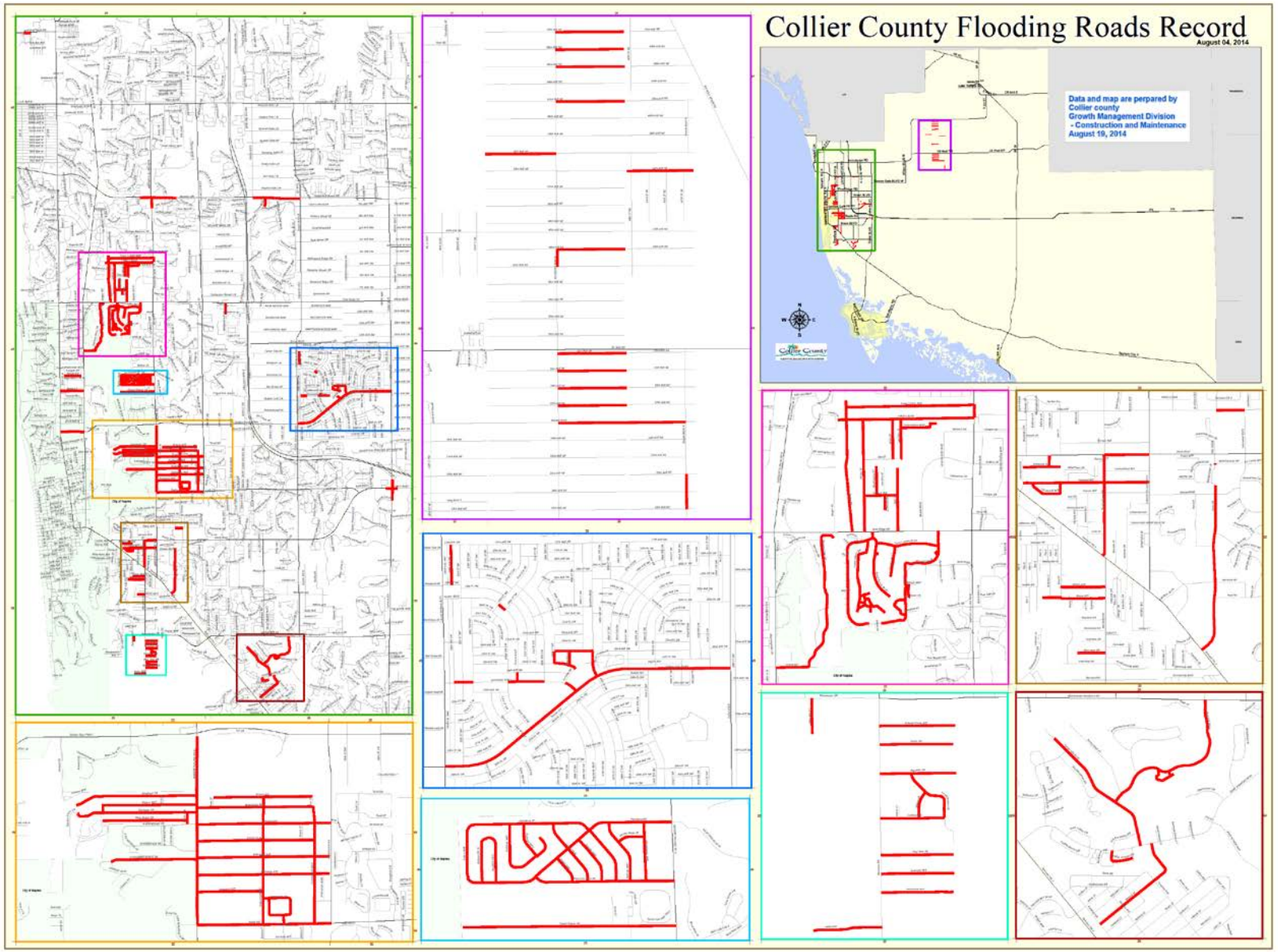
Overview of Collier County Planned Stormwater Projects

