



# CITY OF ISLE OF PALMS, SC

Presentation to Public Works Committee  
PHASE 3 DRAINAGE OUTFALLS & WATERWAY BLVD PATHWAY STUDY

April 12, 2021



- Phase 3 Drainage Outfalls

- Project Overview
- Permitting Status
- Mitigation

- Waterway Blvd. Pathway Study

- Study Findings
- Recommendations
- Cost Estimates

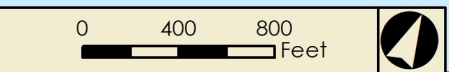
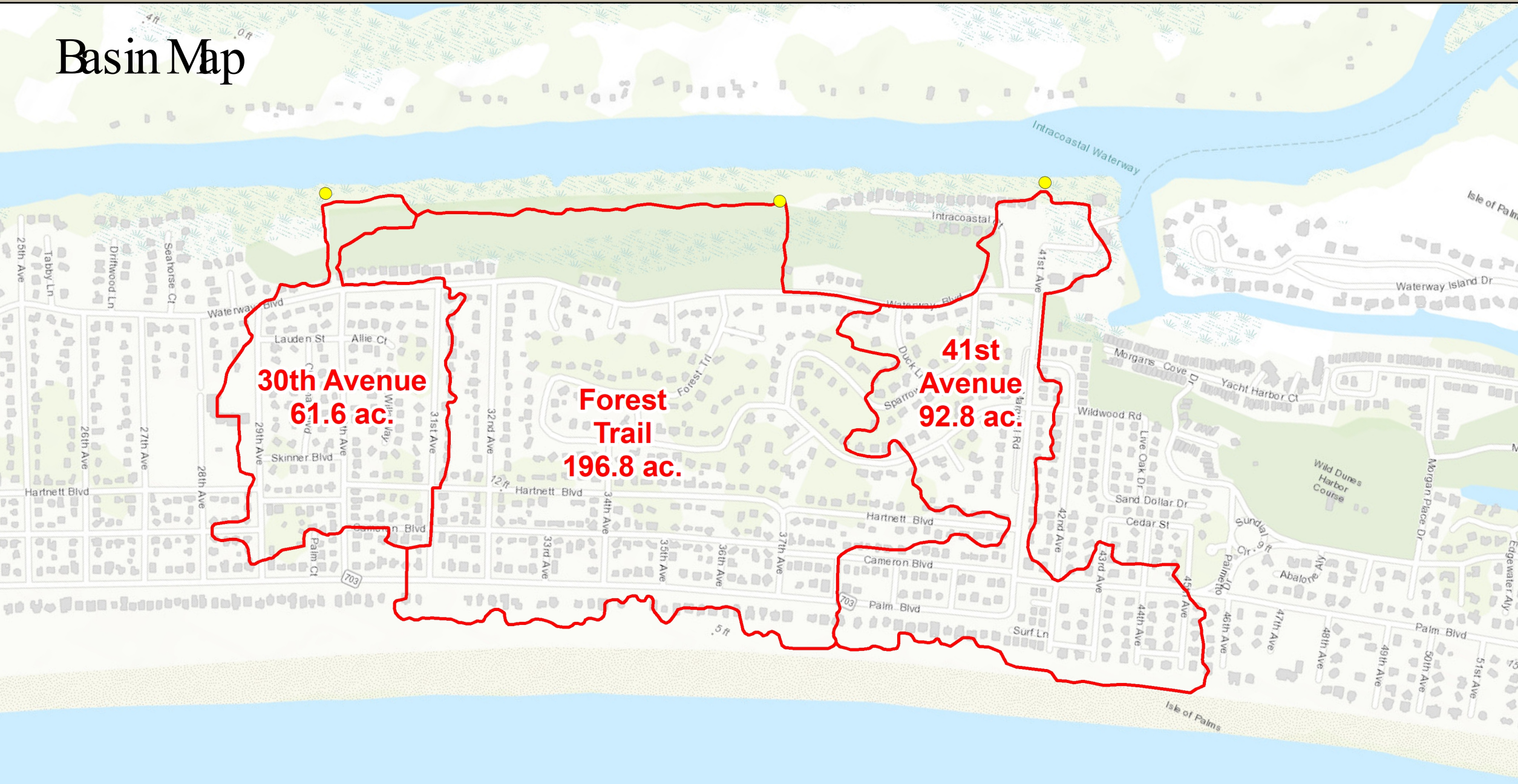


# Project Study Area





# Basin Map



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBSCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, and the GIS User Community



