STORMWATER MANAGEMENT REPORT

For

DUNKIN DONUTS
TYRONE

1100 Tyrone Boulevard
St. Petersburg, Florida 33710

Prepared for:

ABL Properties 4, LLC
1 Beach Drive SE, Second Floor
St. Petersburg, Florida 33701

Prepared by:

HIGH POINT ENGINEERING, INC
5300 W. Cypress Street, Suite 282
Tampa, Florida 33607
(HPE Job No. 15-008-DUN)

Date: February 15, 2017

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This item has been electronically signed and sealed by Braulio Grajales, PE on 2-20-17 using a SHA-1 authentication code.

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1.0 INTRODUCTION

The project site is located in Section 17, Township 31 South, Range 16 East within the incorporated area of City of St. Petersburg. The property is on the west side of Tyrone Boulevard (ALT 19) between Winchester Road and 9th Avenue N. and is identified by Pinellas County Property Appraiser's Office Tax Parcel ID: 17-31-16-93744-001-0010. The total area of the parcel is approximately 0.88 acres (38,174 sf) and is bounded by Tyrone Boulevard (ALT 19) to the Northeast, Winchester Road (11th Avenue N.) to the Northwest, and an office / bank building to the South. The property is currently undeveloped.

The proposed project will include one 1-story restaurant building with a total floor area of 2,537 sf, 18,699 sf of vehicular use area including 17 surface parking spaces, a stormwater collection system including dry and wet detention ponds, potable water and sanitary sewer service, and attractive drought tolerant Florida native landscape. The site design criterion falls under the City of St. Petersburg Code of Ordinance. Refer to Appendix A for a copy of the Project Site Location Map.

The objective of this stormwater management report is to produce a quality surface water management plan for the proposed development which satisfies the requirements established by the City of St. Petersburg, Southwest Florida Water Management District (SWFWMD) and the Florida Department of Transportation (FDOT).

2.0 GENERAL INFORMATION

2.1 Flood Zone

According to the Federal Emergency Management Agency (FEMA) flood insurance rate map community-panel 12103C0212G, dated September 3, 2003, the property is located within flood zone 'X'. Refer to Appendix B for a copy of FEMA rate map.

2.2 Wetlands

There are no wetlands within the project site.

2.3 Water and Sewer Connection

Water connection for domestic use will be provided through an existing 8-inch water main located on the south side of Winchester Road (11th Avenue N.). Sewer connection will be provided through an existing 8 in sanitary sewer line located within the property.

2.4 Zoning

The project site is located within zoning district CCS-1 (Corridor Commercial Suburban) and regulated under future land use designation PR-MU (Planned Redevelopment - Mixed Use) which allows the site to be developed for restaurant use.

2.5 Topographic Survey

The boundary and topographic survey was provided by Extreme Surveying of Florida, Inc of Wesley Chapel, Florida and dated February 10, 2016.

2.6 Geotechnical Investigation

The geotechnical investigation to design the stormwater management system was provided by Arehna Engineering, Inc of Tampa, Florida and dated April 5, 2016.

3.0 BASIS OF ANALYSIS

3.1 Runoff Coefficient and Curve Numbers

The rational method, as presented in the FDOT "Drainage Manual", is used in the City of St. Petersburg design storm event analysis to calculate weighted runoff coefficients for estimating the allowable peak discharge and the total required storage volume. The NRCS Method, as presented in the technical release TR-55 "Urban Hydrology for Small Watersheds ", is used to calculate weighted runoff curve numbers. The weighted runoff curve numbers are used for estimating the allowable peak discharge in the pre-development condition and the total required attenuation volume in the post-development condition. Refer to Worksheet 2: Runoff Curve Number and Runoff calculation for Pre-Development and Post-Development condition in Appendix C.

3.2 Design Storm Intensity, Frequency and Duration

According to SWFWMD "Basis of Review", the proposed project is required to provide Water Quality Treatment (WQT) volume. SWFWMD standard relative to the provision of W.Q.T. is 1/2 inch of rainfall applied over the total area for developments using "dry detention pond" systems or 1 inch of rainfall applied over the total area for developments using "wet detention pond" systems.

City of St. Petersburg standard relative to the provision of W.Q.T. is 1 inch of rainfall applied over the improvement area for wet detention pond systems. According to City of St. Petersburg Code of Ordinance Chapter 16 Land Development Regulations section 16.40.030 Drainage and Surface Water Management, the maximum rate of stormwater runoff released from a site and the required retention volume shall be calculated using the rational formula, Q = CIA, where "Q" is the rate of runoff in cubic feet per second, "C" is the coefficient of runoff, "I" is the intensity of rainfall in inches per hour per the current State of Florida Department of Transportation Rainfall Intensity Curves for Zone 6, St. Petersburg, using the ten-year, one-hour design storm, and "A" is the drainage area in acres.

Furthermore, FDOT requires that the proposed stormwater management system will contain any overtop generated in all the different rainfall events included in Drainage Connection Permit Rule under Chapter 14-86, F.A.C. Thus, 35 different rainfall events (i.e. 2 year, 3 year, 5 year, 10 year, 25 year, 50 year and 100 year frequencies for 1 hour, 2 hour, 4 hour, 8 hour and 24 hour duration) are used to estimate the allowable peak discharge flow and the peak stage within the proposed stormwater management system. The rainfall amount for each event is obtained from the FDOT Zone 6 rainfall intensity-duration-frequency curves. FDOT 1-hour, FDOT 2-hour, FDOT 4-hour, FDOT 8-hour and FDOT 24-hour rainfall distributions are used to develop the hydrographs. The rainfall amounts were obtained from the FDOT zone 6 rainfall intensity-duration-frequency curves.

3.3 Time of Concentration

The pre-development time of concentration was calculated based on the slope of the ground and type of ground cover using the NRCS methodology as presented in the technical release TR-55 "Urban Hydrology for Small Watersheds". Refer to Worksheet 3: Time of Concentration (Tc) or Travel Time (Tt) in Appendix D.

3.4 Groundwater Conditions

According to the NRCS soil survey of Pinellas County, the on-site soils are comprised of soil series 16-Matlacha and St. Augustine soils and 30-Urban land. Soil series 16-Matlacha and St. Augustine soils are described as having a hydrologic group of B and A, respectively. Refer to a copy of the NRCS Soils Survey Map and Description Tables in Appendix E.

Arehna Engineering, Inc reported the Seasonal High Water Level (SHWL) 2 feet below existing ground surface in the general area of the project and perched groundwater at the time of the exploration was encountered within 2.5 and 5 feet below existing ground surface. Additionally, Arehna Engineering reported that fluctuations of perched groundwater level should be expected to occur seasonally. Thus, the estimated Season High Water Level (SHWL) elevation is +18.0 ft NAVD. Further, to estimate the infiltration rate of insitu soils, a Double Ring Infiltrometer test (DRI-01) was performed next to soil boring B-11 having a rate of 7.8 inches per hour.

3.5 Design Criteria

The design criteria for water quality treatment and volume attenuation used for this project are per SWFWMD Basis of Review, City of St. Petersburg and FDOT.

4.0 EXISTING CONDITION

The project site has a total area of 38,174 sf (0.88 acres) of undeveloped land. The boundary and topographic survey shows that the project site includes one drainage basin (EX-100) draining towards Tyrone Boulevard (ALT 19) to the Northeast. Refer to Pre-Development Condition Plan in Appendix F.

The stormwater runoff from basin EX-100 sheet flows northeast towards Tyrone Boulevard (ALT 19) and is collected by a concrete curb and gutter which directs flow north to a curb inlet at the intersection of Tyrone Boulevard (ALT 19) and Winchester Road N. A summary of the pre-development condition hydrology is presented in Table 1.

Table 1
Pre-Development Hydrologic Condition Data

Basin ID	Basin Area (Ac)	Curve Number (CN)	Tc (min)
EX-100	**0.88**	**68**	**10**

As previously indicated, the project site is also under the jurisdiction of FDOT and requires a Drainage Connection Permit to continue discharging any stormwater runoff to Tyrone Boulevard (ALT 19) right-of-way after the proposed development is complete. Basin EX-100 was modeled to estimate the allowable peak discharge flow in the post-development condition.

A summary of the peak discharge from basin EX-100 for the most relevant rainfall events is presented in Table 2.

Table 2
Basin EX-100 Hydrograph Model Results

Rainfall Event	Rainfall Depth (in)	Peak Discharge Rate (cfs)	Total Discharge Volume (cf)
3 Yr – 4 Hr	3.8	0.646	3,434
3 Yr – 8 Hr	4.8	0.868	5,526
3 Yr – 24 Hr	6.5	0.322	9,569
5 Yr – 4 Hr	4.3	0.819	4,446
5 Yr – 8 Hr	5.3	1.041	6,662
5 Yr – 24 Hr	7.6	0.418	12,402
10 Yr – 4 Hr	5.0	1.071	5,975
10 Yr – 8 Hr	6.2	1.363	8,822
10 Yr – 24 Hr	8.8	0.526	15,625
25 Yr – 4 Hr	5.8	1.371	7,846
25 Yr – 8 Hr	7.3	1.771	11,616
25 Yr – 24 Hr	10.5	0.681	20,361
50 Yr – 4 Hr	6.4	1.603	9,318
50 Yr – 8 Hr	8.0	0.774	13,463
50 Yr – 24 Hr	11.5	0.984	23,216
100 Yr – 1 Hr	4.5	2.486	4,871
100 Yr – 2 Hr	6.0	2.686	8,331
100 Yr – 4 Hr	7.3	1.955	11,616
100 Yr – 8 Hr	9.2	2.496	16,723
100 Yr – 24 Hr	13.0	0.914	27,572

5.0 PROPOSED CONDITION

The proposed development will consist of one 1-story restaurant building with approximately 2,537 sf gross floor area, constructing 17 surface parking spaces, sidewalks, potable water and sanitary sewer lines, stormwater collection system including two detention ponds and drought tolerant Florida native landscape.

The proposed development will be confined in two (2) basin areas. Basin area PR-100 of approximately 26,350 sf (0.605 acres) will use a stormwater collection system (i.e. inlet and pipes) to convey approximately 70 percent of the on-site runoff to the proposed dry detention pond located in the rear of the building. Basin PR-200 of approximately 11,824 sf (0.271 acres) will convey the remaining 30 percent of the on-site runoff to the proposed wet detention pond located on the south side of the property. The proposed dry detention pond will outfall to the proposed wet detention pond. Both detention ponds will be connected to an existing curb inlet located at the intersection of Tyrone Boulevard (ALT 19) and Winchester Road N directing stormwater runoff to the north to Saint Joes Creek. Refer to Post-Development Condition Plan in Appendix G.

5.1 Water Quality Treatment

The WQT volume for the proposed drainage basin is based upon a “wet detention pond” system. The presumptive WQT volume is determined by computing the volume of runoff from the entire project site based upon 1 inch of runoff, pursuant to SWFWMD requirements. According to the Florida Department of Environmental Protection (FDEP), the site discharges to Saint Joseph Creek WB 1668A which is an impaired water body for dissolved oxygen and nutrients. The property must provide mitigation measures that will cause net improvement of the water quality in the receiving waters for those parameters which do not meet applicable state water quality standards. For this reason, the minimum treatment volume required will be the greater of the following two quantities: the volume dictated by an appropriate pollutant loading analysis or the volume prescribed by presumptive criteria. A pre/post development pollutant analysis based on existing land use and proposed land use was performed. The obtained required treatment volume over the total project area for required efficiency is 1,830 cf (0.042 ac-ft) in order to limit the dissolved oxygen and nutrients to the existing levels. The volume prescribed by presumptive criteria is 3,181 cf (0.075 ac-ft). The proposed dry and wet detention ponds system are designed to retain up to 0.284 ac-ft volume. Refer to Appendix H for a copy of Best Management Practices / Stormwater Treatment Analysis Results.

The permanent pool was sized to provide at least a 14-day residence time based upon average wet season rainfall (rainfall occurring over the wettest four months of an average year) plus 1 inch of rainfall applied over the total area. The average wet season rainfall for SWFWMD is 31.04 inches. The depth of the proposed permanent pool is 5 feet (+13.0 ft NAVD) and the depth of the proposed littoral zone is 2 feet (+16.0 ft NAVD) below the SHWL. The proposed control elevation is set at +19.0 ft NAVD and above the design tailwater elevation (+18.0 ft NAVD). The littoral area is approximately 35 percent of the pond area measured at the SHWL. Refer to Appendix I for a copy of Wet Detention Pond Permanent Pool Analysis Results.

A summary of the required and provide water quality treatment volume is presented in Table 3.

Table 3
Water Quality Treatment Volume

Basin ID	Basin Area (Ac)	Required 14 Day Residency Volume (Ac-ft)	Required Treatment Volume (Ac-ft)	Provided Permanent Pool Volume (Ac-ft)
PR-100 & PR-200	**0.876**	**0.201**	**0.075**	**0.284**

5.2 Stormwater Attenuation

The proposed dry and wet detention ponds are designed to attenuate the volume generated by the critical storm event, to estimate the maximum stage for the proposed development, and meet FDOT, City of St. Petersburg and SWFWMD requirements. The computerized stormwater model 'Interconnected Channel & Pond Routing' (ICPR), Version 3.0 was used to model all the 35 different rainfall events. (i.e. 2 year, 3 year, 5 year, 10 year, 25 year, 50 year and 100 year frequencies for 1, hour, 2 hour, 4 hour, 8 hour and 24 hour durations) as required by the FDOT. Furthermore, the proposed dry and wet detention pond are designed to attenuate the volume generated in the 25 year - 24 hour storm event, to contain the maximum stage for the proposed development and meet SWFWMD freeboard requirements. Additionally, the rational method formula (Q=CIA) was used to estimate the allowable peak rate of runoff and the minimum required stormwater storage volume in the post-development condition as required by City of St. Petersburg. Refer to ICPR routing analysis input and output data in Appendix J. A summary of the post-development condition hydrology data is presented in Table 4.

Table 4
Post-Development Hydrologic Condition Data

Basin ID	Basin Area (Ac)	Curve Number (CN)	Tc (min)
PR-100	**0.605**	**89**	**10**
PR-200	**0.271**	**89**	**10**

The proposed dry and wet detention ponds are designed to provide a minimum freeboard of 6 inches above the maximum stage in order to function properly during storms greater than the design storm. The top of the proposed dry and wet detention ponds is set at elevation +20.50 ft NAVD and the design high water elevation for the 100 year - 8 hour storm event is +19.64 ft NAVD. Furthermore, the computed high water elevation for the SWFWMD 25 year - 24 hour storm event using the Florida modified rainfall distribution is +19.54 ft NAVD. Additionally, the proposed dry and wet detention ponds are designed to provide up to 10,125 cf of storage volume which exceeds the minimum required retention volume by City of St. Petersburg. The minimum required retention volume computed using the rational method formula is 7,660 cf. The proposed weir was designed to allow a maximum discharge equal to 2.05 cfs which is less than the maximum rate of stormwater runoff computed using the rational formula that can be released from the site (i.e. 2.13 cfs). The design high water elevation for the 10 year 1 hour rainfall event is +19.85 ft NAVD.

The stage-storage data for the dry and wet detention ponds is presented in Table 5.

Table 5
Dry Detention Pond Stage-Storage Data

Level	Elevation (ft)	Surface Area (sf)	Incremental Storage Volume (cf)	Cumulative Storage Volume (cf)
Top of Bank	20.50	1,210	543	1,508
	20.00	960	424	965
Overflow	19.50	734	317	542
	19.00	534	225	225
Bottom of Pond	18.50	365	0	0

Wet Detention Pond Stage-Storage Data

Level	Elevation (ft)	Surface Area (sf)	Incremental Storage Volume (cf)	Cumulative Storage Volume (cf)
Top of Bank	20.50	4,018	1,949	17,332
	20.00	3,778	1,830	15,383
Overflow	19.50	3,542	1,714	13,553
Weir Slot	19.00	3,315	1,603	11,838
	18.50	3,095	1,521	10,236
S.H.W.L.	18.00	2,988	1,468	8,715
	17.50	2,882	1,415	7,248
	17.00	2,778	1,364	5,833
	16.50	2,676	1,011	4,469
Littoral Zone	16.00	1,368	666	3,458
	15.50	1,294	629	2,793
	15.00	1,220	593	2,164
	14.50	1,150	558	1,572
	14.00	1,080	524	1,014
	13.50	1,014	491	491
Bottom of Pond	13.00	948	0	0

Table 6
Basin PR-100 & PR-200 Routing Model Results

Rainfall Event	Total Runoff Volume (cf)	Peak Discharge Rate (cfs)	Maximum Stormwater Elevation (ft)
3 Yr – 4 Hr	8,378	0.000	18.76
3 Yr – 8 Hr	11,382	0.001	19.01
3 Yr – 24 Hr	16,596	0.067	19.30
5 Yr – 4 Hr	9,872	0.000	18.89
5 Yr – 8 Hr	12,905	0.019	19.13
5 Yr – 24 Hr	20,010	0.121	19.45
10 Yr – 4 Hr	11,990	0.008	19.07
10 Yr – 8 Hr	15,669	0.069	19.31
10 Yr – 24 Hr	23,755	0.241	19.54
25 Yr – 4 Hr	14,438	0.052	19.25
25 Yr – 8 Hr	19,076	0.141	19.49
25 Yr – 24 Hr	29,085	0.404	19.58
50 Yr – 4 Hr	16,286	0.094	19.38
50 Yr – 8 Hr	21,256	0.306	19.56
50 Yr – 24 Hr	32,230	0.520	19.60
100 Yr – 1 Hr	10,474	0.000	18.95
100 Yr – 2 Hr	15,053	0.068	19.30
100 Yr – 4 Hr	19,076	0.257	19.54
100 Yr – 8 Hr	25,006	0.683	**19.64**
100 Yr – 24 Hr	36,956	0.658	19.63

5.3 Floodplain Considerations

As indicated previously, the proposed development is located within Flood Zone ‘X’ which is above the 100 year Flood Plain. As a result, no floodplain impacts or compensation would be required for the proposed improvements.

