

City of Palm Coast, Florida Agenda Item

Agenda Date: May 12, 2026

Agenda Item: E.4

| | | |
|----------------------------|--|----------------------|
| Department | STORMWATER AND ENGINEERING | Amount |
| Division | STORMWATER MAINTENANCE | Org/Account # |
| Subject: | PRESENTATION - STORMWATER ANNUAL UPDATE | |
| Presenter: | Lynn Stevens, Deputy Director of Stormwater and Engineering, and Carmelo Morales, Stormwater Engineer | |
| Attachments: | 1. Presentation | |
| Background: | This presentation will provide an update of completed/future activities and projects by the Stormwater Department. | |
| Recommended Action: | FOR PRESENTATION ONLY | |



STORMWATER & ENGINEERING DEPARTMENT

STORMWATER DIVISION PROGRAM UPDATE

May 2026

STORMWATER MANAGEMENT FUND

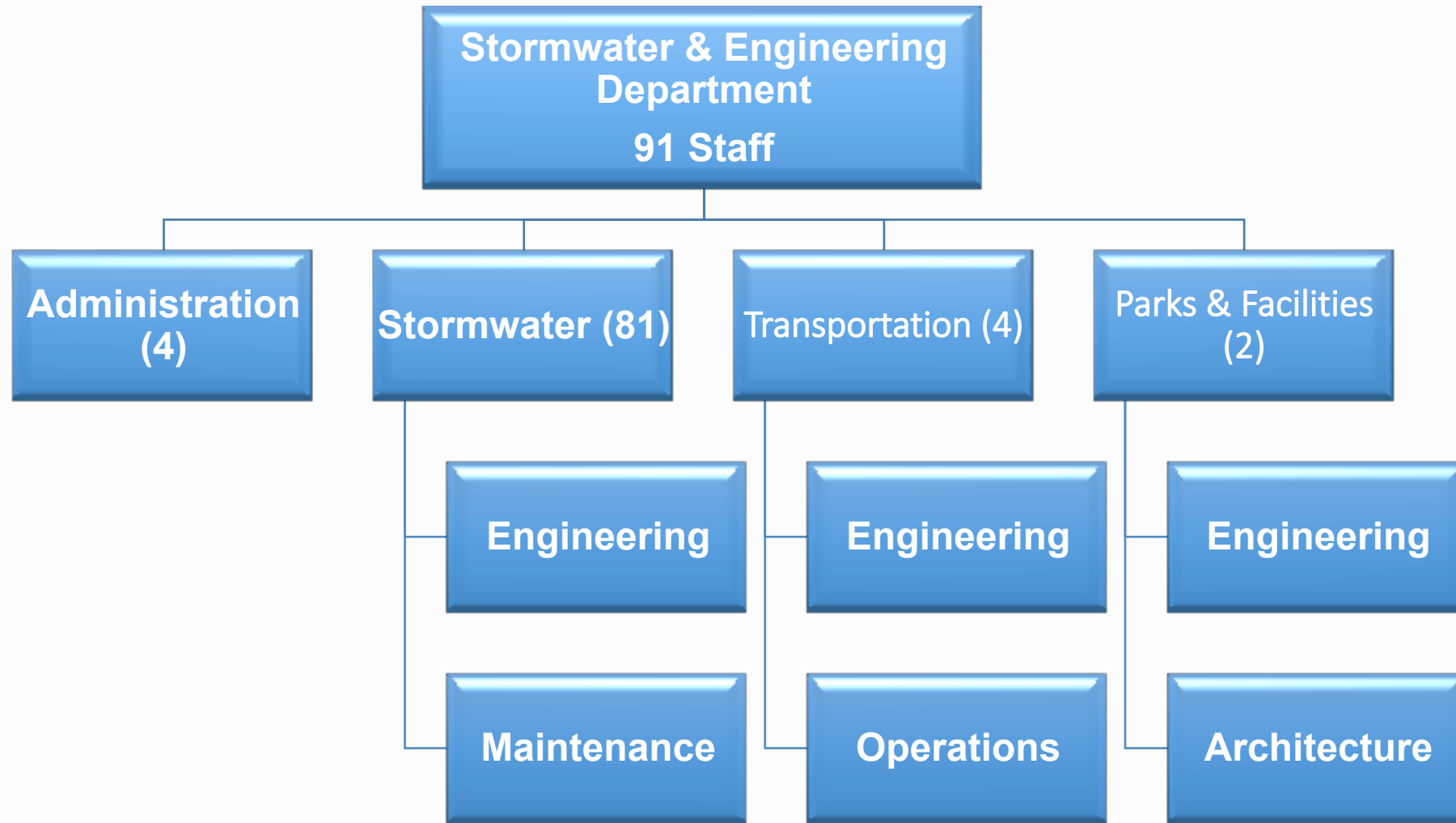
Stormwater Rate History

- Ordinance 2011-1 provided authorization to establish Stormwater Utility Charges/Fees.
- Resolution 2023-53 established updates to the Stormwater Fees and Charges based upon the 2023 Stormwater Rate Study Update.
- 2023 Stormwater Rate Study Update Identified Capital Projects to be Completed.
- 2023 Stormwater Rate Study Update Identified Loans to be Utilized to Fund Various Capital Improvement Projects.



