



Corpus Christi Bay Shoreline Submerged Breakwater

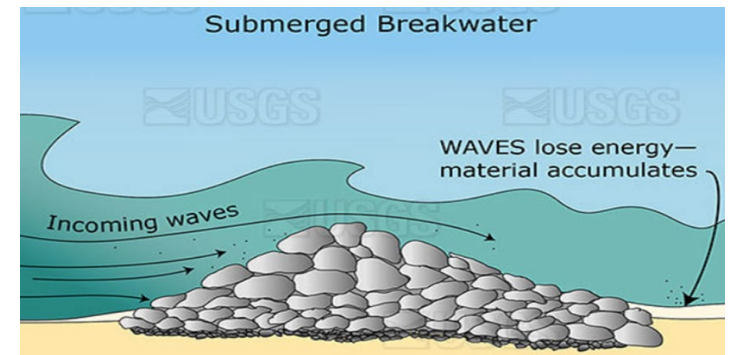
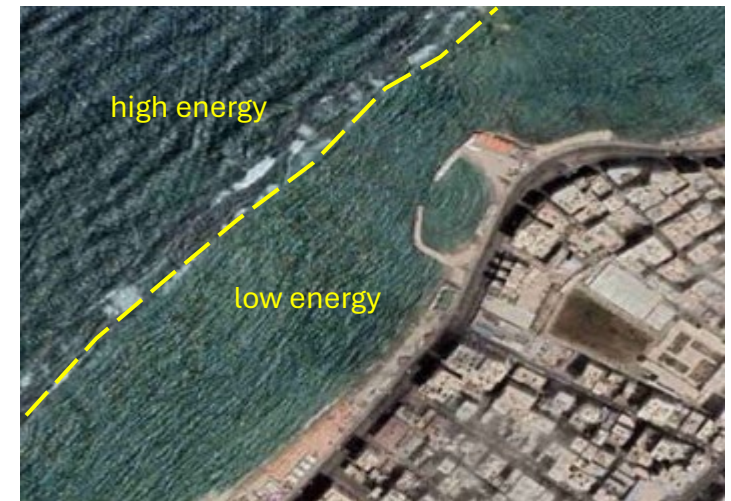
Palacios Marine Agriculture Research, Inc.

March 25, 2025

for Corpus Christi City Council

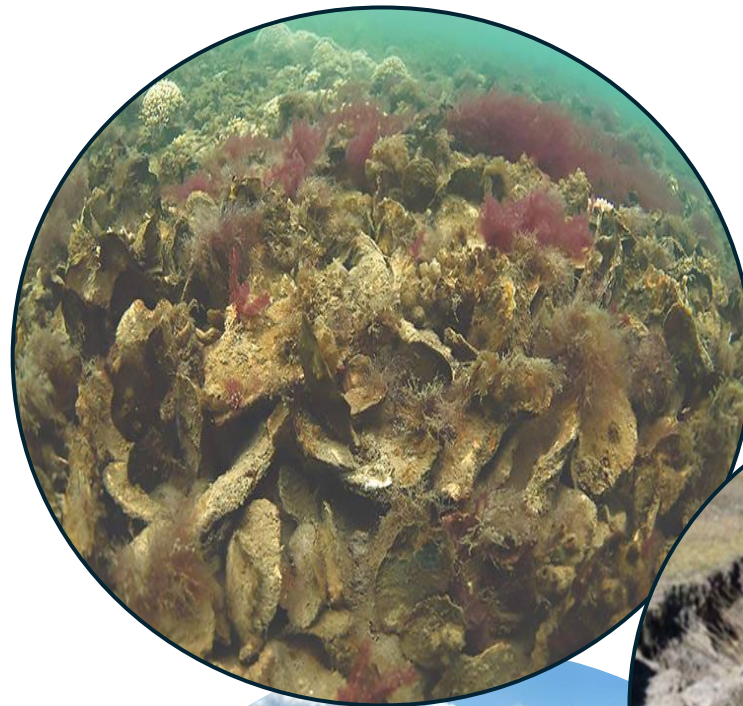
Background

- Erosion causes \$500 M in damage to U.S. coasts each year.
- **Results:** property damage and loss, reduced property values, increased insurance costs, negative impacts to tourism/recreation, and damage to ecosystems and the services they provide
- With sea level rise, it could get worse.
- Submersible breakwaters are common features in U.S. bays used to protect against this.
- **How?** Reduce wave energy impacting shorelines.



