

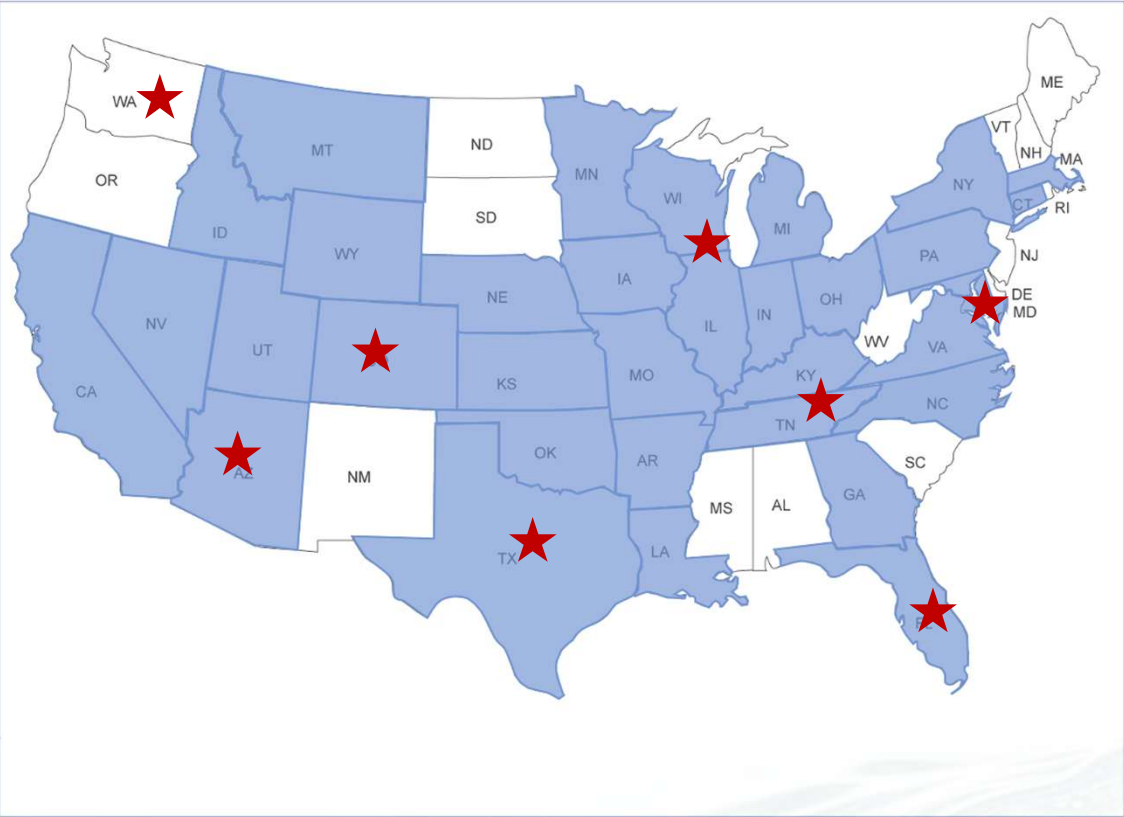


# Hines Inc

*Engineering Water First™*



# Hines Reach



42 Employees | Diverse Engineering Expertise



Over 800 projects annually



975 million sq feet of soil impacted



12.6 billion gallons of water directed



# Team Capabilities

- Water Resource & Hydro-geologic Consulting
- Site Master Planning / Water Balance Development / Water Use Analysis
- Water Asset Financial Modelling
- Water Storage & Transfer
- Mechanical System Design – Pump Stations, Water Feature Mechanical, Water Quality Treatment, Water Harvesting & Reuse
- Irrigation System Design
- Construction Services
- Existing System Analysis & Renovation
- Water Management - Technology Mapping & Monitoring



## Fiddler's Creek – Initial Themes

- System Control
  - “What gets measured is what gets done”
  - 55% of controllers connected to Central Control
    - 45% cannot be readily monitored or efficiently adjusted
  - Lack of data collection, monitoring, and ability to understand where water is being used / wasted
    - Pumps + Irrigation Controllers
- Aging Infrastructure & Critical Components
  - These items consume resources, waste water and prevent active/engaged management
- Equipment Inconsistency & Standards



