



Village of Menomonee Falls
W156 N8480 Pilgrim Road
Menomonee Falls, WI 53051-3140
Telephone: (262) 532-4200

STORMWATER MANAGEMENT FACILITIES OPERATION AND INSPECTION REPORT

Quarter Section SE 1/4 Sect.1 Name of Business/Subdivision Eaton Corporation
Property Tax ID Number 0052992004 Address of Property W126N7250 Flint Drive Menomonee Falls, WI 53051

Date
09/27/2021

Dry Pond		Location of Pond	Eastern Parcel Line; abutting the North Parcel Line
Wet Pond	X		
Other		Pond ID: <u>SWP13s025</u>	

Year Pond Constructed 2012 Year of Last Certification 2016

Compliance Verification	Design	Actual	Compliant Yes	Comments (Condition of Structure)
Primary Outlet Pipe				Outlet Pipe Material
Opening Diameter (inches)	12"	12"	X	Reinforced Concrete Pipe.
Upstream Invert	791	791.14	X	
Downstream Invert	790.5	790.55	X	
Length (feet)	100	50	X	
Slope (%)	0.1%	1.18%	X	
Secondary Outlet Pipe	(If Applicable)			Outlet Pipe Material
Opening Diameter (inches)				
Upstream Invert				
Downstream Invert				
Length (feet)				
Slope (%)				
Riser	(If Applicable)			Riser Material
Opening Diameter (inches)	N/A	N/A	N/A	Structure was not originally modeled as a riser. The top of the structure is not an open grate.
Elevation	N/A	N/A	N/A	
Upper Discharge Control	(If Applicable)			
Opening Diameter (inches)	5"	4"	X	
Elevation	793	792.67	X	

Compliance Verification	Design	Actual	Compliant Yes	No	Comments
Lower Discharge Control	(If Applicable)				
Opening Diameter (inches)	4"	4"	X		
Elevation	791	790.59	X		
Other (Description)					
Opening Type and Size (inches)					
Elevation					
Emergency Spillway					
Elevation	N/A	796.59	X		A spillway was not modeled during original design.
Length of spillway (feet)	N/A	8.7'	X		
Embankment	Present Yes	no	Comments/Maintenance Requirements		
Unauthorized Plantings, trees, or woody vegetation		X			
Animal burrows or slope erosion		X			
Storm Sewer Outfalls	Type & Size		Location	Comments	
Outfall 1	12" RCP		S.Side of Pond	Invert 792.54	
Outfall 2	18" RCP		SW. Side of Pond	Invert 791.43	
Outfall 3	18" RCP		W. Side of Pond	Invert 791.34	
Storage Properties	Design	Actual	Compliant Yes	Not Applicable	Equipment Used
Normal Water Elevation (Wet Ponds)	791	791	X		
Design High Water Elevation	796.49	796.76	X		
Area at Normal Water Elevation (Ac) (Wet Ponds)	0.194	0.175	X		
Area at Design High Water Elevation (Ac)	0.469	0.450	X		
Active Storage Available (Ac-Ft)*	1.297	1.812	X		
Lowest Elevation at Top of Embankment (If Applicable)	796.5	797	X		
Average Elevation at Top of Embankment (If Applicable)	798	797	X		
Maximum Bottom Elevation	786	785	X		
Average Pond Bottom Elevation	786	785	X		
Pond Bottom Area (Ac)	0.049	0.019	X		
Maximum Pond Depth	12	12	X		
Average Pond Depth	12	12	X		
Average Permanent Pool Depth (Wet Ponds)	5	6	X		

*To Determine Active Storage $V=(H/3)(A1+A2+(\sqrt{(A1+A2)}))$

Wet Ponds Use H = Height of Section, $A1$ = area at normal water elevation, $A2$ = area at top section

Dry Ponds Use H = Height of Section, $A1$ = pond bottom area, $A2$ =area at top section

Sketch Outlet or Attach to Document



Place Photograph of Pond or Attach to Document

*Place Photograph of Pond or Attach to Document
See the Attached Photographs*

Attach As-built Survey to the Document for the first report submission

Inspection Firm: Foth Infrastructure Solutions, LLC Inspector Name : Ryan W. Kloth, PE, CFM
Phone Number: 414-336-7908 Inspection Date: 9/16/2021
Address: 7044 S. Ballpark Drive, Suite 200
Franklin, WI 53132

Certifying Professional *Ryan W. Kloth, PE, CFM*

Name:

