



WATER & SEWER DEPARTMENT

Proposed FY20

Capital Improvement
Program (CIP)



ITEM	RENEWAL, REPLACEMENT, & IMPROVEMENT (RR&I)		FUNDING SOURCE						
	PROJ NMBR			FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
1	17001	Renewal & Replacement - Water	RR&I	\$450,000	\$450,000	\$450,000	\$450,000	\$450,000	\$ 2,250,000
2	17002	Renewal & Replacement - Sewer	RR&I	450,000	450,000	450,000	450,000	450,000	\$ 2,250,000
3	16161	RO Membrane Replacement	RR&I	85,000	85,000	50,000	50,000	50,000	\$ 320,000
4	16162	MBR Membrane Replacement	RR&I	350,000	350,000	120,000	120,000	120,000	\$ 1,060,000
5		NWTP Membrane Replacement	RR&I	0	70,000	70,000	70,000	70,000	\$ 280,000
6	16163	Corrosion Inhibition Program	RR&I	60,000	60,000	60,000	60,000	60,000	\$ 300,000
7	16164	Lift Station Vault/Valve Replacement	RR&I	85,000	85,000	85,000	85,000	85,000	\$ 425,000
8	16117	Meter Replacement	RR&I	55,000	250,000	250,000	250,000	250,000	\$ 1,055,000
9	16165	Vehicle Replacement	RR&I	140,000	140,000	140,000	140,000	140,000	\$ 700,000
10	16125	Sanitary Sewer Manhole Repair and Lining	Capital Reserve	0	160,000	160,000	160,000	160,000	\$ 640,000
11	16166	Structural Improvements/Replacement Program	Capital Reserve	100,000	100,000	100,000	100,000	100,000	\$ 500,000
12	16167	Replacement Lift Station Control Panels	Capital Reserve	55,000	55,000	55,000	55,000	55,000	\$ 275,000
13	16168	Pump Improvements/Replacement Program	Capital Reserve	150,000	150,000	150,000	150,000	150,000	\$ 750,000
14	16170	Site Improvements/Upgrade	Capital Reserve	100,000	100,000	100,000	100,000	100,000	\$ 500,000
15	16171	Main Improvements	Capital Reserve	0	450,000	450,000	450,000	450,000	\$ 1,800,000
16	19023	Chemical Storage Tank Replacement Program	Capital Reserve	25,000	25,000	25,000	25,000	25,000	\$ 125,000
17		Well Maintenance Program	Capital Reserve	200,000	200,000	200,000	200,000	200,000	\$ 1,000,000
			TOTAL RR&I	2,305,000	3,180,000	2,915,000	2,915,000	2,915,000	14,230,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM ANNUALLY PROGRAMMED IMPROVEMENTS



The City's RR&I Program has a proactive approach that is focused on the W&S Department's overall needs rather than a reactive approach to failures and critical conditions. This essential program accommodates the rehabilitation, repair, or replacement of old or broken equipment, membranes, piping mains, and water meters in the City's W&S network.

This program:

- improves the City's service reliability to its consumers by minimizing system failures
- improves drinking water quality
- saves water by minimizing the risk of water main failure
- reduces potential damage to roads and properties if the City's water mains fail
- reduces maintenance and repair costs to the overall water and sewer system.
- provides for critical repairs of infrastructure

RENEW, REPLACE, AND IMPROVE

\$2,305,000 CIP SPREADSHEET #1-17



During certain times of the year, wells provide all the water for Marco Island

- 20 brackish water wells (only 14 currently in service)
- 7 aquifer storage and recovery (ASR) wells
- 11 monitoring wells
- 2 deep injection wells (membrane concentrate & reclaimed disposal)

Maintenance Needs

- Acidification to remove calcium carbonate buildup, which clogs wells
- Flushing and testing
- Replacement of components
- SCADA integration

