

Surface Water Quality Workshop July 7, 2025

For documents associated with this Workshop:

1. visit the **Water Quality Information** page under **Public Works** on the **City's Website**; or
2. copy and paste this link into your browser:
<https://www.cityofmarcoisland.com/page/public-works>

Items for Presentation and Discussion

History of Water Quality Testing – why starting with this point

- Waterways Advisory Committee Discussions (2017–2018)
 - Hiring of Turrell, Hall & Associates - Report on Nitrogen Levels – show Turrell Hall's conclusions in the slide
 - City Council Water Quality Workshop (March & April , 2019)
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DEP Impairment Designation

- August 2019 Letter from Department of Environmental Protection
 - Waterways Advisory Committee recommendation for Data Analysis – led to RFP for hiring of ERD
 - Nutrient Source Evaluation RFP (2019)
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Nutrient Source Evaluation RFP & Selection of ERD

- RFP Issued & Selection Process
 - Bio-swale Council Acceptance: September 20, 2020
 - Staff Explanation of Bio-swale Design
 - Selection Committee Members - Staff Report to Council
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ERD Report & Recommendations

- Summary of ERD Findings/recommendations
 - First Water Quality Matrix
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City Council Discussion of Stormwater Utility Concept – presentation made and opposition to it

Jacobs Review and Report

- Why Jacobs was hired - Originated through ERD's (Harper's) comments at council meeting regarding further exploration of the reclaimed as a possible source – Harper council presentation discussion. 5/23/22 council meeting item by Jeff discussing Jacobs' evaluation.
 - Jacobs Presentation to Council
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DEP Presentation to Council

- DEP Recommendations Overview
 - 4e Plan vs. TMDL Discussion
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Initiation of DEP 4e Process

- Overview of Plan Implementation Steps
 - Council Approved Plan [Attach] Developed by Jacobs - derived from ERD recommendations
 - FDEP approval of plan
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Hydrodynamic Study

- ERD recommendation for recirculation (tidal flushing).
 - Expensive option – study confirmed necessity/benefits of flushing improvements
 - Summary of Engineer’s Findings
 - Council Outcome – presented to council who concurred – seek grant funding
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Legislative Appropriations

- Summary of Requests Submitted – tidal flushing, exfiltration swales, aeration,
 - Approved vs. Denied (median landscape reconfig)
 - Status of Active Requests (third tidal flushing + grant writer seeking more)
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Waterways Advisory Committee Requests for Advanced Wastewater Treatment

- Summary of requests from WAC to Council - Staff Recap of Council Votes – voted 3-4 not to forward recommendation.
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Request for Information for Reclaimed Water

- Purpose & Outcomes of RFI – requested by WAC. RFP 2023-001. Flo Clear, Phosphorous Free, Jenkins
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Request for Information for Alternative Water Quality Technology

- Technologies to improve water quality in canals and reduce nitrogen RFP 2023-005. Five responses. originated with City Council. Innovations Targeted - Nutrient Removal Solutions
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Summary of Water Quality Action Items by City

- Water Quality Testing (N, P, O2, PTOX, Algae)
 - Street Sweeping (Daily Operations)
 - Tidal Flushing (Design, Bidding, Grant) - Canal Aeration
 - Fertilizer Ordinance
 - Inlet Screens & Side Slot Filling
 - Storm Sewer Cleaning
 - Irrigation Changes (Potable Water Use – water truck)
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Exfiltration Swales

- North Barfield Shared Path
 - South Collier Swale Project
 - New Construction & Redevelopment Requirements
 - Swallow Ave. Swale Project – FY25
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Other City Council Actions & Public Events

- Water Quality Presentation to Council (2023)
 - Water Quality Town Hall (Jan 2025)
 - FDEP Biennial Review of Impairment Status – end game and where we are in the process. Goal is to not be designated as impaired.
 - Status Update on 4e Implementation – MS4 audit July 9.
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Closing

- Summary of Progress
- Next Steps? Evaluation of C-HAWQ proposal, AWT further discussion, 4-e process, future of testing, potential reconsideration of stormwater utility for funding, isotope testing. Septic to sewer.

How much we have spent and will need to be spent (tide leveling \$10M total, AWT \$15 - \$20M) and how to measure success. Difficult to conclude direct result from specific projects to direct measurable water quality in canals. FDEP requires us to perform actions included in 4e plan. Beneficial effects of street sweeping, inlet cleaning, fertilizer changes. Can demonstrate recovery of nutrients, but cannot directly associate to WQ in canals.
