

Town of Melbourne Beach

Stormwater Master Plan Update



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ENGINEERS | ARCHITECTS | SCIENTISTS

Workshop Agenda

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- Master Plan Goals
- Benefits
- Evaluation
- Priorities
- Budget
- Q&A



Master Plan Goals

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- Update SWMP
- Re-Prioritize Projects
- Update Project Budget Estimates
- Address Regulatory Requirements



Benefits

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- Regulatory Compliance (NPDES)
- Budgetary Planning
- Future TMDL's
- Replace failing stormwater infrastructure
- Improve water quality in the Indian River Lagoon!



Evaluation

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- Assess original SMP
- Citizen Workshop
- Field Investigations / Interviews
- Re-Prioritization / Development of Projects
- Update Costs
- Prepare Report



Existing Conditions Map

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- FLAG NOTES:**
- POST 2002 SYSTEM REPAIRS/ PROPOSED UPGRADES:**
- ▼ PIPE REPLACEMENT
 - ▼ JOINTS EXCAVATED, RE-SEATED, WRAPPED AND PATCHED
 - ▼ FRENCH DRAIN INSTALLED
 - ▼ EXFILTRATION
 - ▼ MUNICIPAL COMPLEX STORMWATER SYSTEM
 - ▼ SWALES
 - ▼ NUTRIENT SEPARATING BAFFLE BOX
 - ▼ CURB INLET BASKET
 - ▼ FDOT SWALE W/ UNDERDRAIN
- OBSERVED CONDITIONS:**
- ▼ FLOOD PRONE AREAS
 - ▼ SUBSIDIENCE PONDING
 - ▼ PIPE REPLACEMENT
 - ▼ PIPE ABANDONMENT



EXISTING CONDITIONS MAP

Priorities

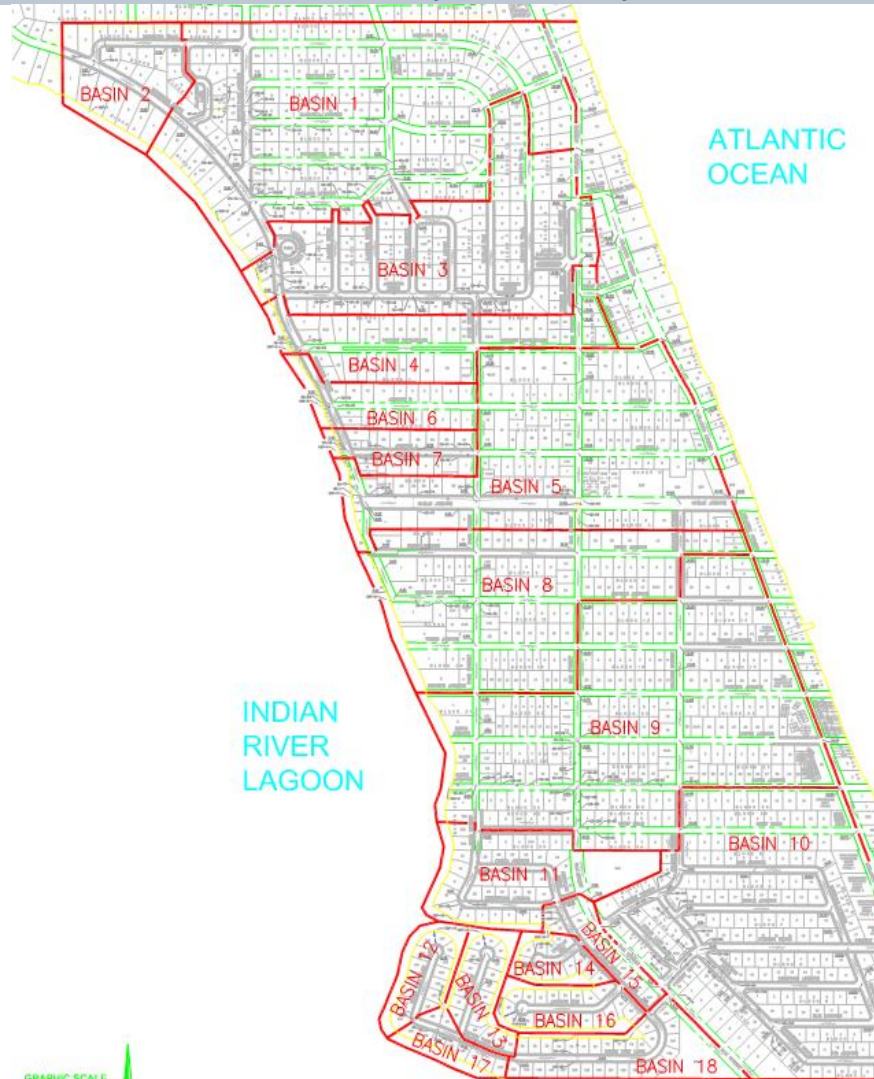
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- Flood Control
- Water Quality
- Infrastructure Maintenance



Drainage Basins

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KEY MAP

Project Status

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Stormwater Master Plan Project Status