# 30<sup>th</sup> Avenue Outfall – Existing Conditions



0 30 60 Feet



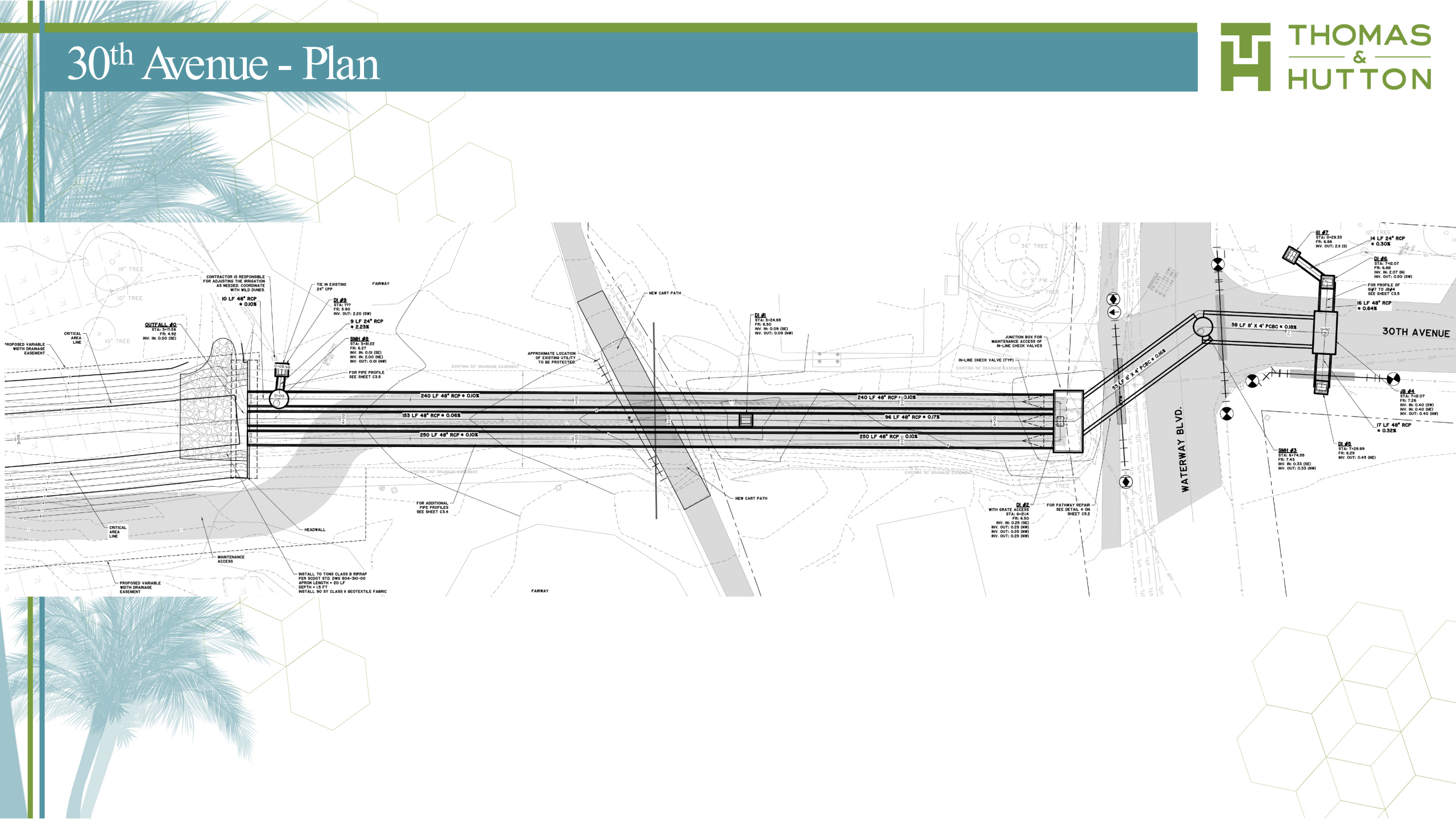


# 30<sup>th</sup> Avenue

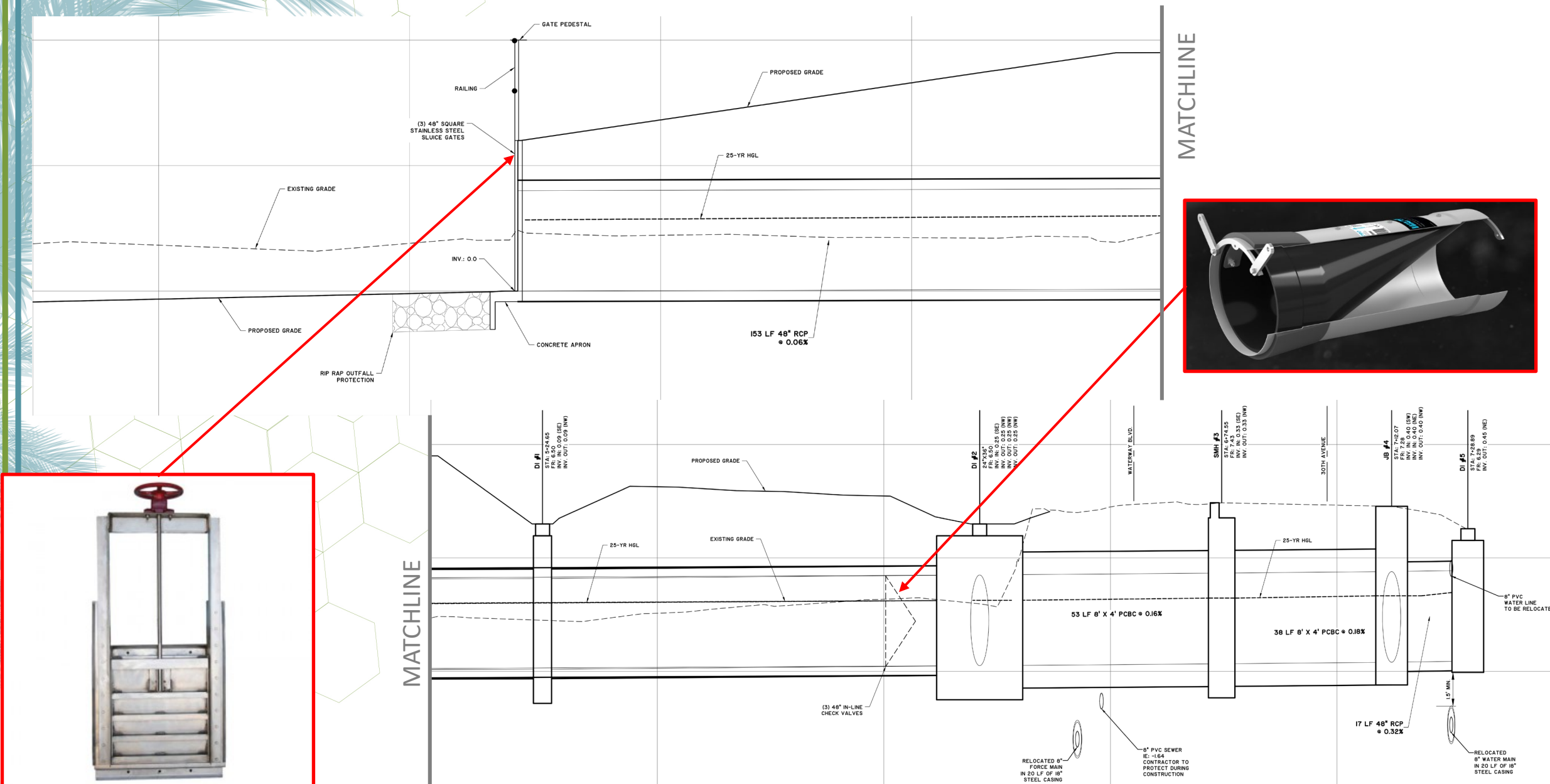




# 30<sup>th</sup> Avenue - Plan



# 30<sup>th</sup> Avenue - Profile





- **Design Complete**
- **Permitting**
  - Infrastructure Critical Area Permit - Submitted, coordination is ongoing.
  - Channel Critical Area Permit - Submitted, coordination is ongoing.
  - SCDOT Encroachment Permit – Submitted, comments addressed.
  - Charleston County MS4 – Application completed.
  - SCDHEG CORM(CZO) – Application completed.
  - SCDHEG BOW(NPDES) – Application completed.



