

# SURFACE WATER MANAGEMENT REPORT

## Conceptual Overall Report

### Mill Creek

St Lucie County, Florida

PREPARED BY

THOMAS ENGINEERING GROUP

8-2024

All elevations for this project were based on NAVD

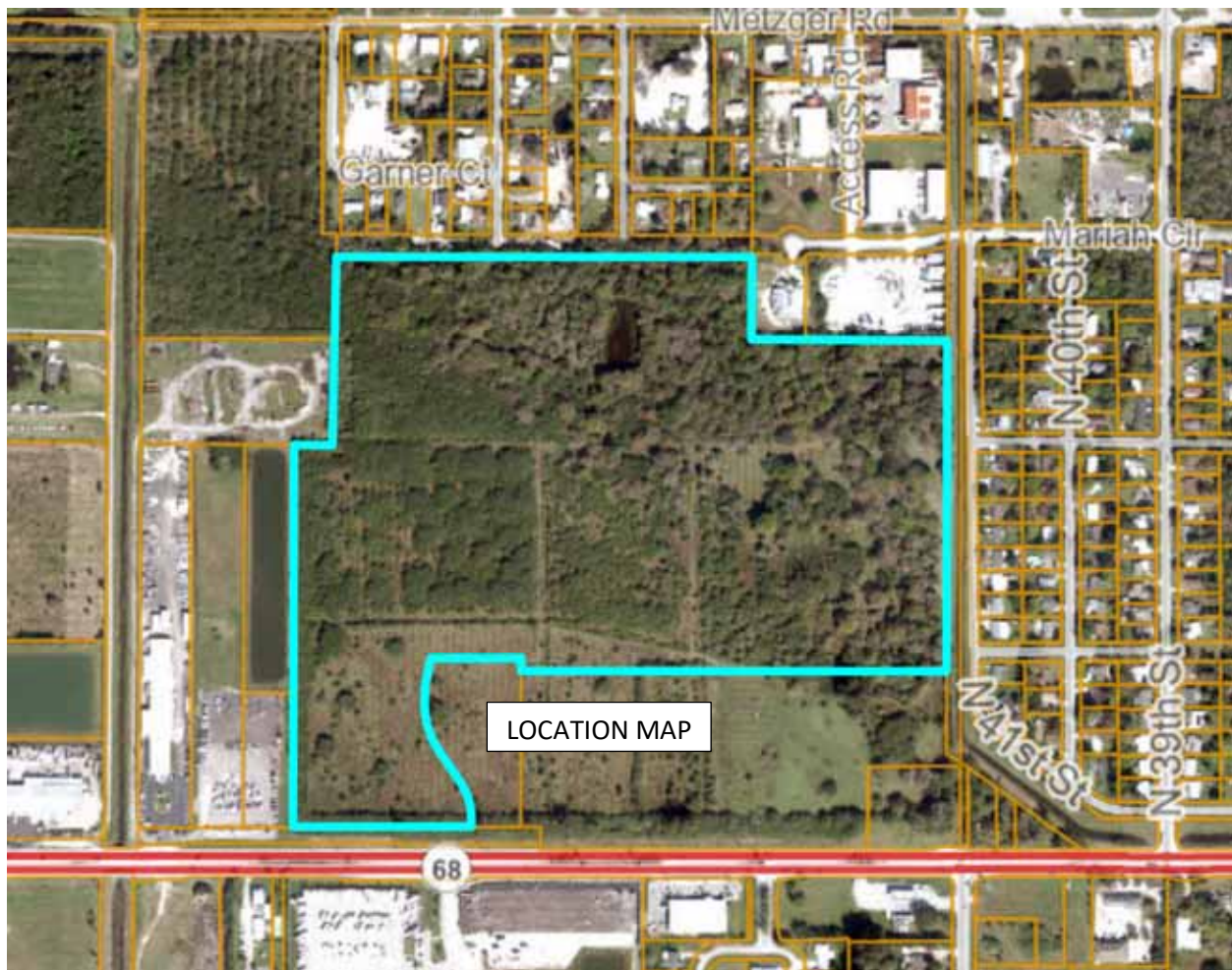
Brandon Ulmer, PE

FL PE # 68345

CA #27528

Introduction:

The proposed site is in City of Fort Pierce within St Lucie County. The site is located on the north side of orange avenue approximately 1.2 miles east of I-95. The site is vacant and consists of one parcel 2407-124-0001-000-3 totaling approximately 61.76 acres as seen below.



