Carpenter Creek Headwater Project

Public Meeting - June 5, 2023

Board of County Commissioners • Escambia County, Florida

Welcome/Introductions

Madison O'Toole - Environmental Project Coordinator (Escambia County)
Terri Berry – RESTORE Division Manager (Escambia County)
Pearce Barrett, P.E., FCCM – NRDA Project Coordinator/DWH Program (FDEP)

What to Expect from today's meeting

Agenda:

- **Background**
  - **Components to Delivering an Environmental Project**
  - **Carpenter Creek & Bayou Texar Watershed Masterplan**
    - Carpenter Creek Headwaters project is the first implementation project
  - **Property Requirements**
  - **Funding**
- **Design Concept**
  - Goals
  - Drainage Basin & Pond Design
    - Benefits of Stormwater Detention Pond
    - Benefits of Surface Aeration
  - Pre-Treatment
  - Invasive Species
- **Stakeholder Input**
- **Next Steps**

Questions and Answers

Appendix

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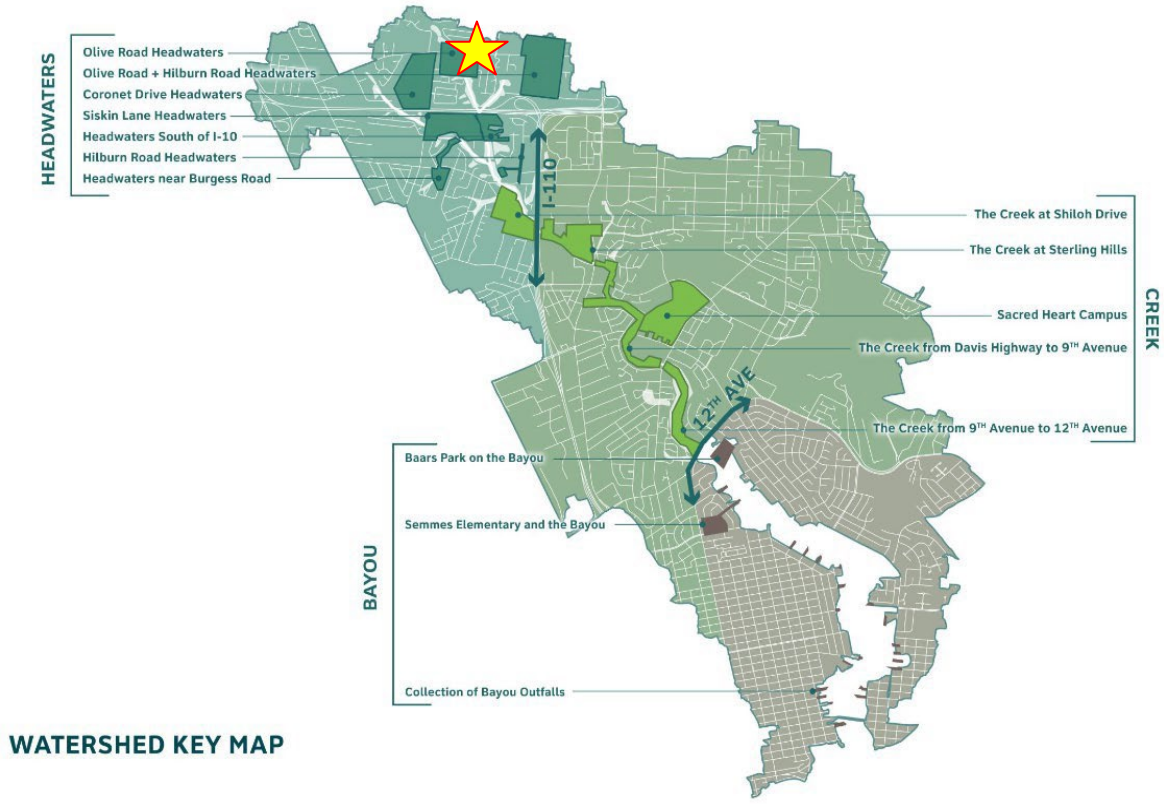
Components to Delivering an Environmental Project

1. **Need a plan!** (Watershed Master Planning is critical)
   - Identify issues/problems
   - Perform Detailed Analysis
   - Engage Public
   - Solutions?
2. **Must have property**
3. **Funding is mandatory**
4. **Design & Permitting**
5. **Procurement**
6. **Construction**
7. **Monitoring**



Project Location

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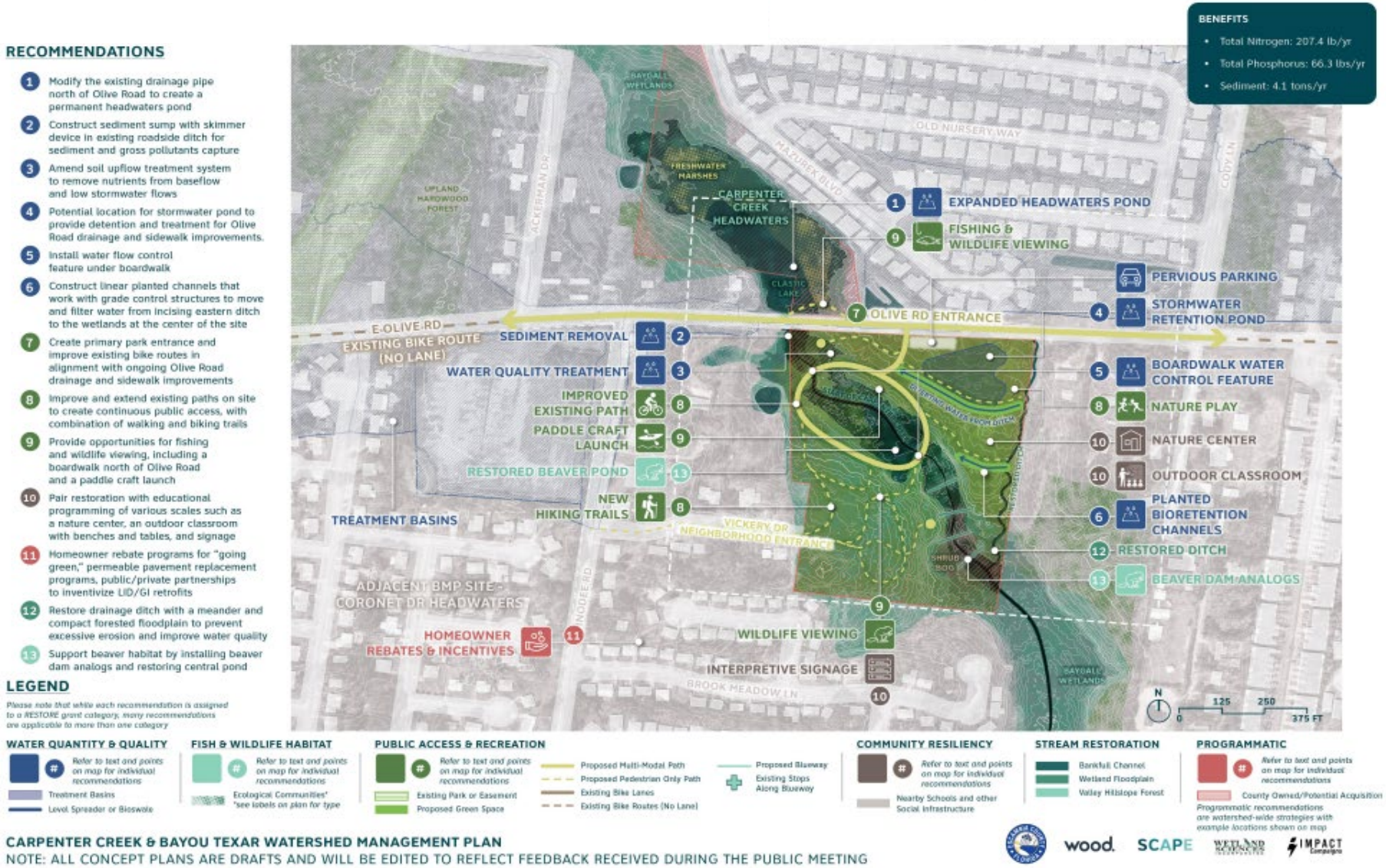
Carpenter Creek & Bayou Texar Watershed Masterplan