# Forest Trails Outfall – Existing Conditions



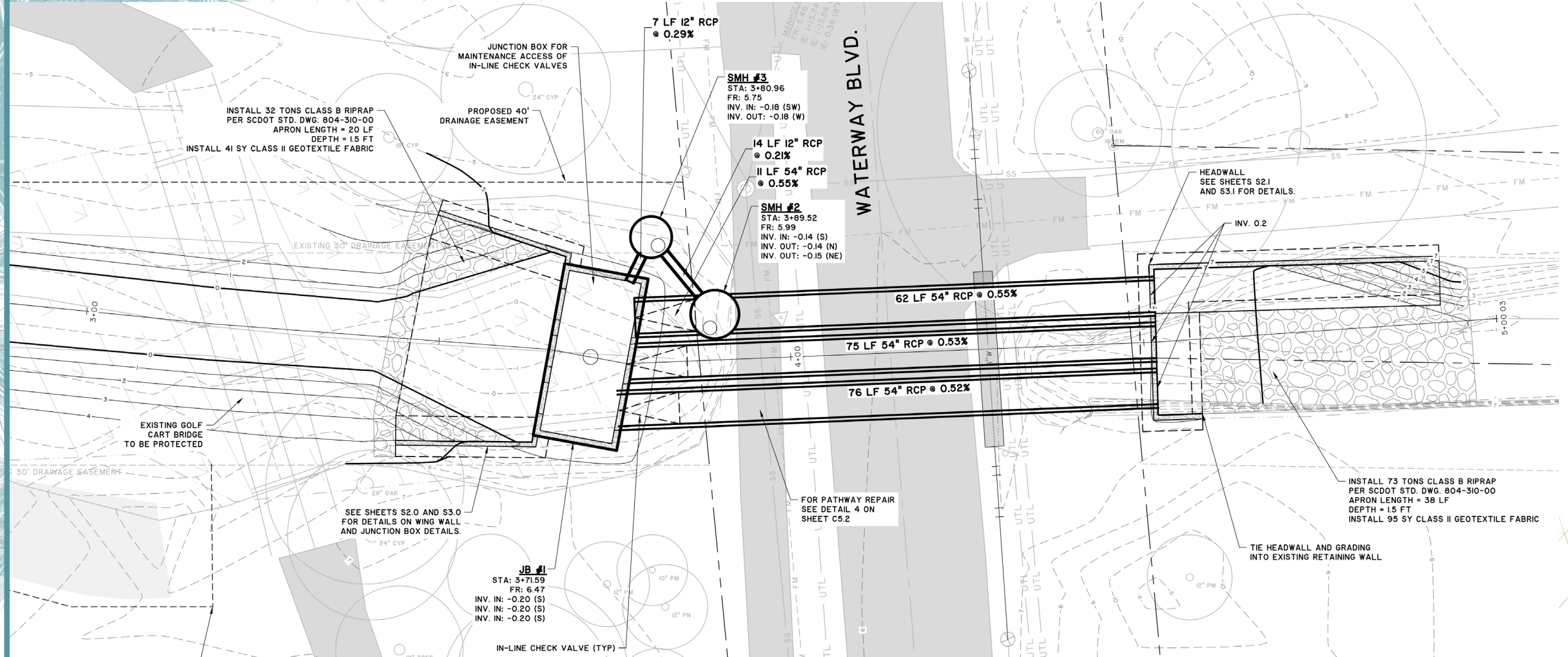


# Forest Trail

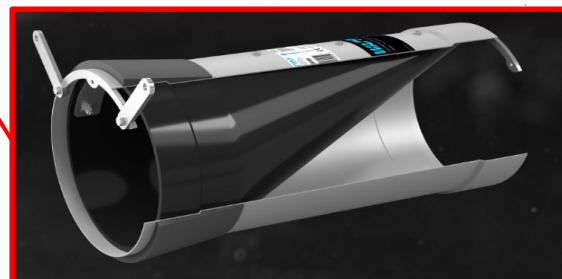
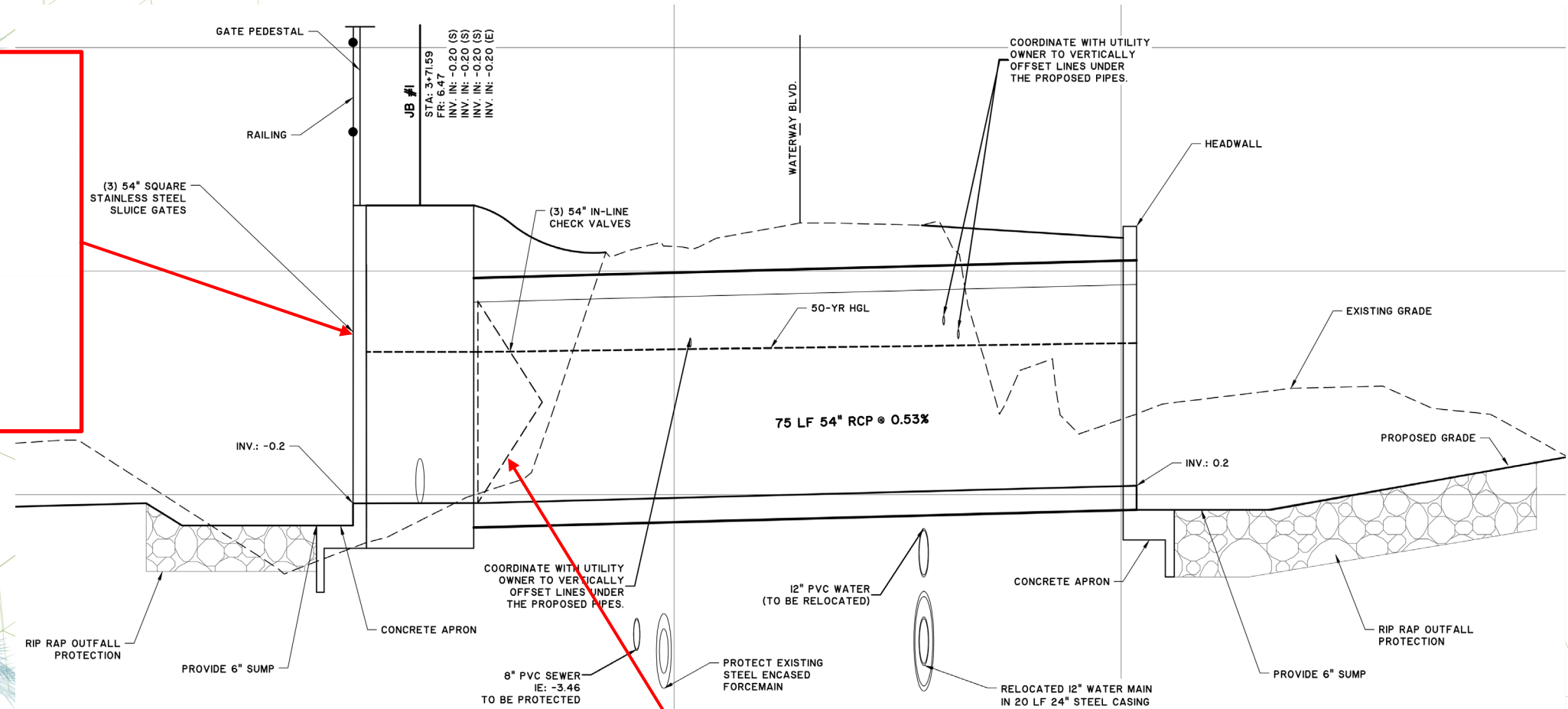