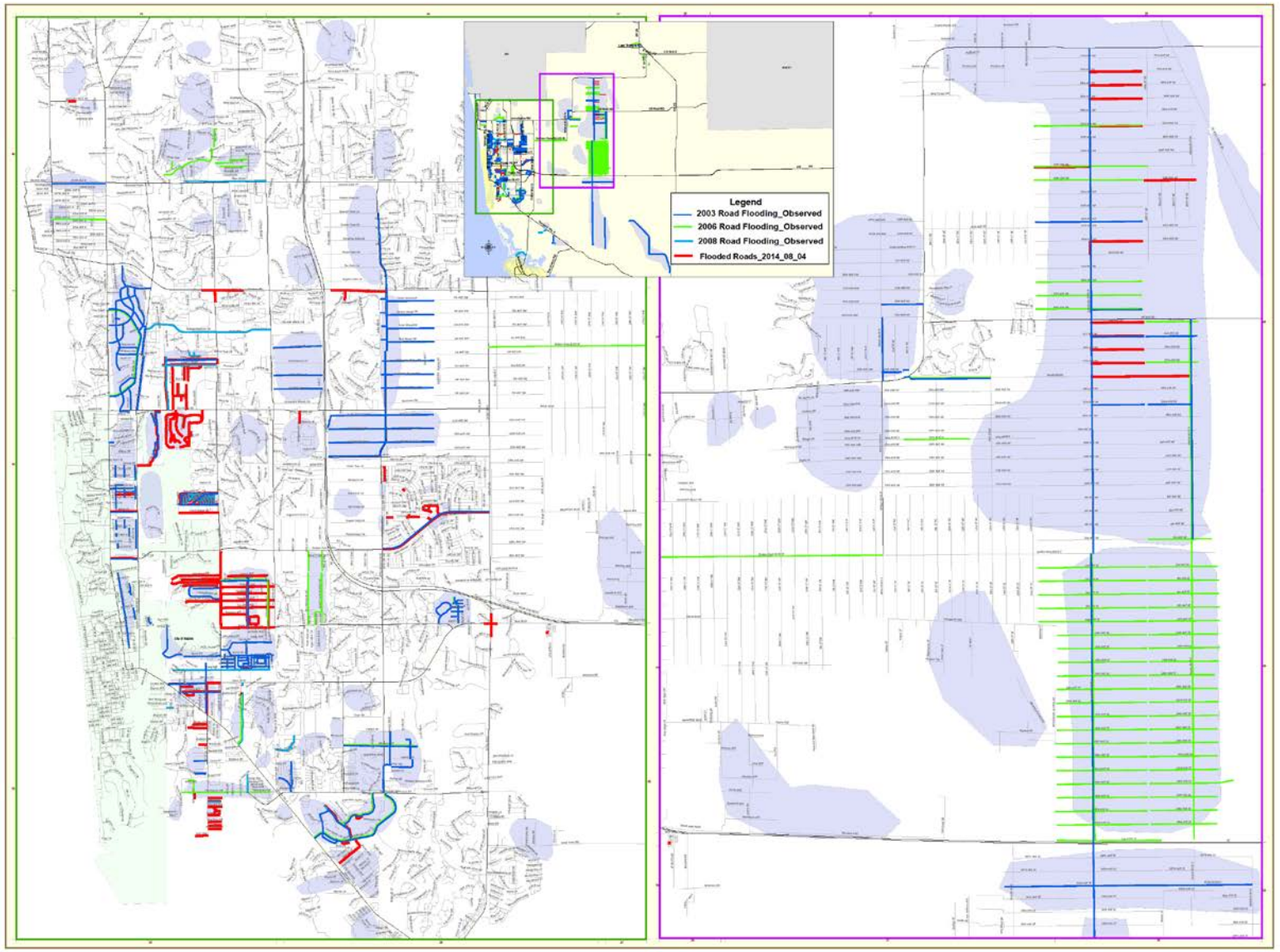
Presentation to the Floodplain Management Planning Committee
September 30th, 2014

