



City of Marco Island

Meeting Date: October 6, 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.

Water Main Breaks: More Common in the Summer

On Sunday, September 14, 2025, a six-inch water main cracked along the northern end of Colonial Avenue, releasing an estimated 85,000 gallons of potable water. The break undermined the sidewalk and roadway and temporarily disrupted service to about 20 properties. The cause was a three-foot crack in the PVC main, a type of issue that occurs more frequently during the summer months on Marco Island and in surrounding areas.



Summer water main breaks are often linked to our region's sandy soils and rainy season. Heavy rainfall can shift sand away from underground pipes, leaving them unsupported. At the same time, the added weight of saturated soil increases pressure on the pipes. Over time, this stress can create cracks that eventually lead to failures, as happened on Colonial Avenue.



Utility staff responded immediately. The affected section of pipe was isolated within an hour, and additional team members were called in to assist. Using heavy equipment, crews completed the repair within four hours, and water service was restored the same evening.

As a precaution, residents in the affected area were placed under a Precautionary Boil Water Notice (PBWN). A PBWN is a standard safety measure when water pressure is lost or a main break occurs, ensuring residents boil water before using it for drinking or cooking. Once repairs were completed, crews flushed the system and collected samples under the supervision of licensed staff. Testing was conducted at a certified laboratory, requiring two consecutive days of clear results before the notice could be lifted.



The PBWN was rescinded on Tuesday, September 16, after results confirmed the absence of bacteria. This incident underscores how quickly summer conditions can lead to main breaks and how promptly the utility acts to protect public health and restore service.

Caught In the Act - North Water Treatment Plant (NWTP) Lime Reactor Cleaning

On September 9–10, 2025, fifteen members of the Water and Sewer Department participated in a two-day project to clean the lime reactor at the City's North Water Treatment Plant (NWTP). This work, which is outside of the staff's normal job responsibilities, was completed under challenging conditions, including extended shifts and rain.

The City's raw surface water is treated to reduce hardness through the lime softening process. In this process, raw surface water is combined with hydrated lime and alum (aluminum sulfate) in a vessel known as a lime reactor. Within the reactor, the bicarbonate in the water precipitates and settles out, thereby reducing hardness levels.

As this lime sludge accumulates, scale builds up on the reactor tank surfaces, walls, weir, mixing chamber, and other components. Over time, these deposits - sometimes as thick as seven inches - diminish the efficiency of the treatment process. Periodic cleaning of the lime reactor is required to ensure optimal performance and maintain water treatment effectiveness.

Preparations were completed in advance, and all necessary equipment was staged on-site, including:

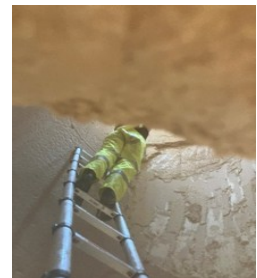
- Trailer-mounted pumps
- Pressure sprayers
- Air chisel
- Mechanical hammer drill
- Mortar container for debris removal
- Crane truck
- Vac truck with water jet

The cleaning procedure lasted approximately 36 hours. Crews first dewatered the reactor basin and operated pumps to manage water removal. Once the basin was fully dewatered, personnel entered the reactor to remove scale and calcium deposits from the walls, bottom, mixing chamber, and other exposed surfaces. The material was collected in mortar containers and transferred by crane truck to the sludge truck for disposal.

The project required crews to work 10 hours on the first day and 8 hours on the second day without interruption. Despite the demanding nature of the work, the lime reactor was successfully returned to service without incident.

If this project had been contracted out, the cost of cleaning the lime reactor would have been in the range of \$100,000. By completing the work in-house, the Water and Sewer team not only delivered a critical maintenance project but also generated substantial savings for the City.

In recognition of their extraordinary effort and teamwork, all 15 staff members were presented with the Caught in the Act Award and received a \$100 gift card.



Collection and Distribution Dump Truck Replacement

On June 17, 2024, City Council approved the replacement of the Water and Sewer Department's 43-ton dump truck.

The replacement dump truck for the Collection and Distribution (C&D) Department was delivered at the beginning of September. The vehicle will serve as a critical asset in daily operations, including the transport of heavy equipment (excavators, forklifts, backhoes, etc.), large sections of piping, and the hauling of solids such as dirt, rock, stone, concrete, asphalt, and lime to and from excavation sites.



The purchase, in the amount of \$255,365.00, was made through All Roads Kenworth, LLC utilizing the Florida Sheriffs Association Contract. The build and delivery process required approximately 13 months to complete.

This acquisition replaces a 2004 dump truck that had reached the end of its service life, experiencing mechanical failures and escalating repair costs. The retired vehicle, after 20 years of use, will be sent to auction.

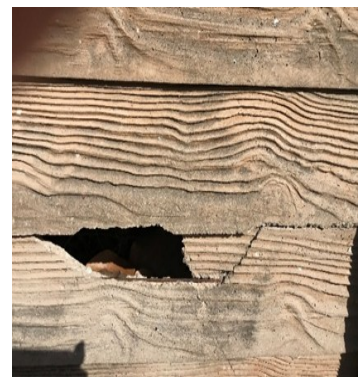
South Water Treatment Plant (SWTP) Perimeter Fence

The 7.6-acre Southwest Water Treatment Plant (SWTP) site is enclosed by approximately 2,300 linear feet of an eight-foot-tall decorative precast concrete perimeter wall. Installed prior to the City's acquisition of the water and sewer utility from Florida Water Service in 2003, the wall - together with its adjacent landscaping - provides site security as well as a visual and sound buffer, separating the treatment plant from the surrounding single-family residential neighborhood.