PALM COAST

Stormwater & Engineering



Stormwater Service Area

AG Exemption

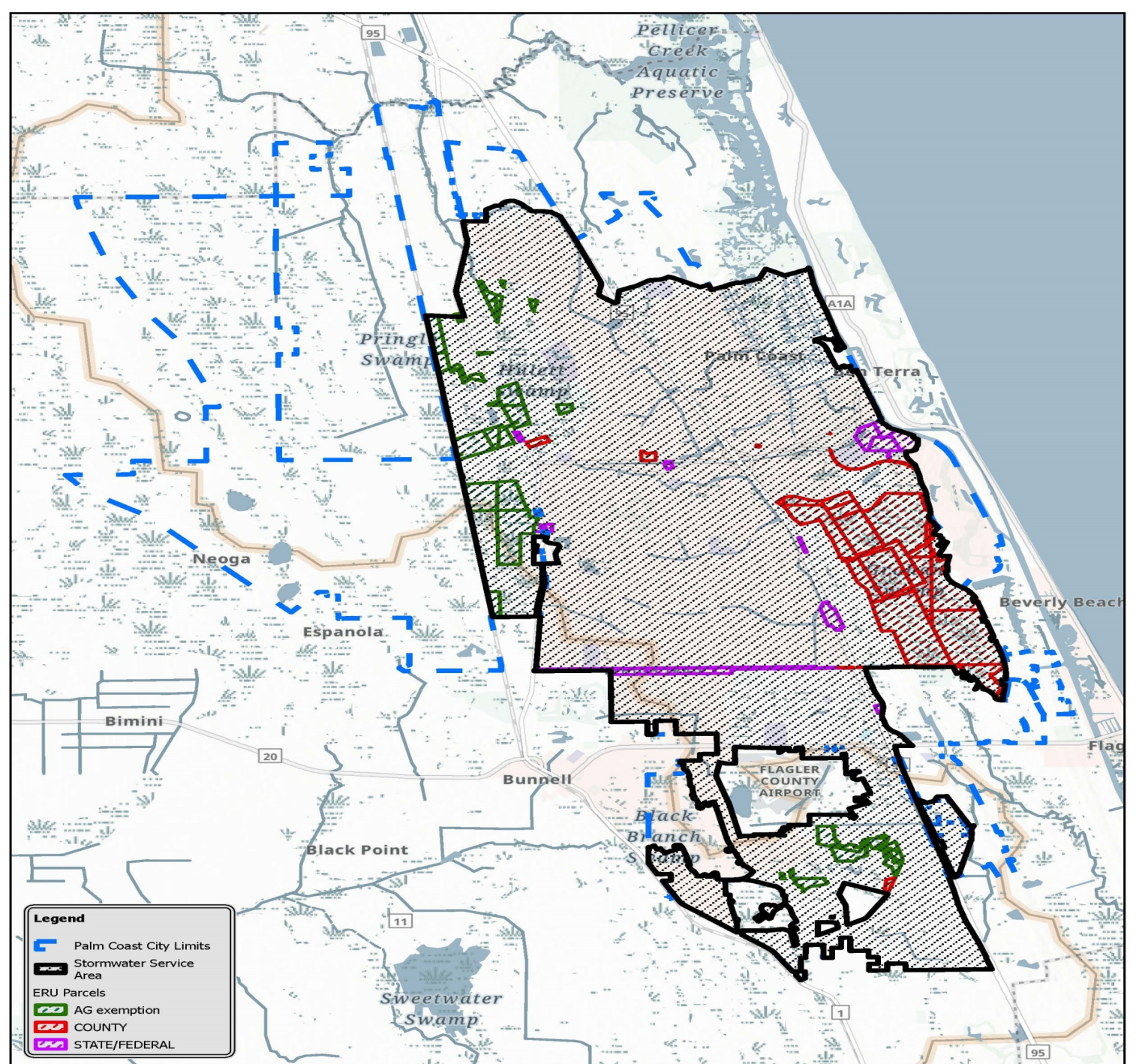
- Based on County records

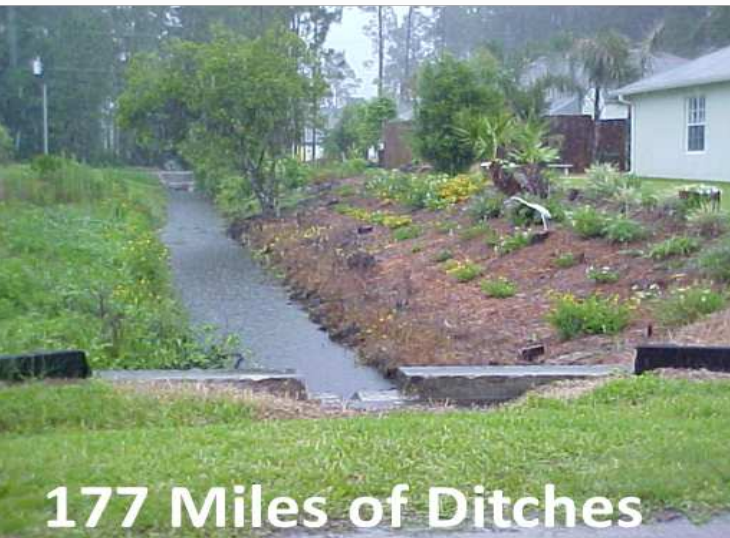
County Properties

- Graham Swamp, County roads, Facilities, vacant land

State/Federal Properties

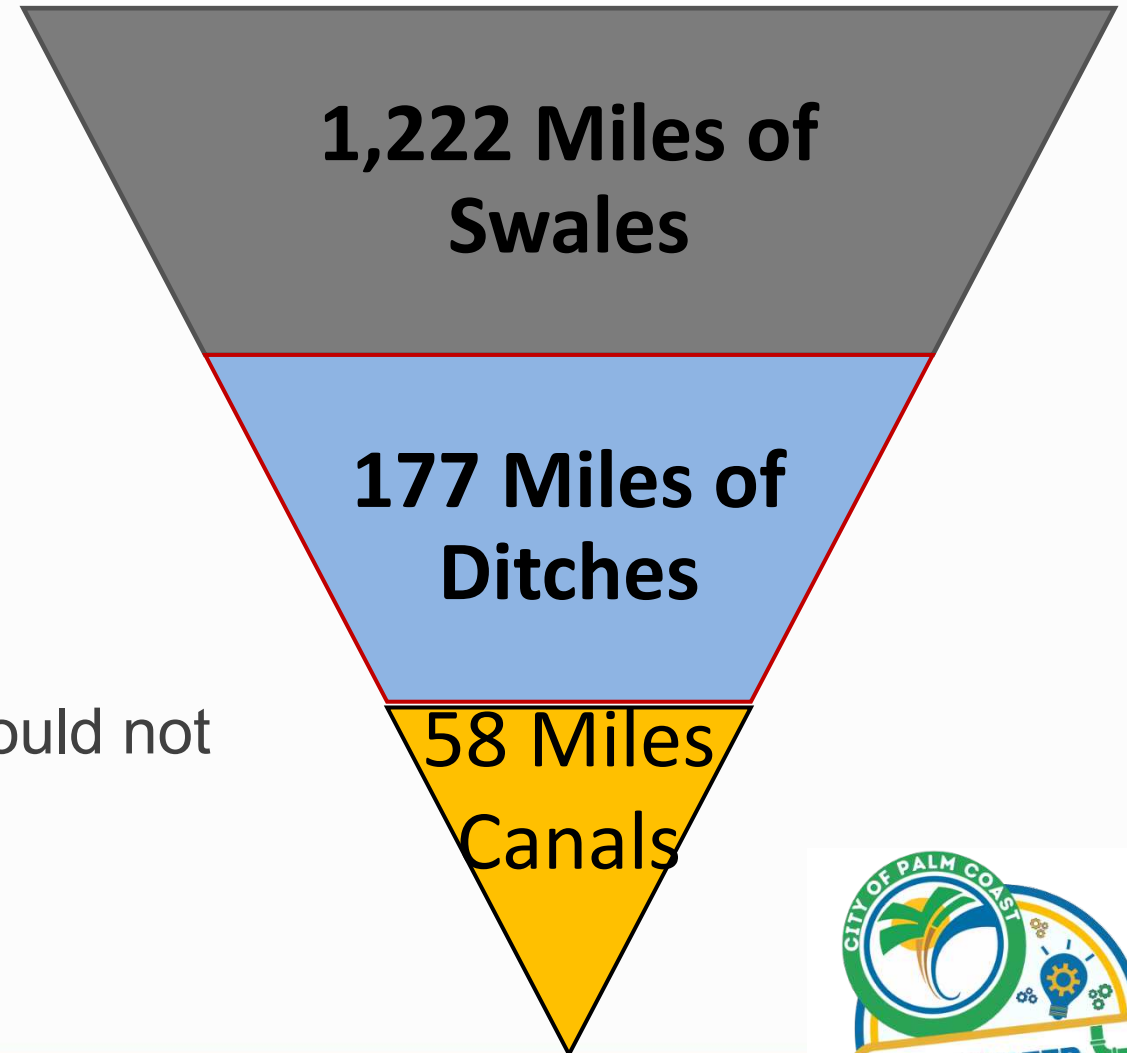
- Lehigh Trail, FIND, Post Office, Weigh Stations, Forestry





Operates like an inverted pyramid

- ▼ Canals are most important
 - Failure affects entire system
- ▼ Ditches flow into the canals
 - Failure of ditches affect homes and roadways
- ▼ Swales Flow into the ditches
 - Road designed to convey, homes would not flood
 - More aesthetic



Objective #2: Design and Implement a citywide plan for better stormwater maintenance and performance, with a specific focus on swales

- Staff surveyed other communities in Florida that have open swales
- Piloted various alternatives on Palm Coast Swales
- Investigated contract swale work
- Integrated spot regrading and trenching
- Added second vac truck crew