By Jerry Kurtz
Stormwater Planning Manager

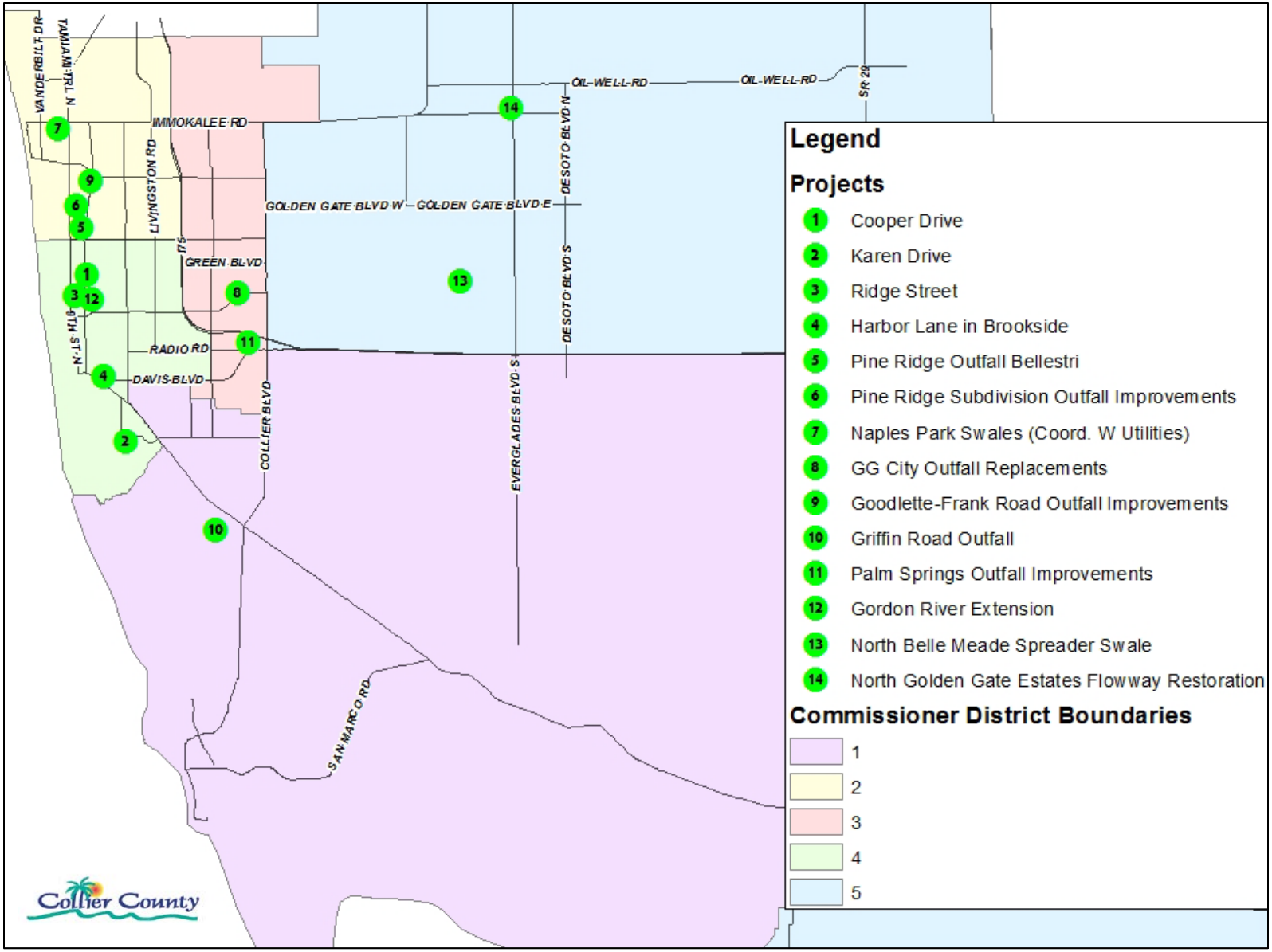
Flooding Roads 08-04-14



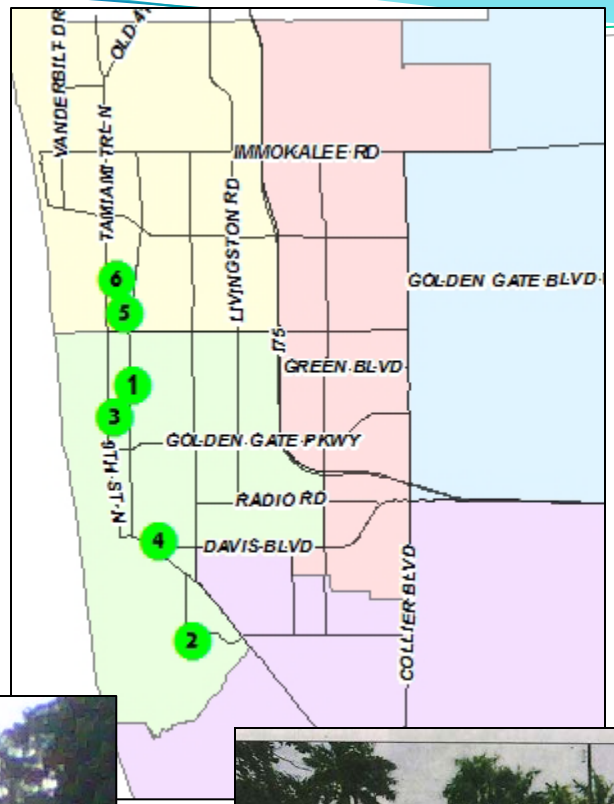
Stormwater Flooding "Hot Spots"



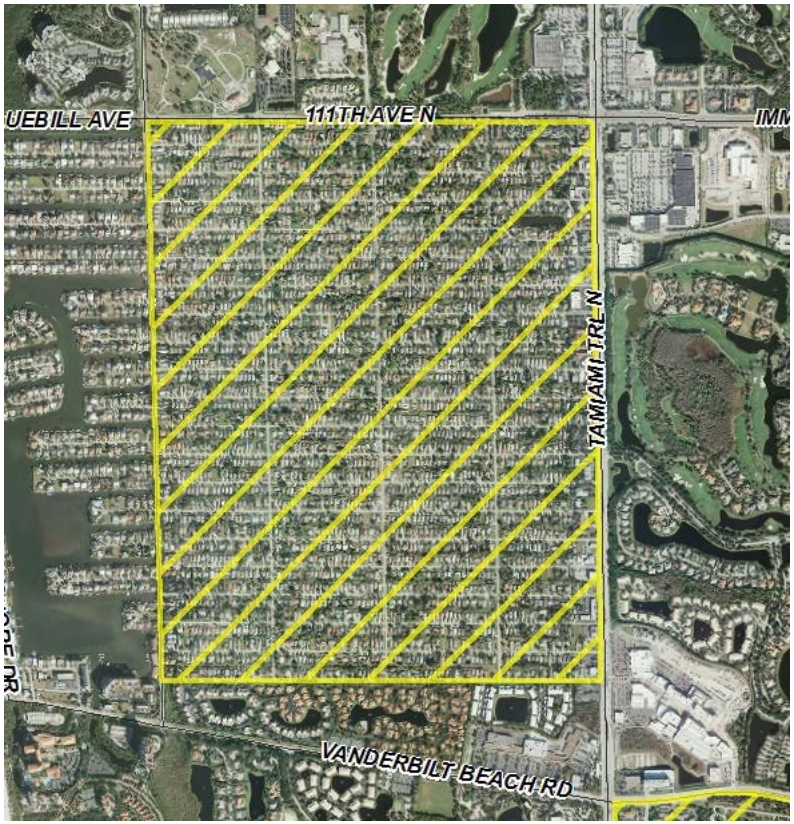
Project Location Map



1. Cooper Drive
2. Karen Drive
3. Ridge Street
4. Harbor Lane
5. Pine Ridge Outfall
6. Pine Ridge Subdivision Outfall Improvements



Naples Park Swales



- **Issue:** Chronic flooding during normal or slightly above average rainfall conditions. Most culverts and piping have reached end of typical life span.

