

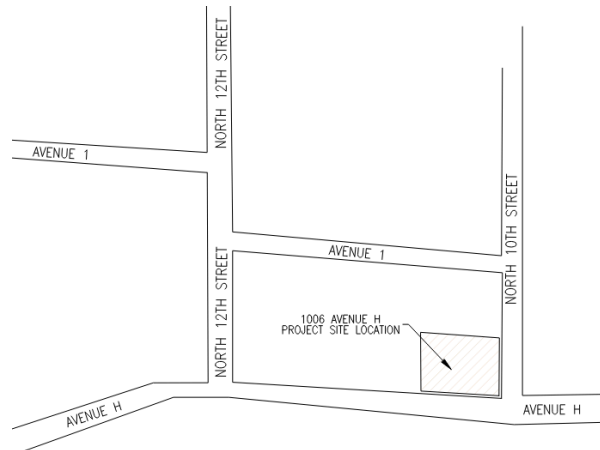
Drainage Analysis  
1006 Ave H  
City of Ft Pierce

This report assesses the drainage capacity of a 0.61-acre three-duplex with parking lot project in Fort Pierce, Florida. Using the required storm events, pre- and post-development runoff was analyzed, and the required water quality treatment volume was determined.

Estimated Required Attenuation:

- 100-year - 1-day - Finished Floor Elevation
  - Required Elevation = 14.92 (NAVD-88)
  - Provided Elevation = 16.00 (NAVD-88)
- 25-year - 3-day - Perimeter Berm Elevation
  - Pre-Developed Runoff = 0.18 ac-ft
  - Post-Developed Runoff = 0.31 ac-ft
  - Required On-Site Retention = 0.13 ac-ft
  - Required Elevation = 14.48 (NAVD-88)
  - Provided Elevation = 15.00 (NAVD-88)
- 10-year - 1-day - Parking Lot
  - Post-Developed Runoff = 0.18 ac-ft
  - Required Elevation = 13.80 (NAVD-88)
  - Provided Elevation = 15.50 (NAVD-88)

The proposed dry retention system is designed to fully contain the pre vs post runoff from the 25-3 storm event on-site, with a provided on-site retention volume of 0.46 ac-ft at an elevation of 15.00 feet (NAVD-88). Exceedance of this elevation will result in overflow into the adjacent road right-of-way, where runoff will be conveyed away from the site and into the nearest storm drain inlet. Detailed drainage calculations are available for review.



I certify that the drainage analysis presented in this report is accurate and meets the requirements of the applicable local and state regulations, including SFWMD and City of Fort Pierce Section 119.

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**Pre-Development Land Use Calculations**  
**Floodplain Analysis - Pre vs Post**

Project Name: **1006 Ave H Duplex Project Ft Pierce**  
 Project #: **2025-023**  
 Engineer: **Dylan OBerry PE**  
 Date: **4/4/2025**

Engineer:  
 Revision Date:

Computation Type: Land Use & Stage-Storage  
 Datum: **NAVD**

Average Ground Elevation (EL<sub>grnd</sub>) = **13.61** ft-NAVD      Source: **Survey Topo**  
 Control Elevation (CE) = **9.50** ft-NAVD                      Source: **USDA Soils**

**Site Land Use**

	<b>Exist Green Space</b>	<b>Exist. Area</b>	<b>Exist. Area</b>	<b>Exist. Area</b>	<b>Exist. Area</b>	<b>Exist. Area</b>	<b>Exist. Area</b>	<b>Exist. Area</b>	<b>Exist. Area</b>	<b>Total</b>
	<b>(ac)</b>	<b>(ac)</b>	<b>(ac)</b>	<b>(ac)</b>	<b>(ac)</b>	<b>(ac)</b>	<b>(ac)</b>	<b>(ac)</b>	<b>(ac)</b>	<b>(ac)</b>
Percentage of On-Site	100.0%	0.0%	0.0%	0.00%	0.00%	0.0%	0.0%	0.00%	0.00%	
Total Areas (SF)	26,600 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	26,600 SF
Total Areas (A <sub>t</sub> )	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.61
Bldg. %	0.00%	100.00%	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Bldg. Area (A <sub>b</sub> )	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pervious %	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	100.00%
Pervious Area (A <sub>p</sub> )	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.61
Impervious %	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%
Impervious Area (A <sub>i</sub> )	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Open Water %	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%
Open Water Area (A <sub>o</sub> )	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**Pre-Development Stage-Storage Calculations  
Floodplain Analysis - Pre vs Post**

Storage Type: **Stage-Volume**  
 Starting Stage = **12.00**  
 Ending Stage = **16.00**  
 Stage Increment = **0.20**

Name	Exist Green Space	Exist. Area	Exist. Area	Exist. Area	Exist. Area	Exist. Area	Exist. Area	Exist. Area	Exist. Area	Exist. Area
Area	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Elev	12.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
End Elev	15.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stage Feet	Linear Storage	Vert Storage	Vert Storage	Vert Storage	Vert Storage	Vert Storage	Vert Storage	Vert Storage	Vert Storage	Total Storage
NAVD	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
12.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.40	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
12.60	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
12.80	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
13.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
13.20	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
13.40	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17
13.60	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23
13.80	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29
14.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36
14.20	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45
14.40	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.53
14.60	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.63
14.80	0.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.74
15.00	0.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.85
15.20	0.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.97
15.40	1.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.09
15.60	1.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.22
15.80	1.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.34
16.00	1.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.46

**Pre-Development Stage-Area Calculations  
Floodplain Analysis - Pre vs Post**

Storage Type: **Stage-Area**  
 Starting Stage = **10.00**  
 Ending Stage = **14.00**  
 Stage Increment = **0.10**

Name	Exist Green Space	Exist. Area	Exist. Area	Exist. Area	Exist. Area	Exist. Area	Exist. Area	Exist. Area	Exist. Area	Exist. Area
Area	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Elev	12.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
End Elev	15.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Stage	Linear	Vert	Vert	Vert	Vert	Vert	Vert	Vert	Vert	Total
Feet	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area
NAVD	Ac	Ac	Ac	Ac	Ac	Ac	Ac	Ac	Ac	Ac
10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.20	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
12.30	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
12.40	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
12.50	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
12.60	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
12.70	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
12.80	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14
12.90	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16
13.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18
13.10	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
13.20	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22
13.30	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24
13.40	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26
13.50	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28

