

STORMWATER MANAGEMENT PLAN ADDENDUM

Hotel, Restaurant and Portside Residences
Former Jordan's Meats Site
207-209 Fore Street
Portland, Maine

prepared for

Old Port Hospitality, LLC
11 Corporate Drive
Belmont, NH 03220

prepared by

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Revised
March 23, 2010

**STORMWATER MANAGEMENT PLAN
ADDENDUM
MARCH 23, 2010**

**Hotel Restaurant and Residences- Old Port
Former Jordan's Meats Site
Portland Maine**

Sebago Technics, Inc. has prepared this Stormwater Management Plan Addendum to present revised stormwater management calculations for the proposed Hotel, Restaurant and Portside Residences project at 207 and 209 Fore Street on the site of the former Jordan's Meats facility in Portland, Maine.

The calculations presented in this report addendum supersede the calculations in Sebago Technics' Stormwater Management Plan dated February 16, 2010.

Summary of Revisions

The revised calculations reflect the following revisions to the previously prepared report.

1. Storm Drain in Fore Street

The analysis presented in the February 16, 2010 Stormwater Management Plan included a proposed 30" diameter storm drain traversing the project site from Middle Street at its intersection with Hampshire Street to Fore Street, and then extending west along Fore Street connecting into an existing the 48" combined sewer overflow downgradient of structure 2784 (Study Point SP-3). This is a dedicated overflow line that drains to Commercial Street and Casco Bay.

Due to conflicts with existing utilities in Franklin Street, including an existing 30" combined sewer and electrical duct bank, one (1) segment of the proposed 30" storm drain has been revised to be two (2) parallel 24" diameter pipes. The revised storm drains are identified as SD-6A and SD-6B on the project plans and are represented in the hydrologic model as the outlet of Structure DMH-6. The 24' pipes will connect DMH-6 to DMH-6A.

The twin 24" pipes provide increased capacity in the system compared to the originally proposed single 30" diameter pipe. The models indicate that during the 25-year storm event, the depth of flow in DHM-6 reduces from 2.95' with a single 30" pipe to 1.98' with the dual 24" pipe design.

2. Grading and Stormwater Quality Treatment

The project includes the re-development of existing impervious area that was in existence as of November 16, 2005. As such, the project qualifies for an exemption from the

Maine Department of Environmental Protection Chapter 500 General Standards for stormwater quality treatment in accordance with Chapter 500.4.B.(3)(f) Stormwater Management Law Project including Redevelopment. The City of Portland's Technical Standards and the State standards do not require stormwater quality treatment for this project.

However, in response to requests by City staff, the plan has been revised to incorporate two (2) underdrained "Tree Box" filters to provide treatment for a portion of the project site.

The project plans have been revised to eliminate the curbing along the south side of the proposed parking area on Lot 2. Runoff from the parking area will sheet flow off the south edge of the pavement where it will be collected in a grass lined swale and directed to two (2) Tree Box filter structures where it will be treated prior to discharging off site.


The project's post-development stormwater model has been revised to include this revision. The following revisions are reflected in the model:

- Post-development Subcatchment 4 has been divided into Subcatchment 4 and 4D. Subcatchment 4D is the area tributary to the Tree Box filters. The Tree Box filter outlet is modeled as structure TF-1 in the model.
- The Tree Box filter discharge pipes are connected to Catch Basin CB-13. The outlet pipes from CB-13 and CB-11 have been revised to reflect the proposed design.

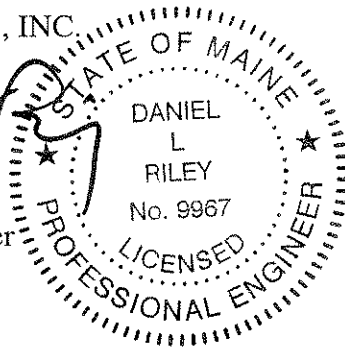
The proposed revisions do not significantly change the overall rate of runoff from the site as presented in the February 16, 2010 study.

Prepared by,

SEBAGO TECHNICS, INC.

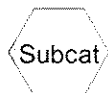
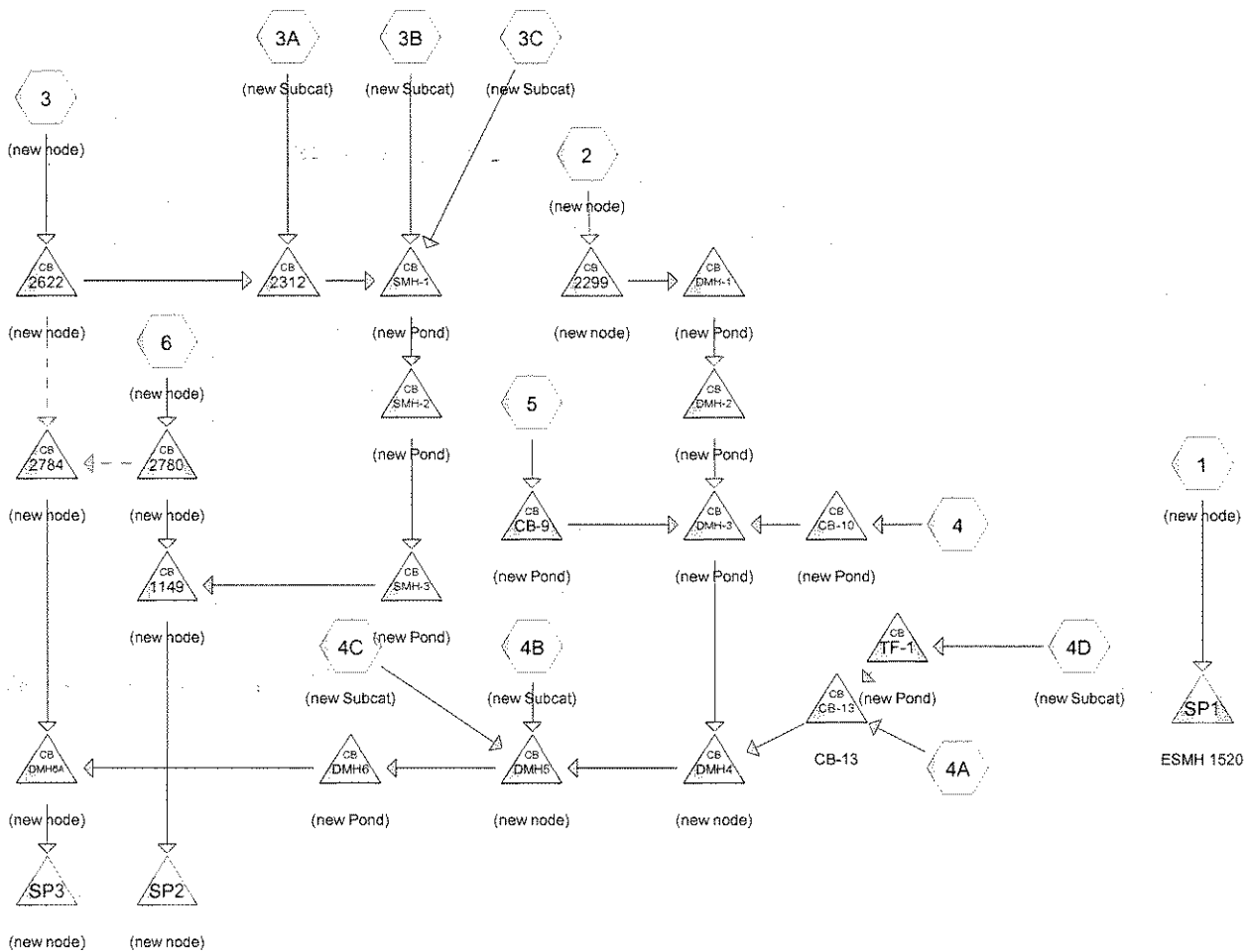