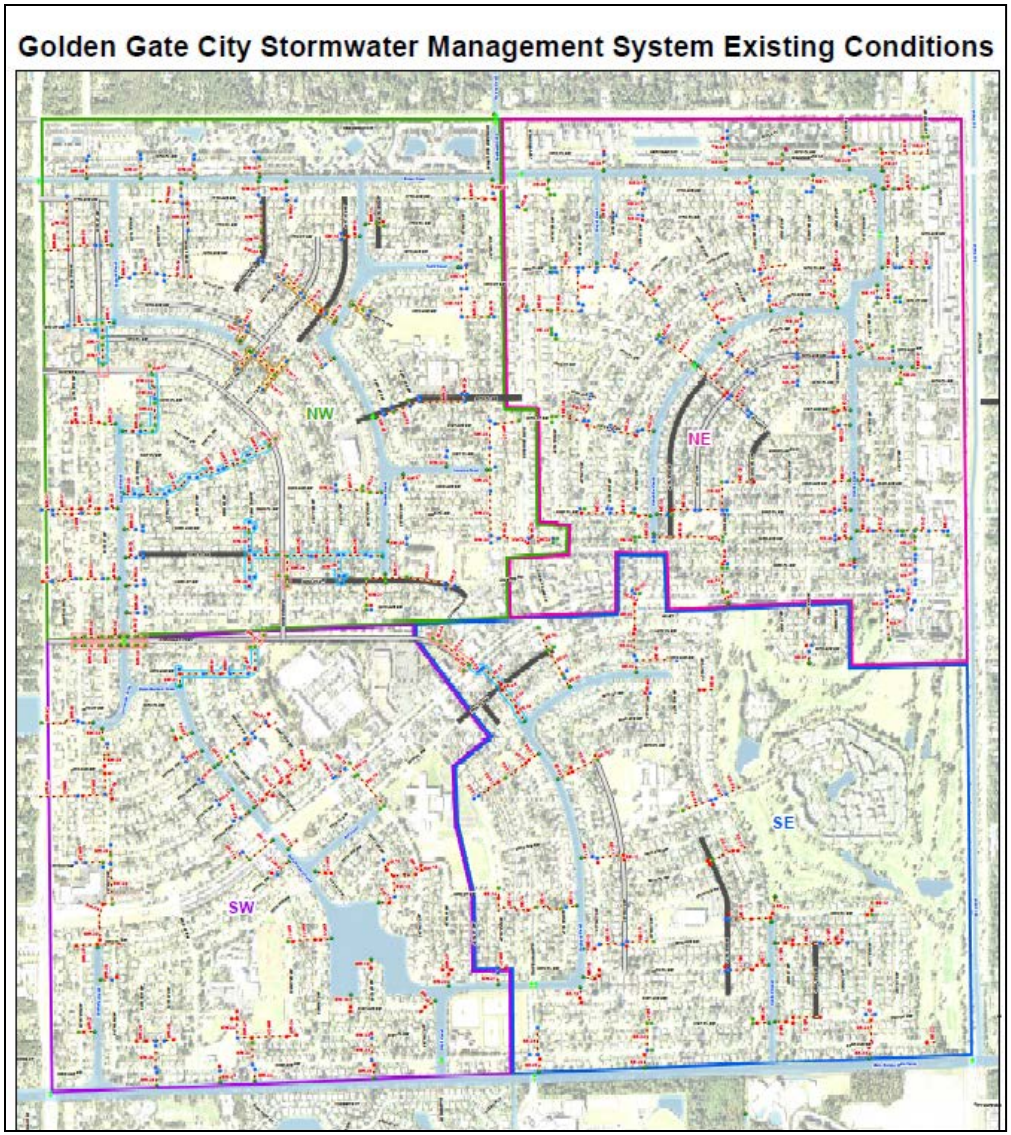
- **Solution:** Replace culverts and reconstruct the roadside swales located within the existing street right-of-way area. Implementation could include the installation BMP sedimentation traps such as catch basins.

- **Project Cost *:** $16 MI

  * Conceptual preliminary – Does not include purchase of Land Rights if any.

Collier County

Golden Gate City



- **Issue:** Most underground storm sewer pipe systems of varying lengths have exceeded their typical life span and are in need of replacement.
- **Solution:** The program consists of structure replacement or rehabilitation. This project is a multi-year effort, and is currently underway.
- **Project Cost *:** $16.5 MI

  *Based on Feasibility Study

Collier County

Goodlette Frank Rd. Outfall

- **Issue:** There are seven undersized culverts under streets entering Pine Ridge Rd. from Goodlette Frank Rd.

  Overhanging and unmaintained vegetation along the west side of Goodlette Frank Rd. between Pine Ridge Rd. and Golden Gate Pkwy resulting in nutrient loading into the ditch and constant maintenance.

- **Solution:** Completely rework of the western side of the ditch ,and replace undersized culverts.