6.0 OPERATION AND MAINTENANCE GUIDELINES

ABL Properties 4, LLC will be responsible for the ownership and maintenance for the entire proposed on-site stormwater management system.

ABL Properties 4, LLC
1 Beach Drive SE, Second Floor
St. Petersburg, Florida 33701
Telephone: (727) 521-2100

6.1 Operation

The project's stormwater management system is a gravity-operated system and requires no operator action.

6.2 Maintenance

A. Inlet Grates: Inlet grates will be checked monthly for damage or blockage. Any damaged grates will be replaced or repaired. Any debris blocking full flow through the grate will be removed.

B. Pipes and Inlets: Pipes and inlets will be inspected yearly for damage or blockage. Any damaged pipes or inlets will be repaired or replaced. Any trash, debris or sand deposits will be removed.

C. Weir and Skimmer: The weir and skimmer shall be inspected monthly for damage or blockage. If damaged, the weir or skimmer will be repaired or replaced. Any trash or debris shall be removed.

D. Detention Pond: All side slopes and maintenance berms will be periodically mowed and cleaned. During the mowing operation the ponds will be inspected for bare spots and erosion damage. Any bare spots greater than one square foot in area will be seeded or sodded to replace the grass cover. In case of erosion or damage where underlying soil is missing, the missing soil will be replaced and the area brought back to grade with seeding or sodding as required. The bottom and side slopes of the pond should be inspected regularly to assure that excess siltation or erosion has not occurred. Siltation and erosion in the pond should be controlled to assure that the storage volume is not affected. Periodic scarification of the pond side slopes and removal of silts may be required. In addition, cattails, bulrushes, and other nuisance vegetation will be cut back from inlet or outfall structures, to the minimum extent needed to maintain design discharges. All inflow and outflow structures will be maintained by the procedures outlined for pipes, inlets, and grates. In addition:

- Grass clipping and other vegetative debris should be removed from the area surrounding the pond.
- The area immediately in front of the overflow structure should be cleared of aquatic growth and debris.
- Limit fertilizer use around the pond area to prevent nutrient loading of the facility.
- The control structure should be checked monthly and all debris cleared.

7.0 CONCLUSIONS

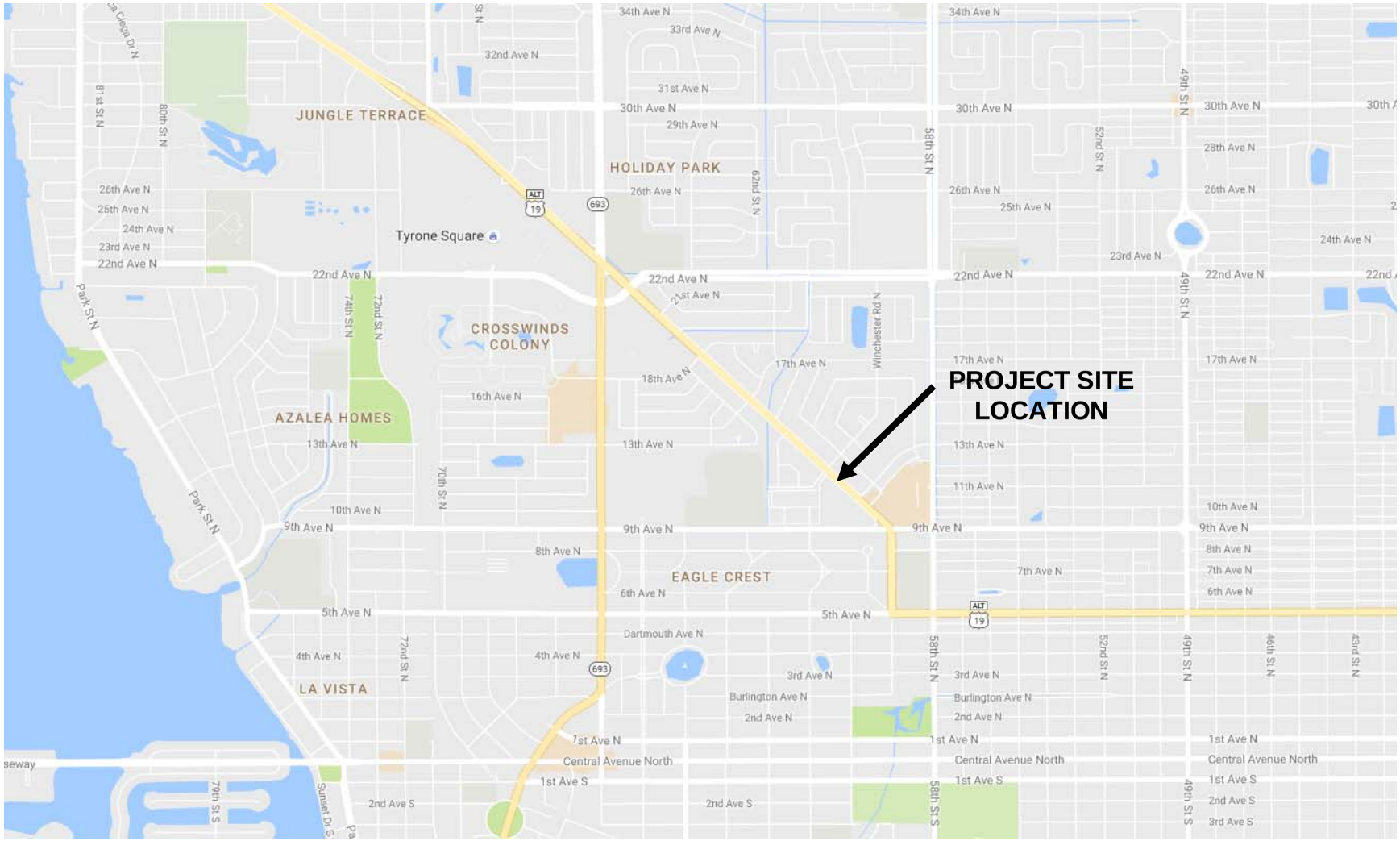
The proposed stormwater management system satisfies City of St. Petersburg, SWFWMD and FDOT water quality treatment requirements. Further, the pre-development discharge is not exceeded by the attenuated post-development discharge for all 35 storm events and therefore meets FDOT criteria for water quantity attenuation. Furthermore, the proposed stormwater management system will contain any overtop generated in a 25 year 24 hour storm event and therefore meets SWFWMD freeboard requirements. Additionally, the maximum rate of the stormwater runoff released from the site will not exceed the 10 year 1 hour design storm, therefore meets the City of St. Petersburg drainage and subsurface water management criteria. The 100 year 8 hour storm event is the most critical rainfall event.

If you have any questions regarding the information contained herein, please do not hesitate to contact me.

Sincerely,
HIGH POINT ENGINEERING, INC.

Braulio Grajales, P.E.
Principal

APPENDIX A


PROJECT SITE
LOCATION
JUNGLE TERRACE
HOLIDAY PARK
Tyrone Square
CROSSWINDS
COLONY
AZALEA HOMES
EAGLE CREST
LA VISTA
34th Ave N
33rd Ave N
32nd Ave N
31st Ave N
30th Ave N
29th Ave N
28th Ave N
26th Ave N
25th Ave N
24th Ave N
23rd Ave N
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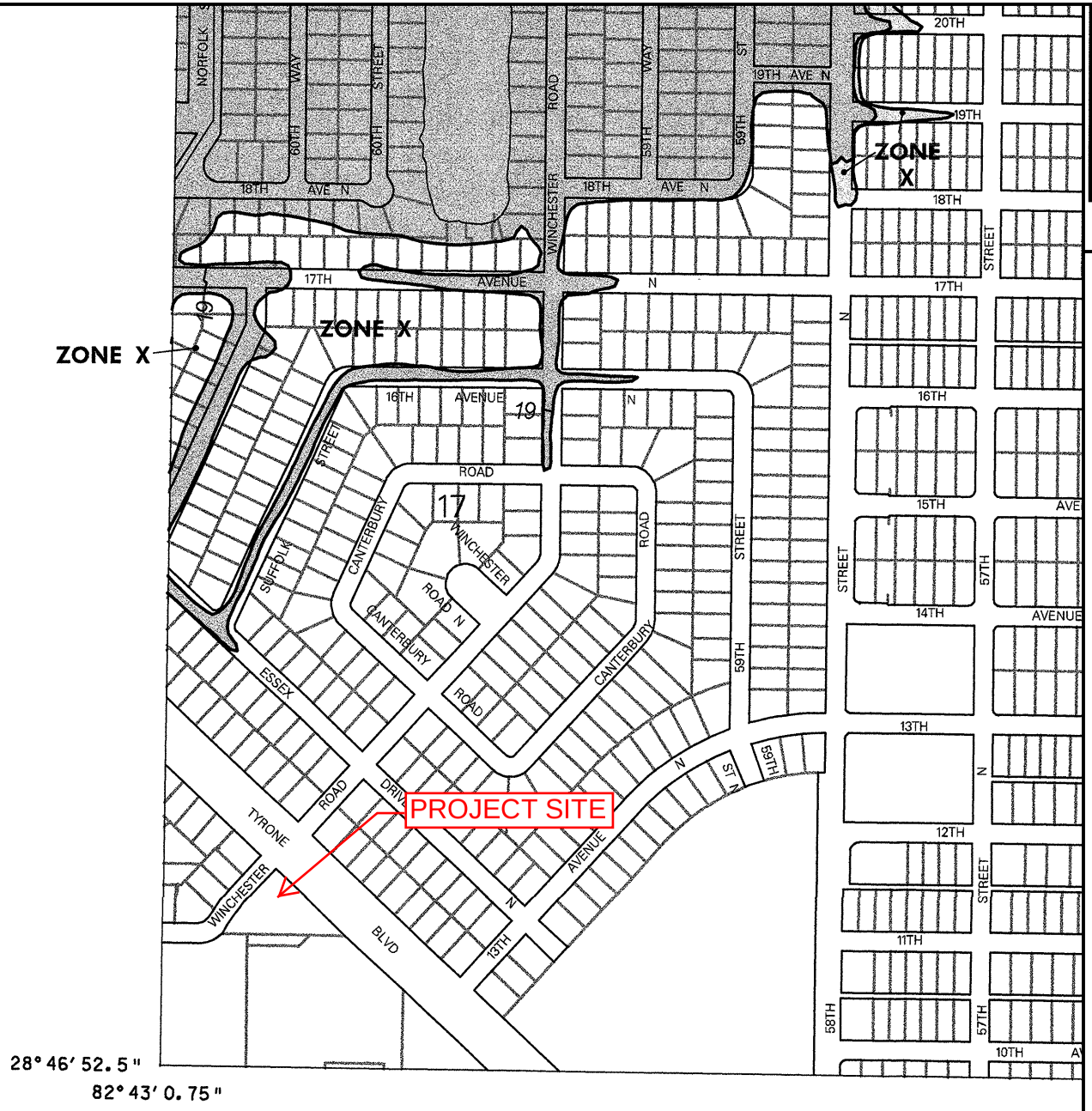
6th Ave N
5th Ave N
4th Ave N
3rd Ave N
2nd Ave N
1st Ave N
1st Ave S
2nd Ave S
3rd Ave S
Dartmouth Ave N
Burlington Ave N
Central Avenue North
81st St N
80th St N
74th St N
72nd St N
70th St N
62nd St N
58th St N
52nd St N
49th St N
46th St N
43rd St N
Park St N
Winchester Rd N
79th St S
58th St S
49th St S
Sunset Dr S
ALT 19
693

APPENDIX B



APPROXIMATE SCALE

500 0 500

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

PINELLAS COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 212 OF 327

(SEE MAP INDEX FOR PANELS NOT PRINTED)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
KENNETH CITY, TOWN OF	120245	0212	G
PINELLAS COUNTY	125139	0212	G
ST. PETERSBURG, CITY OF	125148	0212	G

Notice to User: The MAP NUMBER shown below should be used when placing map orders; the COMMUNITY NUMBER shown above should be used on insurance applications for the subject community.

MAP NUMBER
12103C0212G

EFFECTIVE DATE
SEPTEMBER 3, 2003

Federal Emergency Management Agency

APPENDIX C

Worksheet 2: Runoff Curve number and Runoff

Project	**DUNKIN DONUTS RESTAURANT - TYRONE**	By	**BG**	Date	**1/12/2017**
Location	**1100 TYRONE BOULEVARD, ST. PETERSBURG, FLORIDA 33710**	Checked		Date	

Check one: X Present (EX-100) Developed

1. Runoff Curve Number

Soil Name and Hydrologic Group (Appendix A)	Cover Description (Cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN Table 2-2	CN Figure 2-3	CN Figure 2-4	Area (sf)	Product of CN x Area
Impervious	Building	98				0
Impervious	Pavement	98			7,567	741,566
Impervious	Sidewalk, Curb, Pad	98				0
Water	Pond	100				0
16 - Matlacha, B	Open Space - Good Condition (grass cover > 75%)	61			10,407	634,827
30 - Urban Land, B	Open Space - Good Condition (grass cover > 75%)	61			20,200	1,232,200
				Totals:	38,174	2,608,593

CN (weighted) = total product / total area = 2,608,593 / 38,174 = 68.3 Use: **68**

2. Runoff

	Storm #1	Storm #2	Storm #3
Frequency.....yr	25	100	
Rainfall, P (24-hour).....in	9.0	12.0	
Runoff, Q.....in			

(Use P and CN with table 2-1, figure 2-1, or equations 2-3 and 2-4)

Worksheet 2: Runoff Curve number and Runoff

Project	**DUNKIN DONUTS RESTAURANT - TYRONE**	By	**BG**	Date	**1/12/2017**
Location	**1100 TYRONE BOULEVARD, ST. PETERSBURG, FLORIDA 33710**	Checked		Date	

Check one: Present X Developed (PR-100 & PR-200)

1. Runoff Curve Number

Soil Name and Hydrologic Group (Appendix A)	Cover Description (Cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN Table 2-2	CN Figure 2-3	CN Figure 2-4	Area (sf)	Product of CN x Area
Impervious	Building	98			2,537	248,626
Impervious	Pavement	98			18,699	1,832,502
Impervious	Sidewalk, Curb, Pad	98			2,252	220,696
Water	Pond	100			5,218	521,800
16 - Matlacha, B	Open Space - Good Condition (grass cover > 75%)	61			5,826	355,386
30 - Urban Land, B	Open Space - Good Condition (grass cover > 75%)	61			3,642	222,162
				Totals:	38,174	3,401,172

CN (weighted) = total product / total area = 3,401,172 / 38,174 = 89.1 Use: **89**

2. Runoff

	Storm #1	Storm #2	Storm #3
Frequency.....yr	25	100	
Rainfall, P (24-hour).....in	9.0	12.0	
Runoff, Q.....in			

(Use P and CN with table 2-1, figure 2-1, or equations 2-3 and 2-4)

APPENDIX D

Worksheet 3: Time of Concentration (Tc) or travel time (Tt)

Project	**DUNKIN DONUTS RESTAURANT - TYRONE**	By	**BG**	Date	**1/12/2017**
Location	**1100 TYRONE BLVD, ST. PETERSBURG, FL**	Checked		Date	

Check one: X Present (EX-100) Developed

Check one: X Tc Tt through subarea

Notes: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to Tc only)

Segment ID	AB	BC	CD	DE	
1. Surface description (table 3-1)	Asphalt	Asphalt	Asphalt	Asphalt	
2. Manning's roughness coefficient, n (table 3-1)	0.011	0.011	0.011	0.011	
3. Flow length, L (total L≤ 300 ft) ft	66	52	74	36	
4. Two-year 24-hour rainfall, P_2 In	4.2	4.2	4.2	4.2	
5. Land slope, s ft/ft	0.006	0.004	0.001	0.017	
6. Tt = $\frac{0.007\,(nL)^{0.8}}{P_2^{0.5}\,s^{0.4}}$ Compute Tt hr	0.0204	0.0202	0.0407	0.0084	0.0897

Shallow concentrated flow

Segment ID					
7. Surface description (paved or unpaved)					
8. Flow length, L ft					
9. Watercourse slope, s ft/ft					
10. Average velocity, V (figure 3-1) ft/s					
11. Tt = $\frac{L}{3600V}$ Compute Tt hr					

Channel flow

Segment ID					
12. Cross sectional flow area, a ft^2					
13. Wetted perimeter, p_w ft					
14. Hydraulic radius, r = A/P_w Compute r ft					
15. Channel slope, s ft/ft					
16. Manning's roughness coefficient, n					
17. V = 1.49 $r^{2/3}s^{1/2}/n$ Compute V ft/s					
18. Flow length, L ft					
19. Tt = L / 3600V Compute Tt hr					

20. Watershed or subarea Tc or Tt (add Tt in steps 6, 11, and 19) hr	0.0897
min	5.4
Use	10 min

Worksheet 3: Time of Concentration (Tc) or travel time (Tt)

Project	DUNKIN DONUTS RESTAURANT - TYRONE	By	BG	Date	1/12/2017
Location	1100 TYRONE BLVD, ST. PETERSBURG, FL	Checked		Date	

Check one: Present X Developed (PR-100 & PR-200)

Check one: X Tc Tt through subarea

Notes: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to Tc only)

Segment ID	AB				
1. Surface description (table 3-1)	Asphalt				
2. Manning's roughness coefficient, n (table 3-1)	0.011				
3. Flow length, L (total L ≤ 300 ft) ft	32				
4. Two-year 24-hour rainfall, P_2 In	4.2				
5. Land slope, s ft/ft	0.013				
6. $Tt = \frac{0.007\ (nL)^{0.8}}{P_2^{0.5}\ s^{0.4}}$ Compute Tt.....hr	0.0085				0.0085

Shallow concentrated flow

Segment ID	BC				
7. Surface description (paved or unpaved)	Paved				
8. Flow length, L ft	32				
9. Watercourse slope, s ft/ft	0.0094				
10. Average velocity, V (figure 3-1) ft/s	2.0				
11. $Tt = \frac{L}{3600V}$ Compute Tt.....hr	0.0044				0.0044

Channel flow

Segment ID	CD	DE			
12. Cross sectional flow area, a ft^2	1.23	1.77			
13. Wetted perimeter, p_w ft	3.93	4.71			
14. Hydraulic radius, $r = A/P_w$ Compute r.....ft	0.31	0.38			
15. Channel slope, s ft/ft	0.005	0.004			
16. Manning's roughness coefficient, n	0.01	0.01			
17. $V = 1.49\ r^{2/3}s^{1/2}/n$ Compute V .....ft/s	4.77	4.66			
18. Flow length, L ft	42	56			
19. Tt = L / 3600V Compute Tt.....hr	0.0024	0.0033			0.0058

20. Watershed or subarea Tc or Tt (add Tt in steps 6, 11, and 19) hr	0.0188
.....min	1.1
Use	10 min

APPENDIX E

Soil Map—Pinellas County, Florida
(DUNKIN DONUTS 1100 TYRONE BOULEVARD, ST. PETERSBURG, FLRIDA 33710)

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Pinellas County, Florida
Survey Area Data: Version 12, Nov 19, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 17, 2013—Feb 28, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Pinellas County, Florida (FL103)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
16	Matlacha and St. Augustine soils and Urban land	0.6	68.7%
30	Urban land	0.3	31.3%
Totals for Area of Interest		**0.9**	**100.0%**

Report—Engineering Properties

Absence of an entry indicates that the data were not estimated. The asterisk '*' denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007(http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba).

