**NOTICE OF SHORELINE TASK FORCE REGULAR MEETING**
**CITY OF SOUTH PADRE ISLAND**

# TUESDAY, JUNE 23, 2026

3:00 PM AT THE MUNICIPAL BUILDING, CITY COUNCIL CHAMBERS, 2ND FLOOR 4601 PADRE BOULEVARD, SOUTH PADRE ISLAND, TEXAS

1. Call to Order

2. Pledge of Allegiance

3. Public Comments and Announcements
*This is an opportunity for citizens to speak to the board relating to agenda or non-agenda items. Speakers are required to address the board at the podium and give their name before addressing their concerns. [Note: State law will not permit the board to discuss, debate or consider items that are not on the agenda. Citizen comments may be referred to City Staff or may be placed on the agenda of a future Shoreline Task Force meeting]*

4. Consent Agenda

   4.1. Approval of the minutes from the regular meeting on June 9, 2026. (Kornblum)

   4.2. Approve an absence from Task Force Member Fox from the regular meeting on June 9, 2026. (Fox)

   4.3. Approve an absence from Task Force Member McKinlay from the regular meeting on June 9, 2026. (McKinlay)

   4.4. Approve an absence from Task Force Member Murphy from the regular meeting on June 9, 2026. (Murphy)

5. Regular Agenda

   5.1. Discussion and action to provide a recommendation to City Council regarding a beach and dune permit application for Lot 2D of the Miramar & Sand Piles Subdivision. (Kornblum)

   5.2. Discussion and action to recommend to City Council the approval of the City's Dune Protection, Beach Renourishment, and Beach Acces Plan, which includes Chapter 22 of the City's Code of Ordinances and amendments to the City's Dune Protection Line. (Boburka)

6. Adjourn

NOTE:
*One or more members of the City of South Padre Island City Council may attend this meeting; if so, this statement satisfies the requirements of the OPEN MEETINGS ACT.*

DATED JUNE 17TH, 2026

Angelique Soto, City Secretary

CITY OF SOUTH PADRE ISLAND

I, THE UNDERSIGNED AUTHORITY, DO HEREBY CERTIFY THAT THE ABOVE NOTICE OF MEETING OF THE SHORELINE TASK FORCE OF THE CITY OF SOUTH PADRE ISLAND, TEXAS IS A TRUE AND CORRECT COPY OF SAID NOTICE AND THAT I POSTED A TRUE AND CORRECT COPY OF SAID NOTICE ON THE BULLETIN BOARD AT CITY HALL/MUNICIPAL BUILDING AND ON THE CITY'S WEBSITE AT WWW.MYSPI.ORG ON **JUNE 17TH, 2026**, AT/OR BEFORE 5:00PM AND REMAINED SO POSTED CONTINUOUSLY FOR AT LEAST 3 BUSINESS DAYS PRECEDING THE SCHEDULED TIME OF SAID MEETING.

Angelique Soto, City Secretary

THIS FACILITY IS WHEELCHAIR ACCESSIBLE, AND ACCESSIBLE PARKING SPACES ARE AVAILABLE. REQUESTS FOR ACCOMMODATIONS OR INTERPRETIVE SERVICES MUST BE MADE 48 HOURS PRIOR TO THIS MEETING. PLEASE CONTACT CHIEF BUILDING OFFICIAL, FILIBERTO ALBA JR. (956) 761-8103

CITY OF SOUTH PADRE ISLAND

**CITY OF SOUTH PADRE ISLAND**
**SHORELINE TASK FORCE**
**AGENDA REQUEST FORM**

**MEETING DATE:** June 23, 2026

**NAME & TITLE:** Emily Kornblum,

**DEPARTMENT:** Shoreline Department

**ITEM**
Approval of the minutes from the regular meeting on June 9, 2026. (Kornblum)

**ITEM BACKGROUND**
Approve the minutes from the regular meeting that was held on June 9, 2026.

**BUDGET/FINANCIAL SUMMARY**
None.

**COMPREHENSIVE PLAN GOAL**
Chapter 9: Shoreline

**LEGAL REVIEW**
Sent to Legal:
Approved by Legal:

**RECOMMENDATIONS/COMMENTS:**

**NOTICE OF SHORELINE TASK FORCE REGULAR MEETING**
**CITY OF SOUTH PADRE ISLAND**

# TUESDAY, JUNE 9, 2026

3:00 PM AT THE MUNICIPAL BUILDING, CITY COUNCIL CHAMBERS, 2ND FLOOR 4601 PADRE BOULEVARD, SOUTH PADRE ISLAND, TEXAS

**1. Call to Order**

The Shoreline Task Force of the City of South Padre Island, Texas, held a regular meeting on Tuesday, June 9th, 2026, at the Municipal Complex Building, 2nd Floor, 4601 Padre Boulevard, South Padre Island, Texas.

Chairman Stormy Wall called the meeting to order at 3:00 p.m. A quorum was present with Vice Chairperson Abbie Mahan and Task Force Members Denise Franke and Michael Sularz. Task Force Members Stephen Murphy, Chuck Fox, and Sarah McKinlay were absent.

City staff present were Shoreline Director Kristina Boburka and Coastal Coordinator Emily Kornblum.

**2. Pledge of Allegiance**

Chairman Wall led the Pledge of Allegiance.

**3. Public Comments and Announcements**

Chairman Wall complimented the sand dunes, dune fencing, Shoreline Department, and the beach in general.

**4. Consent Agenda**

**4.1. Approval of the minutes from the regular meeting on May 12, 2026. (Kornblum)**

Vice Chairperson Mahan motioned to approve, seconded by Task Force Member Sularz. The motion passed unanimously.

**4.2. Approve an absence from Task Force Member Franke from the regular meeting on May 12, 2026. (Franke)**

Task Force Member Sularz motioned to approve, seconded by Vice Chairperson Mahan. The motion passed unanimously.