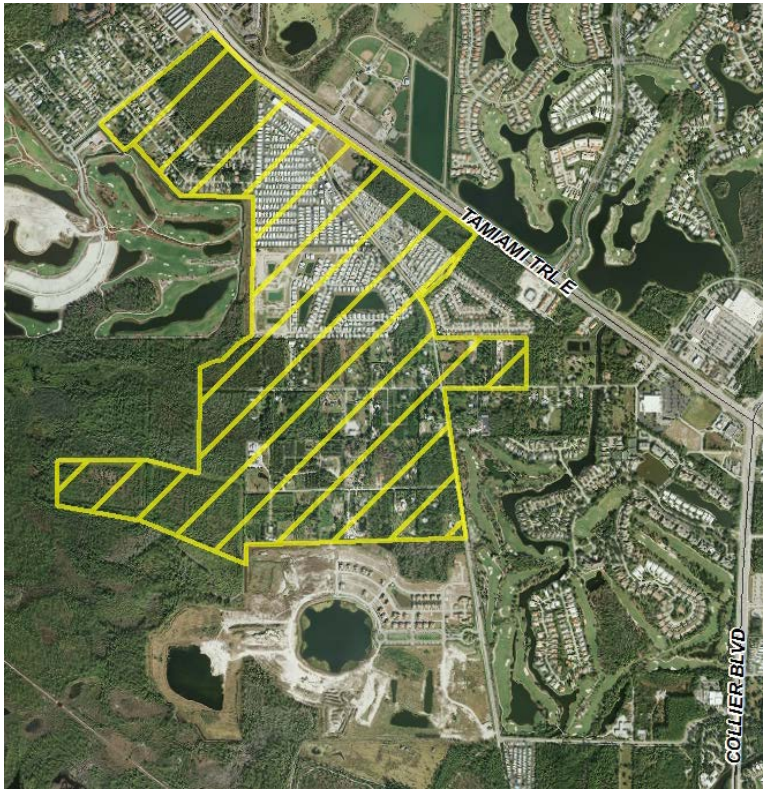
  Removal of overhanging vegetation will improve water quality.

- **Project Cost *:** $2.6 M

  * Conceptual preliminary – Does not include purchase of Land Rights if any.

Collier County

Griffin Road Outfall

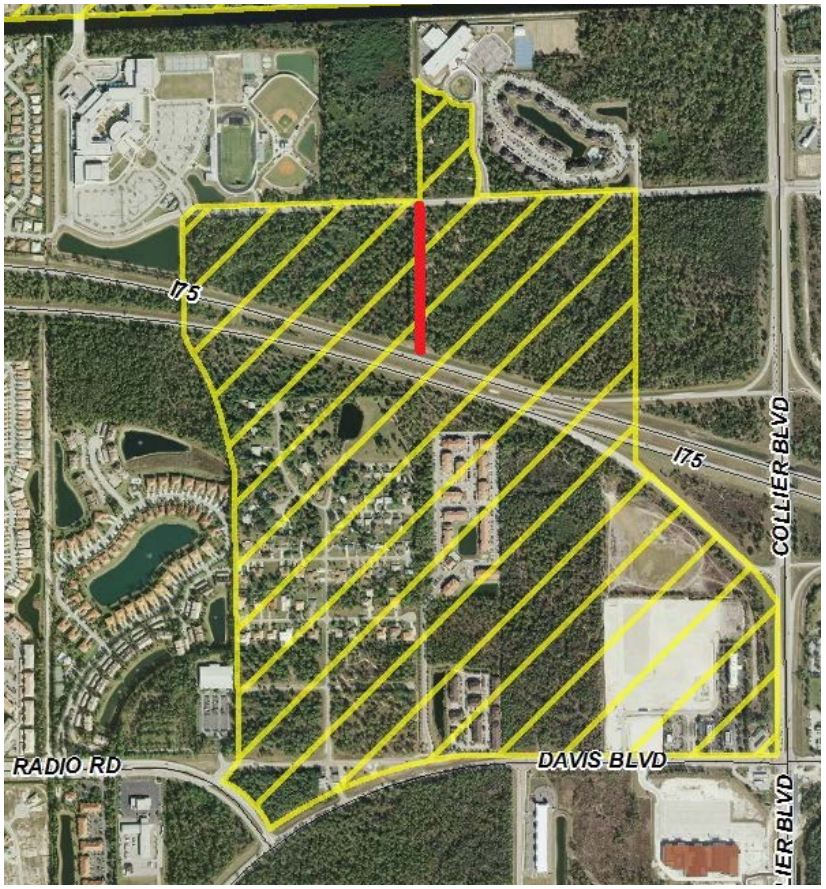


- **Issue:** Stormwater currently being discharged into state owned lands without water quantity and quality discharge controls.
- **Solution:** The project is to provide water quality treatment facilities and an adequate stormwater outfall for an existing older residential area.
- **Project Cost *:** $1.5 M

* Conceptual preliminary – Does not include purchase of Land Rights if any.

Collier County

Palm Springs Outfall Impr.

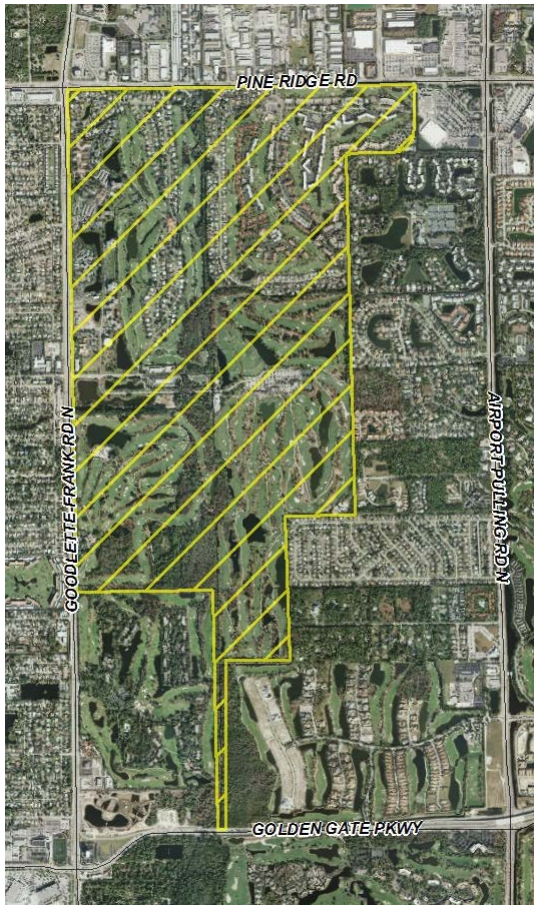


- **Issue:** Remaining unimproved section is between I-75 and Magnolia Pond Drive.
- **Solution:** Reconstruct approximately ¼ mile of ditch completing the area's stormwater outfall system.
- **Project Cost *:** $250,000

* Conceptual preliminary – Does not include purchase of Land Rights if any.

