

*Revised Drainage Calculations for
City of Clermont and SJRWMD*

CLERMONT COMMERCE CENTER
(NE Corner of Hancock Road and Trade Ave., Clermont, FL)

Prepared by:

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1.0 SUMMARY

The subject site is approximately 9.4 acres. The site is located within Section 34, Township 22 South, Range 26 East within Lake County, Florida. More specifically, the property is located at the northeast corner of Hancock Road and Trade Avenue in Clermont, Florida, 34711. The site is currently undeveloped and is heavily wooded with Oak, Ash and Pine trees. The property slopes from the north, east, west and south property boundaries toward the lowest portion of the project site at the center.

The proposed project includes construction of two warehouse/office buildings, truck court, driveways, parking and stormwater retention ponds. More specifically, the area of the building along the south property line will be 63,000 square feet and the building to the north will be 44,400 square feet for a total floor area of 107,400 square feet. Stormwater runoff from the proposed improvements will be managed through two on-site dry retention ponds. The stormwater management system has been designed to address the pollution abatement criteria and the attenuation of the peak runoff. The design meets or exceeds the requirements of the St. Johns River Water Management District (SJRWMD), and the City of Clermont. The proposed basin summary table below defines the proposed development basins.

The retention ponds will be designed to retain 100% of the stormwater runoff for the 100-year 24-hour storm event; therefore, the pre-development condition was not analyzed. The post development condition was analyzed as two separate drainage basins which are described as the following:

Table 1: Post Development Basin Summary

BASIN NAME	A	B
BASIN AREA (AC)	15.471	17.582
IMPERVIOUS AREA (AC)	0.330	9.305*
% IMPERVIOUS	2	53
Tc (MIN.)	73	35
CN	34	69

*A portion of the impervious area was the semi-pervious stabilized and grassed emergency access road on the north side of the project site.

A summary of the post development impervious and pervious areas for onsite and offsite for each basin is provided in the table below:

ONSITE/OFFSITE IMPERVIOUS AND PERVERIOUS AREAS			
ONSITE	Basin A	Basin B	Onsite Total
ONSITE Impervious Area (ac)	0.258	5.697	5.955
ONSITE Pervious Area (ac)	0.747	2.703	3.450
ONSITE Total Areas (ac)	1.005	8.400	9.405
<hr/>			
OFFSITE	Basin A	Basin B	Offsite Total
OFFSITE Impervious Area (ac)	0.072	3.608	3.680
OFFSITE Pervious Area (ac)	14.394	5.574	19.968
OFFSITE Total Areas (ac)	14.466	9.182	23.648
<hr/>			
ONSITE AND OFFSITE	Basin A	Basin B	Total
COMBINED Impervious Areas (ac)	0.330	9.305	9.635
COMBINED Pervious Areas (ac)	15.141	8.277	23.418
<hr/>			
Total	15.471	17.582	33.053

1.1 SOILS AND GROUNDWATER

A review of the information published by the United States Department of Agriculture, National Resources Conservation Service website indicates soil types within the project boundaries consist of Candler Fine Sand, 0 to 5 percent slopes (Hydrologic Group A Soil); Candler Fine Sand, 5 to 12 percent slopes (Hydrologic Group A Soil); Lake Fine Sand 0 to 5 percent slopes (Hydrologic Group A Soil).

Professional Service Industries (PSI) completed fourteen standard penetration test borings at the location of the buildings to a depth of 25 feet below ground surface (bgs), three auger borings at the location of the ponds to a depth of 15 feet bgs, and five auger borings at the location of the parking and driveway to a depth of 7 feet bgs. Groundwater was not observed in any of the borings. The estimated normal seasonal high groundwater depth was estimated at 50 feet bgs. Please refer to the Updated Report Geotechnical Engineering Services report dated February 20, 2018, submitted under separate cover. In addition, please refer to the table within the Stormwater Management section of the aforementioned report for stormwater design parameters.

1.2 WETLANDS

No wetlands exist on site. Please refer to the Preliminary Environmental Assessment Report by Bio-Tech Consulting and dated February 1, 2018 submitted under separate cover.

1.3 EXISTING DRAINAGE

The project site contains a landlocked depressed area at the center of the property that collects stormwater runoff from the area within the project boundaries as well stormwater runoff from offsite areas north, south, east and west of the project site.

The offsite area to the east encompasses a portion of the Crothall Laundry Services Facility (building, parking and driveways). The Crothall Laundry Services Facility does not have a stormwater management pond to provide water quality and attenuation. The stormwater runoff from the south portion of the Crothall Laundry Services sheet flows to the west via overland flow to the landlocked depressed area at the center of the project site. The stormwater runoff from the north portion of the Crothall Laundry Services sheet flows to the west via overland flow to an existing 24-inch pipe to the landlocked depressed area at the center of the project site.

The offsite area north of the project site is undeveloped and vegetated with trees and brush. The stormwater runoff from the area north of the project site sheet flows overland to the south toward the landlocked depressed area at the center of the project site.

A portion of the Hancock Road right of way west and southwest of the project site generates stormwater runoff that flows along the east side of Hancock Road and eventually into the landlocked depressed area at the center of the project site.

The offsite area south of the project site is undeveloped and vegetated with trees and brush. The runoff from the area to the south of the project site sheet flows overland north towards an east-west roadside swale along the south side of Trade Avenue. The runoff is directed across Trade Avenue via an existing 30-inch pipe to the landlocked depressed area at the center of the project site.

2.0 PROPOSED DEVELOPMENT

The proposed project includes construction of one 44,400 sf warehouse building on the north side and one 63,000 sf building on the south side of the project site as well as a truck court, driveways, parking and two stormwater retention ponds. Offsite improvements include restriping a portion of Hancock Road, water main connection across (directional

drill) Hancock Road and construction (directional drill) of approximately 1,800 linear feet of sanitary force main along the east side of Hancock Road to make connection with the lift station to the north.

Stormwater runoff from the proposed improvements will be managed through two on-site dry retention ponds. The stormwater management system has been designed to address the pollution abatement criteria and the attenuation of the peak runoff. The design meets or exceeds the requirements of the St. Johns River Water Management District (SJRWMD), and the City of Clermont.

2.1 REQUIRED PERMITS AND REVIEWS

- City of Clermont, Florida
- Lake County, Florida
- St. Johns Water Management District (SJRWMD) Permit

2.2 STORMWATER MANAGEMENT

Stormwater runoff from the basins will be collected within the dry retention ponds located within the south and east portions of the property. The storm water management system is designed to meet or exceed all requirements of City of Apopka and the SJRWMD.

2.2.1 BASIN

Basin A includes an offsite area to the south of Trade Avenue as well as proposed dry retention Pond A located adjacent to Trade Avenue along the south side of the project site. The runoff from the basin flows from south to north towards a roadside swale along the south side of Trade Avenue. The runoff collects in the swale and runs east and west towards a an existing 30-inch pipe. The stormwater runoff from the south side of Trade Avenue is conveyed to the proposed onsite dry retention Pond A located along the north side of Trade Avenue via the existing 30-inch pipe. A post-development drainage map is provided in Appendix A.

Basin B encompasses most of the post developed onsite basin as well as offsite areas east of the site (Crothall Laundry Services), offsite areas west and southwest of the site (east portion of Hancock Road ROW), as well as offsite areas to the north. The runoff from the southwest and west portion (offsite) of Basin B will sheet flow from the southwest and west along the Hancock Road ROW into a proposed inlet along the Hancock Road ROW adjacent the west central project boundary, and the stormwater will be conveyed via onsite secondary stormwater pipes to proposed Pond B located adjacent to the east property boundary. The runoff from

the north portion (offsite) of Basin B will sheet flow from the north to the south and into proposed inlets onsite and the stormwater will be conveyed via secondary stormwater pipes to proposed Pond B. A portion (south portion) of the Crothall Laundry Services property on the east side of Basin B will sheet flow from west to east into proposed Pond B. A portion (north portion) of the Crothall Laundry Services property on the east side of Basin B is conveyed to proposed Pond B via an existing 24-inch storm pipe. The onsite portion of Basin B will sheet flow to the secondary system of inlets and pipes and be routed to proposed Pond B. A post-development drainage map is provided in Appendix A.

2.2.2 CN CALCULATIONS

The USDA National Resources Conservation Service indicates the in-situ soils, which will be retained on site for fill are classified within Hydrologic Group A. The curve number for the pervious areas of the post development drainage basin were based on in-situ soils designated as Hydrologic Group A. The calculations are provided in Appendix B.

2.2.3 TIME OF CONCENTRATION

The post development time of concentration was calculated for the proposed post development drainage basins. The resulting time of concentration is provided in Appendix B.

2.2.4 TAILWATER CONDITION

The onsite stormwater will be retained onsite via the dry retention ponds; therefore, a tailwater condition was not required for the analysis of the stormwater management system.

2.3 POLLUTION ABATEMENT VOLUME (PAV)

Dry retention ponds are utilized for the Best Management Practice (BMP) to reduce the discharge of pollutants associated with stormwater runoff. The following are the PAV (Treatment Volume) requirements:

The PAV requirements for on-line dry retention pond are as follows:

The greater of:

½" of runoff over the basin (on-line)

or

1- ¼" of runoff over the impervious area (on-line)
plus
½" over entire site (on-line).

All PAV is provided within the dry retention ponds. The supporting required and provided PAV calculations are included within Appendix C.

2.4 PROPOSED DEVELOPMENT RUNOFF

The runoff from Basin A will sheet flow from the south to the north towards a swale along the south side of Trade Avenue and across Trade Avenue via an existing 30-inch stormwater pipe into proposed Pond A located along the south side of the project site adjacent to Trade Avenue. The stormwater is treated via percolation through the permeable soils into the shallow ground aquifer. The stormwater analysis for the post development was completed using Ponds (Ver. 3.2). Please refer to Appendix D for an input report, hydrographs, and routing report.

The runoff from the west portion (offsite) of Basin B will sheet flow from the southwest and west along the Hancock Road ROW into a proposed inlet along the Hancock Road ROW adjacent the west central project boundary and the stormwater will be conveyed via secondary stormwater pipes to proposed Pond B located adjacent to the east property boundary. The runoff from the north portion (offsite) of Basin B will sheet flow from the north to the south and into proposed inlets onsite and the stormwater will be conveyed via secondary stormwater pipes to proposed Pond B. The runoff from the east portion (offsite) of Basin B will sheet flow into proposed Pond B. A portion (north portion) of the Crothall Laundry Services property on the east side of Basin B is conveyed to proposed Pond B via an existing 24-inch storm pipe. The onsite portion of Basin B will sheet flow to the secondary system of inlets and pipes and be routed to proposed Pond B.

The stormwater collected within proposed Pond A and Pond B is treated via percolation through the permeable soils into the shallow ground aquifer. The stormwater analysis for the post development was completed using Ponds (Ver. 3.2). Please refer to Appendix D for an input report, hydrographs, and routing report.

No stormwater discharge is proposed from the proposed dry retention ponds.

2.5 PAV RECOVERY

SJRWMD requires that the PAV be recovered within 3 days (72 hours). PSI performed permeability tests within some of the borings completed onsite.

PSI recommended an estimated horizontal saturated hydraulic conductivity of surficial aquifer of 45 ft/day and an estimated vertical unsaturated hydraulic conductivity of surficial aquifer of 30 ft/day within their report. According to the PSI report, a factor of safety was not applied to the above referenced values.

A horizontal saturated hydraulic conductivity of surficial aquifer of 30 ft/day was used for the drawdown analysis of the proposed ponds, which incorporated a factor of safety of 1.5 (vertical unsaturated hydraulic conductivity of surficial aquifer was not used). Please refer to the Updated Geotechnical Engineering Services report by PSI submitted under separate cover. Recovery time at 72 hours was determined by using Ponds (Ver. 3.2). Please see supporting recovery analysis in Appendix D.

2.6 CONCLUSION

The design meets or exceeds all requirements of SJRWMD and City of Clermont. An input report and routing results are provided in Appendix D.

The post-development pond stages were determined using PONDS (Ver. 3.2). Please refer to Appendix D for the input report, and drainage analysis summary. A summary table is provided below:

Pond A	
Top of Bank Elevation (FT)	159.00
Mean Annual Storm Event Maximum Stage without Infiltration	154.17
Mean Annual Storm Event Maximum Stage w/Infiltration	152.00
25 Year 24 Hour Storm Event Maximum Stage w/Infiltration	152.00
100 Year 24 Hour Storm Event Maximum Stage w/Infiltration	152.00
100 Year 24 Hour Storm 14 Day Recovery – Did Pond Recover?	YES
72 Hour Drawdown - Did Pond Recover?	YES

Pond B	
Top of Bank Elevation (FT)	159.00
Mean Annual Storm Event Maximum Stage without Infiltration	152.91
Mean Annual Storm Event Maximum Stage w/Infiltration	145.02
25 Year 24 Hour Storm Event Maximum Stage w/Infiltration	154.47
100 Year 24 Hour Storm Event Maximum Stage w/Infiltration	157.29
100 Year 24 Hour Storm 14 Day Recovery – Did Pond Recover?	YES
72 Hour Drawdown - Did Pond Recover?	YES