Engineering Properties–Pinellas County, Florida														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*Pct*	*Pct*					*Pct*	
16—Matlacha and St. Augustine soils and Urban land														
Matlacha	32	B	0-42	Sand	SP, SP-SM	A-3	0- 0- 0	0- 8- 15	70-78-85	70-78-85	60-70-80	2- 6- 10	0-7 -14	NP
			42-80	Sand, fine sand	SP, SP-SM	A-3	0- 0- 0	0- 0- 0	100-100-100	100-100-100	85-93-100	2- 6- 10	0-7 -14	NP
St. augustine	32	A	0-8	Sand	SP-SM, SP	A-3	0- 0- 0	0- 0- 0	85-90-95	80-88-95	80-85-90	2- 4- 5	0-7 -14	NP
			8-33	Loamy fine sand	SP-SM	A-2-4	0- 0- 0	0- 0- 0	85-90-95	80-88-95	80-85-90	2-15- 17	0-7 -14	NP
			33-48	Fine sand, sand	SP, SP-SM	A-3	0- 0- 0	0- 0- 0	85-90-95	80-88-95	80-85-90	2- 4- 5	0-7 -14	NP
			48-63	Sand, fine sand, loamy fine sand, sandy loam	SM, SP-SM	A-2-4	0- 0- 0	0- 0- 0	85-90-95	80-88-95	80-85-90	10-16-22	0-7 -14	NP
			63-80	Sand	SP-SM, SP	A-3	0- 0- 0	0- 0- 0	85-90-95	80-88-95	80-85-90	2- 4- 5	0-7 -14	NP

Report—Physical Soil Properties

Physical Soil Properties–Pinellas County, Florida														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*					
16—Matlacha and St. Augustine soils and Urban land														
Matlacha	0-42	-93-	0- 2- 15	3- 6- 8	1.65-1.70 -1.75	14.12-28.00-42. 35	0.05-0.07-0. 08	0.0- 1.5- 2.9	0.0- 0.3- 0.5	.02	.02	5	1	220
	42-80	-98-	0- 1- 15	1- 2- 2	1.50-1.58 -1.65	42.35-92.00-14 1.18	0.03-0.04-0. 05	0.0- 1.5- 2.9	0.0- 0.3- 0.5	.02	.02			
St. augustine	0-8	-98-	0- 1- 15	0- 1- 2	1.30-1.35 -1.40	42.35-92.00-14 1.18	0.02-0.04-0. 05	0.0- 1.5- 2.9	1.0- 2.0- 3.0	.02	.02	5	1	220
	8-33	-81-	0- 9- 30	8-10- 12	1.40-1.48 -1.55	14.12-78.00-14 1.18	0.05-0.08-0. 10	0.0- 1.5- 2.9	0.0- 0.5- 1.0	.05	.05			
	33-48	-98-	0- 1- 15	0- 1- 2	1.30-1.35 -1.40	42.35-92.00-14 1.18	0.02-0.04-0. 05	0.0- 1.5- 2.9	0.0- 0.3- 0.5	.02	.02			
	48-63	-82-	0- 3- 50	8-15- 20	1.40-1.48 -1.55	14.12-78.00-14 1.18	0.05-0.08-0. 10	0.0- 1.5- 2.9	0.0- 0.3- 0.5	.10	.10			
	63-80	-98-	0- 1- 15	0- 1- 2	1.30-1.35 -1.40	42.35-92.00-14 1.18	0.02-0.04-0. 05	0.0- 1.5- 2.9	0.0- 0.3- 0.5	.02	.02			
Urban land	—	—	—	—	—	—	—	—	—					
30—Urban land														
Urban land	—	—	—	—	—	—	—	—	—					

Report—Chemical Soil Properties

Chemical Soil Properties–Pinellas County, Florida								
Map symbol and soil name	**Depth**	**Cation-exchange capacity**	**Effective cation-exchange capacity**	**Soil reaction**	**Calcium carbonate**	**Gypsum**	**Salinity**	**Sodium adsorption ratio**
	In	*meq/100g*	*meq/100g*	*pH*	*Pct*	*Pct*	*mmhos/cm*	
16—Matlacha and St. Augustine soils and Urban land								
Matlacha	0-42	2.0-6.1	—	6.1-8.4	0-5	0	0.0-2.0	0-4
	42-80	0.8-1.8	—	6.1-8.4	0-5	0	0.0-2.0	0-4
St. augustine	0-8	0.0-2.1	—	6.1-8.4	0-5	0	0.0-2.0	0-4
	8-33	4.7-9.1	—	6.1-8.4	0-5	0	0.0-2.0	0-4
	33-48	0.0-1.8	—	6.1-8.4	0-5	0	0.0-2.0	0-4
	48-63	4.7-14	—	6.1-8.4	0-5	0	0.0-2.0	0-4
	63-80	0.0-1.8	—	6.1-8.4	0-5	0	0.0-2.0	0-4
Urban land	—	—	—	—	—	—	—	—
30—Urban land								
Urban land	—	—	—	—	—	—	—	—

Data Source Information

Soil Survey Area: Pinellas County, Florida
Survey Area Data: Version 12, Nov 19, 2015

Water Features–Pinellas County, Florida										
Map unit symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*	*Ft*				
16—Matlacha and St. Augustine soils and Urban land										
Matlacha	B	Very low	January	—	—	—	—	None	—	None
			February	—	—	—	—	None	—	None
			March	—	—	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	2.0-3.0	>6.0	—	—	None	—	None
			July	2.0-3.0	>6.0	—	—	None	—	None
			August	2.0-3.0	>6.0	—	—	None	—	None
			September	2.0-3.0	>6.0	—	—	None	—	None
			October	2.0-3.0	>6.0	—	—	None	—	None
			November	—	—	—	—	None	—	None

Water Features–Pinellas County, Florida										
Map unit symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*	*Ft*				
			December	—	—	—	—	None	—	None
St. augustine	A	Very low	January	—	—	—	—	None	—	None
			February	—	—	—	—	None	—	None
			March	—	—	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	1.5-3.0	>6.0	—	—	None	—	None
			July	1.5-3.0	>6.0	—	—	None	—	None
			August	1.5-3.0	>6.0	—	—	None	—	None
			September	1.5-3.0	>6.0	—	—	None	—	None
			October	1.5-3.0	>6.0	—	—	None	—	None
			November	—	—	—	—	None	—	None
			December	—	—	—	—	None	—	None
Urban land	—	—	January	—	—	—	—	None	—	None
			February	—	—	—	—	None	—	None
			March	—	—	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None

Water Features–Pinellas County, Florida										
Map unit symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*	*Ft*				
			December	—	—	—	—	None	—	None
30—Urban land										
Urban land	—	—	January	—	—	—	—	None	—	None
			February	—	—	—	—	None	—	None
			March	—	—	—	—	None	—	None
			April	—	—	—	—	None	—	None
			May	—	—	—	—	None	—	None
			June	—	—	—	—	None	—	None
			July	—	—	—	—	None	—	None
			August	—	—	—	—	None	—	None
			September	—	—	—	—	None	—	None
			October	—	—	—	—	None	—	None
			November	—	—	—	—	None	—	None
			December	—	—	—	—	None	—	None

Data Source Information

Soil Survey Area: Pinellas County, Florida
Survey Area Data: Version 12, Nov 19, 2015

RUSLE2 Related Attributes

This report summarizes those soil attributes used by the Revised Universal Soil Loss Equation Version 2 (RUSLE2) for the map units in the selected area. The report includes the map unit symbol, the component name, and the percent of the component in the map unit. Soil property data for each map unit component include the hydrologic soil group, erosion factors Kf for the surface horizon, erosion factor T, and the representative percentage of sand, silt, and clay in the mineral surface horizon. Missing surface data may indicate the presence of an organic surface layer. .

Report—RUSLE2 Related Attributes

Soil properties and interpretations for erosion runoff calculations. The surface mineral horizon properties are displayed. Organic surface horizons are not displayed.

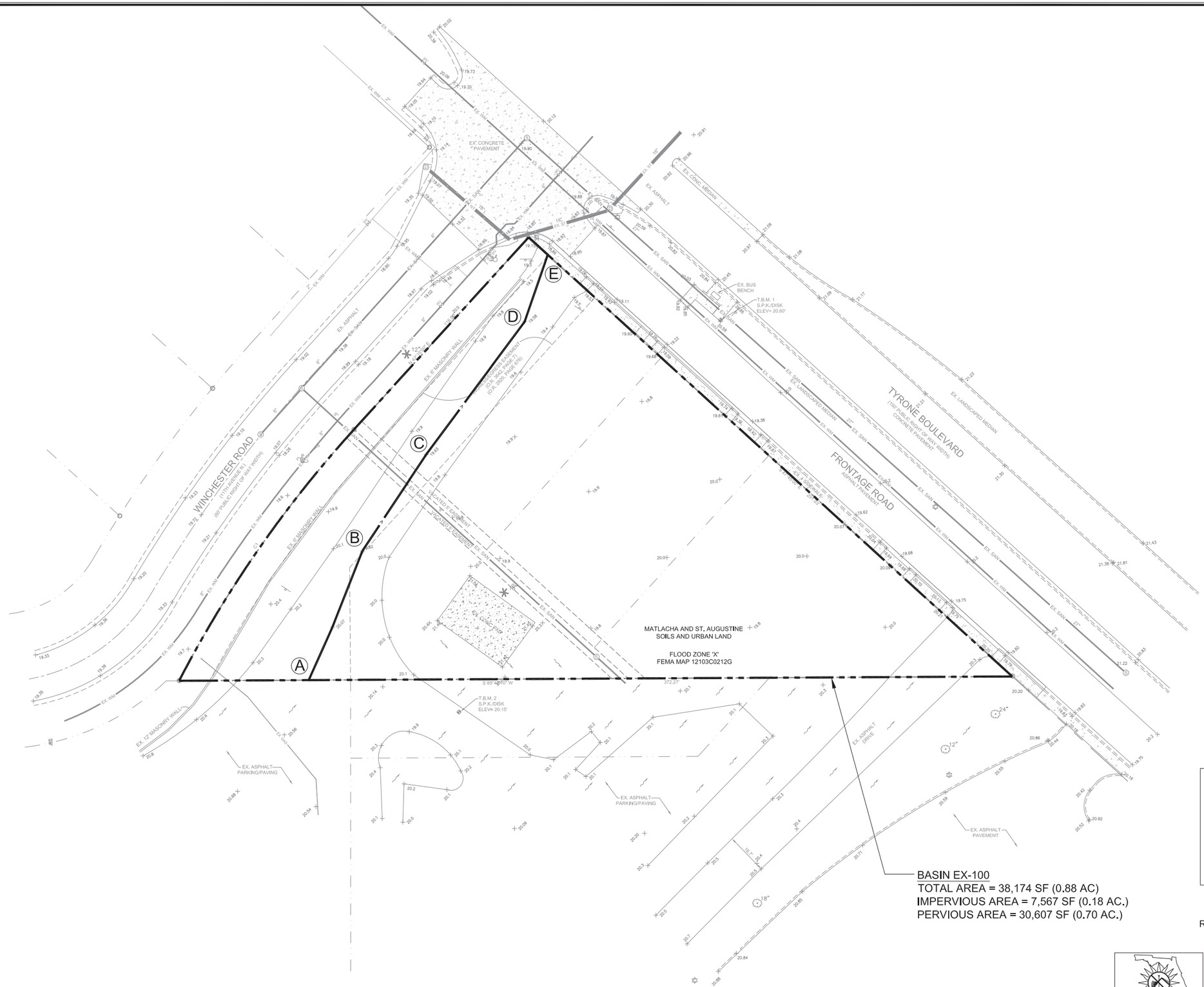
RUSLE2 Related Attributes–Pinellas County, Florida

Map symbol and soil name	Pct. of map unit	Slope length (ft)	Hydrologic group	Kf	T factor	Representative value		
						% Sand	% Silt	% Clay
16—Matlacha and St. Augustine soils and Urban land								
Matlacha	32	151	B	.02	5	92.9	1.6	5.5
St. Augustine	32	151	A	.02	5	98.4	0.6	1.0

Data Source Information

Soil Survey Area: Pinellas County, Florida
Survey Area Data: Version 12, Nov 19, 2015

APPENDIX F



BASIN EX-100
TOTAL AREA = 38,174 SF (0.88 AC)
IMPERVIOUS AREA = 7,567 SF (0.18 AC.)
PERVIOUS AREA = 30,607 SF (0.70 AC.)

LEGEND

- EXISTING PROPERTY LINE
- EXISTING ELEVATION (+ 19.35)
- FLOW DIRECTION
- EXISTING RIDGE-LINE (R.L.)
- EXISTING STORM SEWER LINE (EX. ST)
- EXISTING DRAINAGE BASIN LINE

ALL EXISTING ELEVATIONS ARE REFERENCED FROM NORTH AMERICAN VERTICAL DATUM (N.A.V.D.) 1988.

GRAPHIC SCALE 1"=20'
40 20 10 0 20

No.	BY	DATE	REVISIONS DESCRIPTION

PROJECT No.: 15-006-DUN
ISSUE DATE: 01/12/17
DESIGNED BY: CC
DRAWN BY: CC
CHECKED BY: BG
APPROVED BY: BG

PRE-DEVELOPMENT CONDITION PLAN

PROJECT:
DUNKIN' DONUTS STORE
1100 TYRONE BOULEVARD
ST. PETERSBURG, FLORIDA, 33710

HIGH POINT ENGINEERING
Certificate of Authorization No.30275
Tel. (813) 644-8333
Fax (813) 644-7000
5300 W. Cypress Street, Suite 282
Tampa, Florida 33607
LAND PLANNING - CIVIL ENGINEERING - GEOTECHNICAL ENGINEERING

SHEET: EX-1

48 HOURS BEFORE YOU DIG "CALL SUNSHINE" 1-800-432-4770

58626 — FL Registration No.
BRAULIO GRAJALES — Professional Engineer
Sign Date
COPY OF THIS PLAN IS NOT VALID UNLESS SIGNED, SEALED AND DATED BY THE PROFESSIONAL ENGINEER

APPENDIX G

N

W E

S

GRAPHIC SCALE 1"=20'

40 20 10 0 20

No.	BY	DATE	DESCRIPTION
			REVISIONS

PROJECT No: 15-008-DUN
ISSUE DATE: 01/12/17
DESIGNED BY: CC
DRAWN BY: CC
CHECKED BY: BG
APPROVED BY: BG

POST-DEVELOPMENT CONDITION PLAN

PROJECT:
DUNKIN' DONUTS STORE

1100 TYRONE BOULEVARD
ST. PETERSBURG, FLORIDA, 33710

HIGH POINT ENGINEERING
Certificate of Authorization No.30275
Tel. (813) 644-8333
Fax (813) 644-7000
5300 W. Cypress Street, Suite 282
Tampa, Florida 33607
LAND PLANNING - CIVIL ENGINEERING - GEOTECHNICAL ENGINEERING

SHEET:
PR-1

WINCHESTER ROAD
(17TH AVENUE N)
(66' PUBLIC RIGHT OF WAY WIDTH)
ASPHALT PAVEMENT

TYRONE BOULEVARD
(100' PUBLIC RIGHT OF WAY WIDTH)
CONCRETE PAVEMENT

FRONTAGE ROAD
ASPHALT PAVEMENT

EX. CONCRETE PAVEMENT

EX. ASPHALT

EX. CONC. MEDIAN

EX. LANDSCAPED MEDIAN

EX. BUS BENCH

T.B.M. 1
S.P.K./DISK
ELEV= 20.60'

T.B.M. 2
S.P.K./DISK
ELEV= 20.15'

EX. 6' MASONRY WALL

EX. 12' MASONRY WALL

EX. ASPHALT PARKING/PAVING

EX. ASPHALT DRIVE

EX. ASPHALT PAVEMENT

DUNKIN' DONUTS
2,313 S.F. GFA
ONE-STORY BUILDING
FIN. FLOOR ELEV. = 21.00'

COOLER
FINISH FLOOR ELEV. = 19.9

PROPOSED DRY DETENTION POND

PROPOSED WET DETENTION POND

PR-100
AREA = 26,414 SF (0.61 AC)
POND AREA = 1,210 SF (0.03 AC.)

PR-200
AREA = 11,760 SF (0.27 AC)
POND AREA = 4,018 SF (0.09 AC.)

LITTORAL ZONE

MATLACHA AND ST. AUGUSTINE SOILS AND URBAN LAND

FLOOD ZONE 'X'
FEMA MAP 12103C0212G

PR-100 & PR-200
TOTAL AREA = 38,174 SF (0.88 AC)
IMPERVIOUS AREA = 23,488 SF (0.54 AC.)
PERVIOUS AREA = 9,468 SF (0.22 AC.)
POND AREA = 5,218 SF (0.12 AC.)