Background:

The existing site is currently undeveloped and appears to have been used for agricultural use in the past. The site is currently drains to the NSLWCD canal #3 along the east side of the project through a series of onsite ditches.

The site is in flood zone X per FEMA 12111C0178J

Proposed Design:

The proposed project will require the design, permitting and construction of a stormwater management system for the development. The system will generally consist of Interconnected lakes that will discharge through control structures to the existing outfall canal along east property line. The project will be one drainage basin. Summary of the project is shown below:

Proposed Project Summary is in chart below:

<b>BASIN SUMMARY</b>					
<b>BASIN</b>	<b>BUILDING AREA (acres)</b>	<b>WATER SURFACE AREA (acres)</b>	<b>IMPERVIOUS AREA (acres)</b>	<b>PERVIOUS AREA (acres)</b>	<b>TOTAL AREA (area)</b>
<b>BASIN 1</b>					
<b>BASIN 3</b>					
<b>TOTAL</b>	<b>15.94</b>	<b>6.80</b>	<b>17.35</b>	<b>21.67</b>	<b>61.76</b>
<b>% BASIN</b>	<b>26%</b>	<b>11%</b>	<b>28%</b>	<b>35%</b>	<b>100%</b>
<b>TOTAL</b>	<b>15.94</b>	<b>6.80</b>	<b>17.35</b>	<b>21.67</b>	<b>61.76</b>

Minimum road elevation = 16.00'NAVD

Minimum Finish Floor elevation = 17.50'NAVD

Minimum Berm Elevation = 15.50'NAVD

Water table used for Design = 12.00'NAVD

Allowable Discharge:

The allowable discharge rate for this project will be limited to 2" per 24hr period see below for Peak allowable

<b>ALLOWABLE PEAK DISCHARGE RATE FOR 10-YR, 72-HR STORM</b>			
<b>BASIN</b>	<b>BASIN AREA (acres)</b>	<b>ALLOWABLE PEAK DISCHARGE RATE (cfs)</b>	<b>Proposed</b>
<b>BASIN 3</b>	<b>61.76</b>	<b>5.19</b>	
<b>TOTAL</b>	<b>61.76</b>	<b>5.19</b>	<b>5.16</b>

Proposed Water Quality:

Water quality for the overall site has been developed and is included on page 24, total water quality has been determined based on the attached calculations to be the 1" over the site Plus the 50% impaired basin criteria. Total Water quality is 1.5" over the drainage basin area of 61.76 acres for a total water quality of 7.72 ac-ft, elevations for water quality is listed in the attached water quality calculations.

We are anticipating the project to be building in three phases, with the majority of the stormwater infrastructure to support the project being installed in Phase I.

Nutrient loading has been included as part of the current requirements; we are showing an overall reduction in nutrient loading. The nutrient loading has been provided for in the onsite lake system.

Prepared by:

Brandon Ulmer, PE

FL PE #68345

**LAND USE AND STAGE STORAGE CALCULATIONS**

Project Name: **CONCEPTUAL LANDUSE** 10 year 3 day 9" 16.00  
 Basin / Node Name: 100 year 3 day 12"

**SUMMARY** Discharge 2" over the site for 24hrs max  
 Total Area = 61.76 AC 2690093.83 SF  
 DCIA = 0 % 448348.97 CF  
 Time of Concentration = 15.00 MINUTES Allowable 5.19 CFS  
 Control Elevation = 12 FEET NAVD Soil storage 8.18 Over Pervious area 2.87

