

5.0 Surface Water Management Design Parameters

SMA ID	WQ Volume Required (ac-ft)	WQ Volume Provided (ac-ft)	Overflow Elevation (ft)	Maximum Discharge ¹ 10-year/72-hour (cfs)	Receiving Node(s) ^{2,3}
<i>SMA-1</i>	19.27	25.40	54.90	106.27	WPA-006, WPA001, LK TOHO
<i>SMA-2</i>				15.71	
<i>SMA-3</i>				7.14	
<i>SMA-4A</i>	11.03	11.25	59.50	9.12	SMA-6
<i>SMA-4B</i>				4.61	
<i>SMA-5</i>				35.82	
<i>SMA-6</i>	4.55	5.34	58.80	57.02	W-11, GBS-001
<i>SMA-8</i>	15.97	16.09	62.20	23.37	W-4, GBS-004
<i>SMA-9</i>				7.30	
<i>SMA-10</i>				76.67	
<i>SMA-12</i>	13.12	13.47	59.40	189.93	SMA-1
<i>SMA-13</i>	12.95	13.37	62.60	135.48	SMA-12
<i>SMA-14</i>	7.03	7.51	63.50	27.22	SMA-13
<i>SMA-15</i>	12.70	16.68	64.10	41.11	SMA-13
<i>SMA-16</i>				6.49	
<i>MARINA</i> ⁴	0.86	1.03	55.00	7.91	W-16

Note: All elevations are given in NAVD

¹See Post-Development ICPR Nodal Maximum Conditions (Appendix C.2)

²W = Wetland, WPA = WPA Canal, GBS = Gator Bay Slough, LK TOHO = Lake Tohopekaliga

³WPA Canal and Gator Bay Slough ultimately discharge into Lake Tohopekaliga

⁴Based on 1" over basin area, additional water quality treatment volume for impervious area provided in SMA-1

Design Storm Event	10-year/72-hour	10-year/72-hour
Tailwater Node	Pre-Development Max Inflow	Post Development Max Inflow
GBS-004	173.94 cfs	62.16 cfs
GBS-001	80.34 cfs	56.55 cfs
WPA-006	12.20 cfs	12.20 cfs
WPA-001	87.57 cfs	86.09 cfs
LK TOHO	109.40 cfs	94.03 cfs
Total	463.45 cfs	311.03 cfs
Total Drainage Area¹	740.11 ac	740.11 ac
Pro Rata Discharge	0.63 cfs/ac	0.42 cfs/ac

¹Total Drainage Area includes all modeled basin areas, including on-site and related off-site basin areas (See Narrative C.3.iii.)

Design Storm Stages

SMA ID	Control Elevation (ft)	10yr/72hr Stage (ft)	Proposed Min. Rd. Crown¹ (ft)	100yr/72hr Stage (ft)	Proposed Min. FFE² (ft)
<i>SMA-1</i>	54.25	56.76	56.76	57.65	58.76
<i>SMA-2</i>	54.25	56.78	56.78	57.69	58.78
<i>SMA-3</i>	54.25	56.77	56.77	57.69	58.77
<i>SMA-4A</i>	58.00	60.86	60.86	61.89	62.86
<i>SMA-4B</i>	58.00	60.90	60.90	61.95	62.90
<i>SMA-5</i>	58.00	60.82	60.82	61.85	62.82
<i>SMA-6</i>	57.50	60.12	60.12	60.73	62.12
<i>POND-7³</i>	58.00	59.13	60.00	59.77	62.00
<i>SMA-8</i>	60.50	63.70	63.70	65.02	65.70
<i>SMA-9</i>	60.50	63.49	63.49	64.46	65.49
<i>SMA-10</i>	60.50	63.16	63.16	63.73	65.16
<i>SMA-12</i>	58.00	60.98	60.98	61.78	62.98
<i>SMA-13</i>	61.00	63.68	63.68	64.68	65.68
<i>SMA-14</i>	62.00	64.71	64.71	65.89	66.71
<i>SMA-15</i>	62.50	65.05	65.05	66.35	67.05
<i>SMA-16</i>	62.50	65.21	65.21	66.53	67.21
<i>MARINA^{1A}</i>	54.25	55.62	55.62	56.04	57.62

Note: All elevations are given in NAVD

¹Proposed minimum road crown elevations are set at the greater of 2' above the Control Elevation or the 10yr/72hr maximum flood stage (per SFMWD criteria).

^{1A}Marina crown elevation set at 10yr/72hr stage according to SFWMD criteria

²Proposed minimum finished floor elevations have been set at the greater of 2' above the proposed road crown (per Osceola County criteria) or the 100yr/72hr maximum flood stage (per SFWMD criteria).

³No treatment or attenuation proposed in POND-7

Control Structures

Control Structure	Orifice/Weir			Drop Inlet			Pipe		
	Type	Invert El. (ft)	Dimension	Type	Grate El. (ft)	Dimension	Type	Dia.	Length (ft)
CS-1A	R	54.25	3"x2'-7"	R	56.25	3'x8'-9"	C	60"	49
	R	54.90	(2) 2'x1' (1) 6'x1'						
CS-1B	R	54.90	2'x6"	R	56.25	3'-1"x4'-1"	C	36"	83
CS-5	C	58.00	6"	R	60.50	3'x8'-9"	C	48"	552
	R	59.50	(2) 2'x10" (1) 7'x10"						
CS-6A	C	57.50	5"	R	60.00	3'x6'-7"	C	48"	267
	R	58.80	(2) 2'x1' (1) 6'x1'						
CS-6B				R	58.80	2'x3'-1"	C	18"	230
CS-W11				R	55.70	3'x4'-6"	C	24"	87
CS-8				R	62.20	2'x3'-1"	C	24"	1734
CS-10A	C	60.50	(2) 5"	R	63.5	3'x8'-9"	C	42"	575
	R	62.20	(2) 3'x1'-2" (1) 8'x1'-2"						
CS-10B				R	62.50	3'x6'-7"	C	42"	581
CS-12A	C	58.00	(2) 5"	R	60.50	3'x8'-9"	C	48"	272
	R	59.40	(2) 2'x9" (1) 6'x9"						
CS-12B				R	59.50	3'x8'-9"	C	48"	274
CS-13A	C	61.00	(2) 4.5"	R	62.60	3'x6'-7"	C	42"	160
CS-13B				R	62.60	3'x6'-7"	C	42"	160
CS-14	C	62.00	5"	R	64.50	3'x8'-9"	C	42"	618
	R	63.50	(2) 2'x10" (1) 5'x10"						
CS-15	C	62.50	(2) 5"	R	64.10	3'x8'-9"	C	48"	1552
CS-Marina	C	54.25	2.75"	R	55.00	2'x3'-1"	C	18"	198

Note: All elevations are given in NAVD

Types:

C = Circular, R = Rectangular