Background

- Breakwaters also create habitat for marine life: a “living” solution to coastal erosion
- Also enhance recreational activities (fishing, kayaking), easier entry
- This project evolved from a need to protect Ocean Dr. shoreline from on-going and accelerating erosion of an existing bulkhead/revetment
- Developed by PMAR/ERF as separate revetment (finished) and breakwater (pending) projects



Project Description

- **Two objectives:** protect shoreline; and enhance habitat for marine life
- ~2,500-ft submerged breakwater, 300 ft seaward from shoreline
- **Location:** in front of HEB/Ada Wilson houses (Ed Rachal Foundation) and Doddridge Park (City)
- Pause for brief video.
- Entire structure submerged, water-based (barge) construction using ~24-in. quarried limestone rock
- **Project cost:** ~\$750K (no cost to City), one month for build-out



Exhibit B

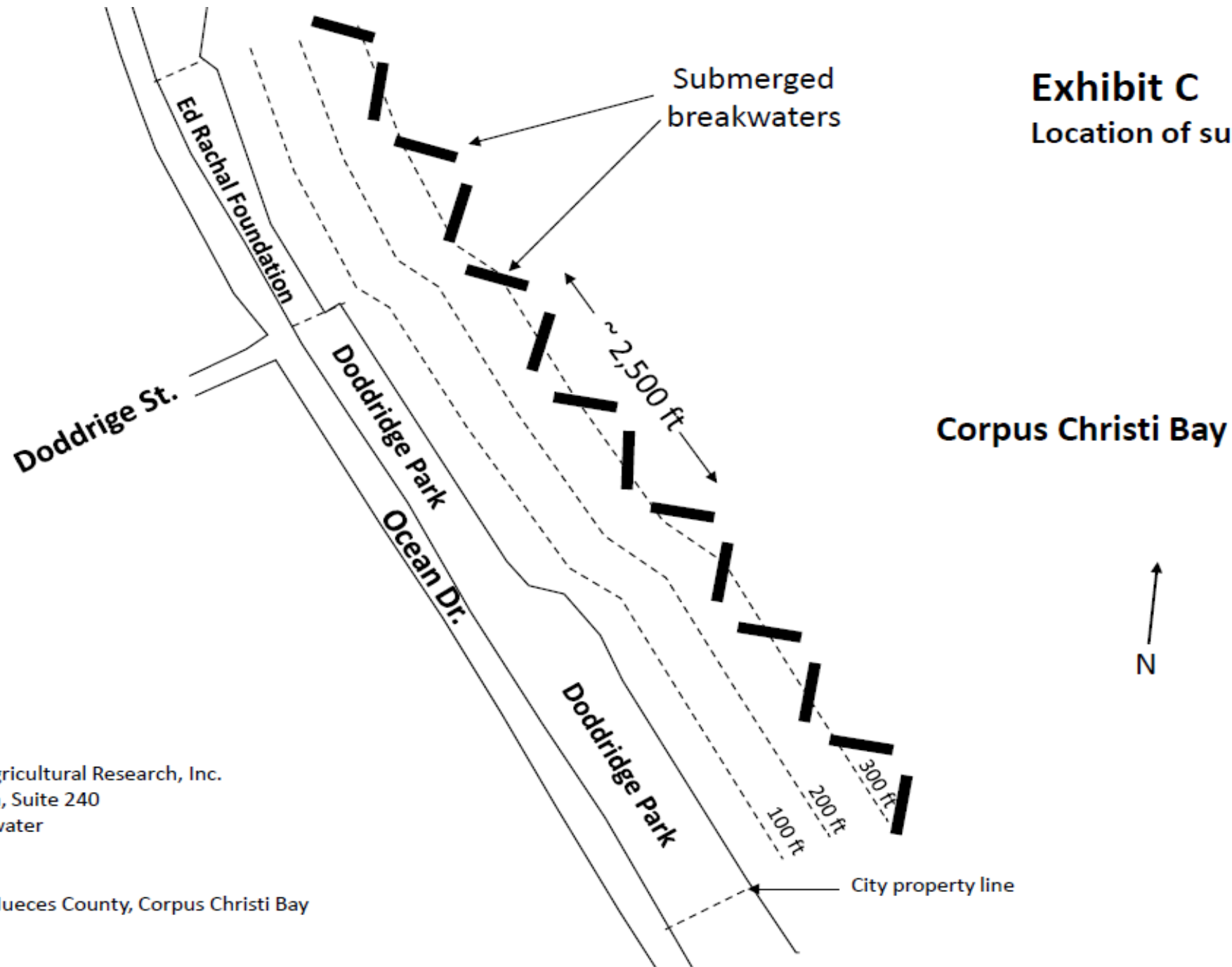
Project location on Ocean Drive shoreline (Corpus Christi Bay)