**PRE-Development Stormwater Calculations**

**Floodplain Analysis - Pre vs Post**

Project: 1006 Ave H Duplex Project Ft Pierce  
 Project #: 2025-023

Revised: \_\_\_\_\_  
 Engineer: Ilan OBerry I  
 Date: 4/4/2025

**Land Use Table**

Use	Imp. (ac)	Bldg. (ac)	Pervious (ac)	Total (ac)
Basin =	0.00	0.00	0.61	0.61
TOTAL =	0.00	0.00	0.61	0.61

**Find Curve Number:**

Avg. Pervious Ground El. =	13.61
Control Elev. =	9.50
Distance to Water Table =	4.11

**Soil Storage Table**

Depth to W.T. (ft)	Coastal Storage (in)	Flatwoods Storage (in)	Depression Storage (in)
0.0	0.0	0.0	0.0
1.0	0.6	0.6	0.6
1.5	1.6	1.6	1.4
2.0	2.5	2.5	2.1
2.5	4.6	4.0	3.3
3.0	6.6	5.4	4.4
3.5	8.8	7.2	5.6
4.0	10.9	9.0	6.8

Find the basin's soil classification and input below as "Soil Storage" using the above "Depth to W.T.".

Soil Type =	Flatwoods	
Max. Available Soil Storage ( $S_{max}$ ) =	9.00	inches
Compaction Factor ( $F_{compact}$ ) =	0%	(Use 25% for developed site)
Compacted Soil Storage ( $S_{compact}$ ) =	9.00	inches
Available Soil Storage ( $S_{avail}$ ) =	9.00	inches
Curve Number (CN) =	53	$(S_{max})(F_{compact}) / (A_p)(S_{compact}) / (A_t) / 1000 / (S_{avail} + 10)$

Notes:

1. Soil Storage Table taken from Section 5.7.4.2 of the SFWMD ERP Applicant's Handbook Volume II.
2. Curve Number determination based on method presented in USDA NRCS Technical Release 55 (TR-55) "Urban Hydrology for Small Watersheds".

Post-Development Land Use Calculations  
Floodplain Analysis - Post

Project Name: **1006 Ave H Duplex Project Ft Pierce**  
 Project #: **2025-023**  
 Engineer: **Dylan OBerry PE**  
 Date: **4/4/2025**

Engineer:  
 Revision Date:

Computation Type: Land Use & Stage-Storage  
 Datum: **NAVD**

Average Ground Elevation (EL<sub>gmd</sub>) = **13.71** ft-NAVD      Source: **Survey Topo**  
 Control Elevation (CE) = **9.50** ft-NAVD      Source: **USDA Soils**

Site Land Use

	Exist Green Space	Duplex	Pavement	Retention	Retention Sides	Prop	Prop	Prop	Prop	Prop	Total
	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)
Percentage of On-Site	50.7%	23.6%	18.7%	2.63%	4.32%	0.0%	0.0%	0.00%	0.00%	0.00%	
Total Areas (SF)	13,486 SF	6,279 SF	4,985 SF	700 SF	1,150 SF	0 SF	0 SF	0 SF	0 SF	0 SF	26,600 SF
Total Areas (A <sub>i</sub> )	0.31	0.14	0.11	0.02	0.03	0.00	0.00	0.00	0.00	0.00	0.61
Bldg. %	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	23.61%
Bldg. Area (A <sub>b</sub> )	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14
Pervious %	100.00%	0.00%	0.00%	100.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	57.65%
Pervious Area (A <sub>p</sub> )	0.31	0.00	0.00	0.02	0.03	0.00	0.00	0.00	0.00	0.00	0.35
Impervious %	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	100.00%	18.74%
Impervious Area (A <sub>i</sub> )	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
Open Water %	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%
Open Water Area (Ac.)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**Post-Development Stage-Storage Calculations  
Floodplain Analysis - Post**

Storage Type: **Stage-Volume**  
 Starting Stage = **12.00**  
 Ending Stage = **16.00**  
 Stage Increment = **0.20**

Name	Exist Green Space	Duplex	Pavement	Retention	Retention Sides	Prop	Prop	Prop	Prop	Prop	Total
Area	0.31	0.14	0.11	0.02	0.03	0.00	0.00	0.00	0.00	0.00	
Start Elev	12.10	16.00	14.84	13.50	15.00	0.00	0.00	0.00	0.00	0.00	
End Elev	15.12	0.00	15.50	0.00	13.50	0.00	0.00	0.00	0.00	0.00	
Stage Feet	Linear Storage	Vert Storage	Linear Storage	Vert Storage	Linear Storage	Vert Storage	Vert Storage	Vert Storage	Vert Storage	Vert Storage	Total Storage
NAVD	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
12.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.60	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
12.80	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
13.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
13.20	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
13.40	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
13.60	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
13.80	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
14.00	0.19	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.19
14.20	0.23	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.24
14.40	0.27	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.29
14.60	0.32	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.34
14.80	0.37	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.39
15.00	0.43	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.46
15.20	0.49	0.00	0.01	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.54
15.40	0.55	0.00	0.03	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.63
15.60	0.62	0.00	0.05	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.72
15.80	0.68	0.00	0.07	0.04	0.03	0.00	0.00	0.00	0.00	0.00	0.82
16.00	0.74	0.00	0.10	0.04	0.03	0.00	0.00	0.00	0.00	0.00	0.91

**Post-Development Stage-Area Calculations  
Floodplain Analysis - Post**

Storage Type: **Stage-Area**  
 Starting Stage = **10.00**  
 Ending Stage = **16.00**  
 Stage Increment = **0.20**

Name	Exist Green Space	Duplex	Pavement	Retention	Retention Sides	Prop	Prop	Prop	Prop	Prop	Total
Area	0.31	0.14	0.11	0.02	0.03	0.00	0.00	0.00	0.00	0.00	
Start Elev	12.10	16.00	14.84	13.50	15.00	0.00	0.00	0.00	0.00	0.00	
End Elev	15.12	0.00	15.50	0.00	13.50	0.00	0.00	0.00	0.00	0.00	
Stage	Linear	Vert	Linear	Vert	Linear	Vert	Vert	Vert	Vert	Vert	Total
Feet	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area
NAVD	Ac	Ac	Ac	Ac	Ac	Ac	Ac	Ac	Ac	Ac	Ac
10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.20	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
12.40	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
12.60	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
12.80	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
13.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
13.20	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
13.40	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13
13.60	0.15	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.17
13.80	0.17	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.19
14.00	0.19	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.21
14.20	0.22	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.23
14.40	0.24	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.25
14.60	0.26	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.27
14.80	0.28	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.29
15.00	0.30	0.00	0.03	0.02	0.03	0.00	0.00	0.00	0.00	0.00	0.37
15.20	0.31	0.00	0.06	0.02	0.03	0.00	0.00	0.00	0.00	0.00	0.41
15.40	0.31	0.00	0.10	0.02	0.03	0.00	0.00	0.00	0.00	0.00	0.45
15.60	0.31	0.00	0.11	0.02	0.03	0.00	0.00	0.00	0.00	0.00	0.47
15.80	0.31	0.00	0.11	0.02	0.03	0.00	0.00	0.00	0.00	0.00	0.47
16.00	0.31	0.14	0.11	0.02	0.03	0.00	0.00	0.00	0.00	0.00	0.61

