



**STORMWATER MANAGEMENT REPORT ADDENDUM 2**  
**RETAIL PARCEL L-2**  
**MAINSTREET NB REDEVELOPMENT PROJECT**  
**BLOCK 148, LOT 24 & BLOCK 141, LOTS 29, 43, 120, 123, & 142**  
**NORTH BRUNSWICK TOWNSHIP, MIDDLESEX COUNTY, NEW JERSEY**  
**FEBRUARY 22, 2024**

One Water Consulting LLC (One Water) has prepared this Stormwater Management Report Addendum for the MainStreet NB Redevelopment Project to address the reconfiguration of the commuter parking area in the northern portion of the site for the addition of a retail building and associated parking (referred to as Retail Parcel L-2). One Water staff previously prepared the Stormwater Management Report for the MainStreet NB Redevelopment project (under employment of Omni Environmental LLC at the time), last revised February 2, 2012. An Addendum to the Stormwater Management Report was also previously issued for the Phase 1F improvements on January 14, 2022. This addendum serves to evaluate the conformity of the proposed plan for the Retail Parcel L-2 with the previously approved drainage analysis and stormwater management BMPs.

## **INTRODUCTION**

The Retail Parcel L-2 area of the MainStreetNB project is bound by Commerce Boulevard to the north, Wet Pond Basin C, Grand Avenue, and wetlands to the south, wetlands to the east, and U.S. Route 1 to the west. Grand Avenue, Basin C, and Commerce Blvd were constructed as part of previous phases of the development. The proposed Retail Parcel L-2 consists of a retail store, access roads, surface and commuter parking, hardscape areas, and grass areas.

## **DRAINAGE ANALYSIS**

An area of interest (AOI) was delineated around the Retail Parcel L-2 area for the purposes of this drainage analysis. The AOI is approximately 2.90 acres.

The post-developed drainage area boundaries from the 2012 Stormwater Management Report were used to determine the previously approved drainage areas within the AOI. Based on the previous drainage analysis, the entirety of the AOI drains into Basin C.

The land cover and AOI boundary for the Retail Parcel L-2 drainage analysis is shown in Figure 1 in Attachment A. In the updated plan, the entirety of the AOI still drains into Basin C. Therefore, there will be no impact on the overall stormwater drainage patterns.

The amount of impervious cover was calculated within the AOI. Based on the previous drainage analysis, there was approximately 2.14 acres of impervious cover within the AOI. In the latest plan, there is approximately 2.21 acres of impervious cover within the Basin C drainage area. As a result, the updated plan increases impervious cover by only 0.07 acres.

**Table 1: AOI Impervious Area Summary**

Land Use Type	AOI (2012)	AOI (Current)	Comparison
Impervious	2.14 acres	2.21 acres	0.07-acre increase
Pervious	0.76 acres	0.69 acres	0.07-acre reduction

The 0.07-acre increase is de minimis and is equivalent to only 0.2% of the overall drainage area of 35.23 acres to Basin C. In addition, the previously approved Phase 1F improvements resulted in a 1.06-acre reduction in impervious coverage when compared to the original design. Therefore, the Phase 1F and Retail Parcel L-2 modifications are still a cumulative reduction in impervious coverage for the site.

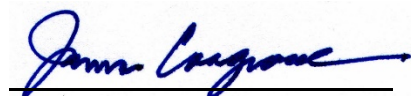
We have updated the hydrologic calculations to account for both the Retail Parcel L-2 and Phase 1F modifications. See Attachment A for the updated hydrologic model results. As expected, the water surface elevations within Basin C are unchanged and the flows to the site Point of Analysis are not increased. Table 2 summarizes the results.

**Table 2: Hydrologic Model Results**

Storm Return Period	Point of Analysis Peak Outflow Comparison (cfs)		Basin C Maximum Water Surface Elevation Comparison (ft)	
	Approved Design	w/ Phase 1F & Retail Parcel L-2 Amended Design	Approved Design	w/ Phase 1F & Retail Parcel L-2 Amended Design
2-Year	96.5	96.4	107.68	107.68
10-Year	157.2	157.0	108.64	108.64
100-Year	218.8	218.7	110.74	110.74

**CONCLUSION**

In summary, the Retail Parcel L-2 modifications result in no change to the overall drainage patterns of the site. In addition, there are no increases to the Basin C water surface elevations or flows at the site point of analysis. Therefore, the updated Retail Parcel L-2 plan is consistent with the previously approved stormwater management design and does not require any modifications to the previously approved stormwater management basins.