**5. Regular Agenda**

**5.1. Discussion and action to recommend to City Council approval of application submission for state assistance from the Beach Maintenance Reimbursement Fund (BMR) for the Fiscal Year 2027. (Kornblum)**

Coastal Coordinator Emily Kornblum went over what the BMR program is and the differences from last year's application. A member of the public asked if inflation is taken into account when calculating the budget. Coastal Coordinator Emily Kornblum responded by saying that the amount asked for on the application is the average of the past year and should reflect general inflation, but also reminded everyone that the BMR program is a reimbursement type program. Task Force Member Sularz asked if our port-a-potty budget has gone down since we have been updating our accesses with brick and mortar bathrooms. Shoreline Director Kristina Boburka responded that the department budget has gone down for those charges.

Vice Chairperson Mahan motioned to approve to send to council, seconded by Task Force Member Franke. The motion passed unanimously.

**5.2. Updates on departmental grants and projects (Boburka):**

- **Coastal Management Program (CMP) Cycles 29 and 31**
- **Coastal Erosion Planning and Response Act (CEPRA) Cycles 13 and 14**
- **National Fish and Wildlife Foundation (NFWF)**
- **RESTORE Act**
- **Wind and Water Sports Venue**

Shoreline Director Kristina Boburka gave an update presentation on current grants and projects that the Shoreline Department are currently working on. There was some discussion regarding the bayside feasibility project and the upcoming open house. More information will be given when a date is set. There was also some discussion about potential loss of federal funding and the impact that could have on the dredging schedule.

**6. Adjourn**

There being no further business, Chairman Wall adjourned the meeting at 3:21 p.m.

_____ _____

Emily Kornblum, Coastal Coordinator Stormy Wall, Chairman

**CITY OF SOUTH PADRE ISLAND**
**SHORELINE TASK FORCE**
**AGENDA REQUEST FORM**

**MEETING DATE:** June 23, 2026

**NAME & TITLE:** Emily Kornblum,

**DEPARTMENT:** Shoreline Department

**ITEM**
Approve an absence from Task Force Member Fox from the regular meeting on June 9, 2026. (Fox)

**ITEM BACKGROUND**
N/A

**BUDGET/FINANCIAL SUMMARY**
N/A

**COMPREHENSIVE PLAN GOAL**
N/A

**LEGAL REVIEW**
Sent to Legal:
Approved by Legal:

**RECOMMENDATIONS/COMMENTS:**

**Item No. 4.3**

**CITY OF SOUTH PADRE ISLAND**
**SHORELINE TASK FORCE**
**AGENDA REQUEST FORM**

**MEETING DATE:** June 23, 2026

**NAME & TITLE:** Emily Kornblum,

**DEPARTMENT:** Shoreline Department

**ITEM**
Approve an absence from Task Force Member McKinlay from the regular meeting on June 9, 2026. (McKinlay)

**ITEM BACKGROUND**
N/A

**BUDGET/FINANCIAL SUMMARY**
N/A

**COMPREHENSIVE PLAN GOAL**
N/A

**LEGAL REVIEW**
Sent to Legal:
Approved by Legal:

**RECOMMENDATIONS/COMMENTS:**

**CITY OF SOUTH PADRE ISLAND**
**SHORELINE TASK FORCE**
**AGENDA REQUEST FORM**

**MEETING DATE:** June 23, 2026

**NAME & TITLE:** Emily Kornblum,

**DEPARTMENT:** Shoreline Department

**ITEM**
Approve an absence from Task Force Member Murphy from the regular meeting on June 9, 2026. (Murphy)

**ITEM BACKGROUND**
N/A

**BUDGET/FINANCIAL SUMMARY**
N/A

**COMPREHENSIVE PLAN GOAL**
N/A

**LEGAL REVIEW**
Sent to Legal:
Approved by Legal:

**RECOMMENDATIONS/COMMENTS:**

**CITY OF SOUTH PADRE ISLAND**
**SHORELINE TASK FORCE**
**AGENDA REQUEST FORM**

**MEETING DATE:** June 23, 2026

**NAME & TITLE:** Emily Kornblum,

**DEPARTMENT:** Shoreline Department

**ITEM**
Discussion and action to provide a recommendation to City Council regarding a beach and dune permit application for Lot 2D of the Miramar & Sand Piles Subdivision. (Kornblum)

**ITEM BACKGROUND**
Lot 2D of the Miramar & Sand Piles Subdivision is a vacant lot that previously had a building that was torn down. Marena Towers will be a 13-story condominium with amenities. Since this lot had a previous building, it does not contain any dunes or dune vegetation, so no mitigation is required. A beach access walkover will be on a separate application.

**BUDGET/FINANCIAL SUMMARY**
N/A

**COMPREHENSIVE PLAN GOAL**
Chapter 9: Shoreline

**LEGAL REVIEW**
Sent to Legal:
Approved by Legal:

**RECOMMENDATIONS/COMMENTS:**

# Beach & Dune Application

City of South Padre Island
4601 Padre Blvd.
South Padre Island, TX 78597
Phone: (956) 761-8111
Fax: (956) 761-3898

Legal Description: Lot 2D Block 1 Miramar & Sand Piles Subdivision Physical Address: Not assigned yet

| Property Owner Information | Applicant / Agent for Owner |
|---|---|
| Name: Las Perlas SPI, Ltd. | Name: ERGIS LLC |
| Mailing Address: 8500 Padre Blvd, Suite 101 C | Mailing Address: 2216 Padre Blvd, Suite B-48 |
| City: South Padre Island State: TX | City: South Padre Island State: TX |
| Zip: 78597 Country: Cameron | Zip: 78597 Country: Cameron |
| Phone Number: 361-549-6699 | Phone Number: 361-549-6699 |
| Fax Number: NA | Fax Number: NA |
| E-Mail Address: ppaez@pagadesarrollos.com | E-Mail Address: philiph@ergis.us |

**I / We, owners of the above-mentioned property, authorize the applicant stated above, to act in my behalf in order to acquire a Beach and Dune permit for the construction proposed below. (owner initials here PPG )**

Owner(s) Signature(s):

Date: 5/7/2026

Applicant Signature:

Date: 5/7/2026

## Project Description

Describe with as much as detail as possible, the construction proposed. If more room is needed, please include an additional page. Include the number of habitable units, amenities, swimming pools, fences, kinds of fences, whether footings and/or retaining walls will be installed, and locations of proposed landscaping and parking.