**Post-Development Stormwater Calculations**

**Floodplain Analysis - Post**

Project: 1006 Ave H Duplex Project Ft Pierce  
 Project #: 2025-023

Revised: \_\_\_\_\_  
 Engineer: Ilan OBerry I  
 Date: 4/4/2025

**Land Use Table**

Use	Imp. (ac)	Bldg. (ac)	Pervious (ac)	Total (ac)
Basin =	0.11	0.14	0.35	0.61
TOTAL =	0.11	0.14	0.35	0.61

**Find Curve Number:**

Avg. Pervious Ground El. =	13.71
Control Elev. =	9.50
Distance to Water Table =	4.21

**Soil Storage Table**

Depth to W.T. (ft)	Coastal Storage (in)	Flatwoods Storage (in)	Depression Storage (in)
0.0	0.0	0.0	0.0
1.0	0.6	0.6	0.6
1.5	1.6	1.6	1.4
2.0	2.5	2.5	2.1
2.5	4.6	4.0	3.3
3.0	6.6	5.4	4.4
3.5	8.8	7.2	5.6
4.0	10.9	9.0	6.8

Find the basin's soil classification and input below as "Soil Storage" using the above "Depth to W.T.".

Soil Type =	Flatwoods	
Max. Available Soil Storage ( $S_{max}$ ) =	9.00	inches
Compaction Factor ( $F_{compact}$ ) =	25%	(Use 25% for developed site)
Compacted Soil Storage ( $S_{compact}$ ) =	6.75	inches
Available Soil Storage ( $S_{avail}$ ) =	3.89	inches
Curve Number (CN) =	72	$(S_{max})(F_{compact}) / (A_p)(S_{compact}) / (A_t) / 1000 / (S_{avail} + 10)$

Notes:

1. Soil Storage Table taken from Section 5.7.4.2 of the SFWMD ERP Applicant's Handbook Volume II.
2. Curve Number determination based on method presented in USDA NRCS Technical Release 55 (TR-55) "Urban Hydrology for Small Watersheds".

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**Estimated Required Attenuation**  
**Floodplain Analysis - Pre vs Post**

Project: 1006 Ave H Duplex Project Ft Pierce Revised: \_\_\_\_\_  
Project #: 2025-023 Engineer: ylan OBerry PE  
Date: 4/4/2025

**Pre-Developed Runoff**

**10 Year - 1 Day**

$$\begin{aligned} \text{Area, A (ac)} &= 0.61 \\ \text{Soil Storage, S (inches)} &= 9.00 \\ \text{Curve Number, CN} &= 1000/(S+10) \\ &= 53 \end{aligned}$$

10 Year - 1 Day Rainfall, P (inches) = 6 (From Figure C-8 SFWMD ERP Applicant's Handbook Volume II)

$$\begin{aligned} \text{Depth of Runoff, Q (inches)} &= (P - 0.2S)^2 / (P + 0.8S) \\ &= 1.336 \end{aligned}$$

$$\begin{aligned} \text{Volume, V (AC-FT)} &= A * Q \\ &= 0.068 \end{aligned}$$

**Post Developed Runoff**

**10 Year - 1 Day**

$$\begin{aligned} \text{Area, A (ac)} &= 0.61 \\ \text{Soil Storage, S (inches)} &= 3.89 \\ \text{Curve Number, CN} &= 1000/(S+10) = \\ &72 \end{aligned}$$

10 Year - 1 Day Rainfall, P (inches) = 6 (From Figure C-8 SFWMD ERP Applicant's Handbook Volume II)

$$\begin{aligned} \text{Depth of Runoff, Q (inches)} &= (P - 0.2S)^2 / (P + 0.8S) \\ &= 2.992 \end{aligned}$$

$$\begin{aligned} \text{Volume, V (AC-FT)} &= A * Q \\ &= 0.152 \end{aligned}$$

$$\text{10Y-1D Elevation} = \boxed{13.80} \text{ ft NAVD}$$

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**Estimated Required Attenuation**  
**Floodplain Analysis - Pre vs Post**

Project: 1006 Ave H Duplex Project Ft Pierce Revised: \_\_\_\_\_  
Project #: 2025-023 Engineer: ylan OBerry PE  
Date: 4/4/2025

**Pre-Developed Runoff**

**25 Year - 3 Day**

$$\begin{aligned} \text{Area, A (ac)} &= 0.61 \\ \text{Soil Storage, S (inches)} &= 9.00 \\ \text{Curve Number, CN} &= 1000/(S+10) \\ &= 53 \end{aligned}$$

25 Year - 3 Day Rainfall, P (inches) = 9.5 (From Figure C-8 SFWMD ERP Applicant's Handbook Volume II)

$$\begin{aligned} \text{Depth of Runoff, Q (inches)} &= (P - 0.2S)^2 / (P + 0.8S) \\ &= 3.55 \end{aligned}$$

$$\begin{aligned} \text{Volume, V (AC-FT)} &= A * Q \\ &= 0.18 \end{aligned}$$

**Post Developed Runoff**

**25 Year - 3 Day**

$$\begin{aligned} \text{Area, A (ac)} &= 0.61 \\ \text{Soil Storage, S (inches)} &= 3.89 \\ \text{Curve Number, CN} &= 1000/(S+10) = \\ &72 \end{aligned}$$

25 Year - 3 Day Rainfall, P (inches) = 9.5 (From Figure C-8 SFWMD ERP Applicant's Handbook Volume II)

$$\begin{aligned} \text{Depth of Runoff, Q (inches)} &= (P - 0.2S)^2 / (P + 0.8S) \\ &= 6.03 \end{aligned}$$

$$\begin{aligned} \text{Volume, V (AC-FT)} &= A * Q \\ &= 0.31 \end{aligned}$$

$$\text{25Y-3D Elevation} = \boxed{14.48} \text{ ft NAVD}$$

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**Estimated Required Attenuation**  
**Floodplain Analysis - Pre vs Post**