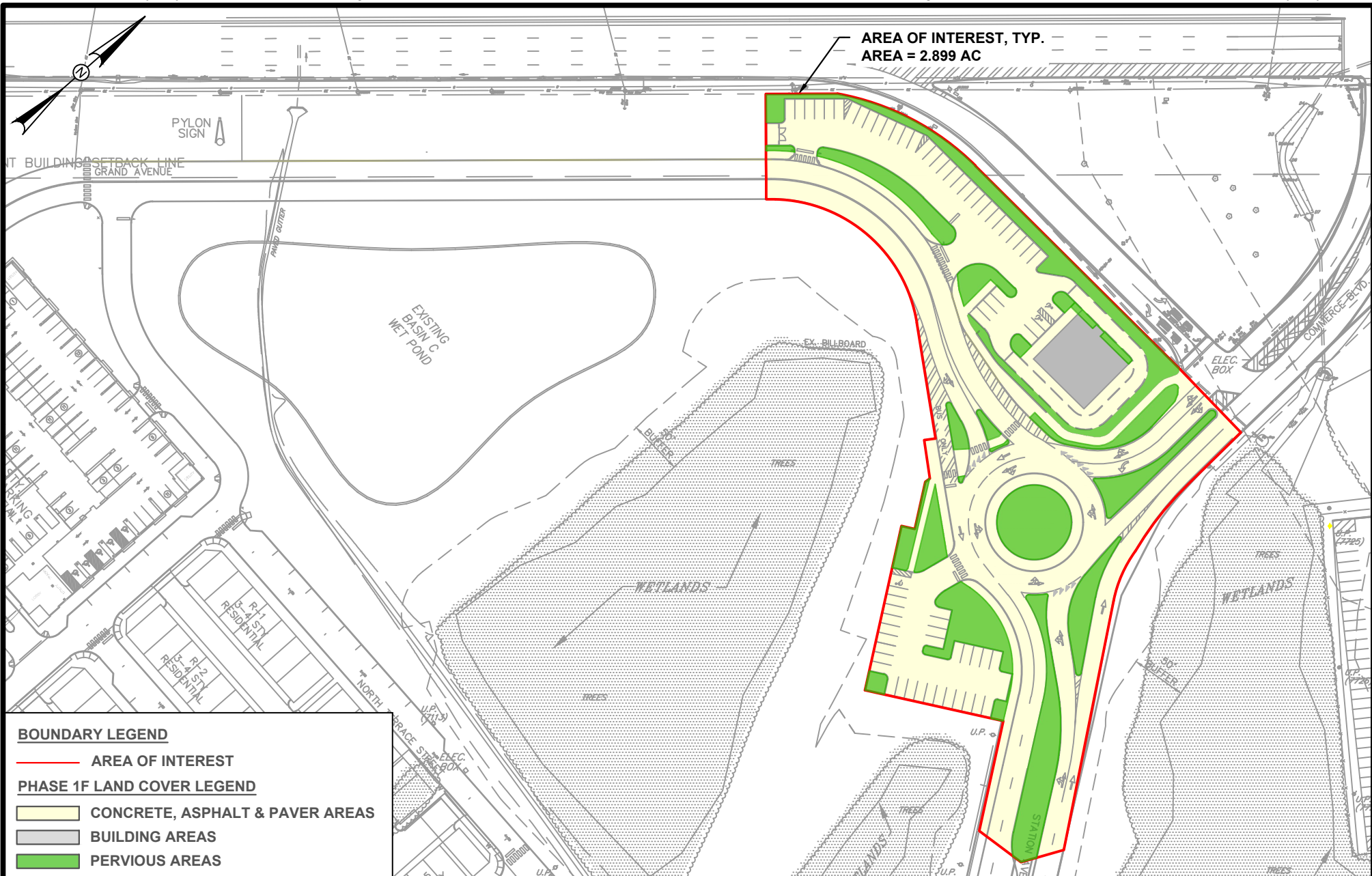


James F. Cosgrove, Jr., P.E.  
 NJ. P.E. Lic. No. 24GE03613300

2/22/2024

Date

**ATTACHMENT A**  
**HYDROLOGIC MODEL RESULTS**



AREA OF INTEREST, TYP.  
AREA = 2.899 AC

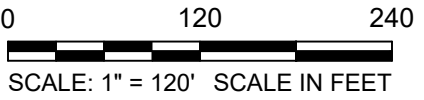
**BOUNDARY LEGEND**  
 ——— AREA OF INTEREST

**PHASE 1F LAND COVER LEGEND**

■ CONCRETE, ASPHALT & PAVER AREAS

■ BUILDING AREAS

■ PERVIOUS AREAS

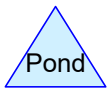
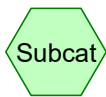
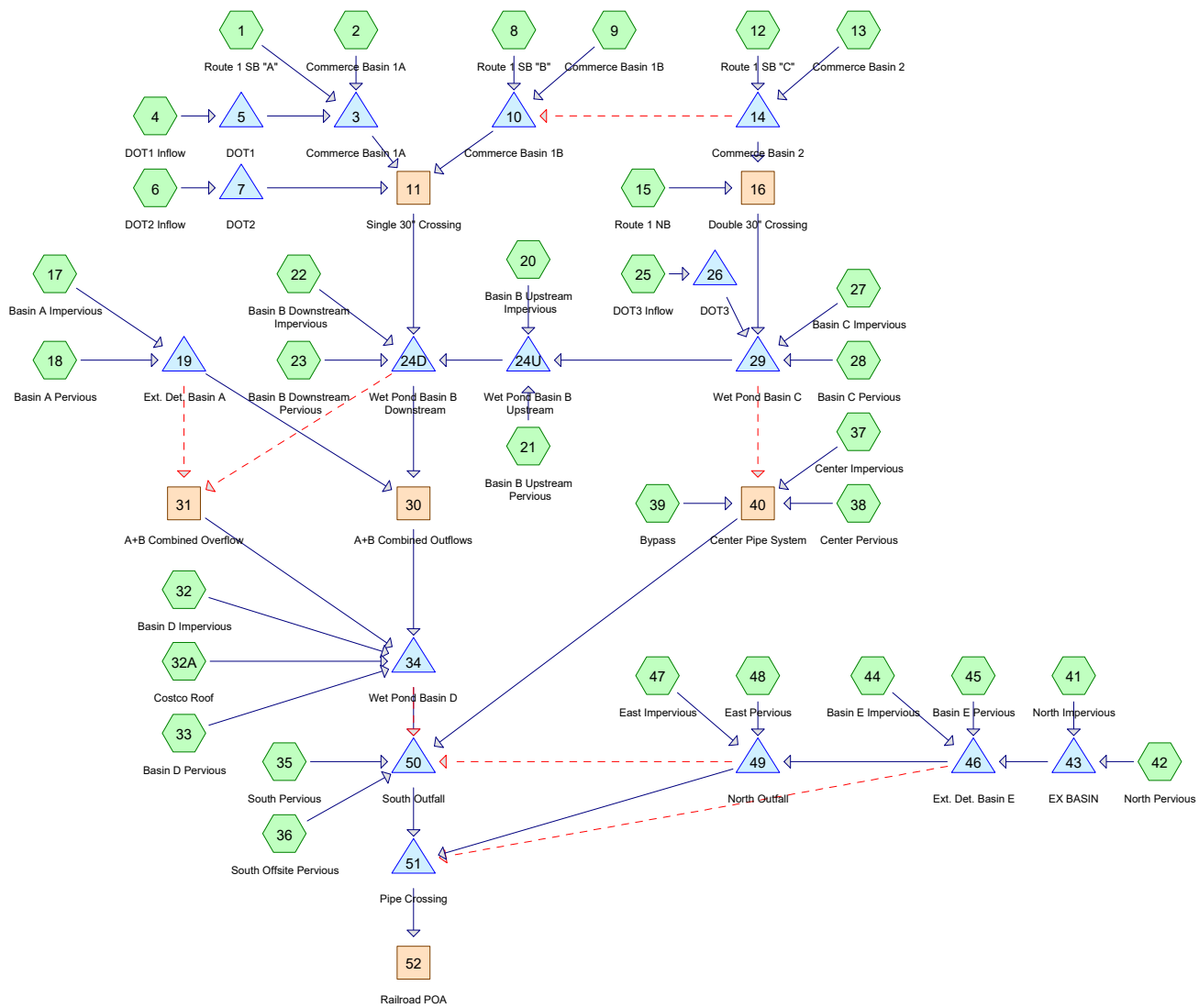