See attached Marena Project Description document.

**Total Square Footage of Footprint of Habitable Structure:** 9500 square feet

**Total Area of Impervious Surface** (i.e. retaining walls, walkways, drives, patios, etc.): NA Site in an accreting shoreline

**Percentage Impervious Surface** [(impervious surface / habitable footprint)* 100]: NA

**Please Note: the percentage of impervious surface cannot exceed 5% in an eroding area.**

**Approximate Duration of Construction:** 20 months

All properties which are allowed to build retaining walls on their property are allowed to do so with the condition that a financial plan for the removal of the retaining wall is submitted to the Public Works Department of the City of South Padre Island. Removal of the retaining wall at the owner's expense may be required if/once the retaining wall comes into regular contact with wave action for twenty (20) out of thirty (30) consecutive days. The City accepts the submission of a Retaining Wall Covenant, or other financial guarantee, insuring the removal of the retaining wall if the required conditions are met.

Type of Plan Submitted: NA Date Submitted: _____

## Drainage

Describe the impact that the proposed construction will have on the natural drainage pattern on the site and adjacent lots.

☐ No change in the drainage on site.

☑ The proposed construction will change the grading and the drainage on the subject property. (An explanation will be required detailing where the water will drain.)

Explanation / Other Information: See attached Drainage Statement from Moore Engineering

## Impacts to Beach / Dune System

Answer each question as completely as possible in narrative form.

**1.** What damage will this proposed construction have on the dune vegetation located at the project site?

☑ No damage to dune vegetation whatsoever.

☐ The proposed construction will impact % of the dune vegetation site. (An explanation of the "impact" will be required.) % of the dune vegetation on site. (The submission of a mitigation plan will be required.)

☐ The proposed construction will require the removal and relocation of_____

Explanation / Other Information:

**2.** How will the proposed construction alter the dune size/shape at the project site?

☑ No change to dune size/shape whatsoever.

☐ The proposed construction will change % of the size/shape of dunes on site. (Details will be required.)

☐ The proposed construction will require the removal and relocation of % of the dunes on site. (The submission of a mitigation plan will be required.)

Explanation / Other Information:

**3.** How will the proposed construction change the hydrology of the dunes at the project site?

☑ No change to dune hydrology whatsoever.

☐ The proposed construction will impact dune hydrology on site. (Details will be required.)

Explanation / Other Information:

**4.** Describe alternatives to the proposed construction or method of construction which will cause fewer or no adverse effects on dunes and dune vegetation.

**5.** Describe alternatives to the proposed construction or method of construction which will cause fewer or no adverse impairment to beach access. Form Number: EPW0001 Last Updated: 12/02/25

## Mitigation Plan

Describe the methods which you will use to avoid, minimize, mitigate and/or compensate for any adverse effects on dunes or dune vegetation.

Explanation / Other Information: NA

**Financial Plan for Dune Mitigation:**

If required by the City Council, a financial guarantee (irrevocable letter of credit or a performance bond, etc.) may be necessary to insure the mitigation of dunes/dune vegetation takes place as proposed and required of the applicant.

Type of Plan Submitted: NA Date of Submission:

## Checklist of Additional Required Application Information

**Please provide accurate map(s), plat(s), or site plan(s) showing all of the following items:**

- [x] 1. Legal description of the property (lot, block, subdivision) and the immediately adjoining property.
- [x] 2. Location of all existing structures - including the habitable and inhabitable structures, swimming pools, decks, fences, parking areas, landscape areas, etc.
- [x] 3. Location of the Historical Building Line on the subject property and the extension of the line on the properties immediately adjoining the subject property to the north and to the south.
- [x] 4. Location and elevation of existing retaining walls - both on the subject property and those properties immediately adjoining the subject property to the north and to the south.
- [x] 5. Location of proposed structure(s) - if proposing the construction of a retaining wall, please also include the proposed elevation of the retaining wall.
- [x] 6. Location of proposed driveways, parking areas (showing the # of proposed parking spaces) and landscape areas.
- [x] 7. Location of all existing and proposed beach access paths and/or dune walkovers.
- [x] 8. Location and extent of any man-made vegetated mounds, restored dunes, fill activities, or any other pre-existing human modifications on the tract.
- [x] 9. Topographical survey of the site identifying all elevations, existing contours of the project area (including dunes and scales) and the proposed contours of the final grade.

**Other required application information that is to be submitted with the permit application:**

- [x] 1. A grading and layout plan showing proposed contours for the final grade.
- [x] 2. The floor plan(s) and elevation(s) of the structure proposed to be constructed or expanded.
- [x] 3. Photographs of the site which clearly show the current location of the vegetation line & existing dunes on the tract within the last 6 months.
- [x] 4. Copy of the Flood Rate Map showing the location of the subject property (https://msc.fema.gov/portal/home).
- [x] 5. Copy of the Historical Erosion Rate Map as determined by the University of Texas at Austin, Bureau of Economic Geology (https://coastal.beg.utexas.edu/shorelinechange2024/).
- [ ] 6. Full mitigation plan at a minimum 1:1 ratio for all impacts to sand dunes and dune vegetation. This plan should be accompanied with a written statement regarding impacts for both in-place and/or compensation mitigation along with a proposed site plan showing where the impacts are located and where they will be mitigated. Mitigation is required for all dune and vegetation impacts seaward of the City's Dune Protection Line.
- [ ] 7. Mitigation not required if no adjacent property owners. *Per TAC 15.3, when a mitigation plan is required, applicant must provide contact information for all landowners immediately adjacent to the tract and affirmation that the applicant will send notices to the adjacent owners notifying them at least 10 days prior to the hearing on the application. A draft of this letter needs to be included with the permit application.*
- [x] 8. Application fee of either $250 or $600, depending on project scope.