Daniel L. Riley, P.E.
Senior Project Manager

DLR:dlr/kn
March 23, 2010



Attachment A

Stormwater Modeling – Post-Development Model



Drainage Diagram for 05090_POST revised 3-23-10
 Prepared by {enter your company name here}, Printed 3/23/2010
 HydroCAD® 8.5.0 s/n 001856 © 2007 HydroCAD Software Solutions LLC

Time span=0.00-36.00 hrs, dt=0.04 hrs, 901 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1: (new node) Runoff Area=32.350 ac 85.00% Impervious Runoff Depth=1.90"
Flow Length=3,409' Tc=19.3 min CN=89 Runoff=49.06 cfs 5.122 af

Subcatchment 2: (new node) Runoff Area=4.280 ac 85.00% Impervious Runoff Depth=1.90"
Flow Length=1,148' Tc=6.1 min CN=89 Runoff=9.37 cfs 0.678 af

Subcatchment 3: (new node) Runoff Area=18.320 ac 85.00% Impervious Runoff Depth=1.90"
Flow Length=1,120' Tc=13.0 min CN=89 Runoff=32.38 cfs 2.900 af

Subcatchment 3A: (new Subcat) Runoff Area=0.640 ac 85.00% Impervious Runoff Depth=1.90"
Flow Length=100' Tc=6.0 min CN=89 Runoff=1.41 cfs 0.101 af

Subcatchment 3B: (new Subcat) Runoff Area=0.150 ac 100.00% Impervious Runoff Depth=2.77"
Tc=6.0 min CN=98 Runoff=0.43 cfs 0.035 af

Subcatchment 3C: (new Subcat) Runoff Area=0.080 ac 100.00% Impervious Runoff Depth=2.77"
Tc=6.0 min CN=98 Runoff=0.23 cfs 0.018 af

Subcatchment 4: Runoff Area=0.750 ac 61.33% Impervious Runoff Depth=0.96"
Flow Length=409' Tc=6.0 min CN=75 Runoff=0.79 cfs 0.060 af

Subcatchment 4A: Runoff Area=0.340 ac 44.12% Impervious Runoff Depth=0.51"
Flow Length=233' Tc=6.0 min CN=65 Runoff=0.15 cfs 0.014 af

Subcatchment 4B: (new Subcat) Runoff Area=0.430 ac 100.00% Impervious Runoff Depth=2.77"
Flow Length=114' Slope=0.0200 '/' Tc=6.0 min CN=98 Runoff=1.24 cfs 0.099 af

Subcatchment 4C: (new Subcat) Runoff Area=0.110 ac 100.00% Impervious Runoff Depth=2.77"
Flow Length=88' Slope=0.0200 '/' Tc=6.0 min CN=98 Runoff=0.32 cfs 0.025 af

Subcatchment 4D: (new Subcat) Runoff Area=0.300 ac 53.33% Impervious Runoff Depth=0.71"
Flow Length=120' Tc=6.0 min CN=70 Runoff=0.21 cfs 0.018 af

Subcatchment 5: Runoff Area=0.510 ac 92.16% Impervious Runoff Depth=2.25"
Flow Length=103' Tc=6.0 min CN=93 Runoff=1.30 cfs 0.096 af

Subcatchment 6: (new node) Runoff Area=4.420 ac 85.00% Impervious Runoff Depth=1.90"
Flow Length=475' Tc=6.0 min CN=89 Runoff=9.71 cfs 0.700 af

Pond 1149: (new node) Peak Elev=7.13' Inflow=24.75 cfs 3.307 af
30.0" x 100.0' Culvert Outflow=24.75 cfs 3.307 af

Pond 2299: (new node) Peak Elev=16.59' Inflow=9.37 cfs 0.678 af
24.0" x 22.0' Culvert Outflow=9.37 cfs 0.678 af

Pond 2312: Peak Elev=17.56' Inflow=14.60 cfs 2.554 af
24.0" x 36.0' Culvert Outflow=14.60 cfs 2.554 af

Pond 2622: (new node) Peak Elev=22.99' Inflow=32.38 cfs 2.900 af
 Primary=13.51 cfs 2.453 af Secondary=18.88 cfs 0.447 af Outflow=32.38 cfs 2.900 af

Pond 2780: (new node) Peak Elev=7.49' Inflow=9.71 cfs 0.700 af
 Primary=9.71 cfs 0.700 af Secondary=0.00 cfs 0.000 af Outflow=9.71 cfs 0.700 af

Pond 2784: (new node) Peak Elev=6.63' Inflow=18.88 cfs 0.447 af
 48.0" x 65.0' Culvert Outflow=18.88 cfs 0.447 af

Pond CB-10: (new Pond) Peak Elev=13.62' Inflow=0.79 cfs 0.060 af
 15.0" x 19.0' Culvert Outflow=0.79 cfs 0.060 af

Pond CB-13: CB-13 Peak Elev=12.70' Inflow=0.36 cfs 0.032 af
 18.0" x 67.0' Culvert Outflow=0.36 cfs 0.032 af

Pond CB-9: (new Pond) Peak Elev=13.40' Inflow=1.30 cfs 0.096 af
 12.0" x 51.0' Culvert Outflow=1.30 cfs 0.096 af

Pond DMH-1: (new Pond) Peak Elev=14.22' Inflow=9.37 cfs 0.678 af
 24.0" x 83.0' Culvert Outflow=9.37 cfs 0.678 af

Pond DMH-2: (new Pond) Peak Elev=13.58' Inflow=9.37 cfs 0.678 af
 24.0" x 49.0' Culvert Outflow=9.37 cfs 0.678 af

Pond DMH-3: (new Pond) Peak Elev=13.05' Inflow=11.46 cfs 0.833 af
 30.0" x 113.0' Culvert Outflow=11.46 cfs 0.833 af

Pond DMH4: (new node) Peak Elev=12.32' Inflow=11.81 cfs 0.866 af
 30.0" x 55.0' Culvert Outflow=11.81 cfs 0.866 af

Pond DMH5: (new node) Peak Elev=11.54' Inflow=13.36 cfs 0.990 af
 30.0" x 75.0' Culvert Outflow=13.36 cfs 0.990 af

Pond DMH6: (new Pond) Peak Elev=10.19' Inflow=13.36 cfs 0.990 af
 24.0" x 104.0' Culvert Outflow=13.36 cfs 0.990 af

Pond DMH6A: (new node) Peak Elev=6.26' Inflow=28.79 cfs 1.438 af
 48.0" x 283.0' Culvert Outflow=28.79 cfs 1.438 af

Pond SMH-1: (new Pond) Peak Elev=16.64' Inflow=15.18 cfs 2.607 af
 24.0" x 80.0' Culvert Outflow=15.18 cfs 2.607 af

Pond SMH-2: (new Pond) Peak Elev=11.01' Inflow=15.18 cfs 2.607 af
 24.0" x 143.0' Culvert Outflow=15.18 cfs 2.607 af

Pond SMH-3: (new Pond) Peak Elev=9.44' Inflow=15.18 cfs 2.607 af
 24.0" x 207.0' Culvert Outflow=15.18 cfs 2.607 af

Pond SP1: ESMH 1520 Inflow=49.06 cfs 5.122 af
 Primary=49.06 cfs 5.122 af

Pond SP2: (new node)