Phone Number: 414-336-7908

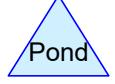
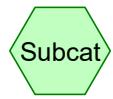
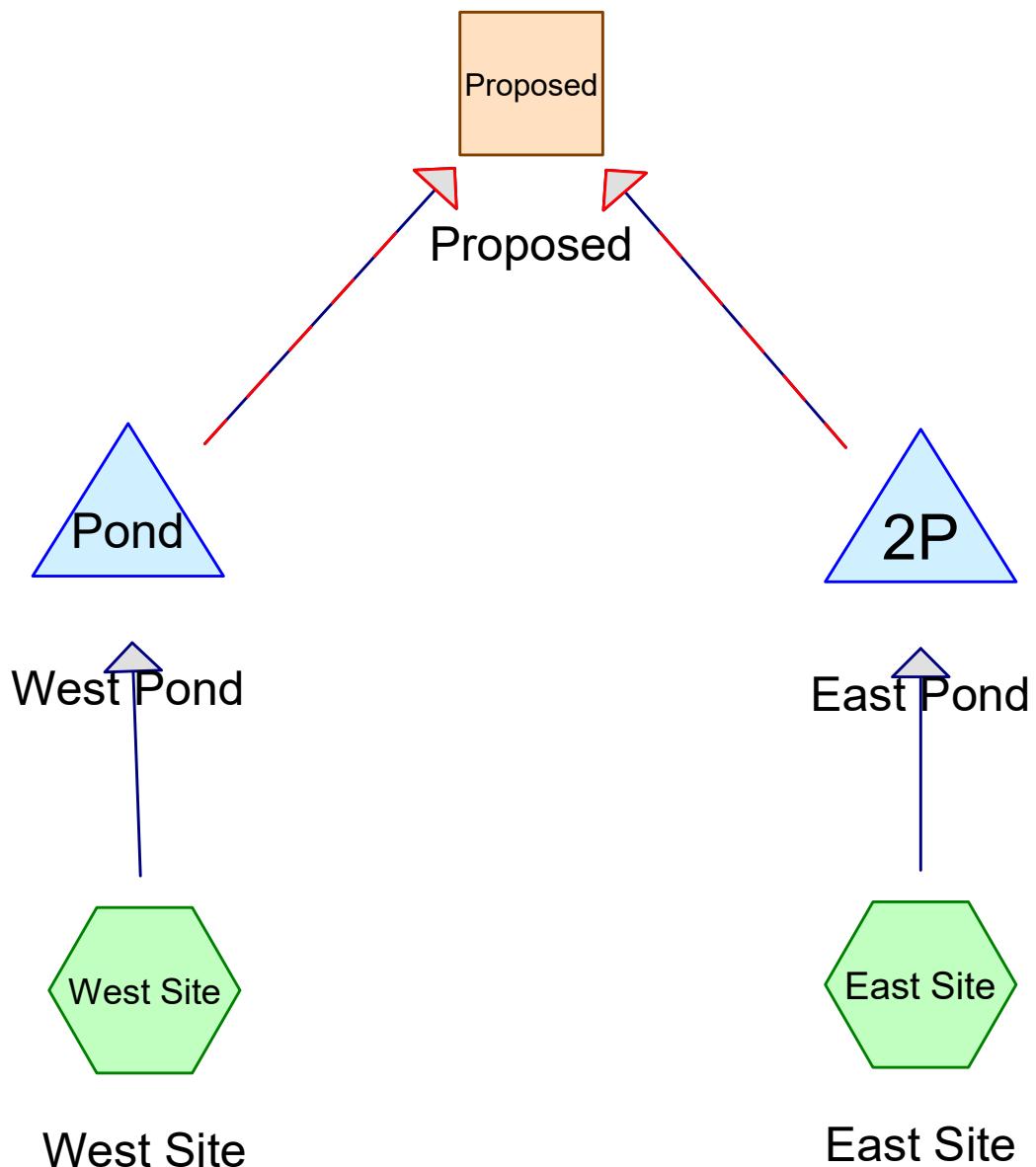
Date: 09/29/21

Signature:



Affix Seal Here

10-3-2012



Routing Diagram for Eaton Pond Inspection 10-2021
Prepared by Foth, Printed 10/1/2021
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Eaton Pond Inspection 10-2021

Prepared by Foth

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Project Notes

September 2021-For the Eaton Corporation. This is the revised 2016 model based on recent survey of the ponds and outlet structures. RWK

Rainfall events imported from "NRCS-Rain.txt" for 9184 WI Ozaukee

Rainfall events imported from "NRCS-Rain.txt" for 9184 WI Ozaukee

Eaton Pond Inspection 10-2021

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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	MSE 24-hr	3	Default	24.00	1	2.61	2
2	100-Year	MSE 24-hr	3	Default	24.00	1	6.38	2

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
5.940	88	From 2016 Stormwater Inspection Report (East Site)
1.840	86	From 2016 Stormwater Inspection Report (West Site)
7.780	88	TOTAL AREA

Eaton Pond Inspection 10-2021

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
7.780	Other	East Site, West Site
7.780		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subc Numb
0.000	0.000	0.000	0.000	7.780	7.780	From 2016 Stormwater Inspection Report	
0.000	0.000	0.000	0.000	7.780	7.780	TOTAL AREA	

Eaton Pond Inspection 10-2021

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Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	2P	791.14	790.55	50.0	0.0118	0.014	0.0	12.0	0.0
2	Pond	793.51	792.54	140.0	0.0069	0.014	0.0	12.0	0.0

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment East Site: East SiteRunoff Area=5.940 ac 0.00% Impervious Runoff Depth>1.47"
Tc=27.2 min CN=88 Runoff=8.28 cfs 0.729 af**Subcatchment West Site: West Site**Runoff Area=1.840 ac 0.00% Impervious Runoff Depth>1.33"
Tc=26.1 min CN=86 Runoff=2.37 cfs 0.204 af**Reach Proposed: Proposed**Inflow=0.34 cfs 0.283 af
Outflow=0.34 cfs 0.283 af**Pond 2P: East Pond**Peak Elev=793.37' Storage=0.558 af Inflow=8.28 cfs 0.729 af
Primary=0.31 cfs 0.251 af Secondary=0.00 cfs 0.000 af Outflow=0.31 cfs 0.251 af**Pond Pond: West Pond**Peak Elev=795.33' Storage=0.176 af Inflow=2.37 cfs 0.204 af
Primary=0.04 cfs 0.032 af Secondary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.032 af**Total Runoff Area = 7.780 ac Runoff Volume = 0.933 af Average Runoff Depth = 1.44"**
100.00% Pervious = 7.780 ac 0.00% Impervious = 0.000 ac

