



City of Marco Island

Meeting Date: October 3, 2022
To: City Council
From: Jeffrey E. Poteet, General Manager- Water & Sewer
Through: Mike McNees, City Manager
Re: Water and Sewer (W&S) Departmental Report

Both the City's drinking water and wastewater operations follow Florida Department of Environmental Protection (FDEP) regulations and all other regulatory requirements. Recently, the laboratory that analyzes water samples for the Water and Sewer Department, failed to run analysis of some required quarterly drinking water parameters within the allowable hold time. This failure resulted in a monitoring and reporting violation in accordance with Rule 62-560.410 F.A.C. Therefore, a notice of the violation will be published in the local newspaper and will be sent to all consumers through the billing process. The Water and Sewer (W&S) Department is operating within the approved budget. Below is a summary of department activities during the past month.

Water Quality Work Plan Update – Water and Sewer Department

Reclaimed water facility inspections have resumed, but the progress has slowed due to staffing shortages. Furthermore, a cable company is currently expanding their fiber optics system throughout the Island and this project has further drained the W&S Department's resources. The GIS consultant has been slowly updating the permeable acreage for the parcels that irrigate with reclaimed water. Staff is still on schedule with completing the reclaimed water facility inspection by the end of the year.

Tommie Barfield Elementary School Recognizes W&S Team Members

Special guests provide flag folding lessons

A huge thank you to Casey Lucius, Eric Garwood and Darrell Williams for working with our 7th grade Civics classes, last week, to discuss the history of the American flag and show students the proper folding method. After this flag presentation, many of these students will now raise and lower the flag each day. What a great way to incorporate the upcoming anniversary of September 11 and Veteran's Day while involving local city employees that were previously in the military.

Water Main Improvements

The watermain connection at North Collier Boulevard (NCB) and North Barfield Drive (NBD) is in progress. The Maintenance of Traffic (MOT) plan, the shop drawings, and the right-of-way permit application have been reviewed and approved as required. Construction on the watermain connection is scheduled to begin on 10/5/22. There are no pedestrian crosswalks between NBD and East Elcam Circle (EEC) along NCB. Therefore, the sidewalks along the NCB northbound lane between NBD and EEC will be closed. Furthermore, during construction, Founders Memorial Park will be closed.



Acidification of Brackish Wells #13 and #16

The acidification treatment for the raw water wells 13 and 16 is in progress. The contract has been fully executed. The project is scheduled to begin on 11/14/22 and is expected to take 5 months to complete. This project will have a minimal traffic impact.



Biologically Activated Filters Project

The design of the biologically activated filters (BAF) is in progress. During the design, the consultant identified the need to replace two existing lake transfer pumps, electrical switchgear, and variable speed drives. Additional funding was requested at the capital improvement program (CIP) workshop, and funding was subsequently approved in the FY23 Water and Sewer (W&S) budget.

The design consultant has submitted the electrical improvement proposal for the additional work. Included in the design is the replacement of a 50-year-old diesel motor and pump that is at the end of its useful life. This pump replacement was awarded a FEMA grant in the amount of \$495,000. The design of the BAF, including the electrical portion is expected to be completed by the end of December 2022. Permitting and bidding will commence upon completion of the design. The construction of the BAF is fully funded in the approved W&S budget and following the bidding process a request for construction will be presented to City Council for consideration.



High Service Pump Station (HSPS) Replacement

The existing pump station at the City's South Water Treatment Plant is below the flood elevation and the building is inundated with water during heavy rains. A Resilient Florida Grant in the amount of \$900,000 has been awarded by the Florida Department of Environmental Protection (FDEP) to fund a portion of the construction cost, which is estimated at \$2.3M. Full funding for the design and construction to replace the antiquated HSPS is in the W&S Department's approved budget. The project is planned to be publicly bid in October.



Valve Exerciser

The W&S Department has over a thousand valves in the water distribution, sanitary sewer transmission, and reclaimed water distribution systems. State regulations require the valves to be exercised annually to maintain good operating condition. The City's current valve exerciser is over 16 years old and needs to be replaced. Staff have been researching valve exercising machines from various vendors to find the best machine to meet our needs.