Inflow=24.75 cfs 3.307 af
Primary=24.75 cfs 3.307 af

Pond SP3: (new node)

Inflow=28.79 cfs 1.438 af
Primary=28.79 cfs 1.438 af

Pond TF-1: (new Pond)

Peak Elev=12.94' Inflow=0.21 cfs 0.018 af
12.0" x 40.0' Culvert Outflow=0.21 cfs 0.018 af

Summary for Subcatchment 1: (new node)

Runoff = 49.06 cfs @ 12.26 hrs, Volume= 5.122 af, Depth= 1.90"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 2-YEAR Rainfall=3.00"

Area (ac)	CN	Description
32.350	89	Urban commercial, 85% imp, HSG A
4.853		Pervious Area
27.497		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	20	0.0100	0.09		Sheet Flow, SHEET A TO B Grass: Short n= 0.150 P2= 3.00"
11.2	430	0.0010	0.64		Shallow Concentrated Flow, SHALLOW B TO C Paved Kv= 20.3 fps
0.9	292	0.0110	5.15	4.05	Circular Channel (pipe), PIPE C TO D Diam= 12.0" Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012
0.6	435	0.0520	11.21	8.80	Circular Channel (pipe), PIPE D TO E Diam= 12.0" Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012
0.7	629	0.0602	13.99	17.17	Circular Channel (pipe), PIPE E TO F Diam= 15.0" Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012
0.7	403	0.0280	9.54	11.71	Circular Channel (pipe), PIPE F TO G Diam= 15.0" Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012
0.6	488	0.0490	14.25	25.19	Circular Channel (pipe), PIPE G TO H Diam= 18.0" Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.012
0.3	262	0.0370	13.73	33.02	Circular Channel (pipe), PIPE H TO I Diam= 21.0" Area= 2.4 sf Perim= 5.5' r= 0.44' n= 0.012
0.6	450	0.0250	12.33	38.75	Circular Channel (pipe), PIPE I TO J Diam= 24.0" Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.012
19.3	3,409	Total			

Summary for Subcatchment 2: (new node)

Runoff = 9.37 cfs @ 12.09 hrs, Volume= 0.678 af, Depth= 1.90"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 2-YEAR Rainfall=3.00"

Area (ac)	CN	Description
4.280	89	Urban commercial, 85% imp, HSG A
0.642		Pervious Area
3.638		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	45	0.0570	0.21		Sheet Flow, SHEET A TO B Grass: Short n= 0.150 P2= 3.00"
1.4	263	0.0230	3.08		Shallow Concentrated Flow, SHALLOW B TO C Paved Kv= 20.3 fps
1.2	840	0.0320	11.52	20.36	Circular Channel (pipe), PIPE D TO E Diam= 18.0" Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.012
6.1	1,148	Total			

Summary for Subcatchment 3: (new node)

Runoff = 32.38 cfs @ 12.18 hrs, Volume= 2.900 af, Depth= 1.90"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 2-YEAR Rainfall=3.00"

Area (ac)	CN	Description
18.320	89	Urban commercial, 85% imp, HSG A
2.748		Pervious Area
15.572		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.6	150	0.0400	0.24		Sheet Flow, SHEET A TO B Grass: Short n= 0.150 P2= 3.00"
0.7	57	0.0400	1.40		Shallow Concentrated Flow, SHALLOW B TO C Short Grass Pasture Kv= 7.0 fps
0.5	85	0.0180	2.72		Shallow Concentrated Flow, SHALLOW C-D Paved Kv= 20.3 fps
0.6	300	0.0130	8.89	27.94	Circular Channel (pipe), PIPE D TO E Diam= 24.0" Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.012
0.3	259	0.0420	15.99	50.23	Circular Channel (pipe), PIPE E TO F Diam= 24.0" Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.012
0.3	269	0.0224	15.30	108.14	Circular Channel (pipe), PIPE F TO G Diam= 36.0" Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.012
13.0	1,120	Total			

Summary for Subcatchment 3A: (new Subcat)

Runoff = 1.41 cfs @ 12.09 hrs, Volume= 0.101 af, Depth= 1.90"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 2-YEAR Rainfall=3.00"

Area (ac)	CN	Description
0.640	89	Urban commercial, 85% imp, HSG A
0.096		Pervious Area
0.544		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	56	0.0530	0.22		Sheet Flow, SHEET A TO B Grass: Short n= 0.150 P2= 3.00"
0.3	44	0.0200	2.87		Shallow Concentrated Flow, SHALLOW B TO C Paved Kv= 20.3 fps
1.4					Direct Entry, 6 MINUTE MIN. TC
6.0	100	Total			

Summary for Subcatchment 3B: (new Subcat)

Runoff = 0.43 cfs @ 12.08 hrs, Volume= 0.035 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 2-YEAR Rainfall=3.00"

Area (ac)	CN	Description
0.150	98	Paved parking & roofs
0.150		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 3C: (new Subcat)

Runoff = 0.23 cfs @ 12.08 hrs, Volume= 0.018 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 2-YEAR Rainfall=3.00"

Area (ac)	CN	Description
0.080	98	Paved parking & roofs
0.080		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 4:

Runoff = 0.79 cfs @ 12.10 hrs, Volume= 0.060 af, Depth= 0.96"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 2-YEAR Rainfall=3.00"

Area (ac)	CN	Description
0.460	98	Paved parking & roofs
0.290	39	>75% Grass cover, Good, HSG A
0.750	75	Weighted Average
0.290		Pervious Area
0.460		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.0	31	0.0400	0.17		Sheet Flow, SHEET A TO B Grass: Short n= 0.150 P2= 3.00"
1.0	119	0.0500	1.99		Sheet Flow, SHEET B TO C Smooth surfaces n= 0.011 P2= 3.00"
0.7	192	0.0500	4.54		Shallow Concentrated Flow, SHALLOW C TO D Paved Kv= 20.3 fps
0.2	67	0.0200	6.95	5.46	Circular Channel (pipe), PIPE B TO C Diam= 12.0" Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012
1.1					Direct Entry,
6.0	409	Total			

Summary for Subcatchment 4A:

Runoff = 0.15 cfs @ 12.12 hrs, Volume= 0.014 af, Depth= 0.51"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 2-YEAR Rainfall=3.00"

Area (ac)	CN	Description
0.190	39	>75% Grass cover, Good, HSG A
0.150	98	Paved parking & roofs
0.340	65	Weighted Average
0.190		Pervious Area
0.150		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	41	0.2400	0.37		Sheet Flow, SHEET A TO B Grass: Short n= 0.150 P2= 3.00"
1.1	192	0.0200	2.87		Shallow Concentrated Flow, SHALLOW B TO C Paved Kv= 20.3 fps
3.1					Direct Entry, 6 MINUTE MIN. TC
6.0	233	Total			

Summary for Subcatchment 4B: (new Subcat)

Runoff = 1.24 cfs @ 12.08 hrs, Volume= 0.099 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 2-YEAR Rainfall=3.00"

Area (ac)	CN	Description
0.430	98	Paved parking & roofs
0.430		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	108	0.0200	1.35		Sheet Flow, SHEET A TO B Smooth surfaces n= 0.011 P2= 3.00"
0.0	6	0.0200	6.95	5.46	Circular Channel (pipe), PIPE B TO C Diam= 12.0" Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012
4.7					Direct Entry,
6.0	114	Total			

Summary for Subcatchment 4C: (new Subcat)

Runoff = 0.32 cfs @ 12.08 hrs, Volume= 0.025 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 2-YEAR Rainfall=3.00"