Olive Road Headwaters (Site 16) – Concept Plan

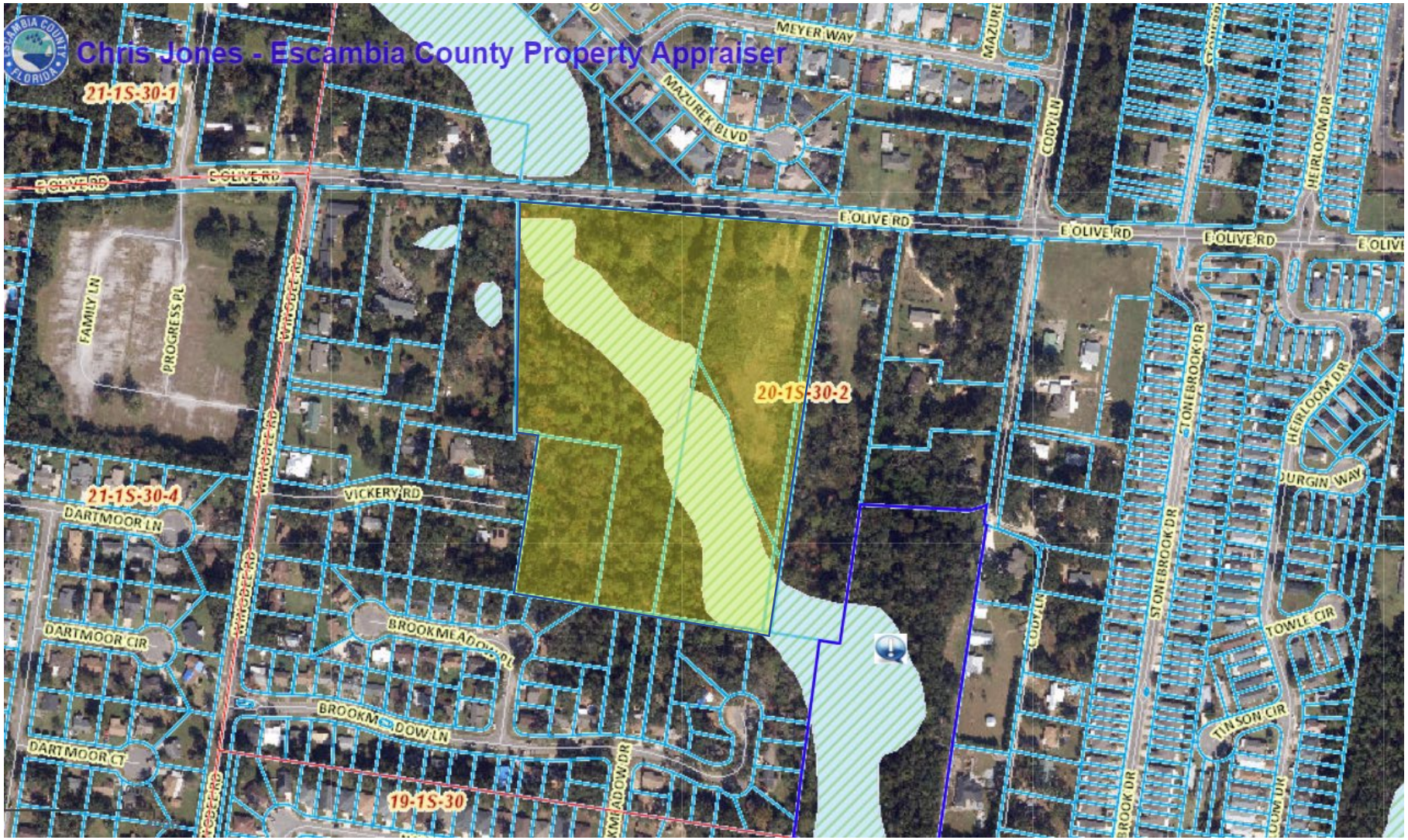


Carpenter Creek Headwater Project

Property Acquisition

Escambia County Land Purchases

Parcel ID	Acres
201S302101003001	7.873
201S302101007001	1.944
201S302101001003	3.574
201S302101005003	2.773
201S302101010003	.407
201S302101008003	.101
Total	16.672



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Funding? FDEP Grants

Deepwater Horizon Natural Resource Damage Assessment (NRDA)

DH006 – Carpenters Creek Headwater Water Quality Improvements

Total Grant = $1,599,600

Objective: Reduce encroachment, improve water quality, develop first public access to Creek and restore wetland and upland habitat.

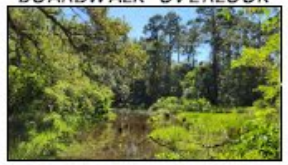
DH012 – Park Amenities

Total Grant = $410,000

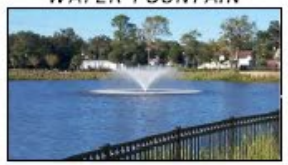
Objective: Construct a new public park to provide and enhance recreational opportunities where none currently exist.