# Forest Trail - Plan



# Forest Trail- Profile

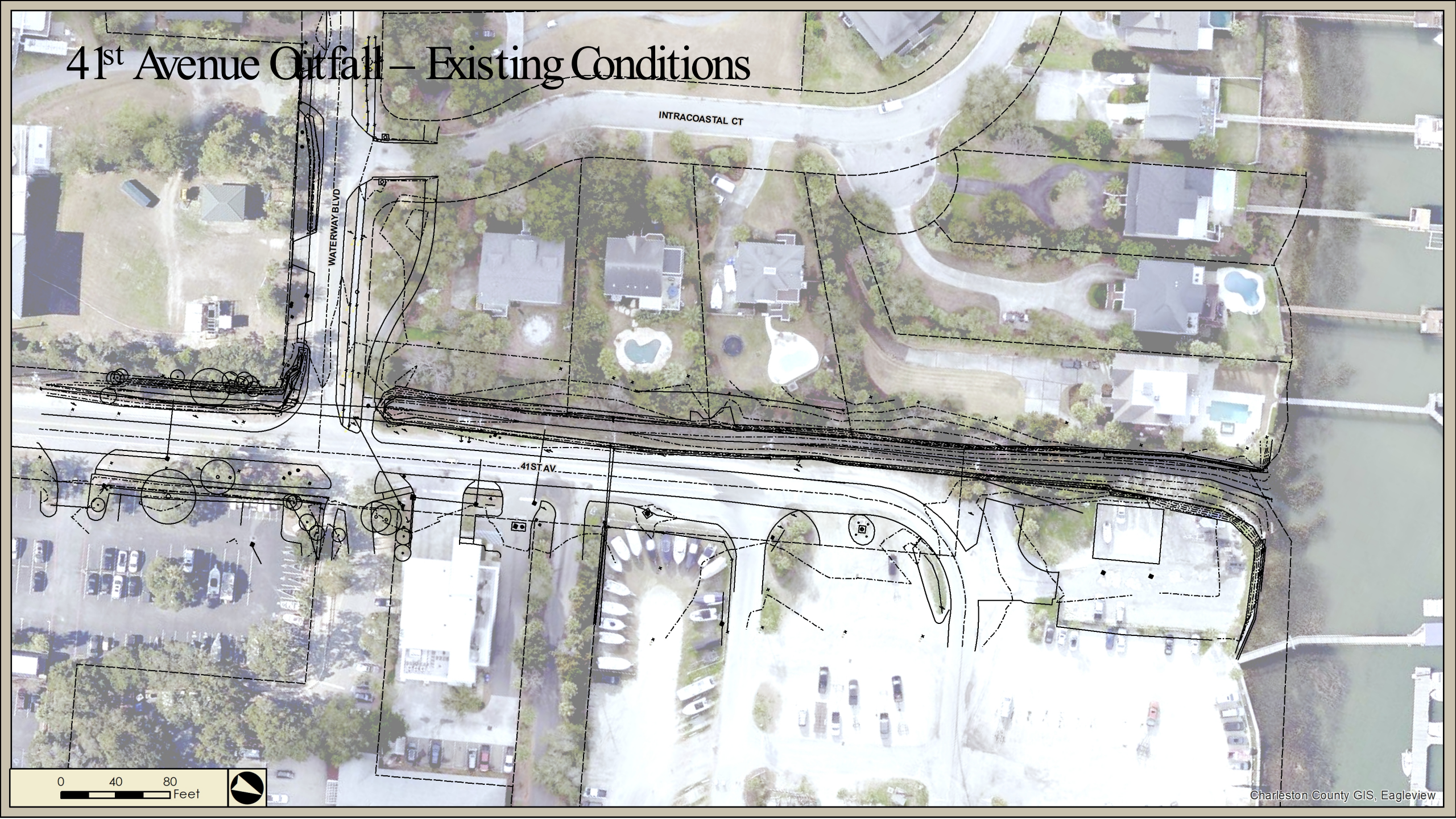




- **Design Complete**
- **Permitting**
  - Infrastructure Critical Area Permit - Approved.
  - Channel Critical Area Permit - Submitted, coordination is ongoing.
  - SCDOT Encroachment Permit – Submitted, coordination is ongoing.