**YOUR APPLICATION IS NOT COMPLETE UNLESS ALL INFORMATION REQUESTED ABOVE IS SUBMITTED.**

**PERMITTING TIMELINE (See City of South Padre Island Code of Ordinances Sec. 22-10):**
Once the permit application is fully submitted, City staff have ten (10) business days to review. Staff will then send all documents and a letter of pre-determination to the Texas General Land Office (GLO).
The GLO has either ten (10) or thirty (30) business days to review depending on the project scope, and provide their comment letter.
If applicable, it will go before the Shoreline Task Force at their next available meeting. The Task Force may have up to six (6) weeks to review permit applications, and will forward a recommendation to the City Council.
The City Council shall either grant or deny a permit application within four (4) weeks of receiving a recommendation from the Task Force. The City Council has a right to make modifications to and/or overturn a recommendation of the Task Force.

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ENVIRONMENTAL AND GIS CONSULTING



# Photographic Log
# For
# Beach & Dune Construction Permit
# Prepared For
# Las Perlas SPI LTD.
# 8500 Padre Blvd. Suite 101 C
# South Padre Island, Cameron County, Texas

Original Submittal: May 7, 2026

www.ergis.us • Voice 877.445.6699 • Email philh@ergis.us

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Padre Blvd. Looking North




Padre Blvd. Looking South



Padre Blvd. looking East



Access Road Midpoint Looking East



View From Gate Looking North



View from Gate Looking South



View From Gate Looking East



Property Midpoint Looking North



Property Midpoint Looking East



Property Midpoint Looking South




Property Midpoint Looking West




Looking East at Pre-existing Seawall



Looking East Past Pre-existing Seawall



Looking West from Pre-existing Seawall



Debris Previous Structure



Debris Previous Structure



Debris Previous Structure




Seawall Running North



Seawall Running South



Seawall South Stair



Seawall North Stair



South End of Seawall Looking North



Midpoint in Dune Protection Zone Looking West



Midpoint in Dune Protection Zone Looking North



Midpoint in Dune Protection Zone Looking East



Midpoint in Dune Protection Zone Looking South




Top of Fore Dune Line Looking East (Facing Seawall)



Top of Fore Dune Line Looking North




Top of Fore Dune Line Looking South



Line of Vegetation North Property Line Looking South



Line of Vegetation South Property Line Looking North



Beach North Property Line Looking South



Beach South Property Line Looking North

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# Maps and Drawings
# For
# Beach & Dune Construction Permit
# Prepared For
# Las Perlas SPI LTD.
# 8500 Padre Blvd. Suite 101 C
# South Padre Island, Cameron County, Texas