Maintenance Alternatives

Mar 19, 2025 at 10:36:30 AM

70 Faircastle Ln

Palm Coast FL 32137

United States





PALM COAST

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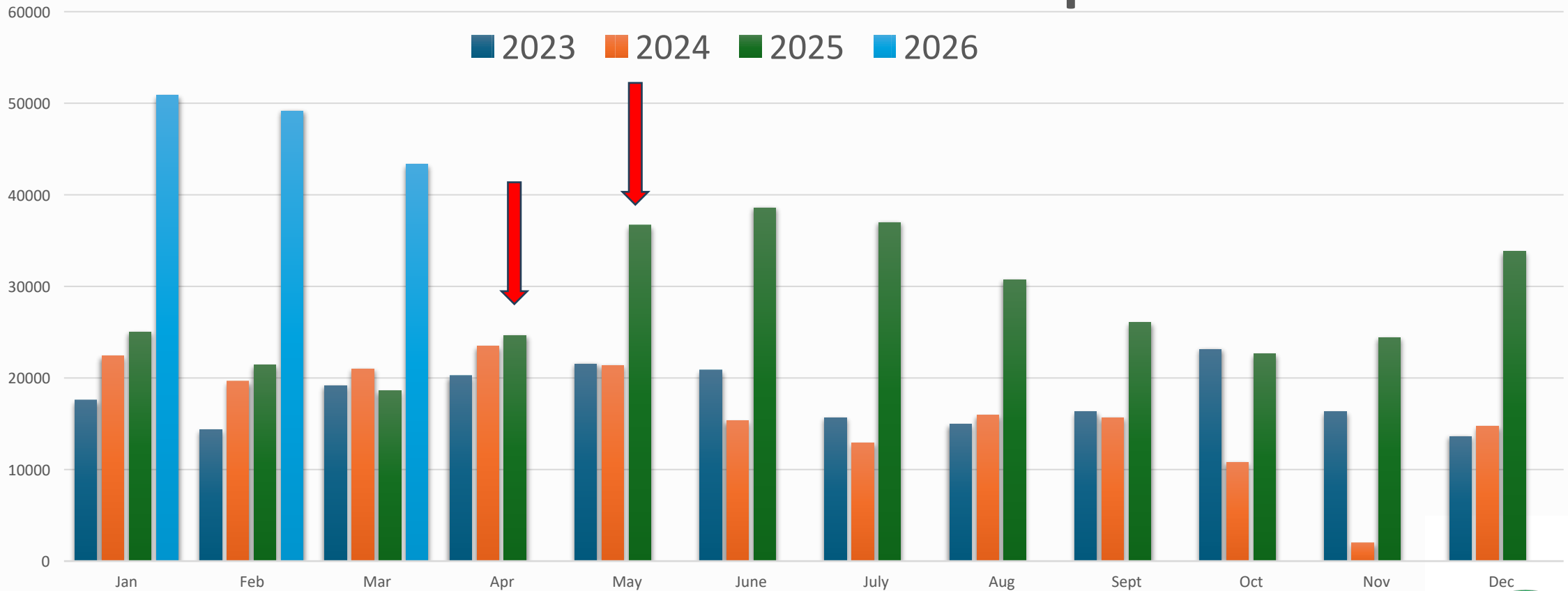