Area (ac)	CN	Description
0.110	98	Paved parking & roofs
0.110		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	88	0.0200	1.30		Sheet Flow, SHEET A TO B Smooth surfaces n= 0.011 P2= 3.00"
4.9					Direct Entry,
6.0	88	Total			

Summary for Subcatchment 4D: (new Subcat)

Runoff = 0.21 cfs @ 12.10 hrs, Volume= 0.018 af, Depth= 0.71"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 2-YEAR Rainfall=3.00"

Area (ac)	CN	Description
0.160	98	Paved parking & roofs
0.140	39	>75% Grass cover, Good, HSG A
0.300	70	Weighted Average
0.140		Pervious Area
0.160		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	25	0.0600	0.13		Sheet Flow, SHEET A TO B Grass: Dense n= 0.240 P2= 3.00"
0.5	95	0.0500	3.35		Shallow Concentrated Flow, SHALLOW B TO C Grassed Waterway Kv= 15.0 fps
2.4					Direct Entry, 6 MINUTE MIN. TC
6.0	120	Total			

Summary for Subcatchment 5:

Runoff = 1.30 cfs @ 12.09 hrs, Volume= 0.096 af, Depth= 2.25"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 2-YEAR Rainfall=3.00"

Area (ac)	CN	Description
0.470	98	Paved parking & roofs
0.040	39	>75% Grass cover, Good, HSG A
0.510	93	Weighted Average
0.040		Pervious Area
0.470		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.7	43	0.3300	0.43		Sheet Flow, SHEET A TO B Grass: Short n= 0.150 P2= 3.00"
0.1	24	0.0200	2.87		Shallow Concentrated Flow, SHALLOW B TO C Paved Kv= 20.3 fps
0.2	36	0.0050	3.47	2.73	Circular Channel (pipe), PIPE B TO C Diam= 12.0" Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012
4.0					Direct Entry, 6 MINUTE MIN. TC
6.0	103	Total			

Summary for Subcatchment 6: (new node)

Runoff = 9.71 cfs @ 12.09 hrs, Volume= 0.700 af, Depth= 1.90"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 2-YEAR Rainfall=3.00"

Area (ac)	CN	Description
4.420	89	Urban commercial, 85% imp, HSG A
0.663		Pervious Area
3.757		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	150	0.0600	2.24		Sheet Flow, SHEET A TO B Smooth surfaces n= 0.011 P2= 3.00"
0.4	150	0.0933	6.20		Shallow Concentrated Flow, SHALLOW B TO C Paved Kv= 20.3 fps
0.4	130	0.0920	6.16		Shallow Concentrated Flow, SHALLOW C TO D Paved Kv= 20.3 fps
0.1	45	0.0100	6.44	11.38	Circular Channel (pipe), PIPE D TO E Diam= 18.0" Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.012
4.0					Direct Entry, 6 MINUTE MIN. TC
6.0	475	Total			

Summary for Pond 1149: (new node)

Inflow Area = 23.610 ac, 85.15% Impervious, Inflow Depth = 1.68" for 2-YEAR event
 Inflow = 24.75 cfs @ 12.09 hrs, Volume= 3.307 af
 Outflow = 24.75 cfs @ 12.09 hrs, Volume= 3.307 af, Atten= 0%, Lag= 0.0 min
 Primary = 24.75 cfs @ 12.09 hrs, Volume= 3.307 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
 Peak Elev= 7.13' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.40'	30.0" x 100.0' long Culvert RCP, square edge headwall, Ke= 0.500 Outlet Invert= 4.00' S= 0.0040 '/' Cc= 0.900 n= 0.012

Primary OutFlow Max=24.44 cfs @ 12.09 hrs HW=7.10' TW=0.00' (Dynamic Tailwater)
 ↳1=Culvert (Barrel Controls 24.44 cfs @ 5.73 fps)

Summary for Pond 2299: (new node)

Inflow Area = 4.280 ac, 85.00% Impervious, Inflow Depth = 1.90" for 2-YEAR event
 Inflow = 9.37 cfs @ 12.09 hrs, Volume= 0.678 af
 Outflow = 9.37 cfs @ 12.09 hrs, Volume= 0.678 af, Atten= 0%, Lag= 0.0 min
 Primary = 9.37 cfs @ 12.09 hrs, Volume= 0.678 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
 Peak Elev= 16.59' @ 12.09 hrs
 Flood Elev= 28.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	15.20'	24.0" x 22.0' long Culvert RCP, square edge headwall, Ke= 0.500 Outlet Invert= 14.10' S= 0.0500 '/' Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=9.19 cfs @ 12.09 hrs HW=16.57' TW=14.18' (Dynamic Tailwater)
 ↳1=Culvert (Inlet Controls 9.19 cfs @ 3.99 fps)

Summary for Pond 2312:

Inflow Area = 18.960 ac, 85.00% Impervious, Inflow Depth = 1.62" for 2-YEAR event
 Inflow = 14.60 cfs @ 12.14 hrs, Volume= 2.554 af
 Outflow = 14.60 cfs @ 12.14 hrs, Volume= 2.554 af, Atten= 0%, Lag= 0.0 min
 Primary = 14.60 cfs @ 12.14 hrs, Volume= 2.554 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
 Peak Elev= 17.56' @ 12.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	15.53'	24.0" x 36.0' long Culvert RCP, square edge headwall, Ke= 0.500 Outlet Invert= 14.73' S= 0.0222 '/' Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=14.43 cfs @ 12.14 hrs HW=17.53' TW=16.62' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 14.43 cfs @ 4.59 fps)

Summary for Pond 2622: (new node)

Inflow Area = 18.320 ac, 85.00% Impervious, Inflow Depth = 1.90" for 2-YEAR event
 Inflow = 32.38 cfs @ 12.18 hrs, Volume= 2.900 af
 Outflow = 32.38 cfs @ 12.18 hrs, Volume= 2.900 af, Atten= 0%, Lag= 0.0 min
 Primary = 13.51 cfs @ 12.18 hrs, Volume= 2.453 af
 Secondary = 18.88 cfs @ 12.18 hrs, Volume= 0.447 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
 Peak Elev= 22.99' @ 12.18 hrs
 Flood Elev= 28.92'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.72'	18.0" x 205.0' long Culvert RCP, square edge headwall, Ke= 0.500 Outlet Invert= 15.63' S= 0.0200 '/' Cc= 0.900 n= 0.012
#2	Device 3	22.20'	8.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s) 2.0' Crest Height
#3	Secondary	18.88'	36.0" x 230.0' long Culvert RCP, square edge headwall, Ke= 0.500 Outlet Invert= 5.16' S= 0.0597 '/' Cc= 0.900 n= 0.012

Primary OutFlow Max=13.48 cfs @ 12.18 hrs HW=22.98' TW=17.54' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 13.48 cfs @ 7.63 fps)

Secondary OutFlow Max=18.50 cfs @ 12.18 hrs HW=22.98' TW=6.61' (Dynamic Tailwater)
 ↑3=Culvert (Passes 18.50 cfs of 54.88 cfs potential flow)
 ↑2=Sharp-Crested Rectangular Weir (Weir Controls 18.50 cfs @ 3.02 fps)

Summary for Pond 2780: (new node)

