Table 6: Post-development Drainage Areas

Sub-basin	Area	
	(ft ²)	(ac)
I-1	23,788	0.55
I-2	62,351	1.43
I-3	115,305	2.65
I-4	14,010	0.32
I-5	280,135	6.43
I-6	154,324	3.54
Total	649,913	14.92

B. Runoff Curve Numbers

Runoff curve numbers are a function of soil type and land use, as indicated by the NRCS hydrologic group rating, and were determined based on Tables 2-2a through 2-2d of TR-55. (Reference 2). The CN for dredging stockpile is determined to be 79 under HSG C, assuming that the dredging material comprises of sand, silt and clay, and also is covered with grass. The CN for side slopes of road way embankments is determined assuming grassed conditions.

As indicated in Figure 3, the HSG for the intake area is Type B. Table 7a details the CNs for the different types of land cover and Table 7b summarizes the composite CNs for the sub-basins. The composite CNs for the sub-basins were calculated based area-weighted averaging.

Table 7a. Post-development Runoff Curve Number for Land Cover Types

Land Cover Type	HSG	Curve Number
Woods	B	60
Grass	B	58
Road/paved/structure	--	98
Water	--	100
Dredge Stockpile	C	79
Side Slopes	B	61



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Table 7b. Post-development Runoff Curve Number for Sub-basins

Sub-basin	Area (%)						Composite Curve Number
	Woods	Grass	Paved	Water	Dredge	Side Slopes	
I-1	0	35	30	0	10	25	72.9
I-2	5	0	40	0	0	55	75.8
I-3	10	25	0	0	65	0	71.9
I-4	50	50	0	0	0	0	59.0
I-5	35	40	1	2	10	12	62.4
I-6	30	40	0	8	22	0	66.6

C. Time of Concentration

The time of concentration for the post-development conditions are computed that same way as the pre-development condition as discussed in Section IV.C (NRCS methodologies described in Reference 2 are used to estimate the time of concentration for each of the sub-basin).

The time of concentration (T_c) flow path for each sub-basin POI is shown in Figure 2. For sub-basin I-6, the runoff does not discharge directly to the river, but is detained within the marsh area. For sub-basins I-3 and I-4, there are no defined point discharge locations, but the runoff would enter the river after traveling as overland flow. For sub-basin I-5, the POI is at the entrance of the stream diversion pipe, as indicated in Figure 2. For the portion of the flow path past the small marsh area northeast of the sub-basin, it is conservatively assumed that the travel time is negligible. As indicated in Figure 2, there is a small area by the northeast corner this sub-basin that the runoff enters as overland flow to the river without draining to the stream first. However, for this calculation this area is included within sub-basin I-1.

The T_c values for each sub-basin are calculated and summarized in Table 8.



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Table 8 – Sub-Basin Outlet Time of Concentration Estimates for Post-Development Conditions

Sub-Basin	Sheet Flow (Segment A-B)				Shallow Concentrated Flow (Segment B-C)				Stream Flow (Segment C-D)			Calculated Time of Conc. (min)
	Length L (ft)	Manning's n	Slope S	T ₁ (hr)	Length L (ft)	Slope S	Calc. Velocity V (fps)	T ₂ (hr)	Length L (ft)	Est. Vel. V (fps)	T ₃ (hr)	
I-1	100	0.011	0.060	0.013	150	0.042	3.29	0.013	90	3.00	0.008	6.0*
I-2	100	0.011	0.200	0.008	100	0.15	6.25	0.004	0	0	0.000	6.0*
I-3	100	0.011	0.050	0.014	20	0.075	4.42	0.001	350	1.50	0.065	6.0*
I-4	100	0.15	0.001	0.579	90	0.010	1.61	0.015	0	0	0.000	35.7
I-5	100	0.15	0.100	0.088	450	0.007	1.32	0.095	0	0	0.000	11.0
I-6	100	0.15	0.005	0.304	260	0.008	1.47	0.049	0	0	0.000	21.2

Note: * Time of concentration calculated for minimum of 6 min.

D. Peak Flows

The peak flows for the post-development conditions are computed that same way as the pre-development condition as discussed in Section IV.D (graphical method provided in Chapter 4 of TR-55 (Reference 2)).

Details of the peak flow calculations are provided in Tables 9a through 9d.

Table 9a. 2-Year; 24-Hour Rainfall Peak Flows for Post-Development Conditions

Sub-basin	CN	Ia (in)	Ia /P	Tc (hours)	q _a (csm/in)	A _m		Q, runoff (in.)	Peak Flow (cfs)
						(ac)	(sq. mi.)		
I-1	72.9	0.75	0.25	0.100	985	0.55	0.00085	0.86	0.7
I-2	75.8	0.64	0.21	0.100	990	1.43	0.00224	1.01	2.2
I-3	71.9	0.78	0.26	0.100	985	2.65	0.00414	0.81	3.3
I-4	59.0	1.39	0.46	0.594	280	0.32	0.00050	0.31	0.04
I-5	62.4	1.21	0.40	0.183	610	6.43	0.01005	0.42	2.6
I-6	66.6	1.00	0.33	0.353	560	3.54	0.00554	0.58	1.8



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Table 9b. 10-Year; 24-Hour Rainfall Peak Flows for Post-Development Conditions

Sub-basin	CN	Ia (in)	Ia/P	Tc (hours)	q _u (csm/in)	A _m		Q, runoff (in.)	Peak Flow (cfs)
						(ac)	(sq. mi.)		
I-1	72.9	0.75	0.17	0.100	995	0.55	0.00085	1.79	1.5
I-2	75.8	0.64	0.15	0.100	997	1.43	0.00224	2.01	4.5
I-3	71.9	0.78	0.18	0.100	992	2.65	0.00414	1.72	7.1
I-4	59.0	1.39	0.32	0.594	420	0.32	0.00050	0.90	0.2
I-5	62.4	1.21	0.28	0.183	820	6.43	0.01005	1.10	9.0
I-6	66.6	1.00	0.23	0.353	600	3.54	0.00554	1.36	4.5

Table 9c. 25-Year; 24-Hour Rainfall Peak Flows for Post-Development Conditions

Sub-basin	CN	Ia (in)	Ia/P	Tc (hours)	q _u (csm/in)	A _m		Q, runoff (in.)	Peak Flow (cfs)
						(ac)	(sq. mi.)		
I-1	72.9	0.75	0.14	0.100	998	0.55	0.00085	2.59	2.2
I-2	75.8	0.64	0.12	0.100	1000	1.43	0.00224	2.85	6.4
I-3	71.9	0.78	0.14	0.100	998	2.65	0.00414	2.51	10.3
I-4	59.0	1.39	0.26	0.594	440	0.32	0.00050	1.47	0.3
I-5	62.4	1.21	0.22	0.183	830	6.43	0.01005	1.73	14.4
I-6	66.6	1.00	0.19	0.353	625	3.54	0.00554	2.06	7.1

Table 9d. 100-Year; 24-Hour Rainfall Peak Flows for Post-Development Conditions

Sub-basin	CN	Ia (in)	Ia/P	Tc (hours)	q _u (csm/in)	A _m		Q, runoff (in.)	q _p (cfs)
						(ac)	(sq. mi.)		
I-1	72.9	0.75	0.10	0.100	1000	0.55	0.00085	4.34	3.7
I-2*	75.8	0.64	0.09	0.100	1010	1.43	0.00224	4.67	10.5
I-3	71.9	0.78	0.10	0.100	1000	2.65	0.00414	4.23	17.5
I-4	59.0	1.39	0.19	0.594	490	0.32	0.00050	2.85	0.7
I-5	62.4	1.21	0.16	0.183	870	6.43	0.01005	3.21	28.1
I-6	66.6	1.00	0.13	0.353	650	3.54	0.00554	3.66	13.2



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VI. Pre- and Post-Development Runoff Volumes

The pre- and post-development runoff volumes for the intake area were computed based on WORKSHEET 4 of PADEP's stormwater BMP manual, Reference 1, as shown in Table 10. Per the manual, the runoff volume change was based on 2-Year, 24-Hour rainfall event.

Table 10. 2-Year Pre- and Post-Development Runoff Volumes for the Intake Area

Existing Conditions:								
Cover Type/Condition	Soil Type	Area		CN	S (in)	Ia (0.2*S)	Q Runoff ⁽¹⁾ (in)	Runoff Volume ⁽²⁾ (ft ³)
		(ft ²)	(ac)					
Woods	B	153376	3.52	60	6.67	1.33	0.34	4,353
Grass	B	463522	10.64	58	7.24	1.45	0.28	10,827
Road/paved	--	6645	0.15	98	0.20	0.04	2.79	1,544
Water	--	26370	0.61	100	0.00	0.00	3.02	6,636
TOTAL			14.92					23,360
Developed Conditions:								
Cover Type/Condition	Soil Type	Area		CN	S (in)	Ia (0.2*S)	Q Runoff ⁽¹⁾ (in)	Runoff Volume ⁽²⁾ (ft ³)
		(ft ²)	(ac)					
Woods	B	165998	3.81	60	6.67	1.33	0.34	4,711
Grass	B	217941	5.00	58	7.24	1.45	0.28	5,091
Dredge Pile	C	139292	3.20	79	2.66	0.53	1.20	13,965
Paved	--	34878	0.80	98	0.20	0.04	2.79	8,104
Side slopes	B	73856	1.70	61	6.39	1.28	0.37	2,294
Water	--	17949	0.41	100	0.00	0.00	3.02	4,517
TOTAL:			14.92					38,682
2-Year Runoff Volume Increase:					15,322 ft ³			
(1) Runoff (in) = $Q = (P - 0.2S)^2 / (P + 0.8S)$ where P = 2-Year, 24-Hour Rainfall (in) S = (1000/CN) - 10								
(2) Runoff Volume (ft ³) = Q x Area x 1/12 Q = Runoff (in) Area = Land use area (ft ²)								



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VII. Points of Discharge

There are three discharge points where runoffs are directed towards Susquehanna River. The first one is from the diversion pipe of the unnamed stream (POI-5). The second is from the area between the existing and proposed intake structures and via a pipe (POI-1). The required pipe sizes will have to be determined based on the 25-year, 24-hour peak flow rates and pipe slopes. The third discharge point is where the toe of the southern embankment of the intake structures meets the bank of the river. A grassed swale has to be provided that parallels the toe of the embankment and directs the peak flow of 25-year, 24-hour rainfall event to the river.

Outlet protection riprap over geotextile will have to be provided for the three discharge points in order to reduce erosive discharge velocities. The peak discharges will be based on 25-year, 24-hour rainfall event.

VIII. Summary of Results

The comparison of peak discharges for the pre- and post-development is listed in Table 11, below.

Table 11. Comparison of Pre- and Post-Development Peak Flows

Sub-basin	Pre-Development				Post-Development			
	2-Year	10-Year	25-Year	100-Year	2-Year	10-Year	25-Year	100-Year
I-1, I-2, I-5	2.2	9.0	14.7	28.4	5.5	15.0	23.0	42.3
I-3	0.5	2.5	4.2	8.7	3.3	7.1	10.3	17.5
I-4	0.04	0.2	0.3	0.7	0.04	0.2	0.3	0.7
I-6	1.1	3.8	6.3	12.4	1.8	4.5	7.1	13.2

The 2-Year, 24-Hour runoff volumes for pre- and post-development conditions of the intake area are 23,360 ft³ and 38,682 ft³, respectively, with an increase of 15,322 ft³.

Adequate pipe sizes and outlet protected will have to be provided for the runoff outlet to the river.



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IX. References

1. Bureau of Watershed Management, Department of Environmental Protection, *Pennsylvania Stormwater Best Management Practices Manual*, December 30, 2006.
2. Conservation Engineering Division, Natural Resources Conservation Service, U.S. Department of Agriculture, *Technical Release 55, Urban Hydrology for Small Watersheds*, June 1986.
3. Sargent & Lundy, LLC, Report No. SL-009446, Revision 5, Project No. 12198-415, *Conceptual Design of Stormwater Management, Bell Bend Nuclear Power Plant* (UniStar Nuclear Energy), July 28, 2010.
4. Pennsylvania Spatial Data Access at URL: ftp://www.pasda.psu.edu/pub/pasda/soils/luzerne_soils.zip, published on September 22, 2004 and retrieved on October 06, 2010.
5. GoogleEarth satellite (land surface) map of the intake area, accessed on October 27, 2010.



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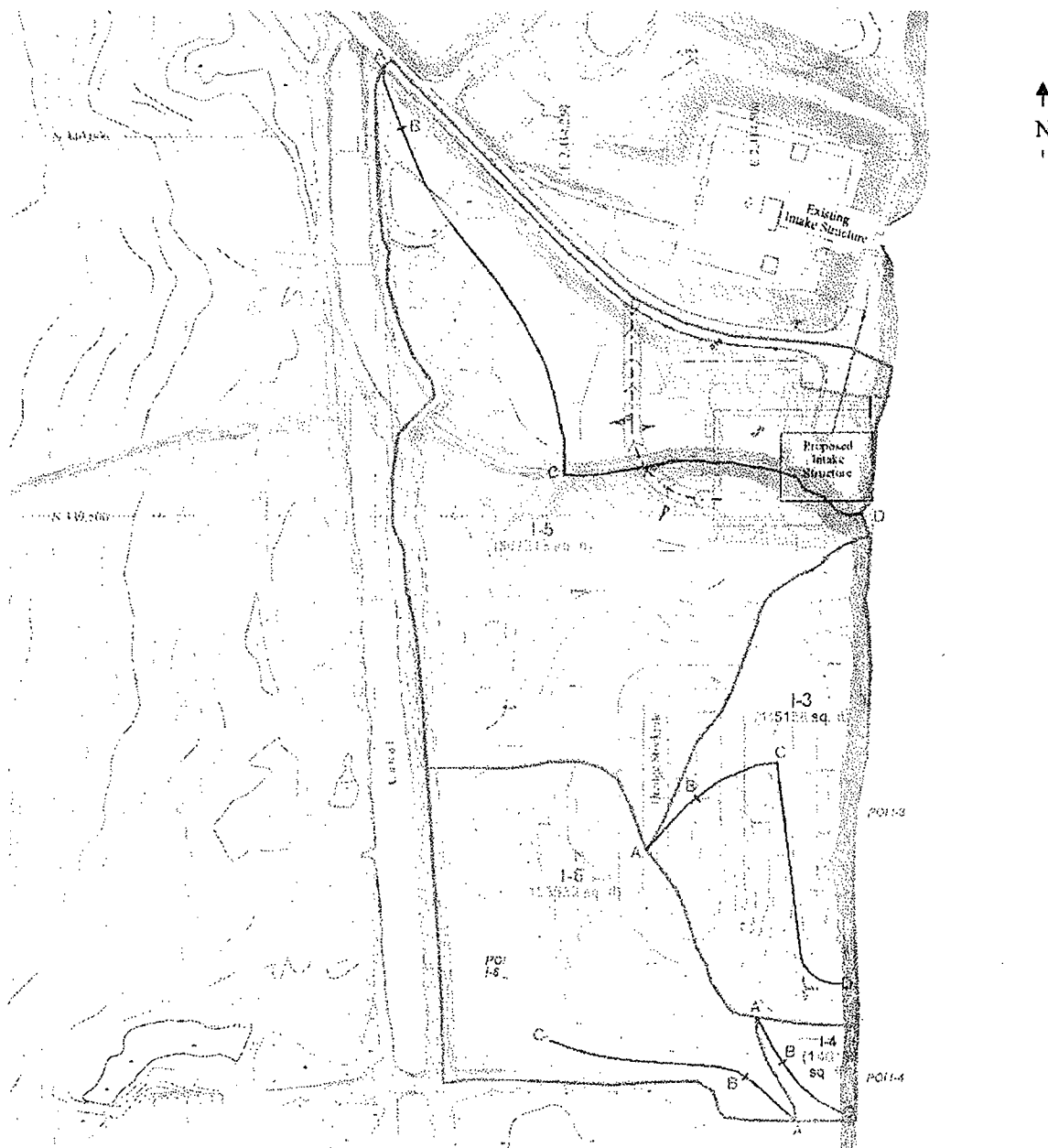


Figure 1. Intake Area Pre-Development Sub-basin Delineation and T_c Flow Paths
(site grade is preliminary data)



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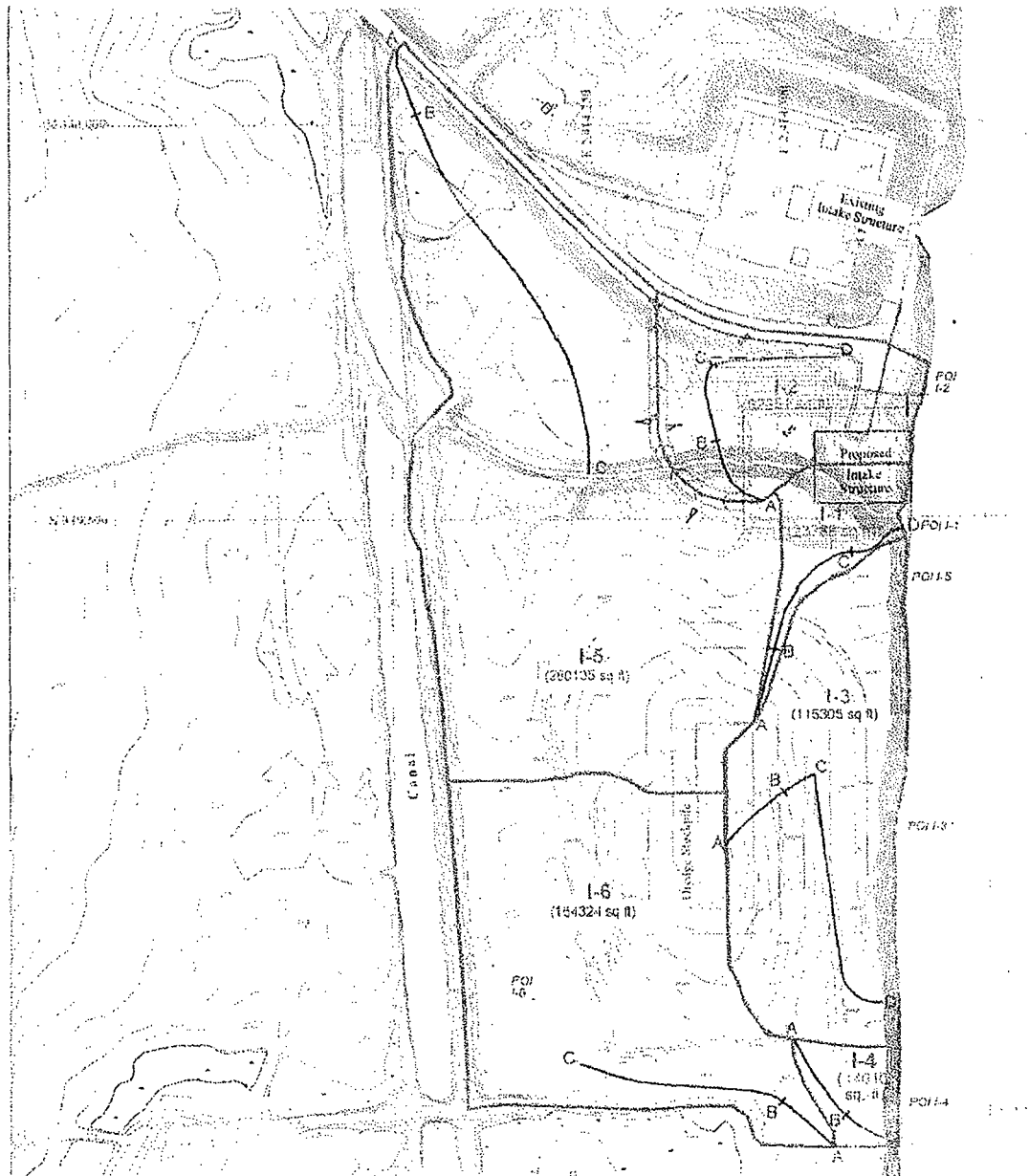


Figure 2. Intake Area Post-Development Sub-basin Delineation and T_c Flow Paths
(site grade is preliminary data)



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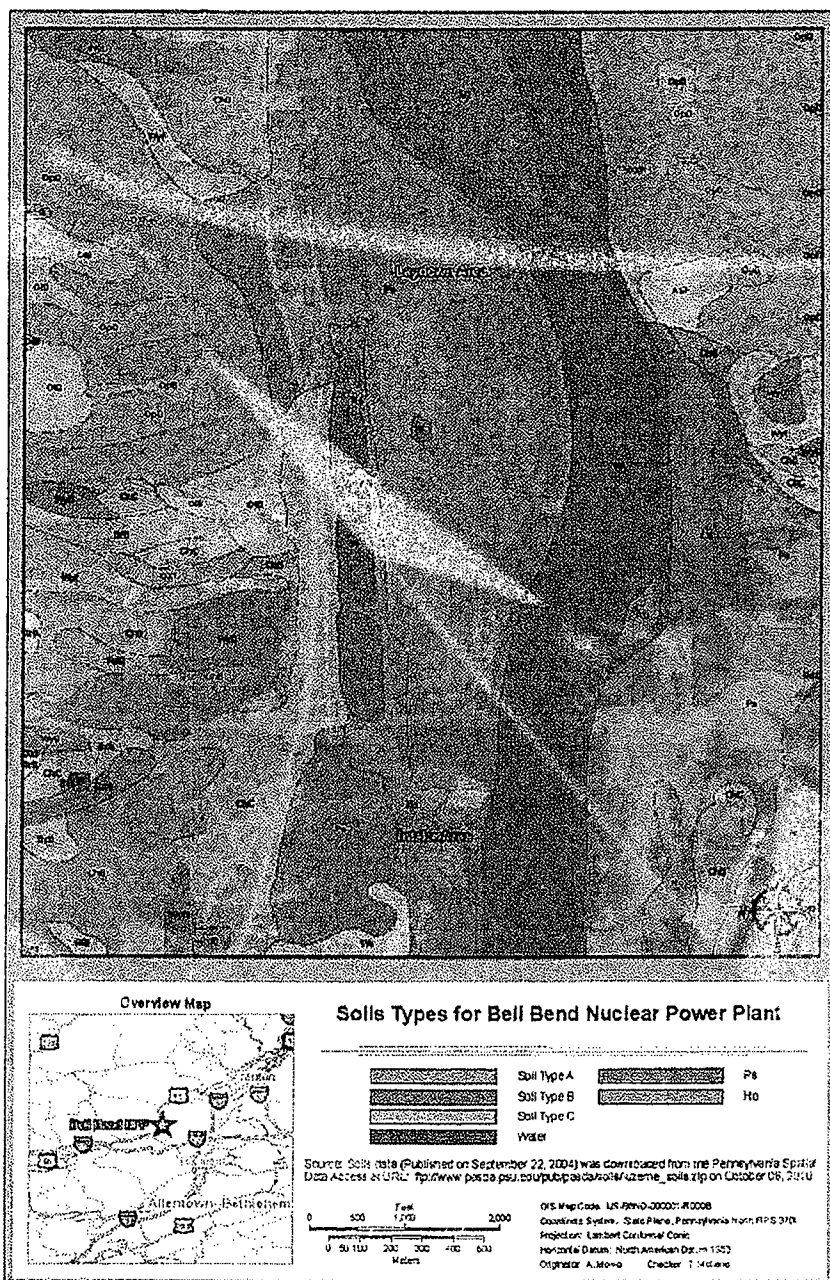


Figure 3. Soil Type at Intake and Surrounding Area (Reference 4)



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Figure 4. Land Cover at the Intake and Surrounding Area (Reference 5)

APPENDIX L
Rail Road Culvert Report

HY-8 Culvert Analysis Report

Table 1 - Summary of Culvert Flows at Crossing: Rail Culvert

Headwater Elevation (ft)	Total Discharge (cfs)	Culvert 1 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
634.14	40.30	40.30	0.00	1
634.25	43.66	43.66	0.00	1
634.36	47.02	47.02	0.00	1
634.44	49.20	49.20	0.00	1
634.60	53.74	53.74	0.00	1
634.71	57.10	57.10	0.00	1
634.82	60.46	60.46	0.00	1
634.93	63.82	63.82	0.00	1
635.04	67.18	67.18	0.00	1
635.15	70.54	70.54	0.00	1
635.26	73.90	73.90	0.00	1

Rating Curve Plot for Crossing: Rail Culvert

Total Rating Curve

Crossing: Rail Culvert

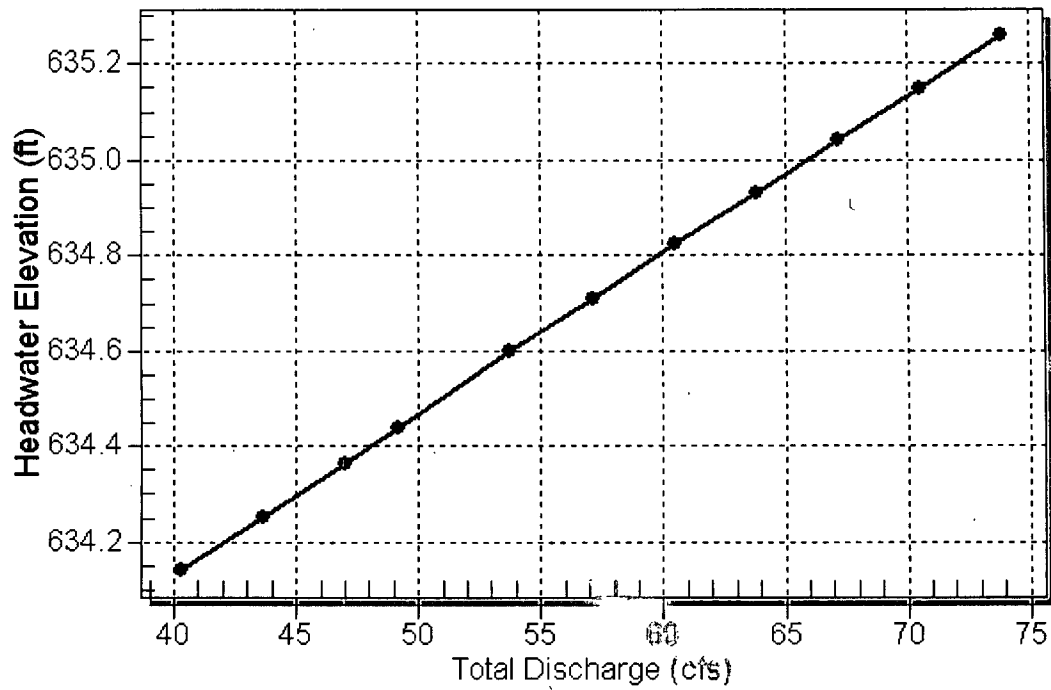


Table 2 - Culvert Summary Table: Culvert 1

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
40.30	40.30	634.14	2.642	2.642	1-S2n	0.954	1.887	0.977	1.314	16.786	11.667
43.66	43.66	634.25	2.751	2.751	1-S2n	0.994	1.974	1.004	1.354	17.518	11.903
47.02	47.02	634.36	2.861	2.861	1-S2n	1.034	2.050	1.072	1.392	17.232	12.125
49.20	49.20	634.44	2.940	2.940	1-S2n	1.059	2.097	1.067	1.416	18.147	12.264
53.74	53.74	634.60	3.098	3.098	1-S2n	1.113	2.194	1.114	1.464	18.691	12.537
57.10	57.10	634.71	3.211	3.211	1-S2n	1.153	2.267	1.197	1.498	18.076	12.729
60.46	60.46	634.82	3.323	3.323	1-S2n	1.193	2.339	1.194	1.530	19.200	12.912
63.82	63.82	634.93	3.432	3.432	1-S2n	1.225	2.409	1.232	1.561	19.458	13.088
67.18	67.18	635.04	3.541	3.541	1-S2n	1.256	2.470	1.310	1.592	18.712	13.257
70.54	70.54	635.15	3.649	3.649	1-S2n	1.286	2.531	1.347	1.621	18.906	13.419
73.90	73.90	635.26	3.758	3.758	1-S2n	1.317	2.592	1.327	1.650	20.213	13.576

Inlet Elevation (invert): 631.50 ft, Outlet Elevation (invert): 623.50 ft
Culvert Length: 200.16 ft, Culvert Slope: 0.0400
Inlet Throat Elevation: 0.00 ft, Inlet Crest Elevation: 632.16 ft

WORKSHEET 4. CHANGE IN RUNOFF VOLUME FOR 2-YR STORM EVENT

PROJECT: Bell Bend Nuclear Power Plant - POI I-1

Drainage Area: 0.55 acres

2-Year, 24-Hour Rainfall: 3.02 in

Total Site Area: 14.92 acres

Protected Site Area: 0 acres

Managed Area: 0.00 acres

Existing Conditions:

Cover Type/Condition	Soil Type	Area		CN	S (in)	Ia (0.2*S)	Q Runoff ⁽¹⁾ (in)	Runoff Volume ⁽²⁾ (ft ³)
		(ft ²)	(ac)					
Woods	B	0*	0.00	60	6.67	1.33	0.34	0
Grass	B	0*	0.00	58	7.24	1.45	0.28	0
Road/paved	--	0*	0.00	98	0.20	0.04	2.79	0
Water	--	0*	0.00	100	0.00	0.00	3.02	0
TOTAL:			0.00					0

Note: * Included in POI-5

Developed Conditions:

Cover Type/Condition	Soil Type	Area		CN	S (in)	Ia (0.2*S)	Q Runoff ⁽¹⁾ (in)	Runoff Volume ⁽²⁾ (ft ³)
		(ft ²)	(ac)					
Woods	B	0	0.00	60	6.67	1.33	0.34	0
Grass	B	8326	0.19	58	7.24	1.45	0.28	194
Dredge Pile	C	2379	0.05	79	2.66	0.53	1.20	238
Paved	--	7136	0.16	98	0.20	0.04	2.79	1,658
Side slopes	B	5947	0.14	61	6.39	1.28	0.37	185
Water	--	0	0.00	100	0.00	0.00	3.02	0
TOTAL:			0.55					2,276

2-Year Runoff Volume Increase: 2,276 ft³

(1) Runoff (in) = $Q = (P - 0.2S)^2 / (P + 0.2S)$ where

P = 2-Year, 24-Hour Rainfall (in)

S = $(1000/CN) - 10$

(2) Runoff Volume (ft³) = $Q \times \text{Area} \times 1/12$

Q = Runoff (in)

Area = Land use area (ft²)

Note: Runoff Volume must be calculated from EACH land use type/condition and HSGI.

The use of a weighted CN value for volume calculations is not acceptable.

WORKSHEET 4. CHANGE IN RUNOFF VOLUME FOR 2-YR STORM EVENT

PROJECT: Bell Bend Nuclear Power Plant - POI I-2

Drainage Area: 1.43 acres

2-Year, 24-Hour Rainfall: 3.02 in

Total Site Area: 14.92 acres

Protected Site Area: 0 acres

Managed Area: 0.00 acres

Existing Conditions:

Cover Type/Condition	Soil Type	Area		CN	S (in)	Ia (0.2*S)	Q Runoff ⁽¹⁾ (in)	Runoff Volume ⁽²⁾ (ft ³)
		(ft ²)	(ac)					
Woods	B	0*	0.00	60	6.67	1.33	0.34	0
Grass	B	0*	0.00	58	7.24	1.45	0.28	0
Road/paved	--	0*	0.00	98	0.20	0.04	2.79	0
Water	--	0*	0.00	100	0.00	0.00	3.02	0
TOTAL:			0.00					0

Note: * Included in POI-5

Developed Conditions:

Cover Type/Condition	Soil Type	Area		CN	S (in)	Ia (0.2*S)	Q Runoff ⁽¹⁾ (in)	Runoff Volume ⁽²⁾ (ft ³)
		(ft ²)	(ac)					
Woods	B	3118	0.07	60	6.67	1.33	0.34	0
Grass	B	0	0.00	58	7.24	1.45	0.28	0
Dredge Pile	C	0	0.00	79	2.66	0.53	1.20	0
Paved	--	24940	0.57	98	0.20	0.04	2.79	5,795
Side slopes	B	34293	0.79	61	6.39	1.28	0.37	1,065
Water	--	0	0.00	100	0.00	0.00	3.02	0
TOTAL:			1.43					6,949

2-Year Runoff Volume Increase: 6,949 ft³

(1) Runoff (in) = $Q = (P - 0.2S)^2 / (P + 0.8S)$ where

P = 2-Year, 24-Hour Rainfall (in)

S = $(1000/CN) - 10$

(2) Runoff Volume (ft³) = $Q \times \text{Area} \times 1/12$

Q = Runoff (in)

Area = Land use area (ft²)

Note: Runoff Volume must be calculated from EACH land use type/condition and HSGI.

The use of a weighted CN value for volume calculations is not acceptable.

WORKSHEET 4. CHANGE IN RUNOFF VOLUME FOR 2-YR STORM EVENT

PROJECT: Bell Bend Nuclear Power Plant - POI I-3

Drainage Area: 2.65 acres

2-Year, 24-Hour Rainfall: 3.02 in

Total Site Area: 14.92 acres

Protected Site Area: 0 acres

Managed Area: 0.00 acres

Existing Conditions:

Cover Type/Condition	Soil Type	Area		CN	S (in)	Ia (0.2*S)	Q Runoff ⁽¹⁾ (in)	Runoff Volume ⁽²⁾ (ft ³)
		(ft ²)	(ac)					
Woods	B	11516	0.26	60	6.67	1.33	0.34	327
Grass	B	103642	2.38	58	7.24	1.45	0.28	2,421
Road/paved	--	0	0.00	98	0.20	0.04	2.79	0
Water	--	0	0.00	100	0.00	0.00	3.02	0
TOTAL:			2.64					2,748

Developed Conditions:

Cover Type/Condition	Soil Type	Area		CN	S (in)	Ia (0.2*S)	Runoff (in)	Runoff Volume ⁽²⁾ (ft ³)
		(ft ²)	(ac)					
Woods	B	11531	0.26	60	6.67	1.33	0.34	327
Grass	B	28826	0.66	58	7.24	1.45	0.28	673
Dredge Pile	C	74948	1.72	79	2.66	0.53	1.20	7,514
Paved	--	0	0.00	98	0.20	0.04	2.79	0
Side slopes	B	0	0.00	61	6.39	1.28	0.37	0
Water	--	0	0.00	100	0.00	0.00	3.02	0
TOTAL:			2.65					8,515

2-Year Runoff Volume Increase: 5,767 ft³

(1) Runoff (in) = $Q = (P - 0.2S)^2 / (P + 0.6S)$ where

P = 2-Year, 24-Hour Rainfall (in)

S = $(1000/CN) - 10$

(2) Runoff Volume (ft³) = $Q \times \text{Area} \times 1/12$

Q = Runoff (in)

Area = Land use area (ft²)

Note: Runoff Volume must be calculated from EACH land use type/condition and HSGI.

The use of a weighted CN value for volume calculations is not acceptable.

WORKSHEET 4. CHANGE IN RUNOFF VOLUME FOR 2-YR STORM EVENT

PROJECT: Bell Bend Nuclear Power Plant - POI I-4

Drainage Area: 0.32 acres

2-Year, 24-Hour Rainfall: 3.02 in

Total Site Area: 14.92 acres

Protected Site Area: 0 acres

Managed Area: 0.00 acres

Existing Conditions:

Cover Type/Condition	Soil Type	Area		CN	S (in)	Ia (0.2*S)	Q Runoff ⁽¹⁾ (in)	Runoff Volume ⁽²⁾ (ft ³)
		(ft ²)	(ac)					
Woods	B	7005	0.16	60	6.67	1.33	0.34	199
Grass	B	7005	0.16	58	7.24	1.45	0.28	164
Road/paved	--	0	0.00	98	0.20	0.04	2.79	0
Water	--	0	0.00	100	0.00	0.00	3.02	0
TOTAL:			0.32					362

Developed Conditions:

Cover Type/Condition	Soil Type	Area		CN	S (in)	Ia (0.2*S)	Q Runoff ⁽¹⁾ (in)	Runoff Volume ⁽²⁾ (ft ³)
		(ft ²)	(ac)					
Woods	B	7005	0.16	60	6.67	1.33	0.34	199
Grass	B	7005	0.16	58	7.24	1.45	0.28	164
Dredge Pile	C	0	0.00	79	2.66	0.53	1.20	0
Paved	--	0	0.00	98	0.20	0.04	2.79	0
Side slopes	B	0	0.00	61	6.39	1.28	0.37	0
Water	--	0	0.00	100	0.00	0.00	3.02	0
TOTAL:			0.32					362

2-Year Runoff Volume Increase:

0 ft³

(1) Runoff (in) = $Q = (P - 0.2S)^2 / (P + 0.8S)$ where

P = 2-Year, 24-Hour Rainfall (in)

S = $(1000/CN) - 10$

(2) Runoff Volume (ft³) = $Q \times \text{Area} \times 1/12$

Q = Runoff (in)

Area = Land use area (ft²)

Note: Runoff Volume must be calculated from EACH land use type/condition and HSGI.

The use of a weighted CN value for volume calculations is not acceptable.

WORKSHEET 4. CHANGE IN RUNOFF VOLUME FOR 2-YR STORM EVENT

PROJECT: Bell Bend Nuclear Power Plant - POI I-5

Drainage Area: 6.43 acres

2-Year, 24-Hour Rainfall: 3.02 in

Total Site Area: 14.92 acres

Protected Site Area: 0 acres

Managed Area: 0.00 acres

Existing Conditions:

Cover Type/Condition	Soil Type	Area		CN	S (in)	Ia (0.2*S)	Q Runoff ⁽¹⁾ (in)	Runoff Volume ⁽²⁾ (ft ³)
		(ft ²)	(ac)					
Woods	B	73443	1.69	60	6.67	1.33	0.34	2,084
Grass	B	276109	6.34	58	7.24	1.45	0.28	6,449
Road/paved	--	6645	0.15	98	0.20	0.04	2.79	1,544
Water	--	11016	0.25	100	0.00	0.00	3.02	2,772
TOTAL:			8.43					12,850

Developed Conditions:

Cover Type/Condition	Soil Type	Area		CN	S (in)	Ia (0.2*S)	Q Runoff ⁽¹⁾ (in)	Runoff Volume ⁽²⁾ (ft ³)
		(ft ²)	(ac)					
Woods	B	98047	2.25	60	6.67	1.33	0.34	2,700
Grass	B	112054	2.57	58	7.24	1.45	0.28	2,617
Dredge Pile	C	28014	0.64	79	2.66	0.53	1.20	2,809
Paved	--	2801	0.06	98	0.20	0.04	2.79	651
Side slopes	B	33616	0.77	61	6.39	1.28	0.37	1,044
Water	--	5603	0.13	100	0.00	0.00	3.02	1,410
TOTAL:			6.43					11,314

2-Year Runoff Volume Increase: -1,537 ft³

(1) Runoff (in) = $Q = (P - 0.2S)^2 / (P + 0.8S)$ where

P = 2-Year, 24-Hour Rainfall (in)

S = (1000/CN) - 10

(2) Runoff Volume (ft³) = Q x Area x 1/12

Q = Runoff (in)

Area = Land use area (ft²)

Note: Runoff Volume must be calculated from EACH land use type/condition and HSG.

The use of a weighted CN value for volume calculations is not acceptable.

WORKSHEET 4. CHANGE IN RUNOFF VOLUME FOR 2-YR STORM EVENT

PROJECT: Bell Bend Nuclear Power Plant - POI I-6

Drainage Area: 3.54 acres

2-Year, 24-Hour Rainfall: 3.02 in

Total Site Area: 14.92 acres

Protected Site Area: 0 acres

Managed Area: 0.00 acres

Existing Conditions:

Cover Type/Condition	Soil Type	Area		CN	S (in)	Ia (0.2*S)	Q Runoff ⁽¹⁾ (in)	Runoff Volume ⁽²⁾ (ft ³)
		(ft ²)	(ac)					
Woods	B	61413	1.41	60	6.67	1.33	0.34	1,743
Grass	B	76766	1.76	58	7.24	1.45	0.28	1,793
Road/paved	--	0	0.00	98	0.20	0.04	2.79	0
Water	--	15353	0.35	100	0.00	0.00	3.02	3,864
TOTAL:			3.52					7,400

Developed Conditions:

Cover Type/Condition	Soil Type	Area		CN	S (in)	Ia (0.2*S)	Q Runoff ⁽¹⁾ (in)	Runoff Volume ⁽²⁾ (ft ³)
		(ft ²)	(ac)					
Woods	B	46297	1.06	60	6.67	1.33	0.34	1,314
Grass	B	61730	1.42	58	7.24	1.45	0.28	1,442
Dredge Pile	C	33951	0.78	79	2.66	0.53	1.20	3,404
Paved	--	0	0.00	98	0.20	0.04	2.79	0
Side slopes	B	0	0.00	61	6.39	1.28	0.37	0
Water	--	12346	0.28	100	0.00	0.00	3.02	3,107
TOTAL:			3.54					9,267

2-Year Runoff Volume Increase: 1,867 ft³

(1) Runoff (in) = $Q = (P - 0.2S)^2 / (P + 0.8S)$ where

P = 2-Year, 24-Hour Rainfall (in)

S = $(1000/CN) - 10$

(2) Runoff Volume (ft³) = $Q \times \text{Area} \times 1/12$

Q = Runoff (in)

Area = Land use area (ft²)

Note: Runoff Volume must be calculated from EACH land use type/condition and HSGI.

The use of a weighted CN value for volume calculations is not acceptable.

Worksheet 5. STRUCTURAL BMP VOLUME CREDITS

PROJECT: PPL Bell Bend Nuclear Power Plant
SUB-BASIN: POI #1

Required Control Volume (cubic feet) - from Worksheet 4: 328,355.68
Non-structural Volume Credit (cubic feet) - from Worksheet 3: 0.00
(Maximum is 25% of required volume)
Structural Volume Reqmt (cubic feet): 328,355.68
(Required Control Volume minus Non-structural Credit)

Proposed BMP		Area (ft ²)	Volume Reduction Permanently Removed (ft ³)
6.4.1	Porous Pavement		
6.4.2	Infiltration Basin	308,840.40	328,529.52
6.4.3	Infiltration Bed		
6.4.4	Infiltration Trench		
6.4.5	Rain Garden/Bioretenention		
6.4.6	Dry Well / Seepage Pit		
6.4.7	Constructed Filter		
6.4.8	Vegetated Swale		
6.4.9	Vegetated Filter Strip		
6.4.10	Berm		
6.5.1	Vegetated Roof		
6.5.2	Capture and Re-use		
6.6.1	Constructed Wetlands		
6.6.2	Wet Pond / Retention Basin		
6.6.3	Dry Extended Detention Basin		
6.6.4	Water Quality Filters		
6.7.1	Riparian Buffer Restoration		
6.7.2	Landscape Restoration / Reforest		
6.7.3	Soil Amendment		
6.8.1	Level Spreader		
6.8.2	Special Storage Areas		
Other			

Total Structural Volume (cubic feet): 328,529.52
Structural Volume Requirement (cubic feet): 328,355.68

DIFFERENCE 173.84

Worksheet 5. STRUCTURAL BMP VOLUME CREDITS

PROJECT: PPL Bell Bend Nuclear Power Plant
SUB-BASIN: POI #2

Required Control Volume (cubic feet) - from Worksheet 4: -3825.60
Non-structural Volume Credit (cubic feet) - from Worksheet 3: - 0.00
(Maximum is 25% of required volume)
Strucutral Volume Reqmt (cubic feet): -3825.60
(Required Control Volume minus Non-structural Credit)

Proposed BMP	Area (ft ²)	Volume Reduction Permanently Removed (ft ³)
6.4.1 Porous Pavement		
6.4.2 Infiltration Basin		
6.4.3 Infiltration Bed		
6.4.4 Infiltration Trench		
6.4.5 Rain Garden/Bioretenction		
6.4.6 Dry Well / Seepage Pit		
6.4.7 Constructed Filter		
6.4.8 Vegetated Swale		
6.4.9 Vegetated Filter Strip		
6.4.10 Berm		
6.5.1 Vegetated Roof		
6.5.2 Capture and Re-use		
6.6.1 Constructed Wetlands		
6.6.2 Wet Pond / Retention Basin		
6.6.3 Dry Extended Detention Basin		
6.6.4 Water Quality Filters		
6.7.1 Riparian Buffer Restoration		
6.7.2 Landscape Restoration / Reforest		
6.7.3 Soil Amendment		
6.8.1 Level Spreader		
6.8.2 Special Storage Areas		
Other		

Total Structural Volume (cubic feet): 0.00
Structural Volume Requirement (cubic feet): -3825.60

DIFFERENCE 3825.60

Worksheet 5. STRUCTURAL BMP VOLUME CREDITS

PROJECT: PPL Bell Bend Nuclear Power Plant
SUB-BASIN: POI #3

Required Control Volume (cubic feet) - from Worksheet 4: 183,020.85
Non-structural Volume Credit (cubic feet) - from Worksheet 3: - 0.00
(Maximum is 25% of required volume)
Strucutral Volume Reqmt (cubic feet): 183,020.85
(Required Control Volume minus Non-structural Credit)

Proposed BMP		Area (ft ²)	Volume Reduction Permanently Removed (ft ³)
6.4.1	Porous Pavement		
6.4.2	Infiltration Basin	46,173.60	201,072.96
6.4.3	Infiltration Bed		
6.4.4	Infiltration Trench		
6.4.5	Rain Garden/Bioretenention		
6.4.6	Dry Well / Seepage Pit		
6.4.7	Constructed Filter		
6.4.8	Vegetated Swale		
6.4.9	Vegetated Filter Strip		
6.4.10	Berm		
6.5.1	Vegetated Roof		
6.5.2	Capture and Re-use		
6.6.1	Constructed Wetlands		
6.6.2	Wet Pond / Retention Basin		
6.6.3	Dry Extended Detention Basin		
6.6.4	Water Quality Filters		
6.7.1	Riparian Buffer Restoration		
6.7.2	Landscape Restoration / Reforest		
6.7.3	Soil Amendment		
6.8.1	Level Spreader		
6.8.2	Special Storage Areas		
Other			

Total Structural Volume (cubic feet): 201,072.96
Structural Volume Requirement (cubic feet): 183,020.85

DIFFERENCE 18,052.11

Worksheet 5. STRUCTURAL BMP VOLUME CREDITS

PROJECT: PPL Bell Bend Nuclear Power Plant
SUB-BASIN: POI #4

Required Control Volume (cubic feet) - from Worksheet 4: 129,643.36
Non-structural Volume Credit (cubic feet) - from Worksheet 3: - 0.00
(Maximum is 25% of required volume)
Structural Volume Reqmt (cubic feet): 129,643.36
(Required Control Volume minus Non-structural Credit)

Proposed BMP		Area (ft ²)	Volume Reduction Permanently Removed (ft ³)
6.4.1	Porous Pavement		
6.4.2	Infiltration Basin	191,838.24	107,767.44
6.4.3	Infiltration Bed		
6.4.4	Infiltration Trench		
6.4.5	Rain Garden/Bioretenion		
6.4.6	Dry Well / Seepage Pit		
6.4.7	Constructed Filter		
6.4.8	Vegetated Swale		
6.4.9	Vegetated Filter Strip		
6.4.10	Berm		
6.5.1	Vegetated Roof		
6.5.2	Capture and Re-use		
6.6.1	Constructed Wetlands		
6.6.2	Wet Pond / Retention Basin		
6.6.3	Dry Extended Detention Basin		
6.6.4	Water Quality Filters		
6.7.1	Riparian Buffer Restoration		
6.7.2	Landscape Restoration / Reforesta		
6.7.3	Soil Amendment		
6.8.1	Level Spreader		
6.8.2	Special Storage Areas		
Other			

Total Structural Volume (cubic feet): 107,767.44
Structural Volume Requirement (cubic feet): 129,643.36

DIFFERENCE -21,875.92

Please see Pond Pack results for volume reduction calculations.