WELL MAINTENANCE PROGRAM

ITEM	CAPITAL IMPROVEMENT COSTS		FUNDING SOURCE		FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
18	19005	Source Water Generator	Funded in FY20		1,200,000					\$ 1,200,000
19	19006	SWTP Replacement of Old HS Pump Station	Funded in FY20		1,400,000					\$ 1,400,000
20	16177	RWPF Bleach Tank Housing	Funded in FY20		15,000					\$ 15,000
21	18010	Yellowbird W&S Improvements	Funded in FY20		815,640					\$ 815,640
22		SWTP Drainage and Asphalt Improvements	Funded in FY21			500,000				\$ 500,000
23		MBR Tank Replacement	Funded in FY21			1,000,000				\$ 1,000,000
24		MBR Bridge Crane	Funded in FY21			500,000				\$ 500,000
25		RO Odor Control Rehab	Funded in FY21			100,000				\$ 100,000
26		RO Well Replacement	Funded in FY21			400,000	1,200,000		400,000	\$ 2,000,000
27		MBR/bridge crane enclosure	Funded in FY21			200,000	1,000,000			\$ 1,200,000
28		RWPF Chlorine Automation	Funded in FY22				200,000			\$ 200,000
29		Large Capital Equipment-	Funded in FY22				100,000	100,000	100,000	\$ 300,000
30		Isle of Capri STRP Design-Construction	Funded in FY22				700,000		7,000,000	\$ 7,700,000
31		Sewer camera/grout truck	Funded in FY22				300,000			\$ 300,000
32		SWTP RO Building Improvements	Funded in FY22				500,000			\$ 500,000
33		Sand Separator Replacement	Funded in FY23				100,000	100,000		\$ 200,000
34	19007	Multi-departmental Building	Funded in FY23				500,000	6,500,000		\$ 7,000,000
35		SWF Lake Interconnect Improvements	Funded in FY24						150,000	\$ 150,000
TOTAL CAPITAL IMPROVEMENTS					3,430,640	2,700,000	4,600,000	6,700,000	7,650,000	\$ 25,080,640
GRAND TOTALS					\$5,735,640	\$5,880,000	\$7,515,000	\$9,615,000	\$10,565,000	\$39,310,640
Funding Priority	ADDITIONAL CAPITAL IMPROVEMENT COSTS Identified- Not Funded		FUNDING SOURCE							TOTAL
1		Reclaimed water storage tank	Not Funded						900,000	900,000
2		IQ Water Improvements	Not Funded						1,000,000	1,000,000
3		Portable Generator Storage	Not Funded						1,000,000	1,000,000
4		Source Water Pump House Replacement	Not Funded						2,000,000	2,000,000
5		STRP - Goodland	Not Funded						7,000,000	7,000,000
6		Portable Generator/Pump Purchase	Not Funded						1,000,000	1,000,000
7		Reuse Nutrient Removal Process	Not Funded						2,000,000	\$ 2,000,000
NOT FUNDED - IDENTIFIED IMPROVEMENTS										\$ 14,900,000

5-YEAR CAPITAL IMPROVEMENT PROGRAM IMPROVEMENT PROJECTS

The Source Water Facility (SWF) (approximately 9 miles north of Marco Island) does not have an emergency standby power backup source. The Hurricane Irma uncovered the need to have emergency standby power generation at this facility. The design was funded in FY19. This project is for the construction and installation of an emergency standby power generator at the SWF.



SOURCE WATER GENERATOR PURCHASE

FY20 1,200,000 CIP ITEM #18

The SWTP old high service building, built in the 1970s, needs to be replaced. In 2010, the discharge manifold piping was unearthed, inspected and found to be in poor condition. This project design was funded in FY19. This funding request is for construction and will replace the pump house, pumps, motors and the manifold piping.



OLD HIGH SERVICE PUMP BUILDING REPLACEMENT

FY20 \$1,100,000 CIP ITEM #19

- ▶ This project was partially funded in FY16. Prior to making those improvements, Hurricane Irma destroyed the structure. Currently, this project has \$110,000. An additional \$15,000 is needed.



RWPF BLEACH TANK HOUSING

FY20 \$15,000 CIP ITEM #20

Public Works is planning on widening Yellowbird Street. Due to the type of road improvements, it is in the City's best interest to replace the water mains in the area at the same time of these improvements. The W&S improvement portion of this project is estimated to cost between \$1.8M and \$2.2M. Most of the funding for these improvements has been reallocated from the FY19 W&S budget. The FY20 annual allocation for Manhole Lining and Main Improvements will be used to fund this project and is included in this request.

YELLOWBIRD W&S IMPROVEMENTS

FY20 \$815,640 CIP ITEM #21