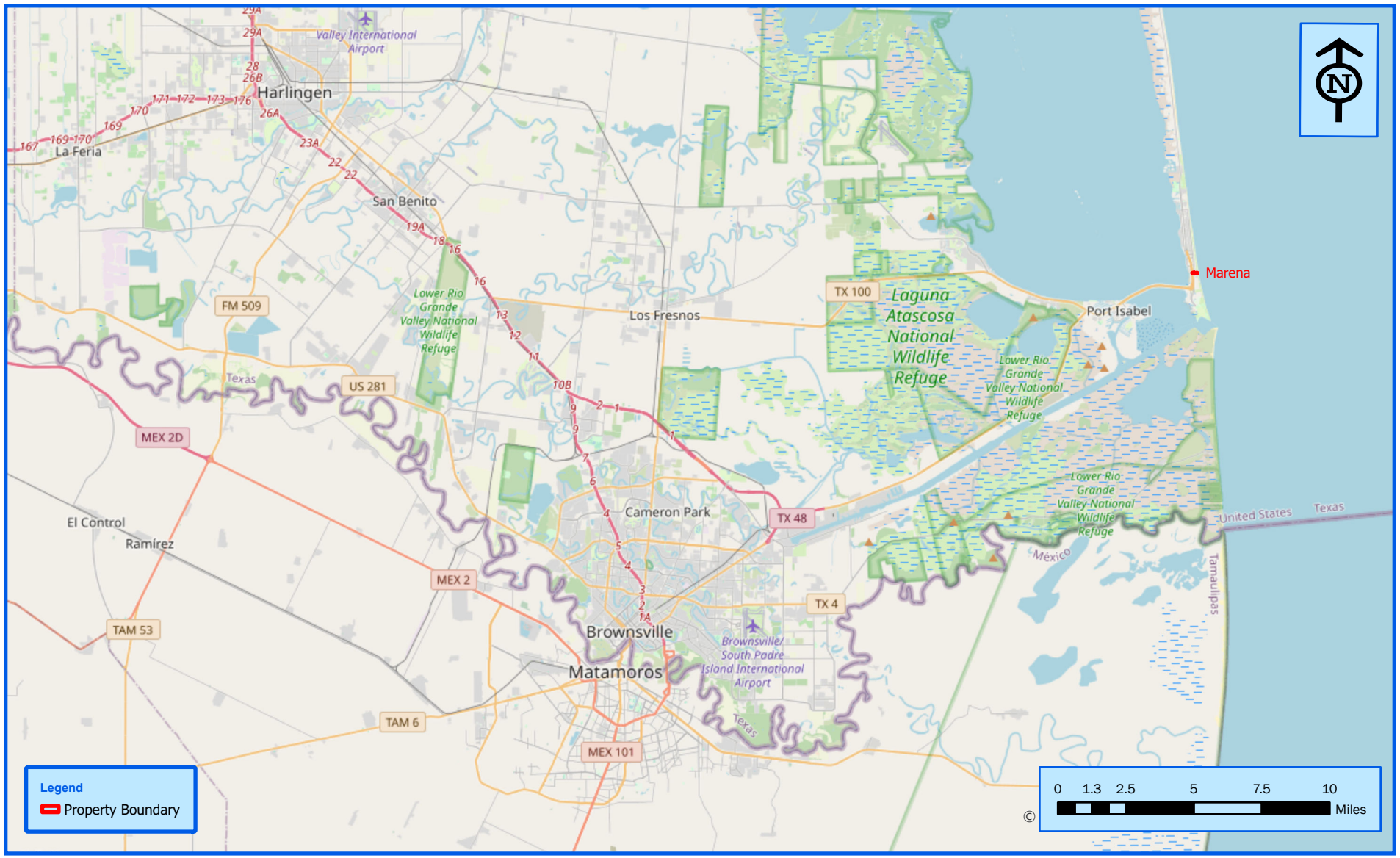
Original Submittal: May 7, 2026

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# Maps & Drawings

# Maps

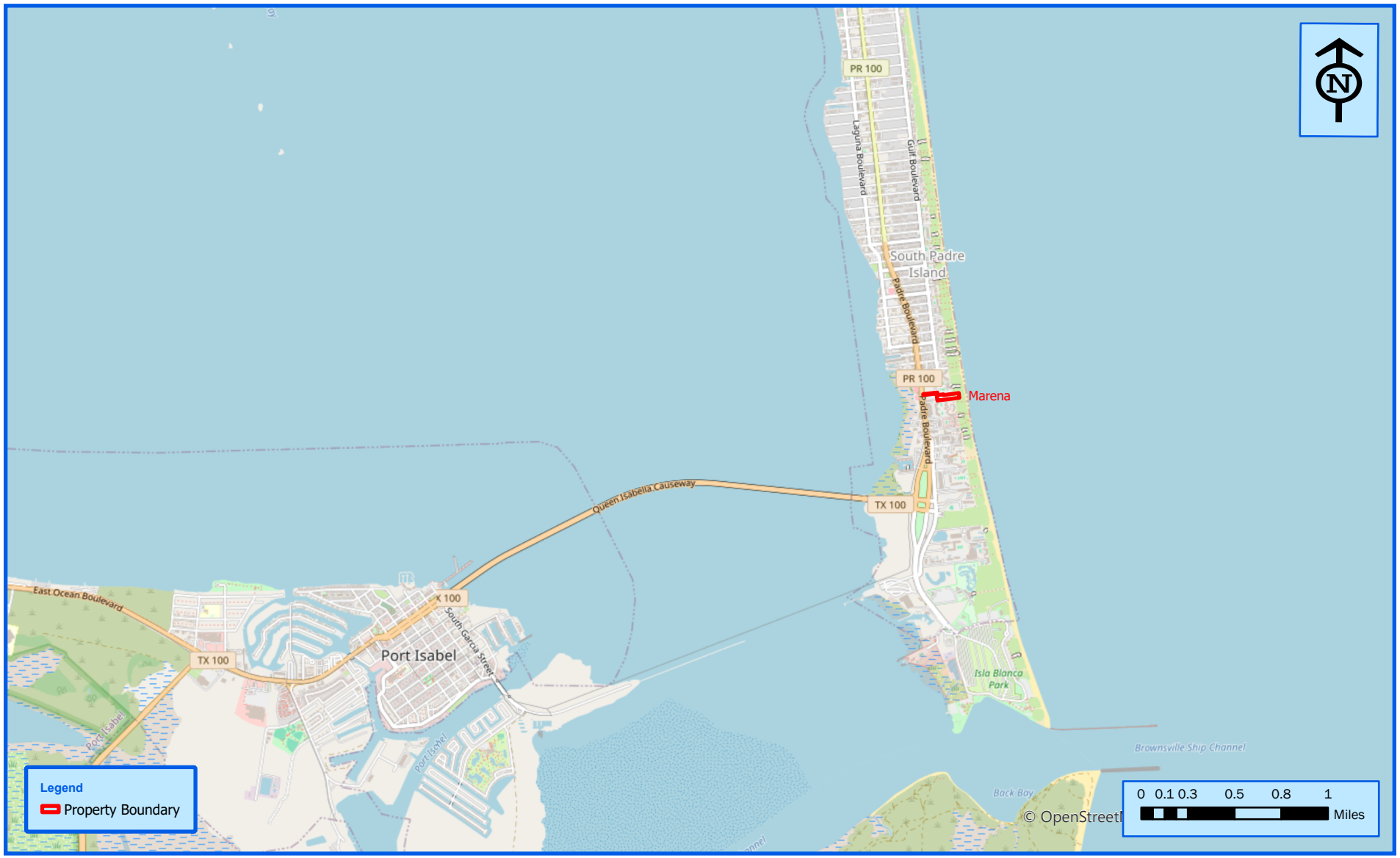



**Map Properties**
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Imagery Date: 2026
Source: ESRI
Resolution: 1 Meter
Datums
Horizontal Datum: NAD 83 SPC 4204
Vertical Datum: NAVD 88
Units: US Survey Feet

Fieldwork By: ERGIS
Date: September 3/25/2026
Maps By: ERGIS
Date: 3/20/2026
Revised:
Revised:
Special Notes:

**Marena**
**Lot 2D Miramar Block 1**
**Miramar & Sand Piles Subdivision**
**South Padre Island, Texas**
**Figure No. 1.0**
**Vicinity Map**

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Philip Hanley
Certified Geographic Information Science Professional
GISP Certification Number: 62189
Email: philiph@ergis.us
Voice: 361.549.6699




**Map Properties**
Imagery Type: Street Map
Imagery Date: 2025
Source: ESRI
Resolution: 1 Meter
Datums
Horizontal Datum: NAD 83 SPC 4204
Vertical Datum: NAVD 88
Units: US Survey Feet

Fieldwork By: ERGIS
Date: September 3/25/2026
Maps By: ERGIS
Date: 3/20/2026
Revised:
Revised:
Special Notes:

# Marena
## Lot 2D Miramar Block 1
## Miramar & Sand Piles Subdivision
## South Padre Island, Texas
## Figure No. 2.0
## Location Map

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**Map Properties**
Imagery Type: RGB Orthomosaic
Imagery Date: 3/13/2026
Source: ERGIS UAS
Resolution: 0.85 cm
Datums
Horizontal Datum: NAD 83 SPC 4205
Vertical Datum: NAVD 88
Units: US Survey Feet

Fieldwork By: ERGIS
Date: September 3/25/2026
Maps By: ERGIS
Date: 3/20/2026
Revised:
Revised:
Special Notes:

# Marena
## Lot 2D Miramar Block 1
## Miramar & Sand Piles Subdivision
## South Padre Island, Texas
## Figure No. 3.0
## Site Map

