



# City of Marco Island

Meeting Date: September 8, 2025

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 entity requirements. The W&S Department is operating within the approved budget. Below is a summary of department activities during the past month.

## **ANNUAL TEMPORARY MODIFICATION TO THE DISINFECTION PROCESS**

The City of Marco Island will conduct its annual temporary modification to the potable (drinking) water disinfection process for the Marco Island and Marco Shores service areas. This change will take place from September 1 through September 30, 2025.

During this period, the city will use free chlorine instead of the usual chloramine (a combination of chlorine and ammonia) to disinfect the water supply. This temporary switch to free chlorine — a more potent disinfectant — is part of a routine system maintenance program recommended by the Florida Department of Environmental Protection. The process helps to cleanse the water distribution system and maintain high water quality standards for our community.

The conversion to free chlorine will begin on September 1, 2025.

## **Smoke Testing of the City's Sanitary Sewer Collection System**

As part of its ongoing infrastructure maintenance program, the Water & Sewer (W&S) Department routinely conducts smoke testing on the City's gravity sanitary sewer collection system. This test is scheduled every five years and is designed to assess the condition and integrity of the system. Smoke testing is a widely accepted, cost-effective, and non-invasive method used to identify defects and potential sources of inflow and infiltration (I&I) in gravity-fed sanitary sewer systems. I&I can significantly impact system efficiency and lead to sanitary sewer overflows, increased treatment costs, and damage to public and private property.

This project has begun and will last through September 29<sup>th</sup> please see attached map for the smoke testing in your area.



### **SWTP Raw Water Main**

On August 21, 2025, at approximately 12:30 PM, a 20-inch raw water main at the South Water Treatment Plant (SWTP) failed, resulting in a complete shutdown of the plant's production. The break occurred adjacent to the SWTP membrane building and required the immediate replacement of a section of pipe. To safely expose the damaged area, crews utilized a vacuum truck and performed a "soft dig," a method that reduces the risk of damaging surrounding infrastructure and utilities. Once exposed, the defective section of pipe was carefully removed and replaced with new material.



The repair process continued throughout the afternoon and evening. From the initial response, the affected section of the main was quickly isolated to minimize water loss, after which excavation and removal of the damaged pipe were completed. Following installation of the replacement pipe, the system was repressurized and thoroughly tested to ensure there were no leaks or additional failures. By approximately 10:30 PM, the repair work was successfully completed, and the SWTP was able to restore normal production operations.

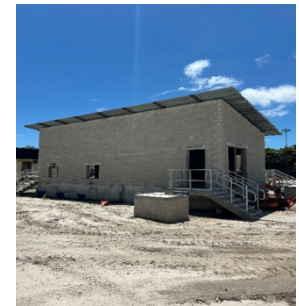
While the incident was resolved without further complications, it highlights the importance of maintaining a highly trained response team capable of acting swiftly and effectively to restore critical infrastructure. The rapid coordination and technical skills demonstrated during this event were essential in minimizing downtime and ensuring continued reliability of the water system.

### **SWTP West High Service Pump Station**

Construction of the West HSPS is advancing on schedule. Roof installation is expected to be completed by mid-September, pending delivery and installation of the backordered skylights.



By the end of September, the contractor will begin painting the building, followed by installation of doors, electrical connections, grounding/lightning protection, fire suppression, and control panels.



The engineer is preparing a request to place the newly constructed mains into service. Once approved, the contractor will connect the new mains to the existing system. This work will require a scheduled plant shutdown, tentatively planned for mid-September.

The project remains on budget, with substantial completion anticipated in mid-November.



### **Collection and Distribution (C&D) Work Center Ribbon Cutting**

The event was attended by Councilors Henry and Goehler, the project architect and contractor, members of the public, and several City staff, highlighting the importance of the new facility to the community.

Despite a brief delay caused by hurricanes last summer, an issue outside the contractor's control, the project was delivered on schedule and is anticipated to come in under the approved budget.

The new C&D Work Center provides a modern, efficient workspace that will enhance daily operations, improve equipment storage and accessibility, and support staff in delivering reliable service to residents. C&D staff have expressed enthusiasm about moving into the building and beginning operations in a facility designed to better meet both their needs and the City's long-term service goals.