Worksheet 5. STRUCTURAL BMP VOLUME CREDITS

PROJECT: PPL Bell Bend Nuclear Power Plant
SUB-BASIN: POI #5

Required Control Volume (cubic feet) - from Worksheet 4: -3668.15
 Non-structural Volume Credit (cubic feet) - from Worksheet 3: - 0.00
 (Maximum is 25% of required volume)
 Strucutral Volume Reqmt (cubic feet): -3668.15
 (Required Control Volume minus Non-structural Credit)

Proposed BMP		Area (ft ²)	Volume Reduction Permanently Removed (ft ³)
6.4.1	Porous Pavement		
6.4.2	Infiltration Basin		
6.4.3	Infiltration Bed		
6.4.4	Infiltration Trench		
6.4.5	Rain Garden/Bioretenction		
6.4.6	Dry Well / Seepage Pit		
6.4.7	Constructed Filter		
6.4.8	Vegetated Swale		
6.4.9	Vegetated Filter Strip		
6.4.10	Berm		
6.5.1	Vegetated Roof		
6.5.2	Capture and Re-use		
6.6.1	Constructed Wetlands		
6.6.2	Wet Pond / Retention Basin		
6.6.3	Dry Extended Detention Basin		
6.6.4	Water Quality Filters		
6.7.1	Riparian Buffer Restoration		
6.7.2	Landscape Restoration / Reforest		
6.7.3	Soil Amendment		
6.8.1	Level Spreader		
6.8.2	Special Storage Areas		
Other			

Total Structural Volume (cubic feet): 0.00
 Structural Volume Requirement (cubic feet): -3668.15

DIFFERENCE 3668.15

Worksheet 5. STRUCTURAL BMP VOLUME CREDITS

PROJECT: PPL Bell Bend Nuclear Power Plant
SUB-BASIN: POI #6

Required Control Volume (cubic feet) - from Worksheet 4: 27,556.18
Non-structural Volume Credit (cubic feet) - from Worksheet 3: - 0.00
(Maximum is 25% of required volume)
Structural Volume Reqmt (cubic feet): 27556.18
(Required Control Volume minus Non-structural Credit)

Proposed BMP		Area (ft ²)	Volume Reduction Permanently Removed (ft ³)
6.4.1	Porous Pavement		
6.4.2	Infiltration Basin	217,800.00	198,110.88
6.4.3	Infiltration Bed		
6.4.4	Infiltration Trench		
6.4.5	Rain Garden/Bioretention		
6.4.6	Dry Well / Seepage Pit		
6.4.7	Constructed Filter		
6.4.8	Vegetated Swale		
6.4.9	Vegetated Filter Strip		
6.4.10	Berm		
6.5.1	Vegetated Roof		
6.5.2	Capture and Re-use		
6.6.1	Constructed Wetlands		
6.6.2	Wet Pond / Retention Basin		
6.6.3	Dry Extended Detention Basin		
6.6.4	Water Quality Filters		
6.7.1	Riparian Buffer Restoration		
6.7.2	Landscape Restoration / Reforesta		
6.7.3	Soil Amendment		
6.8.1	Level Spreader		
6.8.2	Special Storage Areas		
Other			

Total Structural Volume (cubic feet): 198,110.88
Structural Volume Requirement (cubic feet): 27,556.18
DIFFERENCE 170,554.70

Worksheet 5. STRUCTURAL BMP VOLUME CREDITS

PROJECT: PPL Bell Bend Nuclear Power Plant
SUB-BASIN: POI #7

Required Control Volume (cubic feet) - from Worksheet 4: -1750.99
 Non-structural Volume Credit (cubic feet) - from Worksheet 3: - 0.00
 (Maximum is 25% of required volume)
 Strucutral Volume Reqmt (cubic feet): -1750.99
 (Required Control Volume minus Non-structural Credit)

Proposed BMP	Area (ft ²)	Volume Reduction Permanently Removed (ft ³)
6.4.1 Porous Pavement		
6.4.2 Infiltration Basin		
6.4.3 Infiltration Bed		
6.4.4 Infiltration Trench		
6.4.5 Rain Garden/Bioretenction		
6.4.6 Dry Well / Seepage Pit		
6.4.7 Constructed Filter		
6.4.8 Vegetated Swale		
6.4.9 Vegetated Filter Strip		
6.4.10 Berm		
6.5.1 Vegetated Roof		
6.5.2 Capture and Re-use		
6.6.1 Constructed Wetlands		
6.6.2 Wet Pond / Retention Basin		
6.6.3 Dry Extended Detention Basin		
6.6.4 Water Quality Filters		
6.7.1 Riparian Buffer Restoration		
6.7.2 Landscape Restoration / Reforest		
6.7.3 Soil Amendment		
6.8.1 Level Spreader		
6.8.2 Special Storage Areas		
Other		

Total Structural Volume (cubic feet): 0.00
 Structural Volume Requirement (cubic feet): -1750.99

DIFFERENCE 1750.99

Worksheet 5. STRUCTURAL BMP VOLUME CREDITS

PROJECT: PPL Bell Bend Nuclear Power Plant
SUB-BASIN: POI #8

Required Control Volume (cubic feet) - from Worksheet 4: 1,850.28
Non-structural Volume Credit (cubic feet) - from Worksheet 3: 0.00
(Maximum is 25% of required volume)
Structural Volume Reqmt (cubic feet): 1,850.28
(Required Control Volume minus Non-structural Credit)

Proposed BMP		Area (ft ²)	Volume Reduction Permanently Removed (ft ³)
6.4.1	Porous Pavement		
6.4.2	Infiltration Basin	74,052.00	29,098.08
6.4.3	Infiltration Bed		
6.4.4	Infiltration Trench		
6.4.5	Rain Garden/Bioretenction		
6.4.6	Dry Well / Seepage Pit		
6.4.7	Constructed Filter		
6.4.8	Vegetated Swale		
6.4.9	Vegetated Filter Strip		
6.4.10	Berm		
6.5.1	Vegetated Roof		
6.5.2	Capture and Re-use		
6.6.1	Constructed Wetlands		
6.6.2	Wet Pond / Retention Basin		
6.6.3	Dry Extended Detention Basin		
6.6.4	Water Quality Filters		
6.7.1	Riparian Buffer Restoration		
6.7.2	Landscape Restoration / Reforest		
6.7.3	Soil Amendment		
6.8.1	Level Spreader		
6.8.2	Special Storage Areas		
Other			

Total Structural Volume (cubic feet): 29,098.08
Structural Volume Requirement (cubic feet): 1,850.28

DIFFERENCE 27,247.80

Worksheet 5. STRUCTURAL BMP VOLUME CREDITS

PROJECT: PPL Bell Bend Nuclear Power Plant

SUB-BASIN: POI #9

Required Control Volume (cubic feet) - from Worksheet 4: 56,239.17
 Non-structural Volume Credit (cubic feet) - from Worksheet 3: - 0.00
 (Maximum is 25% of required volume)
 Structural Volume Reqmt (cubic feet): 56,239.17
 (Required Control Volume minus Non-structural Credit)

Proposed BMP	Area (ft ²)	Volume Reduction Permanently Removed (ft ³)
6.4.1 Porous Pavement		
6.4.2 Infiltration Basin	43,560.00	6,795.36
6.4.3 Infiltration Bed		
6.4.4 Infiltration Trench		
6.4.5 Rain Garden/Bioretention		
6.4.6 Dry Well / Seepage Pit		
6.4.7 Constructed Filter		
6.4.8 Vegetated Swale		
6.4.9 Vegetated Filter Strip		
6.4.10 Berm		
6.5.1 Vegetated Roof		
6.5.2 Capture and Re-use		
6.6.1 Constructed Wetlands		
6.6.2 Wet Pond / Retention Basin		
6.6.3 Dry Extended Detention Basin		
6.6.4 Water Quality Filters		
6.7.1 Riparian Buffer Restoration		
6.7.2 Landscape Restoration / Reforest		
6.7.3 Soil Amendment		
6.8.1 Level Spreader		
6.8.2 Special Storage Areas		
Other		

Total Structural Volume (cubic feet): 6,795.36
 Structural Volume Requirement (cubic feet): 56,239.17

DIFFERENCE -49,443.81

Please see Pond Pack results for volume reduction calculations.

Worksheet 5. STRUCTURAL BMP VOLUME CREDITS

PROJECT: PPL Bell Bend Nuclear Power Plant
SUB-BASIN: POI #10

Required Control Volume (cubic feet) - from Worksheet 4: 382,088.38
Non-structural Volume Credit (cubic feet) - from Worksheet 3: - 0.00
(Maximum is 25% of required volume)
Structural Volume Reqmt (cubic feet): 382,088.38
(Required Control Volume minus Non-structural Credit)

Proposed BMP	Area (ft ²)	Volume Reduction Permanently Removed (ft ³)
6.4.1 Porous Pavement		
6.4.2 Infiltration Basin	219,978.00	372,176.64
6.4.3 Infiltration Bed		
6.4.4 Infiltration Trench		
6.4.5 Rain Garden/Bioretenention		
6.4.6 Dry Well / Seepage Pit		
6.4.7 Constructed Filter		
6.4.8 Vegetated Swale		
6.4.9 Vegetated Filter Strip		
6.4.10 Berm		
6.5.1 Vegetated Roof		
6.5.2 Capture and Re-use		
6.6.1 Constructed Wetlands		
6.6.2 Wet Pond / Retention Basin		
6.6.3 Dry Extended Detention Basin		
6.6.4 Water Quality Filters		
6.7.1 Riparian Buffer Restoration		
6.7.2 Landscape Restoration / Reforesta		
6.7.3 Soil Amendment		
6.8.1 Level Spreader		
6.8.2 Special Storage Areas		
Other		

Total Structural Volume (cubic feet): 372,176.64
Structural Volume Requirement (cubic feet): 382,088.38

DIFFERENCE -9,911.74

Please see Pond Pack results for volume reduction calculations.

Worksheet 5. STRUCTURAL BMP VOLUME CREDITS

PROJECT: PPL Bell Bend Nuclear Power Plant
SUB-BASIN: POI #11

Required Control Volume (cubic feet) - from Worksheet 4: -25037.08
Non-structural Volume Credit (cubic feet) - from Worksheet 3: - 0.00
(Maximum is 25% of required volume)
Strucutral Volume Reqmt (cubic feet): -25037.08
(Required Control Volume minus Non-structural Credit)

Proposed BMP		Area (ft ²)	Volume Reduction Permanently Removed (ft ³)
6.4.1	Porous Pavement		
6.4.2	Infiltration Basin		
6.4.3	Infiltration Bed		
6.4.4	Infiltration Trench		
6.4.5	Rain Garden/Bioretenction		
6.4.6	Dry Well / Seepage Pit		
6.4.7	Constructed Filter		
6.4.8	Vegetated Swale		
6.4.9	Vegetated Filter Strip		
6.4.10	Berm		
6.5.1	Vegetated Roof		
6.5.2	Capture and Re-use		
6.6.1	Constructed Wetlands		
6.6.2	Wet Pond / Retention Basin		
6.6.3	Dry Extended Detention Basin		
6.6.4	Water Quality Filters		
6.7.1	Riparian Buffer Restoration		
6.7.2	Landscape Restoration / Reforest		
6.7.3	Soil Amendment		
6.8.1	Level Spreader		
6.8.2	Special Storage Areas		
Other			

Total Structural Volume (cubic feet): 0.00
Structural Volume Requirement (cubic feet): -25037.08

DIFFERENCE 25037.08

Worksheet 5. STRUCTURAL BMP VOLUME CREDITS

PROJECT: PPL Bell Bend Nuclear Power Plant
SUB-BASIN: POI #12

Required Control Volume (cubic feet) - from Worksheet 4: 111,192.38
Non-structural Volume Credit (cubic feet) - from Worksheet 3: 0.00
(Maximum is 25% of required volume)
Structural Volume Reqmt (cubic feet): 111,192.38
(Required Control Volume minus Non-structural Credit)

Proposed BMP		Area (ft ²)	Volume Reduction Permanently Removed (ft ³)
6.4.1	Porous Pavement		
6.4.2	Infiltration Basin	193,842.00	174,414.24
6.4.3	Infiltration Bed		
6.4.4	Infiltration Trench		
6.4.5	Rain Garden/Bioretenction		
6.4.6	Dry Well / Seepage Pit		
6.4.7	Constructed Filter		
6.4.8	Vegetated Swale		
6.4.9	Vegetated Filter Strip		
6.4.10	Berm		
6.5.1	Vegetated Roof		
6.5.2	Capture and Re-use		
6.6.1	Constructed Wetlands		
6.6.2	Wet Pond / Retention Basin		
6.6.3	Dry Extended Detention Basin		
6.6.4	Water Quality Filters		
6.7.1	Riparian Buffer Restoration		
6.7.2	Landscape Restoration / Reforest		
6.7.3	Soil Amendment		
6.8.1	Level Spreader		
6.8.2	Special Storage Areas		
Other			

Total Structural Volume (cubic feet): 174,414.24
Structural Volume Requirement (cubic feet): 111,192.38

DIFFERENCE 63,221.86

Worksheet 5. STRUCTURAL BMP VOLUME CREDITS

PROJECT: PPL Bell Bend Nuclear Power Plant
SUB-BASIN: POI #13

Required Control Volume (cubic feet) - from Worksheet 4: 52,806.03
Non-structural Volume Credit (cubic feet) - from Worksheet 3: 0.00
(Maximum is 25% of required volume)
Structural Volume Reqmt (cubic feet): 52,806.03
(Required Control Volume minus Non-structural Credit)

Proposed BMP		Area (ft ²)	Volume Reduction Permanently Removed (ft ³)
6.4.1	Porous Pavement		
6.4.2	Infiltration Basin	67,213.08	60,156.36
6.4.3	Infiltration Bed		
6.4.4	Infiltration Trench		
6.4.5	Rain Garden/Bioretention		
6.4.6	Dry Well / Seepage Pit		
6.4.7	Constructed Filter		
6.4.8	Vegetated Swale		
6.4.9	Vegetated Filter Strip		
6.4.10	Berm		
6.5.1	Vegetated Roof		
6.5.2	Capture and Re-use		
6.6.1	Constructed Wetlands		
6.6.2	Wet Pond / Retention Basin		
6.6.3	Dry Extended Detention Basin		
6.6.4	Water Quality Filters		
6.7.1	Riparian Buffer Restoration		
6.7.2	Landscape Restoration / Reforesta		
6.7.3	Soil Amendment		
6.8.1	Level Spreader		
6.8.2	Special Storage Areas		
Other			

Total Structural Volume (cubic feet): 60,156.36
Structural Volume Requirement (cubic feet): 52,806.03

DIFFERENCE 7,350.33

Worksheet 5. STRUCTURAL BMP VOLUME CREDITS

PROJECT: PPL Bell Bend Nuclear Power Plant
SUB-BASIN: POI #14

Required Control Volume (cubic feet) - from Worksheet 4: -20,126.87
Non-structural Volume Credit (cubic feet) - from Worksheet 3: 0.00
(Maximum is 25% of required volume)
Structural Volume Reqmt (cubic feet): -20,126.87
(Required Control Volume minus Non-structural Credit)

Proposed BMP	Area (ft ²)	Volume Reduction Permanently Removed (ft ³)
6.4.1 Porous Pavement		
6.4.2 Infiltration Basin		
6.4.3 Infiltration Bed		
6.4.4 Infiltration Trench		
6.4.5 Rain Garden/Bioretenction		
6.4.6 Dry Well / Seepage Pit		
6.4.7 Constructed Filter		
6.4.8 Vegetated Swale		
6.4.9 Vegetated Filter Strip		
6.4.10 Berm		
6.5.1 Vegetated Roof		
6.5.2 Capture and Re-use		
6.6.1 Constructed Wetlands		
6.6.2 Wet Pond / Retention Basin		
6.6.3 Dry Extended Detention Basin		
6.6.4 Water Quality Filters		
6.7.1 Riparian Buffer Restoration		
6.7.2 Landscape Restoration / Reforest		
6.7.3 Soil Amendment		
6.8.1 Level Spreader		
6.8.2 Special Storage Areas		
Other		

Total Structural Volume (cubic feet): 0.00
Structural Volume Requirement (cubic feet): -20,126.87

DIFFERENCE 20,126.87

Worksheet 5. STRUCTURAL BMP VOLUME CREDITS

PROJECT: PPL Bell Bend Nuclear Power Plant

SUB-BASIN: POI #15

Required Control Volume (cubic feet) - from Worksheet 4: 97,588.94
 Non-structural Volume Credit (cubic feet) - from Worksheet 3: 0.00
 (Maximum is 25% of required volume)
 Structural Volume Reqmt (cubic feet): 97,588.94
 (Required Control Volume minus Non-structural Credit)

Proposed BMP		Area (ft ²)	Volume Reduction Permanently Removed (ft ³)
6.4.1	Porous Pavement		
6.4.2	Infiltration Basin	16,335.00	144,793.44
6.4.3	Infiltration Bed		
6.4.4	Infiltration Trench		
6.4.5	Rain Garden/Bioretenion		
6.4.6	Dry Well / Seepage Pit		
6.4.7	Constructed Filter		
6.4.8	Vegetated Swale		
6.4.9	Vegetated Filter Strip		
6.4.10	Berm		
6.5.1	Vegetated Roof		
6.5.2	Capture and Re-use		
6.6.1	Constructed Wetlands		
6.6.2	Wet Pond / Retention Basin		
6.6.3	Dry Extended Detention Basin		
6.6.4	Water Quality Filters		
6.7.1	Riparian Buffer Restoration		
6.7.2	Landscape Restoration / Reforest		
6.7.3	Soil Amendment		
6.8.1	Level Spreader		
6.8.2	Special Storage Areas		
Other			

Total Structural Volume (cubic feet): 144,793.44
 Structural Volume Requirement (cubic feet): 97,588.94

DIFFERENCE 47,204.50

Worksheet 5. STRUCTURAL BMP VOLUME CREDITS

PROJECT: PPL Bell Bend Nuclear Power Plant
SUB-BASIN: POI #16

Required Control Volume (cubic feet) - from Worksheet 4: -5201.48
Non-structural Volume Credit (cubic feet) - from Worksheet 3: - 0.00
(Maximum is 25% of required volume)
Strucutral Volume Reqmt (cubic feet): -5201.48
(Required Control Volume minus Non-structural Credit)

Proposed BMP		Area (ft ²)	Volume Reduction Permanently Removed (ft ³)
6.4.1	Porous Pavement		
6.4.2	Infiltration Basin		
6.4.3	Infiltration Bed		
6.4.4	Infiltration Trench		
6.4.5	Rain Garden/Bioretenction		
6.4.6	Dry Well / Seepage Pit		
6.4.7	Constructed Filter		
6.4.8	Vegetated Swale		
6.4.9	Vegetated Filter Strip		
6.4.10	Berm		
6.5.1	Vegetated Roof		
6.5.2	Capture and Re-use		
6.6.1	Constructed Wetlands		
6.6.2	Wet Pond / Retention Basin		
6.6.3	Dry Extended Detention Basin		
6.6.4	Water Quality Filters		
6.7.1	Riparian Buffer Restoration		
6.7.2	Landscape Restoration / Reforest		
6.7.3	Soil Amendment		
6.8.1	Level Spreader		
6.8.2	Special Storage Areas		
Other			

Total Structural Volume (cubic feet): 0.00
Structural Volume Requirement (cubic feet): -5201.48

DIFFERENCE 5201.48

Worksheet 5. STRUCTURAL BMP VOLUME CREDITS

PROJECT: PPL Bell Bend Nuclear Power Plant
SUB-BASIN: POI #17

Required Control Volume (cubic feet) - from Worksheet 4: -18906.21
Non-structural Volume Credit (cubic feet) - from Worksheet 3: - 0.00
(Maximum is 25% of required volume)
Strucutral Volume Reqmt (cubic feet): -18906.21
(Required Control Volume minus Non-structural Credit)

Proposed BMP	Area (ft ²)	Volume Reduction Permanently Removed (ft ³)
6.4.1 Porous Pavement		
6.4.2 Infiltration Basin		
6.4.3 Infiltration Bed		
6.4.4 Infiltration Trench		
6.4.5 Rain Garden/Bioretenction		
6.4.6 Dry Well / Seepage Pit		
6.4.7 Constructed Filter		
6.4.8 Vegetated Swale		
6.4.9 Vegetated Filter Strip		
6.4.10 Berm		
6.5.1 Vegetated Roof		
6.5.2 Capture and Re-use		
6.6.1 Constructed Wetlands		
6.6.2 Wet Pond / Retention Basin		
6.6.3 Dry Extended Detention Basin		
6.6.4 Water Quality Filters		
6.7.1 Riparian Buffer Restoration		
6.7.2 Landscape Restoration / Reforest		
6.7.3 Soil Amendment		
6.8.1 Level Spreader		
6.8.2 Special Storage Areas		
Other		

Total Structural Volume (cubic feet): 0.00
Structural Volume Requirement (cubic feet): -18906.21

DIFFERENCE 18906.21

Worksheet 5. STRUCTURAL BMP VOLUME CREDITS

PROJECT: PPL Bell Bend Nuclear Power Plant
SUB-BASIN: POI #18

Required Control Volume (cubic feet) - from Worksheet 4: 81,481.68
 Non-structural Volume Credit (cubic feet) - from Worksheet 3: 0.00
 (Maximum is 25% of required volume)
 Structural Volume Reqmt (cubic feet): 81,481.68
 (Required Control Volume minus Non-structural Credit)

Proposed BMP		Area (ft ²)	Volume Reduction Permanently Removed (ft ³)
6.4.1	Porous Pavement		
6.4.2	Infiltration Basin	25,482.60	78,451.56
6.4.3	Infiltration Bed		
6.4.4	Infiltration Trench		
6.4.5	Rain Garden/Bioretenention		
6.4.6	Dry Well / Seepage Pit		
6.4.7	Constructed Filter		
6.4.8	Vegetated Swale		
6.4.9	Vegetated Filter Strip		
6.4.10	Berm		
6.5.1	Vegetated Roof		
6.5.2	Capture and Re-use		
6.6.1	Constructed Wetlands		
6.6.2	Wet Pond / Retention Basin		
6.6.3	Dry Extended Detention Basin		
6.6.4	Water Quality Filters		
6.7.1	Riparian Buffer Restoration		
6.7.2	Landscape Restoration / Reforest		
6.7.3	Soil Amendment		
6.8.1	Level Spreader		
6.8.2	Special Storage Areas		
Other			

Total Structural Volume (cubic feet): 78,451.56
 Structural Volume Requirement (cubic feet): 81,481.68

DIFFERENCE -3,030.12

Please see Pond Pack results for volume reduction calculations.

Worksheet 5. STRUCTURAL BMP VOLUME CREDITS

PROJECT: PPL Bell Bend Nuclear Power Plant

SUB-BASIN: POI #19

Required Control Volume (cubic feet) - from Worksheet 4: -454.60
Non-structural Volume Credit (cubic feet) - from Worksheet 3: - 0.00
(Maximum is 25% of required volume)
Strucutral Volume Reqmt (cubic feet): -454.60
(Required Control Volume minus Non-structural Credit)

Proposed BMP	Area (ft ²)	Volume Reduction Permanently Removed (ft ³)
6.4.1 Porous Pavement		
6.4.2 Infiltration Basin		
6.4.3 Infiltration Bed		
6.4.4 Infiltration Trench		
6.4.5 Rain Garden/Bioretenention		
6.4.6 Dry Well / Seepage Pit		
6.4.7 Constructed Filter		
6.4.8 Vegetated Swale		
6.4.9 Vegetated Filter Strip		
6.4.10 Berm		
6.5.1 Vegetated Roof		
6.5.2 Capture and Re-use		
6.6.1 Constructed Wetlands		
6.6.2 Wet Pond / Retention Basin		
6.6.3 Dry Extended Detention Basin		
6.6.4 Water Quality Filters		
6.7.1 Riparian Buffer Restoration		
6.7.2 Landscape Restoration / Reforesta		
6.7.3 Soil Amendment		
6.8.1 Level Spreader		
6.8.2 Special Storage Areas		
Other		

Total Structural Volume (cubic feet): 0.00
Structural Volume Requirement (cubic feet): -454.60
DIFFERENCE 454.60

Worksheet 5. STRUCTURAL BMP VOLUME CREDITS

PROJECT: PPL Bell Bend Nuclear Power Plant

SUB-BASIN: POI-20

Required Control Volume (cubic feet) - from Worksheet 4: 117,257.81
 Non-structural Volume Credit (cubic feet) - from Worksheet 3: - 0.00
 (Maximum is 25% of required volume)
 Structural Volume Reqmt (cubic feet): 117,257.81
 (Required Control Volume minus Non-structural Credit)

Proposed BMP		Area (ft ²)	Volume Reduction Permanently Removed (ft ³)
6.4.1	Porous Pavement		
6.4.2	Infiltration Basin	42,514.56	117,350.64
6.4.3	Infiltration Bed		
6.4.4	Infiltration Trench		
6.4.5	Rain Garden/Bioretenion		
6.4.6	Dry Well / Seepage Pit		
6.4.7	Constructed Filter		
6.4.8	Vegetated Swale		
6.4.9	Vegetated Filter Strip		
6.4.10	Berm		
6.5.1	Vegetated Roof		
6.5.2	Capture and Re-use		
6.6.1	Constructed Wetlands		
6.6.2	Wet Pond / Retention Basin		
6.6.3	Dry Extended Detention Basin		
6.6.4	Water Quality Filters		
6.7.1	Riparian Buffer Restoration		
6.7.2	Landscape Restoration / Reforest		
6.7.3	Soil Amendment		
6.8.1	Level Spreader		
6.8.2	Special Storage Areas		
Other			

Total Structural Volume (cubic feet): 117,350.64
 Structural Volume Requirement (cubic feet): 117,257.81

DIFFERENCE 92.83

Worksheet 5. STRUCTURAL BMP VOLUME CREDITS

PROJECT: PPL Bell Bend Nuclear Power Plant
SUB-BASIN: POI #21

Required Control Volume (cubic feet) - from Worksheet 4: 191,598.42
 Non-structural Volume Credit (cubic feet) - from Worksheet 3: 0.00
 (Maximum is 25% of required volume)
 Structural Volume Reqmt (cubic feet): 191,598.42
 (Required Control Volume minus Non-structural Credit)

Proposed BMP		Area (ft ²)	Volume Reduction Permanently Removed (ft ³)
6.4.1	Porous Pavement		
6.4.2	Infiltration Basin	51,008.76	99,883.08
6.4.3	Infiltration Bed		
6.4.4	Infiltration Trench		
6.4.5	Rain Garden/Bioretenention		
6.4.6	Dry Well / Seepage Pit		
6.4.7	Constructed Filter		
6.4.8	Vegetated Swale		
6.4.9	Vegetated Filter Strip		
6.4.10	Berm		
6.5.1	Vegetated Roof		
6.5.2	Capture and Re-use		
6.6.1	Constructed Wetlands		
6.6.2	Wet Pond / Retention Basin		
6.6.3	Dry Extended Detention Basin		
6.6.4	Water Quality Filters		
6.7.1	Riparian Buffer Restoration		
6.7.2	Landscape Restoration / Reforesta		
6.7.3	Soil Amendment		
6.8.1	Level Spreader		
6.8.2	Special Storage Areas		
Other			

Total Structural Volume (cubic feet): 99,883.08
 Structural Volume Requirement (cubic feet): 191,598.42

DIFFERENCE -91,715.34

Please see Pond Pack results for volume reduction calculations.

WORKSHEET 5 . STRUCTURAL BMP VOLUME CREDITS

PROJECT: Bell Bend Nuclear Power Plant
SUB-BASIN: POI I-1

Required Control Volume (ft³) - from Worksheet 4: 2,276
Non-structural Volume Credit (ft³) - from Worksheet 3: - 0
Structural Volume Reqmt (ft³) 2,276
(Required Control Volume minus Non-structural Credit)

Proposed BMP		Area (ft ²)	Storage Volume (ft ³)
6.4.1	Porous Pavement	0	0
6.4.2	Infiltration Basin	0	0
6.4.3	Infiltration Bed	0	0
6.4.4	Infiltration Trench	0	0
6.4.5	Rain Garden/Bioretention	0	0
6.4.6	Dry Well / Seepage Pit	0	0
6.4.7	Constructed Filter	0	0
6.4.8	Vegetated Swale	0	0
6.4.9	Vegetated Filter Strip	0	0
6.4.10	Berm	0	0
6.5.1	Vegetated Roof	0	0
6.5.2	Capture and Re-use	0	0
6.6.1	Constructed Wetlands	0	0
6.6.2	Wet Pond / Retention Basin	0	0
6.6.3	Dry Extended Detention Basin	0	0
6.6.4	Water Quality Filters	0	0
6.7.1	Riparian Buffer Restoration	0	0
6.7.2	Landscape Restoration / Reforestation	0	0
6.7.3	Soil Amendment	0	0
6.8.1	Level Spreader	0	0
6.8.2	Special Storage Areas	0	0
Other		0	0

Total Structural Volume (ft³): 0
Structural Volume Requirement (ft³): 2,276
DIFFERENCE -2,276

WORKSHEET 5 : STRUCTURAL BMP VOLUME CREDITS

PROJECT: Bell Bend Nuclear Power Plant
SUB-BASIN: POI I-2

Required Control Volume (ft ³) - <i>from Worksheet 4 :</i>	6,949	
Non-structural Volume Credit (ft ³) - <i>from Worksheet 3 :</i>	0	
Structural Volume Reqmt (ft³)	6,949	
<i>(Required Control Volume minus Non-structural Credit)</i>		

Proposed BMP	Area (ft ²)	Storage Volume (ft ³)
6.4.1 Porous Pavement	0	0
6.4.2 Infiltration Basin	0	0
6.4.3 Infiltration Bed	0	0
6.4.4 Infiltration Trench	0	0
6.4.5 Rain Garden/Bioretention	0	0
6.4.6 Dry Well / Seepage Pit	0	0
6.4.7 Constructed Filter	0	0
6.4.8 Vegetated Swale	0	0
6.4.9 Vegetated Filter Strip	0	0
6.4.10 Berm	0	0
6.5.1 Vegetated Roof	0	0
6.5.2 Capture and Re-use	0	0
6.6.1 Constructed Wetlands	0	0
6.6.2 Wet Pond / Retention Basin	0	0
6.6.3 Dry Extended Detention Basin	0	0
6.6.4 Water Quality Filters	0	0
6.7.1 Riparian Buffer Restoration	0	0
6.7.2 Landscape Restoration / Reforestation	0	0
6.7.3 Soil Amendment	0	0
6.8.1 Level Spreader	0	0
6.8.2 Special Storage Areas	0	0
Other	0	0

Total Structural Volume (ft ³):	0	
Structural Volume Requirement (ft ³):	6,949	
DIFFERENCE	-6,949	

WORKSHEET 5 . STRUCTURAL BMP VOLUME CREDITS

PROJECT: Bell Bend Nuclear Power Plant

SUB-BASIN: POI I-3

Required Control Volume (ft³) - from Worksheet 4: 5,767

Non-structural Volume Credit (ft³) - from Worksheet 3: - 0

Structural Volume Reqmt (ft³) 5,767
(Required Control Volume minus Non-structural Credit)

Proposed BMP		Area (ft ²)	Storage Volume (ft ³)
6.4.1	Porous Pavement	0	0
6.4.2	Infiltration Basin	0	0
6.4.3	Infiltration Bed	0	0
6.4.4	Infiltration Trench	0	0
6.4.5	Rain Garden/Bioretentation	0	0
6.4.6	Dry Well / Seepage Pit	0	0
6.4.7	Constructed Filter	0	0
6.4.8	Vegetated Swale	0	0
6.4.9	Vegetated Filter Strip	0	0
6.4.10	Berm	0	0
6.5.1	Vegetated Roof	0	0
6.5.2	Capture and Re-use	0	0
6.6.1	Constructed Wetlands	0	0
6.6.2	Wet Pond / Retention Basin	0	0
6.6.3	Dry Extended Detention Basin	0	0
6.6.4	Water Quality Filters	0	0
6.7.1	Riparian Buffer Restoration	0	0
6.7.2	Landscape Restoration / Reforestation	0	0
6.7.3	Soil Amendment	0	0
6.8.1	Level Spreader	0	0
6.8.2	Special Storage Areas	0	0
Other		0	0

Total Structural Volume (ft³): 0
Structural Volume Requirement (ft³): 5,767
DIFFERENCE -5,767

WORKSHEET 5 . STRUCTURAL BMP VOLUME CREDITS

PROJECT: Bell Bend Nuclear Power Plant

SUB-BASIN: POI I-4

Required Control Volume (ft³) - from Worksheet 4 :

0

Non-structural Volume Credit (ft³) - from Worksheet 3 :

0

Structural Volume Reqmt (ft³)

0

(Required Control Volume minus Non-structural Credit)

Proposed BMP		Area (ft ²)	Storage Volume (ft ³)
6.4.1	Porous Pavement	0	0
6.4.2	Infiltration Basin	0	0
6.4.3	Infiltration Bed	0	0
6.4.4	Infiltration Trench	0	0
6.4.5	Rain Garden/Bioretenion	0	0
6.4.6	Dry Well / Seepage Pit	0	0
6.4.7	Constructed Filter	0	0
6.4.8	Vegetated Swale	0	0
6.4.9	Vegetated Filter Strip	0	0
6.4.10	Berm	0	0
6.5.1	Vegetated Roof	0	0
6.5.2	Capture and Re-use	0	0
6.6.1	Constructed Wetlands	0	0
6.6.2	Wet Pond / Retention Basin	0	0
6.6.3	Dry Extended Detention Basin	0	0
6.6.4	Water Quality Filters	0	0
6.7.1	Riparian Buffer Restoration	0	0
6.7.2	Landscape Restoration / Reforestation	0	0
6.7.3	Soil Amendment	0	0
6.8.1	Level Spreader	0	0
6.8.2	Special Storage Areas	0	0
Other		0	0

Total Structural Volume (ft³):

0

Structural Volume Requirement (ft³):

0

DIFFERENCE

0

WORKSHEET 5 . STRUCTURAL BMP VOLUME CREDITS

PROJECT: Bell Bend Nuclear Power Plant

SUB-BASIN: POI I-5

Required Control Volume (ft³) - from Worksheet 4:

0

Non-structural Volume Credit (ft³) - from Worksheet 3:

0

Structural Volume Reqmt (ft³)

0

(Required Control Volume minus Non-structural Credit)

Proposed BMP		Area (ft ²)	Storage Volume (ft ³)
6.4.1	Porous Pavement	0	0
6.4.2	Infiltration Basin	0	0
6.4.3	Infiltration Bed	0	0
6.4.4	Infiltration Trench	0	0
6.4.5	Rain Garden/Bioretention	0	0
6.4.6	Dry Well / Seepage Pit	0	0
6.4.7	Constructed Filter	0	0
6.4.8	Vegetated Swale	0	0
6.4.9	Vegetated Filter Strip	0	0
6.4.10	Berm	0	0
6.5.1	Vegetated Roof	0	0
6.5.2	Capture and Re-use	0	0
6.6.1	Constructed Wetlands	0	0
6.6.2	Wet Pond / Retention Basin	0	0
6.6.3	Dry Extended Detention Basin	0	0
6.6.4	Water Quality Filters	0	0
6.7.1	Riparian Buffer Restoration	0	0
6.7.2	Landscape Restoration / Reforestation	0	0
6.7.3	Soil Amendment	0	0
6.8.1	Level Spreader	0	0
6.8.2	Special Storage Areas	0	0
Other		0	0

Total Structural Volume (ft³): 0

Structural Volume Requirement (ft³): 0

DIFFERENCE 0

WORKSHEET 5 . STRUCTURAL BMP VOLUME CREDITS

PROJECT: Bell Bend Nuclear Power Plant
SUB-BASIN: POI I-6

Required Control Volume (ft ³) - from Worksheet 4 :	1,867
Non-structural Volume Credit (ft ³) - from Worksheet 3 :	- 0
Structural Volume Reqmt (ft³) (Required Control Volume minus Non-structural Credit)	1,867

Proposed BMP	Area (ft ²)	Storage Volume (ft ³)
6.4.1 Porous Pavement	0	0
6.4.2 Infiltration Basin	0	0
6.4.3 Infiltration Bed	0	0
6.4.4 Infiltration Trench	0	0
6.4.5 Rain Garden/Bioretenion	0	0
6.4.6 Dry Well / Seepage Pit	0	0
6.4.7 Constructed Filter	0	0
6.4.8 Vegetated Swale	0	0
6.4.9 Vegetated Filter Strip	0	0
6.4.10 Berm	0	0
6.5.1 Vegetated Roof	0	0
6.5.2 Capture and Re-use	0	0
6.6.1 Constructed Wetlands	0	0
6.6.2 Wet Pond / Retention Basin	0	0
6.6.3 Dry Extended Detention Basin	0	0
6.6.4 Water Quality Filters	0	0
6.7.1 Riparian Buffer Restoration	0	0
6.7.2 Landscape Restoration / Reforestation	0	0
6.7.3 Soil Amendment	0	0
6.8.1 Level Spreader	0	0
6.8.2 Special Storage Areas	0	0
Other	0	0

Total Structural Volume (ft ³):	0
Structural Volume Requirement (ft ³):	1,867
DIFFERENCE	-1,867

WORKSHEET 10: WATER QUALITY COMPLIANCE FOR NITRATE

Does the site design incorporate the following BMPs to address nitrate pollution? A summary "yes" rating is achieved if at least 2 Primary BMPs for nitrate are provided across the site or 4 secondary BMPs for nitrate are provided across the site (or the

PRIMARY BMPs FOR NITRATE

	YES	NO
NS BMP 5.4.2 - Protect / Conserve / Enhance Riparian Buffers	☒	☐
NS BMP 5.5.4 - Cluster Uses at Each Site	☐	☒
NS BMP 5.6.1 - Minimize Total Disturbed Area	☐	☒
NS BMP 5.6.3 - Re-Vegetate / Re-Forest Disturbed Areas (Native Speices)	☐	☒
NS BMP 5.9.1 - Street Sweeping / Vacuuming	☒	☐
Structural BMP 6.7.1 - Riparian Buffer Restoration	☐	☒
Structural BMP 6.7.2 - Landscape Restoration	☐	☒

SECONDARY BMPs FOR NITRATE

NS BMP 5.4.1 - Protect Sensitive / Special Value Features	☐	☒
NS BMP 5.4.3 - Protect / Utilize Natural Drainage Features	☒	☐
NS BMP 5.6.2 - Minimize Soil Compaction	☐	☒
Structural BMP 6.4.5 - Rain Garden / Bioretention	☒	☐
Structural BMP 6.4.8 - Vegetated Swale	☒	☐
Structural BMP 6.4.9 - Vegetated Filter Strip	☐	☒
Structural BMP 6.6.1 - Constructed Wetland	☒	☐
Structural BMP 6.7.1 - Riparian Buffer Restoration	☐	☒
Structural BMP 6.7.2 - Landscape Restoration	☐	☒
Structual BMP 6.7.3 - Soils Amendment/Restoration	☐	☒

INFILTRATION VOLUMES

PPL BBNPP

PPLS0902

04-10-10

						Calculated	Actual
	Bed Bottom Area	Infiltration Rate	Safety Factor	Infiltration Design Rate	Infiltration Period	Infiltration Volume	Infiltration Volume
	(SF)	(In/hr)		(In/hr)	(Hr)	(Cu. Ft.)	(Cu. Ft.)
Basin 1	308840	5.1	2	2.55	96	6300336	328529.53
Basin 3.2	239057	4	2	2	96	3824912	192186.72
Basin 4	305268	0.22	2	0.11	96	268635.84	34848
Basin 6	217800	0.5	2	0.25	96	435600	109074.24
Basin 8	74052	3.7	2	1.85	96	1095969.6	31537.44
Basin 9	43560	10.8	2	5.4	96	1881792	6795.36
Basin 10.1	152460	16	2	8	96	9757440	326046.6
Basin 10.4	67518	0.8	2	0.4	96	216057.6	47306.16
Basin 12	193842	16	2	8	96	12405888	173804.4
Basin 13.1	30187	3.8	2	1.9	96	458842.4	21562.2
Basin 13.2	37026	1.5	2	0.75	96	222156	38289.24
Basin 15.1	65340	0.4	2	0.2	96	104544	24306.48
Basin 15.2	98010	0.4	2	0.2	96	156816	37984.32
Basin 18	52751	7	2	3.5	96	1477028	78451.56
Basin 20	204601	2	2	1	96	1636808	113691.6
Basin 21	98402	2	2	1	96	787216	91606.68
						Total	1656020.53

Stormwater BMP
Loading Ratios

	Basin Bottom Area (S.F.)	Total Drainage Area (S.F.)	Impervious Total (S.F.)	Impervious Loading Ratio	Overall Loading Ratio	Notes
Basin 1	308840	1525035.6	1842588	5.97	4.94	Main Parking Lot - POI 1
Basin 3.2	239057	2129648.4	137126.88	0.57	8.91	
Basin 4	305268	1867939.92	449103.6	1.47	6.12	
Basin 6	217800	1549864.8	293376.6	1.35	7.12	
Basin 8	74052	504032.76	190487.88	2.57	6.81	
Basin 9	43560	498195.72	0	0.00	11.44	
Basin 10.1	152460	1254528	519670.8	3.41	8.23	
Basin 10.4	67518	802723.68	242106.48	3.59	11.89	
Basin 12	193842	1549864.8	342381.6	1.77	8.00	
Basin 13.1	30187	292984.56	15550.92	0.52	9.71	
Basin 13.2	37026	347173.2	56148.84	1.52	9.38	
Basin 15.1	65340	471319.2	33541.2	0.51	7.21	
Basin 15.2	98010	812829.6	11325.6	0.12	8.29	
Basin 18	52751	657581.76	46086.48	0.87	12.47	
Basin 20	204601	575296.92	27181.44	0.13	2.81	
Basin 21	98402	2452994.28	114693.48	1.17	24.93	