LEGEND

- EXISTING PROPERTY LINE
- EXISTING ELEVATION
- PROPOSED ELEVATION
- FLOW DIRECTION
- PROPOSED RIDGE LINE
- EX. ST — EXISTING STORM SEWER LINE
- ST — PROPOSED STORM SEWER LINE
- PROPOSED DRAINAGE BASIN LINE

ALL EXISTING AND PROPOSED ELEVATIONS ARE REFERENCED FROM NORTH AMERICAN VERTICAL DATUM (N.A.V.D.) 1988.

48 HOURS BEFORE YOU DIG "CALL SUNSHINE" 1-800-432-4770

58626 — FL Registration No.
BRAULIO GRAJALES — Professional Engineer
Sign Date

COPY OF THIS PLAN IS NOT VALID UNLESS SIGNED, SEALED AND DATED BY THE PROFESSIONAL ENGINEER

APPENDIX H

Stormwater BMP Treatment Trains [BMPTRAINS©]

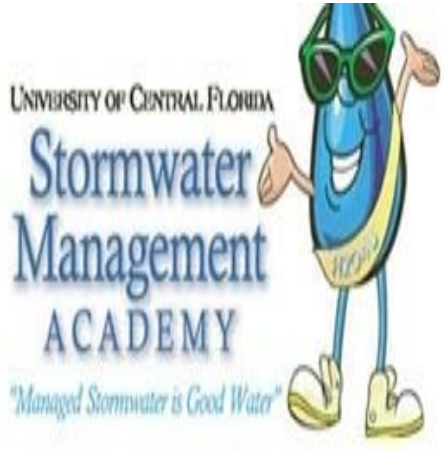
CLICK HERE TO START

THIS IS A DRAFT DOCUMENT SUBJECT TO REVISION

INTRODUCTION PAGE

This program is compiled from stormwater management publications and deliberations during a two year review of the stormwater rule in the State of Florida.
Input from the members of the Florida Department of Environmental Protection Stormwater Review Technical Advisory Committee and the staff and consultants from the State Water Management Districts is appreciated.

The State Department of Transportation provided guidance and resources to compile this program. The Stormwater Management Academy is responsible for the content of this program.



IMPORTANT NOTES!!!

1) NAVIGATE through this spreadsheet by using the appropriate window blocks that look just like...

THIS ONE!!!

2) This spreadsheet is best viewed at 1280 BY 1080 PIXELS screen resolution. If the maximum resolution of your computer screen is lower than 1280 BY 1080 PIXELS you can adjust the view in the Excel VIEW menu by zooming out to value smaller than 100 PERCENT.

3) This spreadsheet has incorporated ERROR MESSAGE WINDOWS. Your analysis is not valid unless ALL ERROR MESSAGE WINDOWS are clear.

4) PRINTING INSTRUCTIONS: Print the page to MICROSOFT OFFICE DOCUMENT IMAGE WRITER (typically the default) or ADOBE PDF, save the page as an image document, then print the document you saved.

5) Click on the button located on the top of this window titled CLICK HERE TO START to begin the analysis.

Disclaimer: These workbooks were created to assist in the analysis of Best Management Practice calculations. All users are responsible for validating the accuracy of the internal calculations. If errors or omissions are noted within this workbook, please e-mail Marty Wanielista, Ph.D., P.E. at martin.wanielista@ucf.edu with specific information so that revisions can be made.

The authors of this program were Christopher Kuzlo, Marty Wanielista, Mike Hardin, and Ikiensinma Gogo-Abite.
This is version 5.2 of the program, updated on April 15 2013. Comments are appreciated.

GENERAL SITE INFORMATION:

GO TO INTRODUCTION PAGE

Blue Numbers =	Input data
Red Numbers =	Calculated or Carryover

STEP 1: Select the appropriate Meteorological Zone, input the appropriate Mean Annual Rainfall amount and select the type of analysis

NAME OF PROJECT

DUNKIN DONUTS - TYRONE

VIEW ZONE MAP

Meteorological Zone (Please use zone map):	CLICK ON CELL BELOW TO SELECT Zone 4	
Mean Annual Rainfall (Please use rainfall map):	51.00	Inches
Type of analysis:	CLICK ON CELL BELOW TO SELECT Net improvement	
Treatment efficiency (leave empty if net improvement analysis is used):		%

VIEW MEAN ANNUAL RAINFALL MAP

GO TO WATERSHED CHARACTERISTICS

STEP 2: Select the STORMWATER TREATMENT ANALYSIS to begin analyzing Best Management Practices.

Model documentation and example problems.

STORMWATER TREATMENT ANALYSIS

Systems available for analysis:
Retention Basin with option for calculating effluent concentration
Wet Detention
Exfiltration Trench
Pervious Pavement
Stormwater Harvesting
Underdrain Biofiltration
Greenroof
Rainwater Harvesting
Floating Island with Wet Detention
Vegetated Natural Buffer
Vegetated Filter Strip
Swale
Rain Garden
User Defined BMP

There is a user's manual for the BMPTRAINS model. It can be downloaded from www.stormwater.ucf.edu. The results from the example problems shown in the manual however may not reflect curent model results due to ongoing updates of the model.

RESET INPUT FOR STORMWATER TREATMENT ANALYSIS

METHODOLOGY FOR CALCULATING REQUIRED TREATMENT EFFICIENCY

METHODOLOGY FOR RETENTION SYSTEMS

METHODOLOGY FOR WET DETENTION SYSTEMS

METHODOLOGY FOR GREENROOF SYSTEMS

METHODOLOGY FOR WATER HARVESTING SYSTEMS

WATERSHED CHARACTERISTICS

GO TO STORMWATER TREATEMENT ANALYSIS

Blue Numbers = Input data

Red Numbers = Calculated or Carryover

SELECT CATCHMENT CONFIGURATION

CLICK ON CELL BELOW TO SELECT

VIEW CATCHMENT CONFIGURATIONS

CATCHMENT NO.1 CHARACTERISTICS:

CLICK ON CELL BELOW TO SELECT

Pre-development land use: Undeveloped - Ruderal/Upland Pine

CLICK ON CELL BELOW TO SELECT

Post-development land use: Low-Intensity Commercial

Total pre-development catchment area:	0.88	AC
Total post-development catchment area:	0.88	AC
Pre-development Non DCIA CN:	61.00	
Pre-development DCIA percentage:	19.80	%
Post-development Non DCIA CN:	89.00	
Post-development DCIA percentage:	16.50	%
Estimated Area of BMP	0.12	AC

OVERWRITE DEFAULT CONCENTRATIONS:

	PRE:		POST:	
EMC(N):		mg/L		mg/L
EMC(P):		mg/L		mg/L

CLICK ON CELL BELOW TO SELECT:

USE DEFAULT CONCENTRATIONS

Pre-development Annual Mass Loading - **Nitrogen:**	1.196	kg/year
Pre-development Annual Mass Loading - **Phosphorus:**	0.315	kg/year
Post-development Annual Mass Loading - **Nitrogen:**	1.610	kg/year
Post-development Annual Mass Loading - **Phosphorus:**	0.244	kg/year

CATCHMENT NO.2 CHARACTERISTICS:

CLICK ON CELL BELOW TO SELECT

Pre-development land use:

CLICK ON CELL BELOW TO SELECT

Post-development land use:

Total pre-development catchment area:		AC
Total post-development catchment area:		AC
Pre-development Non DCIA CN:		
Pre-development DCIA percentage:		%
Post-development Non DCIA CN:		
Post-development DCIA percentage:		%
Estimated Area of BMP		AC

OVERWRITE DEFAULT CONCENTRATIONS:

	PRE:		POST:	
EMC(N):		mg/L		mg/L
EMC(P):		mg/L		mg/L

CLICK ON CELL BELOW TO SELECT:

USE DEFAULT CONCENTRATIONS

Pre-development Annual Mass Loading - **Nitrogen:**		kg/year
Pre-development Annual Mass Loading - **Phosphorus:**		kg/year
Post-development Annual Mass Loading - **Nitrogen:**		kg/year
Post-development Annual Mass Loading - **Phosphorus:**		kg/year

CATCHMENT NO.3 CHARACTERISTICS:

CLICK ON CELL BELOW TO SELECT

Pre-development land use:

CLICK ON CELL BELOW TO SELECT

Post-development land use:

Total pre-development catchment area:		AC
Total post-development catchment area:		AC
Pre-development Non DCIA CN:		
Pre-development DCIA percentage:		%
Post-development Non DCIA CN:		
Post-development DCIA percentage:		%
Estimated Area of BMP		AC

OVERWRITE DEFAULT CONCENTRATIONS:

	PRE:		POST:	
EMC(N):		mg/L		mg/L
EMC(P):		mg/L		mg/L

CLICK ON CELL BELOW TO SELECT:

USE DEFAULT CONCENTRATIONS

Pre-development Annual Mass Loading - **Nitrogen:**		kg/year
Pre-development Annual Mass Loading - **Phosphorus:**		kg/year
Post-development Annual Mass Loading - **Nitrogen:**		kg/year
Post-development Annual Mass Loading - **Phosphorus:**		kg/year

CATCHMENT NO.4 CHARACTERISTICS:

CLICK ON CELL BELOW TO SELECT

Pre-development land use:

CLICK ON CELL BELOW TO SELECT

Post-development land use:

Total pre-development catchment area:		AC
Total post-development catchment area:		AC
Pre-development Non DCIA CN:		
Pre-development DCIA percentage:		%
Post-development Non DCIA CN:		
Post-development DCIA percentage:		%
Estimated Area of BMP		AC

OVERWRITE DEFAULT CONCENTRATIONS:

	PRE:		POST:	
EMC(N):		mg/L		mg/L
EMC(P):		mg/L		mg/L

CLICK ON CELL BELOW TO SELECT:

USE DEFAULT CONCENTRATIONS

Pre-development Annual Mass Loading - **Nitrogen:**		kg/year
Pre-development Annual Mass Loading - **Phosphorus:**		kg/year
Post-development Annual Mass Loading - **Nitrogen:**		kg/year
Post-development Annual Mass Loading - **Phosphorus:**		kg/year

STORMWATER TREATMENT ANALYSIS:	GO TO GENERAL SITE INFORMATION PAGE	Blue Numbers =	Input data
		Red Numbers =	Calculated or Carryover

STEP 1: Specify pre- and post-development watershed characteristics.

GO TO WATERSHED CHARACTERISTICS

Total Required Treatment Efficiency:

Required Treatment Eff (**Nitrogen**):	25.693	%
Required Treatment Eff (**Phosphorus**):	0.000	%

SELECT CATCHMENT CONFIGURATION
Go to Watershed Characteristics

STEP 2: Select one of the systems below to analyze efficiency.

RETENTION BASIN	WET DETENTION	EXFILTRATION TRENCH	RAIN (BIO) GARDEN	SWALE	USER DEFINED BMP
PERVIOUS PAVEMENT	STORMWATER HARVESTING	FILTRATION including BIOFILTRATION			
GREENROOF	RAINWATER HARVESTING	FLOATING ISLANDS WITH WET DETENTION			
VEGETATED NATURAL BUFFER	VEGETATED FILTER STRIP	TREE WELL			

NOTE !!!: All individual system must be sized prior to being analyzed in conjunction with other systems. Please read instructions in the MULTIPLE WATERSHEDS AND TREATMENT SYSTEMS ANALYSIS tab for more information.

CATCHMENT AND TREATMENT SUMMARY RESULTS

WET DETENTION:

Blue Numbers =	Input data
Red Numbers =	Calculated or Carryover

WET DETENTION POND SERVING: DUNKIN DONUTS - TYRONE

GO TO STORMWATER TREATMENT ANALYSIS

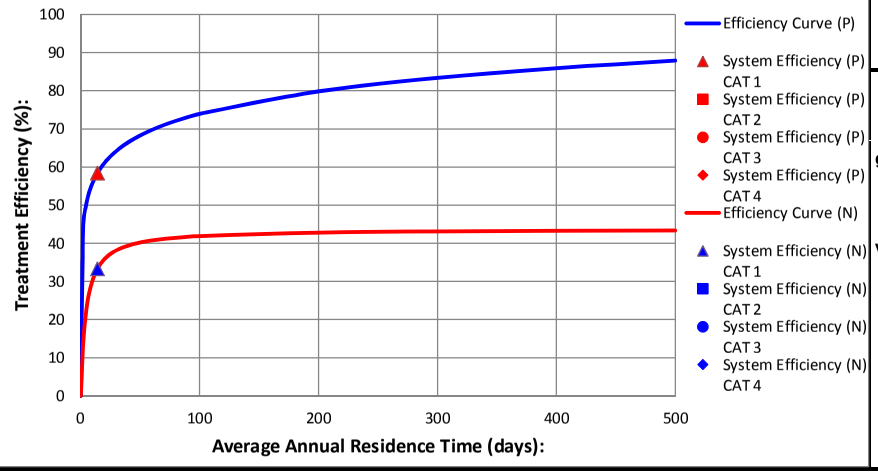
	Catchment 1	Catchment 2	Catchment 3	Catchment 4	
Total pre-development catchment area:	0.876	0.000	0.000	0.000	ac
Total post-development catchment area:	0.756	0.000	0.000	0.000	ac
Average annual residence time (between 1 and 500 days):	14.00				days
Littoral Zone used in the design:	YES				
Littoral Zone efficiency credit (user specifies 10, 15, or 20%):					%
Total **Nitrogen** removal required:	25.693				%
Total **Phosphorus** removal required:	0.000				%
Total **Nitrogen** removal efficiency provided:	33.324				%
Total **Phosphorous** removal efficiency provided:	58.430				%
Is the wet detention sufficient:	YES				

Wet Detention Pond Characteristics:

Permanent Pool Depth:	9.71	0.00	0.00	0.00	ft
Minimum Permanent Pool Volume:	0.042	0.000	0.000	0.000	ac-ft

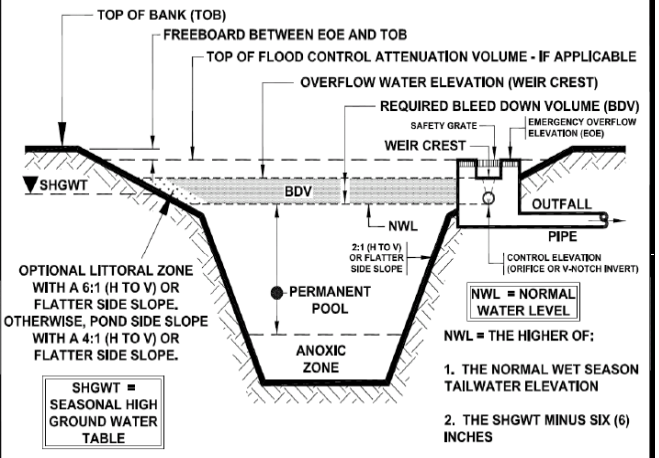
REQUIRED REMAINING TREATMENT EFFICIENCIES OF TREATMENT SYSTEM IN SERIES WITH WET DETENTION. USE FOR SIZING OF TREATMENT SYSTEM IN SERIES WITH WET DETENTION.

Remaining treatment efficiency needed (**Nitrogen**): 0.000 %
Remaining treatment efficiency needed (**Phosphorus**): 0.000 %



NOTE FOR TREATEMENT EFFICIENCY GRAPH:

The purpose of the treatment efficiency graphs is to help illustrate the treatment efficiency of the wet detention system as the function of average annual residence time (and permanent pool volume). The graph illustrates that there is a point of diminished return as the permanent pool volume is substantially increased. Therefore, to provide the most economical BMP treatment system, other alternatives such as "treatment trains" and compensatory treatment should be considered.