## Fiddler's Creek – Initial Goals

- Prioritized & Efficient Study of Key Systems
- Long Term Water Security
- More Predictable Infrastructure Costs for Maintenance & Replacement
- Develop Biddable Construction Document Packages
  - Focus on high value, high performance, high reliability equipment that is applied consistently across development to establish efficiency benchmark, ease of operation and maintenance
- Central Control
- Mapping
  - Develop Living Master Infrastructure Map (GIS Data) to serve in following applications:
    - Planning
    - Operations & Maintenance
    - Repairs
- Build process for fair distribution of shared costs based on landscaped acreage
  - Explore funding opportunities from SFWMD Cooperative Funding Program



## Central Control Considerations

- Enhance monitoring, reporting, and system control at irrigation controller locations and pump stations
- Reduce Water Use, Reduce Pump Station Electrical Costs, Increase Efficiency of Labor
- Why Baseline?
  - 6-controller extensive pilot program
  - Capability for large, complex systems
  - Approved by Water Management Districts
  - Local Support
  - Integrated Mapping
  - Sensors
    - Weather Station
    - Moisture Sensors
  - Warranty (10yr vs. 5yr Typical)

**BASELINE™**



## Baseline Project Examples

- **Naples Reserve – Naples, FL**

- 12 Controllers
- 2x Pump Stations
- 2,000 Zones

- **Kings Point Sun City Center – Ruskin, FL**

- 60 Controllers
- 4,500 Zones
- Del Webb Development
- Using both 2-wire and Conventional Wiring
- 10x Pumping Units
- Existing System Transitioned to Baseline

- **Vanderbilt Beach – Naples/Fort Meyers, FL**

- Retrofit (SWFWMD Grant \$100K)
- 14 controllers
- 20+ water sources (Reclaimed + ponds)
- Conventional and 2-wire