Table 2

Basin	Basin Size	Project Name	Pipe Replacement	Exfiltration Trench	Nutrient Separating Baffle Box	Curb Inlet Basket	Other BMPs	Project phase			Planned Completion
								Funded	Designed	Complete	
1	88.63	Harland Avenue	x	x	x			Y	N		2008
1	-	South Palm Avenue		x				Y	N		2008
1	-	Magnolia Avenue	x					N			2015
1	-	Poinsettia Road	x					N			2015
1	-	Shannon Avenue Exfiltration		x				N			2015
2	15.48	Riverside Drive	x		x			N			2012
3	51.69	Andrews Drive	x	x				N			2010
4	23.63	Sunset and Riverside	x	x		x		N			2015
5	63.62	Ocean Avenue		x				N			2011
5	-	Oak Street Exfiltration		x				N			2015
6	9.84	Riverside Drive - Avenue B				x		N			2015
7	7.97	Avenue A	x	x				N			2014
8	50.15	Pine Street	x	x			x	N			2009
9	91.36	Sixth Avenue/Oak Street	x	x			x	Y	Y	N	2008
9	-	West Side Oak Street	x	x				Y	N		2008
9	-	Orange Street Exfiltration		x				N			2015
10	88.25	Rosewood/Cherry	x					N			2015
11	19.04	Driftwood Avenue	x					N			2013
12	4.72	Riverview Lane			x			N			2015
13	6.08	Sandy Key			x			N			2015
14	3.96	Pelican Key		x	x					Y	complete
10	88.25	Rosewood/Cherry				x				Y	complete
15	5.67	Neptune Drive			x					Y	complete
16	6.59	Anchor Key		x	x					Y	complete
17	3.62	Riverview Lane			x					Y	complete
18	13.98	Riverview Lane			x					Y	complete

Project Phase: Y = Yes, N = No

Other BMPs include swales and ponds.

Flood Control

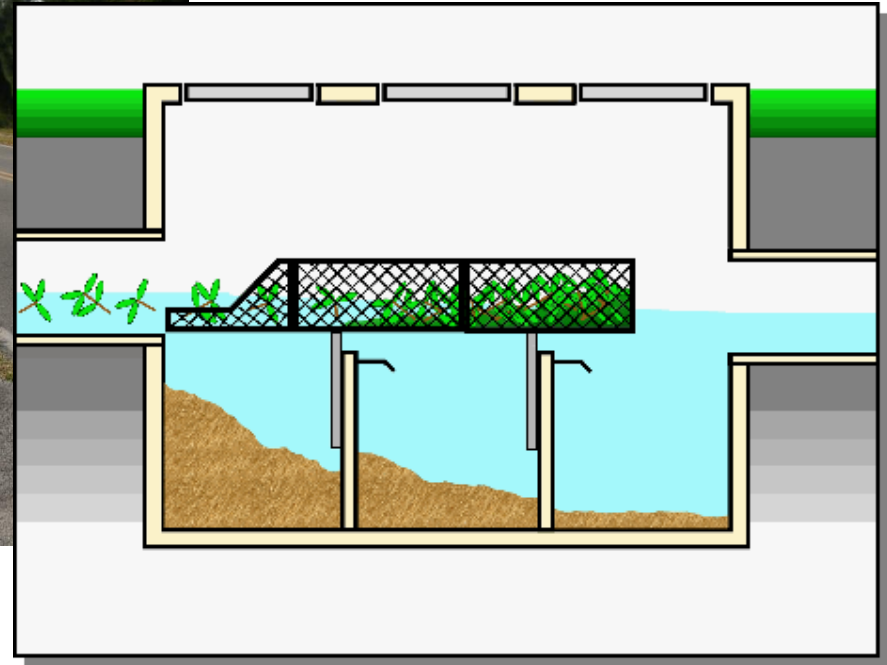
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- Flood concerns
- Outdated/failed infrastructure