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Subsection: Level Pool Pond Routing Summary
Label: BASIN 01 (IN)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Infiltration			
Infiltration Method (Computed)	Average Infiltration Rate		
Infiltration Rate (Average)	2.5500 in/h		
Initial Conditions			
Elevation (Water Surface, Initial)	663.00 ft		
Volume (Initial)	0.000 ac-ft		
Flow (Initial Outlet)	0.00 ft³/s		
Flow (Initial Infiltration)	0.00 ft³/s		
Flow (Initial, Total)	0.00 ft³/s		
Time Increment	0.017 hours		
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	133.57 ft³/s	Time to Peak (Flow, In)	11.933 hours
Infiltration (Peak)	18.23 ft³/s	Time to Peak (Infiltration)	11.883 hours
Flow (Peak Outlet)	0.00 ft³/s	Time to Peak (Flow, Outlet)	0.000 hours
Elevation (Water Surface, Peak)	664.11 ft		
Volume (Peak)	3.142 ac-ft		
Mass Balance (ac-ft)			
Volume (Initial)	0.000 ac-ft		
Volume (Total Inflow)	7.542 ac-ft		
Volume (Total Infiltration)	7.542 ac-ft		
Volume (Total Outlet Outflow)	0.000 ac-ft		
Volume (Retained)	0.000 ac-ft		
Volume (Unrouted)	0.000 ac-ft		
Error (Mass Balance)	0.0 %		

Subsection: Pond Infiltration Hydrograph
Label: BASIN 01 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Peak Discharge	18.23 ft ³ /s
Time to Peak	12.317 hours
Hydrograph Volume	7.542 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
4.467	0.00	0.00	0.00	0.00	0.00
4.550	0.00	0.00	0.00	0.01	0.01
4.633	0.01	0.01	0.01	0.01	0.01
4.717	0.01	0.01	0.01	0.01	0.02
4.800	0.02	0.02	0.02	0.02	0.02
4.883	0.02	0.03	0.03	0.03	0.03
4.967	0.03	0.03	0.04	0.04	0.04
5.050	0.04	0.04	0.04	0.05	0.05
5.133	0.05	0.05	0.05	0.06	0.06
5.217	0.06	0.06	0.07	0.07	0.07
5.300	0.07	0.07	0.08	0.08	0.08
5.383	0.08	0.09	0.09	0.09	0.09
5.467	0.10	0.10	0.10	0.11	0.11
5.550	0.11	0.11	0.12	0.12	0.12
5.633	0.12	0.13	0.13	0.13	0.14
5.717	0.14	0.14	0.15	0.15	0.15
5.800	0.15	0.16	0.16	0.16	0.17
5.883	0.17	0.17	0.18	0.18	0.18
5.967	0.19	0.19	0.19	0.20	0.20
6.050	0.20	0.21	0.21	0.21	0.22
6.133	0.22	0.22	0.23	0.23	0.23
6.217	0.24	0.24	0.25	0.25	0.25
6.300	0.26	0.26	0.26	0.27	0.27
6.383	0.28	0.28	0.28	0.29	0.29
6.467	0.29	0.30	0.30	0.31	0.31
6.550	0.31	0.32	0.32	0.33	0.33
6.633	0.33	0.34	0.34	0.35	0.35
6.717	0.35	0.36	0.36	0.37	0.37
6.800	0.37	0.38	0.38	0.39	0.39
6.883	0.39	0.40	0.40	0.41	0.41
6.967	0.42	0.42	0.42	0.43	0.43
7.050	0.44	0.44	0.45	0.45	0.45
7.133	0.46	0.46	0.47	0.47	0.48
7.217	0.48	0.49	0.49	0.49	0.50
7.300	0.50	0.51	0.51	0.52	0.52
7.383	0.53	0.53	0.53	0.54	0.54
7.467	0.55	0.55	0.56	0.56	0.57
7.550	0.57	0.58	0.58	0.58	0.59
7.633	0.59	0.60	0.60	0.61	0.61

Subsection: Pond Infiltration Hydrograph
Label: BASIN 01 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
7.717	0.62	0.62	0.63	0.63	0.64
7.800	0.64	0.65	0.65	0.66	0.66
7.883	0.67	0.67	0.67	0.68	0.68
7.967	0.69	0.69	0.70	0.70	0.71
8.050	0.71	0.72	0.72	0.73	0.73
8.133	0.74	0.74	0.75	0.76	0.76
8.217	0.77	0.77	0.78	0.78	0.79
8.300	0.80	0.80	0.81	0.82	0.82
8.383	0.83	0.84	0.84	0.85	0.86
8.467	0.87	0.87	0.88	0.89	0.90
8.550	0.90	0.91	0.92	0.93	0.94
8.633	0.94	0.95	0.96	0.97	0.98
8.717	0.99	1.00	1.01	1.01	1.02
8.800	1.03	1.04	1.05	1.06	1.07
8.883	1.08	1.09	1.10	1.11	1.12
8.967	1.13	1.14	1.15	1.16	1.17
9.050	1.18	1.19	1.20	1.21	1.23
9.133	1.24	1.25	1.26	1.27	1.28
9.217	1.29	1.30	1.31	1.32	1.33
9.300	1.34	1.35	1.36	1.37	1.38
9.383	1.39	1.40	1.41	1.41	1.42
9.467	1.43	1.44	1.45	1.46	1.47
9.550	1.48	1.49	1.50	1.51	1.52
9.633	1.53	1.54	1.55	1.56	1.57
9.717	1.58	1.59	1.60	1.61	1.62
9.800	1.63	1.64	1.66	1.67	1.68
9.883	1.69	1.71	1.72	1.73	1.75
9.967	1.76	1.77	1.79	1.80	1.82
10.050	1.83	1.85	1.86	1.88	1.89
10.133	1.91	1.93	1.94	1.96	1.98
10.217	1.99	2.01	2.03	2.05	2.07
10.300	2.09	2.11	2.13	2.15	2.17
10.383	2.19	2.21	2.23	2.25	2.27
10.467	2.30	2.32	2.34	2.37	2.39
10.550	2.41	2.44	2.46	2.49	2.51
10.633	2.54	2.57	2.59	2.62	2.65
10.717	2.68	2.71	2.74	2.77	2.80
10.800	2.83	2.87	2.90	2.93	2.97
10.883	3.00	3.04	3.07	3.11	3.15
10.967	3.18	3.22	3.26	3.30	3.34
11.050	3.38	3.42	3.47	3.51	3.56
11.133	3.60	3.65	3.70	3.75	3.81
11.217	3.86	3.92	3.97	4.03	4.10
11.300	4.16	4.23	4.29	4.36	4.43

Subsection: Pond Infiltration Hydrograph
Label: BASIN 01 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
11.383	4.50	4.58	4.65	4.73	4.80
11.467	4.88	4.97	5.05	5.14	5.23
11.550	5.36	5.51	5.69	5.90	6.14
11.633	6.40	6.72	7.11	7.57	8.08
11.717	8.64	9.26	9.94	10.72	11.58
11.800	12.53	13.53	14.63	15.88	17.33
11.883	18.23	18.23	18.23	18.23	18.23
11.967	18.23	18.23	18.23	18.23	18.23
12.050	18.23	18.23	18.23	18.23	18.23
12.133	18.23	18.23	18.23	18.23	18.23
12.217	18.23	18.23	18.23	18.23	18.23
12.300	18.23	18.23	18.23	18.23	18.23
12.383	18.23	18.23	18.23	18.23	18.23
12.467	18.23	18.23	18.23	18.23	18.23
12.550	18.23	18.23	18.23	18.23	18.23
12.633	18.23	18.23	18.23	18.23	18.23
12.717	18.23	18.23	18.23	18.23	18.23
12.800	18.23	18.23	18.23	18.23	18.23
12.883	18.23	18.23	18.23	18.23	18.23
12.967	18.23	18.23	18.23	18.23	18.23
13.050	18.23	18.23	18.23	18.23	18.23
13.133	18.23	18.23	18.23	18.23	18.23
13.217	18.23	18.23	18.23	18.23	18.23
13.300	18.23	18.23	18.23	18.23	18.23
13.383	18.23	18.23	18.23	18.23	18.23
13.467	18.23	18.23	18.23	18.23	18.23
13.550	18.23	18.23	18.23	18.23	18.23
13.633	18.23	18.23	18.23	18.23	18.23
13.717	18.23	18.23	18.23	18.23	18.23
13.800	18.23	18.23	18.23	18.23	18.23
13.883	18.23	18.23	18.23	18.23	18.23
13.967	18.23	18.23	18.23	18.23	18.23
14.050	18.23	18.23	18.23	18.23	18.23
14.133	18.23	18.23	18.23	18.23	18.23
14.217	18.21	17.96	17.72	17.48	17.25
14.300	17.02	16.79	16.56	16.35	16.13
14.383	15.92	15.71	15.50	15.30	15.10
14.467	14.90	14.71	14.52	14.34	14.15
14.550	13.97	13.80	13.62	13.45	13.28
14.633	13.12	12.95	12.79	12.63	12.48
14.717	12.32	12.17	12.03	11.88	11.74
14.800	11.60	11.46	11.32	11.18	11.05
14.883	10.92	10.79	10.67	10.54	10.42
14.967	10.30	10.18	10.06	9.95	9.84

Subsection: Pond Infiltration Hydrograph
 Label: BASIN 01 (INF)

Return Event: 2 years
 Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
15.050	9.73	9.62	9.51	9.40	9.30
15.133	9.19	9.09	8.99	8.89	8.80
15.217	8.70	8.61	8.52	8.42	8.33
15.300	8.25	8.16	8.07	7.99	7.90
15.383	7.82	7.74	7.66	7.58	7.51
15.467	7.43	7.35	7.28	7.21	7.14
15.550	7.06	6.99	6.93	6.86	6.79
15.633	6.72	6.66	6.60	6.53	6.47
15.717	6.41	6.35	6.29	6.23	6.17
15.800	6.11	6.06	6.00	5.94	5.89
15.883	5.84	5.78	5.73	5.68	5.63
15.967	5.58	5.53	5.48	5.43	5.38
16.050	5.34	5.29	5.24	5.20	5.15
16.133	5.11	5.07	5.02	4.98	4.94
16.217	4.90	4.86	4.82	4.78	4.74
16.300	4.71	4.67	4.63	4.60	4.56
16.383	4.53	4.49	4.46	4.43	4.39
16.467	4.36	4.33	4.30	4.27	4.24
16.550	4.21	4.18	4.15	4.12	4.09
16.633	4.06	4.04	4.01	3.98	3.96
16.717	3.93	3.90	3.88	3.85	3.83
16.800	3.81	3.78	3.76	3.74	3.71
16.883	3.69	3.67	3.65	3.63	3.60
16.967	3.58	3.56	3.54	3.52	3.50
17.050	3.48	3.46	3.44	3.43	3.41
17.133	3.39	3.37	3.35	3.34	3.32
17.217	3.30	3.28	3.27	3.25	3.23
17.300	3.22	3.20	3.19	3.17	3.16
17.383	3.14	3.13	3.11	3.10	3.08
17.467	3.07	3.05	3.04	3.03	3.01
17.550	3.00	2.99	2.97	2.96	2.95
17.633	2.93	2.92	2.91	2.90	2.88
17.717	2.87	2.86	2.85	2.84	2.83
17.800	2.81	2.80	2.79	2.78	2.77
17.883	2.76	2.75	2.74	2.73	2.72
17.967	2.71	2.70	2.69	2.68	2.67
18.050	2.66	2.65	2.64	2.63	2.62
18.133	2.61	2.60	2.59	2.58	2.57
18.217	2.56	2.55	2.54	2.54	2.53
18.300	2.52	2.51	2.50	2.49	2.48
18.383	2.48	2.47	2.46	2.45	2.44
18.467	2.43	2.43	2.42	2.41	2.40
18.550	2.40	2.39	2.38	2.37	2.36
18.633	2.36	2.35	2.34	2.33	2.33

Subsection: Pond Infiltration Hydrograph
 Label: BASIN 01 (INF)

Return Event: 2 years
 Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
18.717	2.32	2.31	2.31	2.30	2.29
18.800	2.28	2.28	2.27	2.26	2.26
18.883	2.25	2.24	2.24	2.23	2.22
18.967	2.22	2.21	2.20	2.20	2.19
19.050	2.18	2.18	2.17	2.16	2.16
19.133	2.15	2.14	2.14	2.13	2.13
19.217	2.12	2.11	2.11	2.10	2.09
19.300	2.09	2.08	2.08	2.07	2.06
19.383	2.06	2.05	2.05	2.04	2.03
19.467	2.03	2.02	2.02	2.01	2.00
19.550	2.00	1.99	1.99	1.98	1.98
19.633	1.97	1.96	1.96	1.95	1.95
19.717	1.94	1.94	1.93	1.92	1.92
19.800	1.91	1.91	1.90	1.90	1.89
19.883	1.88	1.88	1.87	1.87	1.86
19.967	1.86	1.85	1.85	1.84	1.84
20.050	1.83	1.82	1.82	1.81	1.81
20.133	1.80	1.80	1.79	1.79	1.78
20.217	1.78	1.77	1.77	1.76	1.76
20.300	1.76	1.75	1.75	1.74	1.74
20.383	1.73	1.73	1.73	1.72	1.72
20.467	1.71	1.71	1.71	1.70	1.70
20.550	1.70	1.69	1.69	1.68	1.68
20.633	1.68	1.67	1.67	1.67	1.66
20.717	1.66	1.66	1.65	1.65	1.65
20.800	1.65	1.64	1.64	1.64	1.63
20.883	1.63	1.63	1.63	1.62	1.62
20.967	1.62	1.61	1.61	1.61	1.61
21.050	1.60	1.60	1.60	1.60	1.59
21.133	1.59	1.59	1.59	1.58	1.58
21.217	1.58	1.58	1.58	1.57	1.57
21.300	1.57	1.57	1.56	1.56	1.56
21.383	1.56	1.56	1.55	1.55	1.55
21.467	1.55	1.55	1.54	1.54	1.54
21.550	1.54	1.54	1.54	1.53	1.53
21.633	1.53	1.53	1.53	1.52	1.52
21.717	1.52	1.52	1.52	1.52	1.51
21.800	1.51	1.51	1.51	1.51	1.51
21.883	1.50	1.50	1.50	1.50	1.50
21.967	1.50	1.49	1.49	1.49	1.49
22.050	1.49	1.49	1.49	1.48	1.48
22.133	1.48	1.48	1.48	1.48	1.48
22.217	1.47	1.47	1.47	1.47	1.47
22.300	1.47	1.47	1.46	1.46	1.46

Subsection: Pond Infiltration Hydrograph
Label: BASIN 01 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
22.383	1.46	1.46	1.46	1.46	1.46
22.467	1.45	1.45	1.45	1.45	1.45
22.550	1.45	1.45	1.45	1.44	1.44
22.633	1.44	1.44	1.44	1.44	1.44
22.717	1.44	1.43	1.43	1.43	1.43
22.800	1.43	1.43	1.43	1.43	1.42
22.883	1.42	1.42	1.42	1.42	1.42
22.967	1.42	1.42	1.41	1.41	1.41
23.050	1.41	1.41	1.41	1.41	1.41
23.133	1.41	1.40	1.40	1.40	1.40
23.217	1.40	1.40	1.40	1.40	1.40
23.300	1.39	1.39	1.39	1.39	1.39
23.383	1.39	1.39	1.39	1.39	1.38
23.467	1.38	1.38	1.38	1.38	1.38
23.550	1.38	1.38	1.38	1.38	1.37
23.633	1.37	1.37	1.37	1.37	1.37
23.717	1.37	1.37	1.37	1.36	1.36
23.800	1.36	1.36	1.36	1.36	1.36
23.883	1.36	1.36	1.36	1.35	1.35
23.967	1.35	1.35	1.35	1.35	1.35
24.050	1.34	1.33	1.32	1.30	1.29
24.133	1.27	1.25	1.23	1.20	1.18
24.217	1.16	1.14	1.12	1.10	1.08
24.300	1.07	1.05	1.03	1.01	0.99
24.383	0.98	0.96	0.94	0.92	0.91
24.467	0.89	0.88	0.86	0.85	0.83
24.550	0.82	0.80	0.79	0.77	0.76
24.633	0.75	0.73	0.72	0.71	0.70
24.717	0.68	0.67	0.66	0.65	0.64
24.800	0.63	0.62	0.60	0.59	0.58
24.883	0.57	0.56	0.55	0.54	0.53
24.967	0.52	0.52	0.51	0.50	0.49
25.050	0.48	0.47	0.46	0.46	0.45
25.133	0.44	0.43	0.42	0.42	0.41
25.217	0.40	0.40	0.39	0.38	0.37
25.300	0.37	0.36	0.36	0.35	0.34
25.383	0.34	0.33	0.33	0.32	0.31
25.467	0.31	0.30	0.30	0.29	0.29
25.550	0.28	0.28	0.27	0.27	0.26
25.633	0.26	0.25	0.25	0.25	0.24
25.717	0.24	0.23	0.23	0.22	0.22
25.800	0.22	0.21	0.21	0.21	0.20
25.883	0.20	0.19	0.19	0.19	0.18
25.967	0.18	0.18	0.18	0.17	0.17

Subsection: Pond Infiltration Hydrograph
Label: BASIN 01 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
26.050	0.17	0.16	0.16	0.16	0.15
26.133	0.15	0.15	0.15	0.14	0.14
26.217	0.14	0.14	0.13	0.13	0.13
26.300	0.13	0.13	0.12	0.12	0.12
26.383	0.12	0.11	0.11	0.11	0.11
26.467	0.11	0.10	0.10	0.10	0.10
26.550	0.10	0.10	0.09	0.09	0.09
26.633	0.09	0.09	0.09	0.08	0.08
26.717	0.08	0.08	0.08	0.08	0.08
26.800	0.07	0.07	0.07	0.07	0.07
26.883	0.07	0.07	0.07	0.06	0.06
26.967	0.06	0.06	0.06	0.06	0.06
27.050	0.06	0.06	0.06	0.05	0.05
27.133	0.05	0.05	0.05	0.05	0.05
27.217	0.05	0.05	0.05	0.05	0.04
27.300	0.04	0.04	0.04	0.04	0.04
27.383	0.04	0.04	0.04	0.04	0.04
27.467	0.04	0.04	0.04	0.03	0.03
27.550	0.03	0.03	0.03	0.03	0.03
27.633	0.03	0.03	0.03	0.03	0.03
27.717	0.03	0.03	0.03	0.03	0.03
27.800	0.03	0.03	0.02	0.02	0.02
27.883	0.02	0.02	0.02	0.02	0.02
27.967	0.02	0.02	0.02	0.02	0.02
28.050	0.02	0.02	0.02	0.02	0.02
28.133	0.02	0.02	0.02	0.02	0.02
28.217	0.02	0.02	0.02	0.02	0.02
28.300	0.02	0.01	0.01	0.01	0.01
28.383	0.01	0.01	0.01	0.01	0.01
28.467	0.01	0.01	0.01	0.01	0.01
28.550	0.01	0.01	0.01	0.01	0.01
28.633	0.01	0.01	0.01	0.01	0.01
28.717	0.01	0.01	0.01	0.01	0.01
28.800	0.01	0.01	0.01	0.01	0.01
28.883	0.01	0.01	0.01	0.01	0.01
28.967	0.01	0.01	0.01	0.01	0.01
29.050	0.01	0.01	0.01	0.01	0.01
29.133	0.01	0.01	0.01	0.01	0.01
29.217	0.01	0.01	0.01	0.01	0.01
29.300	0.01	0.01	0.01	0.00	0.00
29.383	0.00	0.00	0.00	0.00	0.00
29.467	0.00	0.00	0.00	0.00	0.00
29.550	0.00	0.00	0.00	0.00	0.00
29.633	0.00	0.00	0.00	0.00	0.00

Subsection: Pond Infiltration Hydrograph
 Label: BASIN 01 (INF)

Return Event: 2 years
 Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
29.717	0.00	0.00	0.00	0.00	0.00
29.800	0.00	0.00	0.00	0.00	0.00
29.883	0.00	0.00	0.00	0.00	0.00
29.967	0.00	0.00	0.00	0.00	0.00
30.050	0.00	0.00	0.00	0.00	0.00
30.133	0.00	0.00	0.00	0.00	0.00
30.217	0.00	0.00	0.00	0.00	0.00
30.300	0.00	0.00	0.00	0.00	0.00
30.383	0.00	0.00	0.00	0.00	0.00
30.467	0.00	0.00	0.00	0.00	0.00
30.550	0.00	0.00	0.00	0.00	0.00
30.633	0.00	0.00	0.00	0.00	0.00
30.717	0.00	0.00	0.00	0.00	0.00
30.800	0.00	0.00	(N/A)	(N/A)	(N/A)

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Subsection: Level Pool Pond Routing Summary
Label: BASIN 02 (IN)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Infiltration			
Infiltration Method (Computed)		No Infiltration	
Initial Conditions			
Elevation (Water Surface, Initial)	670.00 ft		
Volume (Initial)	0.000 ac-ft		
Flow (Initial Outlet)	0.00 ft³/s		
Flow (Initial Infiltration)	0.00 ft³/s		
Flow (Initial, Total)	0.00 ft³/s		
Time Increment	0.017 hours		
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	3.85 ft³/s	Time to Peak (Flow, In)	11.933 hours
Flow (Peak Outlet)	0.47 ft³/s	Time to Peak (Flow, Outlet)	12.350 hours
Elevation (Water Surface, Peak)	671.49 ft		
Volume (Peak)	0.115 ac-ft		
Mass Balance (ac-ft)			
Volume (Initial)	0.000 ac-ft		
Volume (Total Inflow)	0.212 ac-ft		
Volume (Total Infiltration)	0.000 ac-ft		
Volume (Total Outlet Outflow)	0.135 ac-ft		
Volume (Retained)	0.077 ac-ft		
Volume (Unrouted)	0.000 ac-ft		
Error (Mass Balance)	0.0 %		

Subsection: Pond Routed Hydrograph (total out)
Label: BASIN 02 (OUT)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Peak Discharge	0.47 ft ³ /s
Time to Peak	12.350 hours
Hydrograph Volume	0.135 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
11.933	0.00	0.03	0.09	0.15	0.20
12.017	0.25	0.30	0.34	0.37	0.40
12.100	0.41	0.43	0.44	0.44	0.45
12.183	0.45	0.46	0.46	0.46	0.46
12.267	0.46	0.47	0.47	0.47	0.47
12.350	0.47	0.47	0.47	0.47	0.47
12.433	0.47	0.46	0.46	0.46	0.46
12.517	0.46	0.46	0.45	0.45	0.45
12.600	0.45	0.44	0.44	0.44	0.44
12.683	0.43	0.43	0.43	0.43	0.42
12.767	0.42	0.42	0.42	0.41	0.41
12.850	0.41	0.41	0.40	0.40	0.40
12.933	0.39	0.39	0.39	0.39	0.38
13.017	0.38	0.38	0.38	0.37	0.37
13.100	0.37	0.36	0.36	0.36	0.36
13.183	0.35	0.35	0.35	0.35	0.34
13.267	0.34	0.34	0.34	0.33	0.33
13.350	0.33	0.33	0.32	0.32	0.32
13.433	0.32	0.31	0.31	0.31	0.31
13.517	0.31	0.30	0.30	0.30	0.30
13.600	0.29	0.29	0.29	0.29	0.29
13.683	0.28	0.28	0.28	0.28	0.27
13.767	0.27	0.27	0.27	0.27	0.26
13.850	0.26	0.26	0.26	0.26	0.25
13.933	0.25	0.25	0.25	0.25	0.25
14.017	0.24	0.24	0.24	0.24	0.24
14.100	0.23	0.23	0.23	0.23	0.23
14.183	0.23	0.22	0.22	0.22	0.22
14.267	0.22	0.22	0.21	0.21	0.21
14.350	0.21	0.21	0.21	0.21	0.20
14.433	0.20	0.20	0.20	0.20	0.20
14.517	0.20	0.19	0.19	0.19	0.19
14.600	0.19	0.19	0.19	0.19	0.19
14.683	0.18	0.18	0.18	0.18	0.18
14.767	0.18	0.18	0.18	0.17	0.17
14.850	0.17	0.17	0.17	0.17	0.17
14.933	0.17	0.17	0.17	0.16	0.16
15.017	0.16	0.16	0.16	0.16	0.16
15.100	0.16	0.16	0.16	0.16	0.15

Subsection: Pond Routed Hydrograph (total out)
 Label: BASIN 02 (OUT)

Return Event: 2 years
 Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
15.183	0.15	0.15	0.15	0.15	0.15
15.267	0.15	0.15	0.15	0.15	0.15
15.350	0.15	0.14	0.14	0.14	0.14
15.433	0.14	0.14	0.14	0.14	0.14
15.517	0.14	0.14	0.14	0.14	0.14
15.600	0.13	0.13	0.13	0.13	0.13
15.683	0.13	0.13	0.13	0.13	0.13
15.767	0.13	0.13	0.13	0.13	0.13
15.850	0.12	0.12	0.12	0.12	0.12
15.933	0.12	0.12	0.12	0.12	0.12
16.017	0.12	0.12	0.12	0.12	0.12
16.100	0.12	0.11	0.11	0.11	0.11
16.183	0.11	0.11	0.11	0.11	0.11
16.267	0.11	0.11	0.11	0.11	0.11
16.350	0.11	0.11	0.11	0.11	0.11
16.433	0.11	0.10	0.10	0.10	0.10
16.517	0.10	0.10	0.10	0.10	0.10
16.600	0.10	0.10	0.10	0.10	0.10
16.683	0.10	0.10	0.10	0.10	0.10
16.767	0.10	0.10	0.10	0.10	0.10
16.850	0.10	0.09	0.09	0.09	0.09
16.933	0.09	0.09	0.09	0.09	0.09
17.017	0.09	0.09	0.09	0.09	0.09
17.100	0.09	0.09	0.09	0.09	0.09
17.183	0.09	0.09	0.09	0.09	0.09
17.267	0.09	0.09	0.09	0.09	0.09
17.350	0.09	0.09	0.09	0.09	0.09
17.433	0.08	0.08	0.08	0.08	0.08
17.517	0.08	0.08	0.08	0.08	0.08
17.600	0.08	0.08	0.08	0.08	0.08
17.683	0.08	0.08	0.08	0.08	0.08
17.767	0.08	0.08	0.08	0.08	0.08
17.850	0.08	0.08	0.08	0.08	0.08
17.933	0.08	0.08	0.08	0.08	0.08
18.017	0.08	0.08	0.08	0.08	0.08
18.100	0.08	0.08	0.08	0.08	0.08
18.183	0.07	0.07	0.07	0.07	0.07
18.267	0.07	0.07	0.07	0.07	0.07
18.350	0.07	0.07	0.07	0.07	0.07
18.433	0.07	0.07	0.07	0.07	0.07
18.517	0.07	0.07	0.07	0.07	0.07
18.600	0.07	0.07	0.07	0.07	0.07
18.683	0.07	0.07	0.07	0.07	0.07
18.767	0.07	0.07	0.07	0.07	0.07

Subsection: Pond Routed Hydrograph (total out)
 Label: BASIN 02 (OUT)

Return Event: 2 years
 Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
18.850	0.07	0.07	0.07	0.07	0.07
18.933	0.07	0.07	0.07	0.07	0.07
19.017	0.07	0.07	0.07	0.07	0.07
19.100	0.07	0.06	0.06	0.06	0.06
19.183	0.06	0.06	0.06	0.06	0.06
19.267	0.06	0.06	0.06	0.06	0.06
19.350	0.06	0.06	0.06	0.06	0.06
19.433	0.06	0.06	0.06	0.06	0.06
19.517	0.06	0.06	0.06	0.06	0.06
19.600	0.06	0.06	0.06	0.06	0.06
19.683	0.06	0.06	0.06	0.06	0.06
19.767	0.06	0.06	0.06	0.06	0.06
19.850	0.06	0.06	0.06	0.06	0.06
19.933	0.06	0.06	0.06	0.06	0.06
20.017	0.06	0.06	0.06	0.06	0.06
20.100	0.06	0.06	0.06	0.06	0.05
20.183	0.05	0.05	0.05	0.05	0.05
20.267	0.05	0.05	0.05	0.05	0.05
20.350	0.05	0.05	0.05	0.05	0.05
20.433	0.05	0.05	0.05	0.05	0.05
20.517	0.05	0.05	0.05	0.05	0.05
20.600	0.05	0.05	0.05	0.05	0.05
20.683	0.05	0.05	0.05	0.05	0.05
20.767	0.05	0.05	0.05	0.05	0.05
20.850	0.05	0.05	0.05	0.05	0.05
20.933	0.05	0.05	0.05	0.05	0.05
21.017	0.05	0.05	0.05	0.05	0.05
21.100	0.05	0.05	0.05	0.05	0.05
21.183	0.05	0.05	0.05	0.05	0.05
21.267	0.05	0.05	0.05	0.05	0.05
21.350	0.05	0.05	0.05	0.05	0.05
21.433	0.05	0.05	0.05	0.05	0.05
21.517	0.05	0.05	0.05	0.05	0.05
21.600	0.05	0.05	0.05	0.05	0.05
21.683	0.05	0.05	0.05	0.05	0.05
21.767	0.05	0.05	0.05	0.05	0.05
21.850	0.05	0.05	0.05	0.05	0.05
21.933	0.05	0.05	0.05	0.05	0.05
22.017	0.05	0.05	0.05	0.05	0.05
22.100	0.05	0.05	0.05	0.05	0.05
22.183	0.05	0.05	0.05	0.05	0.05
22.267	0.05	0.05	0.05	0.05	0.05
22.350	0.05	0.05	0.05	0.04	0.04
22.433	0.04	0.04	0.04	0.04	0.04

Subsection: Pond Routed Hydrograph (total out)
 Label: BASIN 02 (OUT)

Return Event: 2 years
 Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
22.517	0.04	0.04	0.04	0.04	0.04
22.600	0.04	0.04	0.04	0.04	0.04
22.683	0.04	0.04	0.04	0.04	0.04
22.767	0.04	0.04	0.04	0.04	0.04
22.850	0.04	0.04	0.04	0.04	0.04
22.933	0.04	0.04	0.04	0.04	0.04
23.017	0.04	0.04	0.04	0.04	0.04
23.100	0.04	0.04	0.04	0.04	0.04
23.183	0.04	0.04	0.04	0.04	0.04
23.267	0.04	0.04	0.04	0.04	0.04
23.350	0.04	0.04	0.04	0.04	0.04
23.433	0.04	0.04	0.04	0.04	0.04
23.517	0.04	0.04	0.04	0.04	0.04
23.600	0.04	0.04	0.04	0.04	0.04
23.683	0.04	0.04	0.04	0.04	0.04
23.767	0.04	0.04	0.04	0.04	0.04
23.850	0.04	0.04	0.04	0.04	0.04
23.933	0.04	0.04	0.04	0.04	0.04
24.017	0.04	0.04	0.04	0.04	0.04
24.100	0.04	0.04	0.04	0.04	0.04
24.183	0.04	0.04	0.04	0.04	0.03
24.267	0.03	0.03	0.03	0.03	0.03
24.350	0.03	0.03	0.03	0.03	0.03
24.433	0.03	0.03	0.03	0.03	0.03
24.517	0.03	0.03	0.03	0.03	0.02
24.600	0.02	0.02	0.02	0.02	0.02
24.683	0.02	0.02	0.02	0.02	0.02
24.767	0.02	0.02	0.02	0.02	0.02
24.850	0.02	0.02	0.02	0.02	0.02
24.933	0.02	0.02	0.02	0.02	0.02
25.017	0.02	0.02	0.02	0.02	0.02
25.100	0.01	0.01	0.01	0.01	0.01
25.183	0.01	0.01	0.01	0.01	0.01
25.267	0.01	0.01	0.01	0.01	0.01
25.350	0.01	0.01	0.01	0.01	0.01
25.433	0.01	0.01	0.01	0.01	0.01
25.517	0.01	0.01	0.01	0.01	0.01
25.600	0.01	0.01	0.01	0.01	0.01
25.683	0.01	0.01	0.01	0.01	0.01
25.767	0.01	0.01	0.01	0.01	0.01
25.850	0.01	0.01	0.01	0.01	0.01
25.933	0.01	0.01	0.01	0.01	0.01
26.017	0.01	0.01	0.01	0.01	0.01
26.100	0.01	0.01	0.01	0.01	0.01

Subsection: Pond Routed Hydrograph (total out)
Label: BASIN 02 (OUT)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
26.183	0.00	0.00	0.00	0.00	0.00
26.267	0.00	0.00	0.00	0.00	0.00
26.350	0.00	0.00	0.00	0.00	0.00
26.433	0.00	0.00	0.00	0.00	0.00
26.517	0.00	0.00	0.00	0.00	0.00
26.600	0.00	0.00	0.00	0.00	0.00
26.683	0.00	0.00	0.00	0.00	0.00
26.767	0.00	0.00	0.00	0.00	0.00
26.850	0.00	0.00	0.00	0.00	0.00
26.933	0.00	0.00	0.00	0.00	0.00
27.017	0.00	0.00	0.00	0.00	0.00
27.100	0.00	0.00	0.00	0.00	0.00
27.183	0.00	0.00	0.00	0.00	0.00
27.267	0.00	0.00	0.00	0.00	0.00
27.350	0.00	0.00	0.00	0.00	0.00
27.433	0.00	0.00	0.00	0.00	0.00
27.517	0.00	0.00	0.00	0.00	0.00
27.600	0.00	0.00	0.00	0.00	0.00
27.683	0.00	0.00	0.00	(N/A)	(N/A)

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B

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BASIN 02 (OUT) (Pond Routed Hydrograph (total out), 2 years)...2, 3, 4, 5, 6

BASIN 3.1

Volume of pipe on a slope

PipeVOL

Input Data

Storage pipe diameter in feet: 2.00
Upstream invert elev., feet: 674.50
Downstream invert elev., feet: 674.50
Storage pipe length in feet: 1768.00

Output Data

Elevation (ft.)	Volume (Cubic ft.)	Volume (acre-ft.)
674.50	0.0	0.0000
675.00	1,085.9	0.0249
675.50	2,777.2	0.0638
676.00	4,468.5	0.1026

Pennoni Associates Inc.

JOB NO.: PPLS0902

Consulting Engineers

SHEET 1 OF 1

DATE

PROJECT Bell Bend Nuclear Power Plant

BY: LGB

10/04/10

SUBJECT Basin 3.1

CHK'D CML

Basin Area 69657 Sq. Ft.

Void Ratio in Stone = 0.4

Elevation (ft)	Volume of Pipe (cu.-ft)	Total Volume of Basin (cu.-ft)	Total Storage in Stone (cu.-ft)	Total Storage in Basin (cu.-ft)
674.00	0.0000	0.0000	0.0000	0.0000
674.50	0.0000	34828.5000	13931.4000	13931.4000
675.00	1085.9000	69657.0000	27428.4400	28514.3400
675.50	2777.2000	104435.5000	40683.3200	43460.5200
676.00	4468.5000	139314.0000	53938.2000	58406.7000
676.50	0.0000	174142.5000	69657.0000	69657.0000
677.00	0.0000	208971.0000	83588.4000	83588.4000
678.00		278628.0000	111451.2000	111451.2000
679.00		348285.0000	139314.0000	139314.0000

$$\text{Total Storage in Stone} = (\text{Total Volume in Basin} - \text{Total Volume in Pipes}) \times 0.4$$
$$\text{Total Storage in Basin} = \text{Total Volume in Pipes} + \text{Total Storage in Stone}$$

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	Pond Infiltration Hydrograph	2

Subsection: Level Pool Pond Routing Summary
Label: BASIN 03.2 (IN)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Infiltration			
Infiltration Method (Computed)		Average Infiltration Rate	
Infiltration Rate (Average)		2.0000 in/h	
Initial Conditions			
Elevation (Water Surface, Initial)		648.50 ft	
Volume (Initial)		0.000 ac-ft	
Flow (Initial Outlet)		0.00 ft³/s	
Flow (Initial Infiltration)		0.00 ft³/s	
Flow (Initial, Total)		0.00 ft³/s	
Time Increment		0.017 hours	
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)		84.63 ft³/s	Time to Peak (Flow, In)
Infiltration (Peak)		2.50 ft³/s	Time to Peak (Infiltration)
Flow (Peak Outlet)		0.00 ft³/s	Time to Peak (Flow, Outlet)
Elevation (Water Surface, Peak)		650.92 ft	
Volume (Peak)		2.787 ac-ft	
Mass Balance (ac-ft)			
Volume (Initial)		0.000 ac-ft	
Volume (Total Inflow)		4.700 ac-ft	
Volume (Total Infiltration)		4.469 ac-ft	
Volume (Total Outlet Outflow)		0.000 ac-ft	
Volume (Retained)		0.228 ac-ft	
Volume (Unrouted)		-0.002 ac-ft	
Error (Mass Balance)		0.0 %	

Subsection: Pond Infiltration Hydrograph
Label: BASIN 03.2 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Peak Discharge	2.50 ft ³ /s
Time to Peak	15.717 hours
Hydrograph Volume	4.468 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
9.750	0.00	0.00	0.00	0.00	0.00
9.833	0.00	0.00	0.00	0.00	0.00
9.917	0.00	0.00	0.00	0.00	0.01
10.000	0.01	0.01	0.01	0.01	0.01
10.083	0.01	0.01	0.01	0.01	0.01
10.167	0.01	0.01	0.01	0.01	0.01
10.250	0.02	0.02	0.02	0.02	0.02
10.333	0.02	0.02	0.02	0.03	0.03
10.417	0.03	0.03	0.03	0.03	0.04
10.500	0.04	0.04	0.04	0.04	0.05
10.583	0.05	0.05	0.05	0.06	0.06
10.667	0.06	0.07	0.07	0.07	0.07
10.750	0.08	0.08	0.09	0.09	0.09
10.833	0.10	0.10	0.11	0.11	0.11
10.917	0.12	0.12	0.13	0.13	0.14
11.000	0.14	0.15	0.16	0.16	0.17
11.083	0.17	0.18	0.19	0.19	0.20
11.167	0.21	0.22	0.23	0.23	0.24
11.250	0.25	0.26	0.27	0.28	0.29
11.333	0.30	0.31	0.33	0.34	0.35
11.417	0.36	0.38	0.39	0.40	0.42
11.500	0.43	0.45	0.46	0.48	0.51
11.583	0.54	0.57	0.60	0.64	0.69
11.667	0.75	0.82	0.90	0.99	1.09
11.750	1.20	1.33	1.48	1.65	1.84
11.833	2.05	2.22	2.23	2.24	2.25
11.917	2.26	2.28	2.29	2.31	2.32
12.000	2.34	2.35	2.37	2.38	2.39
12.083	2.39	2.40	2.41	2.41	2.41
12.167	2.42	2.42	2.42	2.42	2.43
12.250	2.43	2.43	2.43	2.43	2.44
12.333	2.44	2.44	2.44	2.44	2.44
12.417	2.45	2.45	2.45	2.45	2.45
12.500	2.45	2.45	2.45	2.46	2.46
12.583	2.46	2.46	2.46	2.46	2.46
12.667	2.46	2.46	2.46	2.46	2.46
12.750	2.46	2.47	2.47	2.47	2.47
12.833	2.47	2.47	2.47	2.47	2.47
12.917	2.47	2.47	2.47	2.47	2.47

Subsection: Pond Infiltration Hydrograph
Label: BASIN 03.2 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
13.000	2.47	2.48	2.48	2.48	2.48
13.083	2.48	2.48	2.48	2.48	2.48
13.167	2.48	2.48	2.48	2.48	2.48
13.250	2.48	2.48	2.48	2.48	2.48
13.333	2.48	2.48	2.48	2.49	2.49
13.417	2.49	2.49	2.49	2.49	2.49
13.500	2.49	2.49	2.49	2.49	2.49
13.583	2.49	2.49	2.49	2.49	2.49
13.667	2.49	2.49	2.49	2.49	2.49
13.750	2.49	2.49	2.49	2.49	2.49
13.833	2.49	2.49	2.49	2.49	2.49
13.917	2.49	2.49	2.49	2.50	2.50
14.000	2.50	2.50	2.50	2.50	2.50
14.083	2.50	2.50	2.50	2.50	2.50
14.167	2.50	2.50	2.50	2.50	2.50
14.250	2.50	2.50	2.50	2.50	2.50
14.333	2.50	2.50	2.50	2.50	2.50
14.417	2.50	2.50	2.50	2.50	2.50
14.500	2.50	2.50	2.50	2.50	2.50
14.583	2.50	2.50	2.50	2.50	2.50
14.667	2.50	2.50	2.50	2.50	2.50
14.750	2.50	2.50	2.50	2.50	2.50
14.833	2.50	2.50	2.50	2.50	2.50
14.917	2.50	2.50	2.50	2.50	2.50
15.000	2.50	2.50	2.50	2.50	2.50
15.083	2.50	2.50	2.50	2.50	2.50
15.167	2.50	2.50	2.50	2.50	2.50
15.250	2.50	2.50	2.50	2.50	2.50
15.333	2.50	2.50	2.50	2.50	2.50
15.417	2.50	2.50	2.50	2.50	2.50
15.500	2.50	2.50	2.50	2.50	2.50
15.583	2.50	2.50	2.50	2.50	2.50
15.667	2.50	2.50	2.50	2.50	2.50
15.750	2.50	2.50	2.50	2.50	2.50
15.833	2.50	2.50	2.50	2.50	2.50
15.917	2.50	2.50	2.50	2.50	2.50
16.000	2.50	2.50	2.50	2.50	2.50
16.083	2.50	2.50	2.50	2.50	2.50
16.167	2.50	2.50	2.50	2.50	2.50
16.250	2.50	2.50	2.50	2.50	2.50
16.333	2.50	2.50	2.50	2.50	2.50
16.417	2.50	2.50	2.50	2.50	2.50
16.500	2.50	2.50	2.50	2.50	2.50
16.583	2.50	2.50	2.50	2.50	2.50

Subsection: Pond Infiltration Hydrograph
Label: BASIN 03.2 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
16.667	2.50	2.50	2.50	2.50	2.50
16.750	2.50	2.50	2.50	2.50	2.50
16.833	2.50	2.50	2.50	2.50	2.50
16.917	2.50	2.50	2.50	2.50	2.50
17.000	2.50	2.50	2.50	2.50	2.50
17.083	2.50	2.50	2.50	2.50	2.50
17.167	2.50	2.50	2.50	2.50	2.50
17.250	2.50	2.50	2.50	2.50	2.50
17.333	2.50	2.50	2.50	2.50	2.50
17.417	2.50	2.50	2.50	2.50	2.50
17.500	2.50	2.50	2.50	2.50	2.50
17.583	2.50	2.50	2.50	2.50	2.50
17.667	2.50	2.50	2.50	2.50	2.50
17.750	2.50	2.50	2.50	2.50	2.50
17.833	2.50	2.50	2.50	2.50	2.50
17.917	2.50	2.50	2.50	2.50	2.50
18.000	2.50	2.50	2.50	2.50	2.50
18.083	2.50	2.50	2.49	2.49	2.49
18.167	2.49	2.49	2.49	2.49	2.49
18.250	2.49	2.49	2.49	2.49	2.49
18.333	2.49	2.49	2.49	2.49	2.49
18.417	2.49	2.49	2.49	2.49	2.49
18.500	2.49	2.49	2.49	2.49	2.49
18.583	2.49	2.49	2.49	2.49	2.49
18.667	2.49	2.49	2.49	2.49	2.49
18.750	2.49	2.49	2.49	2.49	2.49
18.833	2.49	2.49	2.49	2.49	2.49
18.917	2.49	2.49	2.49	2.49	2.49
19.000	2.49	2.49	2.49	2.49	2.49
19.083	2.49	2.49	2.49	2.49	2.49
19.167	2.49	2.49	2.49	2.49	2.49
19.250	2.49	2.49	2.49	2.49	2.49
19.333	2.49	2.49	2.48	2.48	2.48
19.417	2.48	2.48	2.48	2.48	2.48
19.500	2.48	2.48	2.48	2.48	2.48
19.583	2.48	2.48	2.48	2.48	2.48
19.667	2.48	2.48	2.48	2.48	2.48
19.750	2.48	2.48	2.48	2.48	2.48
19.833	2.48	2.48	2.48	2.48	2.48
19.917	2.48	2.48	2.48	2.48	2.48
20.000	2.48	2.48	2.48	2.48	2.48
20.083	2.48	2.48	2.48	2.48	2.48
20.167	2.48	2.48	2.48	2.48	2.48
20.250	2.48	2.48	2.48	2.48	2.47