Corpus Christi Bay



Exhibit C

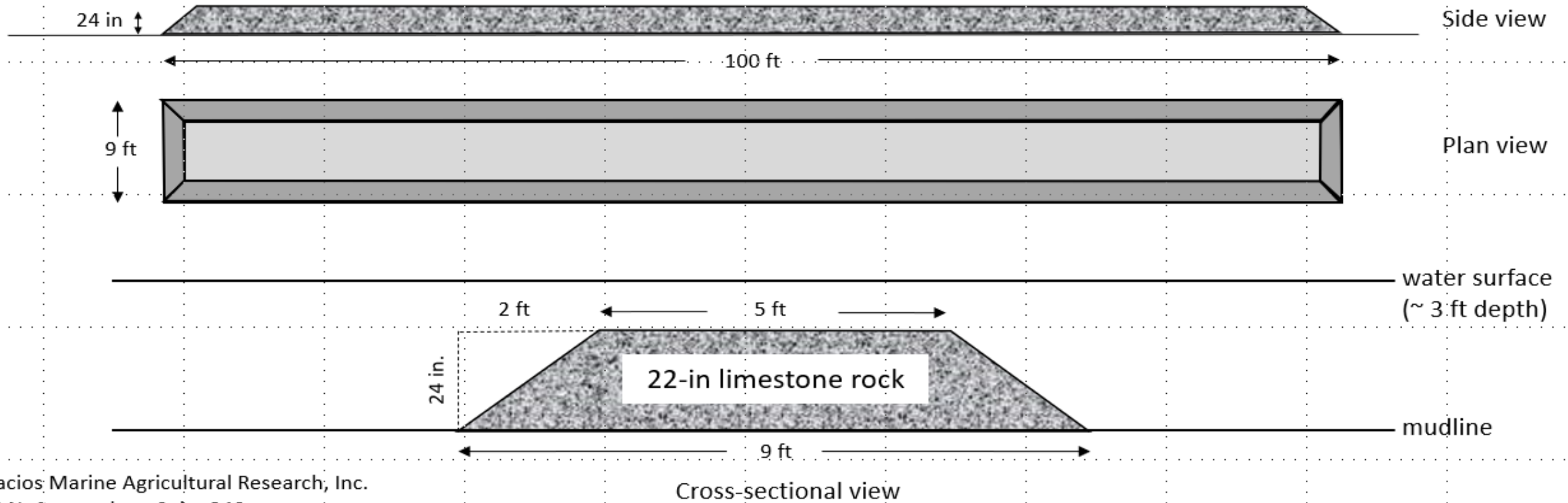
Location of submerged breakwaters



Palacios Marine Agricultural Research, Inc.
555 N. Carancahua, Suite 240
Submerged breakwater
April 23, 2022
Dr. Joe M. Fox
Project Location: Nueces County, Corpus Christi Bay
State Tract #74

Exhibit D

Detail on submerged breakwaters



Palacios Marine Agricultural Research, Inc.
555 N. [Carancahua](#), Suite 240
Submerged breakwater
April 23, 2022
Dr. Joe M. Fox
Project Location: Nueces County, Corpus Christi Bay
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Note: permit amended to utilize limestone rock vs. concrete rip-rap

Permit Status and Regulatory Coordination

- ✓ ERF and City sections permitted in-full by USACE (SWG-2022-00294)
- ✓ GLO surface lease permit (SL-2022-0073) for ERF section
- ✓ Coordination with State/Fed regulatory agencies
 - Coastal Boundary Survey in place (GLO)
 - Natural Resource Survey completed (TPWD, NMFS, USFW)
 - Archaeological Survey completed (USACE)
- Pending Coastal Surface Lease for Doddridge Park (City) section
 - Needs Statement of No Objection (GLO) from City as adjacent landowner



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