2.7 WETLAND IMPACTS/MITIGATION

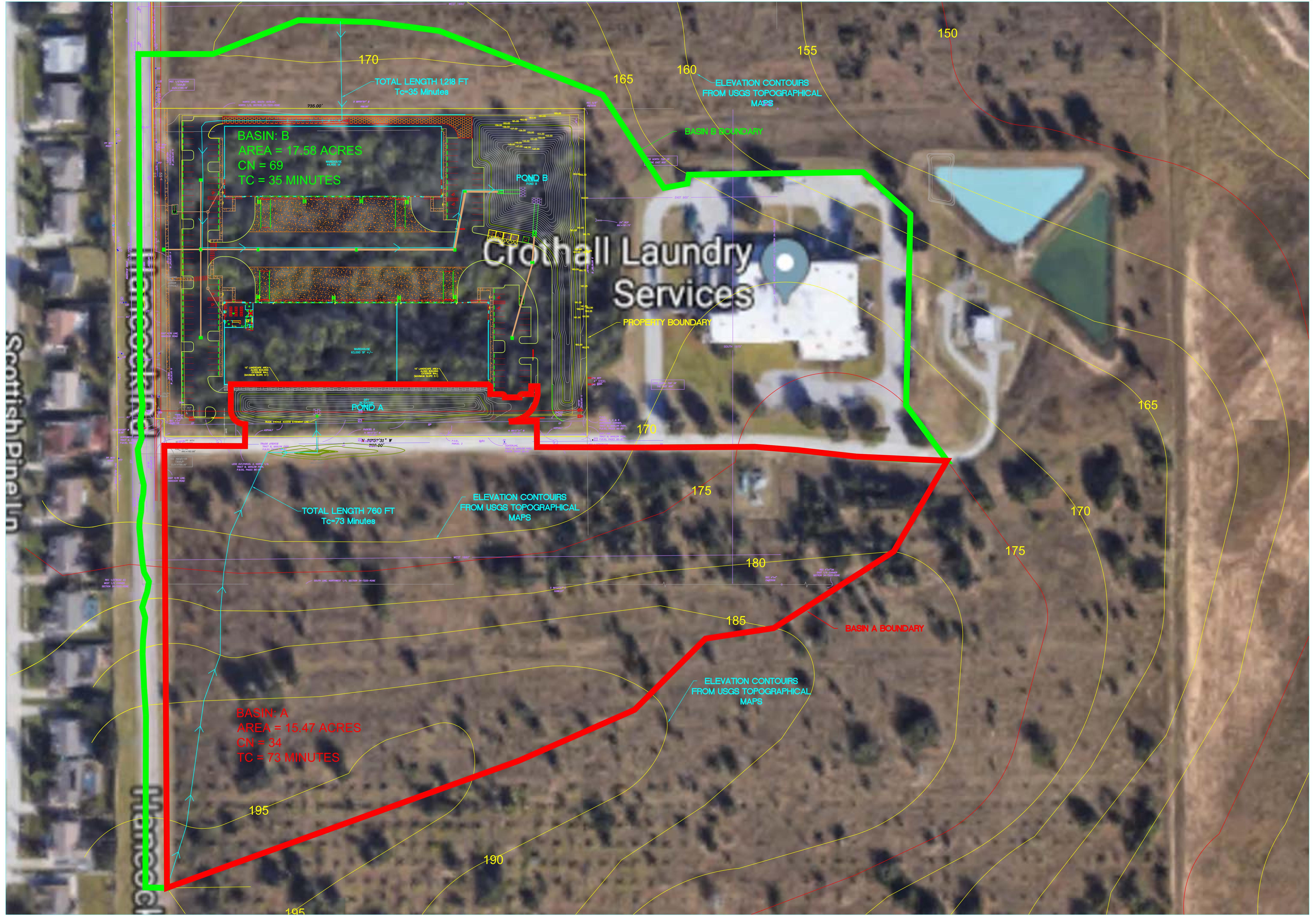
No wetlands exist on site. Please refer to the Preliminary Environmental Assessment Report by Bio-Tech Consulting and dated February 1, 2018 submitted under separate cover.

3.0 MONITORING

The proposed project is within the Lake Apopka Hydrologic Basin; therefore, 10 years of monitoring will be conducted following the completion of the construction to show the system is recovering and will not discharge to Lake Apopka or its tributaries.

APPENDIX A

POST DRAINAGE BASIN MAP



SCALE AS NOTED	DESIGN ENGINEER:
DEIGNED BY EPL	CHAD S. LINN, P.E.
DRAWN BY EPL	FLORIDA REGISTRATION NUMBER:
CHECKED BY CSL	57524
SEAL	
POST DRAINAGE BASIN MAP	
CLERMONT COMMERCE CENTER	
HANCOCK ROAD	
CLERMONT FLORIDA	
LAKE COUNTY	FLORIDA
DATE	10/9/18
PROJECT NO.	2600-16-200
SHEET NUMBER	
No.	REVISIONS
Date	BY

APPENDIX B

POST CURVE NUMBER AND TIME OF CONCENTRATION CALCULATIONS

CURVE NUMBER

CURVE NUMBER WORKSHEET
SITE POST-DEVELOPMENT

Basin Name = A
 Basin Area = 15.471 acres

AREA	SCS SOIL TYPE	COVER TYPE AND CONDITIONS	CURVE NUMBER	SUB TOTAL
Grass (Lawns, Parks, Golf Courses, etc.)				
0.919	A	Poor	68.0	0.0
	A	Fair	49.0	0.0
	A	Good	39.0	35.8
Brush (Brush-Weed-Grass)				
	A	Poor	48.0	0.0
	A	Fair	35.0	0.0
	A	Good	30.0	0.0
Woods/Grass (Orchard or Tree Farm)				
14.222	A	Poor	57.0	0.0
	A	Fair	43.0	0.0
	A	Good	32.0	455.1
Woods				
	A	Poor	45.0	0.0
	A	Fair	36.0	0.0
	A	Good	30.0	0.0
0.330	A,B,C,D	Semi-Impervious (Gravel)	78.0	0.0
	A,B,C,D	Impervious (Pavement, Concrete, Roofs)	98.0	32.3

WEIGHTED CURVE NUMBER = 34

WEIGHTED CURVE NUMBER = SUM (CN*AREA) / TOTAL AREA

CURVE NUMBER WORKSHEET
SITE POST-DEVELOPMENT

Basin Name = B

Basin Area = 17.582 acres

AREA	SCS SOIL TYPE	COVER TYPE AND CONDITIONS	CURVE NUMBER	SUB TOTAL
Grass (Lawns, Parks, Golf Courses, etc.)				
5.205	A	Poor	68.0	0.0
	A	Fair	49.0	0.0
	A	Good	39.0	203.0
Brush (Brush-Weed-Grass)				
	A	Poor	48.0	0.0
	A	Fair	35.0	0.0
	A	Good	30.0	0.0
Woods/Grass (Orchard or Tree Farm)				
2.365	A	Poor	57.0	0.0
	A	Fair	43.0	0.0
	A	Good	32.0	75.7
Woods				
0.707	A	Poor	45.0	0.0
	A	Fair	36.0	0.0
	A	Good	30.0	21.2
0.134	A,B,C,D	Semi-Impervious (Gravel)	78.0	10.5
9.171	A,B,C,D	Impervious (Pavement, Concrete, Roofs)	98.0	898.8

WEIGHTED CURVE NUMBER = 69

WEIGHTED CURVE NUMBER = SUM (CN*AREA) / TOTAL AREA

TIME OF CONCENTRATION

BASIN A

CALCULATE POST-DEVELOPMENT Tc NUMBER

OVERLAND FLOW < 300 ft.

L= 300
N= 0.8
S= 0.005

SHALLOW CONC. FLOW > 300 ft.

L= 460 FT
V= 1.9 FT/SEC

Intensity

IN1= 3.5 IN/HR
IN2= 4 IN/HR
IN3= 5 IN/HR

SHALLOW CONC. FLOW > 300 ft.

L= 0 FT
V= 2 FT/SEC

Tc = To overland flow + Ts shallow conc. flow

$$To = .93 * (L^{.6} * N^{.6}) / (IN^{.4} * S^{.3})$$

To1 = 74.01 MIN
To2 = 70.16 MIN
To3 = 64.17 MIN

To avg. = 69.45

$$Ts = L/V$$

$$Ts = 4.04$$

$$Tc = To + Ts$$

$$Tc = 73.48 \Rightarrow USE 73 MIN
USE 73 MIN$$

BASIN B

CALCULATE POST-DEVELOPMENT Tc NUMBER

OVERLAND FLOW < 300 ft.

L= 170
N= 0.8
S= 0.032

SHALLOW CONC. FLOW > 300 ft.

L= 203
V= 1.75

FT
FT/SEC

Intensity

IN1= 3.5
IN2= 4
IN3= 5

IN/HR
IN/HR
IN/HR

SHALLOW CONC. FLOW > 300 ft.

L= 130
V= 1.5

FT
FT/SEC

PIPE FLOW

L= 715
V= 4

FT
FT/SEC

Tc = To overland flow + Ts shallow conc. flow

$$To = .93 * (L^{.6} * N^{.6}) / (IN^{.4} * S^{.3})$$

To1 = 30.16 MIN
To2 = 28.59 MIN
To3 = 26.15 MIN

To avg. = 28.30

$$Ts = L/V$$

Ts = 3.38

Tp = 2.98

$$Tc = To + Ts + Tp$$

Tc = 34.66 => USE 35 MIN
USE 35 MIN

APPENDIX C

REQUIRED TREATMENT VOLUME AND PROVIDED TREATMENT VOLUME CALCULATIONS

REQUIRED TREATMENT VOLUME CALCULATIONS BASIN A

11/1/2018

Determine the required Pollution Abatement Volume (PAV) for water quality treatment for the proposed Post Basin for SJRWMD and City of New Smyrna Beach criteria.

CRITERIA: The stormwater management system is required to store a minimum volume equal to the first one-half inch of runoff from the developed site or 1.25 inches time the percentage of impervious area plus one-half inch over entire site for online storage only, which ever is greater.

Site Post Basin – Online Storage

- Compute the first half inch of runoff from the developed site (Va): Basin = 15.471 AC

$$\begin{aligned} Va &= 0.5 \text{ inch} * \text{developed site} \\ Va &= 0.5 \text{ inch} * (1 \text{ foot} / 12 \text{ inches}) = 15.471 \text{ ac} \\ Va &= \frac{0.6446}{28080} \frac{\text{ac-ft}}{\text{ft}^3} \quad \text{for the first half inch of runoff} \end{aligned}$$

$$\begin{aligned} Vb &= 0.5 * \text{developed site} \\ Vb &= 0.5 * (1 \text{ foot} / 12 \text{ inches}) = 15.471 \text{ ac} \\ Vb &= \frac{0.6446}{28080} \frac{\text{ac-ft}}{\text{ft}^3} \end{aligned}$$

$$\text{Total Va + Vb} = \frac{0.6446}{0.6446} + \frac{0.6446}{0.6446} = \frac{1.2893}{56160} \frac{\text{ac-ft}}{\text{ft}^3} \quad (\text{Required retention storage})$$

- Compute 1.25 inches times the percentage of impervious (Vb): Impervious = 0.33 AC

$$\begin{aligned} Vc &= 1.25 * \text{total impervious} \\ Vc &= 1.25 * (1 \text{ foot} / 12 \text{ inches}) * 0.33 \\ Vc &= \frac{0.0344}{1497} \frac{\text{ac-ft}}{\text{ft}^3} \quad \text{for the first half inch of runoff} \end{aligned}$$

$$\begin{aligned} Vb &= 0.5 * \text{developed site} \\ Vb &= 0.5 * (1 \text{ foot} / 12 \text{ inches}) = 15.471 \text{ ac} \\ Vb &= \frac{0.6446}{28080} \frac{\text{ac-ft}}{\text{ft}^3} \end{aligned}$$

$$\text{Total Vc + Vb} = \frac{0.0344}{0.6446} + \frac{0.6446}{0.6446} = \frac{0.6790}{29577} \frac{\text{ac-ft}}{\text{ft}^3} \quad (\text{Required retention storage})$$

Since the 1.29 ac-ft, for one half inch over the site area is > 0.68 ac-ft for
1.25 inches times the impervious area, the required pollution abatement volume is 1.29 ac-ft

REQUIRED TREATMENT VOLUME CALCULATIONS BASIN B

11/1/2018

Determine the required Pollution Abatement Volume (PAV) for water quality treatment for the proposed Post Basin for SJRWMD and City of New Smyrna Beach criteria.

CRITERIA: The stormwater management system is required to store a minimum volume equal to the first one-half inch of runoff from the developed site or 1.25 inches time the percentage of impervious area plus one-half inch over entire site for online storage only, which ever is greater.

Site Post Basin – Online Storage

- Compute the first half inch of runoff from the developed site (Va): Basin = 17.582 AC

$$\begin{aligned} Va &= 0.5 \text{ inch} * \text{developed site} \\ Va &= 0.5 \text{ inch} * (1 \text{ foot} / 12 \text{ inches}) = 17.582 \text{ ac} \\ Va &= \frac{0.7326}{31911} \frac{\text{ac-ft}}{\text{ft}^3} \quad \text{for the first half inch of runoff} \end{aligned}$$

$$\begin{aligned} Vb &= 0.5 * \text{developed site} \\ Vb &= 0.5 * (1 \text{ foot} / 12 \text{ inches}) = 17.582 \text{ ac} \\ Vb &= \frac{0.7326}{31911} \frac{\text{ac-ft}}{\text{ft}^3} \end{aligned}$$

$$\text{Total Va + Vb} = \frac{0.7326}{0.7326} + \frac{0.7326}{0.7326} = \frac{1.4652}{63823} \frac{\text{ac-ft}}{\text{ft}^3} \quad (\text{Required retention storage})$$

- Compute 1.25 inches times the percentage of impervious (Vb): Impervious = 9.284 AC

$$\begin{aligned} Vc &= 1.25 * \text{total impervious} \\ Vc &= 1.25 * (1 \text{ foot} / 12 \text{ inches}) * 9.284 \\ Vc &= \frac{0.9671}{42126} \frac{\text{ac-ft}}{\text{ft}^3} \quad \text{for the first half inch of runoff} \end{aligned}$$

$$\begin{aligned} Vb &= 0.5 * \text{developed site} \\ Vb &= 0.5 * (1 \text{ foot} / 12 \text{ inches}) = 17.582 \text{ ac} \\ Vb &= \frac{0.7326}{31911} \frac{\text{ac-ft}}{\text{ft}^3} \end{aligned}$$

$$\text{Total Vc + Vb} = \frac{0.9671}{0.9671} + \frac{0.7326}{0.7326} = \frac{1.6997}{74037} \frac{\text{ac-ft}}{\text{ft}^3} \quad (\text{Required retention storage})$$

Since the 1.70, ac-ft for 1.25 inch times impervious area is > 1.47 ac-ft for one-half inches over the developed site, the required pollution abatement volume is 1.70 ac-ft