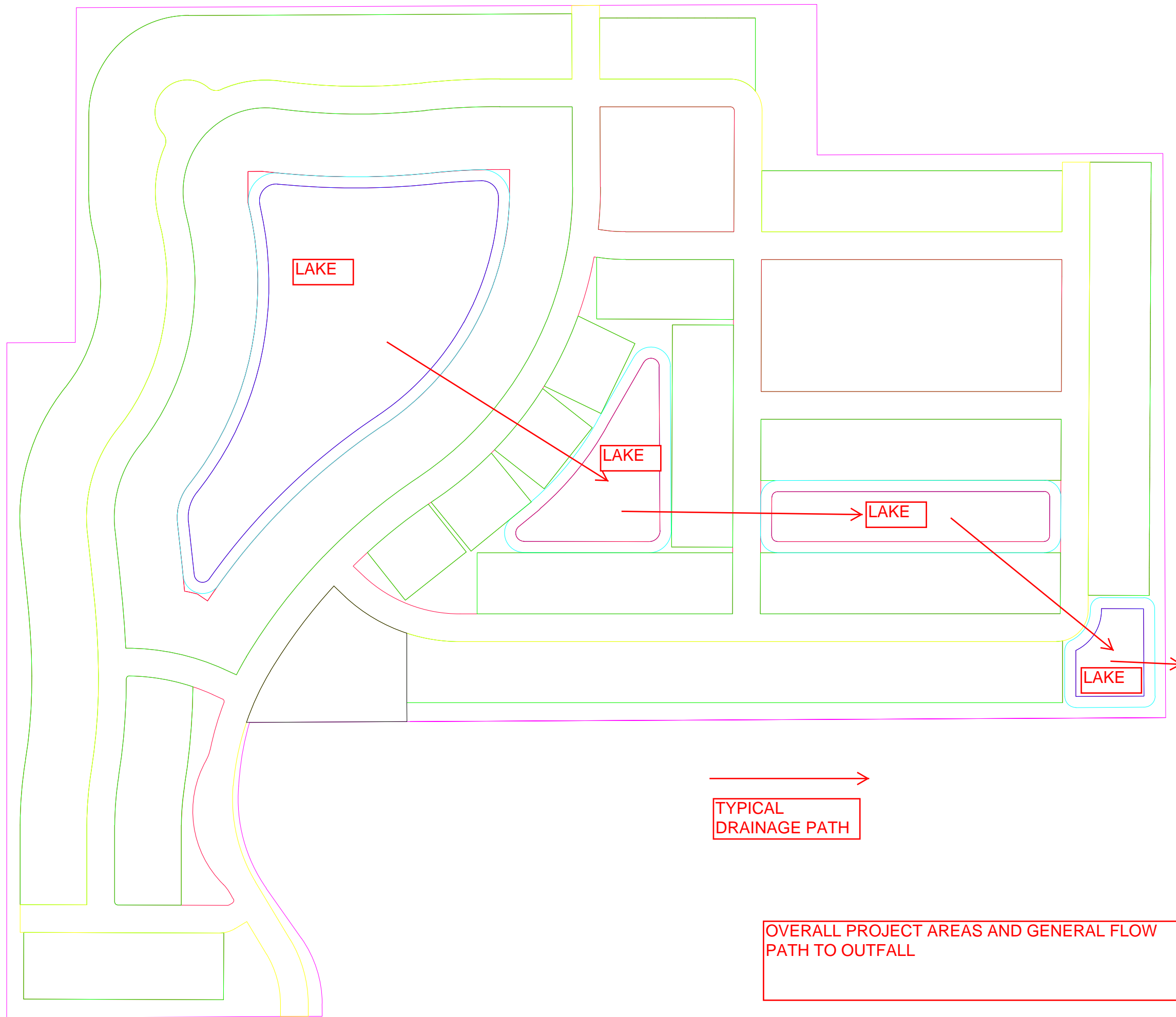
**LAND USE BREAKDOWN & CURVE NUMBER CALCULATION**

	R/W(Road)			Rec Area	Park Site	residential TH	Buffer	Residential	Open Space	Lake	Lake Slope		Total Area	Curve Number	CN*Area%
Total Areas (Ac.)	11.14	0.00	0.00	1.06	0.48	18.18	3.68	15.57	2.53	6.80	2.32		61.76	--	--
Bldg. Area (Ac.)			0.00	0.11		8.36	0.00	7.47	0.00	0.00	0.00	0.00	15.94	--	--
Water Surface Area (Ac.)			0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.80	0.00	0.00	6.80	--	--
Impervious Area (Ac.)	8.91	0.00		0.42	0.10	4.36	0.00	3.43	0.13	0.00	0.00	0.00	17.35	--	--
Developed Perv. Area - Good	2.23		0.00	0.53	0.38	5.45	0.00	4.67	2.40	0.00	2.32	0.00	17.99	--	--
Cond. (Ac.)				0.00	0.00	0.00	3.68	0.00	0.00	0.00	0.00	0.00	3.68	--	--
Bldg. Area%	0%	0%	0%	10%	0%	46%	0%	48%	0%	0%	0%	#DIV/0!	26%	98	25.3
Water Area %	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	#DIV/0!	11%	100	11.0
Impervious Area %	80%	100%	0%	40%	20%	24%	0%	22%	5%	0%	0%	#DIV/0!	28%	98	27.5
Developed Perv. Area - Good	20%	0%	100%	50%	80%	30%	0%	30%	95%	0%	100%	#DIV/0!	29%	75	21.8
Cond. %	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	#DIV/0!	6%	77	4.6
<b>Composite CN =</b>														<b>90.2</b>	

**STAGE STORAGE CALCULATION**

Computation Type: Stage-Storage  
 Starting Stage = 12.00  
 Ending Stage = 17.00  
 Stage Increment = 0.50

Name	R/W(Road)	residential											Total Storage	
		0.00	0.00	Rec Area	Park Site	TH	Buffer	Residential	Open Space	Lake	Lake Slope	0.00		
Area	11.14	0.00	0.00	0.96	0.48	9.82	3.68	8.10	2.53	6.80	2.32	0.00		
Start Elev	16.00			16.00	16.00	17.00	16.00	17.00	15.00	12.00	12.00			
End Elev	17.00			18.00	18.00	19.00	17.00	19.00	16.00	16.00	16.00			
Stage	Linear	Vert	Vert	Linear	Linear	Linear	Linear	Linear	Linear	Vert	Linear	Vert	Total	