Inflow Area = 4.420 ac, 85.00% Impervious, Inflow Depth = 1.90" for 2-YEAR event
 Inflow = 9.71 cfs @ 12.09 hrs, Volume= 0.700 af
 Outflow = 9.71 cfs @ 12.09 hrs, Volume= 0.700 af, Atten= 0%, Lag= 0.0 min
 Primary = 9.71 cfs @ 12.09 hrs, Volume= 0.700 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
 Peak Elev= 7.49' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Device 2	6.00'	30.0" Vert. Orifice/Grate C= 0.600
#2	Primary	4.70'	30.0" x 80.0' long Culvert RCP, square edge headwall, Ke= 0.500 Outlet Invert= 4.40' S= 0.0037 '/' Cc= 0.900 n= 0.012
#3	Device 4	7.93'	5.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s) 2.0' Crest Height
#4	Secondary	5.00'	24.0" x 35.0' long Culvert RCP, square edge headwall, Ke= 0.500 Outlet Invert= 4.65' S= 0.0100 '/' Cc= 0.900 n= 0.012

Primary OutFlow Max=7.89 cfs @ 12.09 hrs HW=7.43' TW=7.11' (Dynamic Tailwater)

↑ **2=Culvert** (Passes 7.89 cfs of 13.37 cfs potential flow)
 ↑ **1=Orifice/Grate** (Orifice Controls 7.89 cfs @ 2.72 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=4.70' TW=4.32' (Dynamic Tailwater)

↑ **4=Culvert** (Controls 0.00 cfs)
 ↑ **3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 2784: (new node)

Inflow = 18.88 cfs @ 12.18 hrs, Volume= 0.447 af
 Outflow = 18.88 cfs @ 12.18 hrs, Volume= 0.447 af, Atten= 0%, Lag= 0.0 min
 Primary = 18.88 cfs @ 12.18 hrs, Volume= 0.447 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
 Peak Elev= 6.63' @ 12.18 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	4.32'	48.0" x 65.0' long Culvert RCP, square edge headwall, Ke= 0.500 Outlet Invert= 4.10' S= 0.0034 '/' Cc= 0.900 n= 0.012

Primary OutFlow Max=19.33 cfs @ 12.18 hrs HW=6.61' TW=6.21' (Dynamic Tailwater)

↑ **1=Culvert** (Outlet Controls 19.33 cfs @ 3.76 fps)

Summary for Pond CB-10: (new Pond)

Inflow Area = 0.750 ac, 61.33% Impervious, Inflow Depth = 0.96" for 2-YEAR event
 Inflow = 0.79 cfs @ 12.10 hrs, Volume= 0.060 af
 Outflow = 0.79 cfs @ 12.10 hrs, Volume= 0.060 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.79 cfs @ 12.10 hrs, Volume= 0.060 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
 Peak Elev= 13.62' @ 12.10 hrs
 Flood Elev= 16.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	13.17'	15.0" x 19.0' long Culvert RCP, square edge headwall, Ke= 0.500 Outlet Invert= 12.98' S= 0.0100 '/' Cc= 0.900 n= 0.012

Primary OutFlow Max=0.77 cfs @ 12.10 hrs HW=13.61' TW=13.02' (Dynamic Tailwater)
 ↖1=Culvert (Barrel Controls 0.77 cfs @ 2.95 fps)

Summary for Pond CB-13: CB-13

Inflow Area = 0.640 ac, 48.44% Impervious, Inflow Depth = 0.60" for 2-YEAR event
 Inflow = 0.36 cfs @ 12.11 hrs, Volume= 0.032 af
 Outflow = 0.36 cfs @ 12.11 hrs, Volume= 0.032 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.36 cfs @ 12.11 hrs, Volume= 0.032 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
 Peak Elev= 12.70' @ 12.13 hrs
 Flood Elev= 17.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	12.40'	18.0" x 67.0' long Culvert RCP, square edge headwall, Ke= 0.500 Outlet Invert= 11.73' S= 0.0100 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished

Primary OutFlow Max=0.33 cfs @ 12.11 hrs HW=12.69' TW=12.30' (Dynamic Tailwater)
 ↖1=Culvert (Outlet Controls 0.33 cfs @ 2.11 fps)

Summary for Pond CB-9: (new Pond)

Inflow Area = 0.510 ac, 92.16% Impervious, Inflow Depth = 2.25" for 2-YEAR event
 Inflow = 1.30 cfs @ 12.09 hrs, Volume= 0.096 af
 Outflow = 1.30 cfs @ 12.09 hrs, Volume= 0.096 af, Atten= 0%, Lag= 0.0 min
 Primary = 1.30 cfs @ 12.09 hrs, Volume= 0.096 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
 Peak Elev= 13.40' @ 12.09 hrs
 Flood Elev= 16.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	12.74'	12.0" x 51.0' long Culvert RCP, square edge headwall, Ke= 0.500 Outlet Invert= 12.48' S= 0.0051 '/' Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=1.23 cfs @ 12.09 hrs HW=13.40' TW=13.01' (Dynamic Tailwater)
 ↖1=Culvert (Outlet Controls 1.23 cfs @ 3.19 fps)

Summary for Pond DMH-1: (new Pond)

Inflow Area = 4.280 ac, 85.00% Impervious, Inflow Depth = 1.90" for 2-YEAR event
 Inflow = 9.37 cfs @ 12.09 hrs, Volume= 0.678 af
 Outflow = 9.37 cfs @ 12.09 hrs, Volume= 0.678 af, Atten= 0%, Lag= 0.0 min
 Primary = 9.37 cfs @ 12.09 hrs, Volume= 0.678 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
 Peak Elev= 14.22' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	12.67'	24.0" x 83.0' long Culvert RCP, square edge headwall, Ke= 0.500 Outlet Invert= 12.10' S= 0.0069 '/ Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=8.16 cfs @ 12.09 hrs HW=14.18' TW=13.55' (Dynamic Tailwater)
 ↑1=Culvert (Outlet Controls 8.16 cfs @ 4.45 fps)

Summary for Pond DMH-2: (new Pond)

Inflow Area = 4.280 ac, 85.00% Impervious, Inflow Depth = 1.90" for 2-YEAR event
 Inflow = 9.37 cfs @ 12.09 hrs, Volume= 0.678 af
 Outflow = 9.37 cfs @ 12.09 hrs, Volume= 0.678 af, Atten= 0%, Lag= 0.0 min
 Primary = 9.37 cfs @ 12.09 hrs, Volume= 0.678 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
 Peak Elev= 13.58' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	12.00'	24.0" x 49.0' long Culvert RCP, square edge headwall, Ke= 0.500 Outlet Invert= 11.58' S= 0.0086 '/ Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=8.20 cfs @ 12.09 hrs HW=13.55' TW=13.01' (Dynamic Tailwater)
 ↑1=Culvert (Outlet Controls 8.20 cfs @ 4.34 fps)

Summary for Pond DMH-3: (new Pond)

Inflow Area = 5.540 ac, 82.45% Impervious, Inflow Depth = 1.81" for 2-YEAR event
 Inflow = 11.46 cfs @ 12.09 hrs, Volume= 0.833 af
 Outflow = 11.46 cfs @ 12.09 hrs, Volume= 0.833 af, Atten= 0%, Lag= 0.0 min
 Primary = 11.46 cfs @ 12.09 hrs, Volume= 0.833 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
 Peak Elev= 13.05' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	11.48'	30.0" x 113.0' long Culvert RCP, square edge headwall, Ke= 0.500 Outlet Invert= 10.91' S= 0.0050 '/ Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=10.25 cfs @ 12.09 hrs HW=13.01' TW=12.29' (Dynamic Tailwater)

↳1=Culvert (Outlet Controls 10.25 cfs @ 4.65 fps)

Summary for Pond DMH4: (new node)