PROVIDED POLLUTION ABATEMENT VOLUME CALCULATIONS

PROPOSED DRY POND A						
Stage	Area (sq.-ft.)	Area (ac.)	Volume (cu.-ft.)	Volume (ac-ft.)	Sum Volume (cu.-ft.)	Sum Volume (ac-ft)
152.00	528	0.01	-	-	-	-
153.00	2328	0.05	1428.00	0.03	1428.00	0.03
154.00	4821	0.11	3574.50	0.08	5002.50	0.11
155.00	7250	0.17	6035.50	0.14	11038.00	0.25
156.00	9696	0.22	8473.00	0.19	19511.00	0.45
157.00	12217	0.28	10956.50	0.25	30467.50	0.70
158.00	14813	0.34	13515.00	0.31	43982.50	1.01
158.78	16892	0.39	12364.95	0.28	56347.45	1.29
159.00	17479	0.40	3780.81	0.09	60128.26	1.38

Therefore **1.29** ac-ft of PAV will be provided in the pond system within the basin at elevation

158.78 FT

PROVIDED POLLUTION ABATEMENT VOLUME CALCULATIONS

PROPOSED DRY POND B						
Stage	Area (sq.-ft.)	Area (ac.)	Volume (cu.-ft.)	Volume (ac-ft.)	Sum Volume (cu.-ft.)	Sum Volume (ac-ft)
143.00	3713	0.09	-	-	-	-
144.00	4562	0.10	4137.50	0.09	4137.50	0.09
145.00	5527	0.13	5044.50	0.12	9182.00	0.21
146.00	6583	0.15	6055.00	0.14	15237.00	0.35
147.00	7741	0.18	7162.00	0.16	22399.00	0.51
148.00	8989	0.21	8365.00	0.19	30764.00	0.71
149.00	10374	0.24	9681.50	0.22	40445.50	0.93
150.00	11763	0.27	11068.50	0.25	51514.00	1.18
151.00	13227	0.30	12495.00	0.29	64009.00	1.47
151.73	14490	0.33	10116.70	0.23	74125.70	1.70
152.00	14957	0.34	3975.35	0.09	78101.05	1.79
153.00	16705	0.38	15831.00	0.36	93932.05	2.16
154.00	18563	0.43	17634.00	0.40	111566.05	2.56
155.00	20599	0.47	19581.00	0.45	131147.05	3.01
156.00	23869	0.55	22234.00	0.51	153381.05	3.52
157.00	27356	0.63	25612.50	0.59	178993.55	4.11
158.00	30960	0.71	29158.00	0.67	208151.55	4.78
159.00	34536	0.79	32748.00	0.75	240899.55	5.53

Therefore **1.70** ac-ft of PAV will
be provided in the pond system within the basin at elevation

151.73 FT

POND A
PONDS / ICPR Program
Equivalent Pond Dimensions

Input Data

PONDS INPUT DATA

Pond Stage Height (h) in feet	7
Volume of Pond (V) in cubic feet	60,129
Effective Perimeter (P) in linear feet	892
Equivalent Length of Pond (L) in feet	426
Equivalent Width of Pond (W) in feet	20

POND B
PONDS / ICPR Program
Equivalent Pond Dimensions

Input Data

PONDS INPUT DATA

Pond Stage Height (h) in feet	16
Volume of Pond (V) in cubic feet	240,899
Effective Perimeter (P) in linear feet	1196

Equivalent Length of Pond (L) in feet	572
Equivalent Width of Pond (W) in feet	26

APPENDIX D

POST DEVELOPMENT DRAINAGE ANALYSIS FOR STORM EVENTS

MEAN ANNUAL WITHOUT INFILTRATION

MEAN ANNUAL WITH INFILTRATION

25 YR 24 HR STORM EVENT

100 YR 24 HR STORM EVENT

W/ 14 DAY RECOVERY

POND A

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Project Data

Project Name: CLERMONT COMMERCE CENTER
Simulation Description: MEAN ANNUAL WITHOUT INFILTRATION
MEAN ANNUAL WITH INFILTRATION
25YR-24HR
100YR-24HR W/ 14 DAY RECOVERY
72 HOUR DRAWDOWN
Project Number: 2600-17-300
Engineer : ERIC LAGASSEY
Supervising Engineer: CHAD LINN
Date: 10-09-2018

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum): 133.00
Water Table Elevation, [WT] (ft datum): 133.10
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day): 30.00
Fillable Porosity, [n] (%): 25.00

Vertical infiltration was not considered.

Geometry Data

Equivalent Pond Length, [L] (ft): 426.0
Equivalent Pond Width, [W] (ft): 20.0
Ground water mound is expected to intersect the pond bottom

Stage vs Area Data

Stage (ft datum)	Area (ft ²)
152.00	528.0
153.00	2328.0
154.00	4821.0
155.00	7250.0
156.00	9696.0
157.00	12217.0
158.00	14813.0
159.00	17479.0

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Scenario Input Data

Scenario 2 :: BASIN A 25YR24HR STORM W//INFILTRATION

Hydrograph Type: Inline SCS
 Modflow Routing: Routed with infiltration
 Repetitions: 1

Basin Area (acres)	15.471
Time Of Concentration (minutes)	73.0
DCIA (%)	2.5
Curve Number	34
Design Rainfall Depth (inches)	8.6
Design Rainfall Duration (hours)	24.0
Shape Factor	UHG 484
Rainfall Distribution	SCS Type II Florida Modified

Initial ground water level (ft datum) 133.10 (default)

Time After Storm Event (days)
30.000

Scenario 3 :: BASIN A 100YR24HR STORM W//INFILTRATION

Hydrograph Type: Inline SCS
 Modflow Routing: Routed with infiltration
 Repetitions: 1

Basin Area (acres)	15.471
Time Of Concentration (minutes)	73.0
DCIA (%)	2.5
Curve Number	34
Design Rainfall Depth (inches)	10.6
Design Rainfall Duration (hours)	24.0
Shape Factor	UHG 484
Rainfall Distribution	SCS Type II Florida Modified

Initial ground water level (ft datum) 133.10 (default)

| Time After
Storm Event
(days) |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| 0.500 | 3.500 | 6.500 | 9.500 | 12.500 |
| 1.000 | 4.000 | 7.000 | 10.000 | 13.000 |
| 1.500 | 4.500 | 7.500 | 10.500 | 13.500 |
| 2.000 | 5.000 | 8.000 | 11.000 | 14.000 |
| 2.500 | 5.500 | 8.500 | 11.500 | |
| 3.000 | 6.000 | 9.000 | 12.000 | |

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Summary of Results :: Scenario 7 :: BASIN A MEAN ANNUAL STORM WITHOUT INFILTRATION

	Time (hours)	Stage (ft datum)	Rate (ft³/s)	Volume (ft³)
Stage				
Minimum	0.000	152.00		
Maximum	27.416	154.17		
Inflow				
Rate - Maximum - Positive	12.653		0.5430	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	27.902			5849.1
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	748.065			5849.1
Infiltration				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	748.065			0.0
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	748.065			0.0
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.

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Summary of Results :: Scenario 6 :: BASIN A MEAN ANNUAL STORM W/INFILTRATION

	Time (hours)	Stage (ft datum)	Rate (ft³/s)	Volume (ft³)
Stage				
Minimum	748.065	134.94		
Maximum	0.000	152.00		
Inflow				
Rate - Maximum - Positive	12.653		0.5430	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	27.902			5849.1
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	748.065			5849.1
Infiltration				
Rate - Maximum - Positive	12.653		0.5331	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	27.902			5849.1
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	748.065			5849.1
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	748.065			0.0
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.			N.A.
72 Hour Stage and Infiltration Volume	N.A.			N.A.

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Summary of Results :: Scenario 2 :: BASIN A 25YR24HR STORM W/INFILTRATION

	Time (hours)	Stage (ft datum)	Rate (ft³/s)	Volume (ft³)
Stage				
Minimum	748.065	136.32		
Maximum	0.000	152.00		
Inflow				
Rate - Maximum - Positive	12.978		4.2327	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	27.902			62271.4
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	748.065			62271.4
Infiltration				
Rate - Maximum - Positive	12.978		4.1539	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	27.902			62271.4
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	748.065			62271.4
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	748.065			0.0
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.			N.A.
72 Hour Stage and Infiltration Volume	N.A.			N.A.

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Summary of Results :: Scenario 3 :: BASIN A 100YR24HR STORM W/INFILTRATION

	Time (hours)	Stage (ft datum)	Rate (ft³/s)	Volume (ft³)
Stage				
Minimum	364.065	136.89		
Maximum	0.000	152.00		
Inflow				
Rate - Maximum - Positive	12.816		8.7149	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	27.902			109161.1
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	364.065			109161.1
Infiltration				
Rate - Maximum - Positive	12.816		8.5330	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	27.902			109161.1
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	364.065			109161.1
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	364.065			0.0
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.

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Detailed Results :: Scenario 3 :: BASIN A 100YR24HR STORM W/INFILTRATION

Elapsed Time	Instantaneous Inflow Rate	Outside Recharge	Stage Elevation	Infiltration Rate	Combined Instantaneous Discharge	Cumulative Inflow	Cumulative Infiltration	Combined Cumulative	
0.00	0.0000	0.00000	152.00000	0.00000	0	0.000	0.00000	0	N.A.
0.16	0.0000	0.00000	148.09200	0.00000	0	0.000	0.00000	0	S
0.32	0.0000	0.00000	146.43410	0.00002	0	0.000	0.00000	0	S
0.49	0.0001	0.00000	145.45700	0.00013	0	0.020	0.01988	0	S
0.65	0.0004	0.00000	144.76510	0.00053	0	0.154	0.15396	0	S
0.81	0.0013	0.00000	144.22970	0.00148	0	0.640	0.64000	0	S
0.97	0.0030	0.00000	143.79420	0.00320	0	1.882	1.88187	0	S
1.14	0.0056	0.00000	143.42830	0.00579	0	4.383	4.38326	0	S
1.30	0.0090	0.00000	143.11380	0.00915	0	8.640	8.64032	0	S
1.46	0.0130	0.00000	142.83920	0.01311	0	15.072	15.07214	0	S
1.62	0.0174	0.00000	142.59610	0.01735	0	23.954	23.95379	0	S
1.78	0.0216	0.00000	142.37880	0.02151	0	35.343	35.34262	0	S
1.95	0.0254	0.00000	142.18270	0.02530	0	49.080	49.08045	0	S
2.11	0.0287	0.00000	142.00450	0.02860	0	64.889	64.88876	0	S
2.27	0.0316	0.00000	141.84140	0.03150	0	82.488	82.48753	0	S
2.43	0.0342	0.00000	141.69130	0.03413	0	101.678	101.67750	0	S
2.60	0.0366	0.00000	141.55250	0.03660	0	122.350	122.35000	0	S
2.76	0.0390	0.00000	141.42370	0.03894	0	144.430	144.43020	0	S
2.92	0.0411	0.00000	141.30370	0.04110	0	167.827	167.82670	0	S
3.08	0.0431	0.00000	141.19140	0.04309	0	192.431	192.43130	0	S
3.24	0.0450	0.00000	141.08620	0.04499	0	218.157	218.15680	0	S
3.41	0.0469	0.00000	140.98720	0.04692	0	244.985	244.98530	0	S
3.57	0.0489	0.00000	140.89400	0.04887	0	272.959	272.95900	0	S
3.73	0.0508	0.00000	140.80600	0.05068	0	302.068	302.06840	0	S
3.89	0.0522	0.00000	140.72270	0.05210	0	332.152	332.15210	0	S
4.06	0.0531	0.00000	140.64360	0.05305	0	362.925	362.92500	0	S
4.22	0.0537	0.00000	140.56840	0.05368	0	394.120	394.11950	0	S
4.38	0.0542	0.00000	140.49660	0.05427	0	425.620	425.62040	0	S
4.54	0.0550	0.00000	140.42810	0.05511	0	457.503	457.50280	0	S
4.70	0.0563	0.00000	140.36260	0.05641	0	489.992	489.99180	0	S
4.87	0.0581	0.00000	140.30020	0.05821	0	523.384	523.38390	0	S
5.03	0.0604	0.00000	140.24070	0.06046	0	557.986	557.98630	0	S
5.19	0.0629	0.00000	140.18410	0.06286	0	594.001	594.00140	0	S
5.35	0.0652	0.00000	140.13000	0.06505	0	631.404	631.40440	0	S
5.52	0.0669	0.00000	140.07830	0.06682	0	669.981	669.98140	0	S
5.68	0.0682	0.00000	140.02870	0.06810	0	709.449	709.44890	0	S
5.84	0.0690	0.00000	139.98100	0.06896	0	749.527	749.52720	0	S
6.00	0.0696	0.00000	139.93520	0.06956	0	789.999	789.99860	0	S
6.16	0.0701	0.00000	139.89090	0.07012	0	830.773	830.77260	0	S
6.33	0.0708	0.00000	139.84820	0.07087	0	871.902	871.90190	0	S
6.49	0.0719	0.00000	139.80710	0.07196	0	913.553	913.55260	0	S
6.65	0.0733	0.00000	139.76750	0.07340	0	955.946	955.94630	0	S
6.81	0.0751	0.00000	139.72960	0.07515	0	999.281	999.28090	0	S
6.98	0.0771	0.00000	139.69310	0.07719	0	1043.727	1043.72700	0	S
7.14	0.0794	0.00000	139.65820	0.07943	0	1089.439	1089.43900	0	S
7.30	0.0818	0.00000	139.62480	0.08179	0	1136.503	1136.50300	0	S
7.46	0.0842	0.00000	139.59280	0.08424	0	1184.968	1184.96800	0	S
7.62	0.0868	0.00000	139.56220	0.08673	0	1234.891	1234.89100	0	S
7.79	0.0892	0.00000	139.53300	0.08917	0	1286.269	1286.26900	0	S
7.95	0.0915	0.00000	139.50500	0.09153	0	1339.044	1339.04400	0	S
8.11	0.0938	0.00000	139.47810	0.09385	0	1393.176	1393.17600	0	S
8.27	0.0962	0.00000	139.45240	0.09623	0	1448.666	1448.66600	0	S
8.44	0.0987	0.00000	139.42790	0.09879	0	1505.575	1505.57500	0	S
8.60	0.1016	0.00000	139.40440	0.10165	0	1564.056	1564.05600	0	S
8.76	0.1048	0.00000	139.38220	0.10486	0	1624.301	1624.30100	0	S
8.92	0.1084	0.00000	139.36110	0.10846	0	1686.528	1686.52800	0	S
9.08	0.1124	0.00000	139.34130	0.11238	0	1750.977	1750.97700	0	S
9.25	0.1164	0.00000	139.32270	0.11642	0	1817.786	1817.78600	0	S
9.41	0.1204	0.00000	139.30530	0.12042	0	1886.953	1886.95300	0	S
9.57	0.1244	0.00000	139.28900	0.12439	0	1958.433	1958.43300	0	S
9.73	0.1284	0.00000	139.27390	0.12848	0	2032.237	2032.23700	0	S
9.90	0.1328	0.00000	139.25980	0.13297	0	2108.495	2108.49500	0	S
10.06	0.1379	0.00000	139.24700	0.13820	0	2187.546	2187.54600	0	S
10.22	0.1441	0.00000	139.23550	0.14440	0	2269.908	2269.90800	0	S
10.38	0.1514	0.00000	139.22550	0.15180	0	2356.204	2356.20400	0	S
10.54	0.1602	0.00000	139.21730	0.16065	0	2447.205	2447.20500	0	S
10.71	0.1707	0.00000	139.21110	0.17116	0	2543.839	2543.83900	0	S
10.87	0.1830	0.00000	139.20730	0.18368	0	2647.119	2647.11900	0	S
11.03	0.1980	0.00000	139.20610	0.19890	0	2758.375	2758.37500	0	S
11.19	0.2166	0.00000	139.20820	0.21751	0	2879.437	2879.43700	0	S
11.36	0.2389	0.00000	139.21420	0.24106	0	3012.427	3012.42700	0	S
11.52	0.2699	0.00000	139.22530	0.28428	0	3160.989	3160.98900	0	S
11.68	0.3585	0.00000	139.24860	0.41674	0	3344.469	3344.46900	0	S
11.84	0.6802	0.00000	139.31570	0.81565	0	3647.747	3647.74700	0	S
12.00	1.5438	0.00000	139.50940	1.70314	0	4297.147	4297.14700	0	S