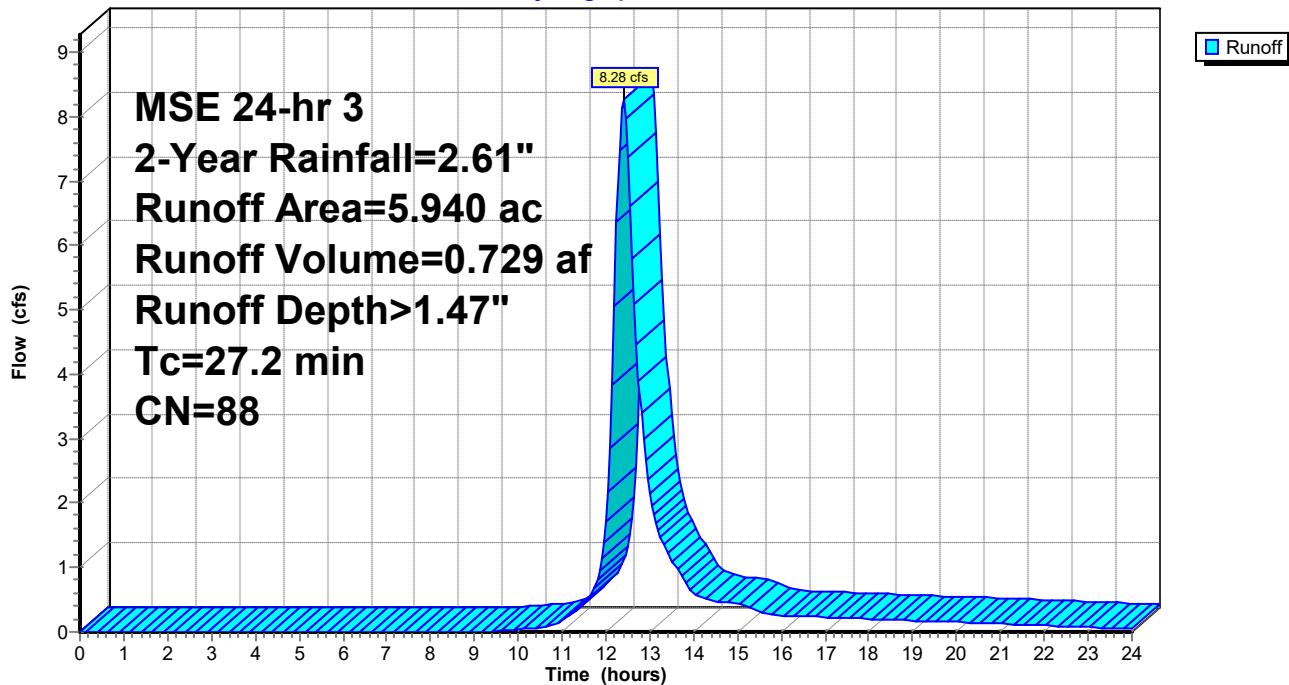
Summary for Subcatchment East Site: East Site

Runoff = 8.28 cfs @ 12.39 hrs, Volume= 0.729 af, Depth> 1.47"
Routed to Pond 2P : East Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2-Year Rainfall=2.61"

Area (ac)	CN	Description
* 5.940	88	From 2016 Stormwater Inspection Report
5.940		100.00% Pervious Area

Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
27.2	Direct Entry, From 2016 Stormwater Inspection Report				

Subcatchment East Site: East Site**Hydrograph**

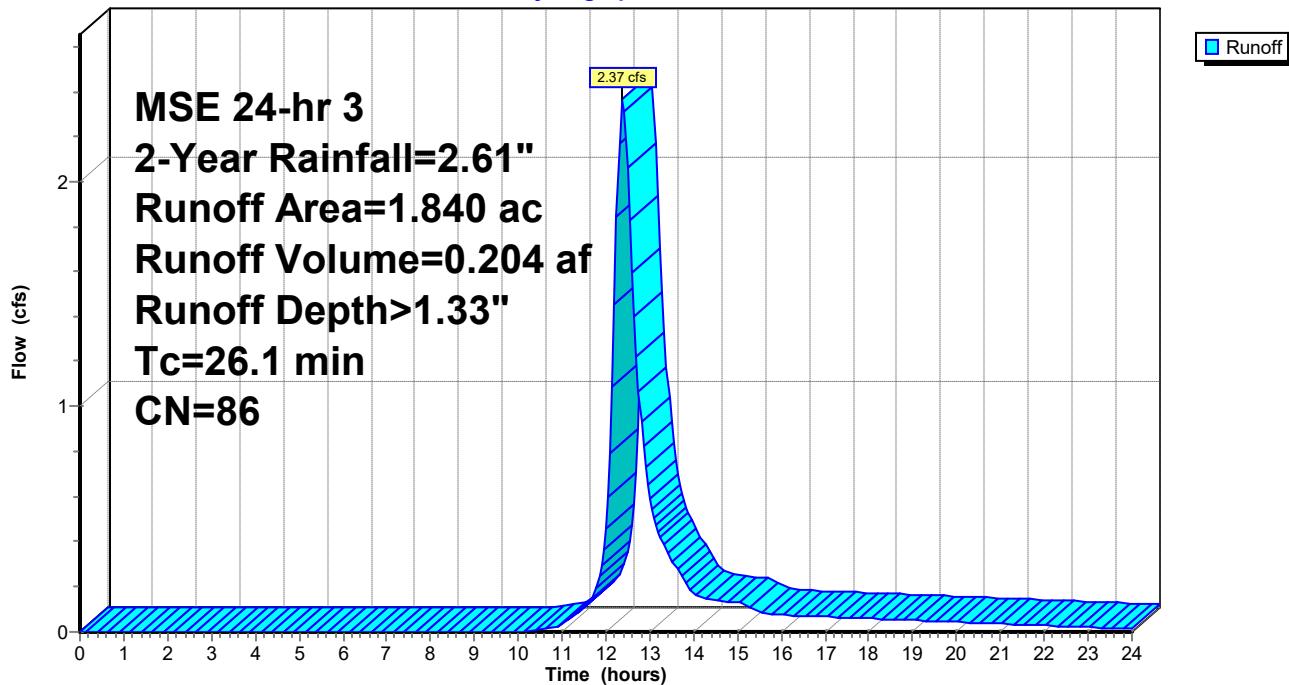
Summary for Subcatchment West Site: West Site

Runoff = 2.37 cfs @ 12.38 hrs, Volume= 0.204 af, Depth> 1.33"
Routed to Pond Pond : West Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2-Year Rainfall=2.61"

Area (ac)	CN	Description
* 1.840	86	From 2016 Stormwater Inspection Report
1.840		100.00% Pervious Area

Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
26.1	Direct Entry, From 2016 Inspection Report				