  - Charleston County MS4 – Submitted.
  - SCDHEG OCRM (CZC) – Submitted, approval pending.
  - SCDHEG BOW (NPDES) – Submitted, approval pending.



# 41<sup>st</sup> Avenue Outfall – Existing Conditions



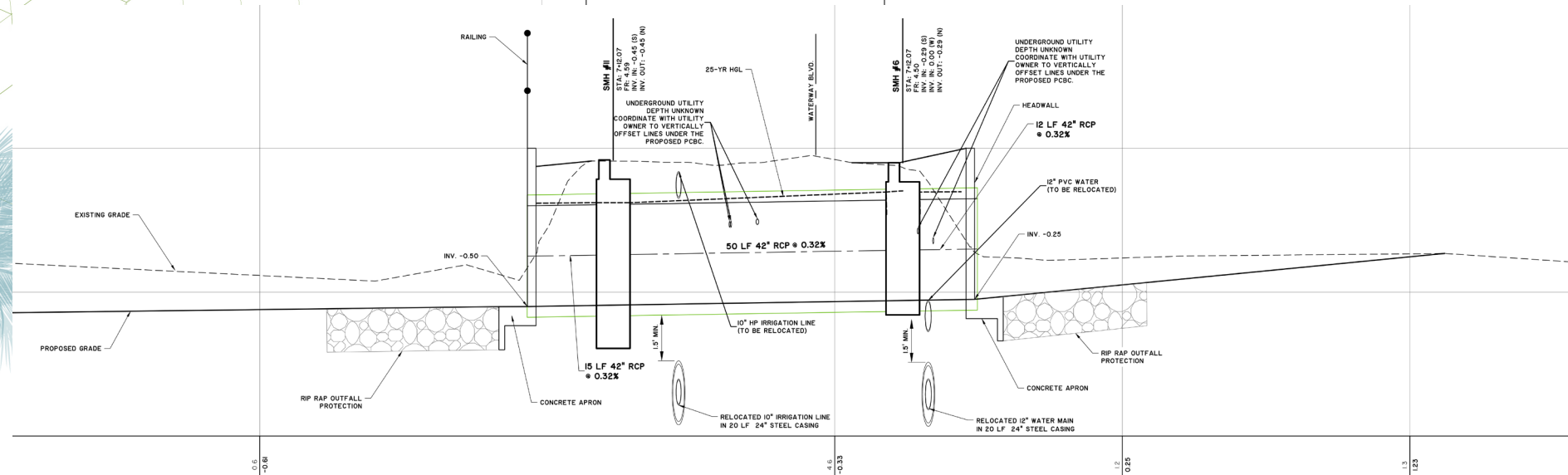
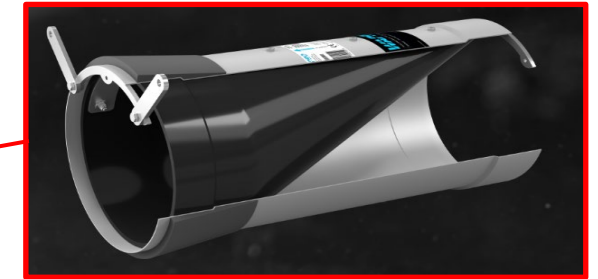
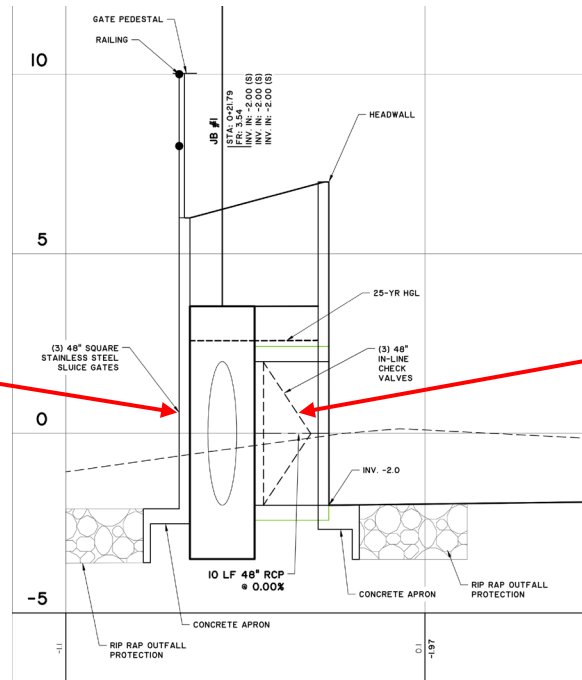