PALM COAST

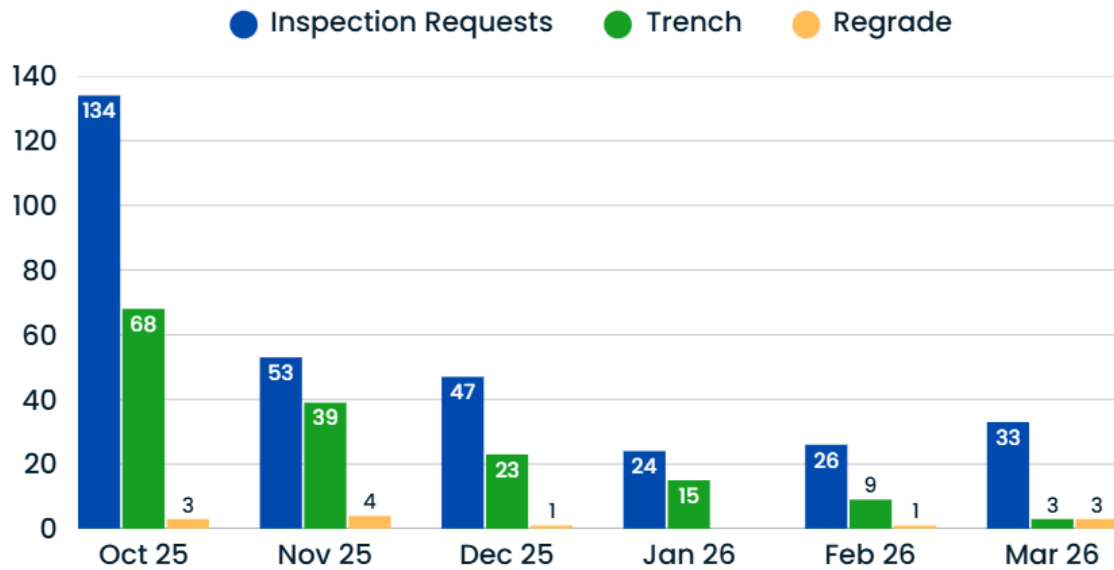
Stormwater & Engineering



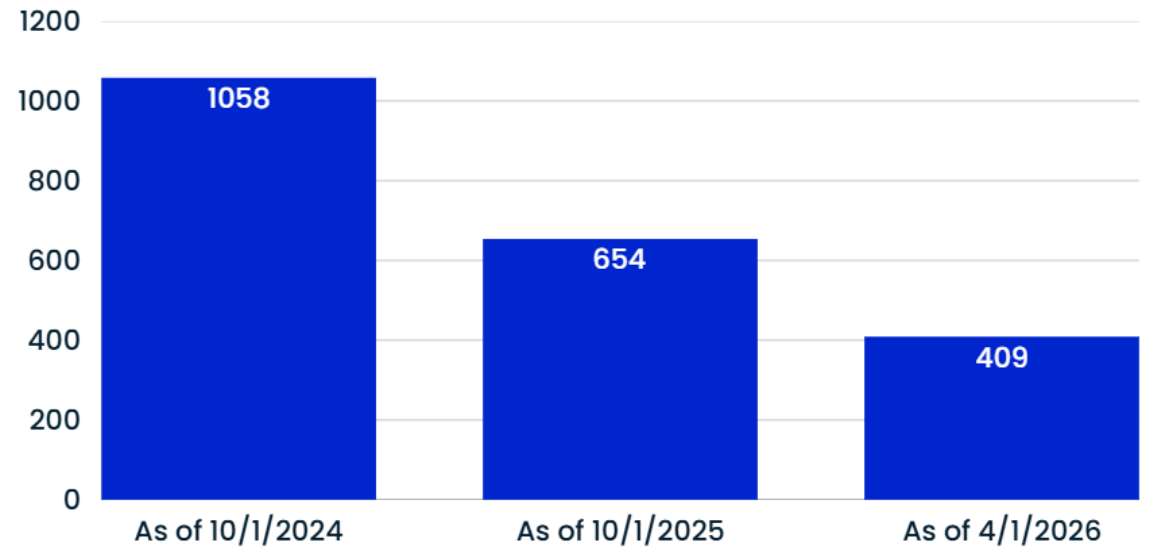
Linear Feet of Swales Completed



2026 SWALE WORKS ORDERS



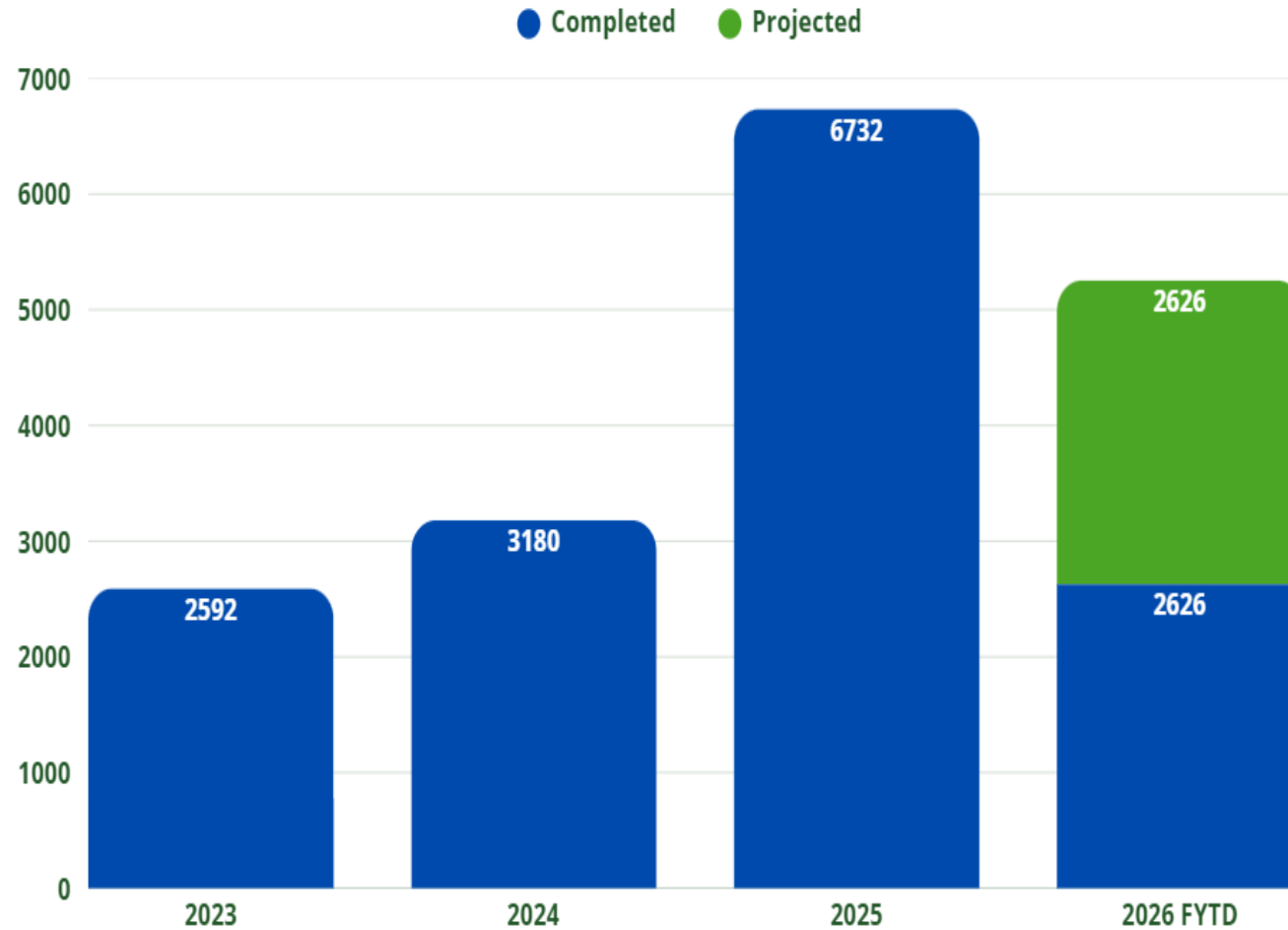
SWALE WORK ORDERS



Other swale techniques attempted or evaluated include:

- Over grading the swale and installing sand
- “Spot” regrading to remove high spots
- French drains
 - Installed culvert to culvert, but filled with dirt and had to be removed
 - Installed along section with no culverts and connected to catch basin
- Evaluated concrete in swale bottoms
- Modified level of service
 - Swale build up is more than 6 inches
 - Do not accept swale complaints for 5 days after a major rain event
 - Green, yellow, red category for culvert inspections
 - Educating residents on culvert ownership

Culvert Cleanings



CITY OF PALM COAST
STORMWATER DEPARTMENT
COURTESY NOTICE

Date(s): _____
Employee Name: _____

CULVERT MAINTENANCE

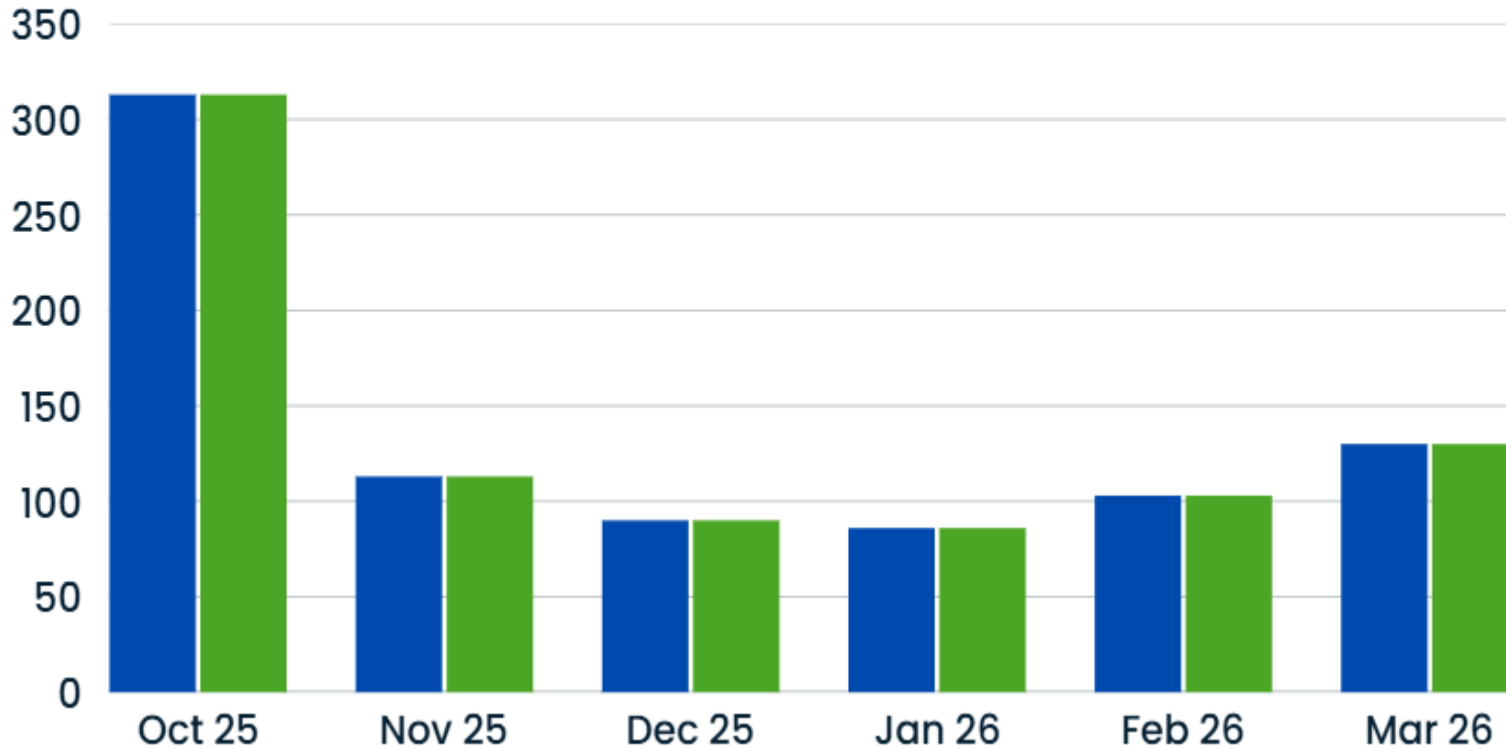
Driveway culvert pipes are an essential part of the neighborhood drainage system. If a culvert pipe becomes blocked or fails, it can impede stormwater flow and contribute to neighborhood drainage issues. As part of routine inspections, the City of Palm Coast Stormwater Division inspected your swale including your culvert pipe and determined that it is in need of routine maintenance.