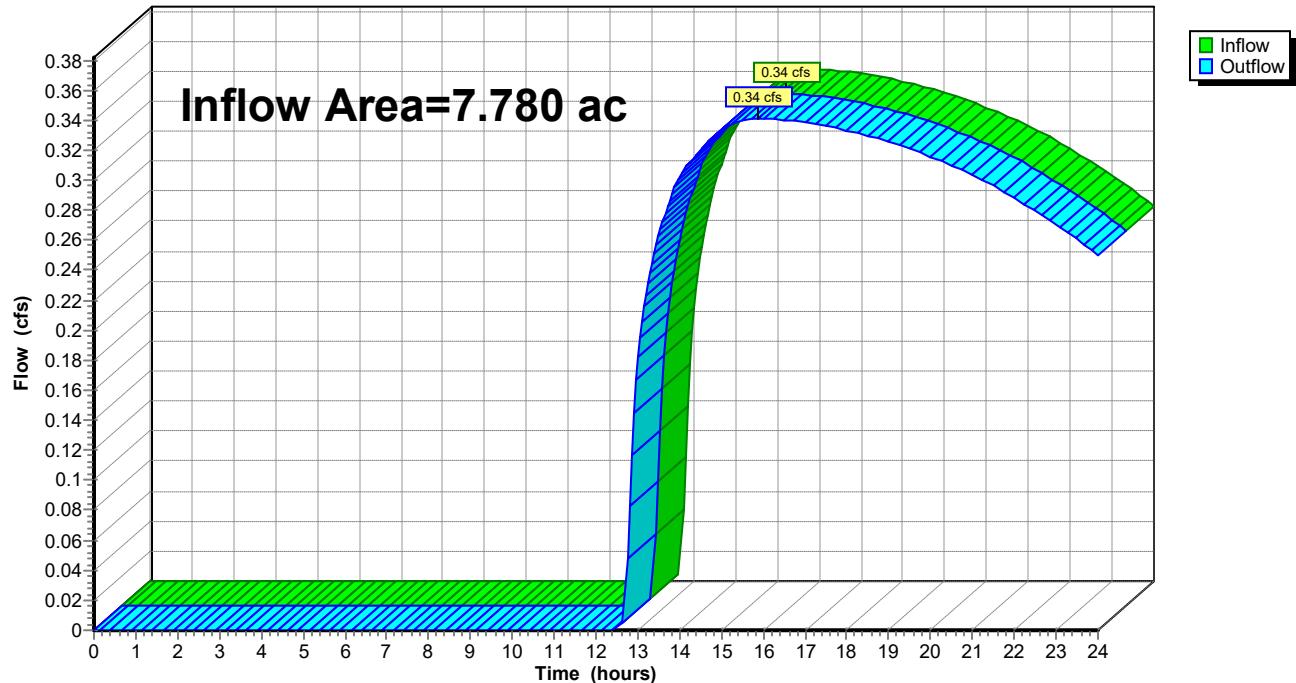
Subcatchment West Site: West Site**Hydrograph**

Summary for Reach Proposed: Proposed

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 7.780 ac, 0.00% Impervious, Inflow Depth > 0.44" for 2-Year event
Inflow = 0.34 cfs @ 15.87 hrs, Volume= 0.283 af
Outflow = 0.34 cfs @ 15.87 hrs, Volume= 0.283 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach Proposed: Proposed**Hydrograph**

Summary for Pond 2P: East Pond

Inflow Area = 5.940 ac, 0.00% Impervious, Inflow Depth > 1.47" for 2-Year event
 Inflow = 8.28 cfs @ 12.39 hrs, Volume= 0.729 af
 Outflow = 0.31 cfs @ 15.52 hrs, Volume= 0.251 af, Atten= 96%, Lag= 187.5 min
 Primary = 0.31 cfs @ 15.52 hrs, Volume= 0.251 af
 Routed to Reach Proposed : Proposed
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach Proposed : Proposed

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 793.37' @ 15.52 hrs Surf.Area= 0.291 ac Storage= 0.558 af

Plug-Flow detention time= 367.5 min calculated for 0.251 af (34% of inflow)
 Center-of-Mass det. time= 275.5 min (1,094.8 - 819.3)

Volume	Invert	Avail.Storage	Storage Description
#1	791.00'	1.922 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
791.00	0.175	0.000	0.000
792.00	0.228	0.201	0.201
793.00	0.276	0.252	0.453
794.00	0.316	0.296	0.749
795.00	0.368	0.342	1.092
796.00	0.416	0.392	1.484
797.00	0.461	0.439	1.922

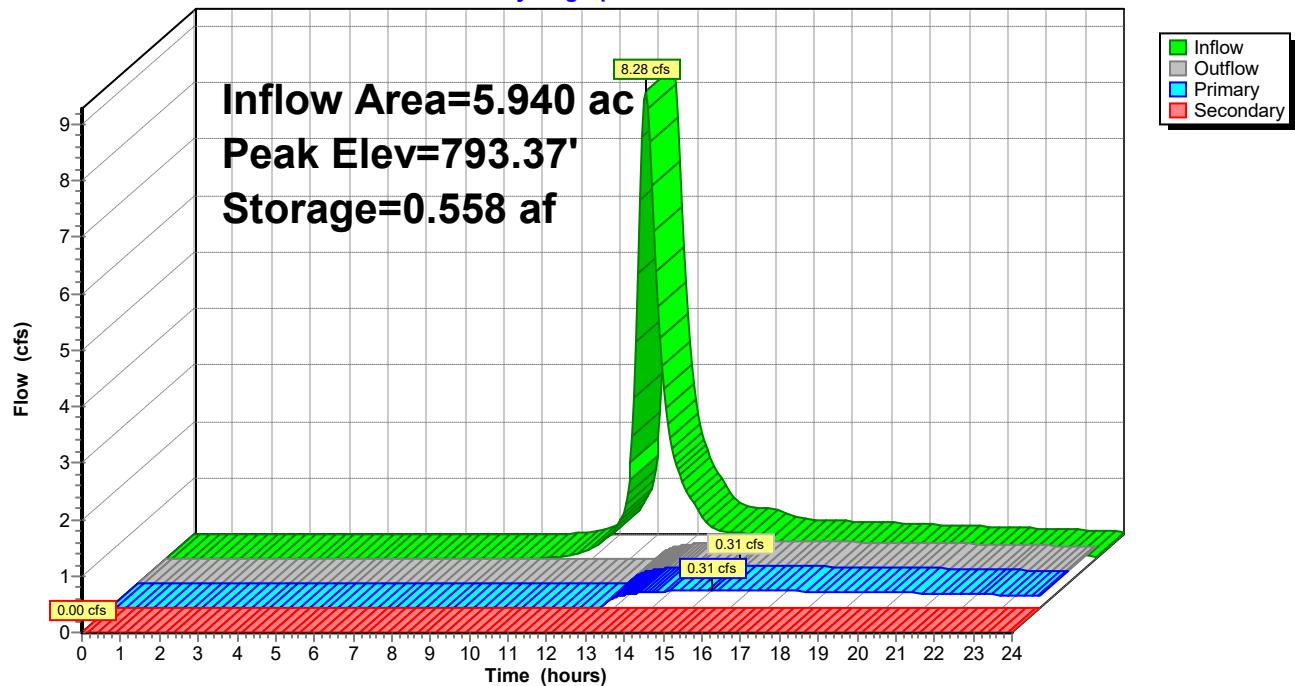
Device	Routing	Invert	Outlet Devices
#1	Primary	791.14'	12.0" Round RCP_Round 12" L= 50.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 791.14' / 790.55' S= 0.0118 '/' Cc= 0.900 n= 0.014 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Device 1	787.71'	12.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 2	790.59'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 3	792.67'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Secondary	796.59'	8.7' long x 50.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.31 cfs @ 15.52 hrs HW=793.37' (Free Discharge)