CARPENTER CREEK HEADWATER SITE

BOARDWALK OVERLOOK

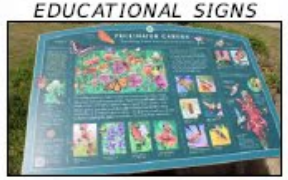


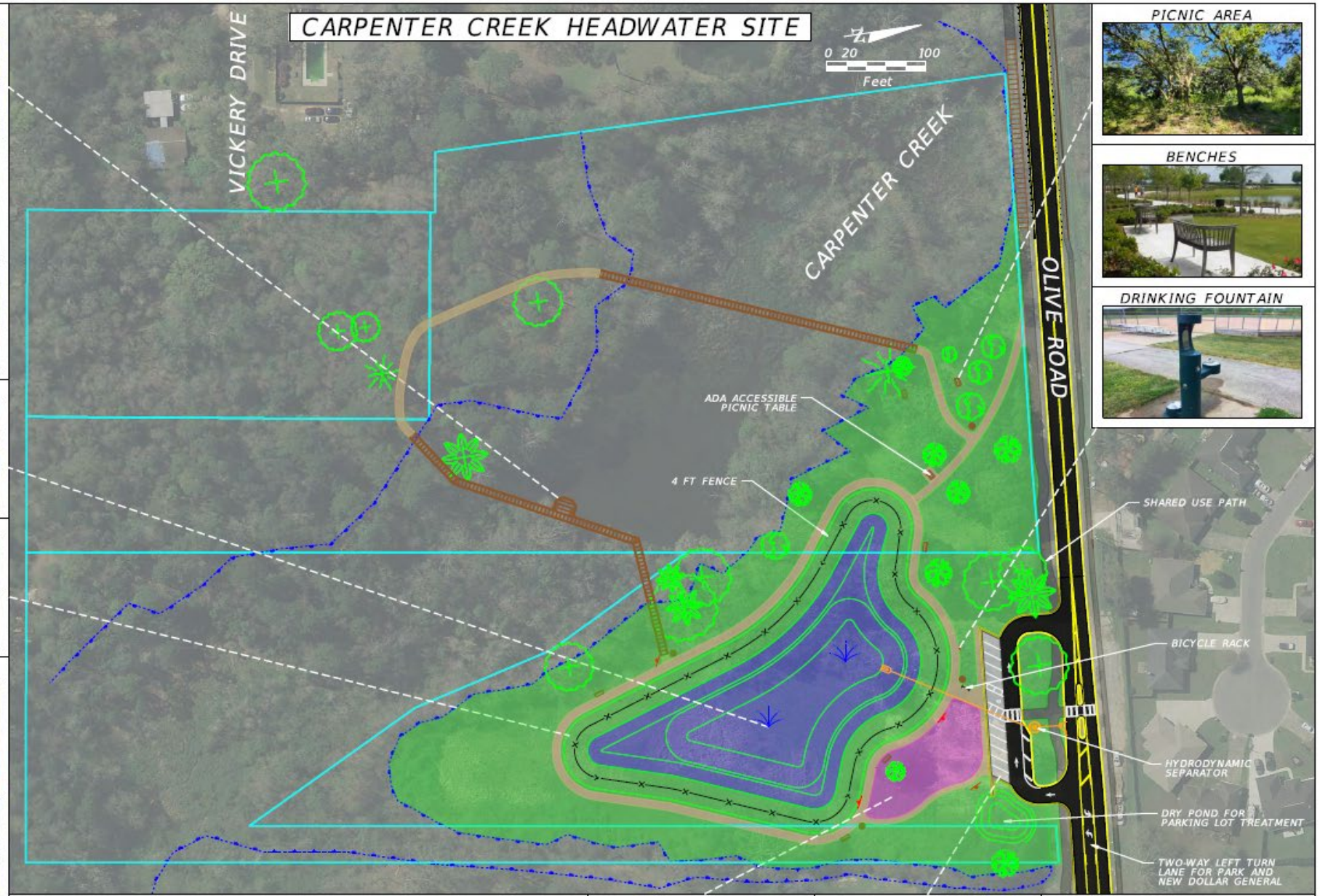
WATER FOUNTAIN



FENCING

EDUCATIONAL SIGNS





PICNIC AREA

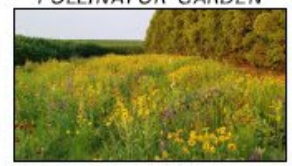
BENCHES

DRINKING FOUNTAIN

LEGEND

WALKING TRAIL	2650 FT	TOTAL LENGTH
BOARDWALK	700 FT	TOTAL LENGTH
WETLAND LINE		LANDSCAPE AREAS
PROPERTY LINE		POLLINATOR GARDEN
BENCH		PICNIC TABLE
EDUCATIONAL SIGN		TRASH RECEPTACLE

POLLINATOR GARDEN



PERVIOUS PAVEMENT

CARPENTER CREEK HEADWATER PARK POND CONCEPT PLAN

Design Concept

Project Goals

DH006 Goals – Carpenters Creek Headwater Water Quality Improvements

- ✓ **Acquire 6-acre parcel** to the East for stormwater treatment and habitat restoration.
- ✓ **Restoration of 2.6 acres of wetland** (improve habitats and species that depend on wetland habitat). Eliminate invasive species, stabilize the soils and reduce erosion.
- ✓ **Construct Stormwater Treatment Facility** to capture and treat stormwater from Olive Road
- ✓ **Reduce Nitrogen, Phosphorus and Sediments** from entering Carpenter Creek

DH012 Goals– Park Amenities

- ✓ **New 2000-foot trail, including board walk to provide access point to the lake feature.**
- ✓ **Passive recreational opportunities** (benches, picnic tables)
- ✓ **New 12-space parking area will enhance public access** (along with Olive Road Street Improvements)
- ✓ **Educational Signage** (enhance awareness of the restoration efforts and importance of the creek and watershed)
- ✓ **Maintain native tree canopy**

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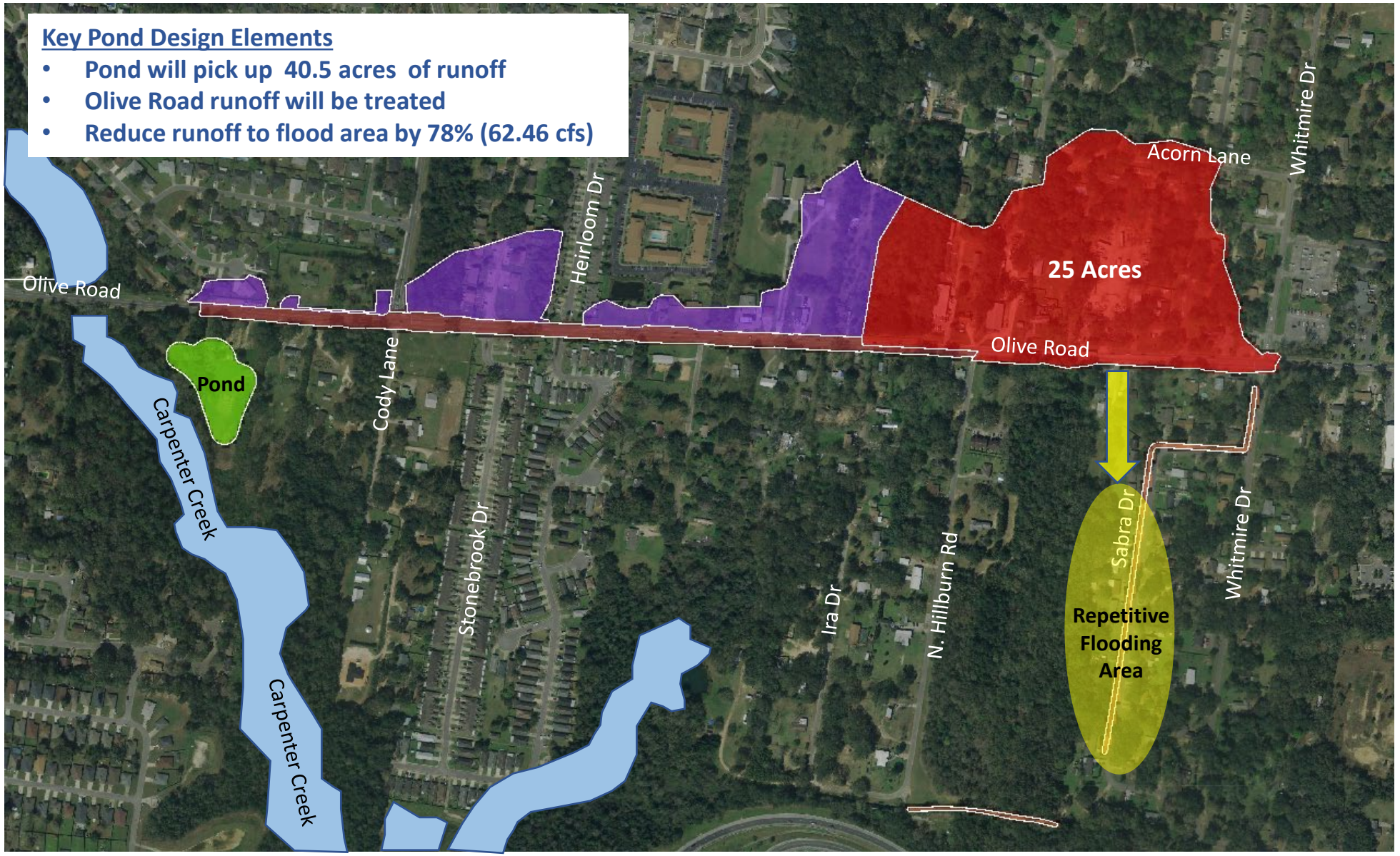
Design & Permitting