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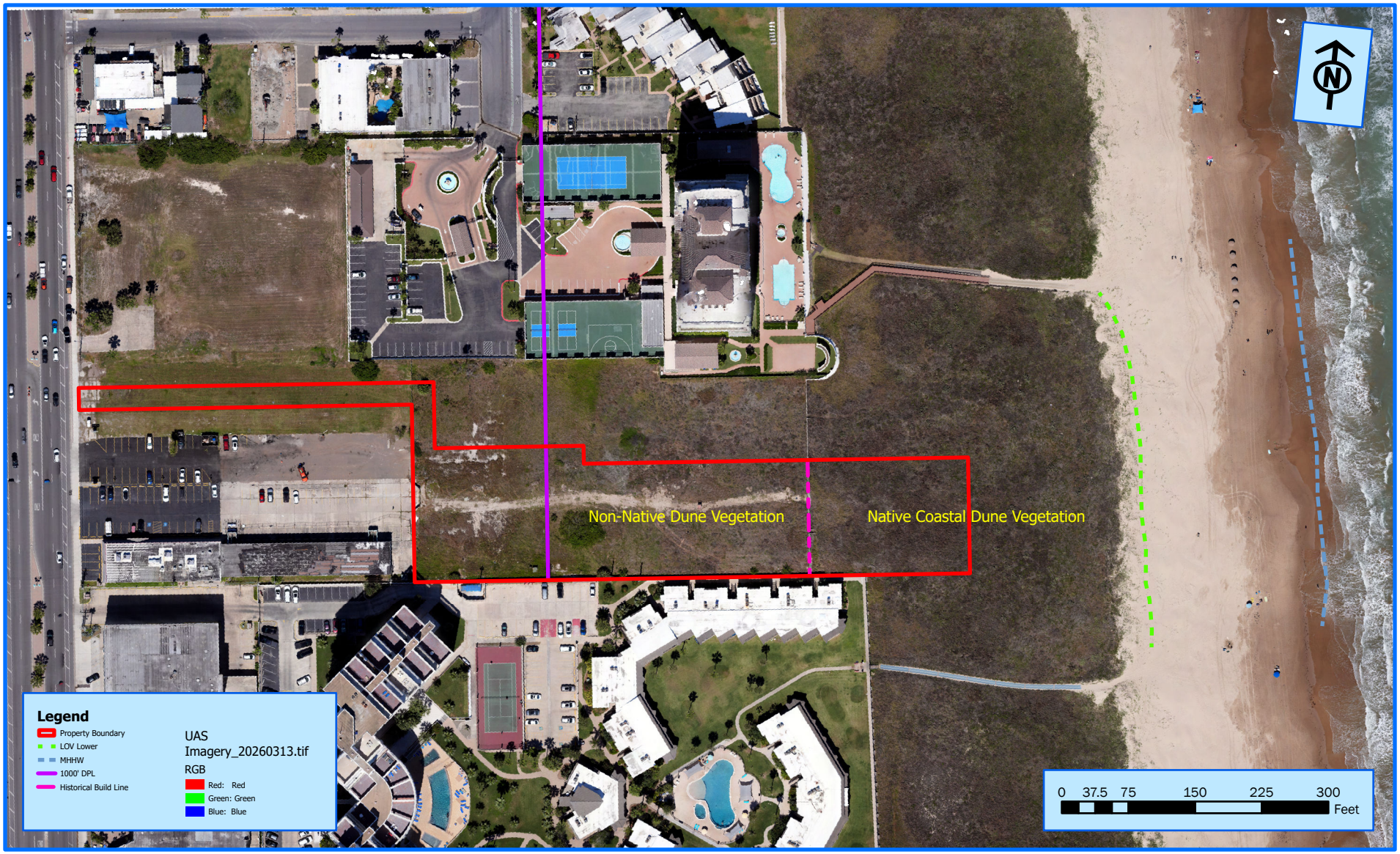



**Map Properties**
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**Datums**
**Horizontal Datum: NAD 83 SPC 4205**
**Vertical Datum: NAVD 88**
**Units: US Survey Feet**

**Fieldwork By: ERGIS**
**Date: September 3/25/2026**
**Maps By: ERGIS**
**Date: 3/20/2026**
**Revised:**
**Revised:**
**Special Notes:**

# Marena
## Lot 2D Miramar Block 1
## Miramar & Sand Piles Subdivision
## South Padre Island, Texas
## Figure No. 4.0
## Dune Resource Map