↗ 1=RCP_Round 12" (Passes 0.31 cfs of 4.66 cfs potential flow)
 ↗ 2=Orifice/Grate (Passes 0.31 cfs of 5.64 cfs potential flow)
 ↗ 3=Orifice/Grate (Passes 0.31 cfs of 0.63 cfs potential flow)
 ↗ 4=Orifice/Grate (Orifice Controls 0.31 cfs @ 3.51 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=791.00' (Free Discharge)

↗ 5=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 2P: East Pond**Hydrograph**

Summary for Pond Pond: West Pond

Inflow Area = 1.840 ac, 0.00% Impervious, Inflow Depth > 1.33" for 2-Year event
 Inflow = 2.37 cfs @ 12.38 hrs, Volume= 0.204 af
 Outflow = 0.04 cfs @ 20.34 hrs, Volume= 0.032 af, Atten= 98%, Lag= 477.5 min
 Primary = 0.04 cfs @ 20.34 hrs, Volume= 0.032 af
 Routed to Reach Proposed : Proposed
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach Proposed : Proposed

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 795.33' @ 20.34 hrs Surf.Area= 0.158 ac Storage= 0.176 af

Plug-Flow detention time= 436.2 min calculated for 0.032 af (16% of inflow)
 Center-of-Mass det. time= 329.0 min (1,152.9 - 824.0)

Volume	Invert	Avail.Storage	Storage Description
#1	794.00'	0.993 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
794.00	0.103	0.000	0.000
795.00	0.147	0.125	0.125
796.00	0.179	0.163	0.288
797.00	0.215	0.197	0.485
798.00	0.253	0.234	0.719
799.00	0.295	0.274	0.993
Device	Routing	Invert	Outlet Devices
#1	Primary	793.51'	12.0" Round CMP_Round 12" L= 140.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 793.51' / 792.54' S= 0.0069 '/' Cc= 0.900 n= 0.014 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Device 1	793.92'	2.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 2	795.09'	2.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Secondary	798.83'	11.0' long x 25.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.04 cfs @ 20.34 hrs HW=795.33' (Free Discharge)

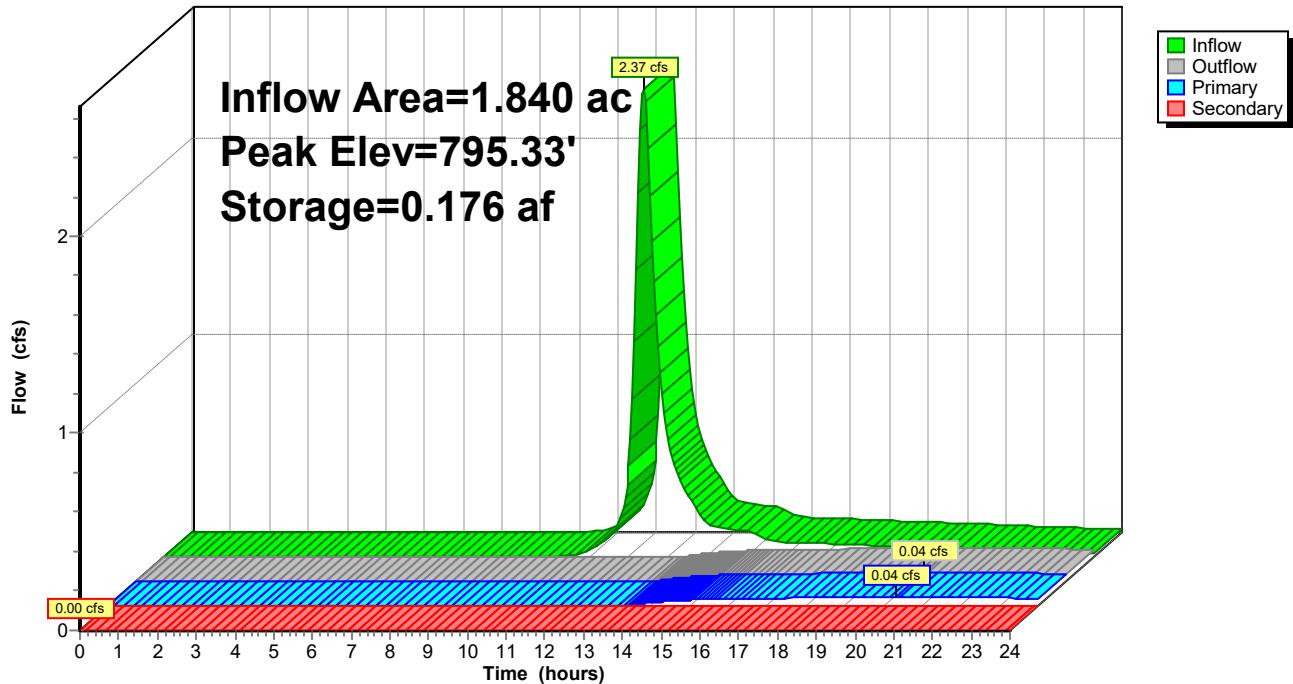
↑ 1=CMR_Round 12" (Passes 0.04 cfs of 3.29 cfs potential flow)

↑ 2=Orifice/Grate (Passes 0.04 cfs of 0.12 cfs potential flow)

↑ 3=Orifice/Grate (Orifice Controls 0.04 cfs @ 1.93 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=794.00' (Free Discharge)

↑ 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond Pond: West Pond**Hydrograph**