Subsection: Pond Infiltration Hydrograph
Label: BASIN 03.2 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
20.333	2.47	2.47	2.47	2.47	2.47
20.417	2.47	2.47	2.47	2.47	2.47
20.500	2.47	2.47	2.47	2.47	2.47
20.583	2.47	2.47	2.47	2.47	2.47
20.667	2.47	2.47	2.47	2.47	2.47
20.750	2.47	2.47	2.47	2.47	2.47
20.833	2.47	2.47	2.47	2.47	2.47
20.917	2.47	2.47	2.47	2.47	2.47
21.000	2.47	2.47	2.47	2.47	2.47
21.083	2.47	2.47	2.47	2.47	2.47
21.167	2.47	2.47	2.46	2.46	2.46
21.250	2.46	2.46	2.46	2.46	2.46
21.333	2.46	2.46	2.46	2.46	2.46
21.417	2.46	2.46	2.46	2.46	2.46
21.500	2.46	2.46	2.46	2.46	2.46
21.583	2.46	2.46	2.46	2.46	2.46
21.667	2.46	2.46	2.46	2.46	2.46
21.750	2.46	2.46	2.46	2.46	2.46
21.833	2.46	2.46	2.46	2.46	2.46
21.917	2.46	2.46	2.46	2.46	2.46
22.000	2.46	2.46	2.46	2.46	2.45
22.083	2.45	2.45	2.45	2.45	2.45
22.167	2.45	2.45	2.45	2.45	2.45
22.250	2.45	2.45	2.45	2.45	2.45
22.333	2.45	2.45	2.45	2.45	2.45
22.417	2.45	2.45	2.45	2.45	2.45
22.500	2.45	2.45	2.45	2.45	2.45
22.583	2.45	2.45	2.45	2.45	2.45
22.667	2.45	2.45	2.45	2.45	2.45
22.750	2.45	2.45	2.45	2.45	2.45
22.833	2.45	2.45	2.45	2.45	2.45
22.917	2.44	2.44	2.44	2.44	2.44
23.000	2.44	2.44	2.44	2.44	2.44
23.083	2.44	2.44	2.44	2.44	2.44
23.167	2.44	2.44	2.44	2.44	2.44
23.250	2.44	2.44	2.44	2.44	2.44
23.333	2.44	2.44	2.44	2.44	2.44
23.417	2.44	2.44	2.44	2.44	2.44
23.500	2.44	2.44	2.44	2.44	2.44
23.583	2.44	2.44	2.44	2.44	2.44
23.667	2.43	2.43	2.43	2.43	2.43
23.750	2.43	2.43	2.43	2.43	2.43
23.833	2.43	2.43	2.43	2.43	2.43
23.917	2.43	2.43	2.43	2.43	2.43

Subsection: Pond Infiltration Hydrograph
 Label: BASIN 03.2 (INF)

Return Event: 2 years
 Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
24.000	2.43	2.43	2.43	2.43	2.43
24.083	2.43	2.43	2.43	2.43	2.43
24.167	2.43	2.43	2.43	2.43	2.42
24.250	2.42	2.42	2.42	2.42	2.42
24.333	2.42	2.42	2.42	2.42	2.42
24.417	2.42	2.42	2.42	2.42	2.42
24.500	2.42	2.42	2.42	2.42	2.42
24.583	2.42	2.42	2.41	2.41	2.41
24.667	2.41	2.41	2.41	2.41	2.41
24.750	2.41	2.41	2.41	2.41	2.41
24.833	2.41	2.41	2.41	2.41	2.41
24.917	2.41	2.41	2.41	2.41	2.41
25.000	2.40	2.40	2.40	2.40	2.40
25.083	2.40	2.40	2.40	2.40	2.40
25.167	2.40	2.40	2.40	2.40	2.40
25.250	2.40	2.40	2.40	2.40	2.40
25.333	2.40	2.40	2.40	2.39	2.39
25.417	2.39	2.39	2.39	2.39	2.39
25.500	2.39	2.39	2.39	2.39	2.39
25.583	2.39	2.39	2.39	2.39	2.39
25.667	2.39	2.39	2.39	2.39	2.39
25.750	2.39	2.38	2.38	2.38	2.38
25.833	2.38	2.38	2.38	2.38	2.38
25.917	2.38	2.38	2.38	2.38	2.38
26.000	2.38	2.38	2.38	2.38	2.38
26.083	2.38	2.38	2.38	2.38	2.37
26.167	2.37	2.37	2.37	2.37	2.37
26.250	2.37	2.37	2.37	2.37	2.37
26.333	2.37	2.37	2.37	2.37	2.37
26.417	2.37	2.37	2.37	2.37	2.37
26.500	2.37	2.37	2.36	2.36	2.36
26.583	2.36	2.36	2.36	2.36	2.36
26.667	2.36	2.36	2.36	2.36	2.36
26.750	2.36	2.36	2.36	2.36	2.36
26.833	2.36	2.36	2.36	2.36	2.36
26.917	2.35	2.35	2.35	2.35	2.35
27.000	2.35	2.35	2.35	2.35	2.35
27.083	2.35	2.35	2.35	2.35	2.35
27.167	2.35	2.35	2.35	2.35	2.35
27.250	2.35	2.35	2.35	2.34	2.34
27.333	2.34	2.34	2.34	2.34	2.34
27.417	2.34	2.34	2.34	2.34	2.34
27.500	2.34	2.34	2.34	2.34	2.34
27.583	2.34	2.34	2.34	2.34	2.34

Subsection: Pond Infiltration Hydrograph
Label: BASIN 03.2 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
27.667	2.34	2.34	2.33	2.33	2.33
27.750	2.33	2.33	2.33	2.33	2.33
27.833	2.33	2.33	2.33	2.33	2.33
27.917	2.33	2.33	2.33	2.33	2.33
28.000	2.33	2.33	2.33	2.33	2.33
28.083	2.32	2.32	2.32	2.32	2.32
28.167	2.32	2.32	2.32	2.32	2.32
28.250	2.32	2.32	2.32	2.32	2.32
28.333	2.32	2.32	2.32	2.32	2.32
28.417	2.32	2.32	2.32	2.31	2.31
28.500	2.31	2.31	2.31	2.31	2.31
28.583	2.31	2.31	2.31	2.31	2.31
28.667	2.31	2.31	2.31	2.31	2.31
28.750	2.31	2.31	2.31	2.31	2.31
28.833	2.31	2.31	2.30	2.30	2.30
28.917	2.30	2.30	2.30	2.30	2.30
29.000	2.30	2.30	2.30	2.30	2.30
29.083	2.30	2.30	2.30	2.30	2.30
29.167	2.30	2.30	2.30	2.30	2.30
29.250	2.29	2.29	2.29	2.29	2.29
29.333	2.29	2.29	2.29	2.29	2.29
29.417	2.29	2.29	2.29	2.29	2.29
29.500	2.29	2.29	2.29	2.29	2.29
29.583	2.29	2.29	2.29	2.29	2.28
29.667	2.28	2.28	2.28	2.28	2.28
29.750	2.28	2.28	2.28	2.28	2.28
29.833	2.28	2.28	2.28	2.28	2.28
29.917	2.28	2.28	2.28	2.28	2.28
30.000	2.28	2.28	2.27	2.27	2.27
30.083	2.27	2.27	2.27	2.27	2.27
30.167	2.27	2.27	2.27	2.27	2.27
30.250	2.27	2.27	2.27	2.27	2.27
30.333	2.27	2.27	2.27	2.27	2.27
30.417	2.27	2.26	2.26	2.26	2.26
30.500	2.26	2.26	2.26	2.26	2.26
30.583	2.26	2.26	2.26	2.26	2.26
30.667	2.26	2.26	2.26	2.26	2.26
30.750	2.26	2.26	2.26	2.26	2.25
30.833	2.25	2.25	2.25	2.25	2.25
30.917	2.25	2.25	2.25	2.25	2.25
31.000	2.25	2.25	2.25	2.25	2.25
31.083	2.25	2.25	2.25	2.25	2.25
31.167	2.25	2.25	2.25	2.24	2.24
31.250	2.24	2.24	2.24	2.24	2.24

Subsection: Pond Infiltration Hydrograph
Label: BASIN 03.2 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
31.333	2.24	2.24	2.24	2.24	2.24
31.417	2.24	2.24	2.24	2.24	2.24
31.500	2.24	2.24	2.24	2.24	2.24
31.583	2.24	2.24	2.23	2.23	2.23
31.667	2.23	2.23	2.23	2.23	2.23
31.750	2.23	2.23	2.23	2.23	2.23
31.833	2.23	2.23	2.23	2.23	2.23
31.917	2.23	2.23	2.23	2.23	2.23
32.000	2.23	2.22	2.22	2.22	2.22
32.083	2.22	2.22	2.22	2.22	2.22
32.167	2.22	2.22	2.22	2.22	2.22
32.250	2.22	2.22	2.22	2.22	2.22
32.333	2.22	2.22	2.22	2.22	2.22
32.417	2.21	2.21	2.21	2.21	2.21
32.500	2.21	2.21	2.19	2.18	2.17
32.583	2.16	2.14	2.13	2.12	2.11
32.667	2.10	2.09	2.07	2.06	2.05
32.750	2.04	2.03	2.02	2.00	1.99
32.833	1.98	1.97	1.96	1.95	1.94
32.917	1.93	1.92	1.90	1.89	1.87
33.000	1.87	1.86	1.85	1.84	1.83
33.083	1.82	1.81	1.80	1.79	1.78
33.167	1.77	1.76	1.75	1.74	1.73
33.250	1.72	1.71	1.70	1.69	1.68
33.333	1.67	1.66	1.65	1.64	1.64
33.417	1.63	1.62	1.61	1.60	1.59
33.500	1.58	1.57	1.56	1.55	1.55
33.583	1.54	1.53	1.52	1.51	1.50
33.667	1.49	1.49	1.48	1.47	1.46
33.750	1.45	1.44	1.44	1.43	1.42
33.833	1.41	1.40	1.40	1.39	1.38
33.917	1.37	1.36	1.36	1.35	1.34
34.000	1.33	1.33	1.32	1.31	1.30
34.083	1.30	1.29	1.28	1.28	1.27
34.167	1.26	1.25	1.25	1.24	1.23
34.250	1.23	1.22	1.21	1.21	1.20
34.333	1.19	1.18	1.18	1.17	1.16
34.417	1.16	1.15	1.15	1.14	1.13
34.500	1.13	1.12	1.11	1.11	1.10
34.583	1.09	1.09	1.08	1.08	1.07
34.667	1.06	1.06	1.05	1.05	1.04
34.750	1.03	1.03	1.02	1.02	1.01
34.833	1.01	1.00	0.99	0.99	0.98
34.917	0.98	0.97	0.97	0.96	0.96

Subsection: Pond Infiltration Hydrograph
Label: BASIN 03.2 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
35.000	0.95	(N/A)	(N/A)	(N/A)	(N/A)

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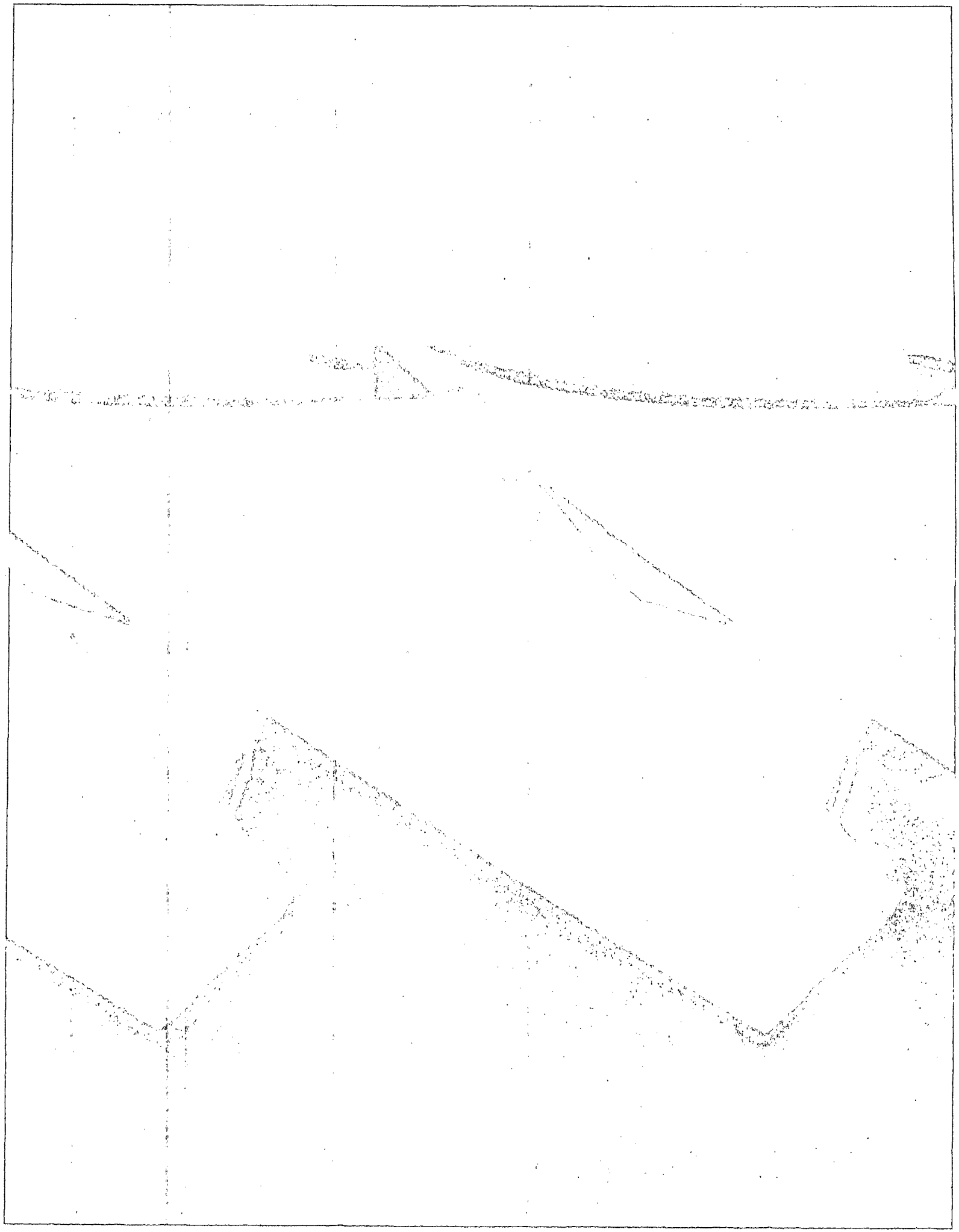


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	Level Pool Pond Routing Summary	1
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	Pond Infiltration Hydrograph	2

Subsection: Level Pool Pond Routing Summary
Label: BASIN 4 (IN)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Infiltration			
Infiltration Method (Computed)		Average Infiltration Rate	
Infiltration Rate (Average)		0.1100 in/h	
Initial Conditions			
Elevation (Water Surface, Initial)		666.00 ft	
Volume (Initial)		0.000 ac-ft	
Flow (Initial Outlet)		0.00 ft³/s	
Flow (Initial Infiltration)		0.00 ft³/s	
Flow (Initial, Total)		0.00 ft³/s	
Time Increment		0.017 hours	
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)		19.37 ft³/s	Time to Peak (Flow, In)
Infiltration (Peak)		0.49 ft³/s	Time to Peak (Infiltration)
Flow (Peak Outlet)		0.00 ft³/s	Time to Peak (Flow, Outlet)
Elevation (Water Surface, Peak)		666.43 ft	
Volume (Peak)		2.035 ac-ft	
Mass Balance (ac-ft)			
Volume (Initial)		0.000 ac-ft	
Volume (Total Inflow)		2.474 ac-ft	
Volume (Total Infiltration)		0.800 ac-ft	
Volume (Total Outlet Outflow)		0.000 ac-ft	
Volume (Retained)		1.641 ac-ft	
Volume (Unrouted)		-0.034 ac-ft	
Error (Mass Balance)		1.4 %	

Subsection: Pond Infiltration Hydrograph
 Label: BASIN 4 (INF)

Return Event: 2 years
 Storm Event: TypeII 24hr (2.9 in)

Peak Discharge	0.49 ft ³ /s
Time to Peak	24.350 hours
Hydrograph Volume	0.799 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
11.800	0.00	0.00	0.00	0.00	0.00
11.883	0.00	0.00	0.01	0.01	0.01
11.967	0.01	0.01	0.01	0.02	0.02
12.050	0.02	0.03	0.03	0.04	0.04
12.133	0.04	0.05	0.06	0.06	0.07
12.217	0.07	0.08	0.08	0.09	0.10
12.300	0.10	0.11	0.12	0.12	0.13
12.383	0.13	0.14	0.15	0.15	0.16
12.467	0.16	0.17	0.17	0.18	0.18
12.550	0.18	0.19	0.19	0.20	0.20
12.633	0.20	0.21	0.21	0.21	0.22
12.717	0.22	0.22	0.22	0.23	0.23
12.800	0.23	0.24	0.24	0.24	0.24
12.883	0.24	0.25	0.25	0.25	0.25
12.967	0.25	0.26	0.26	0.26	0.26
13.050	0.26	0.27	0.27	0.27	0.27
13.133	0.27	0.27	0.28	0.28	0.28
13.217	0.28	0.28	0.28	0.28	0.28
13.300	0.29	0.29	0.29	0.29	0.29
13.383	0.29	0.29	0.29	0.30	0.30
13.467	0.30	0.30	0.30	0.30	0.30
13.550	0.30	0.30	0.31	0.31	0.31
13.633	0.31	0.31	0.31	0.31	0.31
13.717	0.31	0.31	0.32	0.32	0.32
13.800	0.32	0.32	0.32	0.32	0.32
13.883	0.32	0.32	0.32	0.32	0.33
13.967	0.33	0.33	0.33	0.33	0.33
14.050	0.33	0.33	0.33	0.33	0.33
14.133	0.33	0.33	0.34	0.34	0.34
14.217	0.34	0.34	0.34	0.34	0.34
14.300	0.34	0.34	0.34	0.34	0.34
14.383	0.34	0.34	0.35	0.35	0.35
14.467	0.35	0.35	0.35	0.35	0.35
14.550	0.35	0.35	0.35	0.35	0.35
14.633	0.35	0.35	0.35	0.35	0.36
14.717	0.36	0.36	0.36	0.36	0.36
14.800	0.36	0.36	0.36	0.36	0.36
14.883	0.36	0.36	0.36	0.36	0.36
14.967	0.36	0.36	0.37	0.37	0.37

Subsection: Pond Infiltration Hydrograph
Label: BASIN 4 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
15.050	0.37	0.37	0.37	0.37	0.37
15.133	0.37	0.37	0.37	0.37	0.37
15.217	0.37	0.37	0.37	0.37	0.37
15.300	0.37	0.38	0.38	0.38	0.38
15.383	0.38	0.38	0.38	0.38	0.38
15.467	0.38	0.38	0.38	0.38	0.38
15.550	0.38	0.38	0.38	0.38	0.38
15.633	0.38	0.38	0.39	0.39	0.39
15.717	0.39	0.39	0.39	0.39	0.39
15.800	0.39	0.39	0.39	0.39	0.39
15.883	0.39	0.39	0.39	0.39	0.39
15.967	0.39	0.39	0.39	0.39	0.39
16.050	0.39	0.40	0.40	0.40	0.40
16.133	0.40	0.40	0.40	0.40	0.40
16.217	0.40	0.40	0.40	0.40	0.40
16.300	0.40	0.40	0.40	0.40	0.40
16.383	0.40	0.40	0.40	0.40	0.40
16.467	0.40	0.40	0.40	0.41	0.41
16.550	0.41	0.41	0.41	0.41	0.41
16.633	0.41	0.41	0.41	0.41	0.41
16.717	0.41	0.41	0.41	0.41	0.41
16.800	0.41	0.41	0.41	0.41	0.41
16.883	0.41	0.41	0.41	0.41	0.41
16.967	0.41	0.41	0.41	0.42	0.42
17.050	0.42	0.42	0.42	0.42	0.42
17.133	0.42	0.42	0.42	0.42	0.42
17.217	0.42	0.42	0.42	0.42	0.42
17.300	0.42	0.42	0.42	0.42	0.42
17.383	0.42	0.42	0.42	0.42	0.42
17.467	0.42	0.42	0.42	0.42	0.42
17.550	0.42	0.42	0.43	0.43	0.43
17.633	0.43	0.43	0.43	0.43	0.43
17.717	0.43	0.43	0.43	0.43	0.43
17.800	0.43	0.43	0.43	0.43	0.43
17.883	0.43	0.43	0.43	0.43	0.43
17.967	0.43	0.43	0.43	0.43	0.43
18.050	0.43	0.43	0.43	0.43	0.43
18.133	0.43	0.43	0.43	0.44	0.44
18.217	0.44	0.44	0.44	0.44	0.44
18.300	0.44	0.44	0.44	0.44	0.44
18.383	0.44	0.44	0.44	0.44	0.44
18.467	0.44	0.44	0.44	0.44	0.44
18.550	0.44	0.44	0.44	0.44	0.44
18.633	0.44	0.44	0.44	0.44	0.44

Subsection: Pond Infiltration Hydrograph
Label: BASIN 4 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
18.717	0.44	0.44	0.44	0.44	0.44
18.800	0.44	0.44	0.44	0.44	0.44
18.883	0.44	0.45	0.45	0.45	0.45
18.967	0.45	0.45	0.45	0.45	0.45
19.050	0.45	0.45	0.45	0.45	0.45
19.133	0.45	0.45	0.45	0.45	0.45
19.217	0.45	0.45	0.45	0.45	0.45
19.300	0.45	0.45	0.45	0.45	0.45
19.383	0.45	0.45	0.45	0.45	0.45
19.467	0.45	0.45	0.45	0.45	0.45
19.550	0.45	0.45	0.45	0.45	0.45
19.633	0.45	0.45	0.45	0.45	0.45
19.717	0.45	0.45	0.46	0.46	0.46
19.800	0.46	0.46	0.46	0.46	0.46
19.883	0.46	0.46	0.46	0.46	0.46
19.967	0.46	0.46	0.46	0.46	0.46
20.050	0.46	0.46	0.46	0.46	0.46
20.133	0.46	0.46	0.46	0.46	0.46
20.217	0.46	0.46	0.46	0.46	0.46
20.300	0.46	0.46	0.46	0.46	0.46
20.383	0.46	0.46	0.46	0.46	0.46
20.467	0.46	0.46	0.46	0.46	0.46
20.550	0.46	0.46	0.46	0.46	0.46
20.633	0.46	0.46	0.46	0.46	0.46
20.717	0.46	0.46	0.46	0.46	0.46
20.800	0.46	0.46	0.46	0.46	0.46
20.883	0.47	0.47	0.47	0.47	0.47
20.967	0.47	0.47	0.47	0.47	0.47
21.050	0.47	0.47	0.47	0.47	0.47
21.133	0.47	0.47	0.47	0.47	0.47
21.217	0.47	0.47	0.47	0.47	0.47
21.300	0.47	0.47	0.47	0.47	0.47
21.383	0.47	0.47	0.47	0.47	0.47
21.467	0.47	0.47	0.47	0.47	0.47
21.550	0.47	0.47	0.47	0.47	0.47
21.633	0.47	0.47	0.47	0.47	0.47
21.717	0.47	0.47	0.47	0.47	0.47
21.800	0.47	0.47	0.47	0.47	0.47
21.883	0.47	0.47	0.47	0.47	0.47
21.967	0.47	0.47	0.47	0.47	0.47
22.050	0.47	0.47	0.47	0.47	0.47
22.133	0.47	0.47	0.47	0.47	0.47
22.217	0.47	0.47	0.48	0.48	0.48
22.300	0.48	0.48	0.48	0.48	0.48

Subsection: Pond Infiltration Hydrograph
 Label: BASIN 4 (INF)

Return Event: 2 years
 Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
22.383	0.48	0.48	0.48	0.48	0.48
22.467	0.48	0.48	0.48	0.48	0.48
22.550	0.48	0.48	0.48	0.48	0.48
22.633	0.48	0.48	0.48	0.48	0.48
22.717	0.48	0.48	0.48	0.48	0.48
22.800	0.48	0.48	0.48	0.48	0.48
22.883	0.48	0.48	0.48	0.48	0.48
22.967	0.48	0.48	0.48	0.48	0.48
23.050	0.48	0.48	0.48	0.48	0.48
23.133	0.48	0.48	0.48	0.48	0.48
23.217	0.48	0.48	0.48	0.48	0.48
23.300	0.48	0.48	0.48	0.48	0.48
23.383	0.48	0.48	0.48	0.48	0.48
23.467	0.48	0.48	0.48	0.48	0.48
23.550	0.48	0.48	0.48	0.48	0.48
23.633	0.48	0.48	0.48	0.48	0.48
23.717	0.48	0.48	0.48	0.48	0.48
23.800	0.48	0.49	0.49	0.49	0.49
23.883	0.49	0.49	0.49	0.49	0.49
23.967	0.49	0.49	0.49	0.49	0.49
24.050	0.49	0.49	0.49	0.49	0.49
24.133	0.49	0.49	0.49	0.49	0.49
24.217	0.49	0.49	0.49	0.49	0.49
24.300	0.49	0.49	0.49	0.49	0.49
24.383	0.49	0.49	0.49	0.49	0.49
24.467	0.49	0.49	0.49	0.49	0.49
24.550	0.49	0.49	0.49	0.49	0.49
24.633	0.49	0.49	0.49	0.49	0.49
24.717	0.49	0.49	0.49	0.49	0.49
24.800	0.49	0.49	0.48	0.48	0.48
24.883	0.48	0.48	0.48	0.48	0.48
24.967	0.48	0.48	0.48	0.48	0.48
25.050	0.48	0.48	0.48	0.48	0.48
25.133	0.48	0.48	0.48	0.48	0.48
25.217	0.48	0.48	0.48	0.48	0.48
25.300	0.48	0.48	0.48	0.48	0.48
25.383	0.48	0.48	0.48	0.48	0.48
25.467	0.48	0.48	0.48	0.48	0.48
25.550	0.48	0.48	0.48	0.48	0.48
25.633	0.48	0.48	0.48	0.48	0.48
25.717	0.48	0.48	0.48	0.48	0.48
25.800	0.48	0.48	0.48	0.48	0.48
25.883	0.48	0.48	0.47	0.47	0.47
25.967	0.47	0.47	0.47	0.47	0.47

Subsection: Pond Infiltration Hydrograph
Label: BASIN 4 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
26.050	0.47	0.47	0.47	0.47	0.47
26.133	0.47	0.47	0.47	0.47	0.47
26.217	0.47	0.47	0.47	0.47	0.47
26.300	0.47	0.47	0.47	0.47	0.47
26.383	0.47	0.47	0.47	0.47	0.47
26.467	0.47	0.47	0.47	0.47	0.47
26.550	0.47	0.47	0.47	0.47	0.47
26.633	0.47	0.47	0.47	0.47	0.47
26.717	0.47	0.47	0.47	0.47	0.47
26.800	0.47	0.47	0.47	0.47	0.47
26.883	0.47	0.47	0.47	0.47	0.47
26.967	0.47	0.47	0.46	0.46	0.46
27.050	0.46	0.46	0.46	0.46	0.46
27.133	0.46	0.46	0.46	0.46	0.46
27.217	0.46	0.46	0.46	0.46	0.46
27.300	0.46	0.46	0.46	0.46	0.46
27.383	0.46	0.46	0.46	0.46	0.46
27.467	0.46	0.46	0.46	0.46	0.46
27.550	0.46	0.46	0.46	0.46	0.46
27.633	0.46	0.46	0.46	0.46	0.46
27.717	0.46	0.46	0.46	0.46	0.46
27.800	0.46	0.46	0.46	0.46	0.46
27.883	0.46	0.46	0.46	0.46	0.46
27.967	0.46	0.46	0.46	0.46	0.46
28.050	0.46	0.46	0.46	0.46	0.45
28.133	0.45	0.45	0.45	0.45	0.45
28.217	0.45	0.45	0.45	0.45	0.45
28.300	0.45	0.45	0.45	0.45	0.45
28.383	0.45	0.45	0.45	0.45	0.45
28.467	0.45	0.45	0.45	0.45	0.45
28.550	0.45	0.45	0.45	0.45	0.45
28.633	0.45	0.45	0.45	0.45	0.45
28.717	0.45	0.45	0.45	0.45	0.45
28.800	0.45	0.45	0.45	0.45	0.45
28.883	0.45	0.45	0.45	0.45	0.45
28.967	0.45	0.45	0.45	0.45	0.45
29.050	0.45	0.45	0.45	0.45	0.45
29.133	0.45	0.45	0.45	0.45	0.45
29.217	0.45	0.45	0.44	0.44	0.44
29.300	0.44	0.44	0.44	0.44	0.44
29.383	0.44	0.44	0.44	0.44	0.44
29.467	0.44	0.44	0.44	0.44	0.44
29.550	0.44	0.44	0.44	0.44	0.44
29.633	0.44	0.44	0.44	0.44	0.44

Subsection: Pond Infiltration Hydrograph
Label: BASIN 4 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
29.717	0.44	0.44	0.44	0.44	0.44
29.800	0.44	0.44	0.44	0.44	0.44
29.883	0.44	0.44	0.44	0.44	0.44
29.967	0.44	0.44	0.44	0.44	0.44
30.050	0.44	0.44	0.44	0.44	0.44
30.133	0.44	0.44	0.44	0.44	0.44
30.217	0.44	0.44	0.44	0.44	0.44
30.300	0.44	0.44	0.44	0.44	0.44
30.383	0.44	0.43	0.43	0.43	0.43
30.467	0.43	0.43	0.43	0.43	0.43
30.550	0.43	0.43	0.43	0.43	0.43
30.633	0.43	0.43	0.43	0.43	0.43
30.717	0.43	0.43	0.43	0.43	0.43
30.800	0.43	0.43	0.43	0.43	0.43
30.883	0.43	0.43	0.43	0.43	0.43
30.967	0.43	0.43	0.43	0.43	0.43
31.050	0.43	0.43	0.43	0.43	0.43
31.133	0.43	0.43	0.43	0.43	0.43
31.217	0.43	0.43	0.43	0.43	0.43
31.300	0.43	0.43	0.43	0.43	0.43
31.383	0.43	0.43	0.43	0.43	0.43
31.467	0.43	0.43	0.43	0.43	0.43
31.550	0.43	0.43	0.43	0.42	0.42
31.633	0.42	0.42	0.42	0.42	0.42
31.717	0.42	0.42	0.42	0.42	0.42
31.800	0.42	0.42	0.42	0.42	0.42
31.883	0.42	0.42	0.42	0.42	0.42
31.967	0.42	0.42	0.42	0.42	0.42
32.050	0.42	0.42	0.42	0.42	0.42
32.133	0.42	0.42	0.42	0.42	0.42
32.217	0.42	0.42	0.42	0.42	0.42
32.300	0.42	0.42	0.42	0.42	0.42
32.383	0.42	0.42	0.42	0.42	0.42
32.467	0.42	0.42	0.42	0.42	0.42
32.550	0.42	0.42	0.42	0.42	0.42
32.633	0.42	0.42	0.42	0.42	0.42
32.717	0.42	0.42	0.42	0.42	0.42
32.800	0.41	0.41	0.41	0.41	0.41
32.883	0.41	0.41	0.41	0.41	0.41
32.967	0.41	0.41	0.41	0.41	0.41
33.050	0.41	0.41	0.41	0.41	0.41
33.133	0.41	0.41	0.41	0.41	0.41
33.217	0.41	0.41	0.41	0.41	0.41
33.300	0.41	0.41	0.41	0.41	0.41

Subsection: Pond Infiltration Hydrograph
 Label: BASIN 4 (INF)

Return Event: 2 years
 Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
33.383	0.41	0.41	0.41	0.41	0.41
33.467	0.41	0.41	0.41	0.41	0.41
33.550	0.41	0.41	0.41	0.41	0.41
33.633	0.41	0.41	0.41	0.41	0.41
33.717	0.41	0.41	0.41	0.41	0.41
33.800	0.41	0.41	0.41	0.41	0.41
33.883	0.41	0.41	0.41	0.41	0.41
33.967	0.41	0.41	0.41	0.41	0.41
34.050	0.40	0.40	0.40	0.40	0.40
34.133	0.40	0.40	0.40	0.40	0.40
34.217	0.40	0.40	0.40	0.40	0.40
34.300	0.40	0.40	0.40	0.40	0.40
34.383	0.40	0.40	0.40	0.40	0.40
34.467	0.40	0.40	0.40	0.40	0.40
34.550	0.40	0.40	0.40	0.40	0.40
34.633	0.40	0.40	0.40	0.40	0.40
34.717	0.40	0.40	0.40	0.40	0.40
34.800	0.40	0.40	0.40	0.40	0.40
34.883	0.40	0.40	0.40	0.40	0.40
34.967	0.40	0.40	0.40	(N/A)	(N/A)

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Subsection: Level Pool Pond Routing Summary
Label: BASIN 06 (IN)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Infiltration			
Infiltration Method (Computed)	Average Infiltration Rate		
Infiltration Rate (Average)	0.2500 in/h		
Initial Conditions			
Elevation (Water Surface, Initial)	630.00 ft		
Volume (Initial)	0.000 ac-ft		
Flow (Initial Outlet)	0.00 ft³/s		
Flow (Initial Infiltration)	0.00 ft³/s		
Flow (Initial, Total)	0.00 ft³/s		
Time Increment	0.017 hours		
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	100.61 ft³/s	Time to Peak (Flow, In)	11.933 hours
Infiltration (Peak)	1.26 ft³/s	Time to Peak (Infiltration)	11.800 hours
Flow (Peak Outlet)	0.77 ft³/s	Time to Peak (Flow, Outlet)	16.500 hours
Elevation (Water Surface, Peak)	631.93 ft		
Volume (Peak)	3.868 ac-ft		
Mass Balance (ac-ft)			
Volume (Initial)	0.000 ac-ft		
Volume (Total Inflow)	5.557 ac-ft		
Volume (Total Infiltration)	2.504 ac-ft		
Volume (Total Outlet Outflow)	1.009 ac-ft		
Volume (Retained)	2.044 ac-ft		
Volume (Unrouted)	0.000 ac-ft		
Error (Mass Balance)	0.0 %		

Subsection: Pond Infiltration Hydrograph
Label: BASIN 06 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Peak Discharge	1.26 ft ³ /s
Time to Peak	19.517 hours
Hydrograph Volume	2.502 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
6.250	0.00	0.00	0.00	0.00	0.00
6.333	0.00	0.00	0.00	0.00	0.00
6.417	0.00	0.00	0.00	0.00	0.00
6.500	0.00	0.00	0.00	0.00	0.00
6.583	0.00	0.00	0.00	0.00	0.00
6.667	0.00	0.01	0.01	0.01	0.01
6.750	0.01	0.01	0.01	0.01	0.01
6.833	0.01	0.01	0.01	0.01	0.01
6.917	0.01	0.01	0.01	0.01	0.01
7.000	0.01	0.01	0.01	0.01	0.01
7.083	0.01	0.01	0.01	0.01	0.01
7.167	0.01	0.01	0.01	0.02	0.02
7.250	0.02	0.02	0.02	0.02	0.02
7.333	0.02	0.02	0.02	0.02	0.02
7.417	0.02	0.02	0.02	0.02	0.02
7.500	0.02	0.02	0.02	0.02	0.02
7.583	0.03	0.03	0.03	0.03	0.03
7.667	0.03	0.03	0.03	0.03	0.03
7.750	0.03	0.03	0.03	0.03	0.03
7.833	0.03	0.03	0.03	0.04	0.04
7.917	0.04	0.04	0.04	0.04	0.04
8.000	0.04	0.04	0.04	0.04	0.04
8.083	0.04	0.04	0.04	0.05	0.05
8.167	0.05	0.05	0.05	0.05	0.05
8.250	0.05	0.05	0.05	0.05	0.05
8.333	0.05	0.06	0.06	0.06	0.06
8.417	0.06	0.06	0.06	0.06	0.06
8.500	0.06	0.06	0.07	0.07	0.07
8.583	0.07	0.07	0.07	0.07	0.07
8.667	0.07	0.07	0.08	0.08	0.08
8.750	0.08	0.08	0.08	0.08	0.08
8.833	0.09	0.09	0.09	0.09	0.09
8.917	0.09	0.09	0.09	0.10	0.10
9.000	0.10	0.10	0.10	0.10	0.10
9.083	0.11	0.11	0.11	0.11	0.11
9.167	0.11	0.11	0.12	0.12	0.12
9.250	0.12	0.12	0.12	0.12	0.13
9.333	0.13	0.13	0.13	0.13	0.13
9.417	0.14	0.14	0.14	0.14	0.14

Subsection: Pond Infiltration Hydrograph
Label: BASIN 06 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
9.500	0.14	0.14	0.15	0.15	0.15
9.583	0.15	0.15	0.15	0.16	0.16
9.667	0.16	0.16	0.16	0.17	0.17
9.750	0.17	0.17	0.17	0.17	0.18
9.833	0.18	0.18	0.18	0.18	0.19
9.917	0.19	0.19	0.19	0.20	0.20
10.000	0.20	0.20	0.20	0.21	0.21
10.083	0.21	0.21	0.22	0.22	0.22
10.167	0.22	0.23	0.23	0.23	0.23
10.250	0.24	0.24	0.24	0.25	0.25
10.333	0.25	0.25	0.26	0.26	0.26
10.417	0.27	0.27	0.27	0.28	0.28
10.500	0.28	0.29	0.29	0.29	0.30
10.583	0.30	0.30	0.31	0.31	0.31
10.667	0.32	0.32	0.33	0.33	0.33
10.750	0.34	0.34	0.35	0.35	0.36
10.833	0.36	0.36	0.37	0.37	0.38
10.917	0.38	0.39	0.39	0.40	0.40
11.000	0.41	0.41	0.42	0.43	0.43
11.083	0.44	0.44	0.45	0.45	0.46
11.167	0.47	0.47	0.48	0.49	0.50
11.250	0.50	0.51	0.52	0.53	0.53
11.333	0.54	0.55	0.56	0.57	0.58
11.417	0.59	0.59	0.60	0.61	0.62
11.500	0.63	0.64	0.66	0.67	0.68
11.583	0.70	0.72	0.74	0.77	0.79
11.667	0.83	0.87	0.91	0.96	1.01
11.750	1.06	1.13	1.20	1.26	1.26
11.833	1.26	1.26	1.26	1.26	1.26
11.917	1.26	1.26	1.26	1.26	1.26
12.000	1.26	1.26	1.26	1.26	1.26
12.083	1.26	1.26	1.26	1.26	1.26
12.167	1.26	1.26	1.26	1.26	1.26
12.250	1.26	1.26	1.26	1.26	1.26
12.333	1.26	1.26	1.26	1.26	1.26
12.417	1.26	1.26	1.26	1.26	1.26
12.500	1.26	1.26	1.26	1.26	1.26
12.583	1.26	1.26	1.26	1.26	1.26
12.667	1.26	1.26	1.26	1.26	1.26
12.750	1.26	1.26	1.26	1.26	1.26
12.833	1.26	1.26	1.26	1.26	1.26
12.917	1.26	1.26	1.26	1.26	1.26
13.000	1.26	1.26	1.26	1.26	1.26
13.083	1.26	1.26	1.26	1.26	1.26

Subsection: Pond Infiltration Hydrograph
Label: BASIN 06 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
13.167	1.26	1.26	1.26	1.26	1.26
13.250	1.26	1.26	1.26	1.26	1.26
13.333	1.26	1.26	1.26	1.26	1.26
13.417	1.26	1.26	1.26	1.26	1.26
13.500	1.26	1.26	1.26	1.26	1.26
13.583	1.26	1.26	1.26	1.26	1.26
13.667	1.26	1.26	1.26	1.26	1.26
13.750	1.26	1.26	1.26	1.26	1.26
13.833	1.26	1.26	1.26	1.26	1.26
13.917	1.26	1.26	1.26	1.26	1.26
14.000	1.26	1.26	1.26	1.26	1.26
14.083	1.26	1.26	1.26	1.26	1.26
14.167	1.26	1.26	1.26	1.26	1.26
14.250	1.26	1.26	1.26	1.26	1.26
14.333	1.26	1.26	1.26	1.26	1.26
14.417	1.26	1.26	1.26	1.26	1.26
14.500	1.26	1.26	1.26	1.26	1.26
14.583	1.26	1.26	1.26	1.26	1.26
14.667	1.26	1.26	1.26	1.26	1.26
14.750	1.26	1.26	1.26	1.26	1.26
14.833	1.26	1.26	1.26	1.26	1.26
14.917	1.26	1.26	1.26	1.26	1.26
15.000	1.26	1.26	1.26	1.26	1.26
15.083	1.26	1.26	1.26	1.26	1.26
15.167	1.26	1.26	1.26	1.26	1.26
15.250	1.26	1.26	1.26	1.26	1.26
15.333	1.26	1.26	1.26	1.26	1.26
15.417	1.26	1.26	1.26	1.26	1.26
15.500	1.26	1.26	1.26	1.26	1.26
15.583	1.26	1.26	1.26	1.26	1.26
15.667	1.26	1.26	1.26	1.26	1.26
15.750	1.26	1.26	1.26	1.26	1.26
15.833	1.26	1.26	1.26	1.26	1.26
15.917	1.26	1.26	1.26	1.26	1.26
16.000	1.26	1.26	1.26	1.26	1.26
16.083	1.26	1.26	1.26	1.26	1.26
16.167	1.26	1.26	1.26	1.26	1.26
16.250	1.26	1.26	1.26	1.26	1.26
16.333	1.26	1.26	1.26	1.26	1.26
16.417	1.26	1.26	1.26	1.26	1.26
16.500	1.26	1.26	1.26	1.26	1.26
16.583	1.26	1.26	1.26	1.26	1.26
16.667	1.26	1.26	1.26	1.26	1.26
16.750	1.26	1.26	1.26	1.26	1.26

Subsection: Pond Infiltration Hydrograph
Label: BASIN 06 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
16.833	1.26	1.26	1.26	1.26	1.26
16.917	1.26	1.26	1.26	1.26	1.26
17.000	1.26	1.26	1.26	1.26	1.26
17.083	1.26	1.26	1.26	1.26	1.26
17.167	1.26	1.26	1.26	1.26	1.26
17.250	1.26	1.26	1.26	1.26	1.26
17.333	1.26	1.26	1.26	1.26	1.26
17.417	1.26	1.26	1.26	1.26	1.26
17.500	1.26	1.26	1.26	1.26	1.26
17.583	1.26	1.26	1.26	1.26	1.26
17.667	1.26	1.26	1.26	1.26	1.26
17.750	1.26	1.26	1.26	1.26	1.26
17.833	1.26	1.26	1.26	1.26	1.26
17.917	1.26	1.26	1.26	1.26	1.26
18.000	1.26	1.26	1.26	1.26	1.26
18.083	1.26	1.26	1.26	1.26	1.26
18.167	1.26	1.26	1.26	1.26	1.26
18.250	1.26	1.26	1.26	1.26	1.26
18.333	1.26	1.26	1.26	1.26	1.26
18.417	1.26	1.26	1.26	1.26	1.26
18.500	1.26	1.26	1.26	1.26	1.26
18.583	1.26	1.26	1.26	1.26	1.26
18.667	1.26	1.26	1.26	1.26	1.26
18.750	1.26	1.26	1.26	1.26	1.26
18.833	1.26	1.26	1.26	1.26	1.26
18.917	1.26	1.26	1.26	1.26	1.26
19.000	1.26	1.26	1.26	1.26	1.26
19.083	1.26	1.26	1.26	1.26	1.26
19.167	1.26	1.26	1.26	1.26	1.26
19.250	1.26	1.26	1.26	1.26	1.26
19.333	1.26	1.26	1.26	1.26	1.26
19.417	1.26	1.26	1.26	1.26	1.26
19.500	1.26	1.26	1.26	1.26	1.26
19.583	1.26	1.26	1.26	1.26	1.26
19.667	1.26	1.26	1.26	1.26	1.26
19.750	1.26	1.26	1.26	1.26	1.26
19.833	1.26	1.26	1.26	1.26	1.26
19.917	1.26	1.26	1.26	1.26	1.26
20.000	1.26	1.26	1.26	1.26	1.26
20.083	1.26	1.26	1.26	1.26	1.26
20.167	1.26	1.26	1.26	1.26	1.26
20.250	1.26	1.26	1.26	1.26	1.26
20.333	1.26	1.26	1.26	1.26	1.26
20.417	1.26	1.26	1.26	1.26	1.26