PROJECT NO. 8034  
 DRAWN BY: SLS  
 CHECKED BY: BJF  
 DATE: 02-06-2024  
 REVISED:

RETAIL AND COMMUTER PARKING  
 LAND COVER FIGURE

MAIN STREET NB  
 NORTH BRUNSWICK TOWNSHIP, NJ

FIGURE  
**1**  
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**Routing Diagram for 6204 PROP Addendum 2**  
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**6204 PROP Addendum 2**

Type III 24-hr 2 YEAR Rainfall=3.30"

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Time span=0.00-90.00 hrs, dt=0.01 hrs, 9001 points  
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

<b>Subcatchment1: Route 1 SB "A"</b>	Runoff Area=36,793 sf 100.00% Impervious Runoff Depth=3.07" Tc=10.0 min CN=98.0 Runoff=2.4 cfs 0.216 af
<b>Subcatchment2: Commerce Basin 1A</b>	Runoff Area=2.300 ac 0.00% Impervious Runoff Depth=2.35" Tc=10.0 min CN=91.0 Runoff=5.5 cfs 0.451 af
<b>Pond 3: Commerce Basin 1A</b>	Peak Elev=111.15' Storage=0.523 af Inflow=10.5 cfs 1.376 af Outflow=1.3 cfs 1.373 af
<b>Subcatchment4: DOT1 Inflow</b>	Runoff Area=140,608 sf 77.96% Impervious Runoff Depth=2.64" Tc=10.0 min CN=94.0 Runoff=8.4 cfs 0.710 af
<b>Pond 5: DOT1</b>	Peak Elev=111.16' Storage=10,268 cf Inflow=8.4 cfs 0.710 af 15.0" Round Culvert x 2.00 n=0.013 L=300.0' S=0.0023 '/ Outflow=2.7 cfs 0.710 af
<b>Subcatchment6: DOT2 Inflow</b>	Runoff Area=141,921 sf 82.05% Impervious Runoff Depth=2.72" Tc=10.0 min CN=94.8 Runoff=8.6 cfs 0.739 af
<b>Pond 7: DOT2</b>	Peak Elev=110.36' Storage=6,400 cf Inflow=8.6 cfs 0.739 af 18.0" Round Culvert n=0.013 L=500.0' S=0.0012 '/ Outflow=4.0 cfs 0.739 af
<b>Subcatchment8: Route 1 SB "B"</b>	Runoff Area=25,396 sf 100.00% Impervious Runoff Depth=3.07" Tc=10.0 min CN=98.0 Runoff=1.6 cfs 0.149 af
<b>Subcatchment9: Commerce Basin 1B</b>	Runoff Area=4.200 ac 0.00% Impervious Runoff Depth=2.35" Tc=10.0 min CN=91.0 Runoff=10.0 cfs 0.823 af
<b>Pond 10: Commerce Basin 1B</b>	Peak Elev=112.17' Storage=0.512 af Inflow=11.8 cfs 1.177 af Outflow=1.8 cfs 1.165 af
<b>Reach 11: Single 30" Crossing</b>	Inflow=6.9 cfs 3.277 af Outflow=6.9 cfs 3.277 af
<b>Subcatchment12: Route 1 SB "C"</b>	Runoff Area=81,907 sf 100.00% Impervious Runoff Depth=3.07" Tc=10.0 min CN=98.0 Runoff=5.3 cfs 0.481 af
<b>Subcatchment13: Commerce Basin 2</b>	Runoff Area=7.300 ac 0.00% Impervious Runoff Depth=2.45" Tc=10.0 min CN=92.0 Runoff=17.9 cfs 1.488 af
<b>Pond 14: Commerce Basin 2</b>	Peak Elev=113.24' Storage=1.273 af Inflow=23.2 cfs 1.968 af Primary=4.5 cfs 1.742 af Secondary=0.2 cfs 0.205 af Outflow=4.7 cfs 1.947 af
<b>Subcatchment15: Route 1 NB</b>	Runoff Area=81,894 sf 100.00% Impervious Runoff Depth=3.07" Tc=10.0 min CN=98.0 Runoff=5.3 cfs 0.481 af
<b>Reach 16: Double 30" Crossing</b>	Inflow=7.6 cfs 2.223 af Outflow=7.6 cfs 2.223 af

**6204 PROP Addendum 2**

Type III 24-hr 2 YEAR Rainfall=3.30"

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**Subcatchment17: Basin A Impervious** Runoff Area=473,190 sf 100.00% Impervious Runoff Depth=3.07"  
Tc=10.0 min CN=98.0 Runoff=30.6 cfs 2.777 af

**Subcatchment18: Basin A Pervious** Runoff Area=306,816 sf 0.00% Impervious Runoff Depth=0.95"  
Tc=10.0 min CN=71.3 Runoff=6.3 cfs 0.560 af

**Pond 19: Ext. Det. Basin A** Peak Elev=106.62' Storage=73,107 cf Inflow=36.8 cfs 3.337 af  
Primary=6.3 cfs 3.337 af Secondary=0.0 cfs 0.000 af Outflow=6.3 cfs 3.337 af

**Subcatchment20: Basin B Upstream** Runoff Area=358,956 sf 100.00% Impervious Runoff Depth=3.07"  
Tc=10.0 min CN=98.0 Runoff=23.2 cfs 2.106 af

**Subcatchment21: Basin B Upstream** Runoff Area=138,428 sf 0.00% Impervious Runoff Depth=1.04"  
Tc=10.0 min CN=72.8 Runoff=3.2 cfs 0.274 af

**Subcatchment22: Basin B Downstream** Runoff Area=787,298 sf 100.00% Impervious Runoff Depth=3.07"  
Tc=10.0 min CN=98.0 Runoff=50.8 cfs 4.620 af

**Subcatchment23: Basin B Downstream** Runoff Area=315,275 sf 0.00% Impervious Runoff Depth=1.27"  
Tc=10.0 min CN=76.8 Runoff=9.2 cfs 0.767 af

**Pond 24D: Wet Pond Basin B** Peak Elev=106.68' Storage=909,404 cf Inflow=84.6 cfs 17.989 af  
Primary=20.4 cfs 17.739 af Secondary=0.0 cfs 0.000 af Outflow=20.4 cfs 17.739 af