TYPICAL X-SECTION OF A WET DETENTION SYSTEM

Source of Graphic: draft **STORMWATER QUALITY APPLICANT'S HANDBOOK** dated March 2010, by the Department of Environmental Protection, available at: http://www.dep.state.fl.us/water/wetlands/erp/rules/stormwater, March 2010

APPENDIX I

PROJECT NAME: DUNKIN DONUTS RESTAURANT - TYRONE
PROJECT LOCATION: 1100 TYRONE BOULEVARD, ST. PETERSBURG, FLORIDA 33710
PROJECT NO. : 15-008-MDC
DATE : 1/12/2017

CONTRIBUTING DRAINAGE AREA - PRE-DEVELOPMENT CONDITIONS

TOTAL DRAINAGE AREA=	**38,174** SF	= 0.876 ACRES	
TOTAL IMPERVIOUS AREA=	**7,567** SF	= 0.174 ACRES	
TOTAL POND / WETLAND AREA	**0** SF	= 0.000 ACRES	
TOTAL PERVIOUS AREA=	30,607 SF	= 0.703 ACRES	

COMPOSITE RUNOFF CURVE NUMBER CALCULATIONS

TOTAL BUILDING AREA=	**0** SF	CN = **98**	
TOTAL PAVEMENT AREA=	**7,567** SF	CN = **98**	
TOTAL SIDEWALK / PAD AREA=	**0** SF	CN = **98**	
TOTAL POND AREA=	**0** SF	CN = **100**	
TOTAL WETLAND AREA=	**0** SF	CN = **100**	
PERVIOUS AREA=	**10,407** SF	CN = **61**	16 - MATLACHA - GROUP B
PERVIOUS AREA =	**20,200** SF	CN = **61**	30 - URBAN LAND - GROUP B

$CN_{AVERAGE}$ = 68.3

TIME OF CONCENTRATION = **10** MINUTES

CONTIBUTING DRAINAGE AREA - POST-DEVELOPMENT CONDITIONS

TOTAL DRAINAGE AREA=	**38,174** SF	= 0.876 ACRES	
TOTAL IMPERVIOUS AREA=	**23,488** SF	= 0.539 ACRES	
TOTAL POND / WETLAND AREA	**5,218** SF	= 0.120 ACRES	
TOTAL PERVIOUS AREA=	9,468 SF	= 0.217 ACRES	

COMPOSITE RUNOFF CURVE NUMBER CALCULATIONS

TOTAL BUILDING AREA=	**2,537** SF	CN = **98**	
TOTAL PAVEMENT AREA=	**18,699** SF	CN = **98**	
TOTAL SIDEWALK / PAD AREA=	**2,252** SF	CN = **98**	
TOTAL POND AREA=	**5,218** SF	CN = **100**	
TOTAL WETLAND AREA=	**0** SF	CN = **100**	
PERVIOUS AREA=	**5,826** SF	CN = **61**	16 - MATLACHA - GROUP B
PERVIOUS AREA=	**3,642** SF	CN = **61**	30 - URBAN LAND - GROUP B

$CN_{AVERAGE}$ = 89.1

TIME OF CONCENTRATION = **10** MINUTES

PROJECT NAME : DUNKIN DONUTS RESTAURANT - TYRONE
PROJECT LOCATION : 1100 TYRONE BOULEVARD, ST. PETERSBURG, FLORIDA 33710
PROJECT NO. : 15-008-MDC
DATE : 1/12/2017

DRY POND STAGE-STORAGE DATA :

	STAGE FT	AREA SF	AREA AC	NET STORAGE CF	NET STORAGE AC-FT
TOP OF BANK EL.=	20.50	1,210	0.0278	1,508	0.035
	20.00	960	0.0220	965	0.022
OVERFLOW EL.=	19.50	734	0.0169	542	0.012
	19.00	534	0.0123	225	0.005
BOTTOM OF POND EL.=	18.50	365	0.0084	0	0.000

WET POND STAGE-STORAGE DATA :

	STAGE FT	AREA SF	AREA AC	NET STORAGE CF	NET STORAGE AC-FT
TOP OF BANK EL.=	20.50	4,018	0.0922	17,332	0.398
	20.00	3,778	0.0867	15,383	0.353
OVERFLOW EL.=	19.50	3,542	0.0813	13,553	0.311
WEIR SLOT EL.=	19.00	3,315	0.0761	11,838	0.272
	18.50	3,095	0.0711	10,236	0.235
S.H.W.L EL.=	18.00	2,988	0.0686	8,715	0.200
	17.50	2,882	0.0662	7,248	0.166
	17.00	2,778	0.0638	5,833	0.134
	16.50	2,676	0.0614	4,469	0.103
LITTORAL ZONE EL.=	16.00	1,368	0.0314	3,458	0.079
	15.50	1,294	0.0297	2,793	0.064
	15.00	1,220	0.0280	2,164	0.050
	14.50	1,150	0.0264	1,572	0.036
	14.00	1,080	0.0248	1,014	0.023
	13.50	1,014	0.0233	491	0.011
BOTTOM OF POND EL.=	13.00	948	0.0218	0	0.000

TOTAL WATER QUALITY CALCULATIONS (TREATMENT VOLUME):

DRAINAGE AREA = 0.876 SF

REQUIRED WATER QUALITY DEPTH = 1.0 IN

REQUIRED WATER QUALITY VOLUME = 0.075 CF

TOTAL WATER QUALITY CALCULATIONS (14 DAY RESIDENCY):

DRAINAGE AREA = 0.876 AC

COMPOSITE RATIONAL RUNOFF COEFFICIENT = 0.77

WET SEASON RAINFALL AMOUNT (4 MONTHS) = 31.04 IN

FLOW RATE 0.014 AC-FT/DAY

RESIDENCE TIME = 14 DAY

REQUIRED PERMANENT POOL VOLUME = 0.201 AC-FT

TOTAL WATER QUALITY CALCULATIONS (PERMANENT POOL):

REQUIRED PERMANENT POOL VOLUME = 0.201 AC-FT

PROVIDED PERMANENT POOL VOLUME = 0.200 AC-FT

PROJECT NAME: DUNKIN DONUTS RESTAURANT - TYRONE
PROJECT LOCATION: 1100 TYRONE BOULEVARD, ST. PETERSBURG, FLORIDA 33710
PROJECT NO. : 15-008-MDC
DATE : 1/12/2017

Wet Season Rainfall		
Month	**Rainfall (in)[1]**	**days**
June		**30**
July		**31**
August		**31**
September		**30**
Total	**31.04**	Over **122** days

RT = RTV/FR where;

RT = Residence Time
RTV = 14 Day Residency Time Volume
FR = Flow Rate
WQT = Water Quality Treatment Volume
PPV = Permanent Pool Volume

The flow rate is defined as the runoff from the site over the wet period:
FR = Area*C*P/Time

Area (acres)					C	P (in)	Time	FR
Total	**Impervious[2]**	**Woods[2]**	**Pond[2]**	**Grass[2]**			**(days)**	**(ac-ft/day)**
0.876	**0.539**	**0.0**	**0.12**	0.22	0.77	31.04	122	0.014

RTV required for 14 day residence time: RTV = RT*FR
RTV_{req} = 0.201 Acre-ft

WQT required: WQT = Area*H"/12
WQT_{req} = 0.075 Acre-ft

PPV required: PPV = RTV_{req} + WQT_{req}
PPV_{req} = 0.276 Acre-ft

Volume Available in Pond for Permanent Pool

Elevation (feet)	Area (acres)	Volume (acre-ft)
19.0	**0.0761**	0.037
18.5	**0.0711**	0.035
18.0	**0.0686**	0.034
17.5	**0.0662**	0.032
17.0	**0.0638**	0.031
16.5	**0.0614**	0.023
16.0	**0.0314**	0.015
15.5	**0.0297**	0.014
15.0	**0.0280**	0.014
14.5	**0.0264**	0.013
14.0	**0.0248**	0.012
13.5	**0.0233**	0.011
13.0	**0.0218**	0.000
Total		**0.272**

Available PPV in Wet Pond = 0.272 Acre-ft

Available in Dry Pond = 0.012 Acre-ft

Provided PPV = 1.031 x PPV_{req} Sufficient PPV

Notes:
[1] Rainfall data from SWFWMD - Average Rainy Season Rainfall District wide
Arcadia 31.26", Bradenton 33.70", Brooksville 32.40", Lakekand 28.55", Ocala 29.33"
[2] C = 0.95 for impervious area, 0.15 for wooded area, 1.00 for pond and 0.20 for grassed area.

PROJECT NAME : **DUNKIN DONUTS RESTAURANT - TYRONE**
PROJECT LOCATION : **1100 TYRONE BOULEVARD, ST. PETERSBURG, FLORIDA 33710**
PROJECT NO. : **15-008-MDC**
DATE : **1/12/2017**

EXISTING CONDITION

TOTAL DRAINAGE AREA=	**38,174**	SF	=	0.88 AC
IMPERVIOUS AREA=	**7,567**	SF	=	0.17 AC
POND AREA=	**0**	SF	=	0.00 AC
PERVIOUS AREA=	30,607	SF	=	0.70 AC

C CALCULATION

TOTAL DRAINAGE AREA=	38,174	SF	
IMPERVIOUS AREA=	7,567	SF	C = **0.95**
POND AREA=	0	SF	C = **1.00**
PERVIOUS AREA=	30,607	SF	C = **0.20**

$C_{AVERAGE}$= 0.35

TIME OF CONCENTRATION = **10** MINUTES

PROPOSED CONDITION

TOTAL DRAINAGE AREA=	**38,174**	SF	=	0.88 AC
IMPERVIOUS AREA=	**23,488**	SF	=	0.54 AC
POND AREA=	**5,218**	SF	=	0.12 AC
PERVIOUS AREA=	9,468	SF	=	0.22 AC

C CALCULATION

TOTAL DRAINAGE AREA=	38,174	SF	
IMPERVIOUS AREA=	23,488	SF	C = **0.95**
POND AREA=	5,218	SF	C = **1.00**
PERVIOUS AREA=	9,468	SF	C = **0.20**

$C_{AVERAGE}$= 0.77

TIME OF CONCENTRATION = **10** MINUTES

PROJECT NAME : DUNKIN DONUTS RESTAURANT - TYRONE
PROJECT LOCATION : 1100 TYRONE BOULEVARD, ST. PETERSBURG, FLORIDA 33710
PROJECT NO. : 15-008-MDC
DATE : 1/12/2017

RUN-OFF COEFFICIENTS

PRE-DEVELOPMENT CONDITION

TOTAL DRAINAGE AREA=	38,174 SF		
IMPERVIOUS AREA=	7,567 SF	C =	0.950
POND AREA=	0 SF	C =	1.00
PERVIOUS AREA=	30,607 SF	C =	0.20

$C_{AVERAGE}$= 0.35

POST-DEVELOPMENT CONDITION

TOTAL DRAINAGE AREA=	38,174 SF		
IMPERVIOUS AREA=	23,488 SF	C =	0.95
POND AREA=	5,218 SF	C =	1.00
PERVIOUS AREA=	9,468 SF	C =	0.20

$C_{AVERAGE}$= 0.77

STORAGE CALCULATION

PRE-DEVELOPMENT CONDITION (5 YR STORM EVENT)

DRAINAGE AREA =	0.876 AC
TIME OF CONCENTRATION Tc =	10 MIN
I at Tc =10 min (10 YEAR EVENT)=	**7.45** IN/HR
Q(out) = C x I x A =	2.28 CFS

POST-DEVELOPMENT CONDITION (10 YR STORM EVENT)

TIME (MIN)	I (IN/HR)	Q(in) (CFS)	INFLOW (CF)	OUTFLOW (CF)	STORAGE (CF)
10	**7.45**	5.03	3,020	1,366	1,654
15	**6.40**	4.32	3,891	2,049	1,842
20	**5.70**	3.85	4,620	2,732	1,889
30	**4.65**	3.14	5,654	4,098	1,557
40	**3.95**	2.67	6,404	5,463	940
50	**3.50**	2.36	7,093	6,829	264
60	**3.15**	2.13	7,660	8,195	-535

MAXIMUM STORAGE AT 10 YR STORM EVENT= 1,889 CF

TOTAL VOLUME REQUIRED = 1,889 CF

VOLUME PROVIDED IN POND = 10,124 CF

WEIR SLOT DESIGN

CONTROL STRUCTURE INSIDE WIDTH =	3.00	FT	36 IN
TOP OF WEIR SLOT ELEV.=	19.50	FT	
BOTTOM OF WEIR SLOT ELEV.=	19.00	FT	
HEIGHT (H) =	0.50	FT	6 IN
WIDTH (L) =	0.13	FT	1.5 IN
FLOW Q = L x (3.3 x H $^{1.5}$) =	0.15	CFS	
D.H.W. (10 YR - 1 HR) ELEV.=	19.85	FT	
TOP OF WEIR ELEV.=	19.50	FT	
HEIGHT (H) =	0.35	FT	4 IN
WIDTH (L) =	3.00	FT	36 IN
FLOW Q = L x (3.3 x H $^{1.5}$) =	2.05	CFS	
MAXIMUM ALLOWABLE FLOW (Q) =	2.13	CFS	

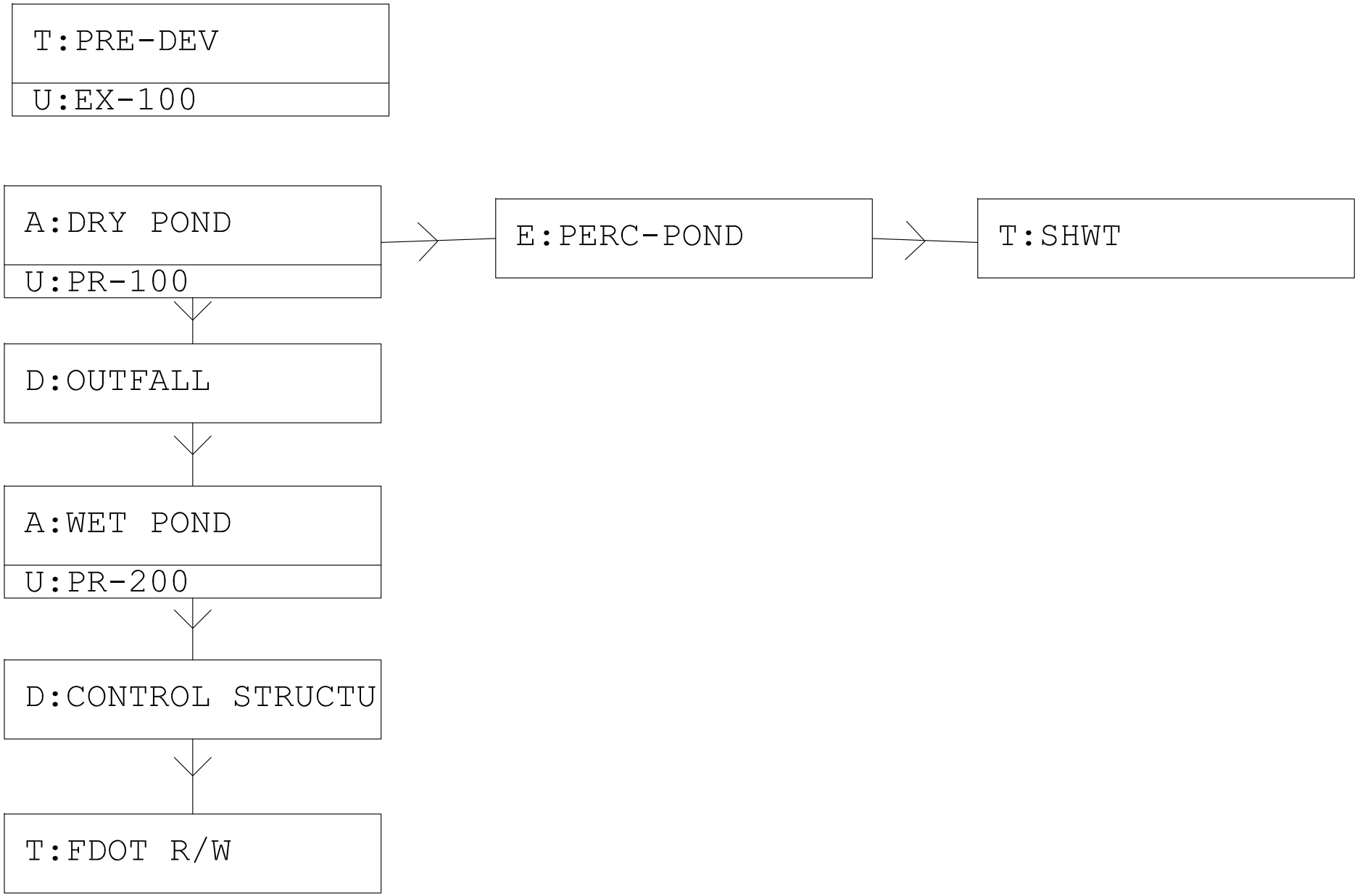
GREASE SKIMMER DESIGN

SPACE BETWEEN SKIMMER AND CONTROL STRUCTURE =	1.00	FT	12 IN
SKIMMER WIDTH =	3.00	FT	36 IN
SKIMMER HEIGHT =	1.50	FT	18 IN
DISTANCE FROM BOTTOM OF SKIMMER TO BOTTOM OF POND =	2.15	FT	26 IN

APPENDIX J

ICPR Model Output Data
Pre vs. Post Development Condition Peak Discharge Rate

Rainfall Event	Rainfall Depth (in)	"PRE-DEV" Node Basin EX-100 (cfs)	"FDOT R/W" Node Basins PR-100 & PR-200 (cfs)
3 Yr – 4 Hr	3.8	0.646	0.000
3 Yr – 8 Hr	4.8	0.868	0.001
3 Yr – 24 Hr	6.5	0.322	0.067
5 Yr – 4 Hr	4.3	0.819	0.000
5 Yr – 8 Hr	5.3	1.041	0.019
5 Yr – 24 Hr	7.6	0.418	0.121
10 Yr – 4 Hr	5.0	1.071	0.008
10 Yr – 8 Hr	6.2	1.363	0.069
10 Yr – 24 Hr	8.8	0.526	0.241
25 Yr – 4 Hr	5.8	1.371	0.052
25 Yr – 8 Hr	7.3	1.771	0.141
25 Yr – 24 Hr	10.5	0.681	0.404
50 Yr – 4 Hr	6.4	1.603	0.094
50 Yr – 8 Hr	8.0	0.774	0.306
50 Yr – 24 Hr	11.5	0.984	0.520
100 Yr – 1 Hr	4.5	2.486	0.000
100 Yr – 2 Hr	6.0	2.686	0.068
100 Yr – 4 Hr	7.3	1.955	0.257
100 Yr – 8 Hr	9.2	2.496	0.683
100 Yr – 24 Hr	13.0	0.914	0.658


T:PRE-DEV
U:EX-100
A:DRY POND
U:PR-100
E:PERC-POND
T:SHWT
D:OUTFALL
A:WET POND
U:PR-200
D:CONTROL STRUCTU
T:FDOT R/W

==========
==== Basins ====
==========

Name: EX-100 Node: PRE-DEV Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 0.876 Time Shift(hrs): 0.00
Curve Number: 68.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: PR-100 Node: DRY POND Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 0.605 Time Shift(hrs): 0.00
Curve Number: 89.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: PR-200 Node: WET POND Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 0.271 Time Shift(hrs): 0.00
Curve Number: 89.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

==========
==== Nodes ====
==========

Name: DRY POND Base Flow(cfs): 0.000 Init Stage(ft): 18.500
Group: BASE Warn Stage(ft): 20.000
Type: Stage/Area

Stage(ft)	Area(ac)
18.500	0.0084
19.000	0.0123
19.500	0.0169
20.000	0.0220
20.500	0.0278

Name: FDOT R/W Base Flow(cfs): 0.000 Init Stage(ft): 18.000
Group: BASE Warn Stage(ft): 0.000
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	18.000
999.00	18.000

Name: PRE-DEV Base Flow(cfs): 0.000 Init Stage(ft): 0.000
Group: BASE Warn Stage(ft): 0.000
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	0.000
999.00	0.000

Name: SHWT Base Flow(cfs): 0.000 Init Stage(ft): 18.000
Group: BASE Warn Stage(ft): 0.000

Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	18.000
9999.00	18.000

Name: WET POND Base Flow(cfs): 0.000 Init Stage(ft): 18.000
Group: BASE Warn Stage(ft): 20.000
Type: Stage/Area

Stage(ft)	Area(ac)
18.000	0.2001
18.500	0.2350
19.000	0.2718
19.500	0.3111
20.000	0.3531
20.500	0.3979

==========
==== Cross Sections ====
==========

Name: Group: BASE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N

==========
==== Drop Structures ====
==========

Name: CONTROL STRUCTU From Node: WET POND Length(ft): 162.00
Group: BASE To Node: FDOT R/W Count: 1