Collier County

Gordon River Extension



- **Issue:** Water quality and flow conveyance prior to discharge into the natural section of the Gordon River and Naples Bay.

- **Solution:** Preliminary engineering study to determine alternatives including exisiting structure removal and/or replacements, as well as the rerouting or diversion of flows into and through adjacent wetlands

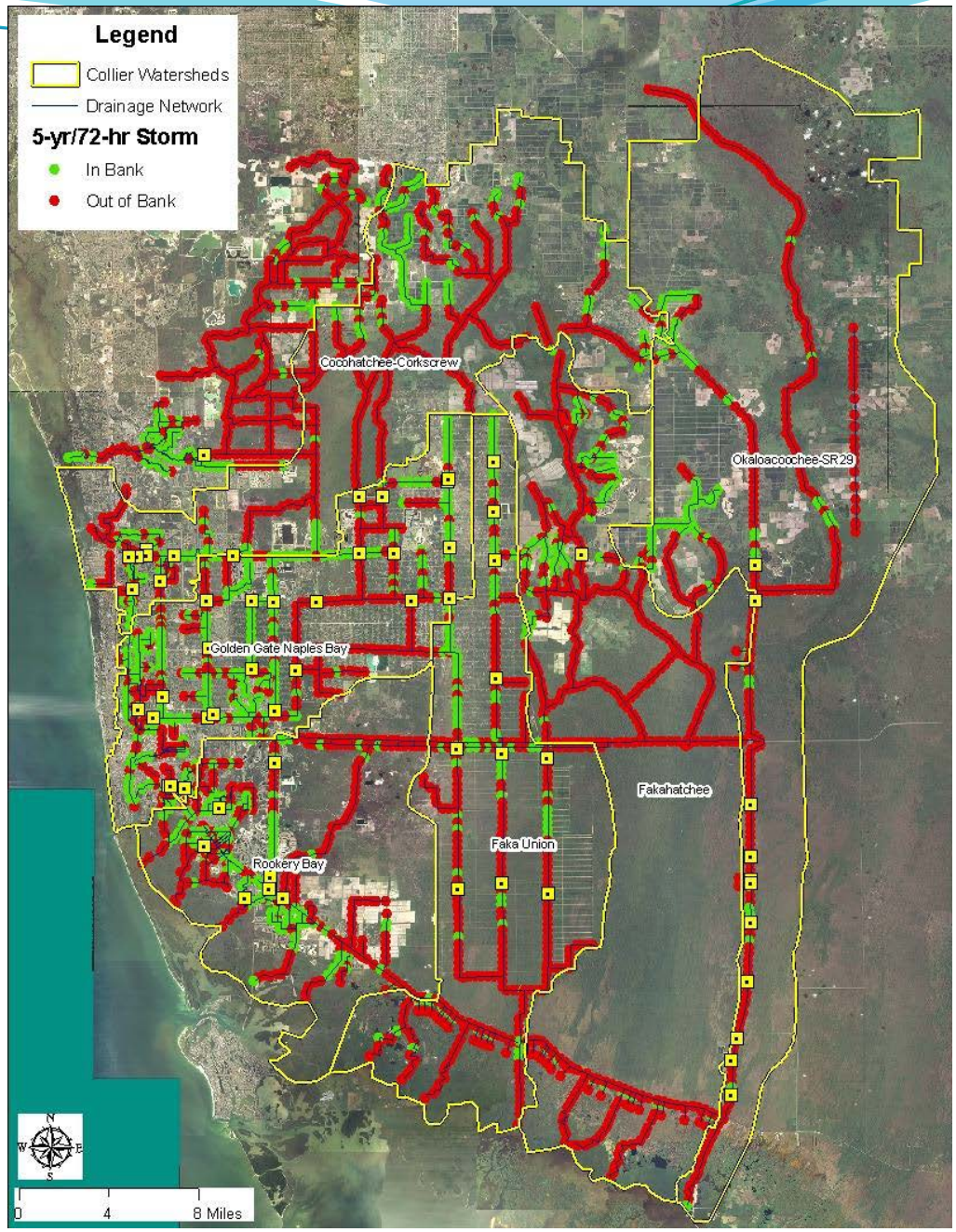
- **Project Cost *:** $500,000

* Conceptual preliminary – Does not include purchase of Land Rights if any.