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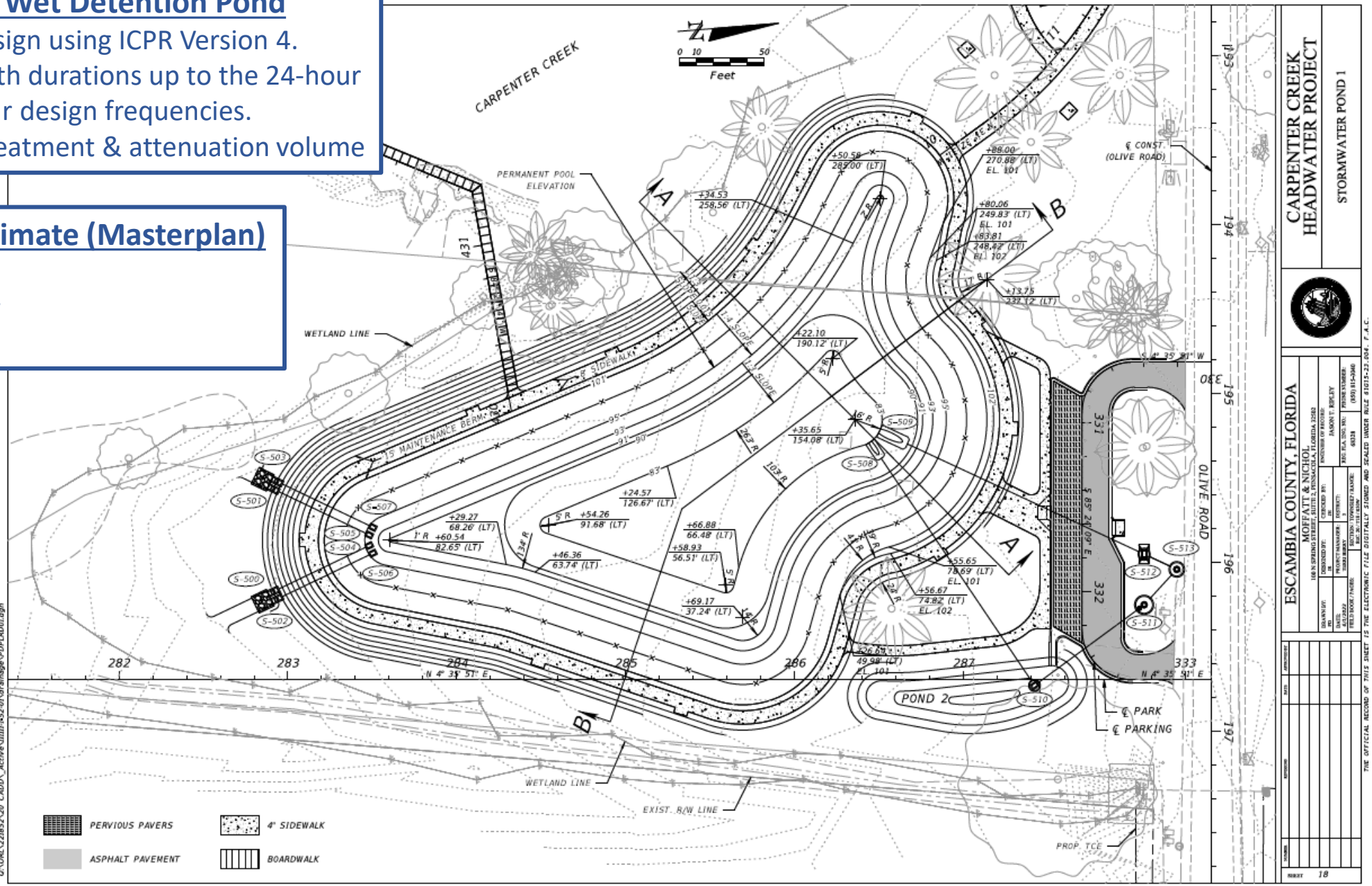
4. Pond Design

Carpenter Creek Headwater Wet Detention Pond

- Hydrologic and Hydraulic Design using ICPR Version 4.
- Modeled all storm events with durations up to the 24-hour event for the 25 and 100-year design frequencies.
- Approximately 6 acre-feet treatment & attenuation volume

Pollutant load reduction estimate (Masterplan)

- Total Nitrogen: 67 lbs/yr
- Total Phosphorous: 17 lbs/yr
- Sediment: 3,146 lbs/year



Benefits of “Wet” Stormwater Detention Ponds:

- Assists with flood prevention and management
- Improves water quality in surrounding water bodies
- Reduces nitrogen, phosphorous and sediment
- Minimizes downstream erosion
- Provides habitats for wildlife