Feet	Storage	Storage	Storage	Storage	Storage	Storage	Storage	Storage	Storage	Storage	Storage	Storage	Storage	
NAVD	Ac-ft	Ac-ft	Ac-ft	Ac-ft	Ac-ft	Ac-ft	Ac-ft	Ac-ft	Ac-ft	Ac-ft	Ac-ft	Ac-ft	Ac-ft	
12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.00
12.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.40	0.07	0.00	3.47	12.50
13.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.80	0.29	0.00	7.09	13.00
13.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.20	0.65	0.00	10.85	13.50
14.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.60	1.16	0.00	14.76	14.00
14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.00	1.81	0.00	18.81	14.50
15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.40	2.61	0.00	23.01	15.00
15.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	23.80	3.55	0.00	27.67	15.50
16.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.27	27.20	4.64	0.00	33.10	16.00
16.50	1.39	0.00	0.00	0.06	0.03	0.00	0.46	0.00	2.53	30.60	5.80	0.00	40.87	16.50
17.00	5.57	0.00	0.00	0.24	0.12	0.00	1.84	0.00	3.80	34.00	6.96	0.00	52.52	17.00



<p>1 Entities: AREA-BNDY          2,690,282.73 SF          61.760 Acres          10,690.47 Linear Feet</p>
<p>15 Entities: AREA-LOTS-TH          791,800.14 SF          18.177 Acres          16,470.03 Linear Feet</p>
<p>5 Entities: AREA-LOTS          678,309.09 SF          15.572 Acres          10,039.78 Linear Feet</p>
<p>7 Entities: AREA-ROW          485,281.79 SF          11.141 Acres          7,737.26 Linear Feet</p>
<p>8 Entities: AREA-LME          101,007.73 SF          2.319 Acres          5,301.71 Linear Feet</p>
<p>4 Entities: AREA-LAKES          296,212.52 SF          6.800 Acres          4,799.06 Linear Feet</p>