### **Raw Water Line Header Influent Pipe**



The contractor has completed replacement of the 20" raw water pipe with new HDPE piping. As part of the work, the contractor also upgraded the pipe cradles, connected the pre-filter using tapping saddles, and installed additional saddles for the chemical monitoring port.

The project is now fully complete, and the plant has been returned to service. Progress of the installation was documented with photographs throughout the project.

### **NWTP Emergency Repairs**

On the evening of Sunday, July 21, the influent headers on Membrane Train #6 at the North Water Treatment Plant (NWTP) experienced a failure. While the Water & Sewer (W&S) team has the expertise to replace the header, these components are not standard inventory items due to their specialized design. Staff quickly isolated the train and implemented temporary repairs to maintain plant operations.

The influent header is a custom-fabricated part unique to the NWTP's six membrane trains, all of which use identical headers. Because of the ongoing dry weather conditions and elevated water demand, maintaining redundancy is essential. Although the remaining headers remain operational, another failure would significantly increase the risk of service disruption.

With authorization from the City Manager, staff engaged the original equipment manufacturer (OEM) and placed an order for two replacement headers at a cost of \$18,584.95 each. Ordering two ensures a spare will be available to mitigate risks from future failures.



The manufacturer has indicated a 10-week lead time, with delivery anticipated in mid-October. In the interim, staff continues to closely monitor the temporary repair and have had to perform re-repairs twice since the initial failure to maintain functionality.

Water Service Interruptions with Boil Water Notice (BWN)			
Month	Number of Service Calls Resulting in a BWN	Number of Customers	Large Interruptions 50 Customer or More
Aug-24	0	0	NO PRECAUTIONARY BOIL WATER NOTICES
Sept-24	4	307	Marco Villas-68 Twice and
Oct-24	5	320	Aquarius 50, Marco Villas-68,6000
Nov-24	6	383	Royal Marco Way-6000 Royal marco Way-78, Tradewinds-
Dec-24	3	160	1771 Mainsail 100, 901 South Collier 52.
Jan-25	3	66	
Feb-25	2	40	
March-25	0	0	NO PRECAUTIONARY BOIL WATER NOTICES
April-25	1	72	72 units at Stevens Landing
May-25	3	32	Town Center-7 Units
June-25	3	37	
July-25	3	367	Smokehouse Bay-349



Treatment Plant Data						
Starting Date:		6/1/2025		Rain Fall for Time Period 15.70 Inches		
Ending Date:		6/30/2025		Average Daily Flow (ADF)		
Aquifer Storage & Recovery				Million Gallons per Day (MGD)		
ASR - Injection Avg. Daily Flow		0.00 MGD		Jun-25		"U" Undetected - results below detection limit
ASR - Recovery Avg. Daily Flow		3.67 MGD				
Marco Island Drinking Water						
				Max Day	Max Day	Flow
Combined Consumer ADF		9.65 MGD		6/9/2025	12.22	MGD
NWTP Consumer ADF		4.01 MGD		6/2/2025	4.63	MGD
SWTP Consumer ADF		5.64 MGD		6/9/2025	7.80	MGD
Finished Water Testing						
Minimum Chlorine Residual		3.30 mg/L				
		Maximum	Minimum		Maximum	Minimum
Turbidity		0.01	0.01	NTU	Chlorides	140 127 mg/L
Total Dissolved Solids		432.00	280.00	mg/L	Color	6 2 mg/L
P-Alkalinity		8.00	3.00	mg/L	Phosphate	0.89 0.54 mg/L
M-Alkalinity		39.00	32.00	mg/L	Ammonia	0.9 0.64 mg/L
Cal-Hardness		88.00	70.00	mg/L	Aluminum	0.06 0.01 mg/L
Total Hardness		120.00	100.00	mg/L	pH	9.16 8.72 SU
Jun-25 Wastewater - RWPF				Monthly Testing		
Average Flow		Monthly Max Day		Influent	Effluent	
Influent	2.39 MGD	6/19/2025	3.67	BOD	214	6.15 mg/L
Reuse	1.67 MGD	6/10/2025	2.45	TSS	112.5	0.975 mg/L
Deep Well	0.761 MGD	6/23/2025	2.17	Total N	NA	8.39 mg/L
				Total P	4	5.55 mg/L