Please note that, under Municipal Code Section 24-159, culvert pipes are considered part of the residential driveway and are the responsibility of the homeowner to maintain and replace as needed. In addition, residents are responsible for routine maintenance in the swale. Maintenance includes but not limited to keeping the swale and culvert clean and clear of debris, mowing the swale in front of your property, and removing any dirt and/or grass that causes high spots in the swale. If your culvert pipe collapses or blocks water flow, this issue may be referred to Code Enforcement.



CASE MANAGEMENT

● New Cases Recieved ● Responded to within 3 Bus Days



Other Accomplishments

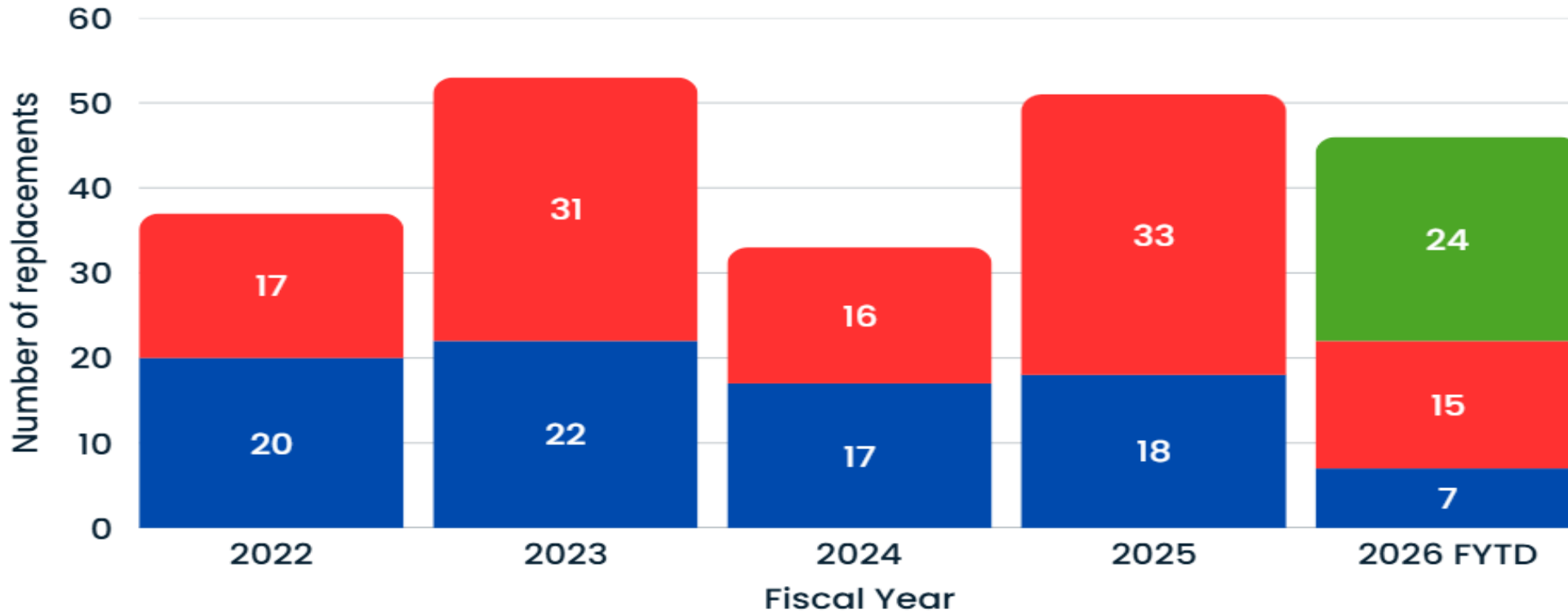
- Case management
 - Established new KPI
- Canal Crew
 - Created in June 2024
- Ditch Crew
- Hybrid Crew
 - Created in January 2025
- Additional Culvert Crew
 - Created in October 2024
- Pipe Crew





PIPE REPLACEMENTS

- ProActive Pipe Replacements
- Emergency Pipe Replacements
- Projected









Before
and
After
Ditch
Cleaning
in the
“S”
Section



STORMWATER CAPITAL IMPROVEMENTS

| Project | Description | Status |
|---|---|---|
| Priority 1 – Fund Maintenance Needs | <ul style="list-style-type: none"> • Add additional ditch crew • Delay hiring freshwater canal dredge crew, add one EO for additional pontoon excavator | <ul style="list-style-type: none"> • Hired ditch crew and reassigned to hybrid crew • Created second culvert crew • Delayed 2nd pontoon excavator purchase |
| Priority 2 – Add Capital Improvements | <ul style="list-style-type: none"> • Little Canal and Seven Oaks Waterway Expansion • Bellaire Waterway Pop Offs • Section K Drainage Improvements • Major Pipe Inspection/Lining/Drainage Improvements • Dredging/Weir Replacement Pine Grove Waterway West • Colbert and Blare Castle Pipe Capacity Replacement | <ul style="list-style-type: none"> • Dry Lake project • B1,2,3 study awarded • Included in 2025 loan, Project Complete • Included in 2025 loan – Belle Terre Project Completed • Pine Grove project under construction • Colbert is included in 2025 loan, Under Construction |
| Priority 3 – Add Inhouse Freshwater Canal and Weir Crew | <ul style="list-style-type: none"> • Replace Contract Mowing of Weir Sites • Increase level of service | <ul style="list-style-type: none"> • Crew added June 2024 |
| Priority 4 – Add Inhouse Concrete/Asphalt Crew | <ul style="list-style-type: none"> • Replaces Contracted Services • Increased Level of Service | <ul style="list-style-type: none"> • Partial crew added April 2025, remaining started October 2025 |



2019 Master Plan Update

| Project | Description | Status |
|--------------------------------|--|---|
| Lehigh Canal | Retrofit L-4 and R-1 control structures Add culverts at P-1 | L-4 COMPLETE , R-1 was re-evaluated, P-1 culverts to be lined, not added |
| K-1 Spillover Weir | Construct concrete spillover weir | PROJECT COMPLETE |
| Woodlands | Upsize 3 sets of culverts Armor channel at ITT structure | This is the ONGOING Colbert Lane project. The city hardened the banks downstream of the ITT structure within city-owned land. |
| London Waterway | Add 64 acres of lake storage Remove out of service weir | 15 Acre lake COMPLETED at London Drive. Evaluating Burroughs site for design/permitting. |
| I-95 Box Culverts | Construct box culverts at I-95 under Town Center Blvd | Part of OKR/Town Center Blvd ONGOING design. |
| K-Section | Upsize 4 sets of roadway culverts | PROJECT COMPLETE |
| Seminole Woods | Upsize 2 side drains along Seminole Woods Pkwy Raise 1.1 miles of Seminole Woods Pkwy | Low priority project, 1 pipe was replaced with Seminole Palms construction. Other alternatives being explored to improve flood protection. |
| Lower Canal Control Elevations | Lower NWLs 1-2 feet for 14 structures Dredging required | Pine Grove dredging began June 2025. Pontoon excavator purchase to perform future freshwater dredging work in-house. |

Projects Currently Under Construction

Pine Grove Canal Dredging

- Dredging of sedimentation from $\frac{3}{4}$ miles of the Pine Grove Canal
- Ongoing Construction, currently delayed - Expected Completion Dec. 2026

P-1 Weir Control Structure Replacement

- Replacement of Aged Infrastructure, currently delayed - Expected Completion Dec. 2026