**Pond 24U: Wet Pond Basin B Upstream** Peak Elev=106.68' Storage=148,052 cf Inflow=33.6 cfs 9.370 af  
155.0" x 90.0", R=90.0"/252.0" Pipe Arch Culvert n=0.025 L=50.0' S=0.0000 '/ Outflow=19.4 cfs 9.326 af

**Subcatchment25: DOT3 Inflow** Runoff Area=117,617 sf 66.20% Impervious Runoff Depth=1.88"  
Tc=10.0 min CN=85.5 Runoff=5.2 cfs 0.424 af

**Pond 26: DOT3** Peak Elev=113.33' Storage=4,295 cf Inflow=5.2 cfs 0.424 af  
24.0" Round Culvert n=0.013 L=150.0' S=0.0000 '/ Outflow=2.8 cfs 0.423 af

**Subcatchment27: Basin C Impervious** Runoff Area=699,076 sf 100.00% Impervious Runoff Depth=3.07"  
Tc=10.0 min CN=98.0 Runoff=45.1 cfs 4.102 af

**Subcatchment28: Basin C Pervious** Runoff Area=236,302 sf 0.00% Impervious Runoff Depth=0.74"  
Flow Length=855' Tc=40.1 min CN=66.9 Runoff=2.0 cfs 0.332 af

**Pond 29: Wet Pond Basin C** Peak Elev=107.68' Storage=504,530 cf Inflow=54.9 cfs 7.080 af  
Primary=13.1 cfs 6.989 af Secondary=0.0 cfs 0.000 af Outflow=13.1 cfs 6.989 af

**Reach 30: A+B Combined Outflows** Inflow=25.7 cfs 21.076 af  
Outflow=25.7 cfs 21.076 af

**Reach 31: A+B Combined Overflow** Inflow=0.0 cfs 0.000 af  
Outflow=0.0 cfs 0.000 af

**Subcatchment32: Basin D Impervious** Runoff Area=1,512,365 sf 100.00% Impervious Runoff Depth=3.07"  
Tc=10.0 min CN=98.0 Runoff=97.7 cfs 8.874 af

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<b>Subcatchment32A: Costco Roof</b>	Runoff Area=151,843 sf 100.00% Impervious Runoff Depth=3.07" Tc=10.0 min CN=98.0 Runoff=9.8 cfs 0.891 af
<b>Subcatchment33: Basin D Pervious</b>	Runoff Area=253,903 sf 0.00% Impervious Runoff Depth=1.43" Tc=10.0 min CN=79.3 Runoff=8.4 cfs 0.696 af
<b>Pond 34: Wet Pond Basin D</b>	Peak Elev=98.29' Storage=626,978 cf Inflow=127.5 cfs 31.536 af Primary=47.1 cfs 31.350 af Secondary=0.0 cfs 0.000 af Outflow=47.1 cfs 31.350 af
<b>Subcatchment35: South Pervious</b>	Runoff Area=934,919 sf 0.00% Impervious Runoff Depth=1.19" Tc=117.4 min CN=75.4 Runoff=7.2 cfs 2.121 af
<b>Subcatchment36: South Offsite Pervious</b>	Runoff Area=1,913,280 sf 0.00% Impervious Runoff Depth=0.75" Flow Length=3,705' Tc=161.6 min CN=67.3 Runoff=6.7 cfs 2.761 af
<b>Subcatchment37: Center Impervious</b>	Runoff Area=809,245 sf 100.00% Impervious Runoff Depth=3.07" Tc=10.0 min CN=98.0 Runoff=52.3 cfs 4.748 af
<b>Subcatchment38: Center Pervious</b>	Runoff Area=36,425 sf 0.00% Impervious Runoff Depth=1.48" Tc=10.0 min CN=80.0 Runoff=1.3 cfs 0.103 af
<b>Subcatchment39: Bypass</b>	Runoff Area=292,949 sf 0.00% Impervious Runoff Depth=0.99" Flow Length=560' Tc=64.6 min CN=72.0 Runoff=2.7 cfs 0.556 af
<b>Reach 40: Center Pipe System</b>	Avg. Flow Depth=1.61' Max Vel=8.83 fps Inflow=53.8 cfs 5.408 af 60.0" Round Pipe n=0.010 L=2,700.0' S=0.0040 '/' Capacity=214.9 cfs Outflow=48.2 cfs 5.408 af
<b>Subcatchment41: North Impervious</b>	Runoff Area=360,907 sf 100.00% Impervious Runoff Depth=3.07" Tc=10.0 min CN=98.0 Runoff=23.3 cfs 2.118 af
<b>Subcatchment42: North Pervious</b>	Runoff Area=124,971 sf 0.00% Impervious Runoff Depth=1.41" Tc=10.0 min CN=79.0 Runoff=4.1 cfs 0.338 af
<b>Pond 43: EX BASIN</b>	Peak Elev=109.50' Storage=19,516 cf Inflow=27.4 cfs 2.455 af Outflow=12.0 cfs 2.455 af
<b>Subcatchment44: Basin E Impervious</b>	Runoff Area=433,446 sf 100.00% Impervious Runoff Depth=3.07" Tc=10.0 min CN=98.0 Runoff=28.0 cfs 2.543 af
<b>Subcatchment45: Basin E Pervious</b>	Runoff Area=379,832 sf 0.00% Impervious Runoff Depth=1.02" Flow Length=1,170' Tc=49.3 min CN=72.5 Runoff=4.3 cfs 0.741 af
<b>Pond 46: Ext. Det. Basin E</b>	Peak Elev=108.67' Storage=131,990 cf Inflow=39.1 cfs 5.739 af Primary=7.1 cfs 5.740 af Secondary=0.0 cfs 0.000 af Outflow=7.1 cfs 5.740 af
<b>Subcatchment47: East Impervious</b>	Runoff Area=297,257 sf 100.00% Impervious Runoff Depth=3.07" Tc=10.0 min CN=98.0 Runoff=19.2 cfs 1.744 af
<b>Subcatchment48: East Pervious</b>	Runoff Area=89,874 sf 0.00% Impervious Runoff Depth=1.48" Tc=10.0 min CN=80.0 Runoff=3.1 cfs 0.254 af



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**Pond 49: North Outfall**

Peak Elev=99.29' Storage=4,191 cf Inflow=23.8 cfs 7.738 af  
Primary=21.3 cfs 7.732 af Secondary=0.0 cfs 0.000 af Outflow=21.3 cfs 7.732 af