	UPSTREAM	DOWNSTREAM
Geometry:	Circular	Circular
Span(in):	18.00	18.00
Rise(in):	18.00	18.00
Invert(ft):	16.350	15.850
Manning's N:	0.010000	0.010000
Top Clip(in):	0.000	0.000
Bot Clip(in):	0.000	0.000

Friction Equation: Average Conveyance
Solution Algorithm: Automatic
Flow: Both
Entrance Loss Coef: 0.000
Exit Loss Coef: 0.000
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dn
Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

*** Weir 1 of 2 for Drop Structure CONTROL STRUCTU ***

TABLE

Count: 1 Bottom Clip(in): 0.000
Type: Vertical: Mavis Top Clip(in): 0.000
Flow: Both Weir Disc Coef: 3.200
Geometry: Rectangular Orifice Disc Coef: 0.600

Span(in): 1.50 Invert(ft): 19.000
Rise(in): 6.00 Control Elev(ft): 19.000

*** Weir 2 of 2 for Drop Structure CONTROL STRUCTU ***

TABLE

Count: 1 Bottom Clip(in): 0.000
Type: Vertical: Mavis Top Clip(in): 0.000
Flow: Both Weir Disc Coef: 3.200
Geometry: Rectangular Orifice Disc Coef: 0.600

Span(in): 36.00 Invert(ft): 19.500
Rise(in): 18.00 Control Elev(ft): 19.500

Name: OUTFALL From Node: DRY POND Length(ft): 66.00
Group: BASE To Node: WET POND Count: 1

	UPSTREAM	DOWNSTREAM
Geometry:	Circular	Circular

Friction Equation: Average Conveyance
Solution Algorithm: Automatic

Span(in):	18.00	18.00	Flow:	Both
Rise(in):	18.00	18.00	Entrance Loss Coef:	0.000
Invert(ft):	14.200	14.000	Exit Loss Coef:	0.000
Manning's N:	0.010000	0.010000	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
Bot Clip(in):	0.000	0.000	Solution Incs:	10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

*** Weir 1 of 1 for Drop Structure OUTFALL ***

TABLE

Count:	1	Bottom Clip(in):	0.000
Type:	Horizontal	Top Clip(in):	0.000
Flow:	Both	Weir Disc Coef:	3.200
Geometry:	Rectangular	Orifice Disc Coef:	0.600
Span(in):	36.00	Invert(ft):	19.500
Rise(in):	24.00	Control Elev(ft):	19.500

==========
==== Percolation Links ====
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Name:	PERC-POND	From Node:	DRY POND
Group:	BASE	To Node:	SHWT

Flow: Both
Count: 1

Surface Area Option:	Vary based on Stage/Area Table		
Vertical Flow Termination:	Horizontal Flow Algorithm		
Aquifer Base Elev(ft):	16.000	Perimeter 1(ft):	132.000
Water Table Elev(ft):	18.000	Perimeter 2(ft):	446.000
Ann Recharge Rate(in/year):	52.000	Perimeter 3(ft):	760.000
Horiz Conductivity(ft/day):	11.700	Distance 1 to 2(ft):	50.000
Vert Conductivity(ft/day):	7.800	Distance 2 to 3(ft):	100.000
Effective Porosity(dec):	0.300	Num Cells 1 to 2:	10
Suction Head(in):	0.000	Num Cells 2 to 3:	10
Layer Thickness(ft):	0.000		

==========
==== Hydrology Simulations ====
==========

Name: 10-1
Filename: C:\Icpr3\Projects\10-1.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Fdot-1
Rainfall Amount(in): 3.10

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 10-2
Filename: C:\Icpr3\Projects\10-2.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Fdot-2
Rainfall Amount(in): 4.20

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 10-24
Filename: C:\Icpr3\Projects\10-24.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00

Rainfall File: Fdot-24
Rainfall Amount(in): 8.80

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 10-4
Filename: C:\Icpr3\Projects\10-4.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Fdot-4
Rainfall Amount(in): 5.00

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 10-8
Filename: C:\Icpr3\Projects\10-8.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Fdot-8
Rainfall Amount(in): 6.20

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 100-1
Filename: C:\Icpr3\Projects\100-1.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Fdot-1
Rainfall Amount(in): 4.50

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 100-2
Filename: C:\Icpr3\Projects\100-2.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Fdot-2
Rainfall Amount(in): 6.00

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 100-24
Filename: C:\Icpr3\Projects\100-24.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 13.00

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 100-4
Filename: C:\Icpr3\Projects\100-4.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Fdot-4
Rainfall Amount(in): 7.30

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 100-8
Filename: C:\Icpr3\Projects\100-8.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Fdot-8
Rainfall Amount(in): 9.20

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 2-1
Filename: C:\Icpr3\Projects\2-1.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Fdot-1
Rainfall Amount(in): 2.30

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 2-2
Filename: C:\Icpr3\Projects\2-2.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Fdot-2
Rainfall Amount(in): 2.80

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 2-24
Filename: C:\Icpr3\Projects\2-24.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 5.80

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 2-4
Filename: C:\Icpr3\Projects\2-4.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Fdot-4
Rainfall Amount(in): 3.40

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 2-8
Filename: C:\Icpr3\Projects\2-8.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Fdot-8
Rainfall Amount(in): 4.20

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 25-1
Filename: C:\Icpr3\Projects\25-1.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Fdot-1
Rainfall Amount(in): 3.60

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 25-2
Filename: C:\Icpr3\Projects\25-2.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Fdot-2
Rainfall Amount(in): 4.70

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 25-24
Filename: C:\Icpr3\Projects\25-24.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 10.50

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 25-24Flmod
Filename: C:\Icpr3\Projects\25-24Flmod.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Flmod
Rainfall Amount(in): 9.00

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 25-4
Filename: C:\Icpr3\Projects\25-4.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Fdot-4
Rainfall Amount(in): 5.80

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 25-8

Filename: C:\Icpr3\Projects\25-8.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Fdot-8
Rainfall Amount(in): 7.30

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 3-1
Filename: C:\Icpr3\Projects\3-1.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Fdot-1
Rainfall Amount(in): 2.50

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 3-2
Filename: C:\Icpr3\Projects\3-2.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Fdot-2
Rainfall Amount(in): 3.20

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 3-24
Filename: C:\Icpr3\Projects\3-24.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 6.50

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 3-4
Filename: C:\Icpr3\Projects\3-4.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Fdot-4
Rainfall Amount(in): 3.80

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 3-8
Filename: C:\Icpr3\Projects\3-8.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Fdot-8
Rainfall Amount(in): 4.80

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 5-1
Filename: C:\Icpr3\Projects\5-1.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Fdot-1
Rainfall Amount(in): 2.80

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 5-2
Filename: C:\Icpr3\Projects\5-2.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Fdot-2
Rainfall Amount(in): 3.50

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 5-24
Filename: C:\Icpr3\Projects\5-24.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 7.60

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 5-4
Filename: C:\Icpr3\Projects\5-4.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Fdot-4
Rainfall Amount(in): 4.30

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 5-8
Filename: C:\Icpr3\Projects\5-8.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Fdot-8
Rainfall Amount(in): 5.30

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 50-1
Filename: C:\Icpr3\Projects\50-1.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Fdot-1
Rainfall Amount(in): 4.10

Time(hrs)	Print Inc(min)

30.000 5.00

Name: 50-2
Filename: C:\Icpr3\Projects\50-2.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Fdot-2
Rainfall Amount(in): 5.30

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 50-24
Filename: C:\Icpr3\Projects\50-24.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 11.50

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 50-4
Filename: C:\Icpr3\Projects\50-4.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Fdot-4
Rainfall Amount(in): 6.40

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 50-8
Filename: C:\Icpr3\Projects\50-8.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Fdot-8
Rainfall Amount(in): 8.00

Time(hrs)	Print Inc(min)
30.000	5.00

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==== Routing Simulations ==========

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Name: 10-1 Hydrology Sim: 10-1
Filename: C:\Icpr3\Projects\10-1.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run

BASE Yes

Name: 10-2 Hydrology Sim: 10-2
Filename: C:\Icpr3\Projects\10-2.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Name: 10-24 Hydrology Sim: 10-24
Filename: C:\Icpr3\Projects\10-24.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Name: 10-4 Hydrology Sim: 10-4
Filename: C:\Icpr3\Projects\10-4.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Name: 10-8 Hydrology Sim: 10-8
Filename: C:\Icpr3\Projects\10-8.I32

Execute: Yes Restart: No Patch: No

Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Name: 100-1 Hydrology Sim: 100-1
Filename: C:\Icpr3\Projects\100-1.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Name: 100-2 Hydrology Sim: 100-2
Filename: C:\Icpr3\Projects\100-2.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Name: 100-24 Hydrology Sim: 100-24
Filename: C:\Icpr3\Projects\100-24.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Name: 100-4 Hydrology Sim: 100-4
Filename: C:\Icpr3\Projects\100-4.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Name: 100-8 Hydrology Sim: 100-8
Filename: C:\Icpr3\Projects\100-8.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Name: 2-1 Hydrology Sim: 2-1
Filename: C:\Icpr3\Projects\2-1.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Name: 2-2 Hydrology Sim: 2-2
Filename: C:\Icpr3\Projects\2-2.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Name: 2-24 Hydrology Sim: 2-24
Filename: C:\Icpr3\Projects\2-24.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Name: 2-4 Hydrology Sim: 2-4
Filename: C:\Icpr3\Projects\2-4.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Name: 2-8 Hydrology Sim: 2-8
Filename: C:\Icpr3\Projects\2-8.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000

Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Name: 25-1 Hydrology Sim: 25-1
Filename: C:\Icpr3\Projects\25-1.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Name: 25-2 Hydrology Sim: 25-2
Filename: C:\Icpr3\Projects\25-2.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Name: 25-24 Hydrology Sim: 25-24
Filename: C:\Icpr3\Projects\25-24.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Name: 25-24Flmod Hydrology Sim: 25-24Flmod
Filename: C:\Icpr3\Projects\25-24Flmod.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Name: 25-4 Hydrology Sim: 25-4
Filename: C:\Icpr3\Projects\25-4.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Name: 25-8 Hydrology Sim: 25-8
Filename: C:\Icpr3\Projects\25-8.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Name: 3-1 Hydrology Sim: 3-1
Filename: C:\Icpr3\Projects\3-1.I32

```
     Execute: Yes         Restart: No            Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 30.00
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
50.000          15.000

Group           Run
--------------- -----
BASE            Yes
```

```
         Name: 3-2                Hydrology Sim: 3-2
     Filename: C:\Icpr3\Projects\3-2.I32


     Execute: Yes         Restart: No            Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 30.00
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
50.000          15.000

Group           Run
--------------- -----
BASE            Yes
```

```
         Name: 3-24               Hydrology Sim: 3-24
     Filename: C:\Icpr3\Projects\3-24.I32


     Execute: Yes         Restart: No            Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 30.00
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
50.000          15.000

Group           Run
--------------- -----
BASE            Yes
```

```
         Name: 3-4                Hydrology Sim: 3-4
     Filename: C:\Icpr3\Projects\3-4.I32


     Execute: Yes         Restart: No            Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 30.00
    Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
       Boundary Stages:                         Boundary Flows:
```

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Name: 3-8 Hydrology Sim: 3-8
Filename: C:\Icpr3\Projects\3-8.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Name: 5-1 Hydrology Sim: 5-1
Filename: C:\Icpr3\Projects\5-1.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Name: 5-2 Hydrology Sim: 5-2
Filename: C:\Icpr3\Projects\5-2.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Name: 5-24 Hydrology Sim: 5-24
Filename: C:\Icpr3\Projects\5-24.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Name: 5-4 Hydrology Sim: 5-4
Filename: C:\Icpr3\Projects\5-4.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Name: 5-8 Hydrology Sim: 5-8
Filename: C:\Icpr3\Projects\5-8.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Name: 50-1 Hydrology Sim: 50-1
Filename: C:\Icpr3\Projects\50-1.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Name: 50-2 Hydrology Sim: 50-2
Filename: C:\Icpr3\Projects\50-2.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Name: 50-24 Hydrology Sim: 50-24
Filename: C:\Icpr3\Projects\50-24.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Name: 50-4 Hydrology Sim: 50-4
Filename: C:\Icpr3\Projects\50-4.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)

50.000	15.000

Group	Run
BASE	Yes

Name: 50-8 Hydrology Sim: 50-8
Filename: C:\Icpr3\Projects\50-8.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
50.000	15.000

Group	Run
BASE	Yes

Dunkin Donuts Restaurant - Tyrone

Simulation	Basin	Group	Time Max hrs	Flow Max cfs	Volume in	Volume ft3
10-1	EX-100	BASE	0.76	1.143	0.679	2158.133
10-1	PR-100	BASE	0.67	2.129	1.990	4369.895
10-1	PR-200	BASE	0.67	0.954	1.990	1957.424
10-2	EX-100	BASE	0.87	1.324	1.333	4238.524
10-2	PR-100	BASE	0.84	2.141	3.010	6610.941
10-2	PR-200	BASE	0.84	0.959	3.010	2961.265
10-24	EX-100	BASE	12.00	0.526	4.914	15625.211
10-24	PR-100	BASE	12.00	0.509	7.470	16406.089
10-24	PR-200	BASE	12.00	0.228	7.470	7348.843
10-4	EX-100	BASE	2.53	1.071	1.879	5974.848
10-4	PR-100	BASE	2.04	1.300	3.771	8280.942
10-4	PR-200	BASE	2.04	0.583	3.771	3709.314
10-8	EX-100	BASE	4.02	1.363	2.774	8822.168
10-8	PR-100	BASE	4.00	1.470	4.928	10821.934
10-8	PR-200	BASE	4.00	0.659	4.928	4847.511
100-1	EX-100	BASE	0.71	2.486	1.532	4871.375
100-1	PR-100	BASE	0.67	3.464	3.294	7234.273
100-1	PR-200	BASE	0.67	1.551	3.294	3240.476
100-2	EX-100	BASE	0.87	2.686	2.620	8331.117
100-2	PR-100	BASE	0.84	3.330	4.734	10396.215
100-2	PR-200	BASE	0.84	1.492	4.734	4656.817
100-24	EX-100	BASE	12.00	0.914	8.671	27572.585
100-24	PR-100	BASE	12.00	0.772	11.622	25523.950
100-24	PR-200	BASE	12.00	0.346	11.622	11433.042
100-4	EX-100	BASE	2.51	1.955	3.653	11616.571
100-4	PR-100	BASE	2.04	2.033	5.999	13175.006
100-4	PR-200	BASE	2.04	0.911	5.999	5901.531
100-8	EX-100	BASE	4.00	2.496	5.259	16723.874
100-8	PR-100	BASE	4.00	2.264	7.864	17270.803
100-8	PR-200	BASE	4.00	1.014	7.864	7736.178
2-1	EX-100	BASE	0.78	0.536	0.304	967.792
2-1	PR-100	BASE	0.67	1.387	1.281	2813.079
2-1	PR-200	BASE	0.67	0.621	1.281	1260.073
2-2	EX-100	BASE	0.89	0.470	0.526	1673.103
2-2	PR-100	BASE	0.84	1.230	1.719	3776.194
2-2	PR-200	BASE	0.84	0.551	1.719	1691.485
2-24	EX-100	BASE	12.00	0.262	2.467	7846.087
2-24	PR-100	BASE	12.00	0.319	4.540	9971.258
2-24	PR-200	BASE	12.00	0.143	4.540	4466.464
2-4	EX-100	BASE	2.53	0.514	0.844	2682.375
2-4	PR-100	BASE	2.07	0.790	2.264	4972.435
2-4	PR-200	BASE	2.07	0.354	2.264	2227.322
2-8	EX-100	BASE	4.02	0.669	1.333	4238.515
2-8	PR-100	BASE	4.00	0.934	3.010	6610.932
2-8	PR-200	BASE	4.00	0.418	3.010	2961.261
25-1	EX-100	BASE	0.73	1.588	0.960	3051.333
25-1	PR-100	BASE	0.67	2.602	2.449	5378.232
25-1	PR-200	BASE	0.67	1.166	2.449	2409.093
25-2	EX-100	BASE	0.87	1.680	1.669	5305.849
25-2	PR-100	BASE	0.84	2.470	3.484	7651.839
25-2	PR-200	BASE	0.84	1.107	3.484	3427.518
25-24	EX-100	BASE	12.00	0.681	6.403	20361.483
25-24	PR-100	BASE	12.00	0.616	9.147	20087.592
25-24	PR-200	BASE	12.00	0.276	9.147	8997.913
25-24Flmod	EX-100	BASE	12.04	3.147	5.086	16173.188
25-24Flmod	PR-100	BASE	12.04	3.093	7.667	16838.312
25-24Flmod	PR-200	BASE	12.04	1.385	7.667	7542.450
25-4	EX-100	BASE	2.51	1.371	2.467	7846.115
25-4	PR-100	BASE	2.04	1.556	4.540	9971.282
25-4	PR-200	BASE	2.04	0.697	4.540	4466.475
25-8	EX-100	BASE	4.02	1.771	3.653	11616.533
25-8	PR-100	BASE	4.00	1.763	5.999	13174.974
25-8	PR-200	BASE	4.00	0.790	5.999	5901.517
3-1	EX-100	BASE	0.78	0.673	0.388	1232.988
3-1	PR-100	BASE	0.67	1.570	1.454	3193.705
3-1	PR-200	BASE	0.67	0.703	1.454	1430.568
3-2	EX-100	BASE	0.87	0.686	0.732	2328.755
3-2	PR-100	BASE	0.84	1.487	2.081	4569.831
3-2	PR-200	BASE	0.84	0.666	2.081	2046.982
3-24	EX-100	BASE	12.00	0.322	3.009	9569.340
3-24	PR-100	BASE	12.00	0.364	5.219	11461.869
3-24	PR-200	BASE	12.00	0.163	5.219	5134.159
3-4	EX-100	BASE	2.53	0.646	1.080	3434.362
3-4	PR-100	BASE	2.07	0.917	2.635	5786.772
3-4	PR-200	BASE	2.07	0.411	2.635	2592.091
3-8	EX-100	BASE	4.02	0.868	1.738	5526.619
3-8	PR-100	BASE	4.00	1.096	3.580	7861.186
3-8	PR-200	BASE	4.00	0.491	3.580	3521.292
5-1	EX-100	BASE	0.76	0.898	0.526	1673.119
5-1	PR-100	BASE	0.67	1.848	1.719	3776.215
5-1	PR-200	BASE	0.67	0.828	1.719	1691.495
5-2	EX-100	BASE	0.87	0.865	0.901	2865.002
5-2	PR-100	BASE	0.84	1.682	2.356	5174.945
5-2	PR-200	BASE	0.84	0.753	2.356	2318.033
5-24	EX-100	BASE	12.00	0.418	3.900	12402.229