PROJECT OUTFAL

TYPICAL DRAINAGE PATH

OVERALL PROJECT AREAS AND GENERAL FLOW PATH TO OUTFALL

**WATER QUALITY CALCULATIONS**

Mill Creek

VERSION 1 8/22/2024

**WATER QUALITY CALCULATIONS**

BASIN 3 AREA =	61.76	AC	
WATER SURFACE (LAKE) AREA =	6.80	AC	
BUILDING (ROOF) AREA =	15.94	AC	
TOTAL PERVIOUS AREA =	21.67	AC	
SITE AREA FOR WATER QUALITY (SFWMD) =	39.01	AC	BASIN AREA - (LAKE + ROOF)
IMPERVIOUS AREA FOR WQ (SFWMD) =	17.35	AC	BASIN AREA - (LAKE + ROOF) - PERVIOUS
% IMPERVIOUS FOR WQ CALC (SFWMD) =	44%		IMPERVIOUS AREA FOR WQ / BASIN AREA

**TREATMENT VOLUME**

1" OVER ENTIRE SITE =	5.15	AC-FT	
2.5" X % IMPERVIOUS =	1.11	IN	2.5" x % IMPERVIOUS FOR WQ CALCS
VOLUME TO BE TREATED =	5.09	AC-FT	(2.5" x % IMPERVIOUS FOR WQ CALCS) X (TOTAL SITE - LAKES)
STANDARD REQUIRED WET DETENTION VOL =	5.15	AC-FT	
ADDITIONAL 50% WET DET. VOL. =	2.57	AC-FT	
<b>REQUIRED WET DET. VOL. =</b>	<b>7.72</b>	AC-FT	(extra 50% Det. Vol. required b/c project discharges to an imparied water body)

**STAGE STORAGE IN BASIN 1 LAKES:**

FT NAVD	AC-FT
12.00	0.00
12.50	3.47
13.00	7.09
13.50	10.85
14.00	14.76

**INTERPOLATION:**

ELEV. #1 =	13.00	FT NAVD
ELEV. #2 =	13.50	FT NAVD
STORAGE #1 =	7.09	AC-FT
STORAGE #2 =	10.85	AC-FT
TARGET STORAGE =	7.72	AC-FT
<b>MIN. REQUIRED WQ ELEV =</b>	<b>13.08</b>	<b>FT NAVD</b>
<b>CONTROL ELEV =</b>	<b>12.00</b>	<b>FT NAVD</b>

**Nutrient Loading Analysis**

(Estimated based on Dr. Harper's methodology (Pre-Post loading Criteria) from "Evaluation of Current Stormwater Design Criteria within the State of Florida" - June 2007)

Annual Runoff Volume (ac-ft/yr) = Area (ac) x Rainfall (inches/year) x 1/12 inches x Runoff Coefficient

Nutrient Loading (kg/yr) = Runoff Volume (ac-ft/yr) x 43560 ft<sup>2</sup>/ac. x 7.48 gal/ft<sup>3</sup> x 3.785 liter/gal x Mean Concentration (mg/l)/ 10<sup>6</sup>

Annual Rainfall value used is from Appendix A.3

Event Mean Concentrations have been used from Table 4-17

Mean Runoff Coefficients have been used from Table 4-24 - Cluster 2, Hydrologic Soil Group D

**Pre-Development Conditions**

Landuse	Area (AC)	Runoff C	Rainfall (INCHES/YR)	Annual Runoff (AC-FT/YR)	Nitrogen Concentration (mg/l)	Nitrogen (KG/YR)	Phosphorus Concentration (mg/l)	Phosphorus (KG/YR)
Pasture	61.67	0.128	54.5	35.85	3.47	153.42	0.616	27.24
Totals =	61.67			35.85		153.42		27.24

**Post-Development Conditions**

Landuse	Area (AC)	Runoff C	Rainfall (INCHES/YR)	Annual Runoff (AC-FT/YR)	Nitrogen Concentration (mg/l)	Nitrogen (KG/YR)	Phosphorus Concentration (mg/l)	Phosphorus (KG/YR)
Residential	54.87	0.262	54.5	65.29	2.07	166.68	0.327	26.33
Lake	6.80				0.00		0	
Totals =	61.67			65.29		166.68		26.33