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Detailed Results (cont.d.) :: Scenario 3 :: BASIN A 100YR24HR STORM W/INFILTRATION

Elapsed Time	Instantaneous Inflow Rate	Outside Recharge	Stage Elevation	Infiltration Rate	Combined Instantaneous Discharge	Cumulative Inflow	Cumulative Infiltration	Combined Cumulative
12.17	3.0448	0.00000	139.94770	3.15552	0	5637.009	5637.00900	0 S
12.33	4.9888	0.00000	140.72120	4.95187	0	7982.798	7982.79800	0 S
12.49	6.7852	0.00000	141.81900	6.65379	0	11420.800	11420.80000	0 S
12.65	8.0560	0.00000	143.12560	7.90304	0	15754.430	15754.43000	0 S
12.82	8.7149	0.00000	144.49620	8.53295	0	20651.550	20651.55000	0 S
12.98	8.6459	0.00000	145.79050	8.50032	0	25720.920	25720.92000	0 S
13.14	7.9945	0.00000	146.89570	7.95243	0	30579.920	30579.92000	0 S
13.30	7.1748	0.00000	147.77190	7.17135	0	35009.360	35009.36000	0 S
13.46	6.3414	0.00000	148.43750	6.35323	0	38956.060	38956.06000	0 S
13.63	5.5554	0.00000	148.92440	5.59089	0	42429.920	42429.92000	0 S
13.79	4.9113	0.00000	149.27170	4.94668	0	45486.210	45486.21000	0 S
13.95	4.4087	0.00000	149.52000	4.43052	0	48207.650	48207.65000	0 S
14.11	3.9934	0.00000	149.69810	4.01129	0	50661.060	50661.06000	0 S
14.28	3.6497	0.00000	149.82390	3.66478	0	52892.840	52892.84000	0 S
14.44	3.3664	0.00000	149.91140	3.37572	0	54941.520	54941.52000	0 S
14.60	3.1205	0.00000	149.96970	3.12913	0	56835.680	56835.68000	0 S
14.76	2.9092	0.00000	150.00520	2.91634	0	58596.340	58596.34000	0 S
14.92	2.7265	0.00000	150.02310	2.73190	0	60241.970	60241.97000	0 S
15.09	2.5654	0.00000	150.02720	2.57119	0	61787.200	61787.20000	0 S
15.25	2.4275	0.00000	150.02070	2.43269	0	63245.120	63245.12000	0 S
15.41	2.3104	0.00000	150.00680	2.31456	0	64628.580	64628.58000	0 S
15.57	2.2100	0.00000	149.98790	2.21336	0	65948.530	65948.53000	0 S
15.74	2.1231	0.00000	149.96580	2.12554	0	67213.780	67213.78000	0 S
15.90	2.0460	0.00000	149.94160	2.04752	0	68431.160	68431.16000	0 S
16.06	1.9750	0.00000	149.91560	1.97585	0	69605.280	69605.28000	0 S
16.22	1.9074	0.00000	149.88800	1.90880	0	70738.950	70738.95000	0 S
16.38	1.8454	0.00000	149.85870	1.84690	0	71834.770	71834.77000	0 S
16.55	1.7894	0.00000	149.82840	1.79099	0	72896.130	72896.13000	0 S
16.71	1.7397	0.00000	149.79750	1.74179	0	73926.650	73926.65000	0 S
16.87	1.6982	0.00000	149.76700	1.69986	0	74930.540	74930.54000	0 S
17.03	1.6632	0.00000	149.73740	1.66446	0	75912.080	75912.08000	0 S
17.20	1.6332	0.00000	149.70950	1.63430	0	76874.630	76874.63000	0 S
17.36	1.6076	0.00000	149.68330	1.60815	0	77820.950	77820.95000	0 S
17.52	1.5842	0.00000	149.65900	1.58369	0	78752.950	78752.95000	0 S
17.68	1.5587	0.00000	149.63600	1.55736	0	79670.690	79670.69000	0 S
17.84	1.5278	0.00000	149.61320	1.52540	0	80571.950	80571.95000	0 S
18.01	1.4873	0.00000	149.58890	1.48632	0	81452.360	81452.36000	0 S
18.17	1.4429	0.00000	149.56180	1.44443	0	82307.980	82307.98000	0 S
18.33	1.4046	0.00000	149.53220	1.40793	0	83139.450	83139.45000	0 S
18.49	1.3796	0.00000	149.50220	1.38206	0	83952.440	83952.44000	0 S
18.66	1.3644	0.00000	149.47370	1.36514	0	84753.700	84753.70000	0 S
18.82	1.3521	0.00000	149.44750	1.35000	0	85546.930	85546.93000	0 S
18.98	1.3314	0.00000	149.42260	1.32936	0	86330.510	86330.51000	0 S
19.14	1.3026	0.00000	149.39700	1.30238	0	87099.630	87099.63000	0 S
19.30	1.2730	0.00000	149.36980	1.27512	0	87851.690	87851.69000	0 S
19.47	1.2519	0.00000	149.34200	1.25459	0	88588.970	88588.97000	0 S
19.63	1.2415	0.00000	149.31540	1.24369	0	89317.050	89317.05000	0 S
19.79	1.2398	0.00000	149.29150	1.24033	0	90041.600	90041.60000	0 S
19.95	1.2402	0.00000	149.27090	1.23910	0	90765.760	90765.76000	0 S
20.12	1.2362	0.00000	149.25290	1.23405	0	91488.870	91488.87000	0 S
20.28	1.2236	0.00000	149.23580	1.22097	0	92207.130	92207.13000	0 S
20.44	1.2004	0.00000	149.21780	1.19838	0	92914.950	92914.95000	0 S
20.60	1.1691	0.00000	149.19710	1.16866	0	93606.840	93606.84000	0 S
20.76	1.1361	0.00000	149.17310	1.13681	0	94279.950	94279.95000	0 S
20.93	1.1060	0.00000	149.14630	1.10726	0	94934.630	94934.63000	0 S
21.09	1.0810	0.00000	149.11770	1.08270	0	95573.230	95573.23000	0 S
21.25	1.0629	0.00000	149.08850	1.06439	0	96199.230	96199.23000	0 S
21.41	1.0508	0.00000	149.05980	1.05189	0	96816.430	96816.43000	0 S
21.58	1.0430	0.00000	149.03250	1.04370	0	97427.840	97427.84000	0 S
21.74	1.0379	0.00000	149.00680	1.03843	0	98035.480	98035.48000	0 S
21.90	1.0349	0.00000	148.98310	1.03523	0	98640.730	98640.73000	0 S
22.06	1.0333	0.00000	148.96130	1.03356	0	99244.630	99244.63000	0 S
22.22	1.0328	0.00000	148.94150	1.03302	0	99847.920	99847.92000	0 S
22.39	1.0332	0.00000	148.92360	1.03324	0	100451.200	100451.20000	0 S
22.55	1.0338	0.00000	148.90760	1.03340	0	101054.700	101054.70000	0 S
22.71	1.0328	0.00000	148.89310	1.03193	0	101658.200	101658.20000	0 S
22.87	1.0283	0.00000	148.87950	1.02697	0	102260.000	102260.00000	0 S
23.04	1.0185	0.00000	148.86580	1.01744	0	102857.700	102857.70000	0 S
23.20	1.0044	0.00000	148.85130	1.00388	0	103448.400	103448.40000	0 S
23.36	0.9881	0.00000	148.83540	0.98783	0	104030.200	104030.20000	0 S
23.52	0.9706	0.00000	148.81800	0.97025	0	104602.200	104602.20000	0 S
23.68	0.9516	0.00000	148.79890	0.95104	0	105163.500	105163.50000	0 S
23.85	0.9303	0.00000	148.77800	0.92901	0	105713.000	105713.00000	0 S
24.01	0.9038	0.00000	148.75450	0.90012	0	106248.600	106248.60000	0 S
24.17	0.8625	0.00000	148.72690	0.85665	0	106764.300	106764.30000	0 S

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Detailed Results (cont.d.) :: Scenario 3 :: BASIN A 100YR24HR STORM W/INFILTRATION

Elapsed Time	Instantaneous Inflow Rate	Outside Recharge	Stage Elevation	Infiltration Rate	Combined Instantaneous Discharge	Cumulative Inflow	Cumulative Infiltration	Combined Cumulative	
24.33	0.7977	0.00000	148.69150	0.78882	0	107249.100	107249.10000	0	S
24.50	0.6973	0.00000	148.64350	0.69110	0	107685.700	107685.70000	0	S
24.66	0.5721	0.00000	148.57800	0.57168	0	108056.300	108056.30000	0	S
24.82	0.4453	0.00000	148.49420	0.44841	0	108353.400	108353.40000	0	S
24.98	0.3310	0.00000	148.39480	0.33605	0	108580.100	108580.10000	0	S
25.14	0.2369	0.00000	148.28400	0.24352	0	108745.900	108745.90000	0	S
25.31	0.1693	0.00000	148.16680	0.17438	0	108864.500	108864.50000	0	S
25.47	0.1221	0.00000	148.04760	0.12537	0	108949.600	108949.60000	0	S
25.63	0.0881	0.00000	147.92910	0.09032	0	109010.900	109010.90000	0	S
25.79	0.0631	0.00000	147.81260	0.06486	0	109055.100	109055.10000	0	S
25.96	0.0452	0.00000	147.69900	0.04645	0	109086.700	109086.70000	0	S
26.12	0.0323	0.00000	147.58880	0.03319	0	109109.300	109109.30000	0	S
26.28	0.0230	0.00000	147.48200	0.02363	0	109125.500	109125.50000	0	S
26.44	0.0163	0.00000	147.37880	0.01677	0	109136.900	109136.90000	0	S
26.60	0.0115	0.00000	147.27910	0.01182	0	109145.100	109145.10000	0	S
26.77	0.0080	0.00000	147.18280	0.00824	0	109150.700	109150.70000	0	S
26.93	0.0055	0.00000	147.08960	0.00564	0	109154.700	109154.70000	0	S
27.09	0.0037	0.00000	146.99940	0.00378	0	109157.300	109157.30000	0	S
27.25	0.0023	0.00000	146.91210	0.00242	0	109159.100	109159.10000	0	S
27.42	0.0013	0.00000	146.82750	0.00142	0	109160.200	109160.20000	0	S
27.58	0.0007	0.00000	146.74540	0.00072	0	109160.800	109160.80000	0	S
27.74	0.0002	0.00000	146.66560	0.00027	0	109161.000	109161.00000	0	S
27.90	0.0000	0.00000	146.58820	0.00005	0	109161.100	109161.10000	0	S
28.06	0.0000	0.00000	146.51280	0.00000	0	109161.100	109161.10000	0	S
40.06	0.0000	0.00000	143.97290	0.00000	0	109161.100	109161.10000	0	S
52.06	0.0000	0.00000	142.49490	0.00000	0	109161.100	109161.10000	0	S
64.06	0.0000	0.00000	141.51380	0.00000	0	109161.100	109161.10000	0	S
76.06	0.0000	0.00000	140.80670	0.00000	0	109161.100	109161.10000	0	S
88.06	0.0000	0.00000	140.26730	0.00000	0	109161.100	109161.10000	0	S
100.06	0.0000	0.00000	139.83840	0.00000	0	109161.100	109161.10000	0	S
112.06	0.0000	0.00000	139.48660	0.00000	0	109161.100	109161.10000	0	S
124.06	0.0000	0.00000	139.19110	0.00000	0	109161.100	109161.10000	0	S
136.06	0.0000	0.00000	138.93800	0.00000	0	109161.100	109161.10000	0	S
148.06	0.0000	0.00000	138.71780	0.00000	0	109161.100	109161.10000	0	S
160.06	0.0000	0.00000	138.52390	0.00000	0	109161.100	109161.10000	0	S
172.06	0.0000	0.00000	138.35130	0.00000	0	109161.100	109161.10000	0	S
184.06	0.0000	0.00000	138.19620	0.00000	0	109161.100	109161.10000	0	S
196.06	0.0000	0.00000	138.05590	0.00000	0	109161.100	109161.10000	0	S
208.06	0.0000	0.00000	137.92800	0.00000	0	109161.100	109161.10000	0	S
220.06	0.0000	0.00000	137.81090	0.00000	0	109161.100	109161.10000	0	S
232.06	0.0000	0.00000	137.70290	0.00000	0	109161.100	109161.10000	0	S
244.06	0.0000	0.00000	137.60300	0.00000	0	109161.100	109161.10000	0	S
256.06	0.0000	0.00000	137.51020	0.00000	0	109161.100	109161.10000	0	S
268.06	0.0000	0.00000	137.42350	0.00000	0	109161.100	109161.10000	0	S
280.06	0.0000	0.00000	137.34250	0.00000	0	109161.100	109161.10000	0	S
292.06	0.0000	0.00000	137.26630	0.00000	0	109161.100	109161.10000	0	S
304.06	0.0000	0.00000	137.19470	0.00000	0	109161.100	109161.10000	0	S
316.06	0.0000	0.00000	137.12700	0.00000	0	109161.100	109161.10000	0	S
328.06	0.0000	0.00000	137.06300	0.00000	0	109161.100	109161.10000	0	S
340.06	0.0000	0.00000	137.00220	0.00000	0	109161.100	109161.10000	0	S
352.06	0.0000	0.00000	136.94450	0.00000	0	109161.100	109161.10000	0	S
364.06	0.0000	0.00000	136.88960	----	----	109161.100	109161.10000	0	N.A.