Inflow Area = 6.180 ac, 78.93% Impervious, Inflow Depth = 1.68" for 2-YEAR event
 Inflow = 11.81 cfs @ 12.09 hrs, Volume= 0.866 af
 Outflow = 11.81 cfs @ 12.09 hrs, Volume= 0.866 af, Atten= 0%, Lag= 0.0 min
 Primary = 11.81 cfs @ 12.09 hrs, Volume= 0.866 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Peak Elev= 12.32' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	10.81'	30.0" x 55.0' long Culvert RCP, square edge headwall, Ke= 0.500 Outlet Invert= 10.10' S= 0.0129 '/' Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=10.90 cfs @ 12.09 hrs HW=12.29' TW=11.52' (Dynamic Tailwater)

↳1=Culvert (Outlet Controls 10.90 cfs @ 5.19 fps)

Summary for Pond DMH5: (new node)

Inflow Area = 6.720 ac, 80.63% Impervious, Inflow Depth = 1.77" for 2-YEAR event
 Inflow = 13.36 cfs @ 12.09 hrs, Volume= 0.990 af
 Outflow = 13.36 cfs @ 12.09 hrs, Volume= 0.990 af, Atten= 0%, Lag= 0.0 min
 Primary = 13.36 cfs @ 12.09 hrs, Volume= 0.990 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Peak Elev= 11.54' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	10.00'	30.0" x 75.0' long Culvert RCP, square edge headwall, Ke= 0.500 Outlet Invert= 9.15' S= 0.0113 '/' Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=13.10 cfs @ 12.09 hrs HW=11.52' TW=10.17' (Dynamic Tailwater)

↳1=Culvert (Inlet Controls 13.10 cfs @ 4.20 fps)

Summary for Pond DMH6: (new Pond)

Inflow Area = 6.720 ac, 80.63% Impervious, Inflow Depth = 1.77" for 2-YEAR event
 Inflow = 13.36 cfs @ 12.09 hrs, Volume= 0.990 af
 Outflow = 13.36 cfs @ 12.09 hrs, Volume= 0.990 af, Atten= 0%, Lag= 0.0 min
 Primary = 13.36 cfs @ 12.09 hrs, Volume= 0.990 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Peak Elev= 10.19' @ 12.09 hrs

Flood Elev= 16.31'

Device	Routing	Invert	Outlet Devices
#1	Primary	9.05'	24.0" x 104.0' long Culvert X 2.00 RCP, square edge headwall, Ke= 0.500 Outlet Invert= 7.65' S= 0.0135 '/ Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=13.10 cfs @ 12.09 hrs HW=10.17' TW=6.09' (Dynamic Tailwater)

↑1=Culvert (Inlet Controls 13.10 cfs @ 3.61 fps)

Summary for Pond DMH6A: (new node)

Inflow Area = 6.720 ac, 80.63% Impervious, Inflow Depth = 2.57" for 2-YEAR event
 Inflow = 28.79 cfs @ 12.15 hrs, Volume= 1.438 af
 Outflow = 28.79 cfs @ 12.15 hrs, Volume= 1.438 af, Atten= 0%, Lag= 0.0 min
 Primary = 28.79 cfs @ 12.15 hrs, Volume= 1.438 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Peak Elev= 6.26' @ 12.15 hrs

Flood Elev= 17.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	4.00'	48.0" x 283.0' long Culvert RCP, square edge headwall, Ke= 0.500 Outlet Invert= 3.12' S= 0.0031 '/ Cc= 0.900 n= 0.012

Primary OutFlow Max=28.49 cfs @ 12.15 hrs HW=6.25' TW=0.00' (Dynamic Tailwater)

↑1=Culvert (Barrel Controls 28.49 cfs @ 5.66 fps)

Summary for Pond SMH-1: (new Pond)

Inflow Area = 19.190 ac, 85.18% Impervious, Inflow Depth = 1.63" for 2-YEAR event
 Inflow = 15.18 cfs @ 12.12 hrs, Volume= 2.607 af
 Outflow = 15.18 cfs @ 12.12 hrs, Volume= 2.607 af, Atten= 0%, Lag= 0.0 min
 Primary = 15.18 cfs @ 12.12 hrs, Volume= 2.607 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Peak Elev= 16.64' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	14.63'	24.0" x 80.0' long Culvert RCP, square edge headwall, Ke= 0.500 Outlet Invert= 9.10' S= 0.0691 '/ Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=15.15 cfs @ 12.12 hrs HW=16.63' TW=11.00' (Dynamic Tailwater)

↑1=Culvert (Inlet Controls 15.15 cfs @ 4.82 fps)

Summary for Pond SMH-2: (new Pond)

Inflow Area = 19.190 ac, 85.18% Impervious, Inflow Depth = 1.63" for 2-YEAR event
 Inflow = 15.18 cfs @ 12.12 hrs, Volume= 2.607 af
 Outflow = 15.18 cfs @ 12.12 hrs, Volume= 2.607 af, Atten= 0%, Lag= 0.0 min
 Primary = 15.18 cfs @ 12.12 hrs, Volume= 2.607 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
 Peak Elev= 11.01' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	9.00'	24.0" x 143.0' long Culvert RCP, square edge headwall, Ke= 0.500 Outlet Invert= 7.53' S= 0.0103 '/ Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=15.15 cfs @ 12.12 hrs HW=11.00' TW=9.43' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 15.15 cfs @ 4.82 fps)

Summary for Pond SMH-3: (new Pond)

Inflow Area = 19.190 ac, 85.18% Impervious, Inflow Depth = 1.63" for 2-YEAR event
 Inflow = 15.18 cfs @ 12.12 hrs, Volume= 2.607 af
 Outflow = 15.18 cfs @ 12.12 hrs, Volume= 2.607 af, Atten= 0%, Lag= 0.0 min
 Primary = 15.18 cfs @ 12.12 hrs, Volume= 2.607 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
 Peak Elev= 9.44' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	7.43'	24.0" x 207.0' long Culvert RCP, square edge headwall, Ke= 0.500 Outlet Invert= 5.23' S= 0.0106 '/ Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=15.15 cfs @ 12.12 hrs HW=9.43' TW=7.06' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 15.15 cfs @ 4.82 fps)

Summary for Pond SP1: ESMH 1520

Inflow Area = 32.350 ac, 85.00% Impervious, Inflow Depth = 1.90" for 2-YEAR event
 Inflow = 49.06 cfs @ 12.26 hrs, Volume= 5.122 af
 Primary = 49.06 cfs @ 12.26 hrs, Volume= 5.122 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Summary for Pond SP2: (new node)

Inflow Area = 23.610 ac, 85.15% Impervious, Inflow Depth = 1.68" for 2-YEAR event
 Inflow = 24.75 cfs @ 12.09 hrs, Volume= 3.307 af
 Primary = 24.75 cfs @ 12.09 hrs, Volume= 3.307 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Summary for Pond SP3: (new node)

Inflow Area = 6.720 ac, 80.63% Impervious, Inflow Depth = 2.57" for 2-YEAR event
 Inflow = 28.79 cfs @ 12.15 hrs, Volume= 1.438 af
 Primary = 28.79 cfs @ 12.15 hrs, Volume= 1.438 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Summary for Pond TF-1: (new Pond)

Inflow Area = 0.300 ac, 53.33% Impervious, Inflow Depth = 0.71" for 2-YEAR event
 Inflow = 0.21 cfs @ 12.10 hrs, Volume= 0.018 af
 Outflow = 0.21 cfs @ 12.10 hrs, Volume= 0.018 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.21 cfs @ 12.10 hrs, Volume= 0.018 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Peak Elev= 12.94' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	12.70'	12.0" x 40.0' long Culvert CPP, square edge headwall, Ke= 0.500 Outlet Invert= 12.40' S= 0.0075 '/' Cc= 0.900 n= 0.010 PVC, smooth interior