Required Removal Efficiency (%)  
= (1- Pre-Loading/Post-Loading) x100

Required Removal for N and P = (N) 7.95% (P) -3.44%

See separate nutrient loading calculations for the required removal of Nitrogen

# Summary Treatment Report Version: 5.3.2

Project: Lake providing 6.8 ac-ft of storage

**Analysis Type:** Specified

Removal Efficiency

Date:8/27/2024

**BMP Types:**

Catchment 1 - (site) Wet Detention

Catchment 2 - (Catchment 0) None

Based on % removal values to the nearest percent

Total nitrogen target removal met? **Yes**

Total phosphorus target removal met? **Yes**

**Routing Summary**

Catchment 1 Routed to Outlet

Catchment 2 Routed to Outlet

## Summary Report

### Nitrogen

#### Surface Water Discharge

Total N pre load	kg/yr	
Total N post load	613.58 kg/yr	
Target N load reduction	10 %	
Target N discharge load	552.23 kg/yr	
Percent N load reduction	18 %	
Provided N discharge load	502.85 kg/yr	1108.79 lb/yr
Provided N load removed	110.73 kg/yr	244.17 lb/yr

### Phosphorus

#### Surface Water Discharge

Total P pre load	kg/yr	
Total P post load	96.929 kg/yr	
Target P load reduction	%	
Target P discharge load	96.929 kg/yr	
Percent P load reduction	31 %	
Provided P discharge load	67.184 kg/yr	148.14 lb/yr
Provided P load removed	29.745 kg/yr	65.587 lb/yr

nutrient removal for 1' of storage in the lake system, the system only needs to provide for an additional 7.95% as shown on page 7 of this report.

Project Name: Mill Creek

Reviewer: BMU

Project Number:

Period Begin: Jun 01, 2024;0000 hr End: Jun 04, 2024;0000 hr Duration: 72 hr

Time Step: 0.016 hr, Iterations: 10

Basin 1: onsite

Method: Santa Barbara Unit Hydrograph

Rainfall Distribution: SFWMD - 24 hr

Design Frequency: 5 year

1 Day Rainfall: 5 inches

Area: 61.76 acres

Ground Storage: 2.87 inches

Time of Concentration: 0.25 hours

Initial Stage: 12 ft NGVD

Stage (ft NGVD)	Storage (acre-ft)
12.00	0.00
12.50	3.47
13.00	7.09
14.00	14.76
15.00	23.01
16.00	33.10
17.00	52.52

Offsite Receiving Body: Offsitel

Time (hr)	Stage (ft NGVD)
0.00	12.00
360.00	12.00

Structure: 1

From Basin: onsite

To Basin: Offsitel

Structure Type: Gravity

Weir: None

Bleeder: Inv-Tri, Invert Elev = 12 ft NGVD, Height = 1.06 ft

Width = 1.25 ft

Default Coefs: Weir Coef = 2.5, Orifice Coef = 0.6

Pipe: None

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
0.00	0.00	0.00	0.00	0.00	12.00	12.00
2.00	0.10	0.00	0.00	0.00	12.00	12.00
4.00	0.23	0.00	0.00	0.00	12.00	12.00
6.00	0.42	0.00	0.00	0.00	12.00	12.00
8.00	0.68	0.47	0.00	0.00	12.00	12.00
10.00	1.07	3.33	0.00	0.00	12.04	12.00
12.00	3.28	121.52	0.42	0.01	12.61	12.00
14.00	4.09	11.86	2.45	0.32	13.30	12.00
16.00	4.40	7.61	2.70	0.75	13.42	12.00
18.00	4.58	4.62	2.78	1.20	13.47	12.00
20.00	4.76	4.67	2.86	1.67	13.51	12.00
22.00	4.88	3.14	2.87	2.14	13.52	12.00
24.00	5.00	3.15	2.88	2.62	13.53	12.00
26.00	5.00	0.00	2.79	3.09	13.47	12.00
28.00	5.00	0.00	2.68	3.54	13.42	12.00
30.00	5.00	0.00	2.57	3.97	13.36	12.00
32.00	5.00	0.00	2.46	4.39	13.30	12.00
34.00	5.00	0.00	2.35	4.79	13.25	12.00
36.00	5.00	0.00	2.24	5.17	13.20	12.00