POND B

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Project Data

Project Name: CLERMONT COMMERCE CENTER
Simulation Description: MEAN ANNUAL WITHOUT INFILTRATION
MEAN ANNUAL WITH INFILTRATION
25YR-24HR
100YR-24HR W/ 14 DAY RECOVERY
72 HOUR DRAWDOWN
Project Number: 2600-17-300
Engineer : ERIC LAGASSEY
Supervising Engineer: CHAD LINN
Date: 10-09-2018

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum): 133.00
Water Table Elevation, [WT] (ft datum): 133.10
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day): 30.00
Fillable Porosity, [n] (%): 25.00

Vertical infiltration was not considered.

Geometry Data

Equivalent Pond Length, [L] (ft): 572.0
Equivalent Pond Width, [W] (ft): 26.0
Ground water mound is expected to intersect the pond bottom

Stage vs Area Data

Stage (ft datum)	Area (ft ²)
143.00	3713.0
144.00	4562.0
145.00	5527.0
146.00	6583.0
147.00	7741.0
148.00	8989.0
149.00	10374.0
150.00	11763.0
151.00	13227.0
152.00	14957.0
153.00	16705.0
154.00	18563.0
155.00	20599.0
156.00	23869.0
157.00	27356.0

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Stage vs Area Data (cont'd.)

Stage (ft datum)	Area (ft²)
158.00	30960.0
159.00	34536.0

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Scenario Input Data

Scenario 2 :: 25YR24HR STORM W/INFILTRATION

Hydrograph Type: Inline SCS
Modflow Routing: Routed with infiltration
Repetitions: 1

Basin Area (acres) 17.582
Time Of Concentration (minutes) 35.0
DCIA (%) 1.9
Curve Number 69
Design Rainfall Depth (inches) 8.6
Design Rainfall Duration (hours) 24.0
Shape Factor UHG 484
Rainfall Distribution SCS Type II Florida Modified

Initial ground water level (ft datum) 133.10 (default)

Time After	
Storm Event	
(days)	

30.000	

Scenario 3 :: 100YR24HR STORM W/INFILTRATION

Hydrograph Type: Inline SCS
Modflow Routing: Routed with infiltration
Repetitions: 1

Basin Area (acres) 17.582
Time Of Concentration (minutes) 35.0
DCIA (%) 1.9
Curve Number 69
Design Rainfall Depth (inches) 10.6
Design Rainfall Duration (hours) 24.0
Shape Factor UHG 484
Rainfall Distribution SCS Type II Florida Modified

Initial ground water level (ft datum) 133.10 (default)

| Time After
Storm Event
(days) |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| 0.500 | 3.500 | 6.500 | 9.500 | 12.500 |
| 1.000 | 4.000 | 7.000 | 10.000 | 13.000 |
| 1.500 | 4.500 | 7.500 | 10.500 | 13.500 |
| 2.000 | 5.000 | 8.000 | 11.000 | 14.000 |
| 2.500 | 5.500 | 8.500 | 11.500 | |
| 3.000 | 6.000 | 9.000 | 12.000 | |

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Scenario Input Data (cont'd.)

Scenario 6 :: MEAN ANNUAL STORM W/INFILTRATION

Hydrograph Type: Inline SCS
Modflow Routing: Routed with infiltration
Repetitions: 1

Basin Area (acres) 17.582
Time Of Concentration (minutes) 35.0
DCIA (%) 1.9
Curve Number 69
Design Rainfall Depth (inches) 4.2
Design Rainfall Duration (hours) 24.0
Shape Factor UHG 484
Rainfall Distribution SCS Type II Florida Modified

Initial ground water level (ft datum) 133.10 (default)

Time After
Storm Event
(days)

30.000

Scenario 7 :: MEAN ANNUAL STORM WITHOUT INFILTRATION

Hydrograph Type: Inline SCS
• **Modflow Routing:** **Routed without infiltration**
Repetitions: 1

Basin Area (acres) 17.582
Time Of Concentration (minutes) 35.0
DCIA (%) 1.9
Curve Number 69
Design Rainfall Depth (inches) 4.2
Design Rainfall Duration (hours) 24.0
Shape Factor UHG 484
Rainfall Distribution SCS Type II Florida Modified

Initial ground water level (ft datum) 133.10 (default)

Time After
Storm Event
(days)

30.000

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Summary of Results :: Scenario 7 :: MEAN ANNUAL STORM WITHOUT INFILTRATION

	Time (hours)	Stage (ft datum)	Rate (ft³/s)	Volume (ft³)
Stage				
Minimum	0.000	143.00		
Maximum	25.744	152.91		
Inflow				
Rate - Maximum - Positive	12.211		12.8449	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	25.900			92406.2
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	745.978			92406.2
Infiltration				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	745.978			0.0
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	745.978			0.0
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.			N.A.
72 Hour Stage and Infiltration Volume	N.A.			N.A.

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Summary of Results :: Scenario 6 :: MEAN ANNUAL STORM W/INFILTRATION

	Time (hours)	Stage (ft datum)	Rate (ft³/s)	Volume (ft³)
Stage				
Minimum	745.978	136.33		
Maximum	13.922	145.02		
Inflow				
Rate - Maximum - Positive	12.211		12.8449	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	25.900			92406.2
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	745.978			92406.2
Infiltration				
Rate - Maximum - Positive	12.289		12.6597	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	745.978			92406.2
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	745.978			92406.2
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	745.978			0.0
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.			N.A.
72 Hour Stage and Infiltration Volume	N.A.			N.A.

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Summary of Results :: Scenario 2 :: 25YR24HR STORM W/INFILTRATION

	Time (hours)	Stage (ft datum)	Rate (ft³/s)	Volume (ft³)
Stage				
Minimum	7.700	137.74		
Maximum	14.622	154.47		
Inflow				
Rate - Maximum - Positive	12.211		47.5730	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	25.900			314819.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	745.978			314819.0
Infiltration				
Rate - Maximum - Positive	11.744		10.4561	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	745.978			314819.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	745.978			314819.0
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	745.978			0.0
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.

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Summary of Results :: Scenario 3 :: 100YR24HR STORM W/INFILTRATION

	Time (hours)	Stage (ft datum)	Rate (ft³/s)	Volume (ft³)
Stage				
Minimum	6.767	137.91		
Maximum	15.011	157.29		
Inflow				
Rate - Maximum - Positive	12.211		64.8177	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	25.900			427913.7
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	361.978			427913.7
Infiltration				
Rate - Maximum - Positive	12.367		11.8088	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	169.978			427913.7
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	361.978			427913.7
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	361.978			0.0
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.

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Detailed Results :: Scenario 3 :: 100YR24HR STORM W/INFILTRATION

Elapsed Time	Instantaneous Inflow Rate	Outside Recharge	Stage Elevation	Infiltration Rate	Combined Instantaneous Discharge	Cumulative Inflow	Cumulative Infiltration	Combined Cumulative	
0.00	0.0000	0.00000	143.00000	0.00000	0	0.000	0.00000	0	N.A.
0.08	0.0000	0.00000	142.33130	0.00000	0	0.000	0.00000	0	S
0.16	0.0000	0.00000	141.82160	0.00000	0	0.000	0.00000	0	S
0.23	0.0000	0.00000	141.46930	0.00000	0	0.000	0.00000	0	S
0.31	0.0000	0.00000	141.20180	0.00001	0	0.000	0.00000	0	S
0.39	0.0000	0.00000	140.98660	0.00005	0	0.003	0.00292	0	S
0.47	0.0001	0.00000	140.80530	0.00020	0	0.025	0.02535	0	S
0.54	0.0005	0.00000	140.64730	0.00059	0	0.114	0.11364	0	S
0.62	0.0012	0.00000	140.50700	0.00134	0	0.355	0.35462	0	S
0.70	0.0024	0.00000	140.38090	0.00252	0	0.866	0.86557	0	S
0.78	0.0040	0.00000	140.26650	0.00409	0	1.767	1.76687	0	S
0.86	0.0059	0.00000	140.16180	0.00596	0	3.158	3.15836	0	S
0.93	0.0080	0.00000	140.06510	0.00801	0	5.107	5.10668	0	S
1.01	0.0101	0.00000	139.97530	0.01012	0	7.642	7.64180	0	S
1.09	0.0122	0.00000	139.89160	0.01226	0	10.772	10.77199	0	S
1.17	0.0144	0.00000	139.81310	0.01445	0	14.505	14.50541	0	S
1.24	0.0167	0.00000	139.73950	0.01672	0	18.863	18.86296	0	S
1.32	0.0191	0.00000	139.67010	0.01904	0	23.869	23.86882	0	S
1.40	0.0214	0.00000	139.60440	0.02133	0	29.527	29.52670	0	S
1.48	0.0236	0.00000	139.54230	0.02350	0	35.814	35.81443	0	S
1.56	0.0255	0.00000	139.48310	0.02547	0	42.687	42.68734	0	S
1.63	0.0272	0.00000	139.42680	0.02714	0	50.075	50.07528	0	S
1.71	0.0286	0.00000	139.37310	0.02848	0	57.887	57.88689	0	S
1.79	0.0296	0.00000	139.32170	0.02951	0	66.026	66.02599	0	S
1.87	0.0303	0.00000	139.27250	0.03029	0	74.412	74.41170	0	S
1.94	0.0309	0.00000	139.22530	0.03093	0	82.990	82.99014	0	S
2.02	0.0315	0.00000	139.17980	0.03154	0	91.735	91.73502	0	S
2.10	0.0322	0.00000	139.13610	0.03220	0	100.650	100.65020	0	S
2.18	0.0330	0.00000	139.09400	0.03302	0	109.769	109.76880	0	S
2.26	0.0340	0.00000	139.05340	0.03399	0	119.140	119.13970	0	S
2.33	0.0351	0.00000	139.01420	0.03506	0	128.804	128.80360	0	S
2.41	0.0362	0.00000	138.97640	0.03614	0	138.775	138.77480	0	S
2.49	0.0372	0.00000	138.93980	0.03716	0	149.043	149.04310	0	S
2.57	0.0381	0.00000	138.90440	0.03806	0	159.582	159.58200	0	S
2.64	0.0389	0.00000	138.87010	0.03884	0	170.356	170.35570	0	S
2.72	0.0395	0.00000	138.83690	0.03950	0	181.330	181.32990	0	S
2.80	0.0401	0.00000	138.80470	0.04009	0	192.478	192.47840	0	S
2.88	0.0406	0.00000	138.77340	0.04061	0	203.781	203.78090	0	S
2.96	0.0411	0.00000	138.74300	0.04109	0	215.221	215.22070	0	S
3.03	0.0415	0.00000	138.71340	0.04157	0	226.790	226.78980	0	S
3.11	0.0421	0.00000	138.68460	0.04216	0	238.502	238.50160	0	S
3.19	0.0429	0.00000	138.65660	0.04296	0	250.402	250.40150	0	S
3.27	0.0439	0.00000	138.62940	0.04399	0	262.559	262.55880	0	S
3.34	0.0452	0.00000	138.60290	0.04516	0	275.034	275.03380	0	S
3.42	0.0464	0.00000	138.57710	0.04634	0	287.848	287.84800	0	S
3.50	0.0475	0.00000	138.55200	0.04741	0	300.986	300.98620	0	S
3.58	0.0483	0.00000	138.52760	0.04821	0	314.395	314.39530	0	S
3.66	0.0487	0.00000	138.50380	0.04862	0	327.982	327.98230	0	S
3.73	0.0487	0.00000	138.48050	0.04861	0	341.625	341.62460	0	S
3.81	0.0483	0.00000	138.45760	0.04825	0	355.203	355.20330	0	S
3.89	0.0477	0.00000	138.43530	0.04772	0	368.644	368.64420	0	S
3.97	0.0471	0.00000	138.41340	0.04717	0	381.924	381.92410	0	S
4.04	0.0467	0.00000	138.39190	0.04678	0	395.062	395.06150	0	S
4.12	0.0466	0.00000	138.37080	0.04668	0	408.120	408.12000	0	S
4.20	0.0469	0.00000	138.35020	0.04696	0	421.202	421.20160	0	S
4.28	0.0475	0.00000	138.33000	0.04760	0	434.419	434.41880	0	S
4.36	0.0485	0.00000	138.31030	0.04847	0	447.860	447.85950	0	S
4.43	0.0494	0.00000	138.29100	0.04941	0	461.563	461.56340	0	S
4.51	0.0503	0.00000	138.27210	0.05032	0	475.528	475.52770	0	S
4.59	0.0512	0.00000	138.25370	0.05123	0	489.740	489.74010	0	S
4.67	0.0522	0.00000	138.23560	0.05230	0	504.216	504.21620	0	S
4.74	0.0536	0.00000	138.21800	0.05366	0	519.026	519.02610	0	S
4.82	0.0553	0.00000	138.20080	0.05528	0	534.266	534.26570	0	S
4.90	0.0570	0.00000	138.18400	0.05697	0	549.985	549.98470	0	S
4.98	0.0586	0.00000	138.16760	0.05853	0	566.169	566.16920	0	S
5.06	0.0599	0.00000	138.15150	0.05980	0	582.759	582.75930	0	S
5.13	0.0608	0.00000	138.13580	0.06068	0	599.655	599.65530	0	S
5.21	0.0612	0.00000	138.12050	0.06117	0	616.739	616.73900	0	S
5.29	0.0614	0.00000	138.10530	0.06136	0	633.910	633.90970	0	S
5.37	0.0614	0.00000	138.09050	0.06137	0	651.101	651.10130	0	S
5.44	0.0613	0.00000	138.07590	0.06130	0	668.279	668.27940	0	S
5.52	0.0612	0.00000	138.06140	0.06122	0	685.432	685.43190	0	S
5.60	0.0612	0.00000	138.04730	0.06117	0	702.564	702.56390	0	S
5.68	0.0611	0.00000	138.03330	0.06116	0	719.687	719.68710	0	S
5.76	0.0612	0.00000	138.01960	0.06120	0	736.811	736.81110	0	S