Subsection: Pond Infiltration Hydrograph
Label: BASIN 06 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
20.500	1.26	1.26	1.26	1.26	1.26
20.583	1.26	1.26	1.26	1.26	1.26
20.667	1.26	1.26	1.26	1.26	1.26
20.750	1.26	1.26	1.26	1.26	1.26
20.833	1.26	1.26	1.26	1.26	1.26
20.917	1.26	1.26	1.26	1.26	1.26
21.000	1.26	1.26	1.26	1.26	1.26
21.083	1.26	1.26	1.26	1.26	1.26
21.167	1.26	1.26	1.26	1.26	1.26
21.250	1.26	1.26	1.26	1.26	1.26
21.333	1.26	1.26	1.26	1.26	1.26
21.417	1.26	1.26	1.26	1.26	1.26
21.500	1.26	1.26	1.26	1.26	1.26
21.583	1.26	1.26	1.26	1.26	1.26
21.667	1.26	1.26	1.26	1.26	1.26
21.750	1.26	1.26	1.26	1.26	1.26
21.833	1.26	1.26	1.26	1.26	1.26
21.917	1.26	1.26	1.26	1.26	1.26
22.000	1.26	1.26	1.26	1.26	1.26
22.083	1.26	1.26	1.26	1.26	1.26
22.167	1.26	1.26	1.26	1.26	1.26
22.250	1.26	1.26	1.26	1.26	1.26
22.333	1.26	1.26	1.26	1.26	1.26
22.417	1.26	1.26	1.26	1.26	1.26
22.500	1.26	1.26	1.26	1.26	1.26
22.583	1.26	1.26	1.26	1.26	1.26
22.667	1.26	1.26	1.26	1.26	1.26
22.750	1.26	1.26	1.26	1.26	1.26
22.833	1.26	1.26	1.26	1.26	1.26
22.917	1.26	1.26	1.26	1.26	1.26
23.000	1.26	1.26	1.26	1.26	1.26
23.083	1.26	1.26	1.26	1.26	1.26
23.167	1.26	1.26	1.26	1.26	1.26
23.250	1.26	1.26	1.26	1.26	1.26
23.333	1.26	1.26	1.26	1.26	1.26
23.417	1.26	1.26	1.26	1.26	1.26
23.500	1.26	1.26	1.26	1.26	1.26
23.583	1.26	1.26	1.26	1.26	1.26
23.667	1.26	1.26	1.26	1.26	1.26
23.750	1.26	1.26	1.26	1.26	1.26
23.833	1.26	1.26	1.26	1.26	1.26
23.917	1.26	1.26	1.26	1.26	1.26
24.000	1.26	1.26	1.26	1.26	1.26
24.083	1.26	1.26	1.26	1.26	1.26

Subsection: Pond Infiltration Hydrograph
Label: BASIN 06 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
24.167	1.26	1.26	1.26	1.26	1.26
24.250	1.26	1.26	1.26	1.26	1.26
24.333	1.26	1.26	1.26	1.26	1.26
24.417	1.26	1.26	1.26	1.26	1.26
24.500	1.26	1.26	1.26	1.26	1.26
24.583	1.26	1.26	1.26	1.26	1.26
24.667	1.26	1.26	1.26	1.26	1.26
24.750	1.26	1.26	1.26	1.26	1.26
24.833	1.26	1.26	1.26	1.26	1.26
24.917	1.26	1.26	1.26	1.26	1.26
25.000	1.26	1.26	1.26	1.26	1.26
25.083	1.26	1.26	1.26	1.26	1.26
25.167	1.26	1.26	1.26	1.26	1.26
25.250	1.26	1.26	1.26	1.26	1.26
25.333	1.26	1.26	1.26	1.26	1.26
25.417	1.26	1.26	1.26	1.26	1.26
25.500	1.26	1.26	1.26	1.26	1.26
25.583	1.26	1.26	1.26	1.26	1.26
25.667	1.26	1.26	1.26	1.26	1.26
25.750	1.26	1.26	1.26	1.26	1.26
25.833	1.26	1.26	1.26	1.26	1.26
25.917	1.26	1.26	1.26	1.26	1.26
26.000	1.26	1.26	1.26	1.26	1.26
26.083	1.26	1.26	1.26	1.26	1.26
26.167	1.26	1.26	1.26	1.26	1.26
26.250	1.26	1.26	1.26	1.26	1.26
26.333	1.26	1.26	1.26	1.26	1.26
26.417	1.26	1.26	1.26	1.26	1.26
26.500	1.26	1.26	1.26	1.26	1.26
26.583	1.26	1.26	1.26	1.26	1.26
26.667	1.26	1.26	1.26	1.26	1.26
26.750	1.26	1.26	1.26	1.26	1.26
26.833	1.26	1.26	1.26	1.26	1.26
26.917	1.26	1.26	1.26	1.26	1.26
27.000	1.26	1.26	1.26	1.26	1.26
27.083	1.26	1.26	1.26	1.26	1.26
27.167	1.26	1.26	1.26	1.26	1.26
27.250	1.26	1.26	1.26	1.26	1.26
27.333	1.26	1.26	1.26	1.26	1.26
27.417	1.26	1.26	1.26	1.26	1.26
27.500	1.26	1.26	1.26	1.26	1.26
27.583	1.26	1.26	1.26	1.26	1.26
27.667	1.26	1.26	1.26	1.26	1.26
27.750	1.26	1.26	1.26	1.26	1.26

Subsection: Pond Infiltration Hydrograph
Label: BASIN 06 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
27.833	1.26	1.26	1.26	1.26	1.26
27.917	1.26	1.26	1.26	1.26	1.26
28.000	1.26	1.26	1.26	1.26	1.26
28.083	1.26	1.26	1.26	1.26	1.26
28.167	1.26	1.26	1.26	1.26	1.26
28.250	1.26	1.26	1.26	1.26	1.26
28.333	1.26	1.26	1.26	1.26	1.26
28.417	1.26	1.26	1.26	1.26	1.26
28.500	1.26	1.26	1.26	1.26	1.26
28.583	1.26	1.26	1.26	1.26	1.26
28.667	1.26	1.26	1.26	1.26	1.26
28.750	1.26	1.26	1.26	1.26	1.26
28.833	1.26	1.26	1.26	1.26	1.26
28.917	1.26	1.26	1.26	1.26	1.26
29.000	1.26	1.26	1.26	1.26	1.26
29.083	1.26	1.26	1.26	1.26	1.26
29.167	1.26	1.26	1.26	1.26	1.26
29.250	1.26	1.26	1.26	1.26	1.26
29.333	1.26	1.26	1.26	1.26	1.26
29.417	1.26	1.26	1.26	1.26	1.26
29.500	1.26	1.26	1.26	1.26	1.26
29.583	1.26	1.26	1.26	1.26	1.26
29.667	1.26	1.26	1.26	1.26	1.26
29.750	1.26	1.26	1.26	1.26	1.26
29.833	1.26	1.26	1.26	1.26	1.26
29.917	1.26	1.26	1.26	1.26	1.26
30.000	1.26	1.26	1.26	1.26	1.26
30.083	1.26	1.26	1.26	1.26	1.26
30.167	1.26	1.26	1.26	1.26	1.26
30.250	1.26	1.26	1.26	1.26	1.26
30.333	1.26	1.26	1.26	1.26	1.26
30.417	1.26	1.26	1.26	1.26	1.26
30.500	1.26	1.26	1.26	1.26	1.26
30.583	1.26	1.26	1.26	1.26	1.26
30.667	1.26	1.26	1.26	1.26	1.26
30.750	1.26	1.26	1.26	1.26	1.26
30.833	1.26	1.26	1.26	1.26	1.26
30.917	1.26	1.26	1.26	1.26	1.26
31.000	1.26	1.26	1.26	1.26	1.26
31.083	1.26	1.26	1.26	1.26	1.26
31.167	1.26	1.26	1.26	1.26	1.26
31.250	1.26	1.26	1.26	1.26	1.26
31.333	1.26	1.26	1.26	1.26	1.26
31.417	1.26	1.26	1.26	1.26	1.26

Subsection: Pond Infiltration Hydrograph
Label: BASIN 06 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
31.500	1.26	1.26	1.26	1.26	1.26
31.583	1.26	1.26	1.26	1.26	1.26
31.667	1.26	1.26	1.26	1.26	1.26
31.750	1.26	1.26	1.26	1.26	1.26
31.833	1.26	1.26	1.26	1.26	1.26
31.917	1.26	1.26	1.26	1.26	1.26
32.000	1.26	1.26	1.26	1.26	1.26
32.083	1.26	1.26	1.26	1.26	1.26
32.167	1.26	1.26	1.26	1.26	1.26
32.250	1.26	1.26	1.26	1.26	1.26
32.333	1.26	1.26	1.26	1.26	1.26
32.417	1.26	1.26	1.26	1.26	1.26
32.500	1.26	1.26	1.26	1.26	1.26
32.583	1.26	1.26	1.26	1.26	1.26
32.667	1.26	1.26	1.26	1.26	1.26
32.750	1.26	1.26	1.26	1.26	1.26
32.833	1.26	1.26	1.26	1.26	1.26
32.917	1.26	1.26	1.26	1.26	1.26
33.000	1.26	1.26	1.26	1.26	1.26
33.083	1.26	1.26	1.26	1.26	1.26
33.167	1.26	1.26	1.26	1.26	1.26
33.250	1.26	1.26	1.26	1.26	1.26
33.333	1.26	1.26	1.26	1.26	1.26
33.417	1.26	1.26	1.26	1.26	1.26
33.500	1.26	1.26	1.26	1.26	1.26
33.583	1.26	1.26	1.26	1.26	1.26
33.667	1.26	1.26	1.26	1.26	1.26
33.750	1.26	1.26	1.26	1.26	1.26
33.833	1.26	1.26	1.26	1.26	1.26
33.917	1.26	1.26	1.26	1.26	1.26
34.000	1.26	1.26	1.26	1.26	1.26
34.083	1.26	1.26	1.26	1.26	1.26
34.167	1.26	1.26	1.26	1.26	1.26
34.250	1.26	1.26	1.26	1.26	1.26
34.333	1.26	1.26	1.26	1.26	1.26
34.417	1.26	1.26	1.26	1.26	1.26
34.500	1.26	1.26	1.26	1.26	1.26
34.583	1.26	1.26	1.26	1.26	1.26
34.667	1.26	1.26	1.26	1.26	1.26
34.750	1.26	1.26	1.26	1.26	1.26
34.833	1.26	1.26	1.26	1.26	1.26
34.917	1.26	1.26	1.26	1.26	1.26
35.000	1.26	(N/A)	(N/A)	(N/A)	(N/A)

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Subsection: Level Pool Pond Routing Summary
Label: BASIN 08 (IN)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Infiltration			
Infiltration Method (Computed)		Average Infiltration Rate	
Infiltration Rate (Average)		1.8500 in/h	
Initial Conditions			
Elevation (Water Surface, Initial)		657.00 ft	
Volume (Initial)		0.000 ac-ft	
Flow (Initial Outlet)		0.00 ft³/s	
Flow (Initial Infiltration)		0.00 ft³/s	
Flow (Initial, Total)		0.00 ft³/s	
Time Increment		0.017 hours	
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)		11.01 ft³/s	Time to Peak (Flow, In)
Infiltration (Peak)		1.95 ft³/s	Time to Peak (Infiltration)
Flow (Peak Outlet)		0.00 ft³/s	Time to Peak (Flow, Outlet)
Elevation (Water Surface, Peak)		657.31 ft	
Volume (Peak)		0.209 ac-ft	
Mass Balance (ac-ft)			
Volume (Initial)		0.000 ac-ft	
Volume (Total Inflow)		0.668 ac-ft	
Volume (Total Infiltration)		0.668 ac-ft	
Volume (Total Outlet Outflow)		0.000 ac-ft	
Volume (Retained)		0.000 ac-ft	
Volume (Unrouted)		0.000 ac-ft	
Error (Mass Balance)		0.0 %	

Subsection: Pond Infiltration Hydrograph
Label: BASIN 08 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Peak Discharge	1.95 ft ³ /s
Time to Peak	12.333 hours
Hydrograph Volume	0.667 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
11.583	0.00	0.00	0.00	0.00	0.01
11.667	0.01	0.02	0.03	0.04	0.05
11.750	0.07	0.09	0.11	0.14	0.18
11.833	0.22	0.28	0.35	0.43	0.54
11.917	0.65	0.77	0.90	1.03	1.16
12.000	1.28	1.41	1.52	1.63	1.71
12.083	1.77	1.82	1.85	1.87	1.89
12.167	1.90	1.91	1.92	1.93	1.93
12.250	1.94	1.94	1.94	1.94	1.95
12.333	1.95	1.95	1.95	1.94	1.94
12.417	1.94	1.94	1.93	1.93	1.92
12.500	1.92	1.91	1.91	1.90	1.89
12.583	1.89	1.88	1.87	1.86	1.85
12.667	1.84	1.84	1.83	1.82	1.81
12.750	1.80	1.79	1.79	1.78	1.77
12.833	1.76	1.75	1.74	1.73	1.72
12.917	1.72	1.71	1.70	1.69	1.68
13.000	1.67	1.66	1.65	1.64	1.64
13.083	1.63	1.62	1.61	1.60	1.59
13.167	1.58	1.57	1.56	1.55	1.55
13.250	1.54	1.53	1.52	1.51	1.50
13.333	1.49	1.48	1.48	1.47	1.46
13.417	1.45	1.44	1.43	1.43	1.42
13.500	1.41	1.40	1.39	1.38	1.38
13.583	1.37	1.36	1.35	1.34	1.34
13.667	1.33	1.32	1.31	1.30	1.30
13.750	1.29	1.28	1.27	1.26	1.26
13.833	1.25	1.24	1.23	1.23	1.22
13.917	1.21	1.20	1.20	1.19	1.18
14.000	1.18	1.17	1.16	1.15	1.15
14.083	1.14	1.13	1.13	1.12	1.11
14.167	1.11	1.10	1.09	1.09	1.08
14.250	1.07	1.07	1.06	1.05	1.05
14.333	1.04	1.04	1.03	1.02	1.02
14.417	1.01	1.01	1.00	0.99	0.99
14.500	0.98	0.98	0.97	0.97	0.96
14.583	0.96	0.95	0.95	0.94	0.94
14.667	0.93	0.92	0.92	0.91	0.91
14.750	0.91	0.90	0.90	0.89	0.89

Subsection: Pond Infiltration Hydrograph
Label: BASIN 08 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
14.833	0.88	0.88	0.87	0.87	0.86
14.917	0.86	0.85	0.85	0.85	0.84
15.000	0.84	0.83	0.83	0.82	0.82
15.083	0.82	0.81	0.81	0.80	0.80
15.167	0.80	0.79	0.79	0.78	0.78
15.250	0.78	0.77	0.77	0.76	0.76
15.333	0.76	0.75	0.75	0.75	0.74
15.417	0.74	0.74	0.73	0.73	0.72
15.500	0.72	0.72	0.71	0.71	0.71
15.583	0.70	0.70	0.70	0.69	0.69
15.667	0.69	0.68	0.68	0.68	0.67
15.750	0.67	0.67	0.67	0.66	0.66
15.833	0.66	0.65	0.65	0.65	0.64
15.917	0.64	0.64	0.64	0.63	0.63
16.000	0.63	0.62	0.62	0.62	0.61
16.083	0.61	0.61	0.61	0.60	0.60
16.167	0.60	0.60	0.59	0.59	0.59
16.250	0.58	0.58	0.58	0.58	0.57
16.333	0.57	0.57	0.57	0.56	0.56
16.417	0.56	0.56	0.56	0.55	0.55
16.500	0.55	0.55	0.54	0.54	0.54
16.583	0.54	0.54	0.53	0.53	0.53
16.667	0.53	0.53	0.52	0.52	0.52
16.750	0.52	0.52	0.51	0.51	0.51
16.833	0.51	0.51	0.50	0.50	0.50
16.917	0.50	0.50	0.50	0.49	0.49
17.000	0.49	0.49	0.49	0.49	0.48
17.083	0.48	0.48	0.48	0.48	0.48
17.167	0.47	0.47	0.47	0.47	0.47
17.250	0.47	0.46	0.46	0.46	0.46
17.333	0.46	0.46	0.46	0.45	0.45
17.417	0.45	0.45	0.45	0.45	0.45
17.500	0.44	0.44	0.44	0.44	0.44
17.583	0.44	0.44	0.44	0.43	0.43
17.667	0.43	0.43	0.43	0.43	0.43
17.750	0.43	0.42	0.42	0.42	0.42
17.833	0.42	0.42	0.42	0.42	0.41
17.917	0.41	0.41	0.41	0.41	0.41
18.000	0.41	0.41	0.41	0.40	0.40
18.083	0.40	0.40	0.40	0.40	0.40
18.167	0.40	0.40	0.39	0.39	0.39
18.250	0.39	0.39	0.39	0.39	0.39
18.333	0.39	0.39	0.38	0.38	0.38
18.417	0.38	0.38	0.38	0.38	0.38

Subsection: Pond Infiltration Hydrograph
Label: BASIN 08 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
18.500	0.38	0.38	0.37	0.37	0.37
18.583	0.37	0.37	0.37	0.37	0.37
18.667	0.37	0.37	0.36	0.36	0.36
18.750	0.36	0.36	0.36	0.36	0.36
18.833	0.36	0.36	0.36	0.35	0.35
18.917	0.35	0.35	0.35	0.35	0.35
19.000	0.35	0.35	0.35	0.35	0.35
19.083	0.34	0.34	0.34	0.34	0.34
19.167	0.34	0.34	0.34	0.34	0.34
19.250	0.34	0.33	0.33	0.33	0.33
19.333	0.33	0.33	0.33	0.33	0.33
19.417	0.33	0.33	0.33	0.32	0.32
19.500	0.32	0.32	0.32	0.32	0.32
19.583	0.32	0.32	0.32	0.32	0.32
19.667	0.32	0.31	0.31	0.31	0.31
19.750	0.31	0.31	0.31	0.31	0.31
19.833	0.31	0.31	0.31	0.30	0.30
19.917	0.30	0.30	0.30	0.30	0.30
20.000	0.30	0.30	0.30	0.30	0.30
20.083	0.30	0.29	0.29	0.29	0.29
20.167	0.29	0.29	0.29	0.29	0.29
20.250	0.29	0.29	0.29	0.29	0.29
20.333	0.28	0.28	0.28	0.28	0.28
20.417	0.28	0.28	0.28	0.28	0.28
20.500	0.28	0.28	0.28	0.28	0.28
20.583	0.28	0.27	0.27	0.27	0.27
20.667	0.27	0.27	0.27	0.27	0.27
20.750	0.27	0.27	0.27	0.27	0.27
20.833	0.27	0.27	0.27	0.27	0.27
20.917	0.27	0.26	0.26	0.26	0.26
21.000	0.26	0.26	0.26	0.26	0.26
21.083	0.26	0.26	0.26	0.26	0.26
21.167	0.26	0.26	0.26	0.26	0.26
21.250	0.26	0.26	0.26	0.26	0.26
21.333	0.26	0.25	0.25	0.25	0.25
21.417	0.25	0.25	0.25	0.25	0.25
21.500	0.25	0.25	0.25	0.25	0.25
21.583	0.25	0.25	0.25	0.25	0.25
21.667	0.25	0.25	0.25	0.25	0.25
21.750	0.25	0.25	0.25	0.25	0.25
21.833	0.25	0.25	0.24	0.24	0.24
21.917	0.24	0.24	0.24	0.24	0.24
22.000	0.24	0.24	0.24	0.24	0.24
22.083	0.24	0.24	0.24	0.24	0.24

Subsection: Pond Infiltration Hydrograph
Label: BASIN 08 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
22.167	0.24	0.24	0.24	0.24	0.24
22.250	0.24	0.24	0.24	0.24	0.24
22.333	0.24	0.24	0.24	0.24	0.24
22.417	0.24	0.24	0.24	0.24	0.24
22.500	0.24	0.24	0.23	0.23	0.23
22.583	0.23	0.23	0.23	0.23	0.23
22.667	0.23	0.23	0.23	0.23	0.23
22.750	0.23	0.23	0.23	0.23	0.23
22.833	0.23	0.23	0.23	0.23	0.23
22.917	0.23	0.23	0.23	0.23	0.23
23.000	0.23	0.23	0.23	0.23	0.23
23.083	0.23	0.23	0.23	0.23	0.23
23.167	0.23	0.23	0.23	0.23	0.23
23.250	0.23	0.23	0.23	0.23	0.23
23.333	0.23	0.23	0.23	0.23	0.22
23.417	0.22	0.22	0.22	0.22	0.22
23.500	0.22	0.22	0.22	0.22	0.22
23.583	0.22	0.22	0.22	0.22	0.22
23.667	0.22	0.22	0.22	0.22	0.22
23.750	0.22	0.22	0.22	0.22	0.22
23.833	0.22	0.22	0.22	0.22	0.22
23.917	0.22	0.22	0.22	0.22	0.22
24.000	0.22	0.22	0.22	0.22	0.22
24.083	0.22	0.21	0.21	0.21	0.21
24.167	0.20	0.20	0.20	0.20	0.19
24.250	0.19	0.19	0.19	0.18	0.18
24.333	0.18	0.18	0.18	0.17	0.17
24.417	0.17	0.17	0.16	0.16	0.16
24.500	0.16	0.16	0.15	0.15	0.15
24.583	0.15	0.15	0.14	0.14	0.14
24.667	0.14	0.14	0.14	0.13	0.13
24.750	0.13	0.13	0.13	0.13	0.12
24.833	0.12	0.12	0.12	0.12	0.12
24.917	0.11	0.11	0.11	0.11	0.11
25.000	0.11	0.11	0.10	0.10	0.10
25.083	0.10	0.10	0.10	0.10	0.10
25.167	0.09	0.09	0.09	0.09	0.09
25.250	0.09	0.09	0.09	0.09	0.08
25.333	0.08	0.08	0.08	0.08	0.08
25.417	0.08	0.08	0.08	0.07	0.07
25.500	0.07	0.07	0.07	0.07	0.07
25.583	0.07	0.07	0.07	0.07	0.07
25.667	0.06	0.06	0.06	0.06	0.06
25.750	0.06	0.06	0.06	0.06	0.06

Subsection: Pond Infiltration Hydrograph
Label: BASIN 08 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
25.833	0.06	0.06	0.06	0.05	0.05
25.917	0.05	0.05	0.05	0.05	0.05
26.000	0.05	0.05	0.05	0.05	0.05
26.083	0.05	0.05	0.05	0.04	0.04
26.167	0.04	0.04	0.04	0.04	0.04
26.250	0.04	0.04	0.04	0.04	0.04
26.333	0.04	0.04	0.04	0.04	0.04
26.417	0.04	0.04	0.04	0.03	0.03
26.500	0.03	0.03	0.03	0.03	0.03
26.583	0.03	0.03	0.03	0.03	0.03
26.667	0.03	0.03	0.03	0.03	0.03
26.750	0.03	0.03	0.03	0.03	0.03
26.833	0.03	0.03	0.03	0.03	0.02
26.917	0.02	0.02	0.02	0.02	0.02
27.000	0.02	0.02	0.02	0.02	0.02
27.083	0.02	0.02	0.02	0.02	0.02
27.167	0.02	0.02	0.02	0.02	0.02
27.250	0.02	0.02	0.02	0.02	0.02
27.333	0.02	0.02	0.02	0.02	0.02
27.417	0.02	0.02	0.02	0.02	0.02
27.500	0.02	0.02	0.02	0.02	0.01
27.583	0.01	0.01	0.01	0.01	0.01
27.667	0.01	0.01	0.01	0.01	0.01
27.750	0.01	0.01	0.01	0.01	0.01
27.833	0.01	0.01	0.01	0.01	0.01
27.917	0.01	0.01	0.01	0.01	0.01
28.000	0.01	0.01	0.01	0.01	0.01
28.083	0.01	0.01	0.01	0.01	0.01
28.167	0.01	0.01	0.01	0.01	0.01
28.250	0.01	0.01	0.01	0.01	0.01
28.333	0.01	0.01	0.01	0.01	0.01
28.417	0.01	0.01	0.01	0.01	0.01
28.500	0.01	0.01	0.01	0.01	0.01
28.583	0.01	0.01	0.01	0.01	0.01
28.667	0.01	0.01	0.01	0.01	0.01
28.750	0.01	0.01	0.01	0.01	0.01
28.833	0.01	0.01	0.01	0.01	0.01
28.917	0.01	0.01	0.01	0.01	0.00
29.000	0.00	0.00	0.00	0.00	0.00
29.083	0.00	0.00	0.00	0.00	0.00
29.167	0.00	0.00	0.00	0.00	0.00
29.250	0.00	0.00	0.00	0.00	0.00
29.333	0.00	0.00	0.00	0.00	0.00
29.417	0.00	0.00	0.00	0.00	0.00

Subsection: Pond Infiltration Hydrograph
 Label: BASIN 08 (INF)

Return Event: 2 years
 Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
29.500	0.00	0.00	0.00	0.00	0.00
29.583	0.00	0.00	0.00	0.00	0.00
29.667	0.00	0.00	0.00	0.00	0.00
29.750	0.00	0.00	0.00	0.00	0.00
29.833	0.00	0.00	0.00	0.00	0.00
29.917	0.00	0.00	0.00	0.00	0.00
30.000	0.00	0.00	0.00	0.00	0.00
30.083	0.00	0.00	0.00	0.00	0.00
30.167	0.00	0.00	0.00	0.00	0.00
30.250	0.00	0.00	0.00	0.00	0.00
30.333	0.00	0.00	0.00	0.00	0.00
30.417	0.00	0.00	0.00	0.00	0.00
30.500	0.00	0.00	0.00	0.00	0.00
30.583	0.00	0.00	0.00	0.00	0.00
30.667	0.00	0.00	0.00	0.00	0.00
30.750	0.00	0.00	0.00	0.00	0.00
30.833	0.00	0.00	0.00	0.00	0.00
30.917	0.00	0.00	0.00	0.00	0.00
31.000	0.00	0.00	(N/A)	(N/A)	(N/A)

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Subsection: Level Pool Pond Routing Summary
Label: BASIN 09 (IN)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Infiltration			
Infiltration Method (Computed)		Average Infiltration Rate	
Infiltration Rate (Average)		5.4000 in/h	
Initial Conditions			
Elevation (Water Surface, Initial)		663.00 ft	
Volume (Initial)		0.000 ac-ft	
Flow (Initial Outlet)		0.00 ft³/s	
Flow (Initial Infiltration)		0.00 ft³/s	
Flow (Initial, Total)		0.00 ft³/s	
Time Increment		0.017 hours	
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)		0.98 ft³/s	Time to Peak (Flow, In)
Infiltration (Peak)		0.34 ft³/s	Time to Peak (Infiltration)
Flow (Peak Outlet)		0.00 ft³/s	Time to Peak (Flow, Outlet)
Elevation (Water Surface, Peak)		663.03 ft	
Volume (Peak)		0.012 ac-ft	
Mass Balance (ac-ft)			
Volume (Initial)		0.000 ac-ft	
Volume (Total Inflow)		0.156 ac-ft	
Volume (Total Infiltration)		0.156 ac-ft	
Volume (Total Outlet Outflow)		0.000 ac-ft	
Volume (Retained)		0.000 ac-ft	
Volume (Unrouted)		0.000 ac-ft	
Error (Mass Balance)		0.0 %	

Subsection: Pond Infiltration Hydrograph
 Label: BASIN 09 (INF)

Return Event: 2 years
 Storm Event: TypeII 24hr (2.9 in)

Peak Discharge	0.34 ft ³ /s
Time to Peak	12.550 hours
Hydrograph Volume	0.156 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
11.933	0.00	0.00	0.01	0.02	0.04
12.017	0.06	0.09	0.13	0.16	0.18
12.100	0.20	0.21	0.23	0.24	0.25
12.183	0.26	0.26	0.27	0.28	0.28
12.267	0.29	0.30	0.30	0.31	0.31
12.350	0.31	0.32	0.32	0.33	0.33
12.433	0.33	0.33	0.33	0.34	0.34
12.517	0.34	0.34	0.34	0.34	0.34
12.600	0.34	0.34	0.34	0.33	0.33
12.683	0.33	0.33	0.33	0.33	0.33
12.767	0.33	0.33	0.33	0.32	0.32
12.850	0.32	0.32	0.32	0.32	0.32
12.933	0.32	0.31	0.31	0.31	0.31
13.017	0.31	0.31	0.31	0.31	0.30
13.100	0.30	0.30	0.30	0.30	0.30
13.183	0.29	0.29	0.29	0.29	0.29
13.267	0.29	0.29	0.29	0.28	0.28
13.350	0.28	0.28	0.28	0.28	0.28
13.433	0.27	0.27	0.27	0.27	0.27
13.517	0.27	0.27	0.26	0.26	0.26
13.600	0.26	0.26	0.26	0.26	0.26
13.683	0.25	0.25	0.25	0.25	0.25
13.767	0.25	0.25	0.25	0.24	0.24
13.850	0.24	0.24	0.24	0.24	0.24
13.933	0.24	0.23	0.23	0.23	0.23
14.017	0.23	0.23	0.23	0.23	0.22
14.100	0.22	0.22	0.22	0.22	0.22
14.183	0.22	0.22	0.22	0.22	0.21
14.267	0.21	0.21	0.21	0.21	0.21
14.350	0.21	0.21	0.21	0.21	0.21
14.433	0.21	0.20	0.20	0.20	0.20
14.517	0.20	0.20	0.20	0.20	0.20
14.600	0.20	0.20	0.20	0.20	0.20
14.683	0.20	0.20	0.20	0.19	0.19
14.767	0.19	0.19	0.19	0.19	0.19
14.850	0.19	0.19	0.19	0.19	0.19
14.933	0.19	0.19	0.19	0.19	0.19
15.017	0.19	0.19	0.19	0.19	0.19
15.100	0.18	0.18	0.18	0.18	0.18

Subsection: Pond Infiltration Hydrograph
Label: BASIN 09 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
15.183	0.18	0.18	0.18	0.18	0.18
15.267	0.18	0.18	0.18	0.18	0.18
15.350	0.18	0.18	0.18	0.18	0.18
15.433	0.18	0.18	0.18	0.17	0.17
15.517	0.17	0.17	0.17	0.17	0.17
15.600	0.17	0.17	0.17	0.17	0.17
15.683	0.17	0.17	0.17	0.17	0.17
15.767	0.17	0.17	0.17	0.17	0.16
15.850	0.16	0.16	0.16	0.16	0.16
15.933	0.16	0.16	0.16	0.16	0.16
16.017	0.16	0.16	0.16	0.16	0.16
16.100	0.16	0.16	0.16	0.16	0.16
16.183	0.15	0.15	0.15	0.15	0.15
16.267	0.15	0.15	0.15	0.15	0.15
16.350	0.15	0.15	0.15	0.15	0.15
16.433	0.15	0.15	0.15	0.15	0.15
16.517	0.15	0.15	0.15	0.15	0.15
16.600	0.15	0.15	0.15	0.15	0.15
16.683	0.15	0.14	0.14	0.14	0.14
16.767	0.14	0.14	0.14	0.14	0.14
16.850	0.14	0.14	0.14	0.14	0.14
16.933	0.14	0.14	0.14	0.14	0.14
17.017	0.14	0.14	0.14	0.14	0.14
17.100	0.14	0.14	0.14	0.14	0.14
17.183	0.14	0.14	0.14	0.14	0.14
17.267	0.14	0.14	0.14	0.14	0.14
17.350	0.14	0.14	0.14	0.14	0.14
17.433	0.14	0.14	0.14	0.14	0.14
17.517	0.14	0.14	0.14	0.14	0.14
17.600	0.13	0.13	0.13	0.13	0.13
17.683	0.13	0.13	0.13	0.13	0.13
17.767	0.13	0.13	0.13	0.13	0.13
17.850	0.13	0.13	0.13	0.13	0.13
17.933	0.13	0.13	0.13	0.13	0.13
18.017	0.13	0.13	0.13	0.13	0.13
18.100	0.13	0.13	0.13	0.13	0.13
18.183	0.13	0.13	0.13	0.13	0.13
18.267	0.13	0.13	0.13	0.13	0.13
18.350	0.13	0.13	0.13	0.13	0.13
18.433	0.13	0.13	0.13	0.13	0.12
18.517	0.12	0.12	0.12	0.12	0.12
18.600	0.12	0.12	0.12	0.12	0.12
18.683	0.12	0.12	0.12	0.12	0.12
18.767	0.12	0.12	0.12	0.12	0.12

Subsection: Pond Infiltration Hydrograph
Label: BASIN 09 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
18.850	0.12	0.12	0.12	0.12	0.12
18.933	0.12	0.12	0.12	0.12	0.12
19.017	0.12	0.12	0.12	0.12	0.12
19.100	0.12	0.12	0.12	0.12	0.12
19.183	0.12	0.12	0.12	0.12	0.12
19.267	0.12	0.11	0.11	0.11	0.11
19.350	0.11	0.11	0.11	0.11	0.11
19.433	0.11	0.11	0.11	0.11	0.11
19.517	0.11	0.11	0.11	0.11	0.11
19.600	0.11	0.11	0.11	0.11	0.11
19.683	0.11	0.11	0.11	0.11	0.11
19.767	0.11	0.11	0.11	0.11	0.11
19.850	0.11	0.11	0.11	0.11	0.11
19.933	0.11	0.11	0.11	0.10	0.10
20.017	0.10	0.10	0.10	0.10	0.10
20.100	0.10	0.10	0.10	0.10	0.10
20.183	0.10	0.10	0.10	0.10	0.10
20.267	0.10	0.10	0.10	0.10	0.10
20.350	0.10	0.10	0.10	0.10	0.10
20.433	0.10	0.10	0.10	0.10	0.10
20.517	0.10	0.10	0.10	0.10	0.10
20.600	0.10	0.10	0.10	0.10	0.10
20.683	0.10	0.10	0.10	0.10	0.10
20.767	0.10	0.10	0.10	0.10	0.10
20.850	0.10	0.10	0.10	0.10	0.10
20.933	0.10	0.10	0.10	0.10	0.10
21.017	0.10	0.10	0.10	0.10	0.10
21.100	0.10	0.10	0.10	0.10	0.10
21.183	0.10	0.10	0.10	0.10	0.10
21.267	0.10	0.10	0.10	0.10	0.10
21.350	0.10	0.10	0.10	0.10	0.10
21.433	0.10	0.10	0.10	0.10	0.10
21.517	0.10	0.10	0.10	0.10	0.10
21.600	0.10	0.10	0.10	0.10	0.10
21.683	0.10	0.10	0.10	0.10	0.10
21.767	0.10	0.10	0.10	0.10	0.10
21.850	0.10	0.10	0.10	0.10	0.09
21.933	0.09	0.09	0.09	0.09	0.09
22.017	0.09	0.09	0.09	0.09	0.09
22.100	0.09	0.09	0.09	0.09	0.09
22.183	0.09	0.09	0.09	0.09	0.09
22.267	0.09	0.09	0.09	0.09	0.09
22.350	0.09	0.09	0.09	0.09	0.09
22.433	0.09	0.09	0.09	0.09	0.09

Subsection: Pond Infiltration Hydrograph
Label: BASIN 09 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
22.517	0.09	0.09	0.09	0.09	0.09
22.600	0.09	0.09	0.09	0.09	0.09
22.683	0.09	0.09	0.09	0.09	0.09
22.767	0.09	0.09	0.09	0.09	0.09
22.850	0.09	0.09	0.09	0.09	0.09
22.933	0.09	0.09	0.09	0.09	0.09
23.017	0.09	0.09	0.09	0.09	0.09
23.100	0.09	0.09	0.09	0.09	0.09
23.183	0.09	0.09	0.09	0.09	0.09
23.267	0.09	0.09	0.09	0.09	0.09
23.350	0.09	0.09	0.09	0.09	0.09
23.433	0.09	0.09	0.09	0.09	0.09
23.517	0.09	0.09	0.09	0.09	0.09
23.600	0.09	0.09	0.09	0.09	0.09
23.683	0.09	0.09	0.09	0.09	0.09
23.767	0.09	0.09	0.09	0.09	0.09
23.850	0.09	0.09	0.09	0.09	0.09
23.933	0.09	0.09	0.09	0.09	0.09
24.017	0.09	0.09	0.09	0.09	0.09
24.100	0.09	0.08	0.08	0.08	0.07
24.183	0.07	0.07	0.07	0.06	0.06
24.267	0.06	0.06	0.06	0.05	0.05
24.350	0.05	0.05	0.05	0.04	0.04
24.433	0.04	0.04	0.04	0.04	0.04
24.517	0.03	0.03	0.03	0.03	0.03
24.600	0.03	0.03	0.03	0.03	0.02
24.683	0.02	0.02	0.02	0.02	0.02
24.767	0.02	0.02	0.02	0.02	0.02
24.850	0.02	0.02	0.01	0.01	0.01
24.933	0.01	0.01	0.01	0.01	0.01
25.017	0.01	0.01	0.01	0.01	0.01
25.100	0.01	0.01	0.01	0.01	0.01
25.183	0.01	0.01	0.01	0.01	0.01
25.267	0.01	0.01	0.01	0.01	0.01
25.350	0.01	0.01	0.00	0.00	0.00
25.433	0.00	0.00	0.00	0.00	0.00
25.517	0.00	0.00	0.00	0.00	0.00
25.600	0.00	0.00	0.00	0.00	0.00
25.683	0.00	0.00	0.00	0.00	0.00
25.767	0.00	0.00	0.00	0.00	0.00
25.850	0.00	0.00	0.00	0.00	0.00
25.933	0.00	0.00	0.00	0.00	0.00
26.017	0.00	0.00	0.00	0.00	(N/A)

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BASIN 10.2

Volume of pipe on a slope

PipeVOL

Input Data

Storage pipe diameter in feet: 2.50
Upstream invert elev., feet: 713.70
Downstream invert elev., feet: 713.70
Storage pipe length in feet: 17400.00

Output Data

Elevation (ft.)	Volume (Cubic ft.)	Volume (acre-ft.)
713.70	0.0	0.0000
713.95	4,445.2	0.1020
714.20	12,160.8	0.2792
714.45	21,550.8	0.4947
714.70	31,904.0	0.7324
714.95	42,706.0	0.9804
715.20	53,508.1	1.2284
715.45	63,861.2	1.4661
715.70	73,251.2	1.6816
715.95	80,966.9	1.8587
716.20	85,412.1	1.9608

Pennoni Associates Inc.

JOB NO.: PPLS0902

Consulting Engineers

SHEET 1 OF 1

DATE

PROJECT Bell Bend Nuclear Power Plant

BY: SRA

10/07/10

SUBJECT Basin 10.2

CHK'D

Basin Area 2.01 Ac.

Void Ratio in Stone = 0.4

Elevation (ft)	Volume of Pipe (Ac.-ft)	Total Volume of Basin (Ac.-ft)	Total Storage in Stone (Ac.-ft)	Total Storage in Basin (Ac.-ft)
713.20	0.0000	0.0000	0.0000	0.0000
713.45	0.0000	0.5025	0.2010	0.2010
713.70	0.0000	1.0050	0.4020	0.4020
713.95	0.1020	1.5075	0.5622	0.6642
714.20	0.2790	2.0100	0.6924	0.9714
714.45	0.4950	2.5125	0.8070	1.3020
714.70	0.7320	3.0150	0.9132	1.6452
714.95	0.9800	3.5175	1.0150	1.9950
715.20	1.2280	4.0200	1.1168	2.3448
715.45	1.4660	4.5225	1.2226	2.6886
715.70	1.6820	5.0250	1.3372	3.0192
715.95	1.8590	5.5275	1.4674	3.3264
716.20	1.9610	6.0300	1.6276	3.5886
716.45	1.9610	6.5325	1.8286	3.7896
716.70	1.9610	7.0350	2.0296	3.9906
716.95	1.9610	7.5375	2.2306	4.1916
717.20	1.9610	8.0400	2.4316	4.3926

Total Storage in Stone = (Total Volume in Basin - Total Volume in Pipes) x 0.4

Total Storage in Basin = Total Volume in Pipes + Total Storage in Stone

BASIN 10.3

Volume of pipe on a slope

PipeVOL

Input Data

Storage pipe diameter in feet: 2.50
Upstream invert elev., feet: 713.70
Downstream invert elev., feet: 713.70
Storage pipe length in feet: 17400.00

Output Data

Elevation (ft.)	Volume (Cubic ft.)	Volume (acre-ft.)
713.70	0.0	0.0000
713.95	4,445.2	0.1020
714.20	12,160.8	0.2792
714.45	21,550.8	0.4947
714.70	31,904.0	0.7324
714.95	42,706.0	0.9804
715.20	53,508.1	1.2284
715.45	63,861.2	1.4661
715.70	73,251.2	1.6816
715.95	80,966.9	1.8587
716.20	85,412.1	1.9608

Pennoni Associates Inc.

JOB NO.: PPLS0902

Consulting Engineers

SHEET 1 OF 1

DATE

PROJECT Bell Bend Nuclear Power Plant

BY: SRA

10/07/10

SUBJECT Basin 10.3

CHK'D

Basin Area 2.01 Ac.