Project: 1006 Ave H Duplex Project Ft Pierce Revised: \_\_\_\_\_  
Project #: 2025-023 Engineer: ylan OBerry PE  
Date: 4/4/2025

**Pre-Developed Runoff**

**100 Year - 1 Day**

Area, A (ac) = 0.61  
Soil Storage, S (inches) = 9.00  
Curve Number, CN =  $1000/(S+10)$   
= 53

100 Year - 1 Day Rainfall, P (inches) = 12.23 (From Figure C-8 SFWMD ERP Applicant's Handbook Volume II)

Depth of Runoff, Q (inches) =  $(P - 0.2S)^2/(P + 0.8S)$   
= 5.60

Volume, V (AC-FT) = A \* Q  
= 0.28

**Post Developed Runoff**

**100 Year - 1 Day**

Area, A (ac) = 0.61  
Soil Storage, S (inches) = 3.89  
Curve Number, CN =  $1000/(S+10)$  =  
72

100 Year - 1 Day Rainfall, P (inches) = 12.23 (From Figure C-8 SFWMD ERP Applicant's Handbook Volume II)

Depth of Runoff, Q (inches) =  $(P - 0.2S)^2/(P + 0.8S)$   
= 8.55

Volume, V (AC-FT) = A \* Q  
= 0.43

25Y-3D Elevation = 14.92 ft NAVD



**NOAA Atlas 14, Volume 9, Version 2**  
**Location name: Fort Pierce, Florida, USA\***  
**Latitude: 27.4583°, Longitude: -80.3355°**  
**Elevation: 14 ft\*\***  
 \* source: ESRI Maps  
 \*\* source: USGS



**POINT PRECIPITATION FREQUENCY ESTIMATES**

Sanja Perica, Deborah Martin, Sandra Pavlovic, Ishani Roy, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Michael Yekta, Geoffery Bonnin

NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aerals](#)