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Detailed Results (cont.d.) :: Scenario 3 :: 100YR24HR STORM W/INFILTRATION

Elapsed Time	Instantaneous Inflow Rate	Outside Recharge	Stage Elevation	Infiltration Rate	Combined Instantaneous Discharge	Cumulative Inflow	Cumulative Infiltration	Combined Cumulative
5.83	0.0613	0.00000	138.00610	0.06148	0	753.960	753.96000	0 S
5.91	0.0621	0.00000	137.99280	0.06246	0	771.239	771.23920	0 S
5.99	0.0643	0.00000	137.97980	0.06499	0	788.937	788.93740	0 S
6.07	0.0692	0.00000	137.96730	0.07011	0	807.632	807.63170	0 S
6.14	0.0777	0.00000	137.95540	0.07870	0	828.197	828.19680	0 S
6.22	0.0902	0.00000	137.94440	0.09118	0	851.703	851.70330	0 S
6.30	0.1066	0.00000	137.93440	0.10734	0	879.257	879.25700	0 S
6.38	0.1259	0.00000	137.92580	0.12645	0	911.812	911.81230	0 S
6.46	0.1473	0.00000	137.91860	0.14767	0	950.069	950.06870	0 S
6.53	0.1701	0.00000	137.91300	0.17046	0	994.509	994.50930	0 S
6.61	0.1943	0.00000	137.90890	0.19474	0	1045.528	1045.52800	0 S
6.69	0.2202	0.00000	137.90640	0.22077	0	1103.564	1103.56400	0 S
6.77	0.2483	0.00000	137.90560	0.24869	0	1169.159	1169.15900	0 S
6.84	0.2780	0.00000	137.90660	0.27814	0	1242.832	1242.83200	0 S
6.92	0.3084	0.00000	137.90950	0.30842	0	1324.920	1324.92000	0 S
7.00	0.3390	0.00000	137.91420	0.33903	0	1415.548	1415.54800	0 S
7.08	0.3698	0.00000	137.92070	0.37002	0	1514.775	1514.77500	0 S
7.16	0.4015	0.00000	137.92900	0.40204	0	1622.761	1622.76100	0 S
7.23	0.4353	0.00000	137.93910	0.43584	0	1739.919	1739.91900	0 S
7.31	0.4712	0.00000	137.95130	0.47143	0	1866.831	1866.83100	0 S
7.39	0.5080	0.00000	137.96550	0.50798	0	2003.918	2003.91800	0 S
7.47	0.5447	0.00000	137.98170	0.54459	0	2151.297	2151.29700	0 S
7.54	0.5809	0.00000	137.99980	0.58082	0	2308.890	2308.89000	0 S
7.62	0.6167	0.00000	138.01990	0.61678	0	2476.556	2476.55600	0 S
7.70	0.6528	0.00000	138.04180	0.65312	0	2654.288	2654.28800	0 S
7.78	0.6901	0.00000	138.06560	0.69033	0	2842.305	2842.30500	0 S
7.86	0.7282	0.00000	138.09130	0.72814	0	3040.871	3040.87100	0 S
7.93	0.7660	0.00000	138.11890	0.76596	0	3250.062	3250.06200	0 S
8.01	0.8036	0.00000	138.14840	0.80381	0	3469.807	3469.80700	0 S
8.09	0.8421	0.00000	138.17970	0.84281	0	3700.195	3700.19500	0 S
8.17	0.8835	0.00000	138.21300	0.88478	0	3941.780	3941.78000	0 S
8.24	0.9300	0.00000	138.24840	0.93091	0	4195.673	4195.67300	0 S
8.32	0.9801	0.00000	138.28630	0.98036	0	4463.090	4463.09000	0 S
8.40	1.0312	0.00000	138.32670	1.03088	0	4744.673	4744.67300	0 S
8.48	1.0810	0.00000	138.36960	1.08095	0	5040.381	5040.38100	0 S
8.56	1.1306	0.00000	138.41480	1.13113	0	5350.007	5350.00700	0 S
8.63	1.1823	0.00000	138.46240	1.18409	0	5673.816	5673.81600	0 S
8.71	1.2411	0.00000	138.51260	1.24302	0	6013.100	6013.10000	0 S
8.79	1.3075	0.00000	138.56590	1.30832	0	6369.905	6369.90500	0 S
8.87	1.3772	0.00000	138.62260	1.37697	0	6745.757	6745.75700	0 S
8.94	1.4460	0.00000	138.68270	1.44528	0	7141.006	7141.00600	0 S
9.02	1.5119	0.00000	138.74580	1.51105	0	7555.115	7555.11500	0 S
9.10	1.5744	0.00000	138.81180	1.57416	0	7987.192	7987.19200	0 S
9.18	1.6360	0.00000	138.88050	1.63656	0	8436.646	8436.64600	0 S
9.26	1.6999	0.00000	138.95180	1.70025	0	8903.665	8903.66500	0 S
9.33	1.7653	0.00000	139.02580	1.76503	0	9388.783	9388.78300	0 S
9.41	1.8297	0.00000	139.10250	1.82907	0	9892.084	9892.08400	0 S
9.49	1.8915	0.00000	139.18170	1.89181	0	10413.060	10413.06000	0 S
9.57	1.9544	0.00000	139.26340	1.95621	0	10951.500	10951.50000	0 S
9.64	2.0244	0.00000	139.34760	2.02857	0	11508.540	11508.54000	0 S
9.72	2.1110	0.00000	139.43530	2.11496	0	12087.500	12087.50000	0 S
9.80	2.2135	0.00000	139.52730	2.21515	0	12692.920	12692.92000	0 S
9.88	2.3227	0.00000	139.62430	2.32217	0	13327.980	13327.98000	0 S
9.96	2.4299	0.00000	139.72630	2.42899	0	13993.330	13993.33000	0 S
10.03	2.5335	0.00000	139.83280	2.53447	0	14688.210	14688.21000	0 S
10.11	2.6409	0.00000	139.94380	2.64565	0	15412.630	15412.63000	0 S
10.19	2.7672	0.00000	140.05990	2.77497	0	16169.770	16169.77000	0 S
10.27	2.9245	0.00000	140.18260	2.92980	0	16966.620	16966.62000	0 S
10.34	3.1029	0.00000	140.31340	3.10354	0	17810.460	17810.46000	0 S
10.42	3.2838	0.00000	140.45280	3.28124	0	18704.600	18704.60000	0 S
10.50	3.4545	0.00000	140.60010	3.45445	0	19647.960	19647.96000	0 S
10.58	3.6250	0.00000	140.75470	3.63016	0	20639.090	20639.09000	0 S
10.66	3.8161	0.00000	140.91700	3.83038	0	21680.850	21680.85000	0 S
10.73	4.0643	0.00000	141.08940	4.07815	0	22784.100	22784.10000	0 S
10.81	4.3679	0.00000	141.27510	4.37306	0	23964.610	23964.61000	0 S
10.89	4.6922	0.00000	141.47620	4.68968	0	25233.020	25233.02000	0 S
10.97	5.0065	0.00000	141.69200	5.00731	0	26590.830	26590.83000	0 S
11.04	5.3241	0.00000	141.92190	5.33380	0	28037.110	28037.11000	0 S
11.12	5.6806	0.00000	142.16660	5.70794	0	29577.760	29577.76000	0 S
11.20	6.1466	0.00000	142.43030	6.17739	0	31233.560	31233.56000	0 S
11.28	6.7359	0.00000	142.71980	6.48790	0	33037.100	33037.10000	0 S
11.36	7.3859	0.00000	143.03950	4.78292	0	35014.150	34866.79000	0 S
11.43	8.0262	0.00000	143.37610	3.13589	0	37171.840	35715.53000	0 S
11.51	8.7705	0.00000	143.72160	3.37179	0	39523.390	36622.88000	0 S
11.59	10.4682	0.00000	144.10310	3.71931	0	42216.810	37603.73000	0 S

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Detailed Results (cont.d.) :: Scenario 3 :: 100YR24HR STORM W/INFILTRATION

Elapsed Time	Instantaneous Inflow Rate	Outside Recharge	Stage Elevation	Infiltration Rate	Combined Instantaneous Discharge	Cumulative Inflow	Cumulative Infiltration	Combined Cumulative
11.67	14.2007	0.00000	144.58370	4.30545	0	45670.450	38705.69000	0 S
11.74	21.0063	0.00000	145.24790	5.21387	0	50599.430	40014.79000	0 S
11.82	30.2468	0.00000	146.13690	6.39656	0	57774.880	41625.46000	0 S
11.90	40.4164	0.00000	147.21230	7.70478	0	67667.720	43596.86000	0 S
11.98	50.3565	0.00000	148.39640	8.97894	0	80375.910	45940.14000	0 S
12.06	58.6469	0.00000	149.60820	10.09849	0	95636.390	48625.07000	0 S
12.13	63.7683	0.00000	150.78350	10.96817	0	112774.500	51595.29000	0 S
12.21	64.8177	0.00000	151.85900	11.52293	0	130776.600	54767.24000	0 S
12.29	62.2333	0.00000	152.79320	11.77907	0	148563.700	58048.13000	0 S
12.37	57.6012	0.00000	153.58250	11.80879	0	165340.500	61363.52000	0 S
12.44	52.3617	0.00000	154.23970	11.68910	0	180735.300	64661.06000	0 S
12.52	47.4444	0.00000	154.78670	11.48590	0	194708.200	67909.41000	0 S
12.60	43.2517	0.00000	155.24600	11.23438	0	207405.600	71093.16000	0 S
12.68	39.3779	0.00000	155.63000	10.94858	0	218973.800	74200.67000	0 S
12.76	35.1359	0.00000	155.94960	10.63411	0	229405.700	77224.37000	0 S
12.83	30.5992	0.00000	156.20930	10.29325	0	238608.600	80155.77000	0 S
12.91	26.2972	0.00000	156.41490	9.93872	0	246574.100	82988.59000	0 S
12.99	22.5577	0.00000	156.57540	9.58730	0	253413.800	85721.45000	0 S
13.07	19.5429	0.00000	156.70030	9.25308	0	259307.900	88357.48000	0 S
13.14	17.3036	0.00000	156.79890	8.94443	0	264466.400	90903.18000	0 S
13.22	15.5465	0.00000	156.87860	8.66187	0	269065.500	93366.35000	0 S
13.30	14.0629	0.00000	156.94360	8.40182	0	273210.800	95753.83000	0 S
13.38	12.8042	0.00000	156.99660	8.16155	0	276972.200	98071.37000	0 S
13.46	11.7814	0.00000	157.04000	7.93998	0	280414.200	100324.30000	0 S
13.53	10.9719	0.00000	157.07600	7.73646	0	283599.600	102517.80000	0 S
13.61	10.3419	0.00000	157.10650	7.54979	0	286583.500	104656.70000	0 S
13.69	9.8251	0.00000	157.13290	7.37782	0	289406.900	106745.60000	0 S
13.77	9.3539	0.00000	157.15600	7.21801	0	292092.000	108788.30000	0 S
13.84	8.9211	0.00000	157.17590	7.06856	0	294650.500	110787.70000	0 S
13.92	8.5519	0.00000	157.19330	6.92873	0	297096.700	112746.70000	0 S
14.00	8.2465	0.00000	157.20870	6.79799	0	299448.500	114667.80000	0 S
14.08	7.9859	0.00000	157.22240	6.67552	0	301721.000	116553.60000	0 S
14.16	7.7483	0.00000	157.23490	6.56005	0	303923.800	118406.10000	0 S
14.23	7.4944	0.00000	157.24590	6.45006	0	306057.800	120227.20000	0 S
14.31	7.2270	0.00000	157.25550	6.34455	0	308118.800	122018.10000	0 S
14.39	6.9755	0.00000	157.26350	6.24342	0	310107.100	123780.10000	0 S
14.47	6.7603	0.00000	157.27020	6.14692	0	312030.200	125514.50000	0 S
14.54	6.5777	0.00000	157.27580	6.05513	0	313897.500	127222.40000	0 S
14.62	6.4207	0.00000	157.28060	5.96768	0	315717.300	128905.30000	0 S
14.70	6.2584	0.00000	157.28470	5.88375	0	317492.300	130564.30000	0 S
14.78	6.0773	0.00000	157.28790	5.80253	0	319219.300	132200.20000	0 S
14.86	5.8923	0.00000	157.29010	5.72376	0	320895.100	133813.70000	0 S
14.93	5.7238	0.00000	157.29130	5.64764	0	322521.300	135405.50000	0 S
15.01	5.5810	0.00000	157.29170	5.57453	0	324104.000	136976.40000	0 S
15.09	5.4672	0.00000	157.29160	5.50463	0	325650.800	138527.30000	0 S
15.17	5.3744	0.00000	157.29110	5.43787	0	327168.600	140059.00000	0 S
15.24	5.2877	0.00000	157.29040	5.37392	0	328661.300	141572.50000	0 S
15.32	5.2044	0.00000	157.28940	5.31249	0	330130.200	143068.40000	0 S
15.40	5.1301	0.00000	157.28830	5.25348	0	331577.000	144547.50000	0 S
15.48	5.0680	0.00000	157.28700	5.19686	0	333004.800	146010.30000	0 S
15.56	5.0129	0.00000	157.28580	5.14244	0	334416.100	147457.70000	0 S
15.63	4.9552	0.00000	157.28450	5.08977	0	335811.600	148890.10000	0 S
15.71	4.8787	0.00000	157.28300	5.03825	0	337188.300	150308.00000	0 S
15.79	4.7803	0.00000	157.28120	4.98741	0	338540.600	151711.50000	0 S
15.87	4.6735	0.00000	157.27890	4.93718	0	339864.100	153100.90000	0 S
15.94	4.5729	0.00000	157.27600	4.88783	0	341158.600	154476.30000	0 S
16.02	4.4860	0.00000	157.27280	4.83965	0	342426.900	155838.10000	0 S
16.10	4.4142	0.00000	157.26910	4.79282	0	343672.900	157186.50000	0 S
16.18	4.3504	0.00000	157.26530	4.74729	0	344900.000	158522.10000	0 S
16.26	4.2839	0.00000	157.26130	4.70284	0	346108.800	159845.00000	0 S
16.33	4.2150	0.00000	157.25700	4.65935	0	347298.600	161155.70000	0 S
16.41	4.1509	0.00000	157.25250	4.61688	0	348469.800	162454.30000	0 S
16.49	4.0958	0.00000	157.24780	4.57559	0	349624.400	163741.10000	0 S
16.57	4.0505	0.00000	157.24300	4.53559	0	350764.900	165016.60000	0 S
16.64	4.0142	0.00000	157.23820	4.49690	0	351893.900	166281.10000	0 S
16.72	3.9807	0.00000	157.23350	4.45943	0	353013.200	167534.90000	0 S
16.80	3.9470	0.00000	157.22870	4.42306	0	354123.100	168778.30000	0 S
16.88	3.9148	0.00000	157.22400	4.38773	0	355223.800	170011.80000	0 S
16.96	3.8867	0.00000	157.21930	4.35346	0	356316.000	171235.50000	0 S
17.03	3.8623	0.00000	157.21470	4.32022	0	357400.800	172449.70000	0 S
17.11	3.8397	0.00000	157.21020	4.28793	0	358479.100	173654.80000	0 S
17.19	3.8147	0.00000	157.20580	4.25644	0	359550.700	174851.00000	0 S
17.27	3.7850	0.00000	157.20140	4.22560	0	360614.700	176038.40000	0 S
17.34	3.7535	0.00000	157.19700	4.19538	0	361670.100	177217.30000	0 S
17.42	3.7240	0.00000	157.19260	4.16580	0	362716.900	178387.80000	0 S

