



City of Marco Island

Meeting Date: May 5, 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.

Advanced Metering Infrastructure and Lead and Copper Rule Service Line Audit

The Water & Sewer Department oversees roughly 11,500 water meters citywide, most of which are aging mechanical devices whose accuracy deteriorates over time, resulting in an estimated 16 percent revenue loss in 2024 alone. While the City has funded an annual Meter Replacement Program (MRP) for years, it now recognizes the need for a more comprehensive, long-term solution.

In April 2024, the City engaged Johnson Controls, a nationally recognized energy service company, under a project development agreement to evaluate the feasibility of Advanced Metering Infrastructure (AMI). The City Council authorized an investment-grade audit (IGA) at a cost of \$375,000, which will be capitalized only if the AMI project proceeds; otherwise, it remains the City's sole outlay. Johnson Controls has since completed accuracy-assessments on a statistically representative sample of smaller meters (5/8", 1", 1.5", 2") and various larger meters (3" and above), and final benefit-cost analyses are now underway, which will help to inform the Council's implementation decision.

If approved, the AMI rollout will begin later this year and finish by early 2026. Existing meters will be replaced with ultrasonic models boasting a 20-year accuracy lifespan for residential and light-commercial use, and a 10- to 15-year lifespan for heavy-commercial applications. Automated readings every 15 minutes, with three-hour data transmissions, will eliminate most manual reads and dramatically reduce both labor and truck-roll expenses.

At the same time, compliance with the Environmental Protection Agency's (EPA) revised Lead and Copper Rule mandates documentation of every service line's material on both the utility and customer sides of each meter. Roughly 4,900 service lines currently list their material as "unknown," making them a priority for inspection. By integrating material verification—photographing, georeferencing, and classifying each service saddle—into the meter replacement workflow, the City avoids separate mobilization and administration costs and captures substantial savings.

Beyond satisfying regulatory requirements, this combined initiative will sharpen billing accuracy, boost revenue recovery, and lower maintenance expenses. Consumers will benefit from a customer portal offering real-time usage monitoring and leak alerts. The georeferenced service-line material map will also enable targeted notifications for any "lead," "galvanized requiring

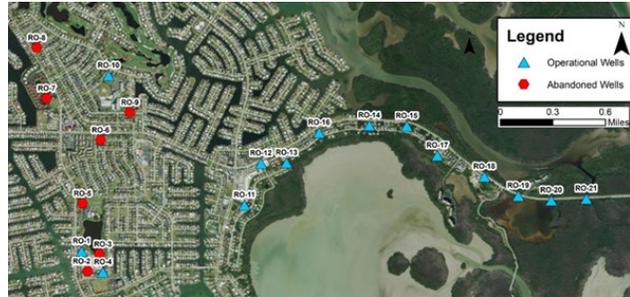
replacement,” or still “unknown” lines, ensuring proactive replacements where necessary and protecting public health.

Staff plans to present the IGA findings and seek City Council direction on AMI implementation at the May 19 meeting, thereby addressing both the meter modernization decision and the service-line inspection requirements of the new Lead and Copper Rule in one comprehensive package.

Brackish Groundwater Wells #7 & #8 - Video Survey

The South Water Treatment Plant (SWTP) draws its water supply from a brackish groundwater aquifer located approximately 550 feet below the surface. Over time, production wells tapping this aquifer experience reduced efficiency and deteriorating water quality due to mineral encrustation and other subsurface conditions.

In Fiscal Year 2019, the City launched a proactive well rehabilitation program aimed at restoring well performance by removing mineral buildup and enhancing water yield. Over the past six years, the Water and Sewer (W&S) Department has successfully rehabilitated six production wells, achieving significant results. Post-rehabilitation have shown these wells production rate increase from 100% to 200%. This initiative has generated substantial cost savings, especially when compared to the estimated \$2.5 million cost of constructing a new production well.