**PF tabular**

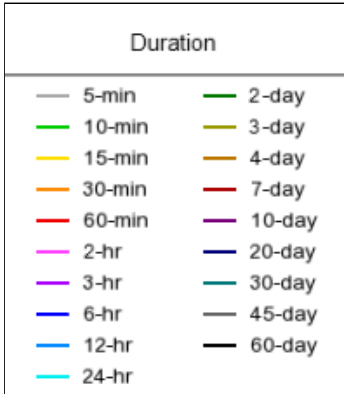
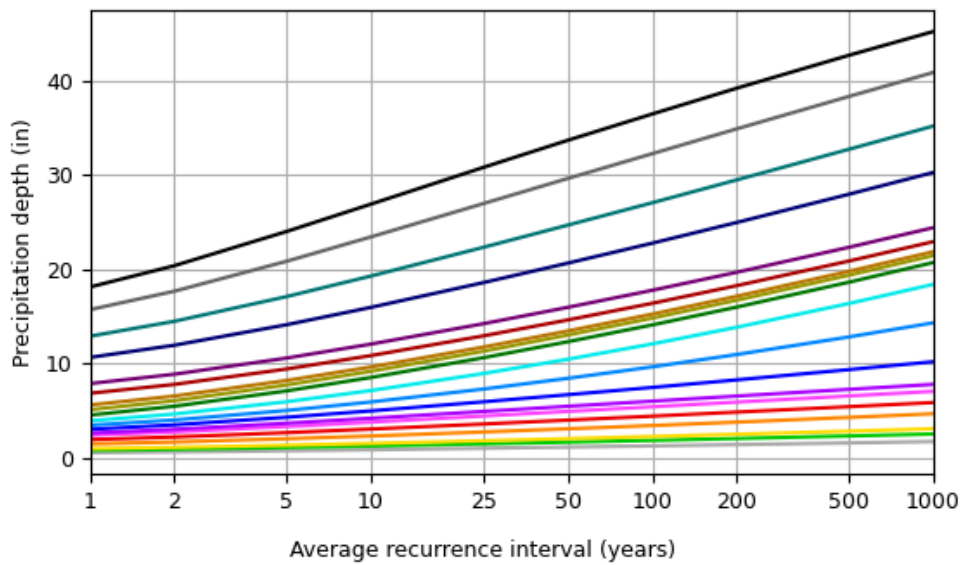
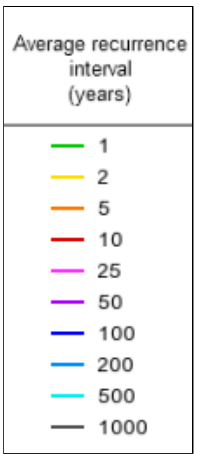
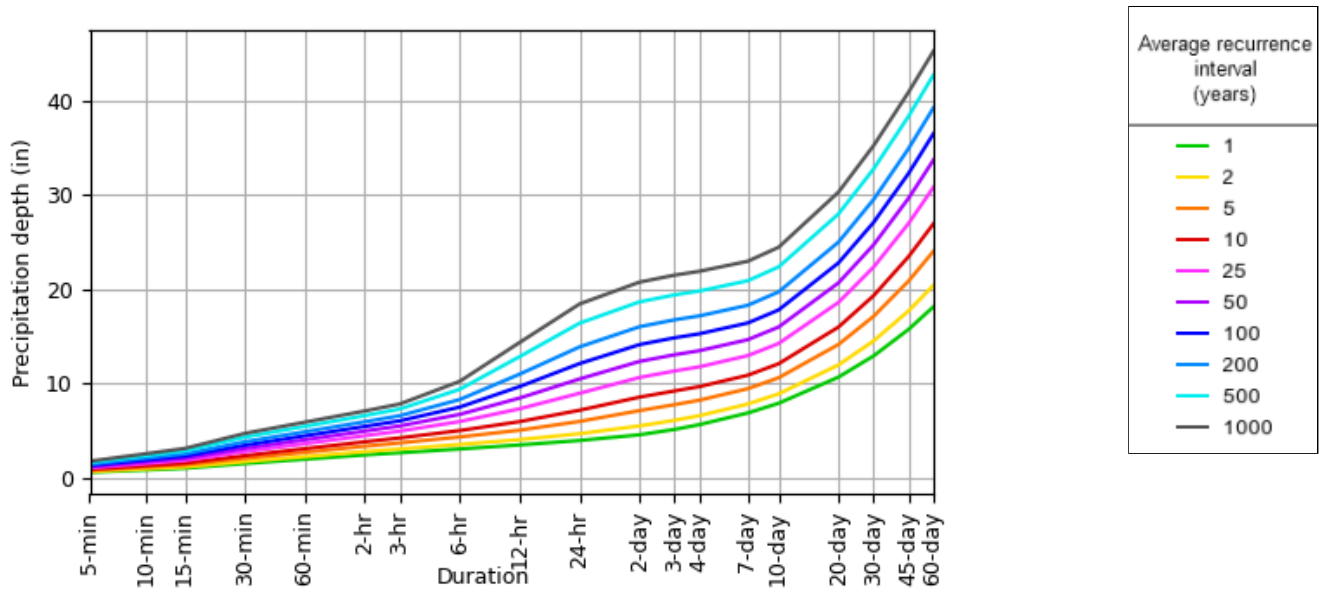
<b>PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)<sup>1</sup></b>										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
<b>5-min</b>	<b>0.546</b> (0.441-0.684)	<b>0.622</b> (0.502-0.779)	<b>0.750</b> (0.602-0.942)	<b>0.859</b> (0.686-1.08)	<b>1.02</b> (0.785-1.33)	<b>1.14</b> (0.860-1.51)	<b>1.27</b> (0.922-1.72)	<b>1.40</b> (0.976-1.96)	<b>1.59</b> (1.06-2.28)	<b>1.73</b> (1.12-2.52)
<b>10-min</b>	<b>0.800</b> (0.646-1.00)	<b>0.911</b> (0.735-1.14)	<b>1.10</b> (0.882-1.38)	<b>1.26</b> (1.00-1.59)	<b>1.49</b> (1.15-1.94)	<b>1.67</b> (1.26-2.21)	<b>1.86</b> (1.35-2.52)	<b>2.05</b> (1.43-2.87)	<b>2.32</b> (1.55-3.33)	<b>2.53</b> (1.64-3.69)
<b>15-min</b>	<b>0.976</b> (0.788-1.22)	<b>1.11</b> (0.896-1.39)	<b>1.34</b> (1.08-1.68)	<b>1.53</b> (1.23-1.94)	<b>1.81</b> (1.40-2.37)	<b>2.04</b> (1.54-2.70)	<b>2.26</b> (1.65-3.08)	<b>2.50</b> (1.74-3.50)	<b>2.83</b> (1.89-4.07)	<b>3.09</b> (2.00-4.50)
<b>30-min</b>	<b>1.48</b> (1.20-1.85)	<b>1.68</b> (1.36-2.11)	<b>2.03</b> (1.63-2.54)	<b>2.32</b> (1.85-2.93)	<b>2.74</b> (2.12-3.58)	<b>3.08</b> (2.32-4.08)	<b>3.43</b> (2.49-4.66)	<b>3.79</b> (2.64-5.30)	<b>4.29</b> (2.87-6.16)	<b>4.68</b> (3.04-6.82)
<b>60-min</b>	<b>1.94</b> (1.56-2.43)	<b>2.22</b> (1.79-2.78)	<b>2.67</b> (2.15-3.36)	<b>3.06</b> (2.44-3.85)	<b>3.59</b> (2.77-4.67)	<b>4.00</b> (3.01-5.29)	<b>4.42</b> (3.21-5.99)	<b>4.86</b> (3.37-6.76)	<b>5.43</b> (3.62-7.78)	<b>5.87</b> (3.81-8.55)
<b>2-hr</b>	<b>2.40</b> (1.95-2.97)	<b>2.75</b> (2.24-3.41)	<b>3.32</b> (2.69-4.13)	<b>3.79</b> (3.05-4.74)	<b>4.44</b> (3.44-5.71)	<b>4.93</b> (3.74-6.44)	<b>5.42</b> (3.96-7.27)	<b>5.92</b> (4.14-8.17)	<b>6.57</b> (4.41-9.34)	<b>7.06</b> (4.62-10.2)
<b>3-hr</b>	<b>2.63</b> (2.15-3.24)	<b>3.03</b> (2.47-3.74)	<b>3.67</b> (2.99-4.54)	<b>4.20</b> (3.40-5.22)	<b>4.92</b> (3.84-6.30)	<b>5.47</b> (4.17-7.11)	<b>6.02</b> (4.42-8.02)	<b>6.56</b> (4.61-9.01)	<b>7.27</b> (4.91-10.3)	<b>7.80</b> (5.13-11.2)
<b>6-hr</b>	<b>3.03</b> (2.50-3.70)	<b>3.50</b> (2.89-4.28)	<b>4.30</b> (3.54-5.28)	<b>4.98</b> (4.07-6.14)	<b>5.94</b> (4.69-7.59)	<b>6.70</b> (5.16-8.68)	<b>7.47</b> (5.55-9.94)	<b>8.28</b> (5.88-11.3)	<b>9.36</b> (6.38-13.2)	<b>10.2</b> (6.77-14.6)
<b>12-hr</b>	<b>3.46</b> (2.88-4.18)	<b>4.02</b> (3.34-4.87)	<b>5.02</b> (4.16-6.10)	<b>5.93</b> (4.89-7.24)	<b>7.30</b> (5.85-9.34)	<b>8.44</b> (6.58-10.9)	<b>9.66</b> (7.26-12.8)	<b>11.0</b> (7.89-15.0)	<b>12.8</b> (8.85-18.1)	<b>14.3</b> (9.58-20.4)
<b>24-hr</b>	<b>3.93</b> (3.30-4.71)	<b>4.65</b> (3.90-5.58)	<b>5.95</b> (4.98-7.16)	<b>7.14</b> (5.93-8.63)	<b>8.94</b> (7.24-11.4)	<b>10.5</b> (8.24-13.5)	<b>12.1</b> (9.17-16.0)	<b>13.9</b> (10.1-18.9)	<b>16.4</b> (11.4-23.0)	<b>18.4</b> (12.4-26.0)
<b>2-day</b>	<b>4.54</b> (3.84-5.38)	<b>5.48</b> (4.64-6.50)	<b>7.10</b> (5.99-8.46)	<b>8.53</b> (7.15-10.2)	<b>10.6</b> (8.63-13.3)	<b>12.3</b> (9.75-15.7)	<b>14.1</b> (10.8-18.4)	<b>16.0</b> (11.7-21.5)	<b>18.6</b> (13.1-25.9)	<b>20.7</b> (14.1-29.1)
<b>3-day</b>	<b>5.10</b> (4.35-6.02)	<b>6.07</b> (5.16-7.17)	<b>7.73</b> (6.56-9.16)	<b>9.19</b> (7.74-10.9)	<b>11.3</b> (9.24-14.1)	<b>13.0</b> (10.4-16.5)	<b>14.8</b> (11.4-19.3)	<b>16.7</b> (12.3-22.4)	<b>19.4</b> (13.6-26.8)	<b>21.5</b> (14.7-30.0)
<b>4-day</b>	<b>5.61</b> (4.80-6.59)	<b>6.56</b> (5.61-7.72)	<b>8.21</b> (6.98-9.68)	<b>9.65</b> (8.16-11.4)	<b>11.7</b> (9.64-14.6)	<b>13.5</b> (10.8-16.9)	<b>15.3</b> (11.7-19.7)	<b>17.2</b> (12.6-22.9)	<b>19.8</b> (14.0-27.2)	<b>21.9</b> (15.0-30.5)
<b>7-day</b>	<b>6.85</b> (5.90-7.98)	<b>7.80</b> (6.71-9.10)	<b>9.43</b> (8.08-11.0)	<b>10.9</b> (9.25-12.8)	<b>12.9</b> (10.7-15.9)	<b>14.6</b> (11.8-18.3)	<b>16.4</b> (12.7-21.1)	<b>18.3</b> (13.6-24.2)	<b>20.9</b> (14.9-28.6)	<b>23.0</b> (15.8-31.8)
<b>10-day</b>	<b>7.88</b> (6.82-9.14)	<b>8.88</b> (7.67-10.3)	<b>10.6</b> (9.12-12.3)	<b>12.1</b> (10.3-14.1)	<b>14.2</b> (11.8-17.4)	<b>16.0</b> (12.9-19.8)	<b>17.8</b> (13.8-22.7)	<b>19.7</b> (14.7-26.0)	<b>22.4</b> (16.0-30.4)	<b>24.4</b> (16.9-33.8)
<b>20-day</b>	<b>10.7</b> (9.31-12.2)	<b>12.0</b> (10.4-13.7)	<b>14.1</b> (12.3-16.3)	<b>16.0</b> (13.8-18.5)	<b>18.6</b> (15.5-22.4)	<b>20.7</b> (16.8-25.3)	<b>22.8</b> (17.9-28.8)	<b>25.0</b> (18.7-32.6)	<b>28.0</b> (20.1-37.7)	<b>30.3</b> (21.2-41.6)
<b>30-day</b>	<b>12.9</b> (11.3-14.7)	<b>14.5</b> (12.7-16.6)	<b>17.1</b> (15.0-19.6)	<b>19.3</b> (16.8-22.2)	<b>22.3</b> (18.7-26.7)	<b>24.7</b> (20.2-30.0)	<b>27.1</b> (21.3-33.9)	<b>29.5</b> (22.2-38.2)	<b>32.8</b> (23.7-43.9)	<b>35.2</b> (24.7-48.2)
<b>45-day</b>	<b>15.7</b> (13.9-17.8)	<b>17.7</b> (15.6-20.1)	<b>20.9</b> (18.3-23.8)	<b>23.5</b> (20.5-26.9)	<b>27.0</b> (22.7-31.9)	<b>29.6</b> (24.3-35.8)	<b>32.3</b> (25.5-40.2)	<b>34.9</b> (26.4-44.9)	<b>38.4</b> (27.8-51.1)	<b>40.9</b> (28.9-55.7)
<b>60-day</b>	<b>18.1</b> (16.1-20.5)	<b>20.4</b> (18.1-23.1)	<b>24.0</b> (21.2-27.3)	<b>26.9</b> (23.6-30.7)	<b>30.8</b> (26.0-36.3)	<b>33.7</b> (27.7-40.4)	<b>36.5</b> (28.9-45.2)	<b>39.2</b> (29.7-50.2)	<b>42.7</b> (31.1-56.6)	<b>45.3</b> (32.1-61.5)