# 41st Avenue - Plan





# 41<sup>st</sup> Avenue - Profile





- **Design Complete**
- **Permitting**
  - Critical Area Permit – Preparing to submit.
  - SCDOT Encroachment Permit – Submitted, addressing comments.
  - Charleston County MS4 – Application completed.
  - SCDHEG-CORM(CZC) – Application completed.
  - SCDHEG-BOW(NPDES) – Application completed.



- **Permitting**
  - 5 Total Critical Area Permits
  - Mitigation (excluded from original design contract)
    - Oyster Restoration
    - SCORE Program Donation
- **Funding Assistance**
  - Applied for Two Grants to Date
  - Intend to Apply for Third Grant

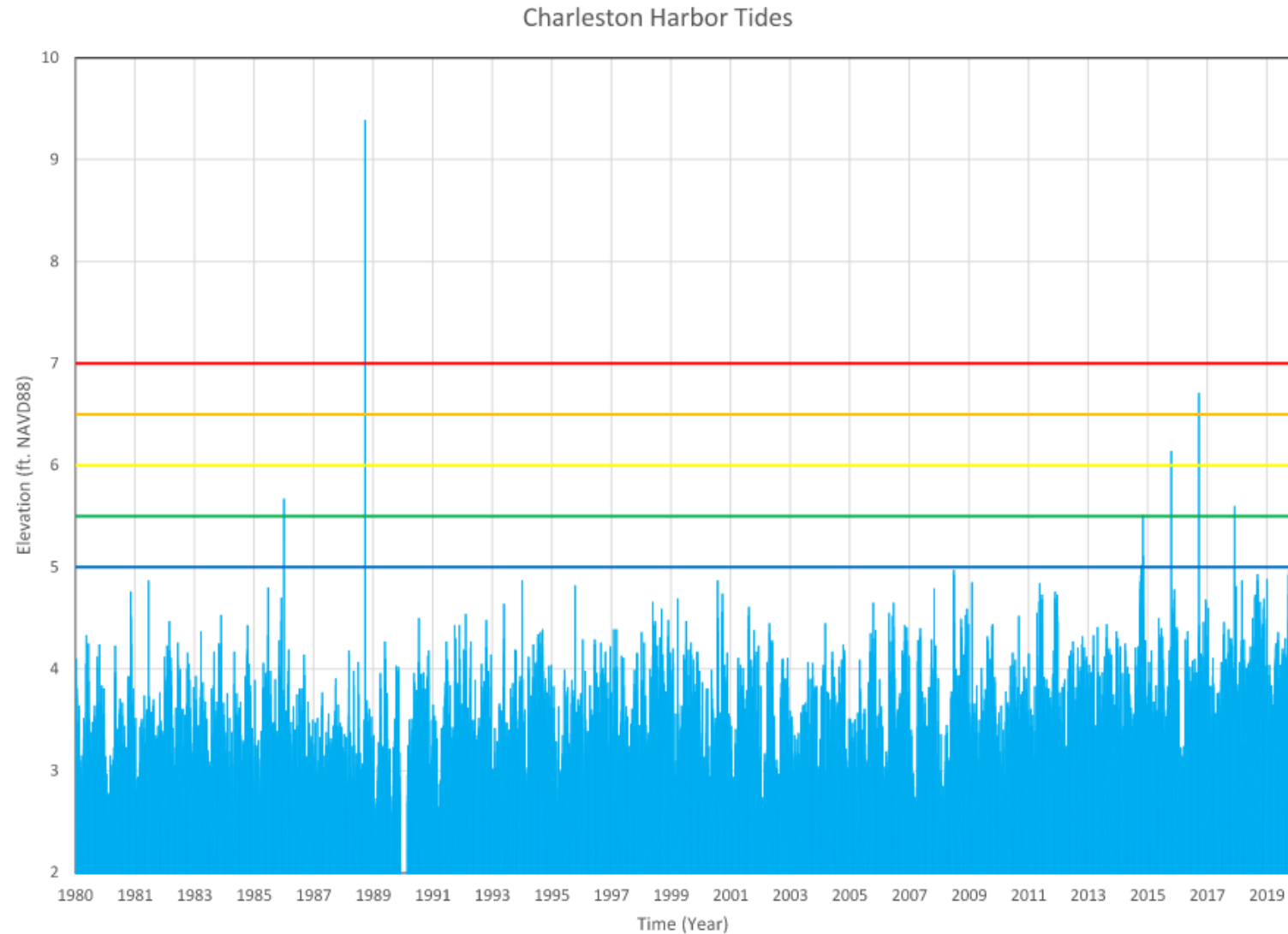


## ■ Study

- Data Collection and Review
  - Charleston County LiDAR
  - Previous IOP/ IOP W&S Projects
  - Tides
- Engineering Analysis
  - Surface
  - Drainage System— Tidal Inundation/ Local Drainage
- Recommended Target— 6.0 ft. NGVD88 (9.14 ft. CAGE)
- Preliminary Concept Design
- Field Walk/ Final Concept Design
- Cost Estimates