Water Quality

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Infrastructure Maintenance

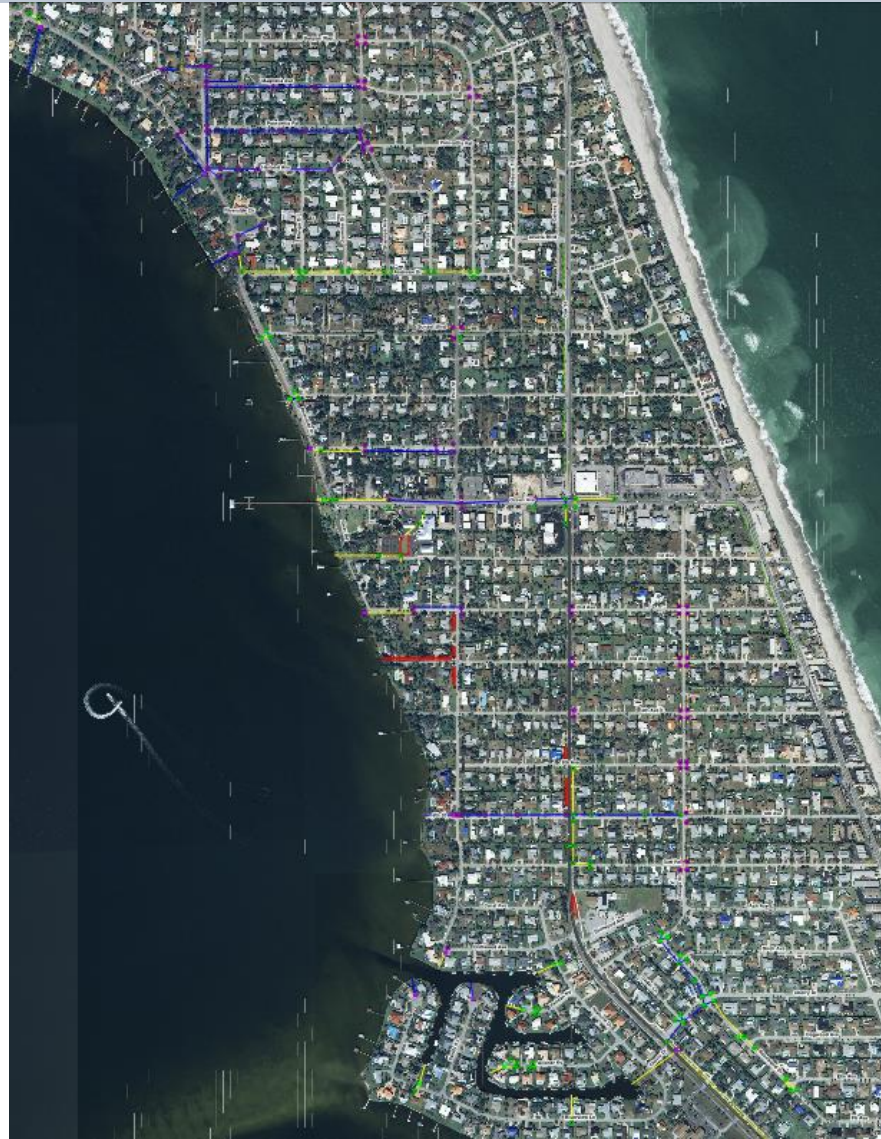
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- Replace failing pipe
- Repairs
- Cleaning
 - Baffle Boxes
 - Pipes
 - Swales



Recommended Improvements

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Prioritized Budget

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Table 1
PRIORITIZED CONSTRUCTION BUDGET MELBOURNE BEACH STORMWATER MASTER PLAN

Project Number	Basin	Project Name	Water Quality	Flood Mitigation/ System Maintenance	2007	2008	2009	2010	2011	2012	2013	2014	2015 and beyond	
1	9	Sixth Avenue/Oak Street *	x	x	\$212,000									
2	1	Harland Avenue**	x	x		\$527,000								
3	9	West Side Oak Street**	x	x		\$444,000								
4	1	South Palm Avenue**		x		\$463,000								
5	8	Fine Street	x	x			\$271,000							
6	3	Andrews Drive	x	x				\$305,000						
7	5	Ocean Avenue		x					\$676,000					
8	2	Riverside Drive	x	x						\$235,000				
9	11	Driftwood Avenue	x								\$219,000			
10	7	Avenue A	x	x								\$468,000		
11	4	Sunset and Riverside	x	x									\$276,000	
12	9	Orange Street Exfiltration	x	x									\$568,000	
13	6	Riverside Drive - Avenue B	x										\$18,000	
14	12	Riverview Lane	x										\$183,000	
15	13	Sandy Key	x										\$173,000	
16	1	Shannon Avenue Exfiltration	x	x									\$567,000	
17	1	Magnolia Road	x	x									\$425,000	
18	1	Poinsettia Avenue		x									\$499,000	
19	10	Rosewood/Cherry		x									\$827,000	
ROM estimate for annual paving associated with SMP upgrades						\$111,000	\$108,000	\$81,000	\$125,000	\$81,000	\$46,000	\$23,000	\$651,000	
Additional Evaluation - Clean and TV - 10,000 LF of pipe @ \$2/LF						\$20,000								
Estimated Annual Maintenance Costs (based on two cleanings per year, initial 7 NSBBs, 19 CIBs, 4% annual escalation and additional units as constructed)					\$14,000	\$16,700	\$18,400	\$20,300	\$21,100	\$21,900	\$24,100	\$26,400	\$30,200	
All cost include 20% construction contingency, survey/geotechnical, engineering, permitting, construction administration, grant administration					Total Annual Budget	\$226,000.00	\$1,581,700	\$397,400	\$406,300	\$822,100	\$337,900	\$289,100	\$517,400	\$4,017,200
* Sixth Avenue/Oak Street actual cost of engineering and bid amount for current project.														
** Harland Avenue, South Palm Avenue, and West Side Oak Street/Sixth Avenue to be designed and constructed under a HMGP funded project.														
												Grand total	\$8,369,000	
Assumed 4% annual escalation (2008 and beyond)														

Q&A

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