Colbert Lane Drainage Improvement

- See Upcoming Project Information Slide

Construction Projects Recently Completed

- K-Section Drainage Improvements – On Schedule and within Budget
- London Waterway Expansion – FY25

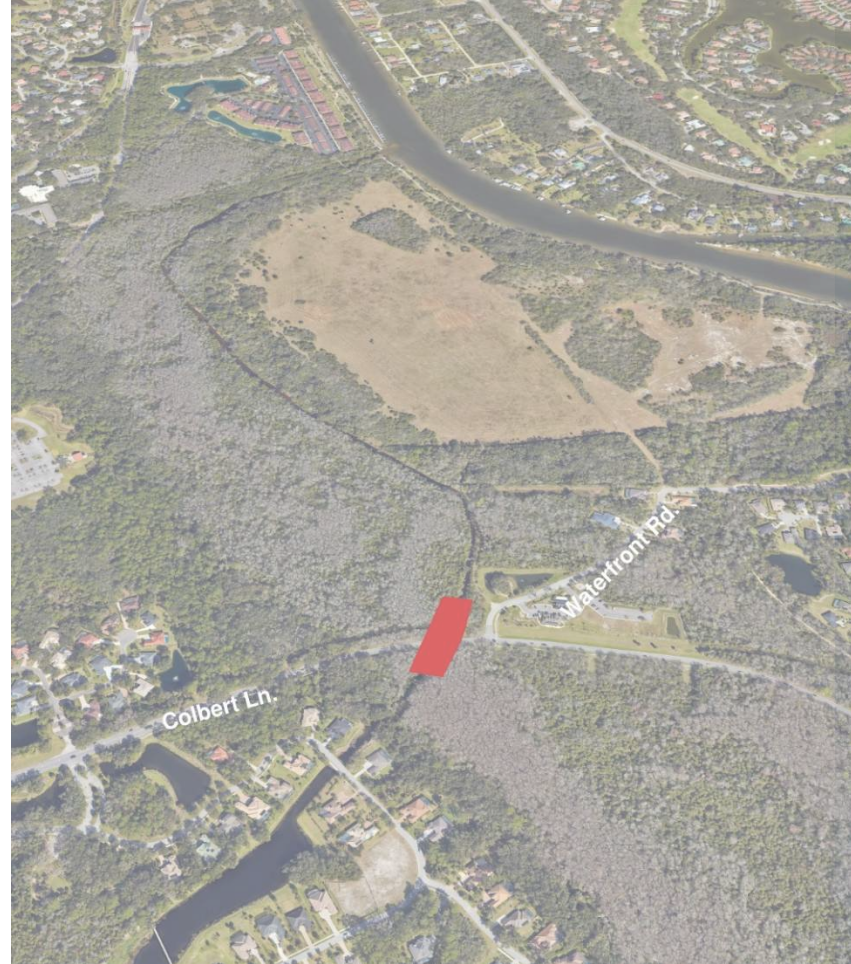


PROJECT OVERVIEW

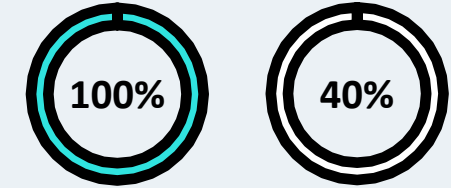
- Removal of four (4) existing 72” reinforced concrete pipes at Colbert Lane, near the Waterfront Road Intersection.
- Reconstruct with four (4) 7’x12’ Concrete Box Culverts (CBCs)
- During construction, a temporary bypass road will be built to maintain flow of traffic and removed once crossing has been completed

PROJECT BENEFITS

- Reduce peak stages during storm events ranging from the 2-Yr/24-HR storm event up to and including the 100-Yr/24-Hr storm event.
- Increased Stormwater capacity and conveyance;
- Flood protection to three residential areas totaling 879 homes.



PROJECT STATUS



DESIGN CONSTRUCTION

PROJECT BUDGET

\$6,000,000

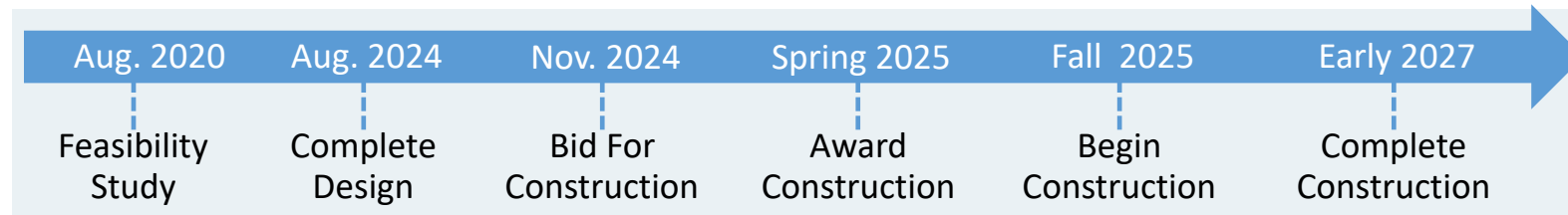
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\$4,000,000

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\$2,000,000

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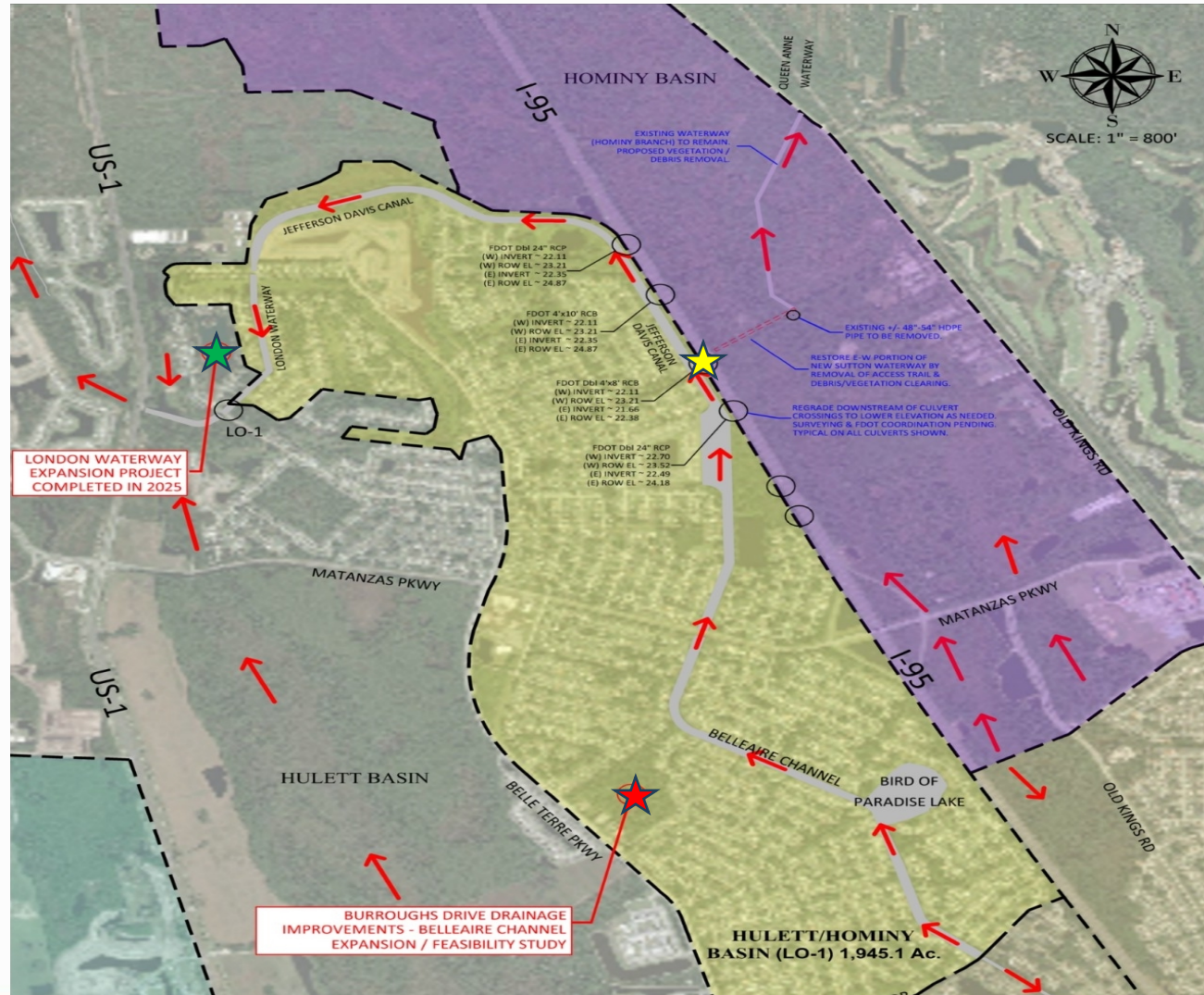
Projects Currently Under Design