Void Ratio in Stone = 0.4

Elevation (ft)	Volume of Pipe (Ac.-ft)	Total Volume of Basin (Ac.-ft)	Total Storage in Stone (Ac.-ft)	Total Storage in Basin (Ac.-ft)
713.20	0.0000	0.0000	0.0000	0.0000
713.45	0.0000	0.5025	0.2010	0.2010
713.70	0.0000	1.0050	0.4020	0.4020
713.95	0.1020	1.5075	0.5622	0.6642
714.20	0.2790	2.0100	0.6924	0.9714
714.45	0.4950	2.5125	0.8070	1.3020
714.70	0.7320	3.0150	0.9132	1.6452
714.95	0.9800	3.5175	1.0150	1.9950
715.20	1.2280	4.0200	1.1168	2.3448
715.45	1.4660	4.5225	1.2226	2.6886
715.70	1.6820	5.0250	1.3372	3.0192
715.95	1.8590	5.5275	1.4674	3.3264
716.20	1.9610	6.0300	1.6276	3.5886
716.45	1.9610	6.5325	1.8286	3.7896
716.70	1.9610	7.0350	2.0296	3.9906
716.95	1.9610	7.5375	2.2306	4.1916
717.20	1.9610	8.0400	2.4316	4.3926

Total Storage in Stone = (Total Volume in Basin - Total Volume in Pipes) x 0.4

Total Storage in Basin = Total Volume in Pipes + Total Storage in Stone

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Subsection: Level Pool Pond Routing Summary
Label: BASIN 10.1 (IN)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Infiltration				
Infiltration Method (Computed)		Average Infiltration Rate		
Infiltration Rate (Average)		8.0000 in/h		
Initial Conditions				
Elevation (Water Surface, Initial)		685.00 ft		
Volume (Initial)		0.000 ac-ft		
Flow (Initial Outlet)		0.00 ft³/s		
Flow (Initial Infiltration)		0.00 ft³/s		
Flow (Initial, Total)		0.00 ft³/s		
Time Increment		0.017 hours		
Inflow/Outflow Hydrograph Summary				
Flow (Peak In)		134.17 ft³/s	Time to Peak (Flow, In)	11.933 hours
Infiltration (Peak)		28.23 ft³/s	Time to Peak (Infiltration)	11.850 hours
Flow (Peak Outlet)		0.29 ft³/s	Time to Peak (Flow, Outlet)	12.150 hours
Peak Conditions				
Elevation (Water Surface, Peak)		686.73 ft		
Volume (Peak)		2.418 ac-ft		
Mass Balance (ac-ft)				
Volume (Initial)		0.000 ac-ft		
Volume (Total Inflow)		7.419 ac-ft		
Volume (Total Infiltration)		7.412 ac-ft		
Volume (Total Outlet Outflow)		0.007 ac-ft		
Volume (Retained)		0.000 ac-ft		
Volume (Unrouted)		0.000 ac-ft		
Error (Mass Balance)		0.0 %		

Subsection: Pond Infiltration Hydrograph
Label: BASIN 10.1 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Peak Discharge	28.23 ft ³ /s
Time to Peak	11.917 hours
Hydrograph Volume	7.412 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
4.983	0.00	0.00	0.00	0.00	0.00
5.067	0.00	0.00	0.01	0.01	0.01
5.150	0.01	0.01	0.01	0.01	0.01
5.233	0.01	0.01	0.02	0.02	0.02
5.317	0.02	0.02	0.02	0.02	0.02
5.400	0.03	0.03	0.03	0.03	0.03
5.483	0.03	0.04	0.04	0.04	0.04
5.567	0.04	0.04	0.04	0.05	0.05
5.650	0.05	0.05	0.05	0.06	0.06
5.733	0.06	0.06	0.06	0.06	0.07
5.817	0.07	0.07	0.07	0.07	0.08
5.900	0.08	0.08	0.08	0.08	0.08
5.983	0.09	0.09	0.09	0.09	0.09
6.067	0.10	0.10	0.10	0.10	0.10
6.150	0.11	0.11	0.11	0.11	0.11
6.233	0.12	0.12	0.12	0.12	0.12
6.317	0.13	0.13	0.13	0.13	0.13
6.400	0.14	0.14	0.14	0.14	0.15
6.483	0.15	0.15	0.15	0.15	0.16
6.567	0.16	0.16	0.16	0.16	0.17
6.650	0.17	0.17	0.17	0.18	0.18
6.733	0.18	0.18	0.18	0.19	0.19
6.817	0.19	0.19	0.20	0.20	0.20
6.900	0.20	0.20	0.21	0.21	0.21
6.983	0.21	0.22	0.22	0.22	0.22
7.067	0.22	0.23	0.23	0.23	0.23
7.150	0.24	0.24	0.24	0.24	0.25
7.233	0.25	0.25	0.25	0.25	0.26
7.317	0.26	0.26	0.26	0.27	0.27
7.400	0.27	0.27	0.28	0.28	0.28
7.483	0.28	0.29	0.29	0.29	0.29
7.567	0.30	0.30	0.30	0.30	0.30
7.650	0.31	0.31	0.31	0.31	0.32
7.733	0.32	0.32	0.32	0.33	0.33
7.817	0.33	0.34	0.34	0.34	0.34
7.900	0.35	0.35	0.35	0.36	0.36
7.983	0.37	0.37	0.37	0.38	0.38
8.067	0.39	0.39	0.39	0.40	0.40
8.150	0.41	0.41	0.42	0.42	0.43

Subsection: Pond Infiltration Hydrograph
Label: BASIN 10.1 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
8.233	0.43	0.44	0.45	0.45	0.46
8.317	0.46	0.47	0.48	0.48	0.49
8.400	0.50	0.51	0.51	0.52	0.53
8.483	0.54	0.54	0.55	0.56	0.57
8.567	0.58	0.58	0.59	0.60	0.61
8.650	0.62	0.63	0.64	0.65	0.65
8.733	0.66	0.67	0.68	0.69	0.70
8.817	0.71	0.72	0.73	0.74	0.75
8.900	0.76	0.77	0.78	0.79	0.81
8.983	0.82	0.83	0.84	0.85	0.86
9.067	0.87	0.88	0.89	0.90	0.92
9.150	0.93	0.94	0.95	0.96	0.97
9.233	0.98	0.99	1.00	1.01	1.02
9.317	1.03	1.03	1.04	1.05	1.06
9.400	1.07	1.08	1.09	1.10	1.10
9.483	1.11	1.12	1.13	1.14	1.15
9.567	1.16	1.16	1.17	1.18	1.19
9.650	1.20	1.21	1.22	1.23	1.25
9.733	1.26	1.27	1.28	1.29	1.31
9.817	1.32	1.34	1.35	1.36	1.38
9.900	1.40	1.41	1.43	1.44	1.46
9.983	1.48	1.49	1.51	1.53	1.55
10.067	1.56	1.58	1.60	1.62	1.64
10.150	1.66	1.68	1.70	1.72	1.75
10.233	1.77	1.79	1.82	1.84	1.86
10.317	1.89	1.91	1.94	1.97	1.99
10.400	2.02	2.05	2.07	2.10	2.13
10.483	2.16	2.19	2.22	2.25	2.28
10.567	2.31	2.34	2.37	2.40	2.44
10.650	2.47	2.51	2.55	2.58	2.62
10.733	2.66	2.70	2.74	2.78	2.83
10.817	2.87	2.91	2.96	3.01	3.05
10.900	3.10	3.15	3.20	3.25	3.30
10.983	3.35	3.40	3.45	3.51	3.56
11.067	3.62	3.68	3.74	3.80	3.87
11.150	3.94	4.01	4.09	4.17	4.25
11.233	4.33	4.42	4.51	4.60	4.70
11.317	4.80	4.90	5.00	5.11	5.22
11.400	5.33	5.45	5.56	5.68	5.80
11.483	5.92	6.05	6.19	6.35	6.56
11.567	6.86	7.24	7.68	8.17	8.74
11.650	9.44	10.31	11.35	12.52	13.80
11.733	15.19	16.76	18.55	20.56	22.75
11.817	25.08	27.64	28.23	28.23	28.23

Subsection: Pond Infiltration Hydrograph
 Label: BASIN 10.1 (INF)

Return Event: 2 years
 Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
11.900	28.23	28.23	28.23	28.23	28.23
11.983	28.23	28.23	28.23	28.23	28.23
12.067	28.23	28.23	28.23	28.23	28.23
12.150	28.23	28.23	28.23	28.23	28.23
12.233	28.23	28.23	28.23	28.23	28.23
12.317	28.23	28.23	28.23	28.23	28.23
12.400	28.23	28.23	28.23	28.23	28.23
12.483	28.23	28.23	28.23	28.23	28.23
12.567	28.23	28.23	28.23	28.23	28.23
12.650	28.23	28.23	28.23	28.23	28.23
12.733	28.23	28.23	28.23	28.23	28.23
12.817	28.23	28.23	28.23	28.23	28.23
12.900	28.23	28.23	28.23	28.23	28.23
12.983	28.23	28.23	28.23	28.23	28.23
13.067	28.23	28.23	28.23	28.23	28.23
13.150	28.23	28.23	28.23	28.23	28.23
13.233	28.23	28.23	28.23	28.23	28.23
13.317	28.23	28.23	28.23	28.23	27.65
13.400	26.51	25.42	24.39	23.41	22.48
13.483	21.60	20.76	19.97	19.21	18.50
13.567	17.82	17.17	16.56	15.97	15.42
13.650	14.89	14.39	13.92	13.46	13.03
13.733	12.63	12.24	11.87	11.51	11.18
13.817	10.86	10.55	10.27	9.99	9.72
13.900	9.47	9.23	9.00	8.78	8.57
13.983	8.37	8.18	8.00	7.82	7.65
14.067	7.49	7.34	7.19	7.05	6.92
14.150	6.79	6.67	6.56	6.45	6.34
14.233	6.24	6.15	6.06	5.97	5.89
14.317	5.81	5.73	5.66	5.59	5.52
14.400	5.46	5.40	5.34	5.28	5.23
14.483	5.18	5.13	5.08	5.04	4.99
14.567	4.95	4.91	4.87	4.83	4.80
14.650	4.76	4.73	4.69	4.66	4.63
14.733	4.60	4.57	4.54	4.52	4.49
14.817	4.46	4.44	4.41	4.39	4.36
14.900	4.34	4.32	4.29	4.27	4.25
14.983	4.23	4.21	4.19	4.17	4.15
15.067	4.13	4.11	4.09	4.07	4.05
15.150	4.04	4.02	4.00	3.98	3.97
15.233	3.95	3.93	3.91	3.90	3.88
15.317	3.87	3.85	3.83	3.82	3.80
15.400	3.78	3.77	3.75	3.74	3.72
15.483	3.71	3.69	3.67	3.66	3.64

Subsection: Pond Infiltration Hydrograph
Label: BASIN 10.1 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
15.567	3.63	3.61	3.60	3.58	3.57
15.650	3.55	3.54	3.52	3.51	3.49
15.733	3.48	3.46	3.45	3.43	3.42
15.817	3.40	3.39	3.38	3.36	3.35
15.900	3.33	3.32	3.30	3.29	3.27
15.983	3.26	3.24	3.23	3.21	3.20
16.067	3.19	3.17	3.16	3.14	3.13
16.150	3.12	3.11	3.09	3.08	3.07
16.233	3.06	3.05	3.04	3.03	3.02
16.317	3.01	3.00	2.99	2.98	2.97
16.400	2.97	2.96	2.95	2.94	2.93
16.483	2.93	2.92	2.91	2.90	2.90
16.567	2.89	2.88	2.88	2.87	2.86
16.650	2.86	2.85	2.84	2.84	2.83
16.733	2.82	2.82	2.81	2.81	2.80
16.817	2.79	2.79	2.78	2.78	2.77
16.900	2.77	2.76	2.75	2.75	2.74
16.983	2.74	2.73	2.73	2.72	2.71
17.067	2.71	2.70	2.70	2.69	2.69
17.150	2.68	2.68	2.67	2.67	2.66
17.233	2.66	2.65	2.65	2.64	2.63
17.317	2.63	2.62	2.62	2.61	2.61
17.400	2.60	2.60	2.59	2.59	2.58
17.483	2.58	2.57	2.57	2.56	2.56
17.567	2.55	2.55	2.54	2.54	2.53
17.650	2.53	2.52	2.52	2.51	2.50
17.733	2.50	2.49	2.49	2.48	2.48
17.817	2.47	2.47	2.46	2.46	2.45
17.900	2.45	2.44	2.44	2.43	2.43
17.983	2.42	2.42	2.41	2.41	2.40
18.067	2.40	2.39	2.39	2.38	2.38
18.150	2.37	2.37	2.36	2.36	2.35
18.233	2.34	2.34	2.33	2.33	2.32
18.317	2.32	2.31	2.31	2.30	2.30
18.400	2.29	2.29	2.28	2.28	2.27
18.483	2.27	2.26	2.26	2.25	2.25
18.567	2.24	2.24	2.23	2.23	2.22
18.650	2.22	2.21	2.20	2.20	2.19
18.733	2.19	2.18	2.18	2.17	2.17
18.817	2.16	2.16	2.15	2.15	2.14
18.900	2.14	2.13	2.13	2.12	2.12
18.983	2.11	2.11	2.10	2.10	2.09
19.067	2.09	2.08	2.07	2.07	2.06
19.150	2.06	2.05	2.05	2.04	2.04

Subsection: Pond Infiltration Hydrograph
 Label: BASIN 10.1 (INF)

Return Event: 2 years
 Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
19.233	2.03	2.03	2.02	2.02	2.01
19.317	2.01	2.00	2.00	1.99	1.99
19.400	1.98	1.98	1.97	1.97	1.96
19.483	1.95	1.95	1.94	1.94	1.93
19.567	1.93	1.92	1.92	1.91	1.91
19.650	1.90	1.90	1.89	1.89	1.88
19.733	1.88	1.87	1.87	1.86	1.85
19.817	1.85	1.84	1.84	1.83	1.83
19.900	1.82	1.82	1.81	1.81	1.80
19.983	1.80	1.79	1.79	1.78	1.78
20.067	1.77	1.77	1.76	1.76	1.75
20.150	1.75	1.74	1.74	1.73	1.73
20.233	1.73	1.72	1.72	1.72	1.71
20.317	1.71	1.71	1.71	1.70	1.70
20.400	1.70	1.69	1.69	1.69	1.69
20.483	1.69	1.68	1.68	1.68	1.68
20.567	1.68	1.67	1.67	1.67	1.67
20.650	1.67	1.67	1.66	1.66	1.66
20.733	1.66	1.66	1.66	1.66	1.65
20.817	1.65	1.65	1.65	1.65	1.65
20.900	1.65	1.64	1.64	1.64	1.64
20.983	1.64	1.64	1.64	1.64	1.63
21.067	1.63	1.63	1.63	1.63	1.63
21.150	1.63	1.63	1.63	1.62	1.62
21.233	1.62	1.62	1.62	1.62	1.62
21.317	1.62	1.62	1.61	1.61	1.61
21.400	1.61	1.61	1.61	1.61	1.61
21.483	1.61	1.60	1.60	1.60	1.60
21.567	1.60	1.60	1.60	1.60	1.60
21.650	1.60	1.59	1.59	1.59	1.59
21.733	1.59	1.59	1.59	1.59	1.59
21.817	1.59	1.58	1.58	1.58	1.58
21.900	1.58	1.58	1.58	1.58	1.58
21.983	1.58	1.57	1.57	1.57	1.57
22.067	1.57	1.57	1.57	1.57	1.57
22.150	1.57	1.56	1.56	1.56	1.56
22.233	1.56	1.56	1.56	1.56	1.56
22.317	1.55	1.55	1.55	1.55	1.55
22.400	1.55	1.55	1.55	1.55	1.55
22.483	1.54	1.54	1.54	1.54	1.54
22.567	1.54	1.54	1.54	1.54	1.54
22.650	1.53	1.53	1.53	1.53	1.53
22.733	1.53	1.53	1.53	1.53	1.53
22.817	1.52	1.52	1.52	1.52	1.52

Subsection: Pond Infiltration Hydrograph
Label: BASIN 10.1 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
22.900	1.52	1.52	1.52	1.52	1.52
22.983	1.51	1.51	1.51	1.51	1.51
23.067	1.51	1.51	1.51	1.51	1.50
23.150	1.50	1.50	1.50	1.50	1.50
23.233	1.50	1.50	1.50	1.50	1.49
23.317	1.49	1.49	1.49	1.49	1.49
23.400	1.49	1.49	1.49	1.48	1.48
23.483	1.48	1.48	1.48	1.48	1.48
23.567	1.48	1.48	1.48	1.47	1.47
23.650	1.47	1.47	1.47	1.47	1.47
23.733	1.47	1.47	1.47	1.46	1.46
23.817	1.46	1.46	1.46	1.46	1.46
23.900	1.46	1.46	1.46	1.45	1.45
23.983	1.45	1.45	1.45	1.44	1.43
24.067	1.40	1.36	1.31	1.26	1.20
24.150	1.14	1.08	1.03	0.98	0.92
24.233	0.87	0.83	0.78	0.74	0.70
24.317	0.66	0.63	0.59	0.56	0.53
24.400	0.50	0.48	0.45	0.43	0.40
24.483	0.38	0.36	0.34	0.32	0.30
24.567	0.29	0.27	0.26	0.24	0.23
24.650	0.22	0.21	0.20	0.18	0.17
24.733	0.17	0.16	0.15	0.14	0.13
24.817	0.13	0.12	0.11	0.11	0.10
24.900	0.09	0.09	0.08	0.08	0.08
24.983	0.07	0.07	0.06	0.06	0.06
25.067	0.05	0.05	0.05	0.05	0.04
25.150	0.04	0.04	0.04	0.03	0.03
25.233	0.03	0.03	0.03	0.03	0.02
25.317	0.02	0.02	0.02	0.02	0.02
25.400	0.02	0.02	0.02	0.02	0.01
25.483	0.01	0.01	0.01	0.01	0.01
25.567	0.01	0.01	0.01	0.01	0.01
25.650	0.01	0.01	0.01	0.01	0.01
25.733	0.01	0.01	0.01	0.00	0.00
25.817	0.00	0.00	0.00	0.00	0.00
25.900	0.00	0.00	0.00	0.00	0.00
25.983	0.00	0.00	0.00	0.00	0.00
26.067	0.00	0.00	0.00	0.00	0.00
26.150	0.00	0.00	0.00	0.00	0.00
26.233	0.00	0.00	0.00	(N/A)	(N/A)

Subsection: Pond Routed Hydrograph (total out)
Label: BASIN 10.1 (OUT)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Peak Discharge	0.29 ft ³ /s
Time to Peak	12.150 hours
Hydrograph Volume	0.007 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
12.017	0.00	0.04	0.12	0.19	0.23
12.100	0.26	0.28	0.28	0.29	0.28
12.183	0.28	0.27	0.26	0.25	0.24
12.267	0.23	0.22	0.21	0.20	0.18
12.350	0.17	0.15	0.14	0.12	0.11
12.433	0.09	0.07	0.05	0.03	0.02
12.517	0.00	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Level Pool Pond Routing Summary
Label: BASIN 10.4 (IN)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Infiltration			
Infiltration Method (Computed)	Average Infiltration Rate		
Infiltration Rate (Average)	0.4000 in/h		
Initial Conditions			
Elevation (Water Surface, Initial)	657.00 ft		
Volume (Initial)	0.000 ac-ft		
Flow (Initial Outlet)	0.00 ft³/s		
Flow (Initial Infiltration)	0.00 ft³/s		
Flow (Initial, Total)	0.00 ft³/s		
Time Increment	0.017 hours		
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	18.98 ft³/s	Time to Peak (Flow, In)	11.950 hours
Infiltration (Peak)	0.63 ft³/s	Time to Peak (Infiltration)	12.033 hours
Flow (Peak Outlet)	0.01 ft³/s	Time to Peak (Flow, Outlet)	16.350 hours
Elevation (Water Surface, Peak)	658.01 ft		
Volume (Peak)	0.624 ac-ft		
Mass Balance (ac-ft)			
Volume (Initial)	0.000 ac-ft		
Volume (Total Inflow)	1.133 ac-ft		
Volume (Total Infiltration)	1.039 ac-ft		
Volume (Total Outlet Outflow)	0.001 ac-ft		
Volume (Retained)	0.093 ac-ft		
Volume (Unrouted)	0.000 ac-ft		
Error (Mass Balance)	0.0 %		

Subsection: Pond Infiltration Hydrograph
Label: BASIN 10.4 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Peak Discharge	0.63 ft ³ /s
Time to Peak	19.700 hours
Hydrograph Volume	1.038 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
11.550	0.00	0.00	0.00	0.00	0.00
11.633	0.01	0.01	0.01	0.01	0.02
11.717	0.02	0.03	0.04	0.04	0.06
11.800	0.07	0.08	0.10	0.13	0.15
11.883	0.19	0.23	0.27	0.32	0.37
11.967	0.43	0.48	0.53	0.58	0.63
12.050	0.63	0.63	0.63	0.63	0.63
12.133	0.63	0.63	0.63	0.63	0.63
12.217	0.63	0.63	0.63	0.63	0.63
12.300	0.63	0.63	0.63	0.63	0.63
12.383	0.63	0.63	0.63	0.63	0.63
12.467	0.63	0.63	0.63	0.63	0.63
12.550	0.63	0.63	0.63	0.63	0.63
12.633	0.63	0.63	0.63	0.63	0.63
12.717	0.63	0.63	0.63	0.63	0.63
12.800	0.63	0.63	0.63	0.63	0.63
12.883	0.63	0.63	0.63	0.63	0.63
12.967	0.63	0.63	0.63	0.63	0.63
13.050	0.63	0.63	0.63	0.63	0.63
13.133	0.63	0.63	0.63	0.63	0.63
13.217	0.63	0.63	0.63	0.63	0.63
13.300	0.63	0.63	0.63	0.63	0.63
13.383	0.63	0.63	0.63	0.63	0.63
13.467	0.63	0.63	0.63	0.63	0.63
13.550	0.63	0.63	0.63	0.63	0.63
13.633	0.63	0.63	0.63	0.63	0.63
13.717	0.63	0.63	0.63	0.63	0.63
13.800	0.63	0.63	0.63	0.63	0.63
13.883	0.63	0.63	0.63	0.63	0.63
13.967	0.63	0.63	0.63	0.63	0.63
14.050	0.63	0.63	0.63	0.63	0.63
14.133	0.63	0.63	0.63	0.63	0.63
14.217	0.63	0.63	0.63	0.63	0.63
14.300	0.63	0.63	0.63	0.63	0.63
14.383	0.63	0.63	0.63	0.63	0.63
14.467	0.63	0.63	0.63	0.63	0.63
14.550	0.63	0.63	0.63	0.63	0.63
14.633	0.63	0.63	0.63	0.63	0.63
14.717	0.63	0.63	0.63	0.63	0.63

Subsection: Pond Infiltration Hydrograph
Label: BASIN 10.4 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
14.800	0.63	0.63	0.63	0.63	0.63
14.883	0.63	0.63	0.63	0.63	0.63
14.967	0.63	0.63	0.63	0.63	0.63
15.050	0.63	0.63	0.63	0.63	0.63
15.133	0.63	0.63	0.63	0.63	0.63
15.217	0.63	0.63	0.63	0.63	0.63
15.300	0.63	0.63	0.63	0.63	0.63
15.383	0.63	0.63	0.63	0.63	0.63
15.467	0.63	0.63	0.63	0.63	0.63
15.550	0.63	0.63	0.63	0.63	0.63
15.633	0.63	0.63	0.63	0.63	0.63
15.717	0.63	0.63	0.63	0.63	0.63
15.800	0.63	0.63	0.63	0.63	0.63
15.883	0.63	0.63	0.63	0.63	0.63
15.967	0.63	0.63	0.63	0.63	0.63
16.050	0.63	0.63	0.63	0.63	0.63
16.133	0.63	0.63	0.63	0.63	0.63
16.217	0.63	0.63	0.63	0.63	0.63
16.300	0.63	0.63	0.63	0.63	0.63
16.383	0.63	0.63	0.63	0.63	0.63
16.467	0.63	0.63	0.63	0.63	0.63
16.550	0.63	0.63	0.63	0.63	0.63
16.633	0.63	0.63	0.63	0.63	0.63
16.717	0.63	0.63	0.63	0.63	0.63
16.800	0.63	0.63	0.63	0.63	0.63
16.883	0.63	0.63	0.63	0.63	0.63
16.967	0.63	0.63	0.63	0.63	0.63
17.050	0.63	0.63	0.63	0.63	0.63
17.133	0.63	0.63	0.63	0.63	0.63
17.217	0.63	0.63	0.63	0.63	0.63
17.300	0.63	0.63	0.63	0.63	0.63
17.383	0.63	0.63	0.63	0.63	0.63
17.467	0.63	0.63	0.63	0.63	0.63
17.550	0.63	0.63	0.63	0.63	0.63
17.633	0.63	0.63	0.63	0.63	0.63
17.717	0.63	0.63	0.63	0.63	0.63
17.800	0.63	0.63	0.63	0.63	0.63
17.883	0.63	0.63	0.63	0.63	0.63
17.967	0.63	0.63	0.63	0.63	0.63
18.050	0.63	0.63	0.63	0.63	0.63
18.133	0.63	0.63	0.63	0.63	0.63
18.217	0.63	0.63	0.63	0.63	0.63
18.300	0.63	0.63	0.63	0.63	0.63
18.383	0.63	0.63	0.63	0.63	0.63

Subsection: Pond Infiltration Hydrograph
Label: BASIN 10.4 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
18.467	0.63	0.63	0.63	0.63	0.63
18.550	0.63	0.63	0.63	0.63	0.63
18.633	0.63	0.63	0.63	0.63	0.63
18.717	0.63	0.63	0.63	0.63	0.63
18.800	0.63	0.63	0.63	0.63	0.63
18.883	0.63	0.63	0.63	0.63	0.63
18.967	0.63	0.63	0.63	0.63	0.63
19.050	0.63	0.63	0.63	0.63	0.63
19.133	0.63	0.63	0.63	0.63	0.63
19.217	0.63	0.63	0.63	0.63	0.63
19.300	0.63	0.63	0.63	0.63	0.63
19.383	0.63	0.63	0.63	0.63	0.63
19.467	0.63	0.63	0.63	0.63	0.63
19.550	0.63	0.63	0.63	0.63	0.63
19.633	0.63	0.63	0.63	0.63	0.63
19.717	0.63	0.63	0.63	0.63	0.63
19.800	0.63	0.63	0.63	0.63	0.63
19.883	0.63	0.63	0.63	0.63	0.63
19.967	0.63	0.63	0.63	0.63	0.63
20.050	0.63	0.63	0.63	0.63	0.63
20.133	0.63	0.63	0.63	0.63	0.63
20.217	0.63	0.63	0.63	0.63	0.63
20.300	0.63	0.63	0.63	0.63	0.63
20.383	0.63	0.63	0.63	0.63	0.63
20.467	0.63	0.63	0.63	0.63	0.63
20.550	0.63	0.63	0.63	0.63	0.63
20.633	0.63	0.63	0.63	0.63	0.63
20.717	0.63	0.63	0.63	0.63	0.63
20.800	0.63	0.63	0.63	0.63	0.63
20.883	0.63	0.63	0.63	0.63	0.63
20.967	0.63	0.63	0.63	0.63	0.63
21.050	0.63	0.63	0.63	0.63	0.63
21.133	0.63	0.63	0.63	0.63	0.63
21.217	0.63	0.63	0.63	0.63	0.63
21.300	0.63	0.63	0.63	0.63	0.63
21.383	0.63	0.63	0.63	0.63	0.63
21.467	0.63	0.63	0.63	0.63	0.63
21.550	0.63	0.63	0.63	0.63	0.63
21.633	0.63	0.63	0.63	0.63	0.63
21.717	0.63	0.63	0.63	0.63	0.63
21.800	0.63	0.63	0.63	0.63	0.63
21.883	0.63	0.63	0.63	0.63	0.63
21.967	0.63	0.63	0.63	0.63	0.63
22.050	0.63	0.63	0.63	0.63	0.63

Subsection: Pond Infiltration Hydrograph
Label: BASIN 10.4 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
22.133	0.63	0.63	0.63	0.63	0.63
22.217	0.63	0.63	0.63	0.63	0.63
22.300	0.63	0.63	0.63	0.63	0.63
22.383	0.63	0.63	0.63	0.63	0.63
22.467	0.63	0.63	0.63	0.63	0.63
22.550	0.63	0.63	0.63	0.63	0.63
22.633	0.63	0.63	0.63	0.63	0.63
22.717	0.63	0.63	0.63	0.63	0.63
22.800	0.63	0.63	0.63	0.63	0.63
22.883	0.63	0.63	0.63	0.63	0.63
22.967	0.63	0.63	0.63	0.63	0.63
23.050	0.63	0.63	0.63	0.63	0.63
23.133	0.63	0.63	0.63	0.63	0.63
23.217	0.63	0.63	0.63	0.63	0.63
23.300	0.63	0.63	0.63	0.63	0.63
23.383	0.63	0.63	0.63	0.63	0.63
23.467	0.63	0.63	0.63	0.63	0.63
23.550	0.63	0.63	0.63	0.63	0.63
23.633	0.63	0.63	0.63	0.63	0.63
23.717	0.63	0.63	0.63	0.63	0.63
23.800	0.63	0.63	0.63	0.63	0.63
23.883	0.63	0.63	0.63	0.63	0.63
23.967	0.63	0.63	0.63	0.63	0.63
24.050	0.63	0.63	0.63	0.63	0.63
24.133	0.63	0.63	0.63	0.63	0.63
24.217	0.63	0.63	0.63	0.63	0.63
24.300	0.63	0.63	0.63	0.63	0.63
24.383	0.63	0.63	0.63	0.63	0.63
24.467	0.63	0.63	0.63	0.63	0.63
24.550	0.63	0.63	0.63	0.63	0.63
24.633	0.63	0.63	0.63	0.63	0.63
24.717	0.63	0.63	0.63	0.63	0.63
24.800	0.63	0.63	0.63	0.63	0.63
24.883	0.63	0.63	0.63	0.63	0.63
24.967	0.63	0.63	0.63	0.63	0.63
25.050	0.63	0.63	0.63	0.63	0.63
25.133	0.63	0.63	0.63	0.63	0.63
25.217	0.63	0.63	0.63	0.63	0.63
25.300	0.63	0.63	0.63	0.63	0.63
25.383	0.63	0.63	0.63	0.63	0.63
25.467	0.63	0.63	0.63	0.63	0.63
25.550	0.63	0.63	0.63	0.63	0.63
25.633	0.63	0.63	0.63	0.63	0.63
25.717	0.63	0.63	0.63	0.63	0.63

Subsection: Pond Infiltration Hydrograph
Label: BASIN 10.4 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
25.800	0.63	0.63	0.63	0.63	0.63
25.883	0.63	0.63	0.63	0.63	0.63
25.967	0.63	0.63	0.63	0.63	0.63
26.050	0.63	0.63	0.63	0.63	0.63
26.133	0.63	0.63	0.63	0.63	0.63
26.217	0.63	0.63	0.63	0.63	0.63
26.300	0.63	0.63	0.63	0.63	0.63
26.383	0.63	0.63	0.63	0.63	0.63
26.467	0.63	0.63	0.63	0.63	0.63
26.550	0.63	0.63	0.63	0.63	0.63
26.633	0.63	0.63	0.63	0.63	0.63
26.717	0.63	0.63	0.63	0.63	0.63
26.800	0.63	0.63	0.63	0.63	0.63
26.883	0.63	0.63	0.63	0.63	0.63
26.967	0.63	0.63	0.63	0.63	0.63
27.050	0.63	0.63	0.63	0.63	0.63
27.133	0.63	0.63	0.63	0.63	0.63
27.217	0.63	0.63	0.63	0.63	0.63
27.300	0.63	0.63	0.63	0.63	0.63
27.383	0.63	0.63	0.63	0.63	0.63
27.467	0.63	0.63	0.63	0.63	0.63
27.550	0.63	0.63	0.63	0.63	0.63
27.633	0.63	0.63	0.63	0.63	0.63
27.717	0.63	0.63	0.63	0.63	0.63
27.800	0.63	0.63	0.62	0.62	0.62
27.883	0.62	0.62	0.62	0.61	0.61
27.967	0.61	0.61	0.61	0.61	0.60
28.050	0.60	0.60	0.60	0.60	0.60
28.133	0.59	0.59	0.59	0.59	0.59
28.217	0.59	0.58	0.58	0.58	0.58
28.300	0.58	0.58	0.57	0.57	0.57
28.383	0.57	0.57	0.57	0.56	0.56
28.467	0.56	0.56	0.56	0.56	0.56
28.550	0.55	0.55	0.55	0.55	0.55
28.633	0.55	0.54	0.54	0.54	0.54
28.717	0.54	0.54	0.54	0.53	0.53
28.800	0.53	0.53	0.53	0.53	0.53
28.883	0.52	0.52	0.52	0.52	0.52
28.967	0.52	0.52	0.51	0.51	0.51
29.050	0.51	0.51	0.51	0.51	0.50
29.133	0.50	0.50	0.50	0.50	0.50
29.217	0.50	0.49	0.49	0.49	0.49
29.300	0.49	0.49	0.49	0.48	0.48
29.383	0.48	0.48	0.48	0.48	0.48

Subsection: Pond Infiltration Hydrograph
Label: BASIN 10.4 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
29.467	0.48	0.47	0.47	0.47	0.47
29.550	0.47	0.47	0.47	0.46	0.46
29.633	0.46	0.46	0.46	0.46	0.46
29.717	0.46	0.45	0.45	0.45	0.45
29.800	0.45	0.45	0.45	0.45	0.44
29.883	0.44	0.44	0.44	0.44	0.44
29.967	0.44	0.44	0.43	0.43	0.43
30.050	0.43	0.43	0.43	0.43	0.43
30.133	0.43	0.42	0.42	0.42	0.42
30.217	0.42	0.42	0.42	0.42	0.41
30.300	0.41	0.41	0.41	0.41	0.41
30.383	0.41	0.41	0.41	0.40	0.40
30.467	0.40	0.40	0.40	0.40	0.40
30.550	0.40	0.40	0.39	0.39	0.39
30.633	0.39	0.39	0.39	0.39	0.39
30.717	0.39	0.38	0.38	0.38	0.38
30.800	0.38	0.38	0.38	0.38	0.38
30.883	0.38	0.37	0.37	0.37	0.37
30.967	0.37	0.37	0.37	0.37	0.37
31.050	0.37	0.36	0.36	0.36	0.36
31.133	0.36	0.36	0.36	0.36	0.36
31.217	0.36	0.35	0.35	0.35	0.35
31.300	0.35	0.35	0.35	0.35	0.35
31.383	0.35	0.34	0.34	0.34	0.34
31.467	0.34	0.34	0.34	0.34	0.34
31.550	0.34	0.33	0.33	0.33	0.33
31.633	0.33	0.33	0.33	0.33	0.33
31.717	0.33	0.33	0.32	0.32	0.32
31.800	0.32	0.32	0.32	0.32	0.32
31.883	0.32	0.32	0.32	0.32	0.31
31.967	0.31	0.31	0.31	0.31	0.31
32.050	0.31	0.31	0.31	0.31	0.31
32.133	0.30	0.30	0.30	0.30	0.30
32.217	0.30	0.30	0.30	0.30	0.30
32.300	0.30	0.30	0.29	0.29	0.29
32.383	0.29	0.29	0.29	0.29	0.29
32.467	0.29	0.29	0.29	0.29	0.29
32.550	0.28	0.28	0.28	0.28	0.28
32.633	0.28	0.28	0.28	0.28	0.28
32.717	0.28	0.28	0.28	0.27	0.27
32.800	0.27	0.27	0.27	0.27	0.27
32.883	0.27	0.27	0.27	0.27	0.27
32.967	0.27	0.26	0.26	0.26	0.26
33.050	0.26	0.26	0.26	0.26	0.26

Subsection: Pond Infiltration Hydrograph
 Label: BASIN 10.4 (INF)

Return Event: 2 years
 Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
33.133	0.26	0.26	0.26	0.26	0.26
33.217	0.25	0.25	0.25	0.25	0.25
33.300	0.25	0.25	0.25	0.25	0.25
33.383	0.25	0.25	0.25	0.25	0.24
33.467	0.24	0.24	0.24	0.24	0.24
33.550	0.24	0.24	0.24	0.24	0.24
33.633	0.24	0.24	0.24	0.24	0.23
33.717	0.23	0.23	0.23	0.23	0.23
33.800	0.23	0.23	0.23	0.23	0.23
33.883	0.23	0.23	0.23	0.23	0.23
33.967	0.22	0.22	0.22	0.22	0.22
34.050	0.22	0.22	0.22	0.22	0.22
34.133	0.22	0.22	0.22	0.22	0.22
34.217	0.22	0.21	0.21	0.21	0.21
34.300	0.21	0.21	0.21	0.21	0.21
34.383	0.21	0.21	0.21	0.21	0.21
34.467	0.21	0.21	0.21	0.20	0.20
34.550	0.20	0.20	0.20	0.20	0.20
34.633	0.20	0.20	0.20	0.20	0.20
34.717	0.20	0.20	0.20	0.20	0.20
34.800	0.20	0.19	0.19	0.19	0.19
34.883	0.19	0.19	0.19	0.19	0.19
34.967	0.19	0.19	0.19	(N/A)	(N/A)

Subsection: Pond Routed Hydrograph (total out)
 Label: BASIN 10.4 (OUT)

Return Event: 2 years
 Storm Event: TypeII 24hr (2.9 in)

Peak Discharge	0.01 ft ³ /s
Time to Peak	16.350 hours
Hydrograph Volume	0.001 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
15.500	0.00	0.00	0.00	0.00	0.00
15.583	0.00	0.00	0.00	0.00	0.00
15.667	0.00	0.00	0.00	0.00	0.00
15.750	0.00	0.00	0.00	0.00	0.00
15.833	0.00	0.00	0.01	0.01	0.01
15.917	0.01	0.01	0.01	0.01	0.01
16.000	0.01	0.01	0.01	0.01	0.01
16.083	0.01	0.01	0.01	0.01	0.01
16.167	0.01	0.01	0.01	0.01	0.01
16.250	0.01	0.01	0.01	0.01	0.01
16.333	0.01	0.01	0.01	0.01	0.01
16.417	0.01	0.01	0.01	0.01	0.01
16.500	0.01	0.01	0.01	0.01	0.01
16.583	0.01	0.01	0.01	0.01	0.01
16.667	0.01	0.01	0.01	0.01	0.01
16.750	0.01	0.01	0.01	0.01	0.01
16.833	0.01	0.01	0.01	0.01	0.01
16.917	0.01	0.01	0.00	0.00	0.00
17.000	0.00	0.00	0.00	0.00	0.00
17.083	0.00	0.00	0.00	0.00	0.00
17.167	0.00	0.00	0.00	0.00	0.00
17.250	0.00	0.00	0.00	0.00	0.00
17.333	0.00	0.00	0.00	0.00	0.00
17.417	0.00	0.00	0.00	0.00	0.00
17.500	0.00	0.00	0.00	0.00	0.00

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Subsection: Level Pool Pond Routing Summary
Label: BASIN 12 (IN)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Infiltration			
Infiltration Method (Computed)	Constant		
Infiltration Rate (Constant)	8.00 ft³/s		
Initial Conditions			
Elevation (Water Surface, Initial)	685.00 ft		
Volume (Initial)	0.000 ac-ft		
Flow (Initial Outlet)	0.00 ft³/s		
Flow (Initial Infiltration)	0.00 ft³/s		
Flow (Initial, Total)	0.00 ft³/s		
Time Increment	0.017 hours		
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	73.04 ft³/s	Time to Peak (Flow, In)	11.933 hours
Infiltration (Peak)	6.80 ft³/s	Time to Peak (Infiltration)	12.567 hours
Flow (Peak Outlet)	0.00 ft³/s	Time to Peak (Flow, Outlet)	0.000 hours
Peak Conditions			
Elevation (Water Surface, Peak)	685.43 ft		
Volume (Peak)	1.892 ac-ft		
Mass Balance (ac-ft)			
Volume (Initial)	0.000 ac-ft		
Volume (Total Inflow)	4.004 ac-ft		
Volume (Total Infiltration)	3.990 ac-ft		
Volume (Total Outlet Outflow)	0.000 ac-ft		
Volume (Retained)	0.015 ac-ft		
Volume (Unrouted)	0.000 ac-ft		
Error (Mass Balance)	0.0 %		

Subsection: Pond Infiltration Hydrograph
Label: BASIN 12 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Peak Discharge	6.80 ft ³ /s
Time to Peak	12.567 hours
Hydrograph Volume	3.990 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
9.067	0.00	0.00	0.00	0.00	0.00
9.150	0.00	0.00	0.00	0.00	0.00
9.233	0.00	0.00	0.00	0.01	0.01
9.317	0.01	0.01	0.01	0.01	0.01
9.400	0.01	0.01	0.01	0.01	0.01
9.483	0.01	0.01	0.01	0.01	0.02
9.567	0.02	0.02	0.02	0.02	0.02
9.650	0.02	0.02	0.02	0.02	0.02
9.733	0.03	0.03	0.03	0.03	0.03
9.817	0.03	0.03	0.03	0.04	0.04
9.900	0.04	0.04	0.04	0.04	0.04
9.983	0.05	0.05	0.05	0.05	0.05
10.067	0.05	0.06	0.06	0.06	0.06
10.150	0.06	0.07	0.07	0.07	0.07
10.233	0.07	0.08	0.08	0.08	0.08
10.317	0.09	0.09	0.09	0.09	0.10
10.400	0.10	0.10	0.10	0.11	0.11
10.483	0.11	0.12	0.12	0.12	0.13
10.567	0.13	0.13	0.14	0.14	0.14
10.650	0.15	0.15	0.16	0.16	0.16
10.733	0.17	0.17	0.18	0.18	0.19
10.817	0.19	0.20	0.20	0.21	0.21
10.900	0.22	0.22	0.23	0.23	0.24
10.983	0.24	0.25	0.26	0.26	0.27
11.067	0.28	0.28	0.29	0.30	0.30
11.150	0.31	0.32	0.33	0.34	0.34
11.233	0.35	0.36	0.37	0.38	0.39
11.317	0.40	0.41	0.42	0.43	0.45
11.400	0.46	0.47	0.48	0.49	0.51
11.483	0.52	0.53	0.55	0.56	0.58
11.567	0.60	0.63	0.66	0.69	0.73
11.650	0.77	0.82	0.88	0.95	1.02
11.733	1.11	1.20	1.31	1.44	1.58
11.817	1.73	1.90	2.10	2.33	2.59
11.900	2.89	3.22	3.56	3.90	4.23
11.983	4.55	4.86	5.16	5.44	5.69
12.067	5.89	6.04	6.16	6.25	6.32
12.150	6.37	6.42	6.46	6.50	6.53
12.233	6.56	6.58	6.61	6.63	6.65

Subsection: Pond Infiltration Hydrograph
Label: BASIN 12 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
12.317	6.67	6.69	6.70	6.72	6.73
12.400	6.75	6.76	6.77	6.78	6.78
12.483	6.79	6.79	6.80	6.80	6.80
12.567	6.80	6.80	6.80	6.80	6.79
12.650	6.79	6.79	6.78	6.78	6.78
12.733	6.77	6.77	6.76	6.75	6.75
12.817	6.74	6.74	6.73	6.72	6.72
12.900	6.71	6.70	6.69	6.68	6.68
12.983	6.67	6.66	6.65	6.64	6.63
13.067	6.62	6.61	6.60	6.59	6.58
13.150	6.57	6.56	6.55	6.54	6.52
13.233	6.51	6.50	6.49	6.48	6.47
13.317	6.46	6.44	6.43	6.42	6.41
13.400	6.39	6.38	6.37	6.36	6.34
13.483	6.33	6.32	6.31	6.30	6.28
13.567	6.27	6.25	6.24	6.23	6.21
13.650	6.20	6.19	6.17	6.16	6.14
13.733	6.13	6.12	6.10	6.09	6.07
13.817	6.06	6.05	6.03	6.02	6.00
13.900	5.99	5.97	5.96	5.95	5.93
13.983	5.92	5.90	5.89	5.87	5.86
14.067	5.84	5.83	5.81	5.80	5.78
14.150	5.77	5.75	5.74	5.72	5.71
14.233	5.70	5.68	5.67	5.65	5.64
14.317	5.62	5.61	5.59	5.58	5.57
14.400	5.55	5.54	5.52	5.51	5.49
14.483	5.48	5.47	5.45	5.44	5.42
14.567	5.41	5.40	5.38	5.37	5.35
14.650	5.34	5.33	5.31	5.30	5.28
14.733	5.27	5.26	5.24	5.23	5.22
14.817	5.20	5.19	5.18	5.16	5.15
14.900	5.13	5.12	5.11	5.09	5.08
14.983	5.07	5.05	5.04	5.03	5.01
15.067	5.00	4.99	4.98	4.96	4.95
15.150	4.94	4.92	4.91	4.90	4.88
15.233	4.87	4.86	4.84	4.83	4.82
15.317	4.81	4.79	4.78	4.77	4.75
15.400	4.74	4.73	4.72	4.70	4.69
15.483	4.68	4.67	4.65	4.64	4.63
15.567	4.61	4.60	4.59	4.58	4.56
15.650	4.55	4.54	4.53	4.51	4.50
15.733	4.49	4.48	4.47	4.45	4.44
15.817	4.43	4.42	4.40	4.39	4.38
15.900	4.37	4.35	4.34	4.33	4.32

Subsection: Pond Infiltration Hydrograph
 Label: BASIN 12 (INF)

Return Event: 2 years
 Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
15.983	4.31	4.29	4.28	4.27	4.26
16.067	4.25	4.23	4.22	4.21	4.20
16.150	4.19	4.17	4.16	4.15	4.14
16.233	4.13	4.12	4.10	4.09	4.08
16.317	4.07	4.06	4.05	4.04	4.02
16.400	4.01	4.00	3.99	3.98	3.97
16.483	3.96	3.95	3.94	3.92	3.91
16.567	3.90	3.89	3.88	3.87	3.86
16.650	3.85	3.84	3.83	3.82	3.81
16.733	3.80	3.79	3.78	3.76	3.75
16.817	3.74	3.73	3.72	3.71	3.70
16.900	3.69	3.68	3.67	3.66	3.65
16.983	3.64	3.63	3.62	3.61	3.60
17.067	3.59	3.58	3.57	3.57	3.56
17.150	3.55	3.54	3.53	3.52	3.51
17.233	3.50	3.49	3.48	3.47	3.46
17.317	3.45	3.44	3.43	3.42	3.41
17.400	3.41	3.40	3.39	3.38	3.37
17.483	3.36	3.35	3.34	3.33	3.32
17.567	3.32	3.31	3.30	3.29	3.28
17.650	3.27	3.26	3.25	3.25	3.24
17.733	3.23	3.22	3.21	3.20	3.19
17.817	3.19	3.18	3.17	3.16	3.15
17.900	3.14	3.14	3.13	3.12	3.11
17.983	3.10	3.10	3.09	3.08	3.07
18.067	3.06	3.05	3.05	3.04	3.03
18.150	3.02	3.02	3.01	3.00	2.99
18.233	2.98	2.98	2.97	2.96	2.95
18.317	2.94	2.94	2.93	2.92	2.91
18.400	2.91	2.90	2.89	2.88	2.88
18.483	2.87	2.86	2.85	2.85	2.84
18.567	2.83	2.82	2.82	2.81	2.80
18.650	2.80	2.79	2.78	2.77	2.77
18.733	2.76	2.75	2.74	2.74	2.73
18.817	2.72	2.72	2.71	2.70	2.70
18.900	2.69	2.68	2.67	2.67	2.66
18.983	2.65	2.65	2.64	2.63	2.63
19.067	2.62	2.61	2.61	2.60	2.59
19.150	2.59	2.58	2.57	2.57	2.56
19.233	2.55	2.55	2.54	2.53	2.53
19.317	2.52	2.51	2.51	2.50	2.49
19.400	2.49	2.48	2.47	2.47	2.46
19.483	2.45	2.45	2.44	2.44	2.43
19.567	2.42	2.42	2.41	2.40	2.40