**Pond 50: South Outfall**

Peak Elev=96.85' Storage=5,098 cf Inflow=78.2 cfs 41.640 af  
Outflow=76.7 cfs 41.638 af

**Pond 51: Pipe Crossing**

Peak Elev=96.15' Storage=8,665 cf Inflow=97.2 cfs 49.370 af  
Outflow=96.4 cfs 49.369 af

**Reach 52: Railroad POA**

Inflow=96.4 cfs 49.369 af  
Outflow=96.4 cfs 49.369 af

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Type III 24-hr 10 YEAR Rainfall=5.10"

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Time span=0.00-90.00 hrs, dt=0.01 hrs, 9001 points  
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

<b>Subcatchment1: Route 1 SB "A"</b>	Runoff Area=36,793 sf 100.00% Impervious Runoff Depth=4.86" Tc=10.0 min CN=98.0 Runoff=3.7 cfs 0.342 af
<b>Subcatchment2: Commerce Basin 1A</b>	Runoff Area=2.300 ac 0.00% Impervious Runoff Depth=4.08" Tc=10.0 min CN=91.0 Runoff=9.2 cfs 0.782 af
<b>Pond 3: Commerce Basin 1A</b>	Peak Elev=112.32' Storage=0.845 af Inflow=15.6 cfs 2.309 af Outflow=1.6 cfs 2.305 af
<b>Subcatchment4: DOT1 Inflow</b>	Runoff Area=140,608 sf 77.96% Impervious Runoff Depth=4.41" Tc=10.0 min CN=94.0 Runoff=13.6 cfs 1.185 af
<b>Pond 5: DOT1</b>	Peak Elev=112.33' Storage=21,625 cf Inflow=13.6 cfs 1.185 af 15.0" Round Culvert x 2.00 n=0.013 L=300.0' S=0.0023 '/ Outflow=2.7 cfs 1.185 af
<b>Subcatchment6: DOT2 Inflow</b>	Runoff Area=141,921 sf 82.05% Impervious Runoff Depth=4.50" Tc=10.0 min CN=94.8 Runoff=13.8 cfs 1.221 af
<b>Pond 7: DOT2</b>	Peak Elev=111.05' Storage=12,180 cf Inflow=13.8 cfs 1.221 af 18.0" Round Culvert n=0.013 L=500.0' S=0.0012 '/ Outflow=5.1 cfs 1.221 af
<b>Subcatchment8: Route 1 SB "B"</b>	Runoff Area=25,396 sf 100.00% Impervious Runoff Depth=4.86" Tc=10.0 min CN=98.0 Runoff=2.6 cfs 0.236 af
<b>Subcatchment9: Commerce Basin 1B</b>	Runoff Area=4.200 ac 0.00% Impervious Runoff Depth=4.08" Tc=10.0 min CN=91.0 Runoff=16.8 cfs 1.428 af
<b>Pond 10: Commerce Basin 1B</b>	Peak Elev=112.88' Storage=0.879 af Inflow=19.6 cfs 1.911 af Outflow=2.5 cfs 1.898 af
<b>Reach 11: Single 30" Crossing</b>	Inflow=9.0 cfs 5.424 af Outflow=9.0 cfs 5.424 af
<b>Subcatchment12: Route 1 SB "C"</b>	Runoff Area=81,907 sf 100.00% Impervious Runoff Depth=4.86" Tc=10.0 min CN=98.0 Runoff=8.2 cfs 0.762 af
<b>Subcatchment13: Commerce Basin 2</b>	Runoff Area=7.300 ac 0.00% Impervious Runoff Depth=4.19" Tc=10.0 min CN=92.0 Runoff=29.8 cfs 2.547 af
<b>Pond 14: Commerce Basin 2</b>	Peak Elev=113.73' Storage=1.826 af Inflow=38.0 cfs 3.309 af Primary=9.0 cfs 3.041 af Secondary=0.2 cfs 0.247 af Outflow=9.3 cfs 3.288 af
<b>Subcatchment15: Route 1 NB</b>	Runoff Area=81,894 sf 100.00% Impervious Runoff Depth=4.86" Tc=10.0 min CN=98.0 Runoff=8.2 cfs 0.762 af
<b>Reach 16: Double 30" Crossing</b>	Inflow=13.9 cfs 3.802 af Outflow=13.9 cfs 3.802 af

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**Subcatchment17: Basin A Impervious** Runoff Area=473,190 sf 100.00% Impervious Runoff Depth=4.86"  
Tc=10.0 min CN=98.0 Runoff=47.6 cfs 4.402 af

**Subcatchment18: Basin A Pervious** Runoff Area=306,816 sf 0.00% Impervious Runoff Depth=2.22"  
Tc=10.0 min CN=71.3 Runoff=15.8 cfs 1.301 af

**Pond 19: Ext. Det. Basin A** Peak Elev=107.63' Storage=123,029 cf Inflow=63.3 cfs 5.704 af  
Primary=10.2 cfs 5.704 af Secondary=0.0 cfs 0.000 af Outflow=10.2 cfs 5.704 af

**Subcatchment20: Basin B Upstream** Runoff Area=358,956 sf 100.00% Impervious Runoff Depth=4.86"  
Tc=10.0 min CN=98.0 Runoff=36.1 cfs 3.339 af

**Subcatchment21: Basin B Upstream** Runoff Area=138,428 sf 0.00% Impervious Runoff Depth=2.34"  
Tc=10.0 min CN=72.8 Runoff=7.6 cfs 0.620 af

**Subcatchment22: Basin B Downstream** Runoff Area=787,298 sf 100.00% Impervious Runoff Depth=4.86"  
Tc=10.0 min CN=98.0 Runoff=79.2 cfs 7.324 af

**Subcatchment23: Basin B Downstream** Runoff Area=315,275 sf 0.00% Impervious Runoff Depth=2.69"  
Tc=10.0 min CN=76.8 Runoff=19.9 cfs 1.622 af

**Pond 24D: Wet Pond Basin B** Peak Elev=107.49' Storage=1,035,406 cf Inflow=140.6 cfs 30.130 af  
Primary=34.9 cfs 29.872 af Secondary=0.0 cfs 0.000 af Outflow=34.9 cfs 29.872 af

**Pond 24U: Wet Pond Basin B Upstream** Peak Elev=107.50' Storage=173,563 cf Inflow=57.9 cfs 15.806 af  
155.0" x 90.0", R=90.0"/252.0" Pipe Arch Culvert n=0.025 L=50.0' S=0.0000 '/ Outflow=34.2 cfs 15.760 af