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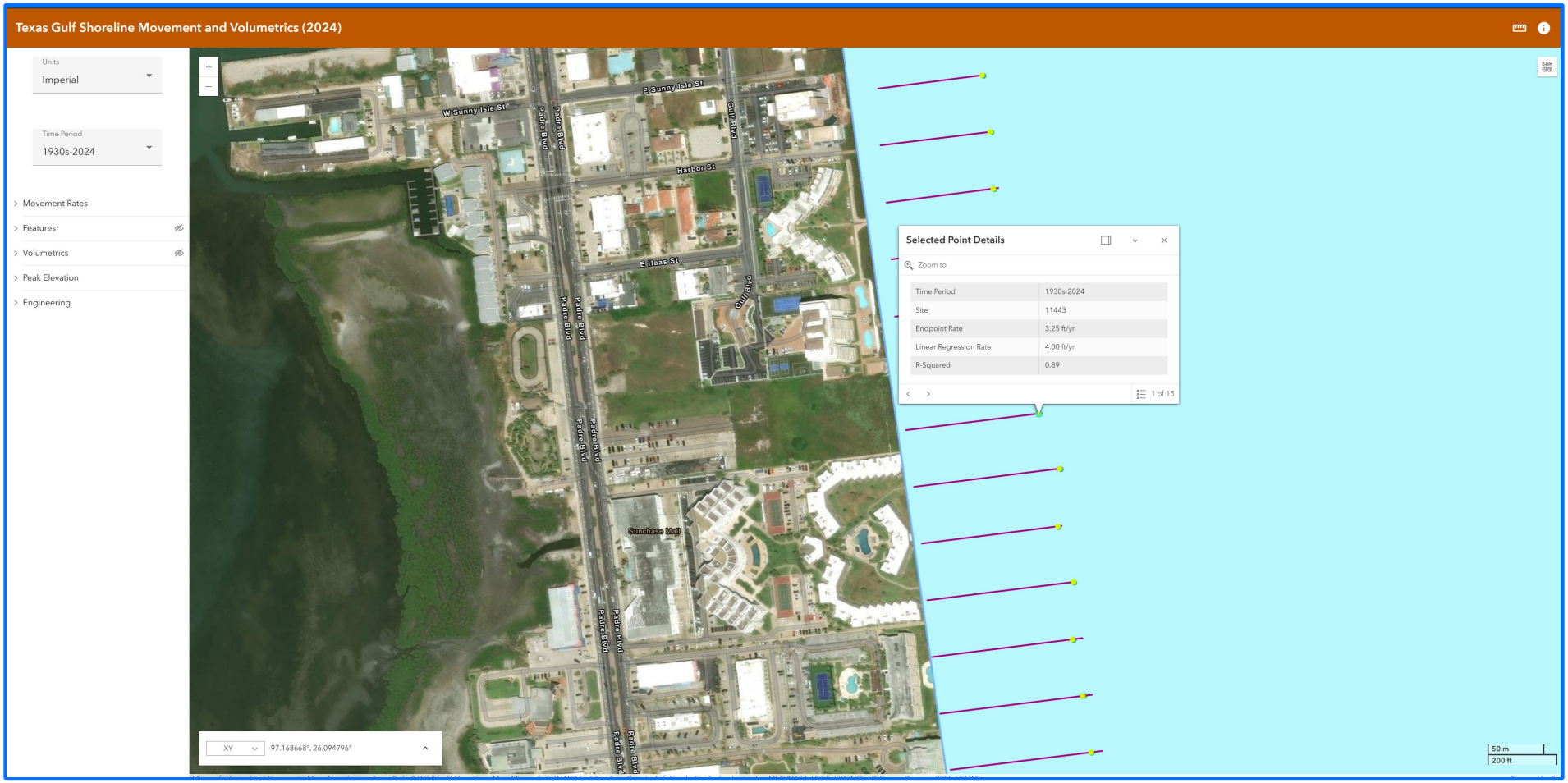

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**Imagery Date: 3/13/2026**
**Source: ERGIS UAS**
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**Datums**
**Horizontal Datum: NAD 83 SPC 4205**
**Vertical Datum: NAVD 88**
**Units: US Survey Feet**

**Fieldwork By: ERGIS**
**Date: September 3/25/2026**
**Maps By: ERGIS**
**Date: 3/20/2026**
**Revised:**
**Revised:**
**Special Notes:**

# Marena
## Lot 2D Miramar Block 1
## Miramar & Sand Piles Subdivision
## South Padre Island, Texas
## Figure No. 5.0
## Vegetation Map


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**Voice: 361.549.6699**



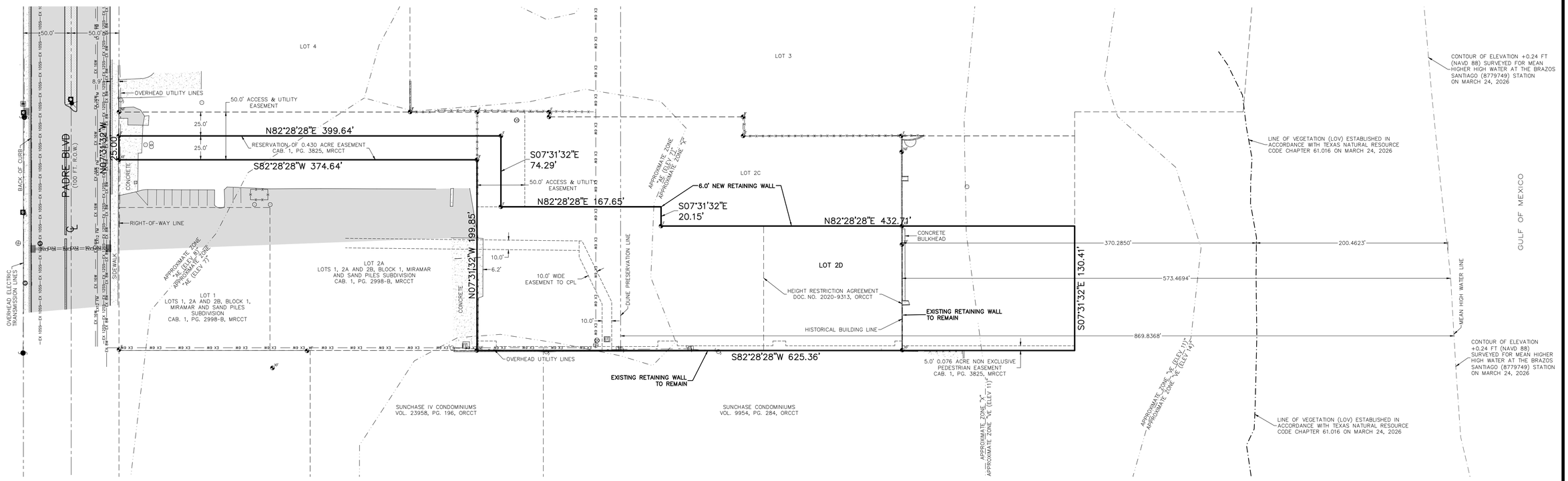

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**Datums**
**Horizontal Datum: NAD 83 SPC 4205**
**Vertical Datum: NAVD 88**
**Units: US Survey Feet**

**Fieldwork By: ERGIS**
**Date: September 3/25/2026**
**Maps By: ERGIS**
**Date: 3/20/2026**
**Revised:**
**Revised:**
**Special Notes:**

# Marena
# Lot 2D Miramar Block 1
# Miramar & Sand Piles Subdivision
# South Padre Island, Texas
# Figure No. 6.0
# Erosion Rate Map

ergis ENVIRONMENTAL AND GIS
**Philip Hanley**
**Certified Geographic Information Science Professional**
**GISP Certification Number: 62189**
**Email: philiph@ergis.us**
**Voice: 361.549.6699**