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment East Site: East SiteRunoff Area=5.940 ac 0.00% Impervious Runoff Depth>4.99"
Tc=27.2 min CN=88 Runoff=27.15 cfs 2.468 af**Subcatchment West Site: West Site**Runoff Area=1.840 ac 0.00% Impervious Runoff Depth>4.76"
Tc=26.1 min CN=86 Runoff=8.31 cfs 0.731 af**Reach Proposed: Proposed**Inflow=2.60 cfs 1.124 af
Outflow=2.60 cfs 1.124 af**Pond 2P: East Pond**Peak Elev=796.76' Storage=1.812 af Inflow=27.15 cfs 2.468 af
Primary=0.83 cfs 0.775 af Secondary=1.62 cfs 0.196 af Outflow=2.45 cfs 0.971 af**Pond Pond: West Pond**Peak Elev=797.54' Storage=0.606 af Inflow=8.31 cfs 0.731 af
Primary=0.16 cfs 0.153 af Secondary=0.00 cfs 0.000 af Outflow=0.16 cfs 0.153 af**Total Runoff Area = 7.780 ac Runoff Volume = 3.198 af Average Runoff Depth = 4.93"**
100.00% Pervious = 7.780 ac 0.00% Impervious = 0.000 ac

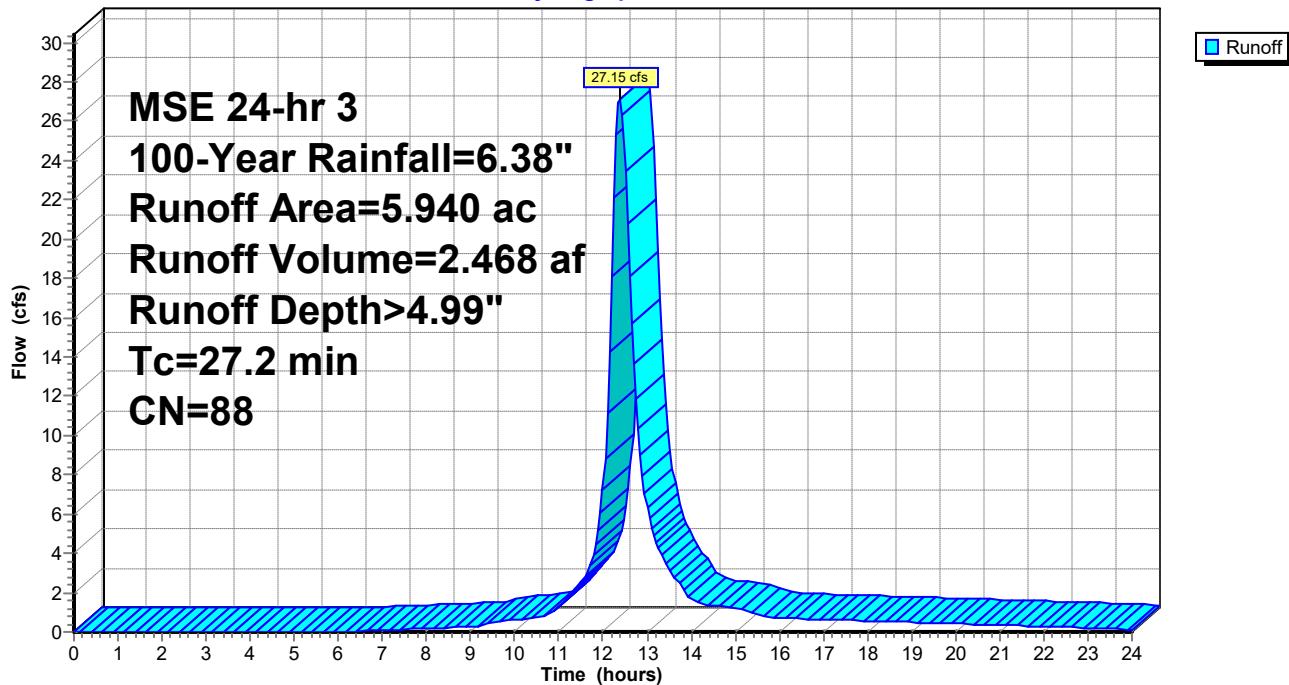
Summary for Subcatchment East Site: East Site

Runoff = 27.15 cfs @ 12.38 hrs, Volume= 2.468 af, Depth> 4.99"
Routed to Pond 2P : East Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100-Year Rainfall=6.38"

Area (ac)	CN	Description
* 5.940	88	From 2016 Stormwater Inspection Report
5.940		100.00% Pervious Area

Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
27.2	Direct Entry, From 2016 Stormwater Inspection Report				

Subcatchment East Site: East Site**Hydrograph**

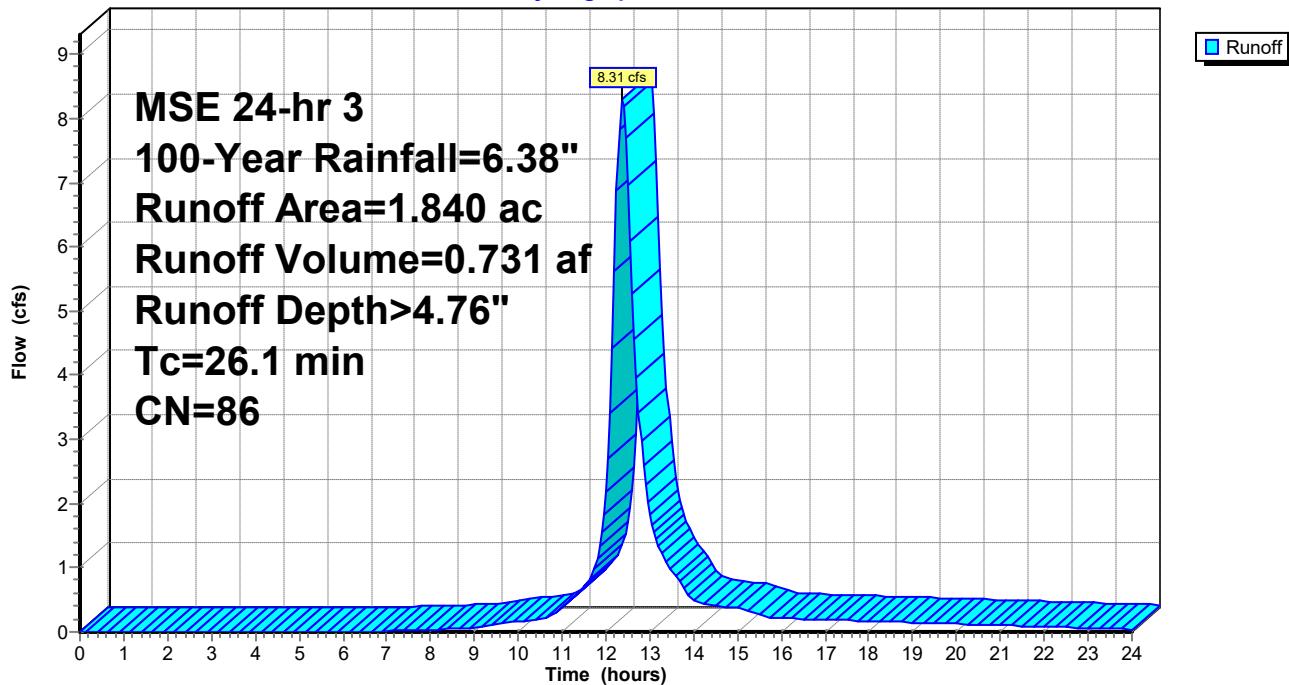
Summary for Subcatchment West Site: West Site