Collier County

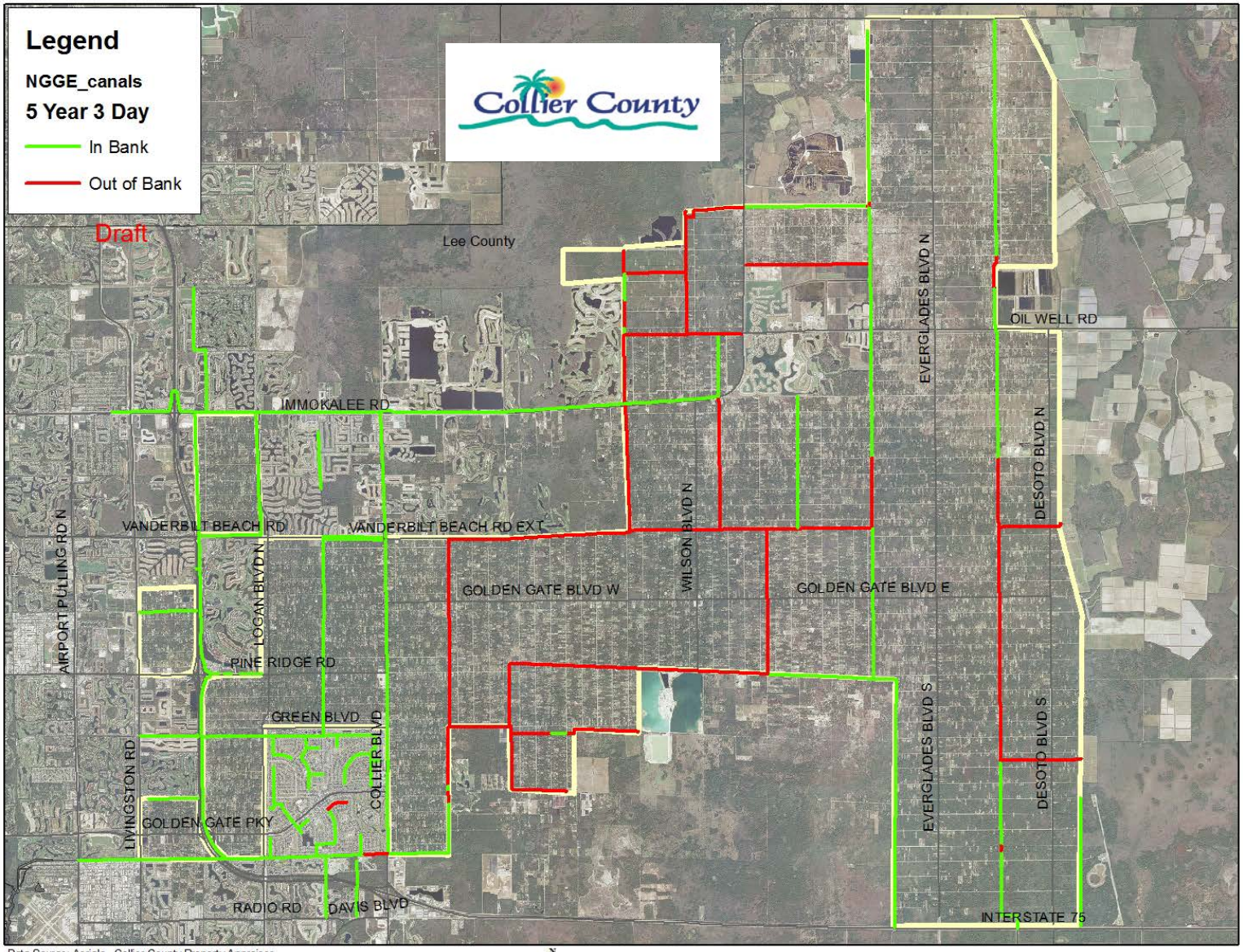
Existing Canal Capacity

- Saturated Soils and 5 - yr Storm Event
- Canals will flow out of bank in many areas (Red) when a 5 yr event is exceeded
- A 5 yr Storm Event is approximately 7.5 inches of rainfall in 3 days