# Waterway Blvd. Pathway Study - Tides







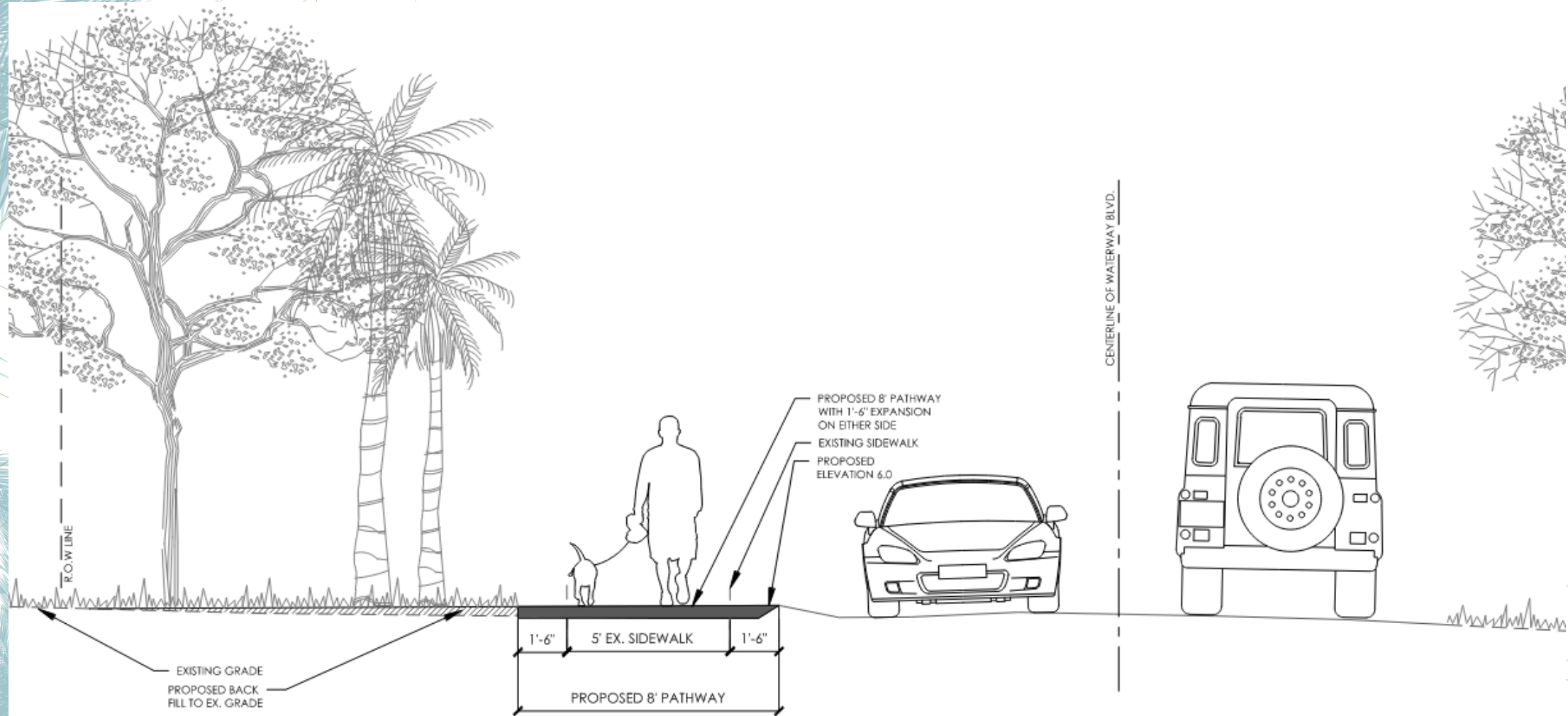


# Waterway Blvd. Pathway Study – Target Mtigation (6.0 ft)



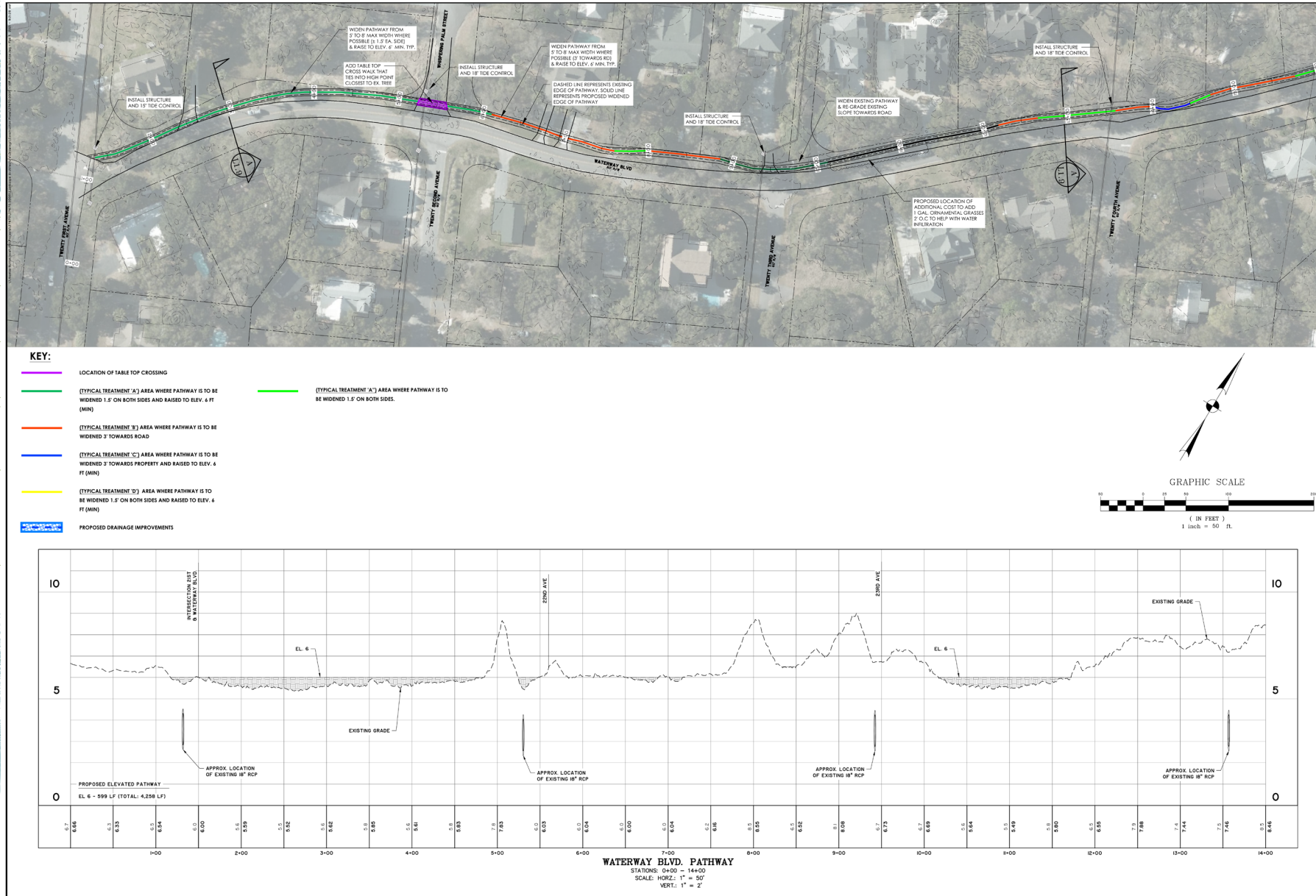


# Waterway Blvd. Pathway Study – Typical Section





# Waterway Blvd. Pathway Study – Typical Plan & Profile





# Waterway Blvd. Pathway Study – Cost Estimate

## Pathway Elevation and Widening

ITEM	DESCRIPTION	QUANTITY		COST	
		UNITS	UNIT MEASURE	PER UNIT	TOTAL COST
7141113	18" RC pipe (Class III)	920	LF	\$ 75.00	\$ 69,000.00
	Grate Inlet (48" X48")	9	EA	\$ 4,500.00	\$ 40,500.00
	15" Tide Control Check Valve	5	EA	\$ 3,500.00	\$ 17,500.00
	18" Tide Control Check Valve	4	EA	\$ 3,500.00	\$ 14,000.00
7192020	Drop Inlet (24" x 36")	6	EA	\$ 4,500.00	\$ 27,000.00
	Typical Treatment A	2,250	LF	\$ 73.00	\$ 164,250.00