Subsection: Pond Infiltration Hydrograph
Label: BASIN 12 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
19.650	2.39	2.39	2.38	2.37	2.37
19.733	2.36	2.35	2.35	2.34	2.34
19.817	2.33	2.32	2.32	2.31	2.31
19.900	2.30	2.29	2.29	2.28	2.28
19.983	2.27	2.26	2.26	2.25	2.25
20.067	2.24	2.23	2.23	2.22	2.22
20.150	2.21	2.21	2.20	2.19	2.19
20.233	2.18	2.18	2.17	2.17	2.16
20.317	2.16	2.15	2.14	2.14	2.13
20.400	2.13	2.12	2.12	2.11	2.11
20.483	2.10	2.10	2.09	2.09	2.08
20.567	2.08	2.07	2.06	2.06	2.05
20.650	2.05	2.04	2.04	2.03	2.03
20.733	2.02	2.02	2.01	2.01	2.00
20.817	2.00	2.00	1.99	1.99	1.98
20.900	1.98	1.97	1.97	1.96	1.96
20.983	1.95	1.95	1.94	1.94	1.93
21.067	1.93	1.93	1.92	1.92	1.91
21.150	1.91	1.90	1.90	1.89	1.89
21.233	1.89	1.88	1.88	1.87	1.87
21.317	1.86	1.86	1.86	1.85	1.85
21.400	1.84	1.84	1.83	1.83	1.83
21.483	1.82	1.82	1.81	1.81	1.81
21.567	1.80	1.80	1.79	1.79	1.79
21.650	1.78	1.78	1.77	1.77	1.77
21.733	1.76	1.76	1.76	1.75	1.75
21.817	1.74	1.74	1.74	1.73	1.73
21.900	1.73	1.72	1.72	1.71	1.71
21.983	1.71	1.70	1.70	1.70	1.69
22.067	1.69	1.69	1.68	1.68	1.68
22.150	1.67	1.67	1.67	1.66	1.66
22.233	1.66	1.65	1.65	1.64	1.64
22.317	1.64	1.63	1.63	1.63	1.63
22.400	1.62	1.62	1.62	1.61	1.61
22.483	1.61	1.60	1.60	1.60	1.59
22.567	1.59	1.59	1.58	1.58	1.58
22.650	1.57	1.57	1.57	1.57	1.56
22.733	1.56	1.56	1.55	1.55	1.55
22.817	1.54	1.54	1.54	1.54	1.53
22.900	1.53	1.53	1.52	1.52	1.52
22.983	1.52	1.51	1.51	1.51	1.50
23.067	1.50	1.50	1.50	1.49	1.49
23.150	1.49	1.49	1.48	1.48	1.48
23.233	1.47	1.47	1.47	1.47	1.46

Subsection: Pond Infiltration Hydrograph
Label: BASIN 12 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
23.317	1.46	1.46	1.46	1.45	1.45
23.400	1.45	1.45	1.44	1.44	1.44
23.483	1.44	1.43	1.43	1.43	1.43
23.567	1.42	1.42	1.42	1.42	1.41
23.650	1.41	1.41	1.41	1.40	1.40
23.733	1.40	1.40	1.39	1.39	1.39
23.817	1.39	1.38	1.38	1.38	1.38
23.900	1.38	1.37	1.37	1.37	1.37
23.983	1.36	1.36	1.36	1.36	1.35
24.067	1.35	1.35	1.34	1.33	1.33
24.150	1.32	1.32	1.31	1.30	1.30
24.233	1.29	1.28	1.28	1.27	1.27
24.317	1.26	1.25	1.25	1.24	1.23
24.400	1.23	1.22	1.22	1.21	1.20
24.483	1.20	1.19	1.19	1.18	1.17
24.567	1.17	1.16	1.16	1.15	1.15
24.650	1.14	1.13	1.13	1.12	1.12
24.733	1.11	1.11	1.10	1.10	1.10
24.817	1.09	1.08	1.07	1.07	1.06
24.900	1.06	1.05	1.05	1.04	1.04
24.983	1.03	1.03	1.02	1.02	1.01
25.067	1.01	1.00	1.00	0.99	0.99
25.150	0.98	0.98	0.97	0.97	0.96
25.233	0.96	0.95	0.95	0.94	0.94
25.317	0.94	0.93	0.93	0.92	0.92
25.400	0.91	0.91	0.90	0.90	0.89
25.483	0.89	0.89	0.88	0.88	0.87
25.567	0.87	0.86	0.86	0.86	0.85
25.650	0.85	0.84	0.84	0.83	0.83
25.733	0.83	0.82	0.82	0.81	0.81
25.817	0.81	0.80	0.80	0.79	0.79
25.900	0.79	0.78	0.78	0.77	0.77
25.983	0.77	0.76	0.76	0.76	0.75
26.067	0.75	0.74	0.74	0.74	0.73
26.150	0.73	0.73	0.72	0.72	0.72
26.233	0.71	0.71	0.71	0.70	0.70
26.317	0.69	0.69	0.69	0.68	0.68
26.400	0.68	0.67	0.67	0.67	0.66
26.483	0.66	0.66	0.65	0.65	0.65
26.567	0.65	0.64	0.64	0.64	0.63
26.650	0.63	0.63	0.62	0.62	0.62
26.733	0.61	0.61	0.61	0.60	0.60
26.817	0.60	0.60	0.59	0.59	0.59
26.900	0.58	0.58	0.58	0.58	0.57

Subsection: Pond Infiltration Hydrograph
Label: BASIN 12 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
26.983	0.57	0.57	0.56	0.56	0.56
27.067	0.56	0.55	0.55	0.55	0.55
27.150	0.54	0.54	0.54	0.53	0.53
27.233	0.53	0.53	0.52	0.52	0.52
27.317	0.52	0.51	0.51	0.51	0.51
27.400	0.50	0.50	0.50	0.50	0.49
27.483	0.49	0.49	0.49	0.48	0.48
27.567	0.48	0.48	0.47	0.47	0.47
27.650	0.47	0.47	0.46	0.46	0.46
27.733	0.46	0.45	0.45	0.45	0.45
27.817	0.44	0.44	0.44	0.44	0.44
27.900	0.43	0.43	0.43	0.43	0.43
27.983	0.42	0.42	0.42	0.42	0.42
28.067	0.41	0.41	0.41	0.41	0.40
28.150	0.40	0.40	0.40	0.40	0.40
28.233	0.39	0.39	0.39	0.39	0.39
28.317	0.38	0.38	0.38	0.38	0.38
28.400	0.37	0.37	0.37	0.37	0.37
28.483	0.36	0.36	0.36	0.36	0.36
28.567	0.36	0.35	0.35	0.35	0.35
28.650	0.35	0.35	0.34	0.34	0.34
28.733	0.34	0.34	0.34	0.33	0.33
28.817	0.33	0.33	0.33	0.33	0.32
28.900	0.32	0.32	0.32	0.32	0.32
28.983	0.31	0.31	0.31	0.31	0.31
29.067	0.31	0.31	0.30	0.30	0.30
29.150	0.30	0.30	0.30	0.29	0.29
29.233	0.29	0.29	0.29	0.29	0.29
29.317	0.28	0.28	0.28	0.28	0.28
29.400	0.28	0.28	0.28	0.27	0.27
29.483	0.27	0.27	0.27	0.27	0.27
29.567	0.26	0.26	0.26	0.26	0.26
29.650	0.26	0.26	0.26	0.25	0.25
29.733	0.25	0.25	0.25	0.25	0.25
29.817	0.25	0.24	0.24	0.24	0.24
29.900	0.24	0.24	0.24	0.24	0.23
29.983	0.23	0.23	0.23	0.23	0.23
30.067	0.23	0.23	0.23	0.22	0.22
30.150	0.22	0.22	0.22	0.22	0.22
30.233	0.22	0.22	0.21	0.21	0.21
30.317	0.21	0.21	0.21	0.21	0.21
30.400	0.21	0.21	0.20	0.20	0.20
30.483	0.20	0.20	0.20	0.20	0.20
30.567	0.20	0.20	0.19	0.19	0.19

Subsection: Pond Infiltration Hydrograph
Label: BASIN 12 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
30.650	0.19	0.19	0.19	0.19	0.19
30.733	0.19	0.19	0.19	0.18	0.18
30.817	0.18	0.18	0.18	0.18	0.18
30.900	0.18	0.18	0.18	0.18	0.17
30.983	0.17	0.17	0.17	0.17	0.17
31.067	0.17	0.17	0.17	0.17	0.17
31.150	0.17	0.16	0.16	0.16	0.16
31.233	0.16	0.16	0.16	0.16	0.16
31.317	0.16	0.16	0.16	0.15	0.15
31.400	0.15	0.15	0.15	0.15	0.15
31.483	0.15	0.15	0.15	0.15	0.15
31.567	0.15	0.15	0.14	0.14	0.14
31.650	0.14	0.14	0.14	0.14	0.14
31.733	0.14	0.14	0.14	0.14	0.14
31.817	0.14	0.13	0.13	0.13	0.13
31.900	0.13	0.13	0.13	0.13	0.13
31.983	0.13	0.13	0.13	0.13	0.13
32.067	0.13	0.13	0.12	0.12	0.12
32.150	0.12	0.12	0.12	0.12	0.12
32.233	0.12	0.12	0.12	0.12	0.12
32.317	0.12	0.12	0.12	0.12	0.11
32.400	0.11	0.11	0.11	0.11	0.11
32.483	0.11	0.11	0.11	0.11	0.11
32.567	0.11	0.11	0.11	0.11	0.11
32.650	0.11	0.11	0.10	0.10	0.10
32.733	0.10	0.10	0.10	0.10	0.10
32.817	0.10	0.10	0.10	0.10	0.10
32.900	0.10	0.10	0.10	0.10	0.10
32.983	0.10	0.10	0.09	0.09	0.09
33.067	0.09	0.09	0.09	0.09	0.09
33.150	0.09	0.09	0.09	0.09	0.09
33.233	0.09	0.09	0.09	0.09	0.09
33.317	0.09	0.09	0.09	0.09	0.09
33.400	0.08	0.08	0.08	0.08	0.08
33.483	0.08	0.08	0.08	0.08	0.08
33.567	0.08	0.08	0.08	0.08	0.08
33.650	0.08	0.08	0.08	0.08	0.08
33.733	0.08	0.08	0.08	0.08	0.08
33.817	0.07	0.07	0.07	0.07	0.07
33.900	0.07	0.07	0.07	0.07	0.07
33.983	0.07	0.07	0.07	0.07	0.07
34.067	0.07	0.07	0.07	0.07	0.07
34.150	0.07	0.07	0.07	0.07	0.07
34.233	0.07	0.07	0.07	0.07	0.06

Subsection: Pond Infiltration Hydrograph
 Label: BASIN 12 (INF)

Return Event: 2 years
 Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
34.317	0.06	0.06	0.06	0.06	0.06
34.400	0.06	0.06	0.06	0.06	0.06
34.483	0.06	0.06	0.06	0.06	0.06
34.567	0.06	0.06	0.06	0.06	0.06
34.650	0.06	0.06	0.06	0.06	0.06
34.733	0.06	0.06	0.06	0.06	0.06
34.817	0.06	0.06	0.06	0.05	0.05
34.900	0.05	0.05	0.05	0.05	0.05
34.983	0.05	0.05	(N/A)	(N/A)	(N/A)

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Subsection: Level Pool Pond Routing Summary
Label: BASIN 13.1 (IN)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Infiltration				
Infiltration Method (Computed)		Average Infiltration Rate		
Infiltration Rate (Average)		1.9000 in/h		
Initial Conditions				
Elevation (Water Surface, Initial)		714.00 ft		
Volume (Initial)		0.000 ac-ft		
Flow (Initial Outlet)		0.00 ft³/s		
Flow (Initial Infiltration)		0.00 ft³/s		
Flow (Initial, Total)		0.00 ft³/s		
Time Increment		0.017 hours		
Inflow/Outflow Hydrograph Summary				
Flow (Peak In)		8.61 ft³/s	Time to Peak (Flow, In)	11.950 hours
Infiltration (Peak)		1.33 ft³/s	Time to Peak (Infiltration)	12.033 hours
Flow (Peak Outlet)		0.00 ft³/s	Time to Peak (Flow, Outlet)	0.000 hours
Elevation (Water Surface, Peak)		714.63 ft		
Volume (Peak)		0.174 ac-ft		
Mass Balance (ac-ft)				
Volume (Initial)		0.000 ac-ft		
Volume (Total Inflow)		0.495 ac-ft		
Volume (Total Infiltration)		0.495 ac-ft		
Volume (Total Outlet Outflow)		0.000 ac-ft		
Volume (Retained)		0.000 ac-ft		
Volume (Unrouted)		0.000 ac-ft		
Error (Mass Balance)		0.0 %		

Subsection: Pond Infiltration Hydrograph
 Label: BASIN 13.1 (INF)

Return Event: 2 years
 Storm Event: TypeII 24hr (2.9 in)

Peak Discharge	1.33 ft ³ /s
Time to Peak	12.717 hours
Hydrograph Volume	0.495 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
11.133	0.00	0.00	0.00	0.00	0.00
11.217	0.00	0.00	0.00	0.00	0.01
11.300	0.01	0.01	0.01	0.01	0.01
11.383	0.01	0.01	0.01	0.01	0.02
11.467	0.02	0.02	0.02	0.02	0.03
11.550	0.03	0.03	0.03	0.04	0.04
11.633	0.05	0.06	0.07	0.08	0.09
11.717	0.10	0.12	0.14	0.16	0.19
11.800	0.23	0.26	0.30	0.36	0.42
11.883	0.49	0.58	0.67	0.77	0.87
11.967	0.97	1.07	1.17	1.26	1.33
12.050	1.33	1.33	1.33	1.33	1.33
12.133	1.33	1.33	1.33	1.33	1.33
12.217	1.33	1.33	1.33	1.33	1.33
12.300	1.33	1.33	1.33	1.33	1.33
12.383	1.33	1.33	1.33	1.33	1.33
12.467	1.33	1.33	1.33	1.33	1.33
12.550	1.33	1.33	1.33	1.33	1.33
12.633	1.33	1.33	1.33	1.33	1.33
12.717	1.33	1.33	1.33	1.33	1.33
12.800	1.33	1.33	1.33	1.33	1.33
12.883	1.33	1.33	1.33	1.33	1.33
12.967	1.33	1.33	1.33	1.33	1.33
13.050	1.33	1.33	1.33	1.33	1.33
13.133	1.33	1.33	1.33	1.33	1.33
13.217	1.33	1.32	1.31	1.30	1.29
13.300	1.28	1.27	1.27	1.26	1.25
13.383	1.24	1.23	1.22	1.21	1.20
13.467	1.19	1.19	1.18	1.17	1.16
13.550	1.15	1.14	1.13	1.13	1.12
13.633	1.11	1.10	1.09	1.09	1.08
13.717	1.07	1.06	1.05	1.05	1.04
13.800	1.03	1.02	1.02	1.01	1.00
13.883	1.00	0.99	0.98	0.97	0.97
13.967	0.96	0.95	0.95	0.94	0.93
14.050	0.93	0.92	0.91	0.90	0.90
14.133	0.89	0.89	0.88	0.87	0.87
14.217	0.86	0.85	0.85	0.84	0.84
14.300	0.83	0.82	0.82	0.81	0.81

Subsection: Pond Infiltration Hydrograph
Label: BASIN 13.1 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
14.383	0.80	0.80	0.79	0.79	0.78
14.467	0.78	0.77	0.77	0.76	0.76
14.550	0.75	0.75	0.74	0.74	0.73
14.633	0.73	0.72	0.72	0.71	0.71
14.717	0.70	0.70	0.69	0.69	0.69
14.800	0.68	0.68	0.67	0.67	0.66
14.883	0.66	0.66	0.65	0.65	0.64
14.967	0.64	0.64	0.63	0.63	0.63
15.050	0.62	0.62	0.61	0.61	0.61
15.133	0.60	0.60	0.60	0.59	0.59
15.217	0.59	0.58	0.58	0.58	0.57
15.300	0.57	0.57	0.56	0.56	0.56
15.383	0.55	0.55	0.55	0.54	0.54
15.467	0.54	0.54	0.53	0.53	0.53
15.550	0.52	0.52	0.52	0.51	0.51
15.633	0.51	0.51	0.50	0.50	0.50
15.717	0.50	0.49	0.49	0.49	0.48
15.800	0.48	0.48	0.48	0.47	0.47
15.883	0.47	0.47	0.46	0.46	0.46
15.967	0.46	0.45	0.45	0.45	0.45
16.050	0.45	0.44	0.44	0.44	0.44
16.133	0.43	0.43	0.43	0.43	0.42
16.217	0.42	0.42	0.42	0.42	0.41
16.300	0.41	0.41	0.41	0.41	0.40
16.383	0.40	0.40	0.40	0.40	0.40
16.467	0.39	0.39	0.39	0.39	0.39
16.550	0.38	0.38	0.38	0.38	0.38
16.633	0.38	0.37	0.37	0.37	0.37
16.717	0.37	0.37	0.36	0.36	0.36
16.800	0.36	0.36	0.36	0.36	0.35
16.883	0.35	0.35	0.35	0.35	0.35
16.967	0.35	0.34	0.34	0.34	0.34
17.050	0.34	0.34	0.34	0.34	0.33
17.133	0.33	0.33	0.33	0.33	0.33
17.217	0.33	0.33	0.32	0.32	0.32
17.300	0.32	0.32	0.32	0.32	0.32
17.383	0.32	0.31	0.31	0.31	0.31
17.467	0.31	0.31	0.31	0.31	0.31
17.550	0.30	0.30	0.30	0.30	0.30
17.633	0.30	0.30	0.30	0.30	0.30
17.717	0.29	0.29	0.29	0.29	0.29
17.800	0.29	0.29	0.29	0.29	0.29
17.883	0.29	0.28	0.28	0.28	0.28
17.967	0.28	0.28	0.28	0.28	0.28

Subsection: Pond Infiltration Hydrograph
Label: BASIN 13.1 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
18.050	0.28	0.28	0.28	0.27	0.27
18.133	0.27	0.27	0.27	0.27	0.27
18.217	0.27	0.27	0.27	0.27	0.27
18.300	0.27	0.26	0.26	0.26	0.26
18.383	0.26	0.26	0.26	0.26	0.26
18.467	0.26	0.26	0.26	0.26	0.26
18.550	0.25	0.25	0.25	0.25	0.25
18.633	0.25	0.25	0.25	0.25	0.25
18.717	0.25	0.25	0.25	0.25	0.24
18.800	0.24	0.24	0.24	0.24	0.24
18.883	0.24	0.24	0.24	0.24	0.24
18.967	0.24	0.24	0.24	0.24	0.23
19.050	0.23	0.23	0.23	0.23	0.23
19.133	0.23	0.23	0.23	0.23	0.23
19.217	0.23	0.23	0.23	0.23	0.23
19.300	0.23	0.22	0.22	0.22	0.22
19.383	0.22	0.22	0.22	0.22	0.22
19.467	0.22	0.22	0.22	0.22	0.22
19.550	0.22	0.22	0.22	0.21	0.21
19.633	0.21	0.21	0.21	0.21	0.21
19.717	0.21	0.21	0.21	0.21	0.21
19.800	0.21	0.21	0.21	0.21	0.21
19.883	0.21	0.20	0.20	0.20	0.20
19.967	0.20	0.20	0.20	0.20	0.20
20.050	0.20	0.20	0.20	0.20	0.20
20.133	0.20	0.20	0.20	0.20	0.19
20.217	0.19	0.19	0.19	0.19	0.19
20.300	0.19	0.19	0.19	0.19	0.19
20.383	0.19	0.19	0.19	0.19	0.19
20.467	0.19	0.19	0.19	0.19	0.19
20.550	0.19	0.19	0.18	0.18	0.18
20.633	0.18	0.18	0.18	0.18	0.18
20.717	0.18	0.18	0.18	0.18	0.18
20.800	0.18	0.18	0.18	0.18	0.18
20.883	0.18	0.18	0.18	0.18	0.18
20.967	0.18	0.18	0.18	0.18	0.18
21.050	0.18	0.17	0.17	0.17	0.17
21.133	0.17	0.17	0.17	0.17	0.17
21.217	0.17	0.17	0.17	0.17	0.17
21.300	0.17	0.17	0.17	0.17	0.17
21.383	0.17	0.17	0.17	0.17	0.17
21.467	0.17	0.17	0.17	0.17	0.17
21.550	0.17	0.17	0.17	0.17	0.17
21.633	0.17	0.17	0.17	0.17	0.17

Subsection: Pond Infiltration Hydrograph
Label: BASIN 13.1 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
21.717	0.17	0.17	0.16	0.16	0.16
21.800	0.16	0.16	0.16	0.16	0.16
21.883	0.16	0.16	0.16	0.16	0.16
21.967	0.16	0.16	0.16	0.16	0.16
22.050	0.16	0.16	0.16	0.16	0.16
22.133	0.16	0.16	0.16	0.16	0.16
22.217	0.16	0.16	0.16	0.16	0.16
22.300	0.16	0.16	0.16	0.16	0.16
22.383	0.16	0.16	0.16	0.16	0.16
22.467	0.16	0.16	0.16	0.16	0.16
22.550	0.16	0.16	0.16	0.16	0.16
22.633	0.16	0.16	0.16	0.16	0.16
22.717	0.16	0.15	0.15	0.15	0.15
22.800	0.15	0.15	0.15	0.15	0.15
22.883	0.15	0.15	0.15	0.15	0.15
22.967	0.15	0.15	0.15	0.15	0.15
23.050	0.15	0.15	0.15	0.15	0.15
23.133	0.15	0.15	0.15	0.15	0.15
23.217	0.15	0.15	0.15	0.15	0.15
23.300	0.15	0.15	0.15	0.15	0.15
23.383	0.15	0.15	0.15	0.15	0.15
23.467	0.15	0.15	0.15	0.15	0.15
23.550	0.15	0.15	0.15	0.15	0.15
23.633	0.15	0.15	0.15	0.15	0.15
23.717	0.15	0.15	0.15	0.15	0.15
23.800	0.15	0.15	0.15	0.15	0.15
23.883	0.15	0.15	0.15	0.15	0.15
23.967	0.15	0.15	0.15	0.15	0.15
24.050	0.14	0.14	0.14	0.14	0.14
24.133	0.14	0.14	0.14	0.13	0.13
24.217	0.13	0.13	0.13	0.13	0.12
24.300	0.12	0.12	0.12	0.12	0.12
24.383	0.11	0.11	0.11	0.11	0.11
24.467	0.11	0.11	0.10	0.10	0.10
24.550	0.10	0.10	0.10	0.10	0.09
24.633	0.09	0.09	0.09	0.09	0.09
24.717	0.09	0.09	0.09	0.08	0.08
24.800	0.08	0.08	0.08	0.08	0.08
24.883	0.08	0.08	0.07	0.07	0.07
24.967	0.07	0.07	0.07	0.07	0.07
25.050	0.07	0.07	0.07	0.06	0.06
25.133	0.06	0.06	0.06	0.06	0.06
25.217	0.06	0.06	0.06	0.06	0.06
25.300	0.06	0.05	0.05	0.05	0.05

Subsection: Pond Infiltration Hydrograph
Label: BASIN 13.1 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
25.383	0.05	0.05	0.05	0.05	0.05
25.467	0.05	0.05	0.05	0.05	0.05
25.550	0.05	0.04	0.04	0.04	0.04
25.633	0.04	0.04	0.04	0.04	0.04
25.717	0.04	0.04	0.04	0.04	0.04
25.800	0.04	0.04	0.04	0.04	0.04
25.883	0.03	0.03	0.03	0.03	0.03
25.967	0.03	0.03	0.03	0.03	0.03
26.050	0.03	0.03	0.03	0.03	0.03
26.133	0.03	0.03	0.03	0.03	0.03
26.217	0.03	0.03	0.03	0.03	0.03
26.300	0.03	0.02	0.02	0.02	0.02
26.383	0.02	0.02	0.02	0.02	0.02
26.467	0.02	0.02	0.02	0.02	0.02
26.550	0.02	0.02	0.02	0.02	0.02
26.633	0.02	0.02	0.02	0.02	0.02
26.717	0.02	0.02	0.02	0.02	0.02
26.800	0.02	0.02	0.02	0.02	0.02
26.883	0.02	0.02	0.02	0.02	0.01
26.967	0.01	0.01	0.01	0.01	0.01
27.050	0.01	0.01	0.01	0.01	0.01
27.133	0.01	0.01	0.01	0.01	0.01
27.217	0.01	0.01	0.01	0.01	0.01
27.300	0.01	0.01	0.01	0.01	0.01
27.383	0.01	0.01	0.01	0.01	0.01
27.467	0.01	0.01	0.01	0.01	0.01
27.550	0.01	0.01	0.01	0.01	0.01
27.633	0.01	0.01	0.01	0.01	0.01
27.717	0.01	0.01	0.01	0.01	0.01
27.800	0.01	0.01	0.01	0.01	0.01
27.883	0.01	0.01	0.01	0.01	0.01
27.967	0.01	0.01	0.01	0.01	0.01
28.050	0.01	0.01	0.01	0.01	0.01
28.133	0.01	0.01	0.01	0.01	0.01
28.217	0.01	0.01	0.01	0.01	0.01
28.300	0.01	0.01	0.01	0.00	0.00
28.383	0.00	0.00	0.00	0.00	0.00
28.467	0.00	0.00	0.00	0.00	0.00
28.550	0.00	0.00	0.00	0.00	0.00
28.633	0.00	0.00	0.00	0.00	0.00
28.717	0.00	0.00	0.00	0.00	0.00
28.800	0.00	0.00	0.00	0.00	0.00
28.883	0.00	0.00	0.00	0.00	0.00
28.967	0.00	0.00	0.00	0.00	0.00

Subsection: Pond Infiltration Hydrograph
 Label: BASIN 13.1 (INF)

Return Event: 2 years
 Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
29.050	0.00	0.00	0.00	0.00	0.00
29.133	0.00	0.00	0.00	0.00	0.00
29.217	0.00	0.00	0.00	0.00	0.00
29.300	0.00	0.00	0.00	0.00	0.00
29.383	0.00	0.00	0.00	0.00	0.00
29.467	0.00	0.00	0.00	0.00	0.00
29.550	0.00	0.00	0.00	0.00	0.00
29.633	0.00	0.00	0.00	0.00	0.00
29.717	0.00	0.00	0.00	0.00	0.00
29.800	0.00	0.00	0.00	0.00	0.00
29.883	0.00	0.00	0.00	0.00	0.00
29.967	0.00	0.00	0.00	0.00	0.00
30.050	0.00	0.00	0.00	0.00	0.00
30.133	0.00	0.00	0.00	0.00	0.00
30.217	0.00	0.00	0.00	0.00	0.00
30.300	0.00	0.00	(N/A)	(N/A)	(N/A)

Subsection: Level Pool Pond Routing Summary
Label: BASIN 13.2 (IN)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Infiltration			
Infiltration Method (Computed)		Average Infiltration Rate	
Infiltration Rate (Average)		0.7500 in/h	
Initial Conditions			
Elevation (Water Surface, Initial)		712.30 ft	
Volume (Initial)		0.000 ac-ft	
Flow (Initial Outlet)		0.00 ft³/s	
Flow (Initial Infiltration)		0.00 ft³/s	
Flow (Initial, Total)		0.00 ft³/s	
Time Increment		0.017 hours	
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)		20.74 ft³/s	Time to Peak (Flow, In)
Infiltration (Peak)		0.64 ft³/s	Time to Peak (Infiltration)
Flow (Peak Outlet)		0.67 ft³/s	Time to Peak (Flow, Outlet)
Elevation (Water Surface, Peak)		714.08 ft	
Volume (Peak)		0.607 ac-ft	
Mass Balance (ac-ft)			
Volume (Initial)		0.000 ac-ft	
Volume (Total Inflow)		1.137 ac-ft	
Volume (Total Infiltration)		0.879 ac-ft	
Volume (Total Outlet Outflow)		0.251 ac-ft	
Volume (Retained)		0.007 ac-ft	
Volume (Unrouted)		0.000 ac-ft	
Error (Mass Balance)		0.0 %	

Subsection: Pond Infiltration Hydrograph
Label: BASIN 13.2 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

Peak Discharge	0.64 ft ³ /s
Time to Peak	19.550 hours
Hydrograph Volume	0.879 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
7.283	0.00	0.00	0.00	0.00	0.00
7.367	0.00	0.00	0.00	0.00	0.00
7.450	0.00	0.00	0.00	0.00	0.00
7.533	0.00	0.00	0.00	0.00	0.00
7.617	0.00	0.00	0.00	0.00	0.00
7.700	0.00	0.00	0.00	0.00	0.00
7.783	0.00	0.00	0.01	0.01	0.01
7.867	0.01	0.01	0.01	0.01	0.01
7.950	0.01	0.01	0.01	0.01	0.01
8.033	0.01	0.01	0.01	0.01	0.01
8.117	0.01	0.01	0.01	0.01	0.01
8.200	0.01	0.01	0.01	0.01	0.01
8.283	0.01	0.01	0.01	0.01	0.01
8.367	0.01	0.01	0.01	0.01	0.01
8.450	0.01	0.01	0.01	0.02	0.02
8.533	0.02	0.02	0.02	0.02	0.02
8.617	0.02	0.02	0.02	0.02	0.02
8.700	0.02	0.02	0.02	0.02	0.02
8.783	0.02	0.02	0.02	0.02	0.02
8.867	0.02	0.02	0.03	0.03	0.03
8.950	0.03	0.03	0.03	0.03	0.03
9.033	0.03	0.03	0.03	0.03	0.03
9.117	0.03	0.03	0.03	0.03	0.03
9.200	0.04	0.04	0.04	0.04	0.04
9.283	0.04	0.04	0.04	0.04	0.04
9.367	0.04	0.04	0.04	0.04	0.04
9.450	0.04	0.05	0.05	0.05	0.05
9.533	0.05	0.05	0.05	0.05	0.05
9.617	0.05	0.05	0.05	0.05	0.05
9.700	0.05	0.06	0.06	0.06	0.06
9.783	0.06	0.06	0.06	0.06	0.06
9.867	0.06	0.06	0.06	0.06	0.07
9.950	0.07	0.07	0.07	0.07	0.07
10.033	0.07	0.07	0.07	0.07	0.08
10.117	0.08	0.08	0.08	0.08	0.08
10.200	0.08	0.08	0.08	0.08	0.09
10.283	0.09	0.09	0.09	0.09	0.09
10.367	0.09	0.09	0.10	0.10	0.10
10.450	0.10	0.10	0.10	0.10	0.11

Subsection: Pond Infiltration Hydrograph
Label: BASIN 13.2 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
10.533	0.11	0.11	0.11	0.11	0.11
10.617	0.12	0.12	0.12	0.12	0.12
10.700	0.12	0.13	0.13	0.13	0.13
10.783	0.13	0.14	0.14	0.14	0.14
10.867	0.14	0.15	0.15	0.15	0.15
10.950	0.15	0.16	0.16	0.16	0.16
11.033	0.17	0.17	0.17	0.17	0.18
11.117	0.18	0.18	0.19	0.19	0.19
11.200	0.20	0.20	0.20	0.21	0.21
11.283	0.21	0.22	0.22	0.22	0.23
11.367	0.23	0.24	0.24	0.25	0.25
11.450	0.25	0.26	0.26	0.27	0.27
11.533	0.28	0.29	0.29	0.30	0.31
11.617	0.33	0.34	0.35	0.37	0.39
11.700	0.42	0.44	0.47	0.50	0.54
11.783	0.58	0.63	0.64	0.64	0.64
11.867	0.64	0.64	0.64	0.64	0.64
11.950	0.64	0.64	0.64	0.64	0.64
12.033	0.64	0.64	0.64	0.64	0.64
12.117	0.64	0.64	0.64	0.64	0.64
12.200	0.64	0.64	0.64	0.64	0.64
12.283	0.64	0.64	0.64	0.64	0.64
12.367	0.64	0.64	0.64	0.64	0.64
12.450	0.64	0.64	0.64	0.64	0.64
12.533	0.64	0.64	0.64	0.64	0.64
12.617	0.64	0.64	0.64	0.64	0.64
12.700	0.64	0.64	0.64	0.64	0.64
12.783	0.64	0.64	0.64	0.64	0.64
12.867	0.64	0.64	0.64	0.64	0.64
12.950	0.64	0.64	0.64	0.64	0.64
13.033	0.64	0.64	0.64	0.64	0.64
13.117	0.64	0.64	0.64	0.64	0.64
13.200	0.64	0.64	0.64	0.64	0.64
13.283	0.64	0.64	0.64	0.64	0.64
13.367	0.64	0.64	0.64	0.64	0.64
13.450	0.64	0.64	0.64	0.64	0.64
13.533	0.64	0.64	0.64	0.64	0.64
13.617	0.64	0.64	0.64	0.64	0.64
13.700	0.64	0.64	0.64	0.64	0.64
13.783	0.64	0.64	0.64	0.64	0.64
13.867	0.64	0.64	0.64	0.64	0.64
13.950	0.64	0.64	0.64	0.64	0.64
14.033	0.64	0.64	0.64	0.64	0.64
14.117	0.64	0.64	0.64	0.64	0.64

Subsection: Pond Infiltration Hydrograph
Label: BASIN 13.2 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.017 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
14.200	0.64	0.64	0.64	0.64	0.64
14.283	0.64	0.64	0.64	0.64	0.64
14.367	0.64	0.64	0.64	0.64	0.64
14.450	0.64	0.64	0.64	0.64	0.64
14.533	0.64	0.64	0.64	0.64	0.64
14.617	0.64	0.64	0.64	0.64	0.64
14.700	0.64	0.64	0.64	0.64	0.64
14.783	0.64	0.64	0.64	0.64	0.64
14.867	0.64	0.64	0.64	0.64	0.64
14.950	0.64	0.64	0.64	0.64	0.64
15.033	0.64	0.64	0.64	0.64	0.64
15.117	0.64	0.64	0.64	0.64	0.64
15.200	0.64	0.64	0.64	0.64	0.64
15.283	0.64	0.64	0.64	0.64	0.64
15.367	0.64	0.64	0.64	0.64	0.64
15.450	0.64	0.64	0.64	0.64	0.64
15.533	0.64	0.64	0.64	0.64	0.64
15.617	0.64	0.64	0.64	0.64	0.64
15.700	0.64	0.64	0.64	0.64	0.64
15.783	0.64	0.64	0.64	0.64	0.64
15.867	0.64	0.64	0.64	0.64	0.64
15.950	0.64	0.64	0.64	0.64	0.64
16.033	0.64	0.64	0.64	0.64	0.64
16.117	0.64	0.64	0.64	0.64	0.64
16.200	0.64	0.64	0.64	0.64	0.64
16.283	0.64	0.64	0.64	0.64	0.64
16.367	0.64	0.64	0.64	0.64	0.64
16.450	0.64	0.64	0.64	0.64	0.64
16.533	0.64	0.64	0.64	0.64	0.64
16.617	0.64	0.64	0.64	0.64	0.64
16.700	0.64	0.64	0.64	0.64	0.64
16.783	0.64	0.64	0.64	0.64	0.64
16.867	0.64	0.64	0.64	0.64	0.64
16.950	0.64	0.64	0.64	0.64	0.64
17.033	0.64	0.64	0.64	0.64	0.64
17.117	0.64	0.64	0.64	0.64	0.64
17.200	0.64	0.64	0.64	0.64	0.64
17.283	0.64	0.64	0.64	0.64	0.64
17.367	0.64	0.64	0.64	0.64	0.64
17.450	0.64	0.64	0.64	0.64	0.64
17.533	0.64	0.64	0.64	0.64	0.64
17.617	0.64	0.64	0.64	0.64	0.64
17.700	0.64	0.64	0.64	0.64	0.64
17.783	0.64	0.64	0.64	0.64	0.64

Subsection: Pond Infiltration Hydrograph
Label: BASIN 13.2 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
17.867	0.64	0.64	0.64	0.64	0.64
17.950	0.64	0.64	0.64	0.64	0.64
18.033	0.64	0.64	0.64	0.64	0.64
18.117	0.64	0.64	0.64	0.64	0.64
18.200	0.64	0.64	0.64	0.64	0.64
18.283	0.64	0.64	0.64	0.64	0.64
18.367	0.64	0.64	0.64	0.64	0.64
18.450	0.64	0.64	0.64	0.64	0.64
18.533	0.64	0.64	0.64	0.64	0.64
18.617	0.64	0.64	0.64	0.64	0.64
18.700	0.64	0.64	0.64	0.64	0.64
18.783	0.64	0.64	0.64	0.64	0.64
18.867	0.64	0.64	0.64	0.64	0.64
18.950	0.64	0.64	0.64	0.64	0.64
19.033	0.64	0.64	0.64	0.64	0.64
19.117	0.64	0.64	0.64	0.64	0.64
19.200	0.64	0.64	0.64	0.64	0.64
19.283	0.64	0.64	0.64	0.64	0.64
19.367	0.64	0.64	0.64	0.64	0.64
19.450	0.64	0.64	0.64	0.64	0.64
19.533	0.64	0.64	0.64	0.64	0.64
19.617	0.64	0.64	0.64	0.64	0.64
19.700	0.64	0.64	0.64	0.64	0.64
19.783	0.64	0.64	0.64	0.64	0.64
19.867	0.64	0.64	0.64	0.64	0.64
19.950	0.64	0.64	0.64	0.64	0.64
20.033	0.64	0.64	0.64	0.64	0.64
20.117	0.64	0.64	0.64	0.64	0.64
20.200	0.64	0.64	0.64	0.64	0.64
20.283	0.64	0.64	0.64	0.64	0.64
20.367	0.64	0.64	0.64	0.64	0.64
20.450	0.64	0.64	0.64	0.64	0.64
20.533	0.64	0.64	0.64	0.64	0.64
20.617	0.64	0.64	0.64	0.64	0.64
20.700	0.64	0.64	0.64	0.64	0.64
20.783	0.64	0.64	0.64	0.64	0.64
20.867	0.64	0.64	0.64	0.64	0.64
20.950	0.64	0.64	0.64	0.64	0.64
21.033	0.64	0.64	0.64	0.64	0.64
21.117	0.64	0.64	0.64	0.64	0.64
21.200	0.64	0.64	0.64	0.64	0.64
21.283	0.64	0.64	0.64	0.64	0.64
21.367	0.64	0.64	0.64	0.64	0.64
21.450	0.64	0.64	0.64	0.64	0.64

Subsection: Pond Infiltration Hydrograph
Label: BASIN 13.2 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
21.533	0.64	0.64	0.64	0.64	0.64
21.617	0.64	0.64	0.64	0.64	0.64
21.700	0.64	0.64	0.64	0.64	0.64
21.783	0.64	0.64	0.64	0.64	0.64
21.867	0.64	0.64	0.64	0.64	0.64
21.950	0.64	0.64	0.64	0.64	0.64
22.033	0.64	0.64	0.64	0.64	0.64
22.117	0.64	0.64	0.64	0.64	0.64
22.200	0.64	0.64	0.64	0.64	0.64
22.283	0.64	0.64	0.64	0.64	0.64
22.367	0.64	0.64	0.64	0.64	0.64
22.450	0.64	0.64	0.64	0.64	0.64
22.533	0.64	0.64	0.64	0.64	0.64
22.617	0.64	0.64	0.64	0.64	0.64
22.700	0.64	0.64	0.64	0.64	0.64
22.783	0.64	0.64	0.64	0.64	0.64
22.867	0.64	0.64	0.64	0.64	0.64
22.950	0.64	0.64	0.64	0.64	0.64
23.033	0.64	0.64	0.64	0.64	0.64
23.117	0.64	0.64	0.64	0.64	0.64
23.200	0.64	0.64	0.64	0.64	0.64
23.283	0.64	0.64	0.64	0.64	0.64
23.367	0.64	0.64	0.64	0.64	0.64
23.450	0.64	0.64	0.64	0.64	0.64
23.533	0.64	0.64	0.64	0.64	0.64
23.617	0.64	0.64	0.64	0.64	0.64
23.700	0.64	0.64	0.64	0.64	0.64
23.783	0.64	0.64	0.64	0.64	0.64
23.867	0.64	0.64	0.64	0.64	0.64
23.950	0.64	0.64	0.64	0.64	0.64
24.033	0.64	0.64	0.64	0.64	0.64
24.117	0.64	0.64	0.64	0.64	0.64
24.200	0.64	0.64	0.64	0.64	0.64
24.283	0.64	0.64	0.64	0.64	0.64
24.367	0.64	0.64	0.64	0.64	0.64
24.450	0.64	0.64	0.64	0.64	0.64
24.533	0.64	0.64	0.64	0.64	0.64
24.617	0.64	0.64	0.64	0.64	0.64
24.700	0.64	0.63	0.63	0.63	0.62
24.783	0.62	0.62	0.61	0.61	0.61
24.867	0.60	0.60	0.60	0.59	0.59
24.950	0.59	0.58	0.58	0.58	0.58
25.033	0.57	0.57	0.57	0.56	0.56
25.117	0.56	0.56	0.55	0.55	0.55

Subsection: Pond Infiltration Hydrograph
Label: BASIN 13.2 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
25.200	0.54	0.54	0.54	0.54	0.53
25.283	0.53	0.53	0.52	0.52	0.52
25.367	0.52	0.51	0.51	0.51	0.51
25.450	0.50	0.50	0.50	0.49	0.49
25.533	0.49	0.49	0.48	0.48	0.48
25.617	0.48	0.47	0.47	0.47	0.47
25.700	0.47	0.46	0.46	0.46	0.46
25.783	0.45	0.45	0.45	0.45	0.44
25.867	0.44	0.44	0.44	0.43	0.43
25.950	0.43	0.43	0.43	0.42	0.42
26.033	0.42	0.42	0.41	0.41	0.41
26.117	0.41	0.41	0.40	0.40	0.40
26.200	0.40	0.40	0.39	0.39	0.39
26.283	0.39	0.39	0.38	0.38	0.38
26.367	0.38	0.38	0.37	0.37	0.37
26.450	0.37	0.37	0.36	0.36	0.36
26.533	0.36	0.36	0.35	0.35	0.35
26.617	0.35	0.35	0.35	0.34	0.34
26.700	0.34	0.34	0.34	0.33	0.33
26.783	0.33	0.33	0.33	0.33	0.32
26.867	0.32	0.32	0.32	0.32	0.32
26.950	0.31	0.31	0.31	0.31	0.31
27.033	0.31	0.30	0.30	0.30	0.30
27.117	0.30	0.30	0.30	0.29	0.29
27.200	0.29	0.29	0.29	0.29	0.28
27.283	0.28	0.28	0.28	0.28	0.28
27.367	0.28	0.27	0.27	0.27	0.27
27.450	0.27	0.27	0.27	0.26	0.26
27.533	0.26	0.26	0.26	0.26	0.26
27.617	0.26	0.25	0.25	0.25	0.25
27.700	0.25	0.25	0.25	0.25	0.24
27.783	0.24	0.24	0.24	0.24	0.24
27.867	0.24	0.24	0.23	0.23	0.23
27.950	0.23	0.23	0.23	0.23	0.23
28.033	0.22	0.22	0.22	0.22	0.22
28.117	0.22	0.22	0.22	0.22	0.21
28.200	0.21	0.21	0.21	0.21	0.21
28.283	0.21	0.21	0.21	0.20	0.20
28.367	0.20	0.20	0.20	0.20	0.20
28.450	0.20	0.20	0.19	0.19	0.19
28.533	0.19	0.19	0.19	0.19	0.19
28.617	0.19	0.19	0.18	0.18	0.18
28.700	0.18	0.18	0.18	0.18	0.18
28.783	0.18	0.18	0.18	0.17	0.17