The wall system consists of precast concrete columns and slats, manufactured offsite and then transported and assembled onsite. There is only one manufacturer and installer of this system in the region. As a result, repairs are costly, require long lead times, and often necessitate additional expenses for the removal and replacement of adjacent landscaping.

After more than 35 years of service, the wall has begun to deteriorate. Several sections have been repaired or replaced within the last five years. Most recently, a section along the south property line has been identified for repair. The minimum repair option would patch three concrete posts with exposed rebar and caulk ten cracked posts at a cost of \$2,250. However, it is anticipated that up to twelve posts may fail during the panel replacement process. Replacement of those twelve posts is estimated to cost approximately \$20,000.



Due to the high cost of repairs and the ongoing deterioration of the wall system, staff is evaluating alternatives for replacement.

2025 Sewer Manhole Lining Project

The City owns and maintains approximately 290 miles of sanitary sewer mains and more than 2,100 manholes. As part of the City's annual maintenance program, the rehabilitation of sewer manhole linings was approved by City Council in April 2025. Sanitary sewer manhole structures are subject to aging and deterioration, which pose risks to the structural integrity and reliability of the overall sanitary sewer collection system.



This project consisted of repairing and lining existing manholes located along Marco Lake Drive, Front Street, 1st Avenue, 2nd Avenue, 3rd Avenue, Quail Drive, 5th Avenue, 6th Avenue, and Nassau Court in Marco Island, Florida. In total, 35 manholes—each approximately 4 feet in diameter, with a combined vertical height of 208 feet—were rehabilitated.



The project was completed successfully, within the approved budget and contract time.

North Marco Water Main Improvements

The North Marco (Old Marco) area is currently served by a potable water system consisting of a mix of 4-inch and 8-inch asbestos cement (AC) pipes. Planned improvements include the installation of a piping loop that will enhance system reliability and help maintain consistent water pressure throughout the North Marco region. The project was publicly bid, and construction is now underway.

The scope of work includes the design and replacement of an existing 8-inch AC water main on Bald Eagle Drive, extending from Tampa Place to Palm Street. Additionally, the contractor will replace a 4-inch AC water main on Tampa Place and Kerr Court with a new 10-inch PVC water main. Along with improved pressure reliability, the project will strengthen fire protection capabilities through the installation of two new fire hydrants. Construction began on September 8.



Excavation efforts are currently focused along Palm Street, where crews have encountered a significant layer of shells, reflecting the area's distinction as the oldest section of the Island. To ensure compliance with cultural and historical preservation requirements, the Water and Sewer Department has engaged an archaeological consultant to monitor excavation activities and document any artifacts that may be uncovered.

The project remains on schedule and within the approved budget.

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
Sept-24	4	307	Marco Villas-68 Twice, and Seabreeze 120
Oct-24	5	320	Aquarius 50, Marco Villas-68, 6000
Nov-24	6	383	6000 Royal marco Way-78, Tradewinds- 204
Dec-24	3	160	1771 Mainsail 100, 901 South Collier
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
Aug-25	3	291	Smokehouse Bay, Sandollar, Westview



Treatment Plant Data							
Starting Date:		7/1/2025		Rain Fall for Time Period		5.30 Inches	
Ending Date:		7/30/2025		Average Daily Flow (ADF) Million Gallons per Day (MGD) "U" Undetected - results below detection limit			
Aquifer Storage & Recovery							
ASR - Injection Avg. Daily Flow		6.06 MGD					
ASR - Recovery Avg. Daily Flow		0.00 MGD					
Marco Island Drinking Water							
		Max Day		Max Day		Flow	
Combined Consumer ADF		9.55 MGD		7/28/2025		11.43 MGD	
NWTP Consumer ADF		3.42 MGD		7/21/2025		3.94 MGD	
SWTP Consumer ADF		6.14 MGD		7/28/2025		7.58 MGD	
Finished Water Testing							
Minimum Chlorine Residual		3.30 mg/L					
		Maximum		Minimum		Maximum Minimum	
Turbidity		0.01		0.01 NTU		Chlorides 128 115 mg/L	
Total Dissolved Solids		286.00		252.00 mg/L		Color 8 1 mg/L	
P-Alkalinity		8.00		3.00 mg/L		Phosphate 0.99 0.65 mg/L	
M-Alkalinity		41.00		26.00 mg/L		Ammonia 0.96 0.59 mg/L	
Cal-Hardness		92.00		56.00 mg/L		Aluminum 0.1 0.03 mg/L	
Total Hardness		120.00		95.00 mg/L		pH 8.99 8.7 SU	
Jul-25 Wastewater - RWPF				Monthly Testing			
Average Flow		Monthly Max Day		Influent		Effluent	
Influent	2.20 MGD	7/4/2025	2.92	BOD	231.2	6.28	mg/L
Reuse	1.47 MGD	7/21/2025	2.19	TSS	96.8	0.72	mg/L
Deep Well	0.713 MGD	7/4/2025	1.808	Total N	NA	5.1	mg/L
				Total P	4	3.84	mg/L