	Typical Treatment A (driveways)	200	LF	\$ 200.00	\$ 40,000.00
	Typical Treatment A'	3,720	LF	\$ 19.00	\$ 70,680.00
	Typical Treatment B	1,825	LF	\$ 19.00	\$ 34,675.00
	Typical Treatment C	385	LF	\$ 19.00	\$ 7,315.00
	Typical Treatment D	345	LF	\$ 19.00	\$ 6,555.00
	Table Top Crossing	35	LF	\$ 37.00	\$ 1,295.00
				<b>SUBTOTAL</b>	<b>\$ 492,770.00</b>
	Contingency at	25.0	%		\$ 123,192.75
	<b>GRAND TOTAL OPINION OF CONSTRUCTION COST</b>				<b>\$615,963</b>

## Pathway Widening Only

ITEM	DESCRIPTION	QUANTITY		COST	
		UNITS	UNIT MEASURE	PER UNIT	TOTAL COST
	Marine Limestone Base Course (4" Uniform)	8,850	LF	\$ 5.00	\$ 44,250.00
	Surface Plane Asphalt Pavement (8' Wide)	8,850	LF	\$ 7.00	\$ 61,950.00
				<b>SUBTOTAL</b>	<b>\$ 106,200.00</b>
	Contingency at	25.0	%		\$ 26,550.25
	<b>GRAND TOTAL OPINION OF CONSTRUCTION COST</b>				<b>\$132,750</b>