5 year 1 day (ALL ELEVATIONS NAVD)

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
38.00	5.00	0.00	2.13	5.53	13.16	12.00
40.00	5.00	0.00	2.02	5.87	13.11	12.00
42.00	5.00	0.00	1.91	6.19	13.07	12.00
44.00	5.00	0.00	1.60	6.48	13.03	12.00
46.00	5.00	0.00	1.47	6.73	13.00	12.00
48.00	5.00	0.00	1.36	6.96	12.97	12.00
50.00	5.00	0.00	1.25	7.18	12.94	12.00
52.00	5.00	0.00	1.16	7.38	12.91	12.00
54.00	5.00	0.00	1.08	7.56	12.88	12.00
56.00	5.00	0.00	1.01	7.74	12.86	12.00
58.00	5.00	0.00	0.95	7.90	12.84	12.00
60.00	5.00	0.00	0.89	8.05	12.82	12.00
62.00	5.00	0.00	0.84	8.19	12.80	12.00
64.00	5.00	0.00	0.79	8.33	12.78	12.00
66.00	5.00	0.00	0.75	8.45	12.76	12.00
68.00	5.00	0.00	0.71	8.57	12.74	12.00
70.00	5.00	0.00	0.67	8.69	12.73	12.00
72.00	5.00	0.00	0.64	8.80	12.71	12.00

STRUCTURE MAXIMUM AND MINIMUM DISCHARGES

Struc	Max (cfs)	Time (hr)	Min (cfs)	Time (hr)
1	2.88	24.02	0.00	0.00

BASIN MAXIMUM AND MINIMUM STAGES

Basin	Max (ft)	Time (hr)	Min (ft)	Time (hr)
onsite	13.53	24.02	12.00	0.00

BASIN WATER BUDGETS (all units in acre-ft)

Basin	Total Runoff	Structure Inflow	Structure Outflow	Initial Storage	Final Storage	Residual
onsite	13.81	0.00	8.79	0.00	5.02	0.00

Project Name: Mill Creek

Reviewer: BMU

Project Number:

Period Begin: Jun 01, 2024;0000 hr End: Jun 04, 2024;0000 hr Duration: 72 hr

Time Step: 0.016 hr, Iterations: 10

Basin 1: onsite

Method: Santa Barbara Unit Hydrograph

Rainfall Distribution: SFWMD - 3day

Design Frequency: 10 year

3 Day Rainfall: 9 inches

Area: 61.76 acres

Ground Storage: 2.87 inches

Time of Concentration: 0.5 hours

Initial Stage: 12 ft NGVD

Stage (ft NGVD)	Storage (acre-ft)
12.00	0.00
12.50	3.47
13.00	7.09
14.00	14.76
15.00	23.01
16.00	33.10
17.00	52.52

Offsite Receiving Body: Offsitel

Time (hr)	Stage (ft NGVD)
0.00	12.00
360.00	12.00

Structure: 1

From Basin: onsite

To Basin: Offsitel

Structure Type: Gravity

Weir: None

Bleeder: Inv-Tri, Invert Elev = 12 ft NGVD, Height = 1.06 ft

Width = 1.25 ft

Default Coefs: Weir Coef = 2.5, Orifice Coef = 0.6

Pipe: None

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
0.00	0.00	0.00	0.00	0.00	12.00	12.00
2.00	0.08	0.00	0.00	0.00	12.00	12.00
4.00	0.16	0.00	0.00	0.00	12.00	12.00
6.00	0.24	0.00	0.00	0.00	12.00	12.00
8.00	0.32	0.00	0.00	0.00	12.00	12.00
10.00	0.40	0.00	0.00	0.00	12.00	12.00
12.00	0.48	0.00	0.00	0.00	12.00	12.00
14.00	0.56	0.00	0.00	0.00	12.00	12.00
16.00	0.64	0.09	0.00	0.00	12.00	12.00
18.00	0.73	0.21	0.00	0.00	12.00	12.00
20.00	0.81	0.33	0.00	0.00	12.01	12.00
22.00	0.89	0.44	0.00	0.00	12.02	12.00
24.00	0.97	0.54	0.00	0.00	12.03	12.00
26.00	1.08	0.97	0.00	0.00	12.05	12.00
28.00	1.20	1.15	0.00	0.00	12.08	12.00
30.00	1.32	1.31	0.01	0.00	12.11	12.00
32.00	1.44	1.46	0.01	0.00	12.14	12.00
34.00	1.55	1.59	0.02	0.00	12.17	12.00
36.00	1.67	1.72	0.03	0.01	12.21	12.00