- B-1, B-2, & B-3 Outfall Structures Feasibility Study – In Progress
- Citation Blvd (LL-Section) Feasibility Study – In Progress
- Saltwater Canal Dredging Initiative – Design and Permitting (Phase III) in Progress
- W-1 Weir Control Structure – Currently on the HMGP list for Design/Construction

Staff Recommendations for Council Directive

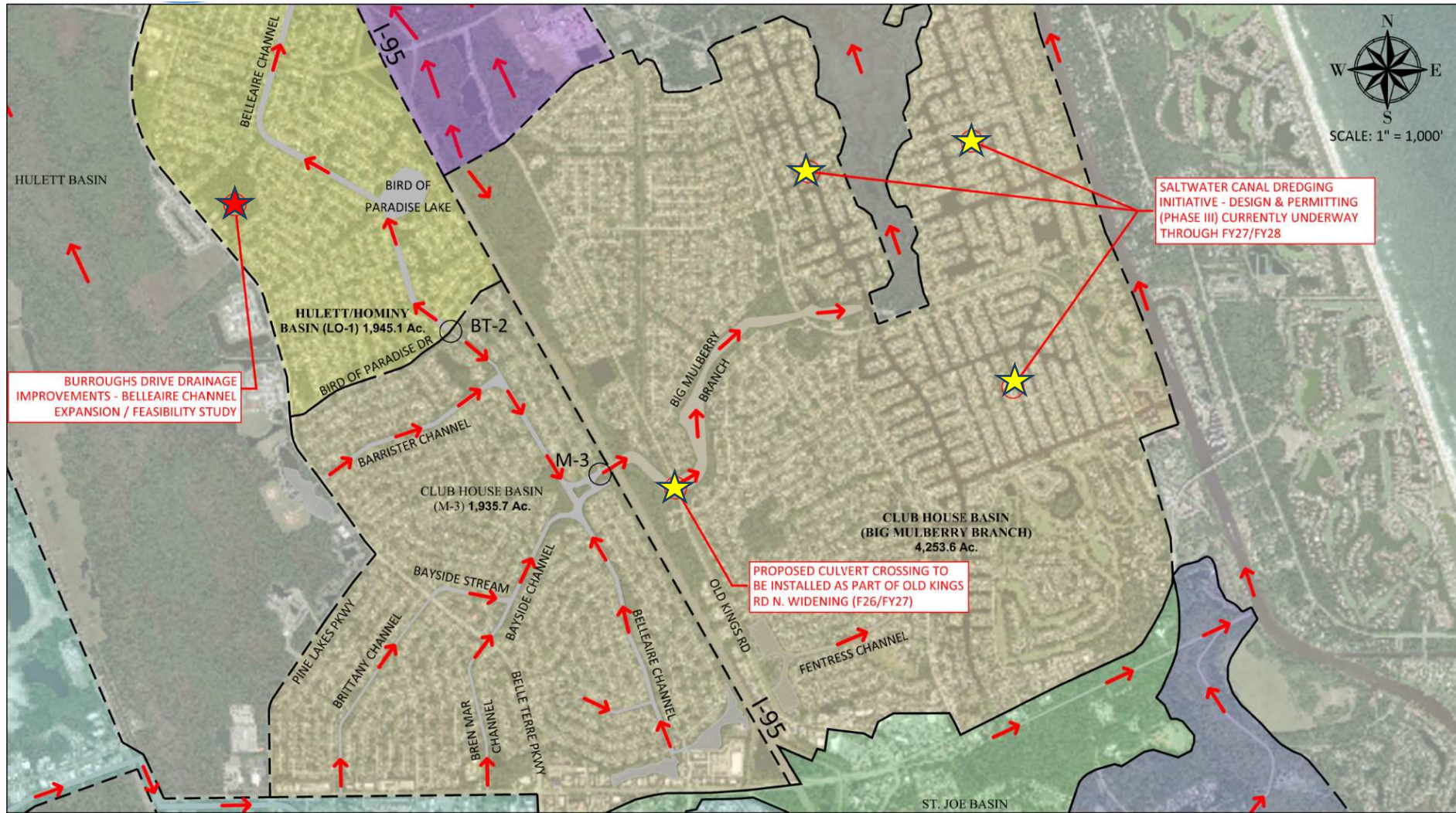
- (North) Belleair Channel Capacity Improvements - Burroughs Drive Feasibility Study
 - Recommended by 2019 Stormwater Master Plan – Approximately \$300,000
- Lehigh Canal Extension – Feasibility Study
 - Complete Stormwater Infrastructure per Original ITT design – Approximately \$150,000
- Dry Lake Drainage Improvements – Feasibility Study
 - Recommended by 2019 Stormwater Master Plan – Approximately \$200,000
- FloodWise (FKA Real Time Flood Forecasting)
 - Grant Application and Submittal – Approximately \$20,000