- **Wild Blue – Naples Area, FL**

- 10 controllers
- 2x pump stations

- **Margaritaville Daytona**

- 20 controllers
- 5,000 zones
- Onsite weather stations

- **Addison Reserve – Deerfield Beach**

- 15 controllers
- 12x pump stations
- 3,000 valves
- Retrofit

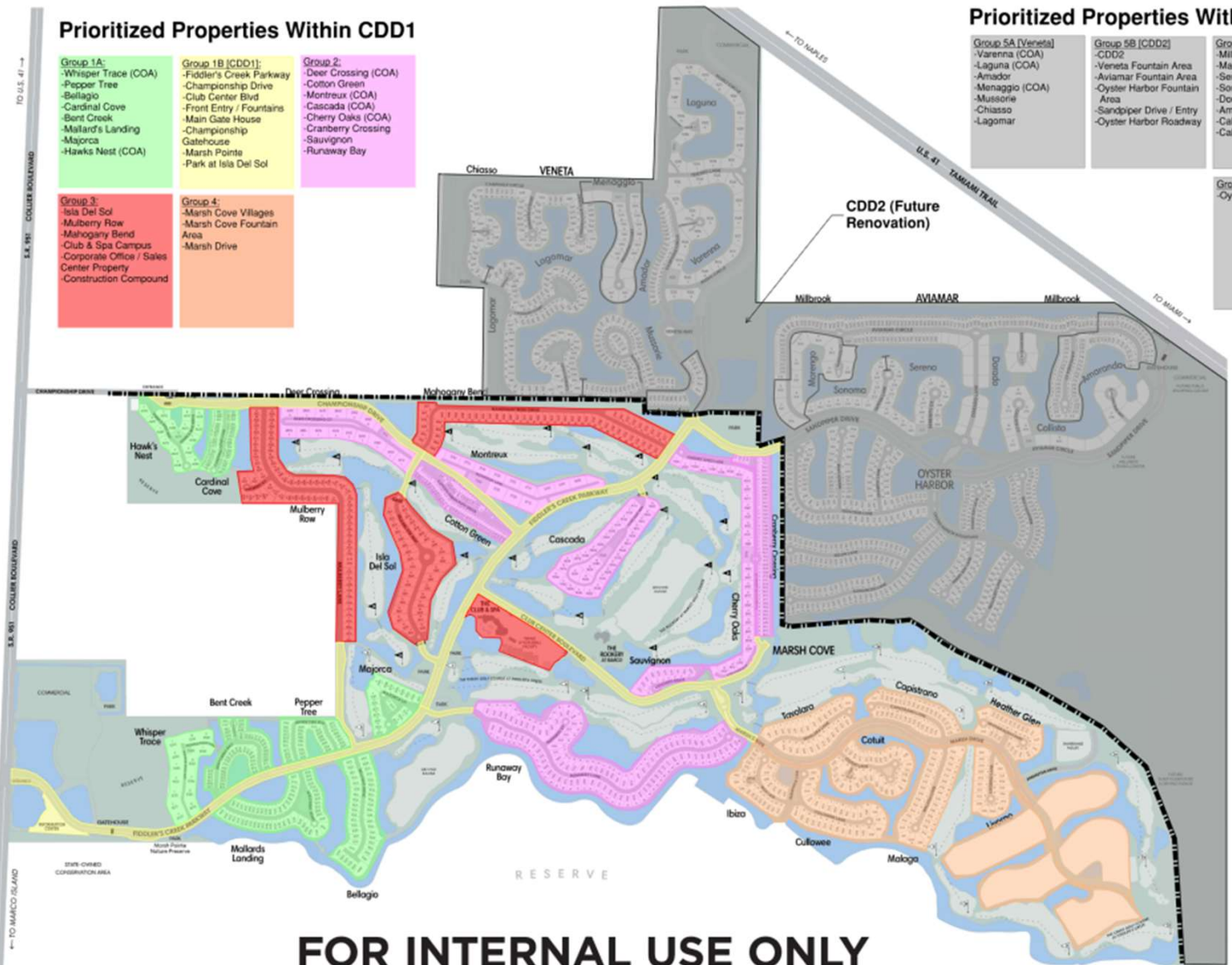


### Prioritized Properties Within CDD1

- |  |  |  |
|--|--|--|
| <b>Group 1A:</b><br>-Whisper Trace (COA)<br>-Pepper Tree<br>-Bellagio<br>-Cardinal Cove<br>-Bent Creek<br>-Mallard's Landing<br>-Majorca<br>-Hawks Nest (COA)        | <b>Group 1B [CDD1]:</b><br>-Fiddler's Creek Parkway<br>-Championship Drive<br>-Club Center Blvd<br>-Front Entry / Fountains<br>-Main Gate House<br>-Championship Gatehouse<br>-Marsh Points<br>-Park at Isla Del Sol | <b>Group 2:</b><br>-Deer Crossing (COA)<br>-Cotton Green<br>-Montreux (COA)<br>-Cascada (COA)<br>-Cherry Oaks (COA)<br>-Cranberry Crossing<br>-Sauvignon<br>-Runaway Bay |
| <b>Group 3:</b><br>-Isla Del Sol<br>-Mulberry Row<br>-Mahogany Bend<br>-Club & Spa Campus<br>-Corporate Office / Sales<br>-Center Property<br>-Construction Compound | <b>Group 4:</b><br>-Marsh Cove Villages<br>-Marsh Cove Fountain Area<br>-Marsh Drive   |  |

### Prioritized Properties Within CDD2

- |  |  |  |
|--|--|--|
| <b>Group 5A [Veneta]</b><br>-Varenna (COA)<br>-Laguna (COA)<br>-Anador<br>-Menaggio (COA)<br>-Musterie<br>-Chiasso<br>-Lagomar | <b>Group 5B [CDD2]</b><br>-CDD2<br>-Veneta Fountain Area<br>-Aviamar Fountain Area<br>-Oyster Harbor Fountain Area<br>-Sandpiper Drive / Entry<br>-Oyster Harbor Roadway | <b>Group 6 [Aviamar]</b><br>-Milbrook<br>-Marengo (COA)<br>-Serena (COA)<br>-Sonoma (COA)<br>-Dorado (COA)<br>-Amaranda<br>-Calista (COA)<br>-Calista II (COA) |
|  |  | <b>Group 7 [Oyster Harbor]</b><br>-Oyster Harbor Villages  |