10 Year - 3 Day (ALL ELEVATIONS NAVD)

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
38.00	1.79	1.83	0.05	0.02	12.26	12.00
40.00	1.91	1.93	0.07	0.03	12.30	12.00
42.00	2.02	2.02	0.10	0.04	12.34	12.00
44.00	2.14	2.11	0.14	0.06	12.39	12.00
46.00	2.26	2.19	0.19	0.09	12.44	12.00
48.00	2.38	2.26	0.24	0.12	12.49	12.00
50.00	2.51	2.63	0.31	0.17	12.54	12.00
52.00	2.68	3.61	0.41	0.23	12.60	12.00
54.00	2.93	5.93	0.60	0.31	12.70	12.00
56.00	3.28	8.64	0.97	0.43	12.85	12.00
58.00	3.79	13.21	1.70	0.65	13.06	12.00
60.00	6.72	163.42	3.44	1.04	13.87	12.00
62.00	7.79	23.07	4.91	1.78	15.08	12.00
64.00	8.21	11.69	5.07	2.61	15.24	12.00
66.00	8.44	6.97	5.12	3.45	15.29	12.00
68.00	8.68	6.91	5.15	4.30	15.32	12.00
70.00	8.84	4.66	5.15	5.15	15.32	12.00
72.00	9.00	4.63	5.14	6.00	15.31	12.00

STRUCTURE MAXIMUM AND MINIMUM DISCHARGES

Struc	Max (cfs)	Time (hr)	Min (cfs)	Time (hr)
1	5.16	68.72	0.00	0.00

BASIN MAXIMUM AND MINIMUM STAGES

Basin	Max (ft)	Time (hr)	Min (ft)	Time (hr)
onsite	15.32	68.72	12.00	0.00

BASIN WATER BUDGETS (all units in acre-ft)

Basin	Total Runoff	Structure Inflow	Structure Outflow	Initial Storage	Final Storage	Residual
onsite	32.15	0.00	6.00	0.00	26.15	0.00

Project Name: Mill Creek

Reviewer: BMU

Project Number:

Period Begin: Jun 01, 2024;0000 hr End: Jun 04, 2024;0000 hr Duration: 72 hr

Time Step: 0.016 hr, Iterations: 10

Basin 1: onsite

Method: Santa Barbara Unit Hydrograph

Rainfall Distribution: SFWMD - 3day

Design Frequency: 100 year

3 Day Rainfall: 12 inches

Area: 61.76 acres

Ground Storage: 2.87 inches

Time of Concentration: 0.5 hours

Initial Stage: 12 ft NGVD

Stage (ft NGVD)	Storage (acre-ft)
12.00	0.00
12.50	3.47
13.00	7.09
14.00	14.76
15.00	23.01
16.00	33.10
17.00	52.52

Offsite Receiving Body: Offsitel

Time (hr)	Stage (ft NGVD)
0.00	12.00
360.00	12.00

STRUCTURE MAXIMUM AND MINIMUM DISCHARGES

```

=====
Struc  Max (cfs)  Time (hr)  Min (cfs)  Time (hr)
=====
    
```

BASIN MAXIMUM AND MINIMUM STAGES

```

=====
Basin  Max (ft)  Time (hr)  Min (ft)  Time (hr)
=====
onsite  16.70      72.00     12.00     0.00
    
```

BASIN WATER BUDGETS (all units in acre-ft)

```

=====
Basin  Total  Structure  Structure  Initial  Final  Residual
      Runoff  Inflow  Outflow  Storage  Storage
=====
onsite  46.72    0.00    0.00    0.00    46.72    0.00
    
```