Admiral Mason Park Pond


Corrine Jones Park Pond


Bill Gregory Park Pond

Surface Aerating Fountains


Bill Gregory Park Pond

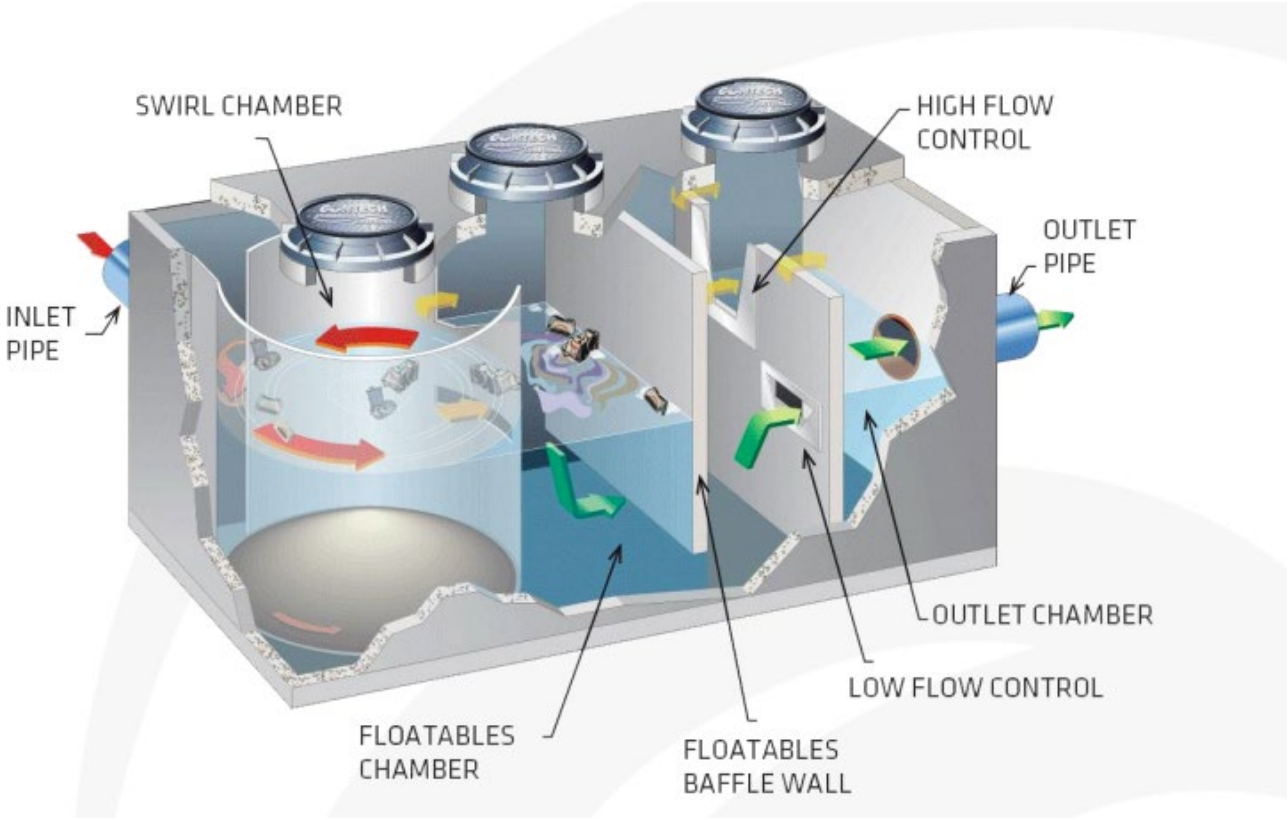
Benefits

1. Water Quality
2. Reduces the Likelihood of Excessive Algae Growth Removes Foul Odors
3. Decreases Mosquito Activity
4. Reduces the Accumulation of Bottom


Corrine Jones Park Pond


Admiral Mason Park Pond

Hydrodynamic Separators for Pre-Treatment (If budget allows)