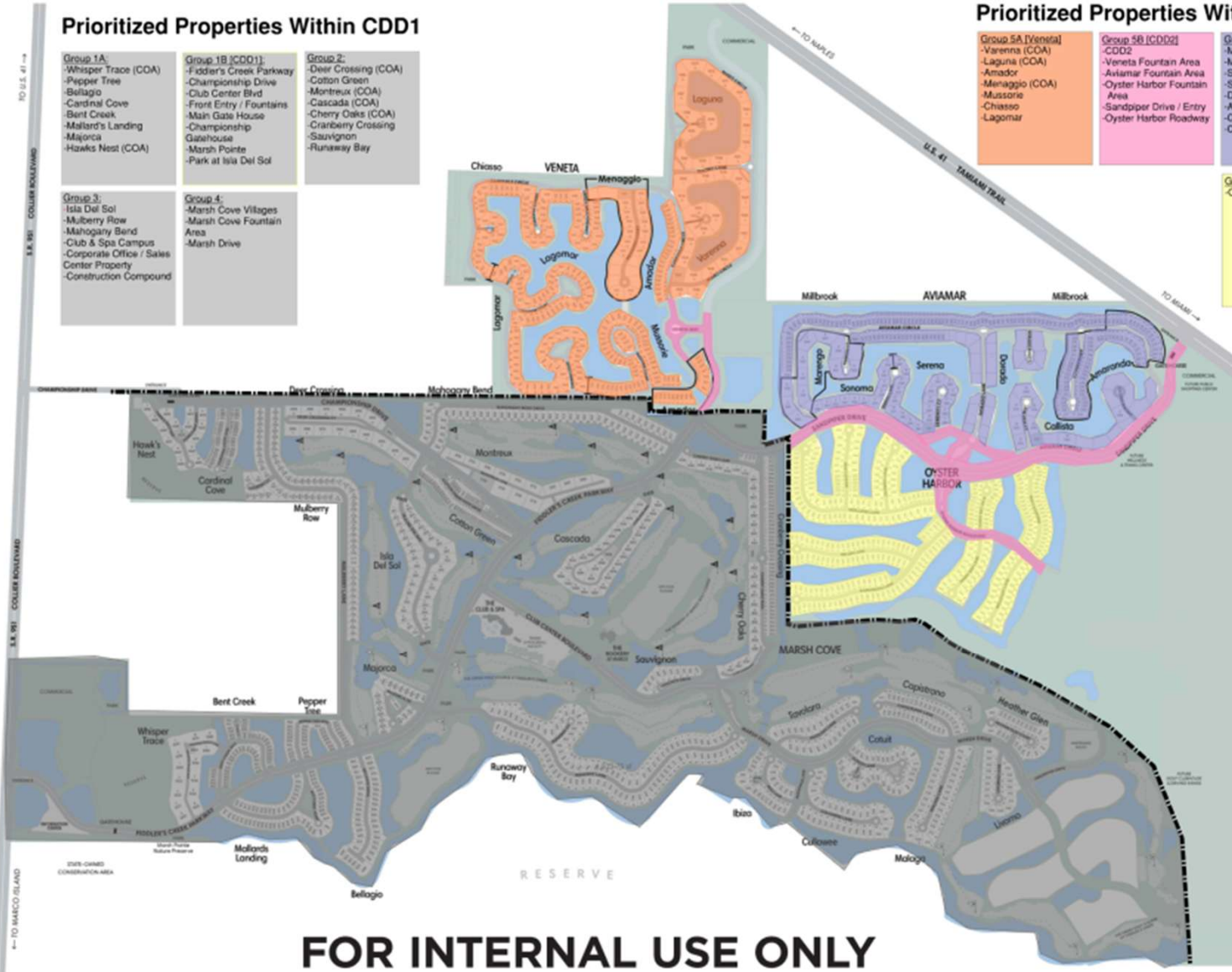
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| <b>Group 3:</b><br>-Isla Del Sol<br>-Mulberry Row<br>-Mahogany Blend<br>-Club & Spa Campus<br>-Corporate Office / Sales Center Property<br>-Construction Compound | <b>Group 4:</b><br>-Marsh Cove Villages<br>-Marsh Cove Fountain Area<br>-Marsh Drive   |   |

### Prioritized Properties Within CDD2

- |  |  |  |
|--|--|--|
| <b>Group 5A (Veneta)</b><br>-Varena (COA)<br>-Laguna (COA)<br>-Amador<br>-Menaggio (COA)<br>-Mussorie<br>-Chasso<br>-Lagomar | <b>Group 5B (CDD2)</b><br>-CDD2<br>-Veneta Fountain Area<br>-Aviatar Fountain Area<br>-Oyster Harbor Fountain Area<br>-Sandpiper Drive / Entry<br>-Oyster Harbor Roadway | <b>Group 6 (Aviatar)</b><br>-Milbrook<br>-Marengo (COA)<br>-Serena (COA)<br>-Sonoma (COA)<br>-Dorado (COA)<br>-Amaranda<br>-Callista (COA)<br>-Callista II (COA) |
|  |  | <b>Group 7 (Oyster Harbor)</b><br>-Oyster Harbor Villages  |



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