Runoff = 8.31 cfs @ 12.37 hrs, Volume= 0.731 af, Depth> 4.76"
Routed to Pond Pond : West Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100-Year Rainfall=6.38"

Area (ac)	CN	Description
1.840	86	From 2016 Stormwater Inspection Report
1.840		100.00% Pervious Area

Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
26.1	Direct Entry, From 2016 Inspection Report				

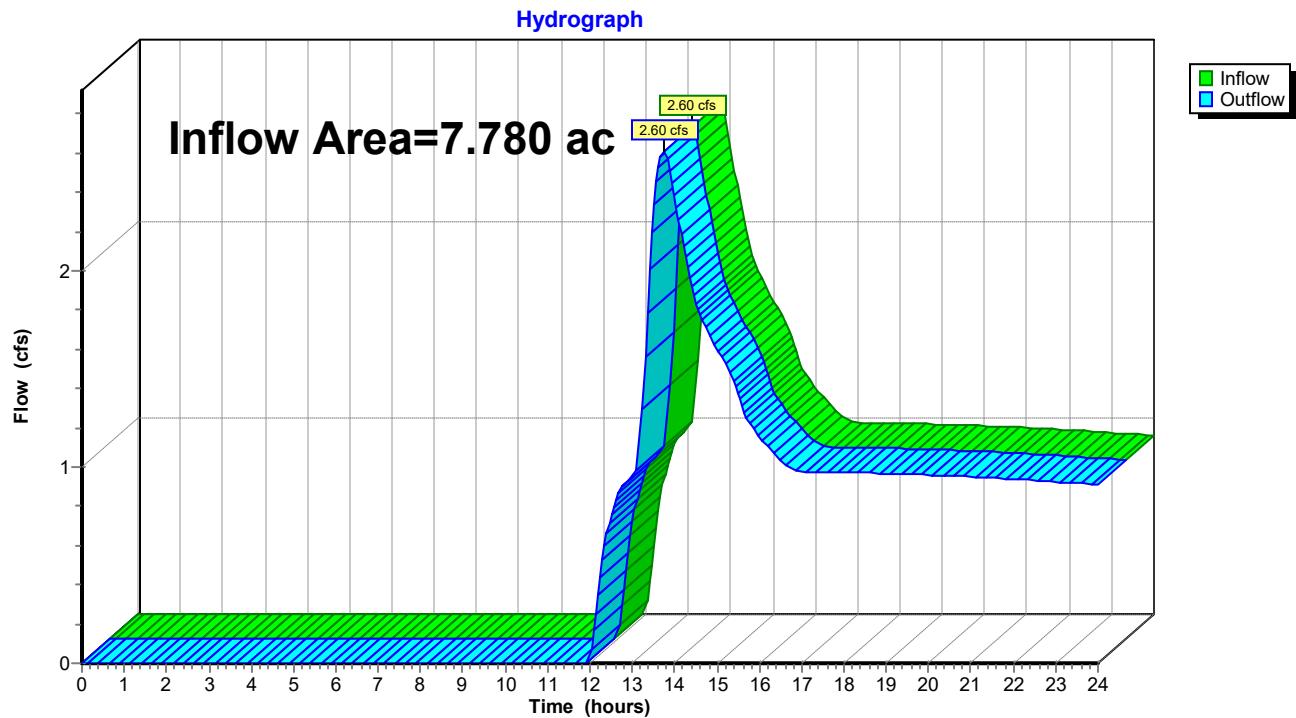
Subcatchment West Site: West Site**Hydrograph**

Summary for Reach Proposed: Proposed

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 7.780 ac, 0.00% Impervious, Inflow Depth > 1.73" for 100-Year event
Inflow = 2.60 cfs @ 13.73 hrs, Volume= 1.124 af
Outflow = 2.60 cfs @ 13.73 hrs, Volume= 1.124 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Reach Proposed: Proposed

Summary for Pond 2P: East Pond

Inflow Area = 5.940 ac, 0.00% Impervious, Inflow Depth > 4.99" for 100-Year event
 Inflow = 27.15 cfs @ 12.38 hrs, Volume= 2.468 af
 Outflow = 2.45 cfs @ 13.73 hrs, Volume= 0.971 af, Atten= 91%, Lag= 81.3 min
 Primary = 0.83 cfs @ 13.73 hrs, Volume= 0.775 af
 Routed to Reach Proposed : Proposed
 Secondary = 1.62 cfs @ 13.73 hrs, Volume= 0.196 af
 Routed to Reach Proposed : Proposed

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 796.76' @ 13.73 hrs Surf.Area= 0.450 ac Storage= 1.812 af

Plug-Flow detention time= 335.3 min calculated for 0.971 af (39% of inflow)
 Center-of-Mass det. time= 244.2 min (1,039.5 - 795.3)