5-24	PR-100	BASE	12.00	0.433	6.293	13819.465
5-24	PR-200	BASE	12.00	0.194	6.293	6190.207
5-4	EX-100	BASE	2.53	0.819	1.398	4446.819
5-4	PR-100	BASE	2.07	1.077	3.105	6818.270
5-4	PR-200	BASE	2.07	0.482	3.105	3054.134
5-8	EX-100	BASE	4.02	1.041	2.095	6662.653
5-8	PR-100	BASE	4.00	1.230	4.058	8912.829
5-8	PR-200	BASE	4.00	0.551	4.058	3992.358
50-1	EX-100	BASE	0.73	2.074	1.268	4033.056
50-1	PR-100	BASE	0.67	3.080	2.916	6404.133
50-1	PR-200	BASE	0.67	1.380	2.916	2868.628
50-2	EX-100	BASE	0.87	2.132	2.095	6662.665
50-2	PR-100	BASE	0.84	2.867	4.058	8912.841
50-2	PR-200	BASE	0.84	1.284	4.058	3992.363
50-24	EX-100	BASE	12.00	0.774	7.301	23216.997
50-24	PR-100	BASE	12.00	0.678	10.136	22259.629
50-24	PR-200	BASE	12.00	0.304	10.136	9970.842
50-4	EX-100	BASE	2.51	1.603	2.931	9318.960
50-4	PR-100	BASE	2.04	1.747	5.122	11248.416
50-4	PR-200	BASE	2.04	0.783	5.122	5038.547
50-8	EX-100	BASE	4.02	2.035	4.234	13463.147
50-8	PR-100	BASE	4.00	1.948	6.685	14680.253
50-8	PR-200	BASE	4.00	0.873	6.685	6575.783

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
DRY POND	BASE	10-1	0.68	19.661	20.000	0.0050	808	0.67	2.127	0.68	2.112
FDOT R/W	BASE	10-1	0.00	18.000	0.000	0.0000	0	0.00	0.000	0.00	0.000
PRE-DEV	BASE	10-1	0.00	0.000	0.000	0.0000	0	0.75	1.141	0.00	0.000
SHWT	BASE	10-1	0.00	18.000	0.000	0.0000	0	0.58	0.039	0.00	0.000
WET POND	BASE	10-1	2.01	18.587	20.000	0.0032	10514	0.67	3.021	0.00	0.000
DRY POND	BASE	10-2	0.84	19.661	20.000	0.0050	808	0.83	2.126	0.84	2.107
FDOT R/W	BASE	10-2	0.00	18.000	0.000	0.0000	0	0.00	0.000	0.00	0.000
PRE-DEV	BASE	10-2	0.00	0.000	0.000	0.0000	0	0.84	1.269	0.00	0.000
SHWT	BASE	10-2	0.00	18.000	0.000	0.0000	0	0.61	0.038	0.00	0.000
WET POND	BASE	10-2	3.01	18.875	20.000	0.0039	11439	0.84	3.016	0.00	0.000
DRY POND	BASE	10-24	12.00	19.562	20.000	0.0050	764	12.00	0.509	12.00	0.509
FDOT R/W	BASE	10-24	0.00	18.000	0.000	0.0000	0	19.36	0.241	0.00	0.000
PRE-DEV	BASE	10-24	0.00	0.000	0.000	0.0000	0	12.00	0.526	0.00	0.000
SHWT	BASE	10-24	0.00	18.000	0.000	0.0000	0	5.21	0.022	0.00	0.000
WET POND	BASE	10-24	19.36	19.542	20.000	0.0038	13707	12.00	0.727	19.36	0.241
DRY POND	BASE	10-4	2.08	19.616	20.000	0.0050	788	2.08	1.293	2.08	1.292
FDOT R/W	BASE	10-4	0.00	18.000	0.000	0.0000	0	4.57	0.008	0.00	0.000
PRE-DEV	BASE	10-4	0.00	0.000	0.000	0.0000	0	2.50	1.067	0.00	0.000
SHWT	BASE	10-4	0.00	18.000	0.000	0.0000	0	1.42	0.033	0.00	0.000
WET POND	BASE	10-4	4.57	19.073	20.000	0.0046	12091	2.08	1.843	4.57	0.008
DRY POND	BASE	10-8	4.00	19.627	20.000	0.0050	793	4.00	1.470	4.00	1.468
FDOT R/W	BASE	10-8	0.00	18.000	0.000	0.0000	0	8.23	0.069	0.00	0.000
PRE-DEV	BASE	10-8	0.00	0.000	0.000	0.0000	0	4.00	1.359	0.00	0.000
SHWT	BASE	10-8	0.00	18.000	0.000	0.0000	0	2.47	0.029	0.00	0.000
WET POND	BASE	10-8	8.23	19.311	20.000	0.0050	12905	4.00	2.106	8.23	0.069
DRY POND	BASE	100-1	0.67	19.724	20.000	0.0050	836	0.67	3.462	0.67	3.443
FDOT R/W	BASE	100-1	0.00	18.000	0.000	0.0000	0	0.00	0.000	0.00	0.000
PRE-DEV	BASE	100-1	0.00	0.000	0.000	0.0000	0	0.75	2.466	0.00	0.000
SHWT	BASE	100-1	0.00	18.000	0.000	0.0000	0	0.53	0.041	0.00	0.000
WET POND	BASE	100-1	2.00	18.959	20.000	0.0032	11708	0.67	4.949	0.00	0.000
DRY POND	BASE	100-2	0.84	19.718	20.000	0.0050	833	0.83	3.312	0.84	3.289
FDOT R/W	BASE	100-2	0.00	18.000	0.000	0.0000	0	2.53	0.068	0.00	0.000
PRE-DEV	BASE	100-2	0.00	0.000	0.000	0.0000	0	0.83	2.621	0.00	0.000
SHWT	BASE	100-2	0.00	18.000	0.000	0.0000	0	0.52	0.039	0.00	0.000
WET POND	BASE	100-2	2.53	19.306	20.000	0.0046	12889	0.84	4.728	2.53	0.068
DRY POND	BASE	100-24	15.00	19.643	20.000	0.0050	800	12.00	0.771	12.00	0.771
FDOT R/W	BASE	100-24	0.00	18.000	0.000	0.0000	0	15.06	0.658	0.00	0.000
PRE-DEV	BASE	100-24	0.00	0.000	0.000	0.0000	0	12.00	0.913	0.00	0.000
SHWT	BASE	100-24	0.00	18.000	0.000	0.0000	0	3.89	0.025	0.00	0.000
WET POND	BASE	100-24	15.06	19.634	20.000	0.0047	14042	12.00	1.107	15.06	0.658
DRY POND	BASE	100-4	2.04	19.657	20.000	0.0050	806	2.00	2.017	2.04	2.016
FDOT R/W	BASE	100-4	0.00	18.000	0.000	0.0000	0	4.05	0.257	0.00	0.000
PRE-DEV	BASE	100-4	0.00	0.000	0.000	0.0000	0	2.50	1.953	0.00	0.000
SHWT	BASE	100-4	0.00	18.000	0.000	0.0000	0	1.22	0.034	0.00	0.000
WET POND	BASE	100-4	4.05	19.547	20.000	0.0050	13724	2.03	2.892	4.05	0.257
DRY POND	BASE	100-8	4.00	19.670	20.000	0.0050	812	4.00	2.264	4.00	2.262
FDOT R/W	BASE	100-8	0.00	18.000	0.000	0.0000	0	5.34	0.683	0.00	0.000
PRE-DEV	BASE	100-8	0.00	0.000	0.000	0.0000	0	4.00	2.496	0.00	0.000
SHWT	BASE	100-8	0.00	18.000	0.000	0.0000	0	2.07	0.031	0.00	0.000
WET POND	BASE	100-8	5.34	19.639	20.000	0.0050	14059	4.00	3.256	5.34	0.683
DRY POND	BASE	2-1	0.69	19.620	20.000	0.0050	790	0.67	1.386	0.68	1.373
FDOT R/W	BASE	2-1	0.00	18.000	0.000	0.0000	0	0.00	0.000	0.00	0.000
PRE-DEV	BASE	2-1	0.00	0.000	0.000	0.0000	0	0.75	0.529	0.00	0.000
SHWT	BASE	2-1	0.00	18.000	0.000	0.0000	0	0.63	0.038	0.00	0.000
WET POND	BASE	2-1	2.00	18.366	20.000	0.0029	9829	0.68	1.952	0.00	0.000
DRY POND	BASE	2-2	0.85	19.610	20.000	0.0050	785	0.83	1.217	0.85	1.203
FDOT R/W	BASE	2-2	0.00	18.000	0.000	0.0000	0	0.00	0.000	0.00	0.000
PRE-DEV	BASE	2-2	0.00	0.000	0.000	0.0000	0	0.92	0.464	0.00	0.000
SHWT	BASE	2-2	0.00	18.000	0.000	0.0000	0	0.75	0.036	0.00	0.000
WET POND	BASE	2-2	3.00	18.497	20.000	0.0029	10229	0.84	1.708	0.00	0.000
DRY POND	BASE	2-24	11.99	19.545	20.000	0.0049	756	11.99	0.319	11.99	0.319

FDOT R/W	BASE	2-24	0.00	18.000	0.000	0.0000	0	24.12	0.034	0.00	0.000
PRE-DEV	BASE	2-24	0.00	0.000	0.000	0.0000	0	11.99	0.262	0.00	0.000
SHWT	BASE	2-24	0.00	18.000	0.000	0.0000	0	6.83	0.020	0.00	0.000
WET POND	BASE	2-24	24.12	19.194	20.000	0.0026	12503	11.99	0.451	24.12	0.034
DRY POND	BASE	2-4	2.09	19.582	20.000	0.0050	773	2.09	0.787	2.09	0.786
FDOT R/W	BASE	2-4	0.00	18.000	0.000	0.0000	0	0.00	0.000	0.00	0.000
PRE-DEV	BASE	2-4	0.00	0.000	0.000	0.0000	0	2.50	0.507	0.00	0.000
SHWT	BASE	2-4	0.00	18.000	0.000	0.0000	0	1.68	0.032	0.00	0.000
WET POND	BASE	2-4	5.01	18.657	20.000	0.0030	10741	2.09	1.110	0.00	0.000
DRY POND	BASE	2-8	4.00	19.593	20.000	0.0050	778	4.00	0.933	4.00	0.931
FDOT R/W	BASE	2-8	0.00	18.000	0.000	0.0000	0	0.00	0.000	0.00	0.000
PRE-DEV	BASE	2-8	0.00	0.000	0.000	0.0000	0	4.00	0.663	0.00	0.000
SHWT	BASE	2-8	0.00	18.000	0.000	0.0000	0	3.00	0.028	0.00	0.000
WET POND	BASE	2-8	9.01	18.861	20.000	0.0041	11394	4.00	1.327	0.00	0.000
DRY POND	BASE	25-1	0.67	19.685	20.000	0.0050	818	0.67	2.600	0.67	2.584
FDOT R/W	BASE	25-1	0.00	18.000	0.000	0.0000	0	0.00	0.000	0.00	0.000
PRE-DEV	BASE	25-1	0.00	0.000	0.000	0.0000	0	0.75	1.586	0.00	0.000
SHWT	BASE	25-1	0.00	18.000	0.000	0.0000	0	0.55	0.040	0.00	0.000
WET POND	BASE	25-1	2.02	18.722	20.000	0.0031	10949	0.67	3.704	0.00	0.000
DRY POND	BASE	25-2	0.84	19.678	20.000	0.0050	815	0.83	2.455	0.84	2.434
FDOT R/W	BASE	25-2	0.00	18.000	0.000	0.0000	0	2.99	0.000	0.00	0.000
PRE-DEV	BASE	25-2	0.00	0.000	0.000	0.0000	0	0.83	1.621	0.00	0.000
SHWT	BASE	25-2	0.00	18.000	0.000	0.0000	0	0.58	0.038	0.00	0.000
WET POND	BASE	25-2	2.99	19.004	20.000	0.0036	11853	0.84	3.490	2.99	0.000
DRY POND	BASE	25-24	16.10	19.591	20.000	0.0050	776	12.00	0.616	12.00	0.616
FDOT R/W	BASE	25-24	0.00	18.000	0.000	0.0000	0	16.20	0.404	0.00	0.000
PRE-DEV	BASE	25-24	0.00	0.000	0.000	0.0000	0	12.00	0.681	0.00	0.000
SHWT	BASE	25-24	0.00	18.000	0.000	0.0000	0	4.55	0.023	0.00	0.000
WET POND	BASE	25-24	16.20	19.584	20.000	0.0043	13858	12.00	0.882	16.20	0.404
DRY POND	BASE	25-24Flmod	12.03	19.706	20.000	0.0050	828	12.00	3.007	12.03	2.999
FDOT R/W	BASE	25-24Flmod	0.00	18.000	0.000	0.0000	0	15.20	0.235	0.00	0.000
PRE-DEV	BASE	25-24Flmod	0.00	0.000	0.000	0.0000	0	12.08	3.066	0.00	0.000
SHWT	BASE	25-24Flmod	0.00	18.000	0.000	0.0000	0	7.66	0.019	0.00	0.000
WET POND	BASE	25-24Flmod	15.20	19.541	20.000	0.0050	13700	12.02	4.328	15.20	0.235
DRY POND	BASE	25-4	2.09	19.631	20.000	0.0050	794	2.08	1.545	2.08	1.544
FDOT R/W	BASE	25-4	0.00	18.000	0.000	0.0000	0	4.35	0.052	0.00	0.000
PRE-DEV	BASE	25-4	0.00	0.000	0.000	0.0000	0	2.50	1.368	0.00	0.000
SHWT	BASE	25-4	0.00	18.000	0.000	0.0000	0	1.33	0.034	0.00	0.000
WET POND	BASE	25-4	4.35	19.255	20.000	0.0043	12713	2.08	2.208	4.35	0.052
DRY POND	BASE	25-8	4.00	19.644	20.000	0.0050	800	4.00	1.762	4.00	1.760
FDOT R/W	BASE	25-8	0.00	18.000	0.000	0.0000	0	8.12	0.141	0.00	0.000
PRE-DEV	BASE	25-8	0.00	0.000	0.000	0.0000	0	4.00	1.768	0.00	0.000
SHWT	BASE	25-8	0.00	18.000	0.000	0.0000	0	2.30	0.030	0.00	0.000
WET POND	BASE	25-8	8.12	19.499	20.000	0.0050	13548	4.00	2.530	8.12	0.141
DRY POND	BASE	3-1	0.68	19.631	20.000	0.0050	794	0.67	1.569	0.68	1.556
FDOT R/W	BASE	3-1	0.00	18.000	0.000	0.0000	0	0.00	0.000	0.00	0.000
PRE-DEV	BASE	3-1	0.00	0.000	0.000	0.0000	0	0.75	0.668	0.00	0.000
SHWT	BASE	3-1	0.00	18.000	0.000	0.0000	0	0.61	0.038	0.00	0.000
WET POND	BASE	3-1	2.01	18.421	20.000	0.0030	9997	0.68	2.216	0.00	0.000
DRY POND	BASE	3-2	0.85	19.625	20.000	0.0050	792	0.83	1.474	0.84	1.458
FDOT R/W	BASE	3-2	0.00	18.000	0.000	0.0000	0	0.00	0.000	0.00	0.000
PRE-DEV	BASE	3-2	0.00	0.000	0.000	0.0000	0	0.92	0.670	0.00	0.000
SHWT	BASE	3-2	0.00	18.000	0.000	0.0000	0	0.70	0.037	0.00	0.000
WET POND	BASE	3-2	3.01	18.607	20.000	0.0029	10581	0.84	2.077	0.00	0.000
DRY POND	BASE	3-24	12.00	19.550	20.000	0.0050	758	12.00	0.364	12.00	0.363
FDOT R/W	BASE	3-24	0.00	18.000	0.000	0.0000	0	22.33	0.067	0.00	0.000
PRE-DEV	BASE	3-24	0.00	0.000	0.000	0.0000	0	12.00	0.322	0.00	0.000
SHWT	BASE	3-24	0.00	18.000	0.000	0.0000	0	6.31	0.021	0.00	0.000
WET POND	BASE	3-24	22.33	19.304	20.000	0.0029	12881	12.00	0.516	22.33	0.067
DRY POND	BASE	3-4	2.09	19.591	20.000	0.0050	777	2.08	0.914	2.09	0.912
FDOT R/W	BASE	3-4	0.00	18.000	0.000	0.0000	0	0.00	0.000	0.00	0.000
PRE-DEV	BASE	3-4	0.00	0.000	0.000	0.0000	0	2.50	0.639	0.00	0.000
SHWT	BASE	3-4	0.00	18.000	0.000	0.0000	0	1.61	0.032	0.00	0.000
WET POND	BASE	3-4	5.01	18.765	20.000	0.0034	11085	2.09	1.293	0.00	0.000
DRY POND	BASE	3-8	4.00	19.604	20.000	0.0050	782	4.00	1.095	4.00	1.093