Annex 2nd Floor Reconfiguration

The design for the second-floor reconfiguration of the Annex has begun. The second floor will need to be reconfigured to accommodate the W&S Administration once the new fire station construction is completed and the Fire Department relocates. The design is anticipated to be completed by the end of November, followed by construction bidding. Once the bidding process is completed, the award of construction will be presented to City Council for consideration.

Fiber Optic Installation

Summit Broadband is using 5 separate contractors to install new fiber optics cables throughout Marco Island. This work has substantially increased the W&S Department's workload of locating water and sewer utilities. On August 17, 2022, one of the contractors broke a water main, which had been properly located. Approximately 6-feet of pipe was replaced by Summit Broadband. Summit Broadband released the contractor from working for them on the Island for failing to properly excavate the area.



Collections and Distribution (C&D) Work Center

The design of the C&D work center is approximately 75% complete. An amendment and variance petition has been submitted to the City's Growth Management Department to reduce the building's required setback. In 2009, a similar setback variance was approved to accommodate the construction of the North Water Treatment Plant's microfiltration building. The variance will be presented to the Planning Board for a recommendation prior to seeking City Council's approval. Staff anticipates presenting the variance to City Council for consideration in early 2023.

Water Service Interruptions with Boil Water Notice (BWN)			
Month	Number of Service Calls Resulting in a BWN	Number of Customers Affected in the Month	Large Interruptions 50 Customer or More
Sept-21	4	550	Marco Villas-148 Units
Oct-21	6	208	Eagle Cay-126
Nov-21	6	438	Seagate -282
Dec-21	1	10	
Jan-22	1	42	
Feb-22	4	178	Sunset 90 & Gulfst
March-22	4	177	Vintage Bay-132
April-22	2	95	Capistrano Ct-70
May-22	2	40	
June-22	1	16	
July-22	1	60	Columbus Way-60
Aug-22	2	32	



Treatment Plant Data

Starting Date: 7/1/2022
Ending Date: 7/31/2022

Rain Fall for Time Period 11.80 Inches

Ending Date:		7/31/2022		Average Daily Flow (ADF)					
Aquifer Storage & Recovery				Million Gallons per Day (MGD)					
				ASR - Injection Avg. Daily Flow		0.00	MGD	Jul-22	"U" Undetected - results below detection limit
				ASR - Recovery Avg. Daily Flow		0.78	MGD		
Marco Island Drinking Water									
				Max Day	Max Day	Flow			
Combined Consumer ADF				7.99	MGD	7/30/2022	9.84	MGD	
NWTP Consumer ADF				3.03	MGD	7/11/2022	3.91	MGD	
SWTP Consumer ADF				4.95	MGD	7/30/2022	6.51	MGD	
Finished Water Testing									
Minimum Chlorine Residual				3.30 mg/L					
		Maximum	Minimum			Maximum	Minimum		
Turbidity		0.01	0.01	NTU	Chlorides	132	96	mg/L	
Total Dissolved Solids		316.00	267.00	mg/L	Color	8	2	mg/L	
P-Alkalinity		6.00	4.00	mg/L	Phosphate	0.84	0.68	mg/L	
M-Alkalinity		38.00	32.00	mg/L	Ammonia	0.94	0.56	mg/L	
Cal-Hardness		92.00	70.00	mg/L	Aluminum	0.1	0.03	mg/L	
Total Hardness		122.00	96.00	mg/L	pH	8.92	8.68	SU	
Jul-22 Wastewater - RWPF				Monthly Testing					
Average Flow		Monthly Max Day		Influent		Effluent			
Influent	2.27	MGD	7/7/2022	2.77	BOD	204.5	3.75	mg/L	
Reuse	1.53	MGD	7/30/2022	2.34	TSS	99.9	0.6 U	mg/L	
Deep Well	0.727	MGD	7/8/2022	1.605	Total N	NA	7.14	mg/L	
					Total P	5.6	4.59	mg/L	