Volume	Invert	Avail.Storage	Storage Description
#1	791.00'	1.922 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
791.00	0.175	0.000	0.000
792.00	0.228	0.201	0.201
793.00	0.276	0.252	0.453
794.00	0.316	0.296	0.749
795.00	0.368	0.342	1.092
796.00	0.416	0.392	1.484
797.00	0.461	0.439	1.922

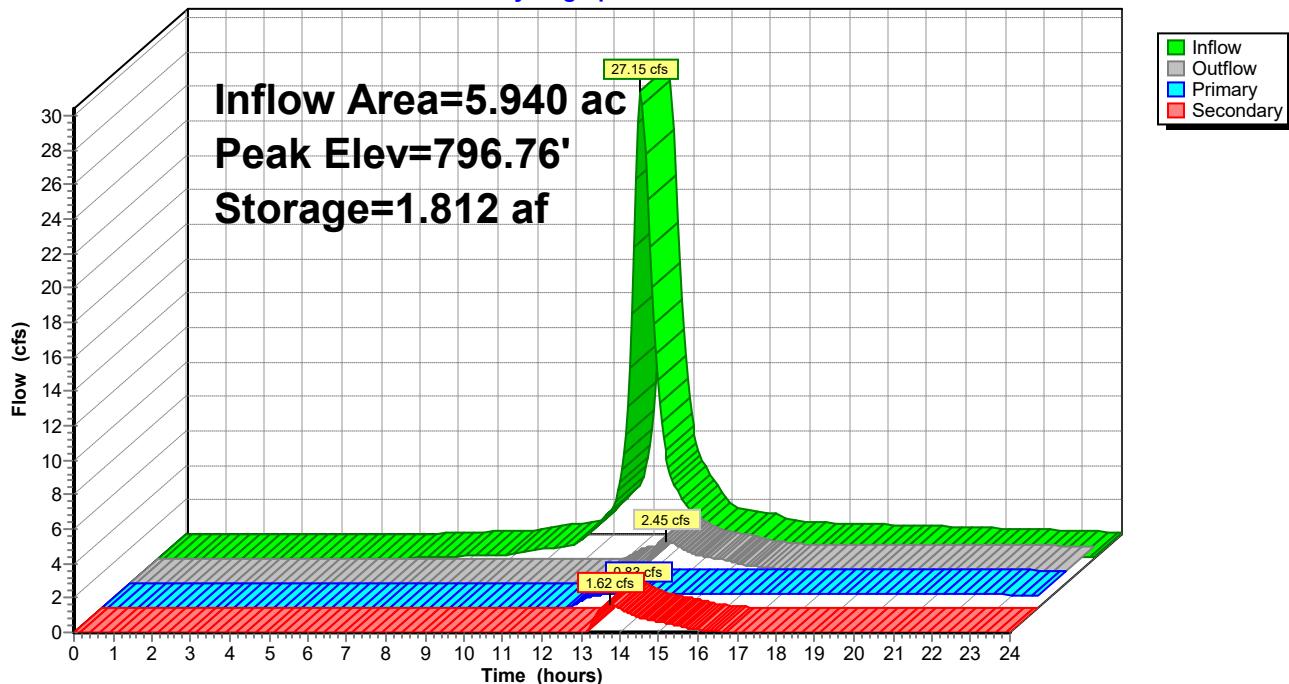
Device	Routing	Invert	Outlet Devices
#1	Primary	791.14'	12.0" Round RCP_Round 12" L= 50.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 791.14' / 790.55' S= 0.0118 '/' Cc= 0.900 n= 0.014 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Device 1	787.71'	12.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 2	790.59'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 3	792.67'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Secondary	796.59'	8.7' long x 50.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.83 cfs @ 13.73 hrs HW=796.76' (Free Discharge)

↗ 1=RCP_Round 12" (Passes 0.83 cfs of 7.89 cfs potential flow)
 ↗ 2=Orifice/Grate (Passes 0.83 cfs of 8.96 cfs potential flow)
 ↗ 3=Orifice/Grate (Passes 0.83 cfs of 1.00 cfs potential flow)
 ↗ 4=Orifice/Grate (Orifice Controls 0.83 cfs @ 9.54 fps)

Secondary OutFlow Max=1.61 cfs @ 13.73 hrs HW=796.76' (Free Discharge)

↗ 5=Broad-Crested Rectangular Weir (Weir Controls 1.61 cfs @ 1.10 fps)

Pond 2P: East Pond**Hydrograph**

Summary for Pond Pond: West Pond

Inflow Area = 1.840 ac, 0.00% Impervious, Inflow Depth > 4.76" for 100-Year event
 Inflow = 8.31 cfs @ 12.37 hrs, Volume= 0.731 af
 Outflow = 0.16 cfs @ 18.43 hrs, Volume= 0.153 af, Atten= 98%, Lag= 363.9 min
 Primary = 0.16 cfs @ 18.43 hrs, Volume= 0.153 af
 Routed to Reach Proposed : Proposed
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach Proposed : Proposed

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 797.54' @ 18.43 hrs Surf.Area= 0.235 ac Storage= 0.606 af

Plug-Flow detention time= 410.6 min calculated for 0.152 af (21% of inflow)
 Center-of-Mass det. time= 296.0 min (1,094.7 - 798.7)

Volume	Invert	Avail.Storage	Storage Description
#1	794.00'	0.993 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
794.00	0.103	0.000	0.000
795.00	0.147	0.125	0.125
796.00	0.179	0.163	0.288
797.00	0.215	0.197	0.485
798.00	0.253	0.234	0.719
799.00	0.295	0.274	0.993
Device	Routing	Invert	Outlet Devices
#1	Primary	793.51'	12.0" Round CMP_Round 12" L= 140.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 793.51' / 792.54' S= 0.0069 '/' Cc= 0.900 n= 0.014 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Device 1	793.92'	2.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 2	795.09'	2.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Secondary	798.83'	11.0' long x 25.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.16 cfs @ 18.43 hrs HW=797.54' (Free Discharge)

↑ 1=CMR_Round 12" (Passes 0.16 cfs of 4.91 cfs potential flow)

↑ 2=Orifice/Grate (Passes 0.16 cfs of 0.20 cfs potential flow)

↑ 3=Orifice/Grate (Orifice Controls 0.16 cfs @ 7.40 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=794.00' (Free Discharge)

↑ 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond Pond: West Pond**Hydrograph**