FDOT R/W	BASE	3-8	0.00	18.000	0.000	0.0000	0	8.78	0.001	0.00	0.000
PRE-DEV	BASE	3-8	0.00	0.000	0.000	0.0000	0	4.00	0.861	0.00	0.000
SHWT	BASE	3-8	0.00	18.000	0.000	0.0000	0	2.80	0.028	0.00	0.000
WET POND	BASE	3-8	8.78	19.016	20.000	0.0050	11893	4.00	1.561	8.78	0.001
DRY POND	BASE	5-1	0.68	19.646	20.000	0.0050	801	0.67	1.847	0.68	1.832
FDOT R/W	BASE	5-1	0.00	18.000	0.000	0.0000	0	0.00	0.000	0.00	0.000
PRE-DEV	BASE	5-1	0.00	0.000	0.000	0.0000	0	0.75	0.896	0.00	0.000
SHWT	BASE	5-1	0.00	18.000	0.000	0.0000	0	0.59	0.039	0.00	0.000
WET POND	BASE	5-1	2.01	18.504	20.000	0.0029	10250	0.68	2.616	0.00	0.000
DRY POND	BASE	5-2	0.84	19.637	20.000	0.0050	797	0.83	1.670	0.84	1.651
FDOT R/W	BASE	5-2	0.00	18.000	0.000	0.0000	0	0.00	0.000	0.00	0.000
PRE-DEV	BASE	5-2	0.00	0.000	0.000	0.0000	0	0.92	0.838	0.00	0.000
SHWT	BASE	5-2	0.00	18.000	0.000	0.0000	0	0.67	0.037	0.00	0.000
WET POND	BASE	5-2	3.01	18.689	20.000	0.0031	10842	0.84	2.357	0.00	0.000
DRY POND	BASE	5-24	12.00	19.556	20.000	0.0050	761	12.00	0.433	12.00	0.433
FDOT R/W	BASE	5-24	0.00	18.000	0.000	0.0000	0	22.06	0.121	0.00	0.000
PRE-DEV	BASE	5-24	0.00	0.000	0.000	0.0000	0	12.00	0.418	0.00	0.000
SHWT	BASE	5-24	0.00	18.000	0.000	0.0000	0	5.71	0.021	0.00	0.000
WET POND	BASE	5-24	22.06	19.450	20.000	0.0033	13381	12.00	0.618	22.06	0.121
DRY POND	BASE	5-4	2.09	19.602	20.000	0.0050	781	2.08	1.072	2.09	1.070
FDOT R/W	BASE	5-4	0.00	18.000	0.000	0.0000	0	0.00	0.000	0.00	0.000
PRE-DEV	BASE	5-4	0.00	0.000	0.000	0.0000	0	2.50	0.812	0.00	0.000
SHWT	BASE	5-4	0.00	18.000	0.000	0.0000	0	1.52	0.033	0.00	0.000
WET POND	BASE	5-4	5.01	18.896	20.000	0.0039	11508	2.08	1.522	0.00	0.000
DRY POND	BASE	5-8	4.00	19.612	20.000	0.0050	786	4.00	1.229	4.00	1.227
FDOT R/W	BASE	5-8	0.00	18.000	0.000	0.0000	0	8.45	0.019	0.00	0.000
PRE-DEV	BASE	5-8	0.00	0.000	0.000	0.0000	0	4.00	1.035	0.00	0.000
SHWT	BASE	5-8	0.00	18.000	0.000	0.0000	0	2.66	0.029	0.00	0.000
WET POND	BASE	5-8	8.45	19.132	20.000	0.0050	12292	4.00	1.757	8.45	0.019
DRY POND	BASE	50-1	0.67	19.707	20.000	0.0050	828	0.67	3.078	0.67	3.060
FDOT R/W	BASE	50-1	0.00	18.000	0.000	0.0000	0	0.00	0.000	0.00	0.000
PRE-DEV	BASE	50-1	0.00	0.000	0.000	0.0000	0	0.75	2.063	0.00	0.000
SHWT	BASE	50-1	0.00	18.000	0.000	0.0000	0	0.54	0.040	0.00	0.000
WET POND	BASE	50-1	2.01	18.855	20.000	0.0031	11375	0.67	4.394	0.00	0.000
DRY POND	BASE	50-2	0.84	19.697	20.000	0.0050	824	0.83	2.850	0.84	2.828
FDOT R/W	BASE	50-2	0.00	18.000	0.000	0.0000	0	2.65	0.023	0.00	0.000
PRE-DEV	BASE	50-2	0.00	0.000	0.000	0.0000	0	0.83	2.070	0.00	0.000
SHWT	BASE	50-2	0.00	18.000	0.000	0.0000	0	0.55	0.038	0.00	0.000
WET POND	BASE	50-2	2.65	19.149	20.000	0.0040	12350	0.84	4.061	2.65	0.023
DRY POND	BASE	50-24	15.22	19.616	20.000	0.0050	788	11.99	0.678	11.99	0.678
FDOT R/W	BASE	50-24	0.00	18.000	0.000	0.0000	0	15.32	0.520	0.00	0.000
PRE-DEV	BASE	50-24	0.00	0.000	0.000	0.0000	0	12.00	0.773	0.00	0.000
SHWT	BASE	50-24	0.00	18.000	0.000	0.0000	0	4.25	0.024	0.00	0.000
WET POND	BASE	50-24	15.32	19.608	20.000	0.0045	13946	11.99	0.972	15.32	0.520
DRY POND	BASE	50-4	2.08	19.642	20.000	0.0050	799	2.08	1.733	2.08	1.733
FDOT R/W	BASE	50-4	0.00	18.000	0.000	0.0000	0	4.26	0.094	0.00	0.000
PRE-DEV	BASE	50-4	0.00	0.000	0.000	0.0000	0	2.50	1.600	0.00	0.000
SHWT	BASE	50-4	0.00	18.000	0.000	0.0000	0	1.28	0.034	0.00	0.000
WET POND	BASE	50-4	4.26	19.382	20.000	0.0047	13147	2.08	2.482	4.26	0.094
DRY POND	BASE	50-8	4.00	19.654	20.000	0.0050	804	4.00	1.948	4.00	1.946
FDOT R/W	BASE	50-8	0.00	18.000	0.000	0.0000	0	7.11	0.306	0.00	0.000
PRE-DEV	BASE	50-8	0.00	0.000	0.000	0.0000	0	4.00	2.033	0.00	0.000
SHWT	BASE	50-8	0.00	18.000	0.000	0.0000	0	2.21	0.030	0.00	0.000
WET POND	BASE	50-8	7.11	19.560	20.000	0.0050	13772	4.00	2.798	7.11	0.306

Name	Group	Simulation	Max Time Flow hrs	Max Flow cfs	Max Delta Q cfs	Max Time US Stage hrs	Max US Stage ft	Max Time DS Stage hrs	Max DS Stage ft
CONTROL STRUCTU	BASE	10-1	0.00	0.000	0.000	2.01	18.587	0.00	18.000
OUTFALL	BASE	10-1	0.68	2.074	0.034	0.68	19.661	2.01	18.587
PERC-POND	BASE	10-1	0.58	0.039	0.002	0.68	19.661	0.00	18.000
CONTROL STRUCTU	BASE	10-2	0.00	0.000	0.000	3.01	18.875	0.00	18.000
OUTFALL	BASE	10-2	0.84	2.071	0.033	0.84	19.661	3.01	18.875
PERC-POND	BASE	10-2	0.61	0.038	0.005	0.84	19.661	0.00	18.000
CONTROL STRUCTU	BASE	10-24	19.36	0.241	0.001	19.36	19.542	0.00	18.000
OUTFALL	BASE	10-24	12.00	0.499	0.017	12.00	19.562	19.36	19.542
PERC-POND	BASE	10-24	5.21	0.022	0.001	12.00	19.562	0.00	18.000
CONTROL STRUCTU	BASE	10-4	4.57	0.008	0.000	4.57	19.073	0.00	18.000
OUTFALL	BASE	10-4	2.08	1.264	0.028	2.08	19.616	4.57	19.073
PERC-POND	BASE	10-4	1.42	0.033	0.002	2.08	19.616	0.00	18.000
CONTROL STRUCTU	BASE	10-8	8.23	0.069	0.001	8.23	19.311	0.00	18.000
OUTFALL	BASE	10-8	4.00	1.447	0.039	4.00	19.627	8.23	19.311
PERC-POND	BASE	10-8	2.47	0.029	0.002	4.00	19.627	0.00	18.000
CONTROL STRUCTU	BASE	100-1	0.00	0.000	0.000	2.00	18.959	0.00	18.000
OUTFALL	BASE	100-1	0.67	3.403	0.037	0.67	19.724	2.00	18.959
PERC-POND	BASE	100-1	0.53	0.041	0.005	0.67	19.724	0.00	18.000
CONTROL STRUCTU	BASE	100-2	2.53	0.068	0.001	2.53	19.306	0.00	18.000
OUTFALL	BASE	100-2	0.84	3.252	0.033	0.84	19.718	2.53	19.306
PERC-POND	BASE	100-2	0.52	0.039	0.004	0.84	19.718	0.00	18.000
CONTROL STRUCTU	BASE	100-24	15.06	0.658	0.008	15.06	19.634	0.00	18.000
OUTFALL	BASE	100-24	12.00	0.762	0.015	15.00	19.643	15.06	19.634
PERC-POND	BASE	100-24	3.89	0.025	0.001	15.00	19.643	0.00	18.000
CONTROL STRUCTU	BASE	100-4	4.05	0.257	0.006	4.05	19.547	0.00	18.000
OUTFALL	BASE	100-4	2.04	1.988	0.029	2.04	19.657	4.05	19.547
PERC-POND	BASE	100-4	1.22	0.034	0.004	2.04	19.657	0.00	18.000
CONTROL STRUCTU	BASE	100-8	5.34	0.683	0.012	5.34	19.639	0.00	18.000
OUTFALL	BASE	100-8	4.00	2.242	0.040	4.00	19.670	5.34	19.639
PERC-POND	BASE	100-8	2.07	0.031	0.001	4.00	19.670	0.00	18.000
CONTROL STRUCTU	BASE	2-1	0.00	0.000	0.000	2.00	18.366	0.00	18.000
OUTFALL	BASE	2-1	0.69	1.336	0.031	0.69	19.620	2.00	18.366
PERC-POND	BASE	2-1	0.63	0.038	0.007	0.69	19.620	0.00	18.000
CONTROL STRUCTU	BASE	2-2	0.00	0.000	0.000	3.00	18.497	0.00	18.000
OUTFALL	BASE	2-2	0.85	1.168	0.032	0.85	19.610	3.00	18.497
PERC-POND	BASE	2-2	0.75	0.036	0.001	0.85	19.610	0.00	18.000
CONTROL STRUCTU	BASE	2-24	24.12	0.034	0.000	24.12	19.194	0.00	18.000
OUTFALL	BASE	2-24	11.99	0.309	0.014	11.99	19.545	24.12	19.194
PERC-POND	BASE	2-24	6.83	0.020	0.000	11.99	19.545	0.00	18.000
CONTROL STRUCTU	BASE	2-4	0.00	0.000	0.000	5.01	18.657	0.00	18.000
OUTFALL	BASE	2-4	2.09	0.758	0.023	2.09	19.582	5.01	18.657
PERC-POND	BASE	2-4	1.68	0.032	0.002	2.09	19.582	0.00	18.000
CONTROL STRUCTU	BASE	2-8	0.00	0.000	0.000	9.01	18.861	0.00	18.000
OUTFALL	BASE	2-8	4.00	0.910	0.019	4.00	19.593	9.01	18.861
PERC-POND	BASE	2-8	3.00	0.028	0.001	4.00	19.593	0.00	18.000
CONTROL STRUCTU	BASE	25-1	0.00	0.000	0.000	2.02	18.722	0.00	18.000
OUTFALL	BASE	25-1	0.67	2.545	0.040	0.67	19.685	2.02	18.722
PERC-POND	BASE	25-1	0.55	0.040	0.003	0.67	19.685	0.00	18.000
CONTROL STRUCTU	BASE	25-2	2.99	0.000	0.000	2.99	19.004	0.00	18.000
OUTFALL	BASE	25-2	0.84	2.398	0.036	0.84	19.678	2.99	19.004
PERC-POND	BASE	25-2	0.58	0.038	0.001	0.84	19.678	0.00	18.000
CONTROL STRUCTU	BASE	25-24	16.20	0.404	0.004	16.20	19.584	0.00	18.000
OUTFALL	BASE	25-24	12.00	0.606	0.014	16.10	19.591	16.20	19.584
PERC-POND	BASE	25-24	4.55	0.023	0.001	16.10	19.591	0.00	18.000
CONTROL STRUCTU	BASE	25-24Flmod	15.20	0.235	0.002	15.20	19.541	0.00	18.000
OUTFALL	BASE	25-24Flmod	12.03	2.984	0.058	12.03	19.706	15.20	19.541
PERC-POND	BASE	25-24Flmod	7.66	0.019	0.000	12.03	19.706	0.00	18.000
CONTROL STRUCTU	BASE	25-4	4.35	0.052	0.001	4.35	19.255	0.00	18.000
OUTFALL	BASE	25-4	2.09	1.516	0.026	2.09	19.631	4.35	19.255
PERC-POND	BASE	25-4	1.33	0.034	0.004	2.09	19.631	0.00	18.000
CONTROL STRUCTU	BASE	25-8	8.12	0.141	0.001	8.12	19.499	0.00	18.000

OUTFALL	BASE	25-8	4.00	1.740	0.038	4.00	19.644	8.12	19.499
PERC-POND	BASE	25-8	2.30	0.030	0.001	4.00	19.644	0.00	18.000
CONTROL STRUCTU	BASE	3-1	0.00	0.000	0.000	2.01	18.421	0.00	18.000
OUTFALL	BASE	3-1	0.68	1.518	0.034	0.68	19.631	2.01	18.421
PERC-POND	BASE	3-1	0.61	0.038	0.005	0.68	19.631	0.00	18.000
CONTROL STRUCTU	BASE	3-2	0.00	0.000	0.000	3.01	18.607	0.00	18.000
OUTFALL	BASE	3-2	0.85	1.422	0.034	0.85	19.625	3.01	18.607
PERC-POND	BASE	3-2	0.70	0.037	0.002	0.85	19.625	0.00	18.000
CONTROL STRUCTU	BASE	3-24	22.33	0.067	0.000	22.33	19.304	0.00	18.000
OUTFALL	BASE	3-24	12.00	0.354	0.013	12.00	19.550	22.33	19.304
PERC-POND	BASE	3-24	6.31	0.021	0.000	12.00	19.550	0.00	18.000
CONTROL STRUCTU	BASE	3-4	0.00	0.000	0.000	5.01	18.765	0.00	18.000
OUTFALL	BASE	3-4	2.09	0.884	0.028	2.09	19.591	5.01	18.765
PERC-POND	BASE	3-4	1.61	0.032	0.001	2.09	19.591	0.00	18.000
CONTROL STRUCTU	BASE	3-8	8.78	0.001	0.000	8.78	19.016	0.00	18.000
OUTFALL	BASE	3-8	4.00	1.071	0.023	4.00	19.604	8.78	19.016
PERC-POND	BASE	3-8	2.80	0.028	0.002	4.00	19.604	0.00	18.000
CONTROL STRUCTU	BASE	5-1	0.00	0.000	0.000	2.01	18.504	0.00	18.000
OUTFALL	BASE	5-1	0.68	1.794	0.038	0.68	19.646	2.01	18.504
PERC-POND	BASE	5-1	0.59	0.039	0.002	0.68	19.646	0.00	18.000
CONTROL STRUCTU	BASE	5-2	0.00	0.000	0.000	3.01	18.689	0.00	18.000
OUTFALL	BASE	5-2	0.84	1.615	0.029	0.84	19.637	3.01	18.689
PERC-POND	BASE	5-2	0.67	0.037	0.004	0.84	19.637	0.00	18.000
CONTROL STRUCTU	BASE	5-24	22.06	0.121	0.000	22.06	19.450	0.00	18.000
OUTFALL	BASE	5-24	12.00	0.423	0.016	12.00	19.556	22.06	19.450
PERC-POND	BASE	5-24	5.71	0.021	0.001	12.00	19.556	0.00	18.000
CONTROL STRUCTU	BASE	5-4	0.00	0.000	0.000	5.01	18.896	0.00	18.000
OUTFALL	BASE	5-4	2.09	1.042	0.024	2.09	19.602	5.01	18.896
PERC-POND	BASE	5-4	1.52	0.033	0.003	2.09	19.602	0.00	18.000
CONTROL STRUCTU	BASE	5-8	8.45	0.019	0.000	8.45	19.132	0.00	18.000
OUTFALL	BASE	5-8	4.00	1.206	0.032	4.00	19.612	8.45	19.132
PERC-POND	BASE	5-8	2.66	0.029	0.002	4.00	19.612	0.00	18.000
CONTROL STRUCTU	BASE	50-1	0.00	0.000	0.000	2.01	18.855	0.00	18.000
OUTFALL	BASE	50-1	0.67	3.021	0.043	0.67	19.707	2.01	18.855
PERC-POND	BASE	50-1	0.54	0.040	0.005	0.67	19.707	0.00	18.000
CONTROL STRUCTU	BASE	50-2	2.65	0.023	0.000	2.65	19.149	0.00	18.000
OUTFALL	BASE	50-2	0.84	2.791	0.038	0.84	19.697	2.65	19.149
PERC-POND	BASE	50-2	0.55	0.038	0.002	0.84	19.697	0.00	18.000
CONTROL STRUCTU	BASE	50-24	15.32	0.520	0.005	15.32	19.608	0.00	18.000
OUTFALL	BASE	50-24	11.99	0.668	0.016	15.22	19.616	15.32	19.608
PERC-POND	BASE	50-24	4.25	0.024	0.001	15.22	19.616	0.00	18.000
CONTROL STRUCTU	BASE	50-4	4.26	0.094	0.001	4.26	19.382	0.00	18.000
OUTFALL	BASE	50-4	2.08	1.705	0.028	2.08	19.642	4.26	19.382
PERC-POND	BASE	50-4	1.28	0.034	0.002	2.08	19.642	0.00	18.000
CONTROL STRUCTU	BASE	50-8	7.11	0.306	0.003	7.11	19.560	0.00	18.000
OUTFALL	BASE	50-8	4.00	1.925	0.041	4.00	19.654	7.11	19.560
PERC-POND	BASE	50-8	2.21	0.030	0.003	4.00	19.654	0.00	18.000