Subsection: Pond Infiltration Hydrograph
Label: BASIN 13.2 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
28.867	0.17	0.17	0.17	0.17	0.17
28.950	0.17	0.17	0.17	0.17	0.16
29.033	0.16	0.16	0.16	0.16	0.16
29.117	0.16	0.16	0.16	0.16	0.16
29.200	0.16	0.15	0.15	0.15	0.15
29.283	0.15	0.15	0.15	0.15	0.15
29.367	0.15	0.15	0.15	0.15	0.14
29.450	0.14	0.14	0.14	0.14	0.14
29.533	0.14	0.14	0.14	0.14	0.14
29.617	0.14	0.14	0.14	0.13	0.13
29.700	0.13	0.13	0.13	0.13	0.13
29.783	0.13	0.13	0.13	0.13	0.13
29.867	0.13	0.13	0.13	0.12	0.12
29.950	0.12	0.12	0.12	0.12	0.12
30.033	0.12	0.12	0.12	0.12	0.12
30.117	0.12	0.12	0.12	0.12	0.11
30.200	0.11	0.11	0.11	0.11	0.11
30.283	0.11	0.11	0.11	0.11	0.11
30.367	0.11	0.11	0.11	0.11	0.11
30.450	0.11	0.10	0.10	0.10	0.10
30.533	0.10	0.10	0.10	0.10	0.10
30.617	0.10	0.10	0.10	0.10	0.10
30.700	0.10	0.10	0.10	0.10	0.10
30.783	0.09	0.09	0.09	0.09	0.09
30.867	0.09	0.09	0.09	0.09	0.09
30.950	0.09	0.09	0.09	0.09	0.09
31.033	0.09	0.09	0.09	0.09	0.09
31.117	0.09	0.09	0.08	0.08	0.08
31.200	0.08	0.08	0.08	0.08	0.08
31.283	0.08	0.08	0.08	0.08	0.08
31.367	0.08	0.08	0.08	0.08	0.08
31.450	0.08	0.08	0.08	0.08	0.08
31.533	0.08	0.07	0.07	0.07	0.07
31.617	0.07	0.07	0.07	0.07	0.07
31.700	0.07	0.07	0.07	0.07	0.07
31.783	0.07	0.07	0.07	0.07	0.07
31.867	0.07	0.07	0.07	0.07	0.07
31.950	0.07	0.07	0.07	0.06	0.06
32.033	0.06	0.06	0.06	0.06	0.06
32.117	0.06	0.06	0.06	0.06	0.06
32.200	0.06	0.06	0.06	0.06	0.06
32.283	0.06	0.06	0.06	0.06	0.06
32.367	0.06	0.06	0.06	0.06	0.06
32.450	0.06	0.06	0.06	0.06	0.06

Subsection: Pond Infiltration Hydrograph
Label: BASIN 13.2 (INF)

Return Event: 2 years
Storm Event: TypeII 24hr (2.9 in)

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.017 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
32.533	0.05	0.05	0.05	0.05	0.05
32.617	0.05	0.05	0.05	0.05	0.05
32.700	0.05	0.05	0.05	0.05	0.05
32.783	0.05	0.05	0.05	0.05	0.05
32.867	0.05	0.05	0.05	0.05	0.05
32.950	0.05	0.05	0.05	0.05	0.05
33.033	0.05	0.05	0.05	0.05	0.05
33.117	0.05	0.05	0.05	0.05	0.04
33.200	0.04	0.04	0.04	0.04	0.04
33.283	0.04	0.04	0.04	0.04	0.04
33.367	0.04	0.04	0.04	0.04	0.04
33.450	0.04	0.04	0.04	0.04	0.04
33.533	0.04	0.04	0.04	0.04	0.04
33.617	0.04	0.04	0.04	0.04	0.04
33.700	0.04	0.04	0.04	0.04	0.04
33.783	0.04	0.04	0.04	0.04	0.04
33.867	0.04	0.04	0.04	0.04	0.04
33.950	0.04	0.04	0.03	0.03	0.03
34.033	0.03	0.03	0.03	0.03	0.03
34.117	0.03	0.03	0.03	0.03	0.03
34.200	0.03	0.03	0.03	0.03	0.03
34.283	0.03	0.03	0.03	0.03	0.03
34.367	0.03	0.03	0.03	0.03	0.03
34.450	0.03	0.03	0.03	0.03	0.03
34.533	0.03	0.03	0.03	0.03	0.03
34.617	0.03	0.03	0.03	0.03	0.03
34.700	0.03	0.03	0.03	0.03	0.03
34.783	0.03	0.03	0.03	0.03	0.03
34.867	0.03	0.03	0.03	0.03	0.03
34.950	0.03	0.03	0.03	0.03	(N/A)

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B

BASIN 13.1 (IN) (Level Pool Pond Routing Summary, 2 years)...1

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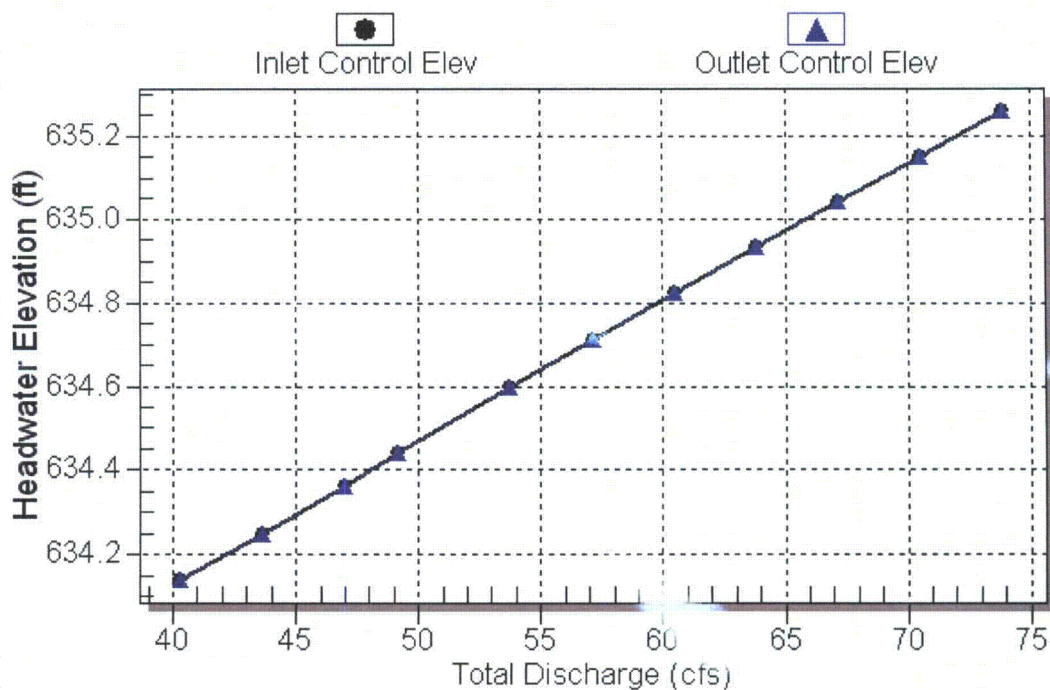
BASIN 13.2 (IN) (Level Pool Pond Routing Summary, 2 years)...8

BASIN 13.2 (INF) (Pond Infiltration Hydrograph, 2 years)...9, 10, 11, 12, 13, 14,
15, 16

Culvert Performance Curve Plot: Culvert 1

Performance Curve

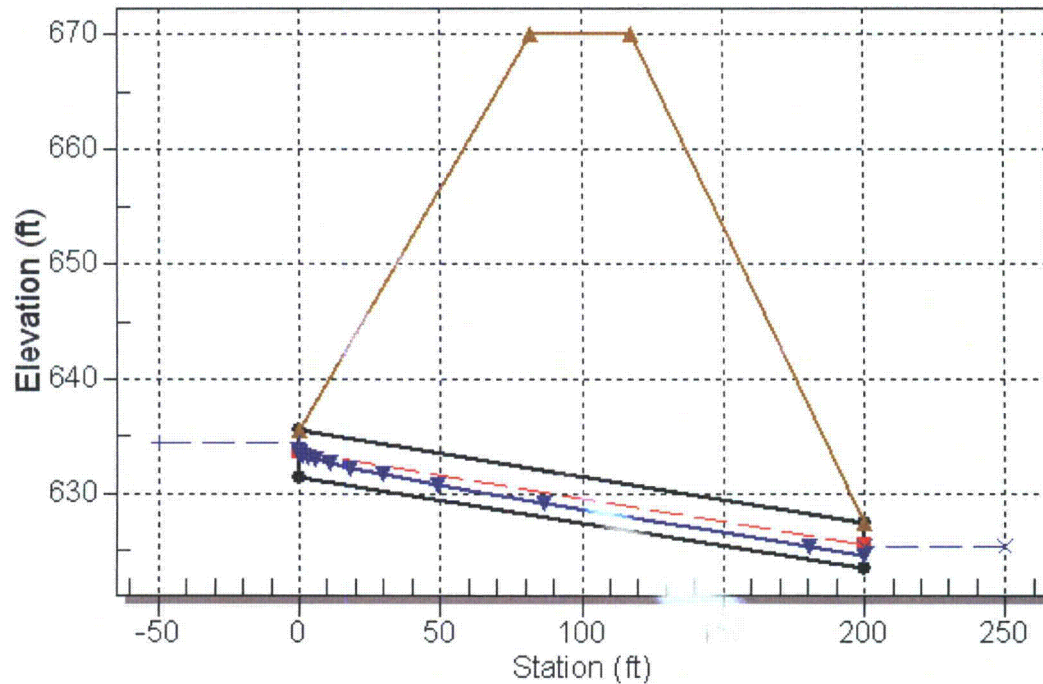
Culvert: Culvert 1



Water Surface Profile Plot for Culvert: Culvert 1

Crossing - Rail Culvert, Design Discharge - 49.2 cfs

Culvert - Culvert 1, Culvert Discharge - 49.2 cfs



Site Data - Culvert 1

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 632.00 ft

Outlet Station: 200.00 ft

Outlet Elevation: 623.50 ft

Number of Barrels: 1

Culvert Data Summary - Culvert 1

Barrel Shape: Circular

Barrel Diameter: 4.00 ft

Barrel Material: Concrete

Barrel Manning's n: 0.0120

Inlet Type: Conventional

Inlet Edge Condition: Beveled Edge(1.5:1)

Inlet Depression: Yes

Table 3 - Downstream Channel Rating Curve (Crossing: Rail Culvert)

Flow (cfs)	Water Surface Elev (ft)	Depth (ft)	Velocity (ft/s)	Shear (psf)	Froude Number
40.30	625.31	1.31	11.67	4.97	2.54
43.66	625.35	1.35	11.90	5.12	2.55
47.02	625.39	1.39	12.13	5.27	2.56
49.20	625.42	1.42	12.26	5.36	2.57
53.74	625.46	1.46	12.54	5.54	2.58
57.10	625.50	1.50	12.73	5.66	2.59
60.46	625.53	1.53	12.91	5.79	2.60
63.82	625.56	1.56	13.09	5.90	2.61
67.18	625.59	1.59	13.26	6.02	2.62
70.54	625.62	1.62	13.42	6.13	2.63
73.90	625.65	1.65	13.58	6.24	2.63

Tailwater Channel Data - Rail Culvert

Tailwater Channel Option: Triangular Channel

Side Slope (H:V): 2.00 (1:1)

Channel Slope: 0.0606

Channel Manning's n: 0.0220

Channel Invert Elevation: 624.00 ft

Roadway Data for Crossing: Rail Culvert

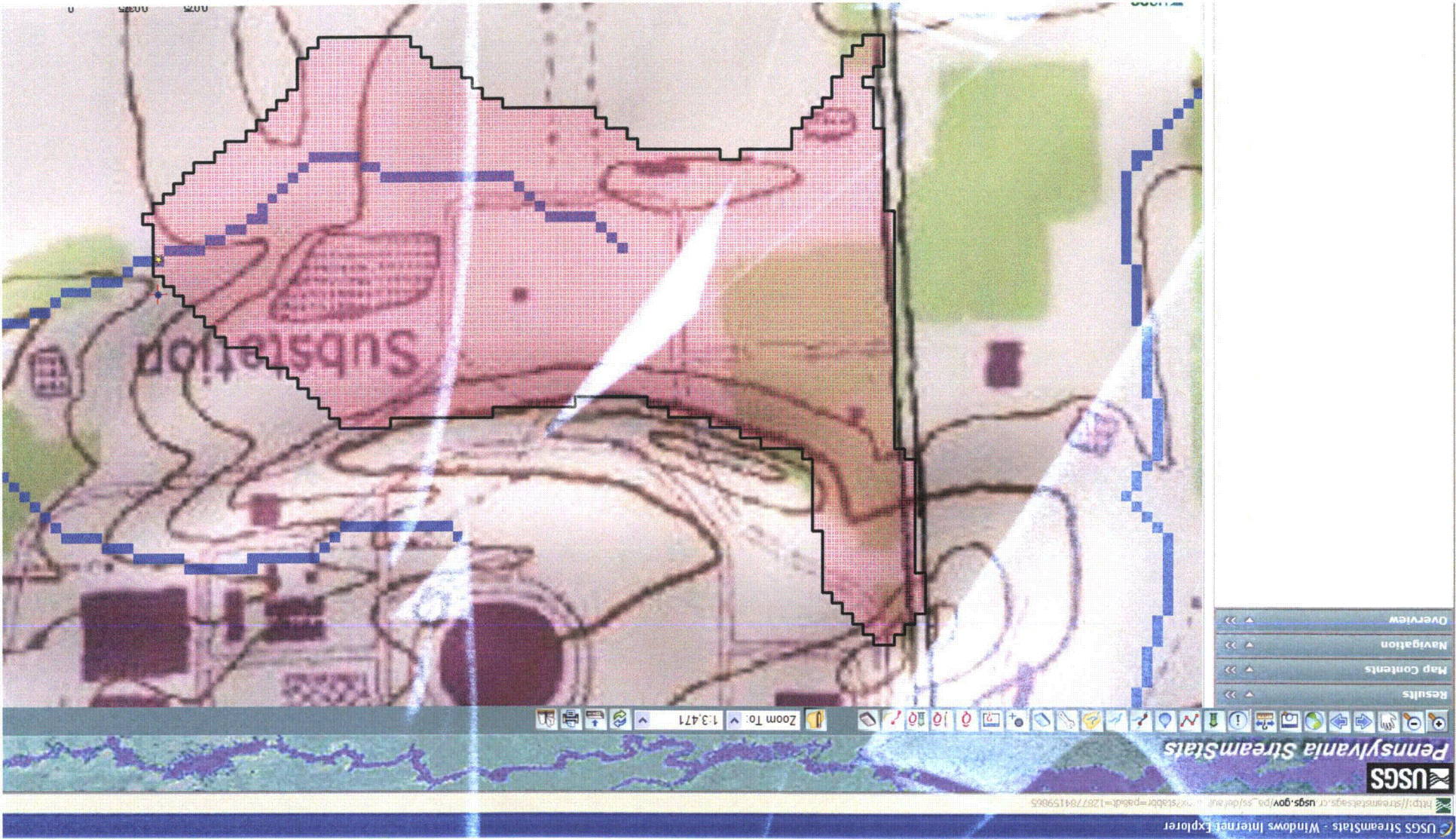
Roadway Profile Shape: Constant Roadway Elevation

Crest Length: 300.00 ft

Crest Elevation: 670.00 ft

Roadway Surface: Gravel

Roadway Top Width: 35.00 ft





Streamstats Ungaged Site Report

Date: Fri Oct 22 2010 15:54:09 Mountain Daylight Time

Site Location: Pennsylvania

NAD27 Latitude: 41.0874 (41 05 15)

NAD27 Longitude: -76.1450 (-76 08 42)

NAD83 Latitude: 41.0875 (41 05 15)

NAD83 Longitude: -76.1447 (-76 08 41)

Drainage Area: 0.086 mi²

Low Flow Basin Characteristics			
100% Low Flow Region 2 (0.086 mi ²)			
Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	0.086 (below min value 4.93)	4.93	1280
Mean Annual Precipitation (inches)	39.000	35	50.4
Stream Density (miles per square mile)	2.68	0.51	3.1
Depth to Rock (feet)	5.600	3.32	5.65
Percent Carbonate (percent)	0.0000	0	99

Warning: Some parameters are outside the suggested range. Estimates will be extrapolations with unknown errors.

Mean/Base-flow Basin Characteristics			
100% Statewide Mean and Base Flow (0.086 mi ²)			
Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	0.086 (below min value 2.26)	2.26	1720
Mean Basin Elevation (feet)	676	130	2700
Mean Annual Precipitation (inches)	39.000	33.1	50.4
Percent Carbonate (percent)	0.0000	0	99
Percent Forest (percent)	14.1314	5.1	100
Percent Urban (percent)	2.9703	0	89

Warning: Some parameters are outside the suggested range. Estimates will be extrapolations with unknown errors.

Peak Flow Basin Characteristics			
100% Peak Flow Region 1 (0.086 mi ²)			
Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	0.086 (below min value 1.72)	1.72	1280
Mean Basin Elevation (feet)	676	0	1960
Percent Carbonate (percent)	0.0000	0	83
Percent Urban (percent)	2.9703	0	20
Percent Storage (percent)	0.0000	0	21.2

Warning: Some parameters are outside the suggested range. Estimates will be extrapolations with unknown errors.

Low Flow Streamflow Statistics					
Statistic	Flow (ft ³ /s)	Standard Error (percent)	Equivalent years of record	90-Percent Prediction Interval	
				Minimum	Maximum
M7D2Y	0.00461				
M30D2Y	0.00646				
M7D10Y	0.002				
M30D10Y	0.00265				
M90D10Y	0.00435				

Mean/Base-flow Streamflow Statistics					
Statistic	Flow (ft ³ /s)	Standard Error (percent)	Equivalent years of record	90-Percent Prediction Interval	
				Minimum	Maximum
QA	0.0865				
QAH	0.0104				
BF10YR	0.0238				
BF25YR	0.0201				
BF50YR	0.0181				

Peak Flow Streamflow Statistics					
Statistic	Flow (ft ³ /s)	Prediction Error (percent)	Equivalent years of record	90-Percent Prediction Interval	
				Minimum	Maximum
PK2	8.36		3		
PK5	16.2		6		
PK10	22.7		9		
PK50	40.3		13		
PK100	49.2		13		
PK500	73.9		14		

Trapezoidal Channel Analysis - Open Channel Flow (w/ Manning's Eq)

Client/Subject: **PENNSYLVANIA POWER AND LIGHT, BELL BEND NUCLEAR POWER PLANT**

Description: **EXISTING SWALE UNDER RAIL 521+92.41**

Print Date: 27 Oct 10 10:23 AM

Prepared by: **LGB**

Project #: **PPLS0902**

Date: **26 Oct 10**

Checked by:

CML

Objective:

Using Manning's equation, this spreadsheet will calculate the amount of flow through a trapezoidal or triangular (b=0) channel. By inputting the channel characteristics, the flow depth will be calculated. Other flow characteristics are also computed, including the critical slope and required freeboard based on E&S manual guidelines. The last line calculates the maximum allowable velocity as indicated by the PA E&S manual.

Method:

See PA Erosion and Sedimentation Control Manual for reference.

Manning's Equation:
$$Q = \frac{1.486}{n} * A * \left(\frac{A}{P} \right)^{2/3} * \sqrt{S}$$

Given Input Data:

	RAIL CROSSING STA 521+92.41	Unvegetated- Velocity Check	Vegetated - Velocity Check	Riprap - Capacity Check
Discharge, Q=	42.90	2.90		cfs
Left Side Slope =	2.0			H:1V
Right Side Slope =	2.0	2.0		H:1V
Base width of Channel, b=				feet
Bed slope, s=	0.0606	0.0606		ft/ft
Available depth of channel:	3.50	4.46		feet
(OPTIONAL) Input Manning's 'n':	0.0200	0.0220		
Lining Type:	Bare	Bare		

Calculate Flow Depth:

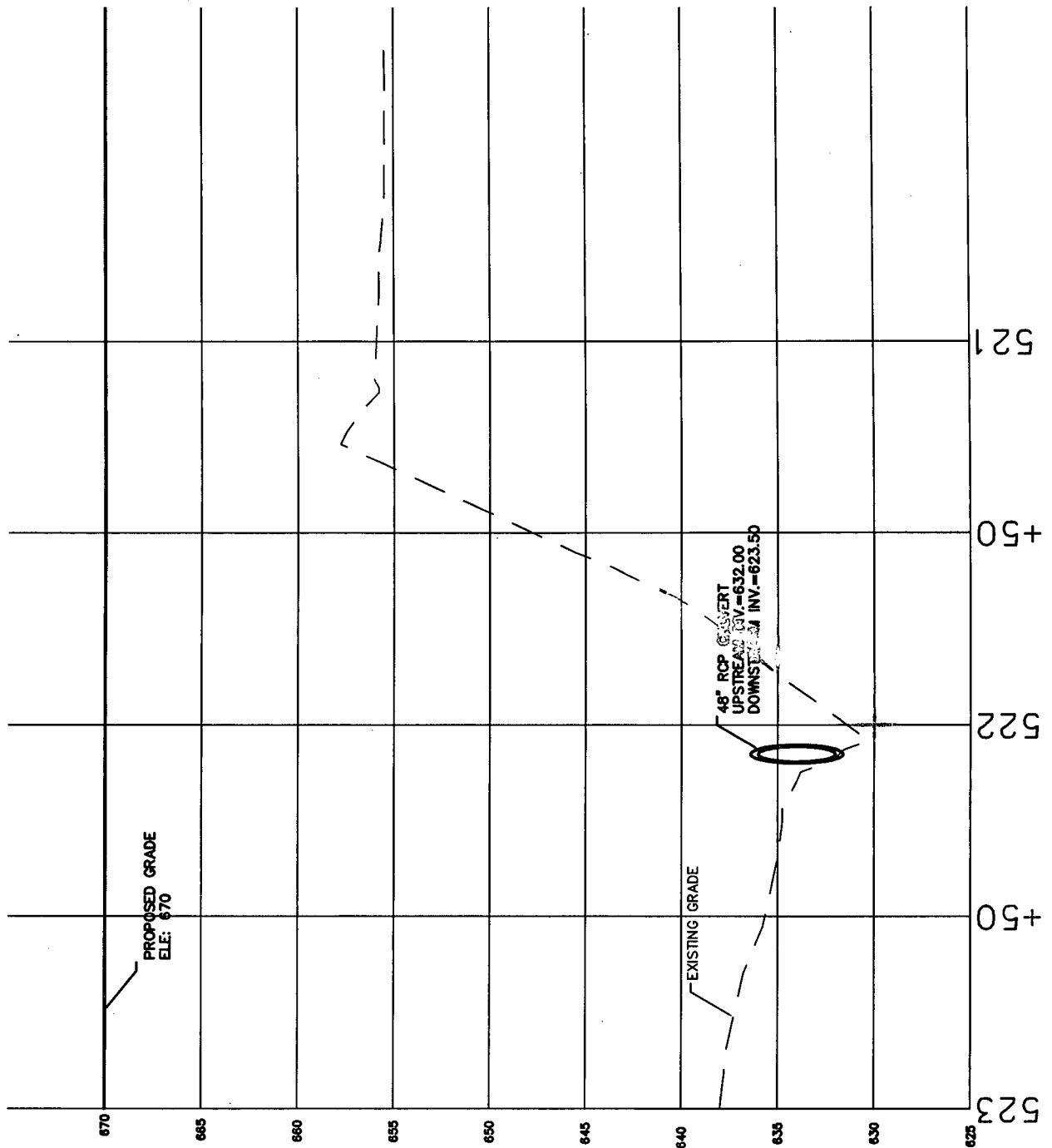
			#VALUE!	
Flow depth, d=	1.30	1.35	#VALUE!	feet

Calculated Results:

<u>ated Results:</u>	<u>Design Acceptable?</u>	<u>V too high</u>	<u>V too high</u>	<u>#VALUE!</u>	
Freeboard, f=	2.20	3.12	#VALUE!	feet	
Calculated Velocity, V=	12.71	11.85	#VALUE!	fps	
Flow Top Width, T=	5.20	5.38	#VALUE!	feet	
Flow Area, A=	3.37	3.62	#VALUE!	sq ft	
Wetted Perimeter, P=	5.81	6.02	#VALUE!	feet	
Hydraulic Radius, R=	0.58	0.60	#VALUE!	feet	
Shear stress on channel bottom, τ =	4.91	5.09	#VALUE!	lbs/sf	
Critical Slope, S_c =	0.0078	0.0093	#VALUE!	ft/ft	
Flow stable? (no if $.7S_c < s < 1.3S_c$)=	yes	yes	#VALUE!		
Required Freeboard=	0.5	0.5	#VALUE!	feet	
Allowable Velocity for Lining Material=	2.5	2.5		fps	

Conclusions

R-3 riprap is needed for velocity.



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Wilkes-Barre, PA 18702

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JOB No.
PPLS0902

SCALE:

1"=40'

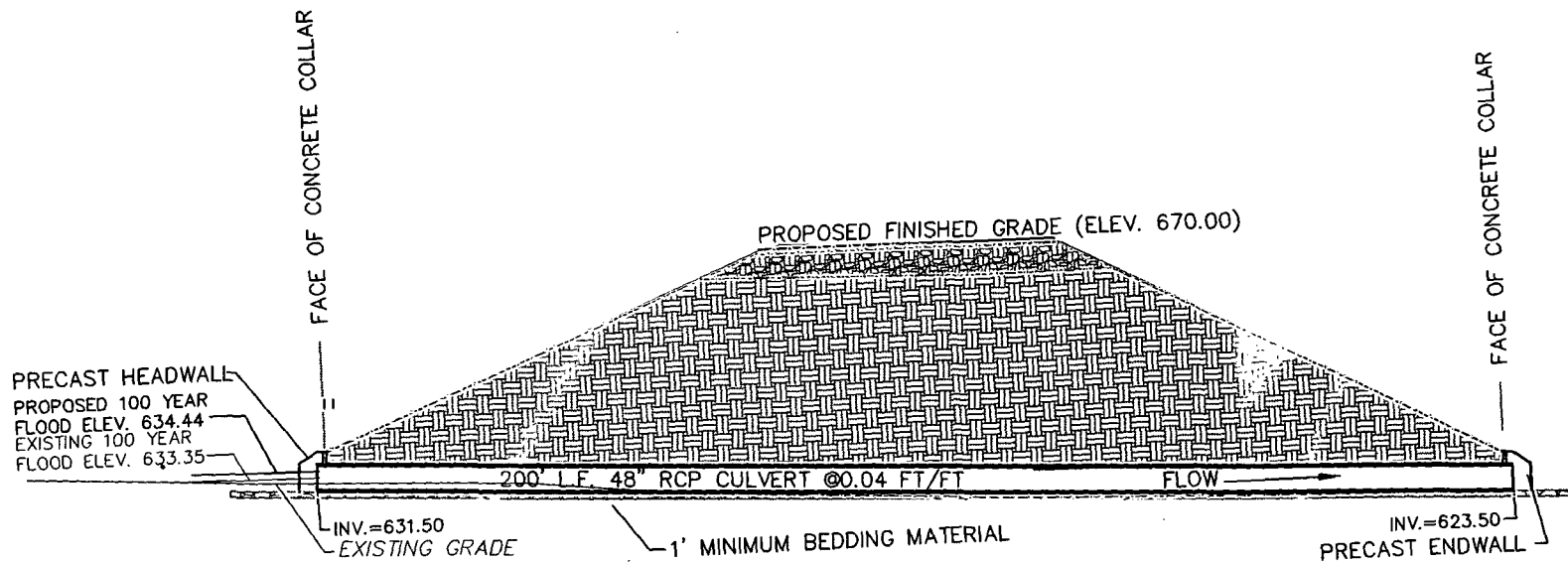
DATE:

10/26/2010

SKETCH No.

1 OF 2

TRAIN TRACK CULVERT - PROFILE



PROFILE SECTION
SCALE: 1"=20'

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	2 OF 2		
	CULVERT CROSSING CROSS SECTION		

APPENDIX M
Level Spreader Calculations

LEVEL SPREADER DESIGN
 BASIN OUTLETS
 PROJECT PPLS0902
 DATE 10/18/2010
 PRINTED 10/20/2010
 BY SA
 CHKD LGB

BASIN OUTLET	BASIN INVERT OUT	CULVERT PIPE					DROP STRUCTURE		OUTLET PROTECTION			PLUNGE POOL		LEVEL SPREADER						DOWNSTREAM FLOW PATH				VELOCITY			
		INVERT OUT	SIZE D (IN)	LENGTH (LF)	SLOPE (%)	100-YR STORM FLOW (CFS)	INVERT IN	INVERT OUT	WIDTH W (FT)	LENGTH La (FT)	THICKNESS (IN)	RIP-RAP SIZE	DEPTH H (IN)	BOTTOM EL BE	CLEARANCE Y (IN)	WIDTH X (FT)	# OF LEVEL SPREADERS	LENGTH Lb (FT)	TOP EL. TE	TOE TOP EL STE	LENGTH (FT)	OVERALL SLOPE (%)	SLOPE FOR FIRST 10 FT (%)	DOWNSTREAM COVER	ALLOWABLE (FPS)	DESIGN (FPS)	ACTUAL (FPS)
1.1	664.00	662.00	24	212	0.94	5.01	662.00	660.50	10.00	10.00	18	R-4	24	658.50	12	6.00	1	65	661.50	661.65	60	1.80	1.00	grass	4.00	1.32	0.84
1.2	664.00	660.00	24	405	0.99	5.00	660.00	658.00	10.00	10.00	18	R-4	24	656.00	12	6.00	1	150	659.00	659.15	150	5.00	2.50	mulch	2.00	0.67	0.64
2	670.00	669.00	24	80	1.25	9.46	669.00	667.00	10.00	10.00	18	R-4	24	665.00	12	6.00	1	123	668.00	668.15	150	0.90	0.90	grass	4.00	1.32	0.84
3.1	674.50	672.50	24	83	2.41	12.38*	672.50	672.50	10.00	10.00	36	R-6	36	669.50	12	6.00	2	186	673.50	673.65	140	3.50	2.00	mulch	2.00	0.67	0.64
3.2	650.00	650.00	24	100	1.00	6.78	650.00	648.50	10.00	10.00	18	R-4	24	646.50	12	6.00	1	89	649.50	649.65	110	1.00	1.00	grass	4.00	1.32	0.84
6	630.00	621.00	24	340	2.65	25.26*	621.00	621.00	18.00	30.00	45	R-7	45	617.25	12	6.00	2	165	622.00	622.15	45	4.00	4.00	grass	4.00	1.32	0.84
8	657.00	656.00	24	100	1.00	8.40	-	-	10.00	10.00	18	R-4	24	654.00	12	6.00	1	110	657.00	657.15	40	4.00	4.00	grass	4.00	1.32	0.84
9	663.00	662.00	24	100	1.00	1.67	-	-	10.00	10.00	18	R-4	24	660.00	12	6.00	1	22	663.00	663.15	150	1.00	1.00	grass	4.00	1.32	0.84
10.1	685.00	684.00	30	100	1.00	12.35**	-	-	20.30	32.00	27	R-5	30	681.50	15	7.50	1	161	685.25	685.44	100	5.00	4.00	grass	4.00	1.32	0.84
10.2	713.20	712.20	24	100	1.00	1.30	712.20	680.00	10.00	10.00	18	R-4	24	678.00	12	6.00	1	17	681.00	681.15	45	6.00	4.00	grass	4.00	1.32	0.84
10.3	713.20	712.20	24	100	1.00	3.08	712.20	658.00	10.00	10.00	18	R-4	24	656.00	12	6.00	1	93	659.00	659.15	10	1.00	1.00	mulch	2.00	0.67	0.64
10.4	656.00	655.00	24	100	1.00	18.86	655.00	660.50	10.00	10.00	18	R-4	24	653.00	12	6.00	2	123	656.00	656.15	90	2.80	4.00	grass	4.00	1.32	0.84
12	685.00	680.00	24	220	2.27	0.83	680.00	680.00	10.00	10.00	18	R-4	24	678.00	12	6.00	1	13	681.00	681.15	50	3.00	3.00	grass	4.00	1.32	0.84
13.1	715.50	715.00	24	50	1.00	4.06	715.00	715.00	18.00	30.00	18	R-4	24	713.00	12	6.00	1	53	716.00	716.15	75	1.50	1.50	grass	4.00	1.32	0.84
13.2	712.30	710.00	24	200	1.15	13.35**	710.00	693.50	18.00	30.00	27	R-5	27	691.25	12	6.00	2	187	694.50	694.65	90	5.00	3.00	mulch	2.00	0.67	0.64
15.1	990.00	980.00	24	500	2.00	13.77	980.00	980.00	10.00	10.00	27	R-5	27	977.75	12	6.00	1	180	981.00	981.15	100	20.00***	4.00	mulch	2.00	0.67	0.64
15.2	990.00	980.00	24	500	2.00	12.50	980.00	980.00	10.00	10.00	27	R-5	27	977.75	12	6.00	1	163	981.00	981.15	100	20.00***	4.00	grass	4.00	1.32	0.84
18	619.00	617.00	36	100	2.00	1.85	617.00	617.00	13.00	10.00	27	R-5	36	614.00	18	9.00	1	56	618.50	618.73	50	0.04	0.04	mulch	2.00	0.67	0.64
20	648.00	647.60	24	50	0.80	1.81	-	-	10.00	10.00	18	R-4	24	645.60	12	6.00	1	24	648.60	648.75	50	1.25	1.25	grass	4.00	1.32	0.84
21	603.00	601.00	24	70	2.80	2.20	601.00	601.50	10.00	10.00	27	R-5	27	598.75	12	6.00	1	29	602.00	602.15	70	2.80	2.50	grass	4.00	1.32	0.84

* 50-Year Storm
 ** 25-Year Storm
 *** Due to site constraints downstream flow path requirement cannot be met

- NOTES
- FIRST 10 FT DOWNSLOPE HAS TO BE LESS THAN OR EQUAL TO 4%
 - MAXIMUM DOWNSLOPE SLOPE IS 6%
 - MAXIMUM FLOW LENGTH IS 100FT
 - MINIMUM STRUCTURE LENGTH IS 10FT, MAX IS 200FT
 - LENGTH IS DEPENDENT ON FLOW AND DOWNSTREAM GROUND COVER
 - SIZE IS 13FT TO 100FT PER CFS
 - ALLOWABLE DOWNSTREAM VELOCITY
 GRAVEL 5FPS
 GRASS 4FPS
 MULCH 1-2FPS
 - DESIGN DOWNSTREAM VELOCITY =33% OF ALLOWABLE
 GRAVEL 1.65FPS
 GRASS 1.32FPS
 MULCH 0.33-0.66FPS
 - FLOW TO LEVEL SPREADER SHOULD PASS THROUGH A DROP MANHOLE BEFORE ENTERING THE PIPE TO THE LEVEL SPREADER. THE PIPE ENTERING THE LEVEL SPREADER MUST BE LESS THAN OR EQUAL TO 1.09

LEVEL SPREADER CALCULATIONS

Completed 2010-10-06
Printed 11/9/2010

Design Criteria:

L=13 L.F. for every 1 cfs of flow
Outlet Velocity<3 ft/s
Design per Pennsylvania DEP

Level Spreader 1.1

Flow= 5.01 cfs

Min. Length= 65.13 ft

Design Length 66.00

$Q=(CLH)^{3/2}$ Weir Equation
C=2.80 Broad Crested Weir

Height of Flow = 0.09 ft

Flow Velocity=Q/A= 0.84 ft/s

LEVEL SPREADER CALCULATIONS

Completed 2010-10-06
Printed 11/9/2010

Design Criteria:

L=30 L.F. for every 1 cfs of flow (mature forest/mulch)
Outlet Velocity < 3 ft/s
Design per Pennsylvania DEP

Level Spreader 1.1

Flow= 5.00 cfs

Min. Length= 150.00 ft

Design Length 150.00

$Q = (CLH)^{3/2}$ Weir Equation
C=2.80 Broad Crested Weir

Height of Flow = 0.05 ft

Flow Velocity=Q/A= 0.64 ft/s

LEVEL SPREADER CALCULATIONS

Completed 2010-10-06
Printed 11/9/2010

Design Criteria:

L=13 L.F. for every 1 cfs of flow
Outlet Velocity < 3 ft/s
Design per Pennsylvania DEP

Level Spreader 2

Flow= 9.46 cfs

Min. Length= 122.98 ft

Design Length 123.00

$Q = (CLH)^{3/2}$ Weir Equation
C=2.80 Broad Crested Weir

Height of Flow = 0.09 ft

Flow Velocity=Q/A= 0.84 ft/s

LEVEL SPREADER CALCULATIONS

Completed 2010-10-06
Printed 11/9/2010

Design Criteria:

L=30 L.F. for every 1 cfs of flow (mature forest/mulch cover)
Outlet Velocity < 3 ft/s
Design per Pennsylvania DEP

Level Spreader 03.1

Flow= 12.38 cfs

Min. Length= 371.40 ft

Design Length 372.00

$Q = (CLH)^{3/2}$ Weir Equation

C=2.80 Broad Crested Weir

Height of Flow = 0.05 ft

Flow Velocity=Q/A= 0.64 ft/s

LEVEL SPREADER CALCULATIONS

Completed 2010-10-06
Printed 11/9/2010

Design Criteria:

L=13 L.F. for every 1 cfs of flow
Outlet Velocity < 3 ft/s
Design per Pennsylvania DEP

Level Spreader 03.2

Flow= 6.78 cfs

Min. Length= 88.14 ft

Design Length 89.00

$Q = (CLH)^{3/2}$ Weir Equation
C=2.80 Broad Crested Weir

Height of Flow = 0.09 ft

Flow Velocity=Q/A= 0.84 ft/s

LEVEL SPREADER CALCULATIONS

Completed 2010-10-06
Printed 11/9/2010

Design Criteria:

L=13 L.F. for every 1 cfs of flow
Outlet Velocity < 3 ft/s
Design per Pennsylvania DEP

Level Spreader 06

Flow= 25.26 cfs (50-Year Storm)

Min. Length= 328.38 ft

Design Length 329.00

$Q = (CLH)^{3/2}$ Weir Equation
C=2.80 Broad Crested Weir

Height of Flow = 0.09 ft

Flow Velocity=Q/A= 0.84 ft/s

LEVEL SPREADER CALCULATIONS

Completed 2010-10-06
Printed 11/9/2010

Design Criteria:

L=13 L.F. for every 1 cfs of flow
Outlet Velocity<3 ft/s
Design per Pennsylvania DEP

Level Spreader 08

Flow= 8.40 cfs

Min. Length= 109.20 ft

Design Length 110.00

$Q=(CLH)^{3/2}$ Weir Equation
C=2.80 Broad Crested Weir

Height of Flow = 0.09 ft

Flow Velocity=Q/A= 0.84 ft/s

LEVEL SPREADER CALCULATIONS

Completed 2010-10-06
Printed 11/9/2010

Design Criteria:

L=13 L.F. for every 1 cfs of flow
Outlet Velocity<3 ft/s
Design per Pennsylvania DEP

Level Spreader 09

Flow= 1.67 cfs

Min. Length= 21.71 ft

Design Length 22.00

$Q=(CLH)^{3/2}$ Weir Equation
C=2.80 Broad Crested Weir

Height of Flow = 0.09 ft

Flow Velocity=Q/A= 0.84 ft/s

LEVEL SPREADER CALCULATIONS

Completed 2010-10-06
Printed 11/9/2010

Design Criteria:

L=13 L.F. for every 1 cfs of flow
Outlet Velocity<3 ft/s
Design per Pennsylvania DEP

Level Spreader 10.1

Flow= 12.35 cfs (25-Year Storm)

Min. Length= 160.55 ft

Design Length 161.00

$Q=(CLH)^{3/2}$ Weir Equation
C=2.80 Broad Crested Weir

Height of Flow = 0.09 ft

Flow Velocity=Q/A= 0.84 ft/s

LEVEL SPREADER CALCULATIONS

Completed 2010-10-06
Printed 11/9/2010

Design Criteria:

L=13 L.F. for every 1 cfs of flow
Outlet Velocity < 3 ft/s
Design per Pennsylvania DEP

Level Spreader 10.2

Flow= 1.30 cfs

Min. Length= 16.90 ft

Design Length 17.00

$Q = (CLH)^{3/2}$ Weir Equation
C=2.80 Broad Crested Weir

Height of Flow = 0.09 ft

Flow Velocity=Q/A= 0.84 ft/s

LEVEL SPREADER CALCULATIONS

Completed 2010-10-06
Printed 11/9/2010

Design Criteria:

L=30 L.F. for every 1 cfs of flow (mature forest/mulch cover)
Outlet Velocity < 3 ft/s
Design per Pennsylvania DEP

Level Spreader 10.3

Flow= 3.07 cfs

Min. Length= 92.10 ft

Design Length 93.00

$Q = (CLH)^{3/2}$ Weir Equation
C=2.80 Broad Crested Weir

Height of Flow = 0.05 ft

Flow Velocity=Q/A= 0.64 ft/s

LEVEL SPREADER CALCULATIONS

Completed 2010-10-06
Printed 11/9/2010

Design Criteria:

L=13 L.F. for every 1 cfs of flow
Outlet Velocity<3 ft/s
Design per Pennsylvania DEP

Level Spreader 10.4

Flow= 18.86 cfs

Min. Length= 245.18 ft

Design Length 246.00

$Q=(CLH)^{3/2}$ Weir Equation
C=2.80 Broad Crested Weir

Height of Flow = 0.09 ft

Flow Velocity=Q/A= 0.84 ft/s

LEVEL SPREADER CALCULATIONS

Completed 2010-10-06
Printed 11/9/2010

Design Criteria:

L=13 L.F. for every 1 cfs of flow
Outlet Velocity < 3 ft/s
Design per Pennsylvania DEP

Level Spreader 12

Flow= 0.83 cfs

Min. Length= 10.79 ft

Design Length 11.00

$Q = (CLH)^{3/2}$ Weir Equation
C=2.80 Broad Crested Weir

Height of Flow = 0.09 ft

Flow Velocity=Q/A= 0.84 ft/s

LEVEL SPREADER CALCULATIONS

Completed 2010-10-06
Printed 11/9/2010

Design Criteria:

L=13 L.F. for every 1 cfs of flow
Outlet Velocity < 3 ft/s
Design per Pennsylvania DEP

Level Spreader 13.1

Flow= 4.06 cfs

Min. Length= 52.78 ft

Design Length 53.00

$Q = (CLH)^{3/2}$ Weir Equation
C=2.80 Broad Crested Weir

Height of Flow = 0.09 ft

Flow Velocity=Q/A= 0.84 ft/s

LEVEL SPREADER CALCULATIONS

Completed 2010-10-06
Printed 11/9/2010

Design Criteria:

L=28 L.F. for every 1 cfs of flow (mature forest/mulch cover)
Outlet Velocity < 3 ft/s
Design per Pennsylvania DEP

Level Spreader 13.2

Flow= 13.35 cfs (25-Year Storm)

Min. Length= 373.80 ft

Design Length 374.00

$Q = (CLH)^{3/2}$ Weir Equation
C=2.80 Broad Crested Weir

Height of Flow = 0.05 ft

Flow Velocity=Q/A= 0.65 ft/s

LEVEL SPREADER CALCULATIONS

Completed 2010-10-06
Printed 11/9/2010

Design Criteria:

L=13 L.F. for every 1 cfs of flow
Outlet Velocity < 3 ft/s
Design per Pennsylvania DEP

Level Spreader 15.1

Flow= 13.77 cfs

Min. Length= 179.01 ft

Design Length 180.00

$Q = (CLH)^{3/2}$ Weir Equation
C=2.80 Broad Crested Weir

Height of Flow = 0.09 ft

Flow Velocity=Q/A= 0.84 ft/s

LEVEL SPREADER CALCULATIONS

Completed 2010-10-06
Printed 11/9/2010

Design Criteria:

L=13 L.F. for every 1 cfs of flow
Outlet Velocity < 3 ft/s
Design per Pennsylvania DEP

Level Spreader 15.2

Flow= 12.50 cfs

Min. Length= 162.50 ft

Design Length 163.00

$Q = (CLH)^{3/2}$ Weir Equation
C=2.80 Broad Crested Weir

Height of Flow = 0.09 ft

Flow Velocity=Q/A= 0.84 ft/s

LEVEL SPREADER CALCULATIONS

Completed 2010-10-06
Printed 11/9/2010

Design Criteria:

L=30 L.F. for every 1 cfs of flow (mature forest/mulch cover)
Outlet Velocity < 3 ft/s
Design per Pennsylvania DEP

Level Spreader 18

Flow= 1.85 cfs

Min. Length= 55.50 ft

Design Length 56.00

$Q = (CLH)^{3/2}$ Weir Equation
C=2.80 Broad Crested Weir

Height of Flow = 0.05 ft

Flow Velocity=Q/A= 0.64 ft/s

LEVEL SPREADER CALCULATIONS

Completed 2010-10-06
Printed 11/9/2010

Design Criteria:

L=13 L.F. for every 1 cfs of flow
Outlet Velocity<3 ft/s
Design per Pennsylvania DEP

Level Spreader 20

Flow= 1.81 cfs

Min. Length= 23.53 ft

Design Length 24.00

$Q=(CLH)^{3/2}$ Weir Equation
C=2.80 Broad Crested Weir

Height of Flow = 0.09 ft

Flow Velocity=Q/A= 0.84 ft/s

LEVEL SPREADER CALCULATIONS

Completed 2010-10-06
Printed 11/9/2010

Design Criteria:

L=13 L.F. for every 1 cfs of flow
Outlet Velocity<3 ft/s
Design per Pennsylvania DEP

Level Spreader 21

Flow= 2.20 cfs

Min. Length= 28.60 ft

Design Length 29.00

$Q=(CLH)^{3/2}$ Weir Equation
C=2.80 Broad Crested Weir

Height of Flow = 0.09 ft

Flow Velocity=Q/A= 0.84 ft/s