<sup>1</sup> Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

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**PF graphical**

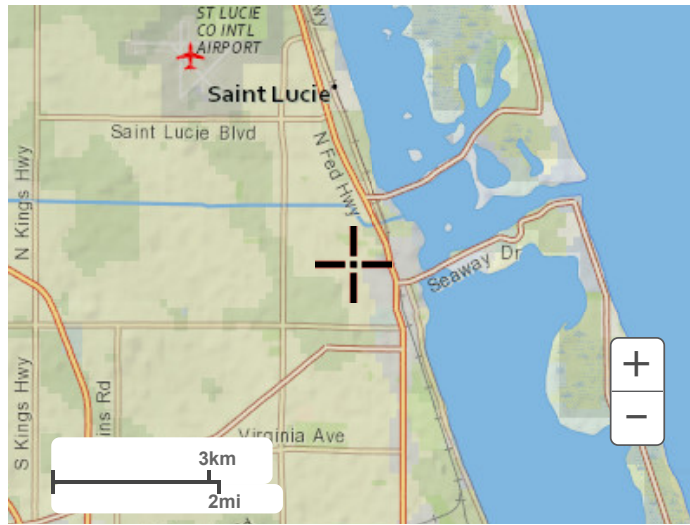
### PDS-based depth-duration-frequency (DDF) curves Latitude: 27.4583°, Longitude: -80.3355°



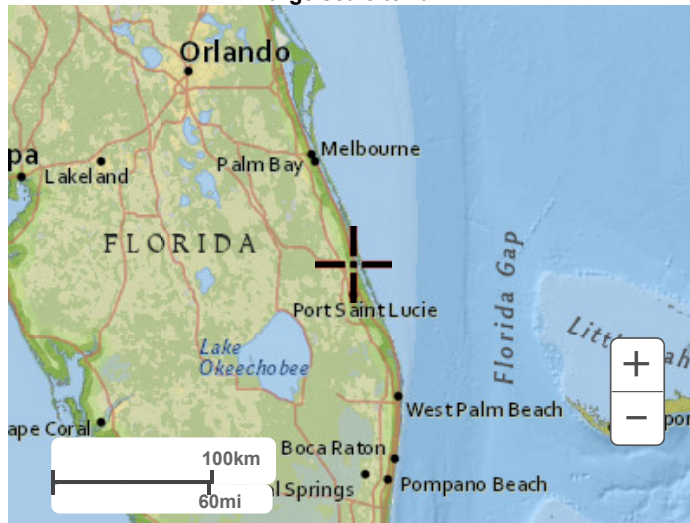
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## Maps & aerials