**Subcatchment25: DOT3 Inflow** Runoff Area=117,617 sf 66.20% Impervious Runoff Depth=3.51"  
Tc=10.0 min CN=85.5 Runoff=9.6 cfs 0.790 af

**Pond 26: DOT3** Peak Elev=113.79' Storage=7,219 cf Inflow=9.6 cfs 0.790 af  
24.0" Round Culvert n=0.013 L=150.0' S=0.0000 '/ Outflow=5.6 cfs 0.790 af

**Subcatchment27: Basin C Impervious** Runoff Area=699,076 sf 100.00% Impervious Runoff Depth=4.86"  
Tc=10.0 min CN=98.0 Runoff=70.3 cfs 6.504 af

**Subcatchment28: Basin C Pervious** Runoff Area=236,302 sf 0.00% Impervious Runoff Depth=1.87"  
Flow Length=855' Tc=40.1 min CN=66.9 Runoff=5.6 cfs 0.843 af

**Pond 29: Wet Pond Basin C** Peak Elev=108.64' Storage=581,595 cf Inflow=89.7 cfs 11.939 af  
Primary=21.1 cfs 11.846 af Secondary=0.0 cfs 0.000 af Outflow=21.1 cfs 11.846 af

**Reach 30: A+B Combined Outflows** Inflow=44.3 cfs 35.576 af  
Outflow=44.3 cfs 35.576 af

**Reach 31: A+B Combined Overflow** Inflow=0.0 cfs 0.000 af  
Outflow=0.0 cfs 0.000 af

**Subcatchment32: Basin D Impervious** Runoff Area=1,512,365 sf 100.00% Impervious Runoff Depth=4.86"  
Tc=10.0 min CN=98.0 Runoff=152.0 cfs 14.070 af

**6204 PROP Addendum 2**

Type III 24-hr 10 YEAR Rainfall=5.10"

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<b>Subcatchment32A: Costco Roof</b>	Runoff Area=151,843 sf 100.00% Impervious Runoff Depth=4.86" Tc=10.0 min CN=98.0 Runoff=15.3 cfs 1.413 af
<b>Subcatchment33: Basin D Pervious</b>	Runoff Area=253,903 sf 0.00% Impervious Runoff Depth=2.92" Tc=10.0 min CN=79.3 Runoff=17.4 cfs 1.416 af
<b>Pond 34: Wet Pond Basin D</b>	Peak Elev=99.32' Storage=736,819 cf Inflow=211.3 cfs 52.475 af Primary=89.4 cfs 52.283 af Secondary=0.0 cfs 0.000 af Outflow=89.4 cfs 52.283 af
<b>Subcatchment35: South Pervious</b>	Runoff Area=934,919 sf 0.00% Impervious Runoff Depth=2.57" Tc=117.4 min CN=75.4 Runoff=16.2 cfs 4.589 af
<b>Subcatchment36: South Offsite Pervious</b>	Runoff Area=1,913,280 sf 0.00% Impervious Runoff Depth=1.90" Flow Length=3,705' Tc=161.6 min CN=67.3 Runoff=18.9 cfs 6.941 af
<b>Subcatchment37: Center Impervious</b>	Runoff Area=809,245 sf 100.00% Impervious Runoff Depth=4.86" Tc=10.0 min CN=98.0 Runoff=81.4 cfs 7.529 af
<b>Subcatchment38: Center Pervious</b>	Runoff Area=36,425 sf 0.00% Impervious Runoff Depth=2.98" Tc=10.0 min CN=80.0 Runoff=2.6 cfs 0.208 af
<b>Subcatchment39: Bypass</b>	Runoff Area=292,949 sf 0.00% Impervious Runoff Depth=2.28" Flow Length=560' Tc=64.6 min CN=72.0 Runoff=6.6 cfs 1.275 af
<b>Reach 40: Center Pipe System</b>	Avg. Flow Depth=2.08' Max Vel=10.06 fps Inflow=85.2 cfs 9.011 af 60.0" Round Pipe n=0.010 L=2,700.0' S=0.0040 '/' Capacity=214.9 cfs Outflow=77.7 cfs 9.011 af
<b>Subcatchment41: North Impervious</b>	Runoff Area=360,907 sf 100.00% Impervious Runoff Depth=4.86" Tc=10.0 min CN=98.0 Runoff=36.3 cfs 3.358 af
<b>Subcatchment42: North Pervious</b>	Runoff Area=124,971 sf 0.00% Impervious Runoff Depth=2.89" Tc=10.0 min CN=79.0 Runoff=8.5 cfs 0.690 af
<b>Pond 43: EX BASIN</b>	Peak Elev=110.06' Storage=40,875 cf Inflow=44.8 cfs 4.048 af Outflow=14.5 cfs 4.048 af
<b>Subcatchment44: Basin E Impervious</b>	Runoff Area=433,446 sf 100.00% Impervious Runoff Depth=4.86" Tc=10.0 min CN=98.0 Runoff=43.6 cfs 4.032 af
<b>Subcatchment45: Basin E Pervious</b>	Runoff Area=379,832 sf 0.00% Impervious Runoff Depth=2.32" Flow Length=1,170' Tc=49.3 min CN=72.5 Runoff=10.3 cfs 1.684 af
<b>Pond 46: Ext. Det. Basin E</b>	Peak Elev=109.58' Storage=198,598 cf Inflow=59.2 cfs 9.764 af Primary=13.5 cfs 9.764 af Secondary=0.0 cfs 0.000 af Outflow=13.5 cfs 9.764 af
<b>Subcatchment47: East Impervious</b>	Runoff Area=297,257 sf 100.00% Impervious Runoff Depth=4.86" Tc=10.0 min CN=98.0 Runoff=29.9 cfs 2.765 af
<b>Subcatchment48: East Pervious</b>	Runoff Area=89,874 sf 0.00% Impervious Runoff Depth=2.98" Tc=10.0 min CN=80.0 Runoff=6.3 cfs 0.512 af

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**Pond 49: North Outfall** Peak Elev=99.78' Storage=10,084 cf Inflow=41.7 cfs 13.042 af  
Primary=33.8 cfs 13.036 af Secondary=0.0 cfs 0.000 af Outflow=33.8 cfs 13.036 af