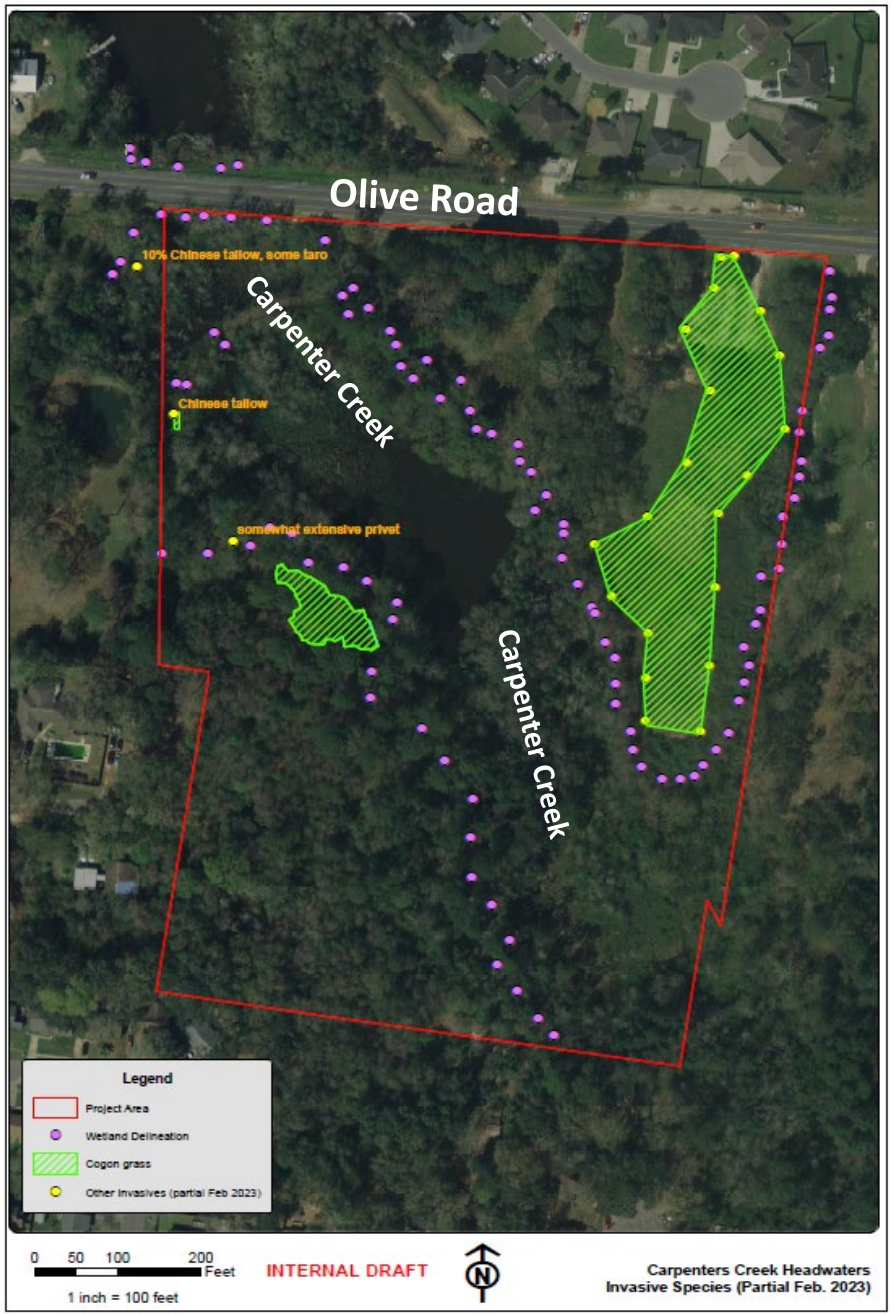


Benefits

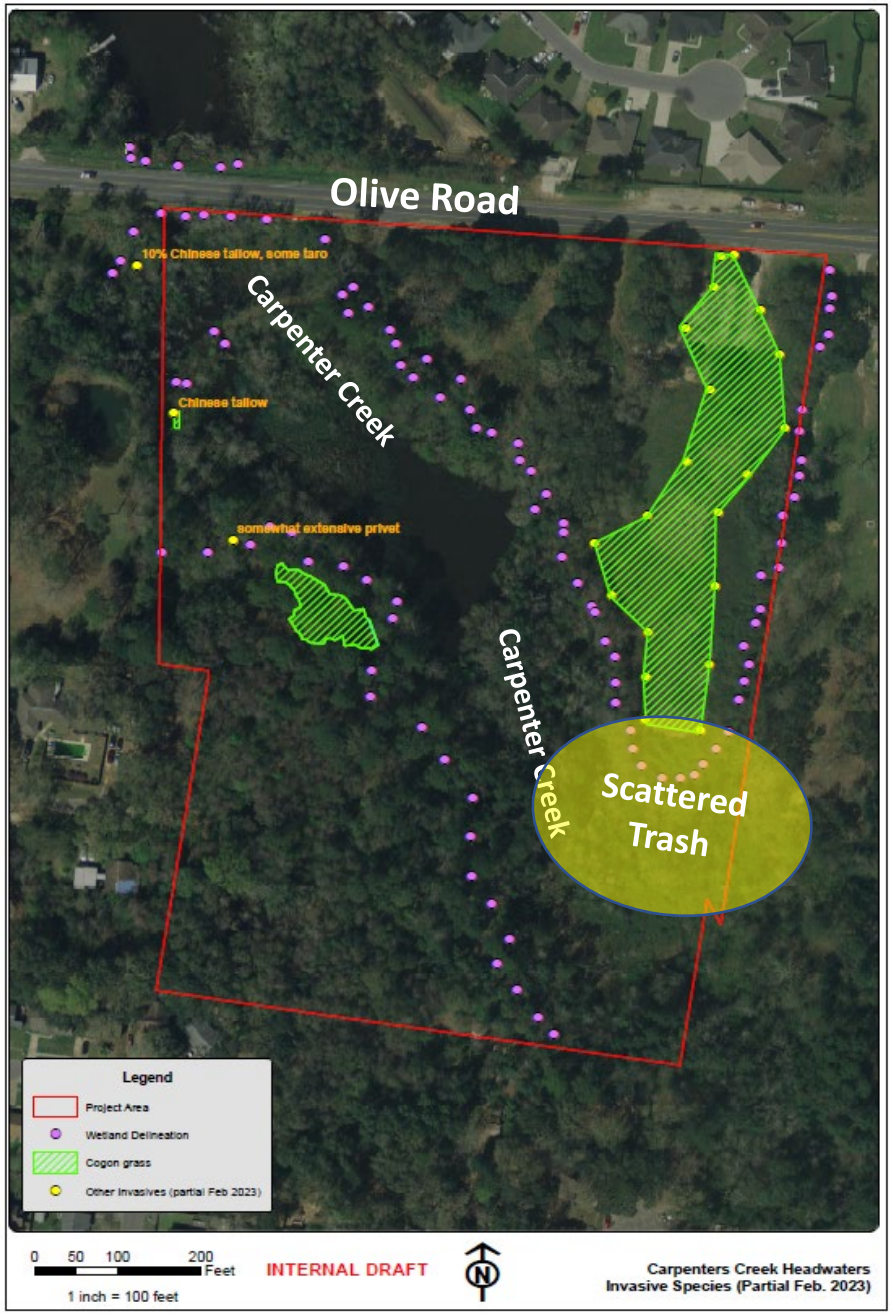
1. Retains trash, debris, sediment, and hydrocarbons
2. Space efficient
3. Underground (out of site)
4. Easy maintenance
5. Proven performance

Invasive Species

Cogan Grass

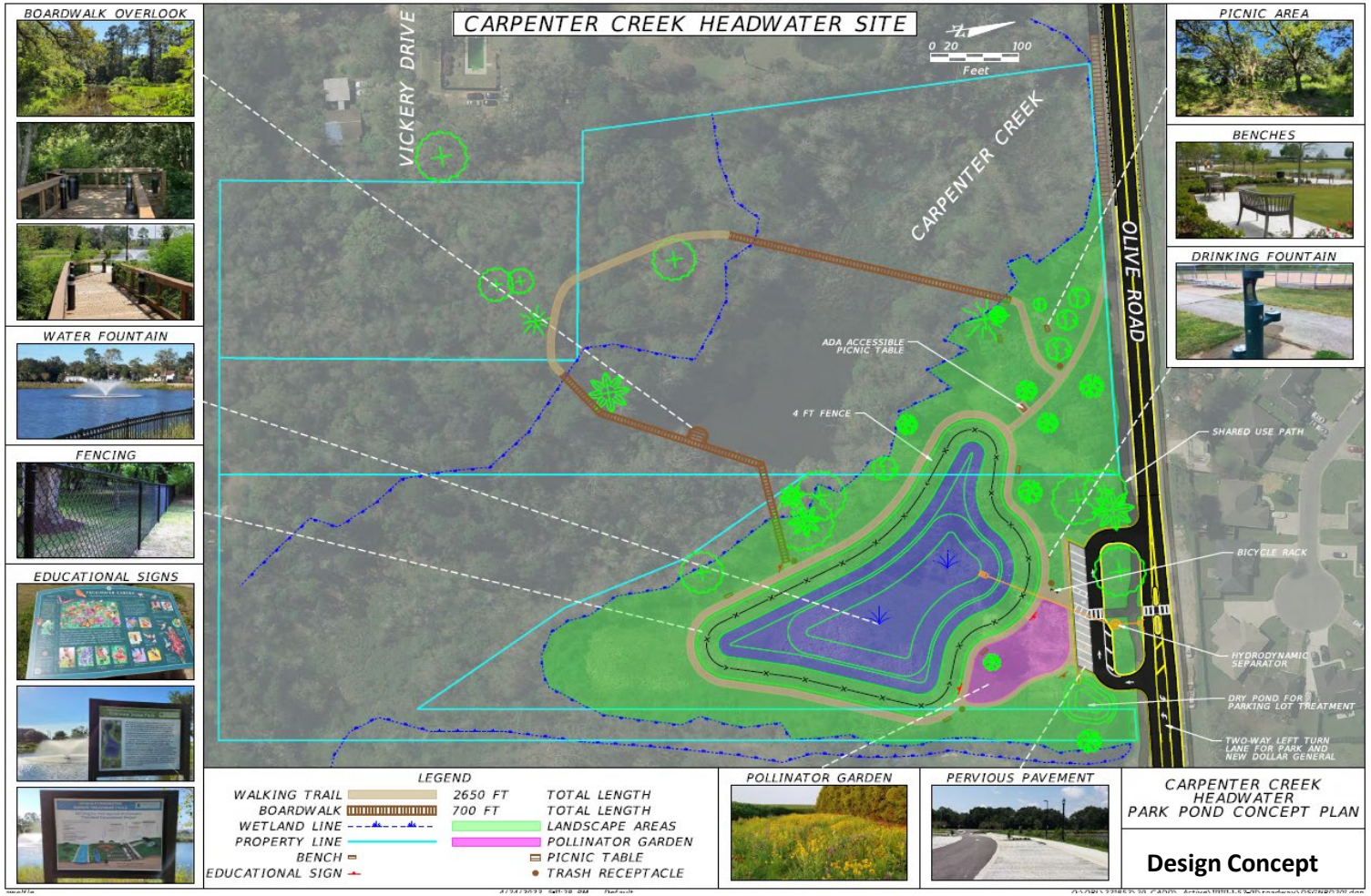


Clean up – Other Impacts



Stakeholder Input

- Fill out comment cards
- What do you want to see?
- What concerns do you have?
- Your thoughts?