Primary OutFlow Max=0.20 cfs @ 12.10 hrs HW=12.94' TW=12.68' (Dynamic Tailwater)
 ↑1=Culvert (Outlet Controls 0.20 cfs @ 2.08 fps)

Time span=0.00-36.00 hrs, dt=0.04 hrs, 901 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1: (new node) Runoff Area=32.350 ac 85.00% Impervious Runoff Depth=3.49"
Flow Length=3,409' Tc=19.3 min CN=89 Runoff=88.57 cfs 9.396 af

Subcatchment 2: (new node) Runoff Area=4.280 ac 85.00% Impervious Runoff Depth=3.49"
Flow Length=1,148' Tc=6.1 min CN=89 Runoff=16.84 cfs 1.243 af

Subcatchment 3: (new node) Runoff Area=18.320 ac 85.00% Impervious Runoff Depth=3.49"
Flow Length=1,120' Tc=13.0 min CN=89 Runoff=58.31 cfs 5.321 af

Subcatchment 3A: (new Subcat) Runoff Area=0.640 ac 85.00% Impervious Runoff Depth=3.49"
Flow Length=100' Tc=6.0 min CN=89 Runoff=2.53 cfs 0.186 af

Subcatchment 3B: (new Subcat) Runoff Area=0.150 ac 100.00% Impervious Runoff Depth=4.46"
Tc=6.0 min CN=98 Runoff=0.68 cfs 0.056 af

Subcatchment 3C: (new Subcat) Runoff Area=0.080 ac 100.00% Impervious Runoff Depth=4.46"
Tc=6.0 min CN=98 Runoff=0.36 cfs 0.030 af

Subcatchment 4: Runoff Area=0.750 ac 61.33% Impervious Runoff Depth=2.21"
Flow Length=409' Tc=6.0 min CN=75 Runoff=1.91 cfs 0.138 af

Subcatchment 4A: Runoff Area=0.340 ac 44.12% Impervious Runoff Depth=1.46"
Flow Length=233' Tc=6.0 min CN=65 Runoff=0.54 cfs 0.041 af

Subcatchment 4B: (new Subcat) Runoff Area=0.430 ac 100.00% Impervious Runoff Depth=4.46"
Flow Length=114' Slope=0.0200 '/' Tc=6.0 min CN=98 Runoff=1.96 cfs 0.160 af

Subcatchment 4C: (new Subcat) Runoff Area=0.110 ac 100.00% Impervious Runoff Depth=4.46"
Flow Length=88' Slope=0.0200 '/' Tc=6.0 min CN=98 Runoff=0.50 cfs 0.041 af

Subcatchment 4D: (new Subcat) Runoff Area=0.300 ac 53.33% Impervious Runoff Depth=1.82"
Flow Length=120' Tc=6.0 min CN=70 Runoff=0.62 cfs 0.045 af

Subcatchment 5: Runoff Area=0.510 ac 92.16% Impervious Runoff Depth=3.90"
Flow Length=103' Tc=6.0 min CN=93 Runoff=2.18 cfs 0.166 af

Subcatchment 6: (new node) Runoff Area=4.420 ac 85.00% Impervious Runoff Depth=3.49"
Flow Length=475' Tc=6.0 min CN=89 Runoff=17.45 cfs 1.284 af

Pond 1149: (new node) Peak Elev=8.05' Inflow=32.12 cfs 5.487 af
30.0" x 100.0' Culvert Outflow=32.12 cfs 5.487 af

Pond 2299: (new node) Peak Elev=17.44' Inflow=16.84 cfs 1.243 af
24.0" x 22.0' Culvert Outflow=16.84 cfs 1.243 af

Pond 2312: Peak Elev=18.30' Inflow=17.02 cfs 4.147 af
24.0" x 36.0' Culvert Outflow=17.02 cfs 4.147 af

Pond 2622: (new node) Peak Elev=23.56' Inflow=58.31 cfs 5.321 af
 Primary=14.96 cfs 3.961 af Secondary=43.36 cfs 1.360 af Outflow=58.31 cfs 5.321 af

Pond 2780: (new node) Peak Elev=8.35' Inflow=17.45 cfs 1.284 af
 Primary=15.04 cfs 1.254 af Secondary=4.23 cfs 0.029 af Outflow=17.45 cfs 1.284 af

Pond 2784: (new node) Peak Elev=8.26' Inflow=44.76 cfs 1.389 af
 48.0" x 65.0' Culvert Outflow=44.76 cfs 1.389 af

Pond CB-10: (new Pond) Peak Elev=14.05' Inflow=1.91 cfs 0.138 af
 15.0" x 19.0' Culvert Outflow=1.91 cfs 0.138 af

Pond CB-13: CB-13 Peak Elev=13.24' Inflow=1.16 cfs 0.087 af
 18.0" x 67.0' Culvert Outflow=1.16 cfs 0.087 af

Pond CB-9: (new Pond) Peak Elev=14.08' Inflow=2.18 cfs 0.166 af
 12.0" x 51.0' Culvert Outflow=2.18 cfs 0.166 af

Pond DMH-1: (new Pond) Peak Elev=15.78' Inflow=16.84 cfs 1.243 af
 24.0" x 83.0' Culvert Outflow=16.84 cfs 1.243 af

Pond DMH-2: (new Pond) Peak Elev=14.85' Inflow=16.84 cfs 1.243 af
 24.0" x 49.0' Culvert Outflow=16.84 cfs 1.243 af

Pond DMH-3: (new Pond) Peak Elev=13.89' Inflow=20.93 cfs 1.547 af
 30.0" x 113.0' Culvert Outflow=20.93 cfs 1.547 af

Pond DMH4: (new node) Peak Elev=13.16' Inflow=22.08 cfs 1.634 af
 30.0" x 55.0' Culvert Outflow=22.08 cfs 1.634 af

Pond DMH5: (new node) Peak Elev=12.31' Inflow=24.54 cfs 1.835 af
 30.0" x 75.0' Culvert Outflow=24.54 cfs 1.835 af

Pond DMH6: (new Pond) Peak Elev=10.71' Inflow=24.54 cfs 1.835 af
 24.0" x 104.0' Culvert Outflow=24.54 cfs 1.835 af

Pond DMH6A: (new node) Peak Elev=7.72' Inflow=64.51 cfs 3.224 af
 48.0" x 283.0' Culvert Outflow=64.51 cfs 3.224 af

Pond SMH-1: (new Pond) Peak Elev=17.04' Inflow=17.98 cfs 4.233 af
 24.0" x 80.0' Culvert Outflow=17.98 cfs 4.233 af

Pond SMH-2: (new Pond) Peak Elev=11.41' Inflow=17.98 cfs 4.233 af
 24.0" x 143.0' Culvert Outflow=17.98 cfs 4.233 af

Pond SMH-3: (new Pond) Peak Elev=9.84' Inflow=17.98 cfs 4.233 af
 24.0" x 207.0' Culvert Outflow=17.98 cfs 4.233 af

Pond SP1: ESMH 1520 Inflow=88.57 cfs 9.396 af
 Primary=88.57 cfs 9.396 af

Pond SP2: (new node)

Inflow=32.12 cfs 5.487 af
Primary=32.12 cfs 5.487 af

Pond SP3: (new node)