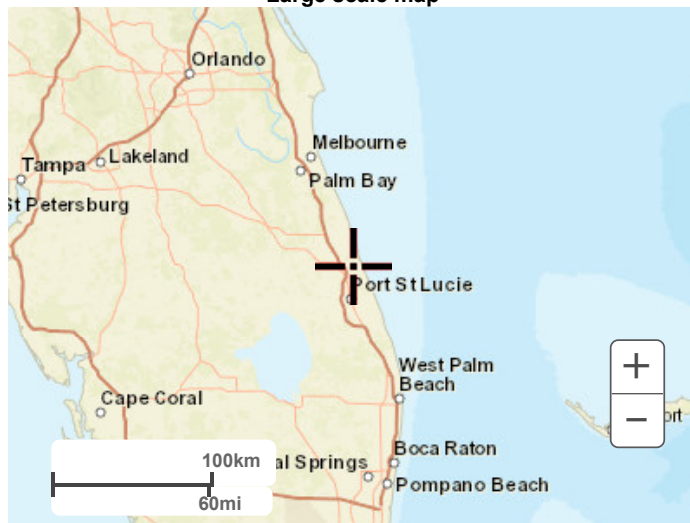
Small scale terrain



Large scale terrain

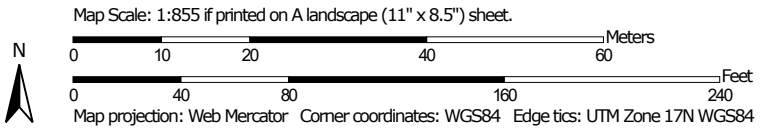


Large scale map



Large scale aerial

# Custom Soil Resource Report Soil Map



## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
22	Lawnwood-Urban land complex	0.5	16.9%
42	St. Lucie sand, 0 to 8 percent slopes	2.1	70.1%
50	Waveland and Immokalee fine sands	0.4	13.0%
<b>Totals for Area of Interest</b>		<b>3.0</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The

## St. Lucie County, Florida

### 22—Lawnwood-Urban land complex

#### Map Unit Setting

*National map unit symbol:* 1jpvh  
*Elevation:* 0 to 30 feet  
*Mean annual precipitation:* 49 to 58 inches  
*Mean annual air temperature:* 70 to 77 degrees F  
*Frost-free period:* 350 to 365 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Lawnwood and similar soils:* 52 percent  
*Urban land:* 33 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Lawnwood

##### Setting

*Landform:* Marine terraces on flats  
*Landform position (three-dimensional):* Talf  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Sandy marine deposits

##### Typical profile

*A - 0 to 8 inches:* sand  
*E - 8 to 28 inches:* sand  
*Bh1 - 28 to 52 inches:* sand  
*Bh2 - 52 to 58 inches:* sand  
*C - 58 to 80 inches:* sand

##### Properties and qualities

*Slope:* 0 to 2 percent  
*Depth to restrictive feature:* 10 to 31 inches to ortstein  
*Drainage class:* Poorly drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* About 6 to 18 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 4.0  
*Available water supply, 0 to 60 inches:* Very low (about 0.9 inches)

##### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 4w  
*Hydrologic Soil Group:* A/D  
*Forage suitability group:* Forage suitability group not assigned (G156BC999FL)  
*Other vegetative classification:* Forage suitability group not assigned (G156BC999FL)

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*Hydric soil rating:* No

### Description of Urban Land

#### Setting

*Landform:* Marine terraces

*Landform position (three-dimensional):* Interfluve, talf

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* No parent material

#### Interpretive groups

*Land capability classification (irrigated):* None specified

*Forage suitability group:* Forage suitability group not assigned (G156BC999FL)

*Other vegetative classification:* Forage suitability group not assigned (G156BC999FL)

*Hydric soil rating:* Unranked

### Minor Components

#### Pendarvis

*Percent of map unit:* 8 percent

*Landform:* Knolls on marine terraces, rises on marine terraces

*Landform position (three-dimensional):* Interfluve

*Down-slope shape:* Convex

*Across-slope shape:* Linear

*Other vegetative classification:* Forage suitability group not assigned (G156BC999FL)

*Hydric soil rating:* No

#### Waveland

*Percent of map unit:* 7 percent

*Landform:* Flats on marine terraces

*Landform position (three-dimensional):* Talf

*Down-slope shape:* Convex

*Across-slope shape:* Linear

*Other vegetative classification:* Forage suitability group not assigned (G156BC999FL)

*Hydric soil rating:* No

## 42—St. Lucie sand, 0 to 8 percent slopes

### Map Unit Setting

*National map unit symbol:* 2tzwp

*Elevation:* 0 to 70 feet

*Mean annual precipitation:* 49 to 60 inches

*Mean annual air temperature:* 70 to 77 degrees F

*Frost-free period:* 350 to 365 days

*Farmland classification:* Not prime farmland

### Map Unit Composition

*St. lucie and similar soils:* 90 percent

*Minor components:* 10 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of St. Lucie

#### Setting

*Landform:* Knolls on marine terraces, ridges on marine terraces, dunes on marine terraces

*Landform position (two-dimensional):* Summit, backslope

*Landform position (three-dimensional):* Side slope, interfluve, riser

*Down-slope shape:* Convex, linear

*Across-slope shape:* Linear

*Parent material:* Eolian or sandy marine deposits

#### Typical profile

*A - 0 to 6 inches:* sand

*C - 6 to 80 inches:* sand

#### Properties and qualities

*Slope:* 0 to 8 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Excessively drained

*Runoff class:* Negligible

*Capacity of the most limiting layer to transmit water (Ksat):* Very high (19.98 to 39.96 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

*Sodium adsorption ratio, maximum:* 4.0

*Available water supply, 0 to 60 inches:* Very low (about 2.4 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7s

*Hydrologic Soil Group:* A

*Ecological site:* R155XY230FL - Sandy Scrub on Ridges, Knolls, and Dunes of Xeric Uplands

*Forage suitability group:* Sandy soils on ridges and dunes of xeric uplands (G155XB111FL)

*Other vegetative classification:* Sandy soils on ridges and dunes of xeric uplands (G155XB111FL), Sand Pine Scrub (R155XY001FL)