Next Steps

Design & Permitting

(4.5 months)

- **Analyze Stakeholder Input**
- Develop 60% Construction Plans
- Submit Permit Application
- **Prepare Cost Estimate vs. Budget**
- Finalize Construction Plans
- Receive Permits
- Prepare Specifications

Procurement

(4 months)

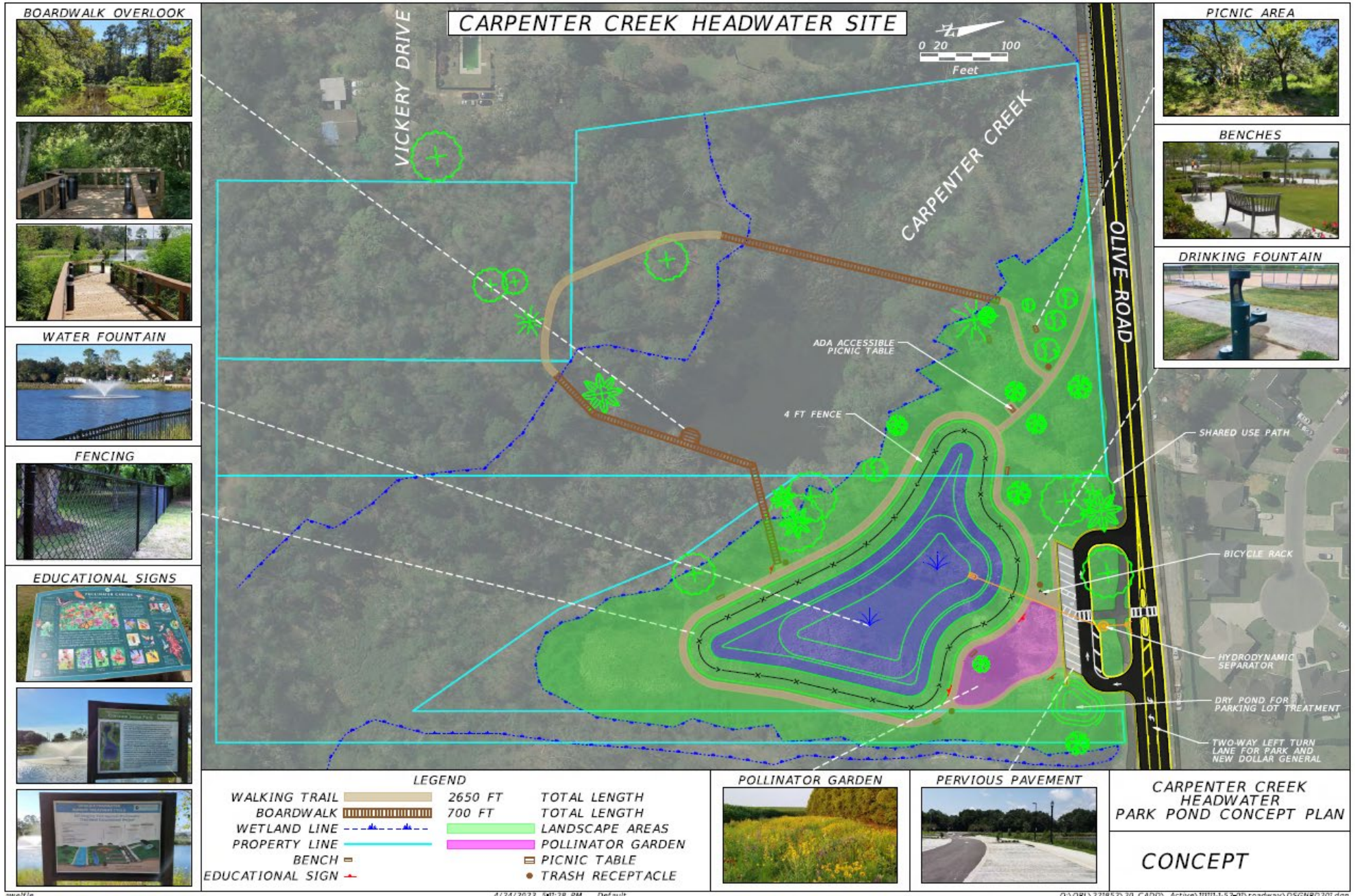
- Prepare Project Manual
- Advertise
- **Prebid Meeting**
- Address RFI's
- Open Bids
- Award Construction Contract

Construction

(12 months)

- NTP
- Address Invasive Species
- Construction Oversite by County
- **Erosion Control is critical**

Questions/Comments?