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Detailed Results (cont.d.) :: Scenario 3 :: 100YR24HR STORM W/INFILTRATION

Elapsed Time	Instantaneous Inflow Rate	Outside Recharge	Stage Elevation	Infiltration Rate	Combined Instantaneous Discharge	Cumulative Inflow	Cumulative Infiltration	Combined Cumulative
17.50	3.6984	0.00000	157.18820	4.13687	0	363756.100	179550.10000	0 S
17.58	3.6683	0.00000	157.18380	4.10838	0	364787.400	180704.50000	0 S
17.66	3.6226	0.00000	157.17930	4.07987	0	365808.100	181850.80000	0 S
17.73	3.5468	0.00000	157.17450	4.05082	0	366811.800	182989.20000	0 S
17.81	3.4480	0.00000	157.16910	4.02100	0	367791.100	184119.30000	0 S
17.89	3.3451	0.00000	157.16300	3.99067	0	368742.200	185240.90000	0 S
17.97	3.2509	0.00000	157.15620	3.96031	0	369665.600	186354.10000	0 S
18.04	3.1759	0.00000	157.14890	3.93050	0	370565.300	187458.70000	0 S
18.12	3.1311	0.00000	157.14120	3.90183	0	371448.300	188555.10000	0 S
18.20	3.1179	0.00000	157.13360	3.87478	0	372323.200	189643.80000	0 S
18.28	3.1308	0.00000	157.12610	3.84952	0	373198.000	190725.00000	0 S
18.36	3.1590	0.00000	157.11920	3.82598	0	374078.600	191799.50000	0 S
18.43	3.1927	0.00000	157.11270	3.80389	0	374967.800	192867.60000	0 S
18.51	3.2239	0.00000	157.10680	3.78284	0	375866.200	193929.70000	0 S
18.59	3.2377	0.00000	157.10140	3.76222	0	376770.800	194986.00000	0 S
18.67	3.2221	0.00000	157.09610	3.74130	0	377675.200	196036.50000	0 S
18.74	3.1671	0.00000	157.09070	3.71943	0	378569.700	197081.10000	0 S
18.82	3.0838	0.00000	157.08480	3.69640	0	379444.800	198119.40000	0 S
18.90	2.9923	0.00000	157.07820	3.67248	0	380295.500	199151.10000	0 S
18.98	2.9067	0.00000	157.07100	3.64817	0	381121.300	200176.00000	0 S
19.06	2.8383	0.00000	157.06330	3.62407	0	381925.700	201194.00000	0 S
19.13	2.7986	0.00000	157.05520	3.60083	0	382714.800	202205.50000	0 S
19.21	2.7893	0.00000	157.04710	3.57892	0	383497.100	203210.50000	0 S
19.29	2.8052	0.00000	157.03930	3.55855	0	384280.300	204209.60000	0 S
19.37	2.8354	0.00000	157.03190	3.53967	0	385070.000	205203.30000	0 S
19.44	2.8704	0.00000	157.02490	3.52201	0	385868.800	206191.90000	0 S
19.52	2.9028	0.00000	157.01850	3.50525	0	386677.100	207175.60000	0 S
19.60	2.9249	0.00000	157.01260	3.48900	0	387493.000	208154.80000	0 S
19.68	2.9328	0.00000	157.00690	3.47289	0	388313.100	209129.50000	0 S
19.76	2.9252	0.00000	157.00150	3.45667	0	389133.200	210099.60000	0 S
19.83	2.9068	0.00000	156.99600	3.44026	0	389949.700	211065.20000	0 S
19.91	2.8844	0.00000	156.99050	3.42372	0	390760.400	212026.20000	0 S
19.99	2.8625	0.00000	156.98500	3.40713	0	391565.000	212982.50000	0 S
20.07	2.8374	0.00000	156.97930	3.39046	0	392363.000	213934.10000	0 S
20.14	2.8032	0.00000	156.97360	3.37346	0	393152.700	214881.10000	0 S
20.22	2.7491	0.00000	156.96750	3.35580	0	393930.000	215823.30000	0 S
20.30	2.6786	0.00000	156.96100	3.33734	0	394689.900	216760.40000	0 S
20.38	2.6045	0.00000	156.95390	3.31826	0	395429.500	217692.20000	0 S
20.46	2.5364	0.00000	156.94630	3.29888	0	396149.200	218618.60000	0 S
20.53	2.4795	0.00000	156.93830	3.27957	0	396851.500	219539.60000	0 S
20.61	2.4385	0.00000	156.92990	3.26064	0	397540.000	220455.20000	0 S
20.69	2.4100	0.00000	156.92140	3.24224	0	398218.800	221365.50000	0 S
20.77	2.3897	0.00000	156.91280	3.22441	0	398890.700	222270.80000	0 S
20.84	2.3748	0.00000	156.90410	3.20712	0	399557.800	223171.20000	0 S
20.92	2.3642	0.00000	156.89550	3.19034	0	400221.200	224066.80000	0 S
21.00	2.3567	0.00000	156.88760	3.17405	0	400882.200	224957.80000	0 S
21.08	2.3513	0.00000	156.87860	3.15821	0	401541.300	225844.30000	0 S
21.16	2.3476	0.00000	156.87020	3.14279	0	402199.100	226726.40000	0 S
21.23	2.3451	0.00000	156.86200	3.12776	0	402856.100	227604.20000	0 S
21.31	2.3434	0.00000	156.85390	3.11310	0	403512.500	228477.90000	0 S
21.39	2.3423	0.00000	156.84600	3.09880	0	404168.500	229347.60000	0 S
21.47	2.3417	0.00000	156.83810	3.08482	0	404824.200	230213.30000	0 S
21.54	2.3413	0.00000	156.83040	3.07116	0	405479.800	231075.10000	0 S
21.62	2.3412	0.00000	156.82290	3.05779	0	406135.400	231933.10000	0 S
21.70	2.3412	0.00000	156.81540	3.04471	0	406790.900	232787.40000	0 S
21.78	2.3414	0.00000	156.80810	3.03190	0	407446.500	233638.10000	0 S
21.86	2.3417	0.00000	156.80090	3.01935	0	408102.100	234485.30000	0 S
21.93	2.3421	0.00000	156.79390	3.00705	0	408757.800	235329.00000	0 S
22.01	2.3425	0.00000	156.78700	2.99499	0	409413.700	236169.20000	0 S
22.09	2.3430	0.00000	156.78020	2.98316	0	410069.700	237006.20000	0 S
22.17	2.3434	0.00000	156.77350	2.97155	0	410725.800	237839.80000	0 S
22.24	2.3439	0.00000	156.76690	2.96015	0	411382.000	238670.20000	0 S
22.32	2.3443	0.00000	156.76050	2.94895	0	412038.300	239497.50000	0 S
22.40	2.3447	0.00000	156.75410	2.93795	0	412694.800	240321.70000	0 S
22.48	2.3452	0.00000	156.74790	2.92712	0	413351.400	241142.80000	0 S
22.56	2.3436	0.00000	156.74180	2.91638	0	414007.800	241960.80000	0 S
22.63	2.3364	0.00000	156.73580	2.90558	0	414663.000	242775.90000	0 S
22.71	2.3190	0.00000	156.72970	2.89451	0	415314.800	243588.00000	0 S
22.79	2.2909	0.00000	156.72350	2.88305	0	415960.200	244396.80000	0 S
22.87	2.2572	0.00000	156.71710	2.87121	0	416596.900	245202.50000	0 S
22.94	2.2238	0.00000	156.71050	2.85913	0	417224.200	246004.70000	0 S
23.02	2.1938	0.00000	156.70360	2.84697	0	417842.700	246803.60000	0 S
23.10	2.1683	0.00000	156.69660	2.83484	0	418453.400	247599.00000	0 S
23.18	2.1455	0.00000	156.68950	2.82279	0	419057.300	248391.10000	0 S
23.26	2.1228	0.00000	156.68220	2.81080	0	419654.900	249179.80000	0 S

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Detailed Results (cont.d.) :: Scenario 3 :: 100YR24HR STORM W/INFILTRATION