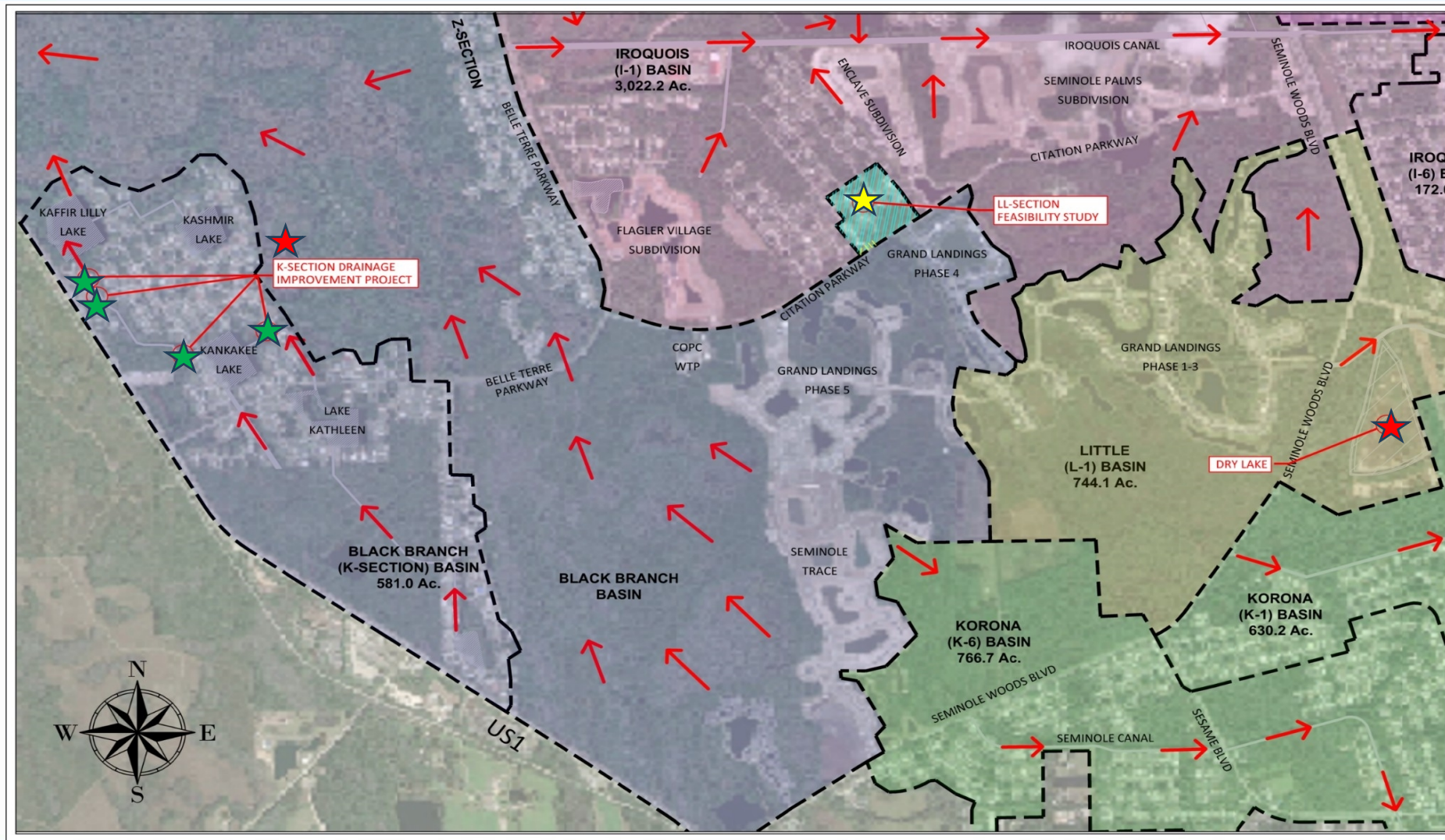
-  Completed
-  Ongoing
-  For Council Directive

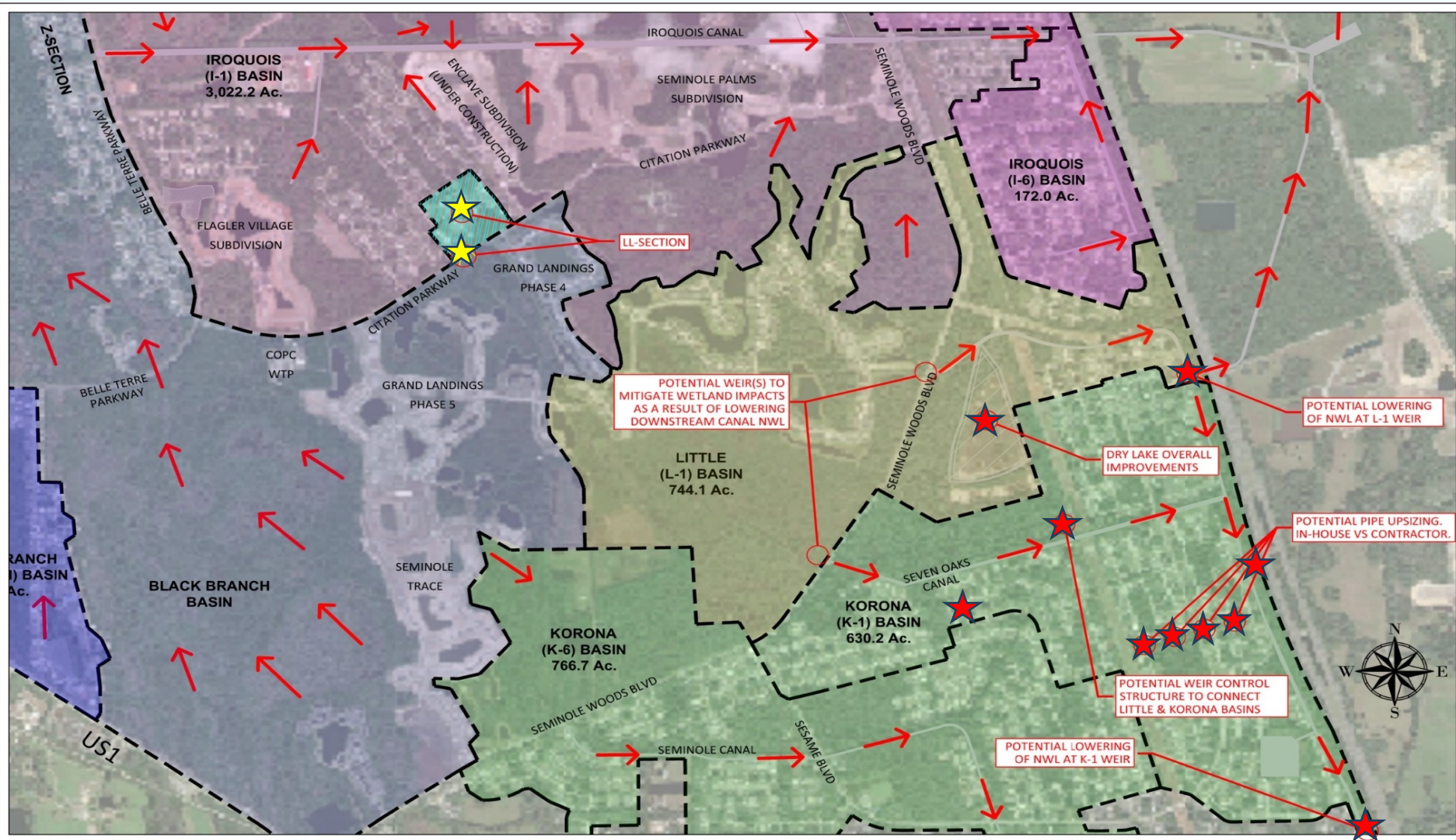




-  Completed
-  Ongoing
-  For Council Directive







Continuous Pipelining Update:

- Completed FY26:
 - Seminole Woods Blvd, Columbia Ln, Sentinel Tr, Ulysses Tr, Parkview Dr, Colechester Ln, Crain Ct, Florida Park Dr, Birchwood Dr, and Ferndale Ln, Belle Terre Pkwy (half-mile)
- Upcoming for FY26/27:
 - Rae Dr, Ravenwood Dr, Belle Terre (Downstream of P-1 Weir), Saltwater (seawall pipes) at C & F-Sections, and other pipes meeting the criteria (to be determined).



Miscellaneous In-House Engineering Designs

- **Indian Trails Sports Complex Parking Extension**
 - Designed, Permitted, and Constructed In-House
 - Under Construction
- **COPC Stage Site at Central Ave – Food Truck Parking**
 - Design and Permitted In-House
 - Expected Construction Completion – May 2026
- **Rymfire Dr Sidewalk Replacement**
 - Design to address existing drainage issues
 - Construction to Occur During School Break
- **Utility Drive Modifications**
 - Modular Buildings at Utility Department Site
 - Construction Plans for Site Work



Improvements in the Stormwater System:

- Additional crews
 - Trenching crew
 - Canal crew
 - Concrete/asphalt crew
- Trenching activities
- Second vac-truck purchase
- Efficiencies and work order processes
- Capital improvement projects





Council Considerations:

- Purchase Pontoon Excavator
 - Included in 2023 rate study
 - Funding was planned in FY27
 - Funds available now due to swale contract cancellation
 - Enable division to be more proactive
 - Reduce dependence on contract work and expedite projects



QUESTIONS?
