



City of Marco Island

Meeting Date: January 6, 2020
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 are in compliance with Florida Department of Environmental Protection (FDEP) regulations and all other regulatory entity requirements. The Water and Sewer (W&S) Department is operating within the approved budget.

W&S Open House

On 2/20/20, the W&S Department will be hosting an Open House from 9:00 AM-11:30 AM at the North Water Treatment Plant, 807 E. Elkcarn Circle, Gate "C" A presentation on the W&S Department will begin at 9:30 AM, followed by a plant tour. Photo I.D is required. All guests participating in the plant tour must wear closed toe shoes.

NWTP Lime Sludge Press Building Restoration

Construction is still in progress. The installation of the metal building, roof, lights, fire alarm system, smoke detectors, stairs, catwalk, and insulation has been completed. The contractor will continue with the installation of the doors, windows, wall exhaust fan, lightning protection, and overhead doors.



The construction completion is expected by 1/20/20. This project is being reimbursed by FEMA.

Marco Shores Alternative Water and Sewer Improvements Project

The contractor completed the water pressure test for the 20" water main from the north side of the Jolley Bridge to Mainsail Drive. They also completed the connections of the 20" water main located in Collier Blvd at Barfield Drive and installed a new fire hydrant. The sodding operations on 6th Ave and Collier Blvd ROW are completed. The 20" water main under Collier Blvd from the north side of the Jolley Bridge to Mainsail Drive has been disinfected and passed the bacteriological tests. The contractor completed the connection of the two 20" water mains at the north side of the Jolley Bridge and connected the new 20" and 12" force mains with the existing force mains at three different locations on Elkcarn Circle. After the connections, the contractor restored the roadway at those locations. The installation of the concrete slab, the pavement of the driveway and the fence at the Master Pump Station has been completed. The contractor installed the standby emergency generator and continues working on the electrical connections. This project is on schedule and is within the approved budget.



REHABILITATION OF BRACKISH WATER WELLS #17 AND #18

The contractor completed the acidification process of well #17. The final post-treatment step-drawdown testing indicated that the well improved significantly by 418% in specific capacity after the treatment. The chart below represents the data before and after treatment.

WELL 17 PRE-TREATMENT TEST - 9/6/19				WELL 17 POST-TREATMENT TEST - 12/2/19			
Step	Average Flow Rate (gpm)	Drawdown (feet below static)	Specific Capacity (gpm/ft)	Step	Average Flow Rate (gpm)	Drawdown (feet below static)	Specific Capacity (gpm/ft)
1	200	50.3	4.0	1	290	26.1	11.1
2	230	101.0	2.3	2	400	44.7	9.0
3	270	125.9	2.1	3	640	80.1	8.0
Percentage increase in Well 17 Specific Capacity at 290 gpm Pumping Rate							418%

On well# 18, the City staff installed a new flow control valve and submersible pump. Once installed, the well was pumped for several consecutive days to minimize turbidity by flushing. After the flushing, the contractor disinfected the well by injecting a chlorine disinfectant solution and staff proceeded with the bacteriological sample test. The contractor has proceeded with the post-acidification drawdown test. Well #18 is expected to be in service prior to the new year.



Grease Damage Prevention Program

The City's Grease Damage Prevention Program's ordinance requires "food service facilities" (FSF) to submit renewals for the annual grease trap permit from 8/1/19 to 11/1/19. There are 96 active FSF operating within the Water and Sewer district, which includes Isle of Capri and Marco Shores. To date, we have received all 96 applications and issued 92 permits, the remaining 4 applications were reviewed and found to be incomplete. They were issued notices to submit the required missing documents within 10 days or non-compliance fees of \$250 will be assessed.

Grease Hauler Registrations (GHR) are renewed every 3 years and are up for renewal this year. To date, we have received 9 GHR applications and inspected a total of 25 hauler trucks.

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
Dec-18	2	69	1 Condo
Jan-19	3	87	1 Condo
Feb-19	4	70	1 Condo-Owners Request
Mar-19	4	1023	All Mainsail and 1 Condo-988 Units
Apr-19	2	950	2 Condos-(950 Units)Both Condos Requested Service Interruption
May-19	5	138	0 Condo
June-19	11	853	2 Condos-605 Units
July-19	1	132	1 Condo-132 Units
Aug-19	4	559	1 Hotel-350 Rooms (Requested Service Interruption)
Sept-19	6	305	2 Condos-167 Units
Oct-19	4	230	1 Condo-125 Units
Nov-19	5	123	1 Condo-42 Units



Treatment Plant Data

Starting Date: **11/1/2019**
 Ending Date: **11/30/2019**

Rain Fall for Time Period **0.80** Inches

Aquifer Storage & Recovery			Average Daily Flow (ADF) in Million Gallons Million Gallons per Day (MGD)
ASR - Injection Avg. Daily Flow	6.06 MGD	Nov-19	
ASR - Recovery Avg. Daily Flow	0.00 MGD		

Marco Island Drinking Water			
	Max Day	Max Day	Flow
Combined Consumer ADF	8.44 MGD	11/2/2019	9.69 MGD
NWTP Consumer ADF	3.70 MGD	11/11/2019	4.28 MGD
SWTP Consumer ADF	4.74 MGD	11/23/2019	5.63 MGD

Finished Water Testing							
Minimum Chlorine Residual		3.10 mg/L					
	Maximum	Minimum		Maximum	Minimum		
Turbidity	0.04	0.01	NTU	Chlorides	130	104	mg/L
Total Dissolved Solids	274.00	259.00	mg/L	Color	12	6	mg/L
P-Alkalinity	6.00	4.00	mg/L	Phosphate	0.72	0.46	mg/L
M-Alkalinity	39.00	31.00	mg/L	Ammonia	0.8	0.55	mg/L
Cal-Hardness	96.00	72.00	mg/L	Aluminum	0.62	0.04	mg/L
Total Hardness	144.00	102.00	mg/L	pH	8.94	8.43	SU

Nov-19 Marco Shores Drinking Water Purchase			
Monthly Flow - MGD			CL2 Residual - Minimum 0.7 mg/L
ADF	Total Flow	Monthly Max Day	
3.527	105.8	11/2/2019	98.129

Nov-19 Wastewater - RWPF							
Average Flow		Monthly Max Day		Monthly Testing			
Influent	2.02 MGD	11/28/2019	2.453	Influent		Effluent	
Reuse	2.16 MGD	11/11/2019	2.57	BOD	158.5	3.98	mg/L
Deep Well	0.097 MGD	11/16/2019	0.756	TSS	165.4	0.6 U	mg/L
				NO3	NA	7.67	mg/L

Nov-19 Wastewater - Marco Shores WWTP							
Average Flow		Monthly Max Day		Monthly Testing			
Influent	0.084 MGD	11/23/2019	0.105	Influent		Effluent	
				BOD	197	1.90	mg/L
				TSS	182	1.80	mg/L