Elapsed Time	Instantaneous Inflow Rate	Outside Recharge	Stage Elevation	Infiltration Rate	Combined Instantaneous Discharge	Cumulative Inflow	Cumulative Infiltration	Combined Cumulative	
23.33	2.1003	0.00000	156.67480	2.79885	0	420246.100	249965.10000	0	S
23.41	2.0798	0.00000	156.66730	2.78700	0	420831.300	250747.10000	0	S
23.49	2.0626	0.00000	156.65970	2.77528	0	421411.300	251525.80000	0	S
23.57	2.0447	0.00000	156.65200	2.76362	0	421986.300	252301.30000	0	S
23.64	2.0206	0.00000	156.64420	2.75179	0	422555.400	253073.50000	0	S
23.72	1.9824	0.00000	156.63620	2.73951	0	423115.800	253842.30000	0	S
23.80	1.9320	0.00000	156.62790	2.72667	0	423663.800	254607.60000	0	S
23.88	1.8786	0.00000	156.61920	2.71335	0	424197.300	255369.20000	0	S
23.96	1.8291	0.00000	156.61000	2.69971	0	424716.400	256127.10000	0	S
24.03	1.7766	0.00000	156.60040	2.68559	0	425221.200	256881.10000	0	S
24.11	1.6984	0.00000	156.59020	2.67019	0	425707.700	257631.00000	0	S
24.19	1.5612	0.00000	156.57910	2.65223	0	426164.000	258376.40000	0	S
24.27	1.3504	0.00000	156.56620	2.63067	0	426571.700	259116.30000	0	S
24.34	1.0972	0.00000	156.55110	2.60548	0	426914.300	259849.50000	0	S
24.42	0.8448	0.00000	156.53350	2.57762	0	427186.200	260575.30000	0	S
24.50	0.6208	0.00000	156.51350	2.54842	0	427391.400	261293.00000	0	S
24.58	0.4438	0.00000	156.49170	2.51918	0	427540.400	262002.40000	0	S
24.66	0.3180	0.00000	156.46840	2.49084	0	427647.100	262703.80000	0	S
24.73	0.2294	0.00000	156.44420	2.46379	0	427723.700	263397.30000	0	S
24.81	0.1652	0.00000	156.41930	2.43808	0	427778.900	264083.50000	0	S
24.89	0.1184	0.00000	156.39400	2.41362	0	427818.600	264762.60000	0	S
24.97	0.0848	0.00000	156.36840	2.39032	0	427847.100	265435.10000	0	S
25.04	0.0605	0.00000	156.34270	2.36807	0	427867.400	266101.20000	0	S
25.12	0.0431	0.00000	156.31690	2.34676	0	427881.900	266761.20000	0	S
25.20	0.0305	0.00000	156.29110	2.32630	0	427892.300	267415.40000	0	S
25.28	0.0214	0.00000	156.26530	2.30659	0	427899.500	268064.00000	0	S
25.36	0.0148	0.00000	156.23950	2.28755	0	427904.600	268707.10000	0	S
25.43	0.0102	0.00000	156.21380	2.26911	0	427908.100	269345.00000	0	S
25.51	0.0068	0.00000	156.18810	2.25122	0	427910.400	269977.80000	0	S
25.59	0.0043	0.00000	156.16250	2.23382	0	427912.000	270605.70000	0	S
25.67	0.0024	0.00000	156.13700	2.21687	0	427913.000	271228.70000	0	S
25.74	0.0011	0.00000	156.11160	2.20032	0	427913.400	271847.10000	0	S
25.82	0.0003	0.00000	156.08630	2.18416	0	427913.600	272460.90000	0	S
25.90	0.0000	0.00000	156.06100	2.16836	0	427913.700	273070.30000	0	S
25.98	0.0000	0.00000	156.03580	2.15465	0	427913.700	273675.20000	0	S
37.98	0.0000	0.00000	153.38480	1.00214	0	427913.700	327416.80000	0	S
49.98	0.0000	0.00000	151.27080	0.62335	0	427913.700	360259.70000	0	S
61.98	0.0000	0.00000	149.57490	0.40531	0	427913.700	381274.60000	0	S
73.98	0.0000	0.00000	148.20490	0.27338	0	427913.700	395278.60000	0	S
85.98	0.0000	0.00000	147.07960	0.19005	0	427913.700	404894.60000	0	S
97.98	0.0000	0.00000	146.14660	0.13602	0	427913.700	411699.00000	0	S
109.98	0.0000	0.00000	145.36450	0.09999	0	427913.700	416647.10000	0	S
121.98	0.0000	0.00000	144.70160	0.07534	0	427913.700	420337.80000	0	S
133.98	0.0000	0.00000	144.13390	0.05806	0	427913.700	423156.80000	0	S
145.98	0.0000	0.00000	143.64220	0.04569	0	427913.700	425354.30000	0	S
157.98	0.0000	0.00000	143.21270	0.02962	0	427913.700	427104.60000	0	S
169.98	0.0000	0.00000	142.83470	0.00936	0	427913.700	427913.70000	0	S
181.98	0.0000	0.00000	142.50520	0.00000	0	427913.700	427913.70000	0	S
193.98	0.0000	0.00000	142.21410	0.00000	0	427913.700	427913.70000	0	S
205.98	0.0000	0.00000	141.95350	0.00000	0	427913.700	427913.70000	0	S
217.98	0.0000	0.00000	141.71800	0.00000	0	427913.700	427913.70000	0	S
229.98	0.0000	0.00000	141.50360	0.00000	0	427913.700	427913.70000	0	S
241.98	0.0000	0.00000	141.30710	0.00000	0	427913.700	427913.70000	0	S
253.98	0.0000	0.00000	141.12600	0.00000	0	427913.700	427913.70000	0	S
265.98	0.0000	0.00000	140.95830	0.00000	0	427913.700	427913.70000	0	S
277.98	0.0000	0.00000	140.80240	0.00000	0	427913.700	427913.70000	0	S
289.98	0.0000	0.00000	140.65670	0.00000	0	427913.700	427913.70000	0	S
301.98	0.0000	0.00000	140.52020	0.00000	0	427913.700	427913.70000	0	S
313.98	0.0000	0.00000	140.39200	0.00000	0	427913.700	427913.70000	0	S
325.98	0.0000	0.00000	140.27100	0.00000	0	427913.700	427913.70000	0	S
337.98	0.0000	0.00000	140.15680	0.00000	0	427913.700	427913.70000	0	S
349.98	0.0000	0.00000	140.04850	0.00000	0	427913.700	427913.70000	0	S
361.98	0.0000	0.00000	139.94570	----	----	427913.700	427913.70000	0	N.A.

APPENDIX E

**POST DEVELOPMENT
DRAINAGE ANALYSIS FOR 72
HOUR RECOVERY**

POND A

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Project Data

Project Name: CLERMONT COMMERCE CENTER
Simulation Description: MEAN ANNUAL WITHOUT INFILTRATION
MEAN ANNUAL WITH INFILTRATION
25YR-24HR
100YR-24HR W/ 14 DAY RECOVERY
72 HOUR DRAWDOWN
Project Number: 2600-17-300
Engineer : ERIC LAGASSEY
Supervising Engineer: CHAD LINN
Date: 10-09-2018

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum): 133.00
Water Table Elevation, [WT] (ft datum): 133.10
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day): 30.00
Fillable Porosity, [n] (%): 25.00

Vertical infiltration was not considered.

Geometry Data

Equivalent Pond Length, [L] (ft): 426.0
Equivalent Pond Width, [W] (ft): 20.0
Ground water mound is expected to intersect the pond bottom

Stage vs Area Data

Stage (ft datum)	Area (ft ²)
152.00	528.0
153.00	2328.0
154.00	4821.0
155.00	7250.0
156.00	9696.0
157.00	12217.0
158.00	14813.0
159.00	17479.0

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Scenario Input Data

Scenario 4 :: 72 Hour Drawdown

Hydrograph Type: Slug Load
Modflow Routing: Routed with infiltration

Treatment Volume (ft³) 56160

Initial ground water level (ft datum) 133.10 (default)

Time After Storm Event (days)	Time After Storm Event (days)
0.100	2.000
0.250	2.500
0.500	3.000
1.000	3.500
1.500	4.000

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Summary of Results :: Scenario 4 :: 72 Hour Drawdown

	Time (hours)	Stage (ft datum)	Rate (ft³/s)	Volume (ft³)
Stage				
Minimum	96.000	137.96		
Maximum	0.002	158.77		
Inflow				
Rate - Maximum - Positive	0.002		9360.0000	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	0.002			56160.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			56160.0
Infiltration				
Rate - Maximum - Positive	2.400		3.8784	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	6.000			56160.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			56160.0
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	96.000			0.0
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	36.000	140.29		56160.0
72 Hour Stage and Infiltration Volume	72.000	138.55		56160.0

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Detailed Results :: Scenario 4 :: 72 Hour Drawdown

Elapsed Time	Instantaneous Inflow Rate	Outside Recharge	Stage Elevation	Infiltration Rate	Combined Instantaneous Discharge	Cumulative Inflow	Cumulative Infiltration	Combined Cumulative	
0.00	9360.0000	0.00000	152.00000	0.88589	0	0.000	0.00000	0	N.A.
0.00	9360.0000	0.00000	158.76860	0.89358	0	56160.000	5.33841	0	S
2.40	0.0000	0.00000	152.60430	3.87838	0	56160.000	55512.32000	0	S
6.00	0.0000	0.00000	146.84290	0.03123	0	56160.000	56160.00000	0	S
12.00	0.0000	0.00000	143.82020	0.00000	0	56160.000	56160.00000	0	S
24.00	0.0000	0.00000	141.51860	0.00000	0	56160.000	56160.00000	0	S
36.00	0.0000	0.00000	140.29120	0.00000	0	56160.000	56160.00000	0	S
48.00	0.0000	0.00000	139.51180	0.00000	0	56160.000	56160.00000	0	S
60.00	0.0000	0.00000	138.96280	0.00000	0	56160.000	56160.00000	0	S
72.00	0.0000	0.00000	138.54890	0.00000	0	56160.000	56160.00000	0	S
84.00	0.0000	0.00000	138.22210	0.00000	0	56160.000	56160.00000	0	S
96.00	0.0000	0.00000	137.95500	---	---	56160.000	56160.00000	0	N.A.

POND B

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Project Data

Project Name: CLERMONT COMMERCE CENTER
Simulation Description: MEAN ANNUAL WITHOUT INFILTRATION
MEAN ANNUAL WITH INFILTRATION
25YR-24HR
100YR-24HR W/ 14 DAY RECOVERY
72 HOUR DRAWDOWN
Project Number: 2600-17-300
Engineer : ERIC LAGASSEY
Supervising Engineer: CHAD LINN
Date: 10-09-2018

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum): 133.00
Water Table Elevation, [WT] (ft datum): 133.10
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day): 30.00
Fillable Porosity, [n] (%): 25.00

Vertical infiltration was not considered.

Geometry Data

Equivalent Pond Length, [L] (ft): 572.0
Equivalent Pond Width, [W] (ft): 26.0
Ground water mound is expected to intersect the pond bottom

Stage vs Area Data

Stage (ft datum)	Area (ft ²)
143.00	3713.0
144.00	4562.0
145.00	5527.0
146.00	6583.0
147.00	7741.0
148.00	8989.0
149.00	10374.0
150.00	11763.0
151.00	13227.0
152.00	14957.0
153.00	16705.0
154.00	18563.0
155.00	20599.0
156.00	23869.0
157.00	27356.0

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Stage vs Area Data (cont'd.)

Stage (ft datum)	Area (ft²)
158.00	30960.0
159.00	34536.0

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Scenario Input Data

Scenario 4 :: 72 Hour Drawdown

Hydrograph Type: Slug Load
Modflow Routing: Routed with infiltration

Treatment Volume (ft³) 73999

Initial ground water level (ft datum) 133.10 (default)

Time After Storm Event (days)	Time After Storm Event (days)
0.100	2.000
0.250	2.500
0.500	3.000
1.000	3.500
1.500	4.000

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Summary of Results :: Scenario 4 :: 72 Hour Drawdown

	Time (hours)	Stage (ft datum)	Rate (ft³/s)	Volume (ft³)
Stage				
Minimum	96.000	137.60		
Maximum	0.002	151.72		
Inflow				
Rate - Maximum - Positive	0.002		12333.1700	
Rate - Maximum - Negative		None		None
Cumulative Volume - Maximum Positive	0.002			73999.0
Cumulative Volume - Maximum Negative		None		None
Cumulative Volume - End of Simulation	96.000			73999.0
Infiltration				
Rate - Maximum - Positive	2.400		3.8202	
Rate - Maximum - Negative		None		None
Cumulative Volume - Maximum Positive	12.000			73999.0
Cumulative Volume - Maximum Negative		None		None
Cumulative Volume - End of Simulation	96.000			73999.0
Combined Discharge				
Rate - Maximum - Positive		None		None
Rate - Maximum - Negative		None		None
Cumulative Volume - Maximum Positive		None		None
Cumulative Volume - Maximum Negative		None		None
Cumulative Volume - End of Simulation	96.000			0.0
Discharge Structure 1 - inactive				
Rate - Maximum - Positive		disabled		disabled
Rate - Maximum - Negative		disabled		disabled
Cumulative Volume - Maximum Positive		disabled		disabled
Cumulative Volume - Maximum Negative		disabled		disabled
Cumulative Volume - End of Simulation		disabled		disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive		disabled		disabled
Rate - Maximum - Negative		disabled		disabled
Cumulative Volume - Maximum Positive		disabled		disabled
Cumulative Volume - Maximum Negative		disabled		disabled
Cumulative Volume - End of Simulation		disabled		disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive		disabled		disabled
Rate - Maximum - Negative		disabled		disabled
Cumulative Volume - Maximum Positive		disabled		disabled
Cumulative Volume - Maximum Negative		disabled		disabled
Cumulative Volume - End of Simulation		disabled		disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	36.000	139.65		73999.0
72 Hour Stage and Infiltration Volume	72.000	138.12		73999.0

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Detailed Results :: Scenario 4 :: 72 Hour Drawdown

Elapsed Time	Instantaneous Inflow Rate	Outside Recharge	Stage Elevation	Infiltration Rate	Combined Instantaneous Discharge	Cumulative Inflow	Cumulative Infiltration	Combined Cumulative	
0.00	12333.1700	0.00000	143.00000	1.62407	0	0.000	0.00000	0	N.A.
0.00	12333.1700	0.00000	151.72060	1.62937	0	73999.000	9.76031	0	S
2.40	0.0000	0.00000	147.56280	3.82019	0	73999.000	47045.69000	0	S
6.00	0.0000	0.00000	144.98620	1.01879	0	73999.000	64893.30000	0	S
12.00	0.0000	0.00000	142.69890	0.28104	0	73999.000	73999.00000	0	S
24.00	0.0000	0.00000	140.71030	0.00000	0	73999.000	73999.00000	0	S
36.00	0.0000	0.00000	139.64610	0.00000	0	73999.000	73999.00000	0	S
48.00	0.0000	0.00000	138.96620	0.00000	0	73999.000	73999.00000	0	S
60.00	0.0000	0.00000	138.48480	0.00000	0	73999.000	73999.00000	0	S
72.00	0.0000	0.00000	138.12040	0.00000	0	73999.000	73999.00000	0	S
84.00	0.0000	0.00000	137.83170	0.00000	0	73999.000	73999.00000	0	S
96.00	0.0000	0.00000	137.59510	---	---	73999.000	73999.00000	0	N.A.

APPENDIX F

ADDITIONAL INFORMATION

PER RAI

Aquifer Elevation Calculation

The boring numbers associated with determining the aquifer elevation as seen in the Updated Report Geotechnical Engineering Services dated February 20, 2018, by Professional Services Industries (PSI) and submitted under separate cover are Borings B-11, B-12, PB-1, PB-2 and PB-3. Based on the boring locations superimposed on the surveyed elevations the following borings and corresponding ground surface elevations are shown below:

Boring Number	Ground Surface Elevation
B-11	155.75
B-12	154.00
PB-1	161.25
PB-2	158.25
PB-3	160.75

The average ground surface elevation for the 5 borings is:

TOTAL	790.00
AVERAGE	158.00

The aquifer depth recommended within the aforementioned report is 25 feet below ground surface.

Based on the recommended aquifer depth the corresponding elevation used in the PONDS analysis is

$$158 - 25 = 133.00$$

DCIA FOR POND AREA

POND A

The required PAV volume for Pond A =	1.29 ac-ft
The pond stage elevation associated with the provided PAV volume =	158.78
The pond area at the provided PAV provided elevation =	0.39 ac
The total area for Basin A =	15.471 ac
The DCIA used I the PONDS program to account for the pond =	2.5%

POND B

The required PAV volume for Pond A =	1.70 ac-ft
The pond stage elevation associated with the provided PAV volume =	151.73
The pond area at the provided PAV provided elevation =	0.33 ac
The total area for Basin A =	17.582 ac
The DCIA used I the PONDS program to account for the pond =	1.9%