Wells #7 and #8 have been out of service since 2008 due to high salinity levels. However, recent hydrogeological evaluations suggest that it may be possible to rehabilitate these wells by partially back-plugging the casings to isolate zones with elevated salinity. This approach could potentially restore the wells to productive use.

The current phase of the project involves conducting detailed video surveys and water quality testing of wells #7 and #8 to assess their condition and determine rehabilitation feasibility. The video inspection for well #8 has been completed, and preparations are underway to begin the survey of well #7.



The final survey results are expected by the end of May. Based on these findings, the City will determine whether to proceed with rehabilitation efforts or formally abandon the wells.

Caught in the Act

Jason Blankenship was recently praised by a reclaimed-water customer for going above and beyond to resolve their sprinkler issues. At last month’s Marco Association of Condominiums (MAC) meeting, a representative from Summit House shared her experience working with Jason. He took the time to review and explain multiple meter-reading reports, demonstrate how reclaimed water should be applied, and patiently walked her through the irrigation meter’s functions. When the problem persisted, Jason met with her again, arranged a re-read of the meter, and provided an updated report a few weeks later so the customer could make a well-informed decision about their water usage.



In recognition of his exceptional service, Jason received the Caught in the Act Award, a certificate of appreciation, and a \$50 gift card.

Compliance Response to FDEP Irrigation Complaint

On April 17, 2025, the Florida Department of Environmental Protection (FDEP) notified us of a complaint concerning broken or missing irrigation heads and associated overspray along Collier Boulevard, which allowed reclaimed water to enter the stormwater system. On April 21, 2025 the FDEP followed up with a Compliance Assistance Offer letter requesting a written response within 30 days outlining planned corrective actions or timelines, any supporting data, or arrangements for a joint site inspection. To meet these requirements, the Public Works team, along with the City's landscape irrigation contractor will implement all necessary repairs and adjustments. Additionally, both Public Works and Parks & Recreation have reported vandalism of several irrigation control boxes, a factor that may have contributed to system malfunctions and will be addressed as part of our corrective measures.

No Precautionary Boil Water notices issued since the last report.

Treatment Plant Data						
Starting Date:	2/1/2025		Rain Fall for Time Period	1.00 Inches		
Ending Date:	2/28/2025		Average Daily Flow (ADF)			
Aquifer Storage & Recovery			Million Gallons per Day (MGD)			
ASR - Injection Avg. Daily Flow	0.00	MGD	Feb-25	"U" Undetected - results below detection limit		
ASR - Recovery Avg. Daily Flow	1.84	MGD				
Marco Island Drinking Water						
			Max Day	Max Day	Flow	
Combined Consumer ADF	10.72	MGD	2/8/2025	11.88	MGD	
NWTP Consumer ADF	4.02	MGD	2/17/2025	4.54	MGD	
SWTP Consumer ADF	6.70	MGD	2/13/2025	7.75	MGD	
Finished Water Testing						
Minimum Chlorine Residual		3.50 mg/L				
	Maximum	Minimum		Maximum	Minimum	
Turbidity	0.01	0.01	NTU	Chlorides	132	121 mg/L
Total Dissolved Solids	300.00	217.00	mg/L	Color	6	-5 mg/L
P-Alkalinity	10.00	4.00	mg/L	Phosphate	0.71	0.47 mg/L
M-Alkalinity	49.00	35.00	mg/L	Ammonia	0.89	0.59 mg/L
Cal-Hardness	116.00	84.00	mg/L	Aluminum	0.08	0.01 mg/L
Total Hardness	128.00	108.00	mg/L	pH	8.93	8.76 SU
Feb-25 Wastewater - RWPF			Monthly Testing			
	Average Flow	Monthly Max Day		Influent	Effluent	
Influent	2.65 MGD	2/15/2025	3.25	BOD	446	13.00 mg/L
Reuse	2.05 MGD	2/9/2025	2.53	TSS	273	0.625 mg/L
Deep Well	0.562 MGD	2/24/2025	1.464	Total N	NA	6.14 mg/L
				Total P	6.83	2.63 mg/L