*Hydric soil rating:* No

### Minor Components

#### Paola

*Percent of map unit:* 5 percent

*Landform:* Hills on marine terraces, ridges on marine terraces

*Landform position (two-dimensional):* Summit, backslope

*Landform position (three-dimensional):* Interfluve, side slope, riser

*Down-slope shape:* Linear, convex

*Across-slope shape:* Linear

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*Ecological site:* R155XY230FL - Sandy Scrub on Ridges, Knolls, and Dunes of Xeric Uplands

*Other vegetative classification:* Sandy soils on ridges and dunes of xeric uplands (G155XB111FL), Sand Pine Scrub (R155XY001FL)

*Hydric soil rating:* No

### **Pomello**

*Percent of map unit:* 3 percent

*Landform:* Knolls on marine terraces, ridges on marine terraces

*Landform position (two-dimensional):* Summit, backslope

*Landform position (three-dimensional):* Side slope, interfluve, riser

*Down-slope shape:* Convex, linear

*Across-slope shape:* Linear

*Ecological site:* F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands

*Other vegetative classification:* Sandy soils on rises and knolls of mesic uplands (G155XB131FL), Sand Pine Scrub (R155XY001FL)

*Hydric soil rating:* No

### **Satellite**

*Percent of map unit:* 2 percent

*Landform:* Drainageways on flatwoods on marine terraces

*Landform position (three-dimensional):* Tread, talf, dip

*Down-slope shape:* Linear

*Across-slope shape:* Linear, concave

*Ecological site:* F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands

*Other vegetative classification:* Sand Pine Scrub (R155XY001FL), Sandy soils on rises and knolls of mesic uplands (G155XB131FL)

*Hydric soil rating:* No

## **50—Waveland and Immokalee fine sands**

### **Map Unit Setting**

*National map unit symbol:* 1jpwd

*Elevation:* 0 to 200 feet

*Mean annual precipitation:* 49 to 58 inches

*Mean annual air temperature:* 70 to 77 degrees F

*Frost-free period:* 350 to 365 days

*Farmland classification:* Not prime farmland

### **Map Unit Composition**

*Waveland and similar soils:* 45 percent

*Immokalee and similar soils:* 43 percent

*Minor components:* 12 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

## Description of Waveland

### Setting

*Landform:* Flatwoods on marine terraces  
*Landform position (three-dimensional):* Talf  
*Down-slope shape:* Convex  
*Across-slope shape:* Linear  
*Parent material:* Sandy marine deposits

### Typical profile

*A - 0 to 4 inches:* fine sand  
*Eg - 4 to 32 inches:* sand  
*Bh1 - 32 to 40 inches:* loamy sand  
*Bh2 - 40 to 53 inches:* sand  
*Cg1 - 53 to 66 inches:* sand  
*Cg2 - 66 to 80 inches:* sand

### Properties and qualities

*Slope:* 0 to 2 percent  
*Depth to restrictive feature:* 31 to 50 inches to ortstein  
*Drainage class:* Poorly drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)  
*Depth to water table:* About 6 to 18 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 4.0  
*Available water supply, 0 to 60 inches:* Very low (about 0.8 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 4w  
*Hydrologic Soil Group:* C/D  
*Ecological site:* F155XY120FL - Sandy Flatwoods and Hammocks  
*Forage suitability group:* Sandy soils on flats of mesic or hydric lowlands (G156BC141FL)  
*Other vegetative classification:* Sandy soils on flats of mesic or hydric lowlands (G156BC141FL)  
*Hydric soil rating:* No

## Description of Immokalee

### Setting

*Landform:* Flatwoods on marine terraces  
*Landform position (three-dimensional):* Talf  
*Down-slope shape:* Convex  
*Across-slope shape:* Linear  
*Parent material:* Sandy marine deposits

### Typical profile

*A - 0 to 6 inches:* fine sand  
*E - 6 to 35 inches:* fine sand  
*Bh - 35 to 54 inches:* fine sand  
*Cg - 54 to 72 inches:* fine sand

## Custom Soil Resource Report

### Properties and qualities

*Slope:* 0 to 2 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Poorly drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.57 to 1.98 in/hr)  
*Depth to water table:* About 6 to 18 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 4.0  
*Available water supply, 0 to 60 inches:* Low (about 5.3 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 4w  
*Hydrologic Soil Group:* B/D  
*Ecological site:* F155XY120FL - Sandy Flatwoods and Hammocks  
*Forage suitability group:* Sandy soils on flats of mesic or hydric lowlands (G156BC141FL)  
*Other vegetative classification:* Sandy soils on flats of mesic or hydric lowlands (G156BC141FL)  
*Hydric soil rating:* No

### Minor Components

#### Salerno

*Percent of map unit:* 3 percent  
*Landform:* Flatwoods on marine terraces  
*Landform position (three-dimensional):* Talf  
*Down-slope shape:* Convex  
*Across-slope shape:* Linear  
*Ecological site:* F155XY120FL - Sandy Flatwoods and Hammocks  
*Other vegetative classification:* Sandy soils on flats of mesic or hydric lowlands (G156BC141FL)  
*Hydric soil rating:* No

#### Lawnwood

*Percent of map unit:* 3 percent  
*Landform:* Marine terraces on flatwoods  
*Landform position (three-dimensional):* Talf  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Ecological site:* F155XY120FL - Sandy Flatwoods and Hammocks  
*Other vegetative classification:* Sandy soils on flats of mesic or hydric lowlands (G156BC141FL)  
*Hydric soil rating:* No

#### Electra

*Percent of map unit:* 3 percent  
*Landform:* Knolls on marine terraces, rises on marine terraces  
*Landform position (three-dimensional):* Interfluvium  
*Down-slope shape:* Convex  
*Across-slope shape:* Linear

Custom Soil Resource Report

*Ecological site:* F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands

*Other vegetative classification:* Sandy soils on rises and knolls of mesic uplands (G156BC131FL)

*Hydric soil rating:* No

**Jonathan**

*Percent of map unit:* 3 percent

*Landform:* Knolls on marine terraces, ridges on marine terraces

*Landform position (three-dimensional):* Interfluvium

*Down-slope shape:* Convex

*Across-slope shape:* Linear

*Ecological site:* R155XY180FL - Sandy Scrub on Rises, Ridges, and Knolls of Mesic Uplands

*Other vegetative classification:* Sandy soils on rises, knolls, and ridges of mesic uplands (G156BC121FL)

*Hydric soil rating:* No