**Pond 50: South Outfall** Peak Elev=98.08' Storage=32,962 cf Inflow=145.0 cfs 72.824 af  
Outflow=130.8 cfs 72.823 af

**Pond 51: Pipe Crossing** Peak Elev=97.25' Storage=15,576 cf Inflow=157.2 cfs 85.859 af  
Outflow=157.0 cfs 85.857 af

**Reach 52: Railroad POA** Inflow=157.0 cfs 85.857 af  
Outflow=157.0 cfs 85.857 af

**6204 PROP Addendum 2**

Type III 24-hr 100 YEAR Rainfall=8.60"

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Time span=0.00-90.00 hrs, dt=0.01 hrs, 9001 points  
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

<b>Subcatchment1: Route 1 SB "A"</b>	Runoff Area=36,793 sf 100.00% Impervious Runoff Depth=8.36" Tc=10.0 min CN=98.0 Runoff=6.3 cfs 0.588 af
<b>Subcatchment2: Commerce Basin 1A</b>	Runoff Area=2.300 ac 0.00% Impervious Runoff Depth=7.52" Tc=10.0 min CN=91.0 Runoff=16.4 cfs 1.441 af
<b>Pond 3: Commerce Basin 1A</b>	Peak Elev=114.40' Storage=1.468 af Inflow=25.1 cfs 4.148 af Outflow=2.1 cfs 4.143 af
<b>Subcatchment4: DOT1 Inflow</b>	Runoff Area=140,608 sf 77.96% Impervious Runoff Depth=7.88" Tc=10.0 min CN=94.0 Runoff=23.5 cfs 2.119 af
<b>Pond 5: DOT1</b>	Peak Elev=114.42' Storage=48,882 cf Inflow=23.5 cfs 2.119 af 15.0" Round Culvert x 2.00 n=0.013 L=300.0' S=0.0023 '/ Outflow=2.4 cfs 2.118 af
<b>Subcatchment6: DOT2 Inflow</b>	Runoff Area=141,921 sf 82.05% Impervious Runoff Depth=7.98" Tc=10.0 min CN=94.8 Runoff=23.9 cfs 2.165 af
<b>Pond 7: DOT2</b>	Peak Elev=112.34' Storage=24,810 cf Inflow=23.9 cfs 2.165 af 18.0" Round Culvert n=0.013 L=500.0' S=0.0012 '/ Outflow=7.1 cfs 2.165 af
<b>Subcatchment8: Route 1 SB "B"</b>	Runoff Area=25,396 sf 100.00% Impervious Runoff Depth=8.36" Tc=10.0 min CN=98.0 Runoff=4.3 cfs 0.406 af
<b>Subcatchment9: Commerce Basin 1B</b>	Runoff Area=4.200 ac 0.00% Impervious Runoff Depth=7.52" Tc=10.0 min CN=91.0 Runoff=30.0 cfs 2.631 af
<b>Pond 10: Commerce Basin 1B</b>	Peak Elev=114.17' Storage=1.617 af Inflow=34.5 cfs 3.256 af Outflow=3.5 cfs 3.242 af
<b>Reach 11: Single 30" Crossing</b>	Inflow=12.5 cfs 9.551 af Outflow=12.5 cfs 9.551 af
<b>Subcatchment12: Route 1 SB "C"</b>	Runoff Area=81,907 sf 100.00% Impervious Runoff Depth=8.36" Tc=10.0 min CN=98.0 Runoff=13.9 cfs 1.310 af
<b>Subcatchment13: Commerce Basin 2</b>	Runoff Area=7.300 ac 0.00% Impervious Runoff Depth=7.64" Tc=10.0 min CN=92.0 Runoff=52.5 cfs 4.646 af
<b>Pond 14: Commerce Basin 2</b>	Peak Elev=114.63' Storage=2.885 af Inflow=66.5 cfs 5.956 af Primary=15.1 cfs 5.716 af Secondary=0.2 cfs 0.218 af Outflow=15.3 cfs 5.934 af
<b>Subcatchment15: Route 1 NB</b>	Runoff Area=81,894 sf 100.00% Impervious Runoff Depth=8.36" Tc=10.0 min CN=98.0 Runoff=13.9 cfs 1.310 af
<b>Reach 16: Double 30" Crossing</b>	Inflow=25.4 cfs 7.026 af Outflow=25.4 cfs 7.026 af

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**Subcatchment17: Basin A Impervious** Runoff Area=473,190 sf 100.00% Impervious Runoff Depth=8.36"  
Tc=10.0 min CN=98.0 Runoff=80.5 cfs 7.568 af

**Subcatchment18: Basin A Pervious** Runoff Area=306,816 sf 0.00% Impervious Runoff Depth=5.14"  
Tc=10.0 min CN=71.3 Runoff=37.1 cfs 3.017 af

**Pond 19: Ext. Det. Basin A** Peak Elev=109.50' Storage=224,978 cf Inflow=117.6 cfs 10.585 af  
Primary=20.0 cfs 10.585 af Secondary=0.0 cfs 0.000 af Outflow=20.0 cfs 10.585 af

**Subcatchment20: Basin B Upstream** Runoff Area=358,956 sf 100.00% Impervious Runoff Depth=8.36"  
Tc=10.0 min CN=98.0 Runoff=61.1 cfs 5.741 af

**Subcatchment21: Basin B Upstream** Runoff Area=138,428 sf 0.00% Impervious Runoff Depth=5.32"  
Tc=10.0 min CN=72.8 Runoff=17.3 cfs 1.409 af

**Subcatchment22: Basin B Downstream** Runoff Area=787,298 sf 100.00% Impervious Runoff Depth=8.36"  
Tc=10.0 min CN=98.0 Runoff=134.0 cfs 12.591 af

**Subcatchment23: Basin B Downstream** Runoff Area=315,275 sf 0.00% Impervious Runoff Depth=5.80"  
Tc=10.0 min CN=76.8 Runoff=42.6 cfs 3.500 af

**Pond 24D: Wet Pond Basin B** Peak Elev=108.98' Storage=1,281,459 cf Inflow=244.3 cfs 54.480 af  
Primary=55.8 cfs 54.207 af Secondary=0.0 cfs 0.000 af Outflow=55.8 cfs 54.207 af

**Pond 24U: Wet Pond Basin B Upstream** Peak Elev=108.99' Storage=225,409 cf Inflow=100.0 cfs 28.886 af  
155.0" x 90.0", R=90.0"/252.0" Pipe Arch Culvert n=0.025 L=50.0' S=0.0000 '/ Outflow=57.7 cfs 28.838 af

**Subcatchment25: DOT3 Inflow** Runoff Area=117,617 sf 66.20% Impervious Runoff Depth=6.85"  
Tc=10.0 min CN=85.5 Runoff=18.2 cfs 1.542 af