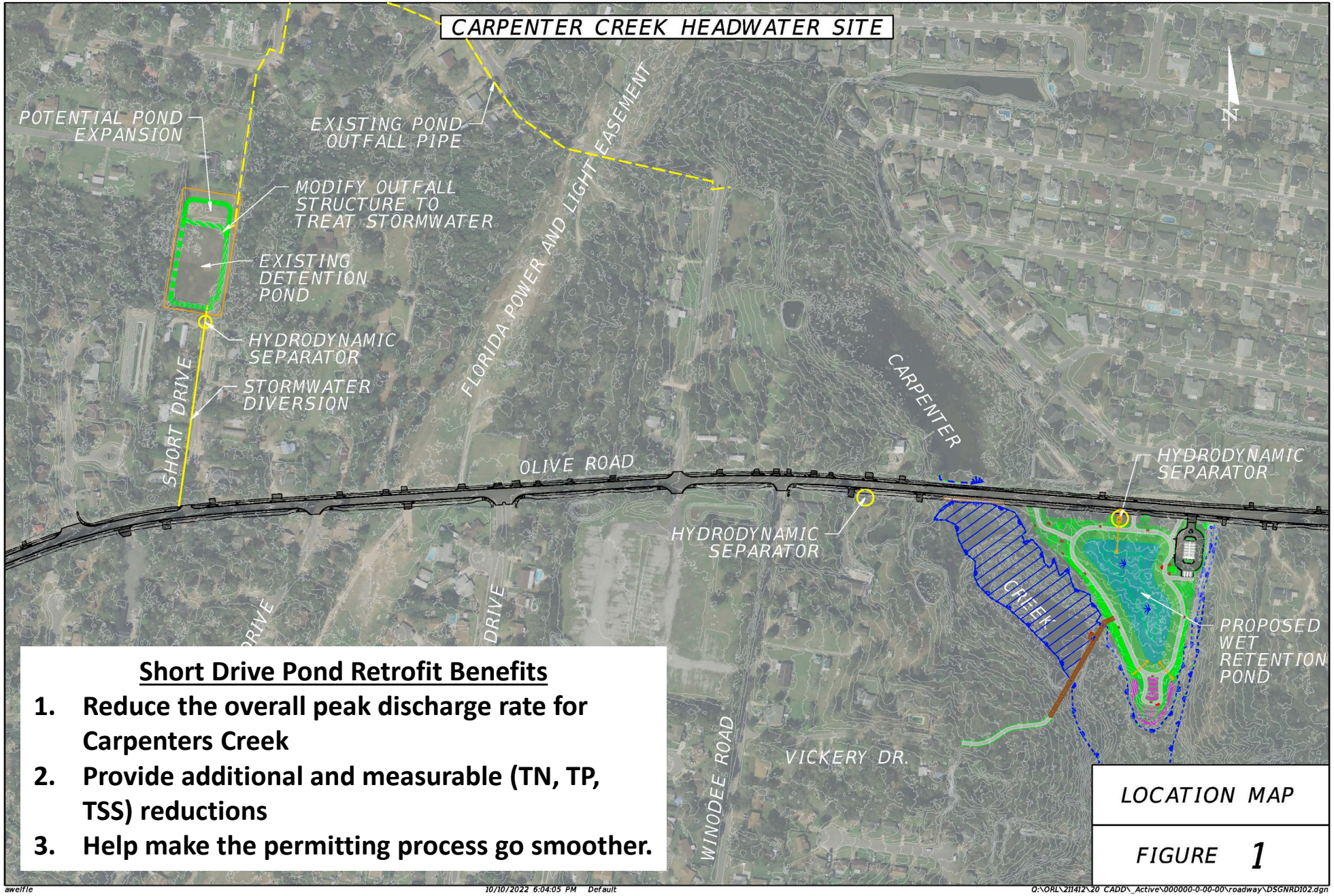
APPENDIX

- Hydrodynamic Separators for Pre-Treatment
- Future Project (West side of Carpenter Creek)
- Carpenter Creek & Bayou Texar Masterplan Project Goals

Hydrodynamic Separators for Pre-Treatment **(If budget allows)**

	Cascade Separator®	Hydrodynamic Separation	Target Pollutants: Trash, debris, sediment, and hydrocarbons Configurations: Inline, offline, grate inlet, and drop inlet	Uses advanced sediment capture technology to provide the highest sediment removal efficiency of any Contech HDS product.
	CDS®		Target Pollutants: Trash, debris, sediment, and hydrocarbons Configurations: Inline, offline, grate inlet, drop inlet	Captures and retains 100% of floatables; Self-cleaning screen.
	Debris Separating Baffle Box (DSBB) Separator		Target Pollutants: Trash, debris, sediment, and hydrocarbons Configuration: Vault	Dual-stage treatment screening and separation with enhanced 3-chambered separation.
	SciCLONEX™		Target Pollutants: Trash, debris, sediment, and hydrocarbons Configuration: Manhole	Industry leading loading rate while maintaining cost-effective design features
	Stormceptor® STC		Target Pollutants: Sediment and hydrocarbons Configuration: Manhole	Patented scour prevention technology ensures pollutants are captured and contained during all rainfall events.
	Vortechs®		Target Pollutants: Trash, debris, sediment, and hydrocarbons Configuration: Vault	Shallow system profile for easy installation, especially on sites with high groundwater or bedrock.

Future Project to address west side of Creek



Short Drive Pond Retrofit Benefits

1. **Reduce the overall peak discharge rate for Carpenters Creek**
2. **Provide additional and measurable (TN, TP, TSS) reductions**
3. **Help make the permitting process go smoother.**

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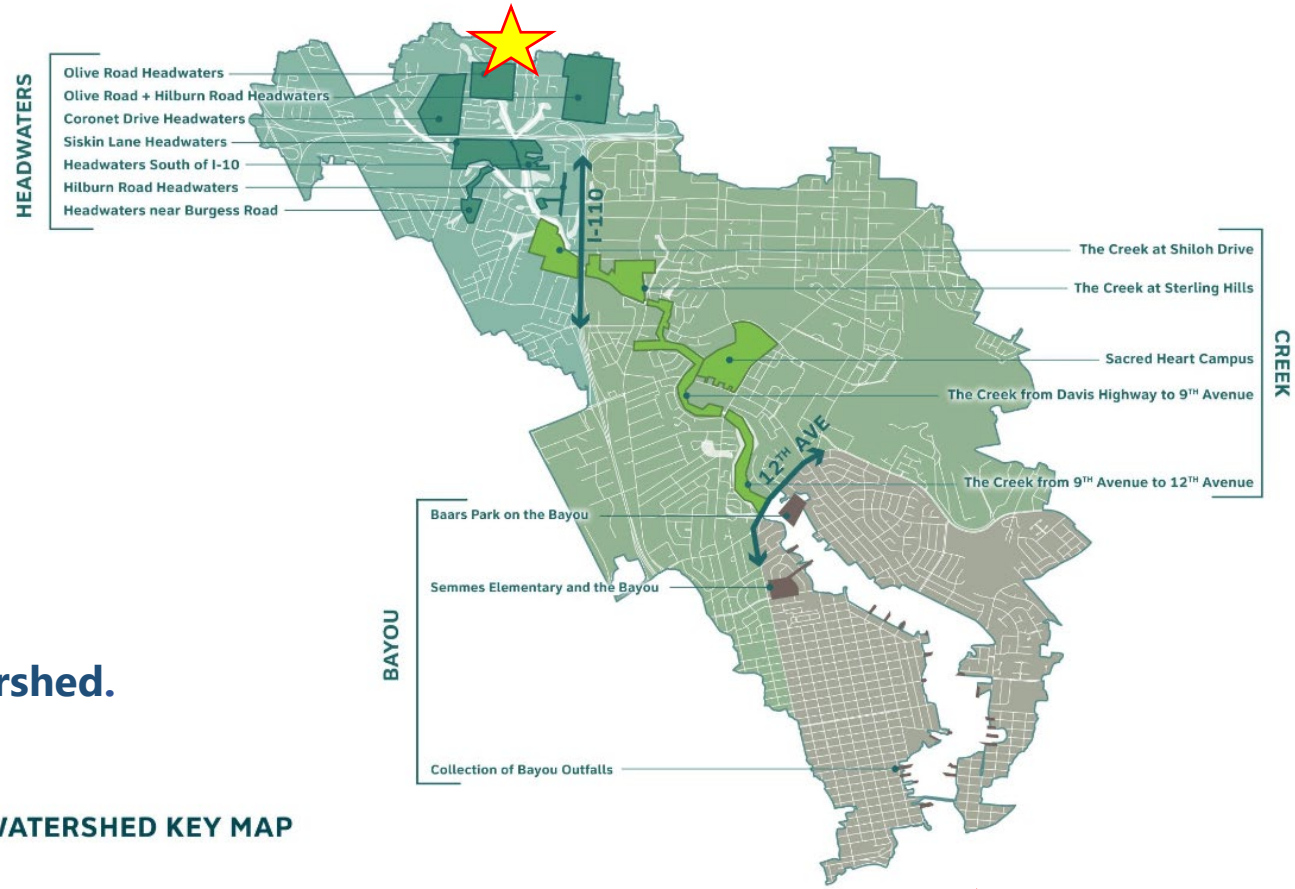
Carpenter Creek & Bayou Texar Watershed Masterplan
Restore the Watershed!!

Masterplan Project Goals

- Manage water quantity and improve water quality
- Protect, enhance, and restore fish and wildlife habitats
- Expand public access and recreational opportunities
- Build more equitable and resilient communities
- Foster stewardship by connecting residents to their watershed.



WATERSHED KEY MAP

Project Location

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