Inflow=64.51 cfs 3.224 af
Primary=64.51 cfs 3.224 af

Pond TF-1: (new Pond)

Peak Elev=13.30' Inflow=0.62 cfs 0.045 af
12.0" x 40.0' Culvert Outflow=0.62 cfs 0.045 af

Time span=0.00-36.00 hrs, dt=0.04 hrs, 901 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1: (new node) Runoff Area=32.350 ac 85.00% Impervious Runoff Depth=4.25"
Flow Length=3,409' Tc=19.3 min CN=89 Runoff=107.13 cfs 11.463 af

Subcatchment 2: (new node) Runoff Area=4.280 ac 85.00% Impervious Runoff Depth=4.25"
Flow Length=1,148' Tc=6.1 min CN=89 Runoff=20.34 cfs 1.517 af

Subcatchment 3: (new node) Runoff Area=18.320 ac 85.00% Impervious Runoff Depth=4.25"
Flow Length=1,120' Tc=13.0 min CN=89 Runoff=70.51 cfs 6.492 af

Subcatchment 3A: (new Subcat) Runoff Area=0.640 ac 85.00% Impervious Runoff Depth=4.25"
Flow Length=100' Tc=6.0 min CN=89 Runoff=3.05 cfs 0.227 af

Subcatchment 3B: (new Subcat) Runoff Area=0.150 ac 100.00% Impervious Runoff Depth=5.26"
Tc=6.0 min CN=98 Runoff=0.80 cfs 0.066 af

Subcatchment 3C: (new Subcat) Runoff Area=0.080 ac 100.00% Impervious Runoff Depth=5.26"
Tc=6.0 min CN=98 Runoff=0.43 cfs 0.035 af

Subcatchment 4: Runoff Area=0.750 ac 61.33% Impervious Runoff Depth=2.86"
Flow Length=409' Tc=6.0 min CN=75 Runoff=2.49 cfs 0.179 af

Subcatchment 4A: Runoff Area=0.340 ac 44.12% Impervious Runoff Depth=1.99"
Flow Length=233' Tc=6.0 min CN=65 Runoff=0.76 cfs 0.057 af

Subcatchment 4B: (new Subcat) Runoff Area=0.430 ac 100.00% Impervious Runoff Depth=5.26"
Flow Length=114' Slope=0.0200 '/' Tc=6.0 min CN=98 Runoff=2.30 cfs 0.189 af

Subcatchment 4C: (new Subcat) Runoff Area=0.110 ac 100.00% Impervious Runoff Depth=5.26"
Flow Length=88' Slope=0.0200 '/' Tc=6.0 min CN=98 Runoff=0.59 cfs 0.048 af

Subcatchment 4D: (new Subcat) Runoff Area=0.300 ac 53.33% Impervious Runoff Depth=2.41"
Flow Length=120' Tc=6.0 min CN=70 Runoff=0.83 cfs 0.060 af

Subcatchment 5: Runoff Area=0.510 ac 92.16% Impervious Runoff Depth=4.69"
Flow Length=103' Tc=6.0 min CN=93 Runoff=2.60 cfs 0.199 af

Subcatchment 6: (new node) Runoff Area=4.420 ac 85.00% Impervious Runoff Depth=4.25"
Flow Length=475' Tc=6.0 min CN=89 Runoff=21.08 cfs 1.566 af

Pond 1149: (new node) Peak Elev=8.15' Inflow=33.40 cfs 6.488 af
30.0" x 100.0' Culvert Outflow=33.40 cfs 6.488 af

Pond 2299: (new node) Peak Elev=18.15' Inflow=20.34 cfs 1.517 af
24.0" x 22.0' Culvert Outflow=20.34 cfs 1.517 af

Pond 2312: Peak Elev=18.60' Inflow=17.91 cfs 4.873 af
24.0" x 36.0' Culvert Outflow=17.91 cfs 4.873 af

Pond 2622: (new node) Peak Elev=23.80' Inflow=70.51 cfs 6.492 af
 Primary=15.17 cfs 4.646 af Secondary=55.58 cfs 1.846 af Outflow=70.51 cfs 6.492 af

Pond 2780: (new node) Peak Elev=8.48' Inflow=21.08 cfs 1.566 af
 Primary=15.40 cfs 1.514 af Secondary=6.97 cfs 0.052 af Outflow=21.08 cfs 1.566 af

Pond 2784: (new node) Peak Elev=9.34' Inflow=55.27 cfs 1.897 af
 48.0" x 65.0' Culvert Outflow=55.27 cfs 1.897 af

Pond CB-10: (new Pond) Peak Elev=14.80' Inflow=2.49 cfs 0.179 af
 15.0" x 19.0' Culvert Outflow=2.49 cfs 0.179 af

Pond CB-13: CB-13 Peak Elev=14.01' Inflow=1.59 cfs 0.117 af
 18.0" x 67.0' Culvert Outflow=1.59 cfs 0.117 af

Pond CB-9: (new Pond) Peak Elev=14.93' Inflow=2.60 cfs 0.199 af
 12.0" x 51.0' Culvert Outflow=2.60 cfs 0.199 af

Pond DMH-1: (new Pond) Peak Elev=17.11' Inflow=20.34 cfs 1.517 af
 24.0" x 83.0' Culvert Outflow=20.34 cfs 1.517 af

Pond DMH-2: (new Pond) Peak Elev=15.75' Inflow=20.34 cfs 1.517 af
 24.0" x 49.0' Culvert Outflow=20.34 cfs 1.517 af

Pond DMH-3: (new Pond) Peak Elev=14.71' Inflow=25.43 cfs 1.895 af
 30.0" x 113.0' Culvert Outflow=25.43 cfs 1.895 af

Pond DMH4: (new node) Peak Elev=13.98' Inflow=27.02 cfs 2.012 af
 30.0" x 55.0' Culvert Outflow=27.02 cfs 2.012 af

Pond DMH5: (new node) Peak Elev=12.85' Inflow=29.90 cfs 2.248 af
 30.0" x 75.0' Culvert Outflow=29.90 cfs 2.248 af

Pond DMH6: (new Pond) Peak Elev=11.01' Inflow=29.90 cfs 2.248 af
 24.0" x 104.0' Culvert Outflow=29.90 cfs 2.248 af

Pond DMH6A: (new node) Peak Elev=8.51' Inflow=82.86 cfs 4.146 af
 48.0" x 283.0' Culvert Outflow=82.86 cfs 4.146 af

Pond SMH-1: (new Pond) Peak Elev=17.22' Inflow=19.09 cfs 4.974 af
 24.0" x 80.0' Culvert Outflow=19.09 cfs 4.974 af

Pond SMH-2: (new Pond) Peak Elev=11.59' Inflow=19.09 cfs 4.974 af
 24.0" x 143.0' Culvert Outflow=19.09 cfs 4.974 af

Pond SMH-3: (new Pond) Peak Elev=10.02' Inflow=19.09 cfs 4.974 af
 24.0" x 207.0' Culvert Outflow=19.09 cfs 4.974 af

Pond SP1: ESMH 1520 Inflow=107.13 cfs 11.463 af
 Primary=107.13 cfs 11.463 af

Pond SP2: (new node)

Inflow=33.40 cfs 6.488 af
Primary=33.40 cfs 6.488 af

Pond SP3: (new node)

Inflow=82.86 cfs 4.146 af
Primary=82.86 cfs 4.146 af

Pond TF-1: (new Pond)

Peak Elev=14.03' Inflow=0.83 cfs 0.060 af
12.0" x 40.0' Culvert Outflow=0.83 cfs 0.060 af