**Pond 26: DOT3** Peak Elev=114.44' Storage=13,285 cf Inflow=18.2 cfs 1.542 af  
24.0" Round Culvert n=0.013 L=150.0' S=0.0000 '/ Outflow=9.9 cfs 1.542 af

**Subcatchment27: Basin C Impervious** Runoff Area=699,076 sf 100.00% Impervious Runoff Depth=8.36"  
Tc=10.0 min CN=98.0 Runoff=119.0 cfs 11.180 af

**Subcatchment28: Basin C Pervious** Runoff Area=236,302 sf 0.00% Impervious Runoff Depth=4.61"  
Flow Length=855' Tc=40.1 min CN=66.9 Runoff=14.4 cfs 2.085 af

**Pond 29: Wet Pond Basin C** Peak Elev=110.74' Storage=766,651 cf Inflow=157.8 cfs 21.833 af  
Primary=31.0 cfs 21.737 af Secondary=0.0 cfs 0.000 af Outflow=31.0 cfs 21.737 af

**Reach 30: A+B Combined Outflows** Inflow=69.8 cfs 64.792 af  
Outflow=69.8 cfs 64.792 af

**Reach 31: A+B Combined Overflow** Inflow=0.0 cfs 0.000 af  
Outflow=0.0 cfs 0.000 af

**Subcatchment32: Basin D Impervious** Runoff Area=1,512,365 sf 100.00% Impervious Runoff Depth=8.36"  
Tc=10.0 min CN=98.0 Runoff=257.4 cfs 24.187 af

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<b>Subcatchment32A: Costco Roof</b>	Runoff Area=151,843 sf 100.00% Impervious Runoff Depth=8.36" Tc=10.0 min CN=98.0 Runoff=25.8 cfs 2.428 af
<b>Subcatchment33: Basin D Pervious</b>	Runoff Area=253,903 sf 0.00% Impervious Runoff Depth=6.11" Tc=10.0 min CN=79.3 Runoff=35.9 cfs 2.965 af
<b>Pond 34: Wet Pond Basin D</b>	Peak Elev=100.75' Storage=896,398 cf Inflow=367.3 cfs 94.373 af Primary=192.9 cfs 94.169 af Secondary=0.0 cfs 0.000 af Outflow=192.9 cfs 94.169 af
<b>Subcatchment35: South Pervious</b>	Runoff Area=934,919 sf 0.00% Impervious Runoff Depth=5.63" Tc=117.4 min CN=75.4 Runoff=35.9 cfs 10.078 af
<b>Subcatchment36: South Offsite Pervious</b>	Runoff Area=1,913,280 sf 0.00% Impervious Runoff Depth=4.66" Flow Length=3,705' Tc=161.6 min CN=67.3 Runoff=48.7 cfs 17.057 af
<b>Subcatchment37: Center Impervious</b>	Runoff Area=809,245 sf 100.00% Impervious Runoff Depth=8.36" Tc=10.0 min CN=98.0 Runoff=137.7 cfs 12.942 af
<b>Subcatchment38: Center Pervious</b>	Runoff Area=36,425 sf 0.00% Impervious Runoff Depth=6.19" Tc=10.0 min CN=80.0 Runoff=5.2 cfs 0.431 af
<b>Subcatchment39: Bypass</b>	Runoff Area=292,949 sf 0.00% Impervious Runoff Depth=5.22" Flow Length=560' Tc=64.6 min CN=72.0 Runoff=15.6 cfs 2.928 af
<b>Reach 40: Center Pipe System</b>	Avg. Flow Depth=2.88' Max Vel=11.58 fps Inflow=146.7 cfs 16.302 af 60.0" Round Pipe n=0.010 L=2,700.0' S=0.0040 '/' Capacity=214.9 cfs Outflow=135.7 cfs 16.302 af
<b>Subcatchment41: North Impervious</b>	Runoff Area=360,907 sf 100.00% Impervious Runoff Depth=8.36" Tc=10.0 min CN=98.0 Runoff=61.4 cfs 5.772 af
<b>Subcatchment42: North Pervious</b>	Runoff Area=124,971 sf 0.00% Impervious Runoff Depth=6.07" Tc=10.0 min CN=79.0 Runoff=17.6 cfs 1.451 af
<b>Pond 43: EX BASIN</b>	Peak Elev=111.25' Storage=99,694 cf Inflow=79.0 cfs 7.223 af Outflow=14.6 cfs 7.223 af
<b>Subcatchment44: Basin E Impervious</b>	Runoff Area=433,446 sf 100.00% Impervious Runoff Depth=8.36" Tc=10.0 min CN=98.0 Runoff=73.8 cfs 6.932 af
<b>Subcatchment45: Basin E Pervious</b>	Runoff Area=379,832 sf 0.00% Impervious Runoff Depth=5.28" Flow Length=1,170' Tc=49.3 min CN=72.5 Runoff=23.8 cfs 3.840 af
<b>Pond 46: Ext. Det. Basin E</b>	Peak Elev=110.50' Storage=268,148 cf Inflow=95.4 cfs 17.995 af Primary=45.0 cfs 17.995 af Secondary=0.0 cfs 0.000 af Outflow=45.0 cfs 17.995 af
<b>Subcatchment47: East Impervious</b>	Runoff Area=297,257 sf 100.00% Impervious Runoff Depth=8.36" Tc=10.0 min CN=98.0 Runoff=50.6 cfs 4.754 af
<b>Subcatchment48: East Pervious</b>	Runoff Area=89,874 sf 0.00% Impervious Runoff Depth=6.19" Tc=10.0 min CN=80.0 Runoff=12.9 cfs 1.064 af



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**Pond 49: North Outfall** Peak Elev=100.28' Storage=19,566 cf Inflow=76.6 cfs 23.814 af  
Primary=47.8 cfs 22.818 af Secondary=23.6 cfs 0.990 af Outflow=71.4 cfs 23.807 af

**Pond 50: South Outfall** Peak Elev=99.82' Storage=376,993 cf Inflow=329.1 cfs 138.595 af  
Outflow=188.2 cfs 138.594 af

**Pond 51: Pipe Crossing** Peak Elev=98.67' Storage=30,929 cf Inflow=218.8 cfs 161.412 af  
Outflow=218.7 cfs 161.410 af

**Reach 52: Railroad POA** Inflow=218.7 cfs 161.410 af  
Outflow=218.7 cfs 161.410 af