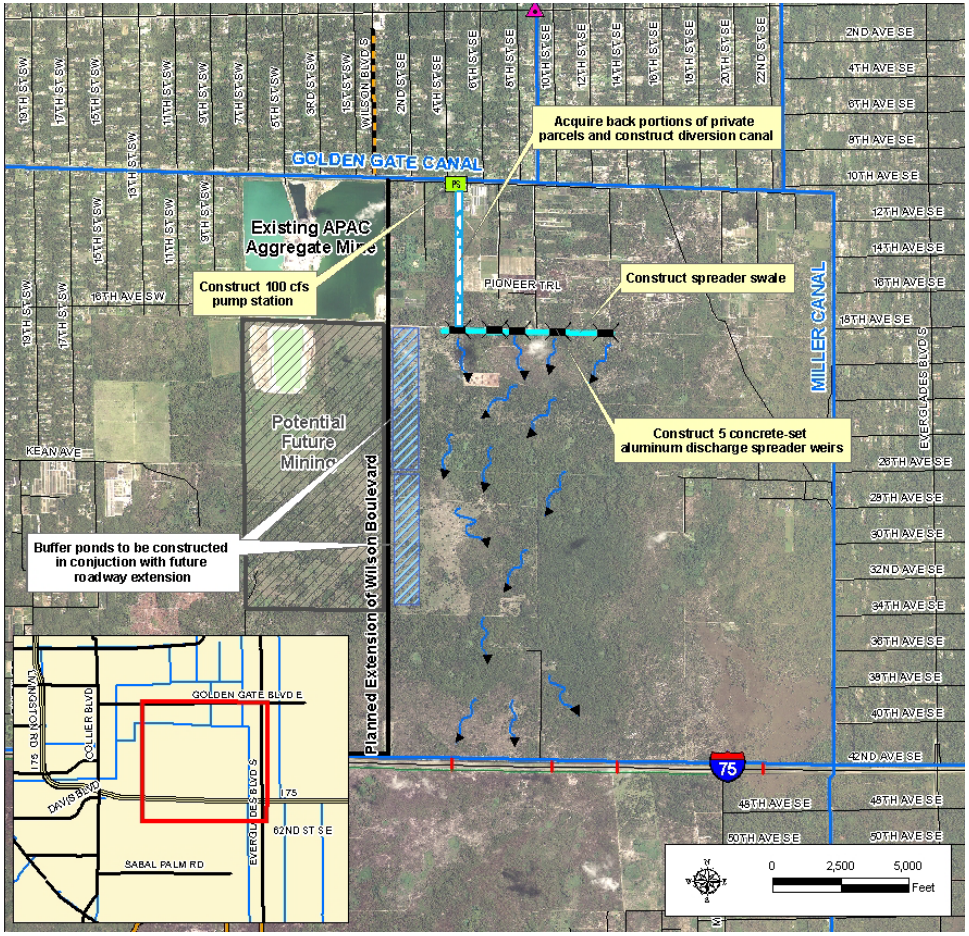


Collier County

Golden Gate Estates Canals for 5 Year 3 Day Storm Event



North Belle Meade Flowway

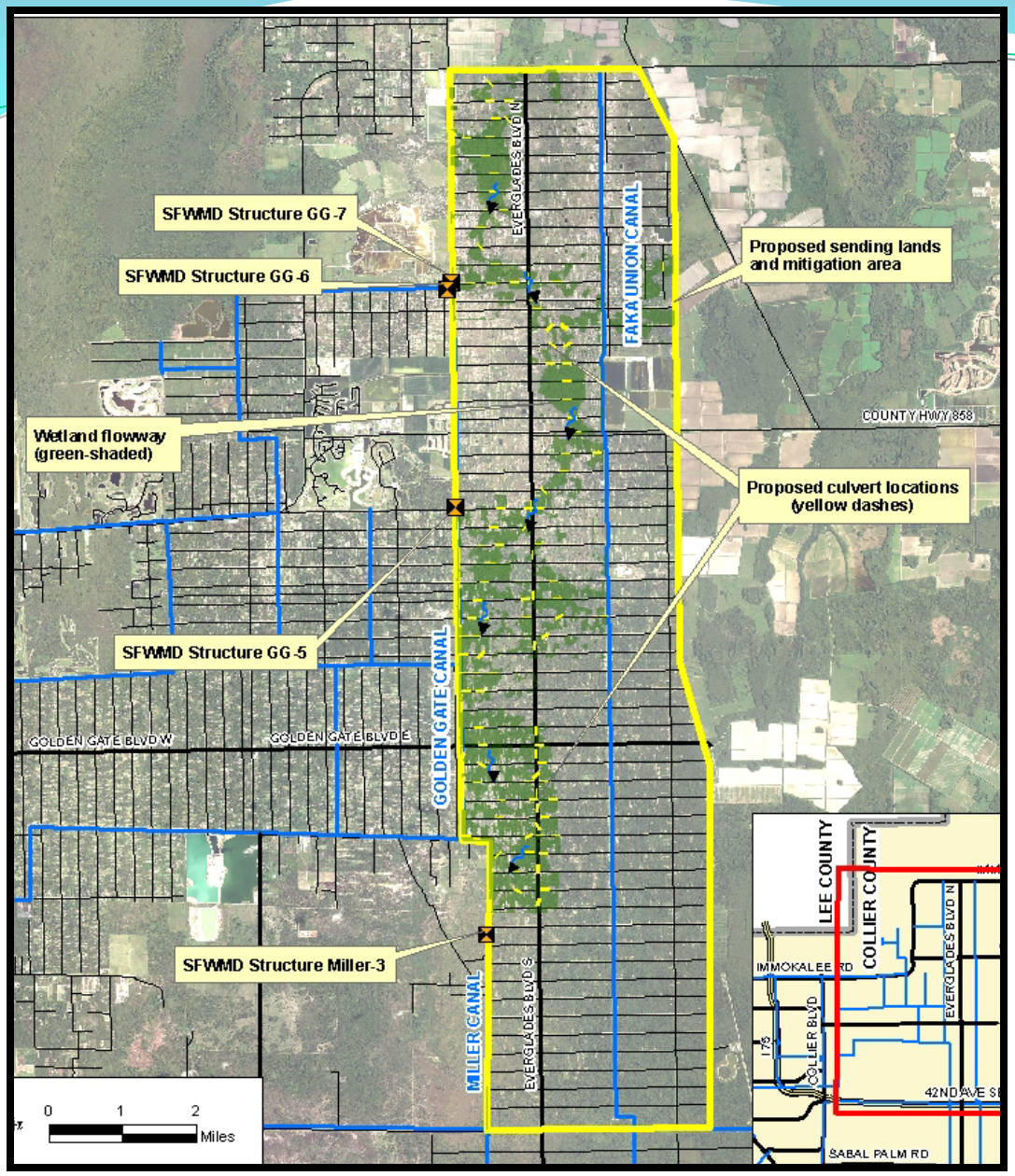


- **Objective:** to divert water from the Golden Gate Main Canal during periods of high flow in order to reduce outflows to Naples Bay, and to rehydrate the North Belle Meade wetland area.
- **Solution:** Implementation of a spreader swale south of the canal to allow wide flow distribution.
- **Project Cost** *: $14.8 MI

  * Based on Study Report

Collier County

NGGE Flowway



- Installed 42 culverts in 2014 (50% SFWMD Funding)
- **Objectives:**
  1. Decrease runoff rate into canal system and reduce impacts to Naples Bay.
  2. Increase flood protection level of service/storage.
  3. Improve wetland system ecology.
  4. Understand impacts to FEMA BFE
  5. Develop a conceptual plan.
- September 25th , Inter Agency Workshop Scheduled.

Collier County