# Drawings




## NOTES

1. BASIS OF BEARINGS AS PER THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, NAD 83.

2. ADDRESS: PADRE BLVD
SOUTH PADRE ISLAND, TEXAS 78597

3. COMMITMENT FOR TITLE INSURANCE WITH FILE NO. 202098341, ISSUED FEBRUARY 09, 2026 WAS USED TO PREPARE THIS SURVEY.

## FLOOD ZONE

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY LIES IN ZONE "X", ZONE "AE (ELEV 7 & 8)" AND ZONE "VE (ELEV 11)", AS PER THE NATIONAL FLOOD INSURANCE PROGRAM OF COMMUNITY NO. 480115, PANEL NO. 0510, SUFFIX "F", EFFECTIVE FEBRUARY 16, 2018.

## SURVEYOR CERTIFICATE

THE UNDERSIGNED HEREBY CERTIFIES THAT THIS SURVEY AS DESCRIBED HEREIN WAS MONUMENTED ON THE GROUND ON **02/04/2026**, THAT THE ONLY VISIBLE IMPROVEMENTS ARE AS SHOWN; THAT THERE ARE NO VISIBLE ENCROACHMENTS, VISIBLE OVERLAPPINGS, APPARENT CONFLICTS, OR VISIBLE EASEMENTS EXCEPT AS SHOWN HEREIN, THIS SURVEY CONFORMS TO THE MINIMUM STANDARDS OF PRACTICE PROMULGATED BY THE TEXAS BOARD OF PROFESSIONAL LAND SURVEYING.

CODY MICHAEL MOORE, R.P.L.S.
REGISTERED PROFESSIONAL
LAND SURVEYOR NO. 6370

05/07/2026
DATE

STATE OF TEXAS
REGISTERED
CODY MICHAEL MOORE
6370
PROFESSIONAL LAND SURVEYOR

SCALE 1"=50'

50 0 50
Scale: 1" = 50'

### LEGEND

| | | | |
|---|---|---|---|
| ● | IRON ROD FOUND | ■ | ELECTRIC JUNCTION BOX |
| ⊙ | IRON ROD SET WITH CAP STAMPED "MOORE-6370" | ET | TRANSFORMER |
| ⊙ | NAIL FOUND | T | TELEPHONE PEDESTAL |
| ⊙ | "X" MARK FOUND | ⊙ | CLEANOUT |
| ✶ | LIGHT POST | ⊕ | WATER VALVE |
| ● | TRANSMISSION POLE | WM | WATER METER |
| ◇ | POWER POLE | ⊙ | MANHOLE |
| ▨ | GRATE INLET | ○ | POST |
| | | ⚑ | SIGN |

**BOUNDARY SURVEY OF:**

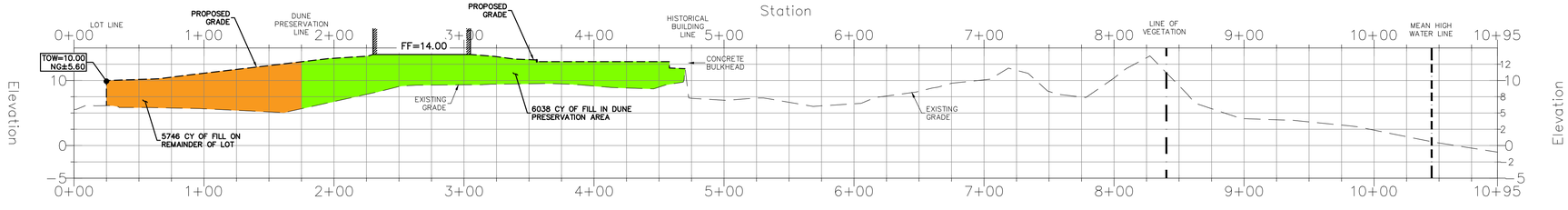
LOT NUMBER TWO D (2D),
BLOCK NUMBER ONE (1),
**MIRAMAR SUBDIVISION AND SAND PILES SUBDIVISION,**
IN THE CITY OF SOUTH PADRE ISLAND,
CAMERON COUNTY, TEXAS, ACCORDING TO MAP
RECORDED IN DOCUMENT NO. 1 3825, MAP
RECORDS OF CAMERON COUNTY, TEXAS.

FOR: LAS PERLAS GP, LLC
DATE: 29 APRIL 2026 | JOB NO: 672001

Moore Land Surveying, LLC
14216 Palis Drive, La Feria, TX 78559
(956)245-0988 TBPLS Firm No. 10194186




## DUNE X-SECTION PROFILE




DUNE PRESERVATION AREA
39,302 SQ. FT.
6,038 CY OF FILL

REMAINDER OF LOT
22,630 SQ. FT.
5,746 CY OF FILL

SCALE 1"=50'

50 0 50
Scale: 1" = 50'

### NOTES

1. BASIS OF BEARINGS AS PER THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, NAD 83.

2. ADDRESS: PADRE BLVD
SOUTH PADRE ISLAND, TEXAS 78597

3. COMMITMENT FOR TITLE INSURANCE WITH FILE NO. 202098341, ISSUED FEBRUARY 09, 2026 WAS USED TO PREPARE THIS SURVEY.

### FLOOD ZONE

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY LIES IN ZONE "X", ZONE "AE (ELEV 7 & 8)" AND ZONE "VE (ELEV 11)", AS PER THE NATIONAL FLOOD INSURANCE PROGRAM OF COMMUNITY NO. 480115, PANEL NO. 0510, SUFFIX "F", EFFECTIVE FEBRUARY 16, 2018.

### SURVEYOR CERTIFICATE

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CODY MICHAEL MOORE, R.P.L.S.
REGISTERED PROFESSIONAL
LAND SURVEYOR NO. 6370

05/07/2026
DATE

STATE OF TEXAS
CODY MICHAEL MOORE
6370
PROFESSIONAL LAND SURVEYOR

### LEGEND

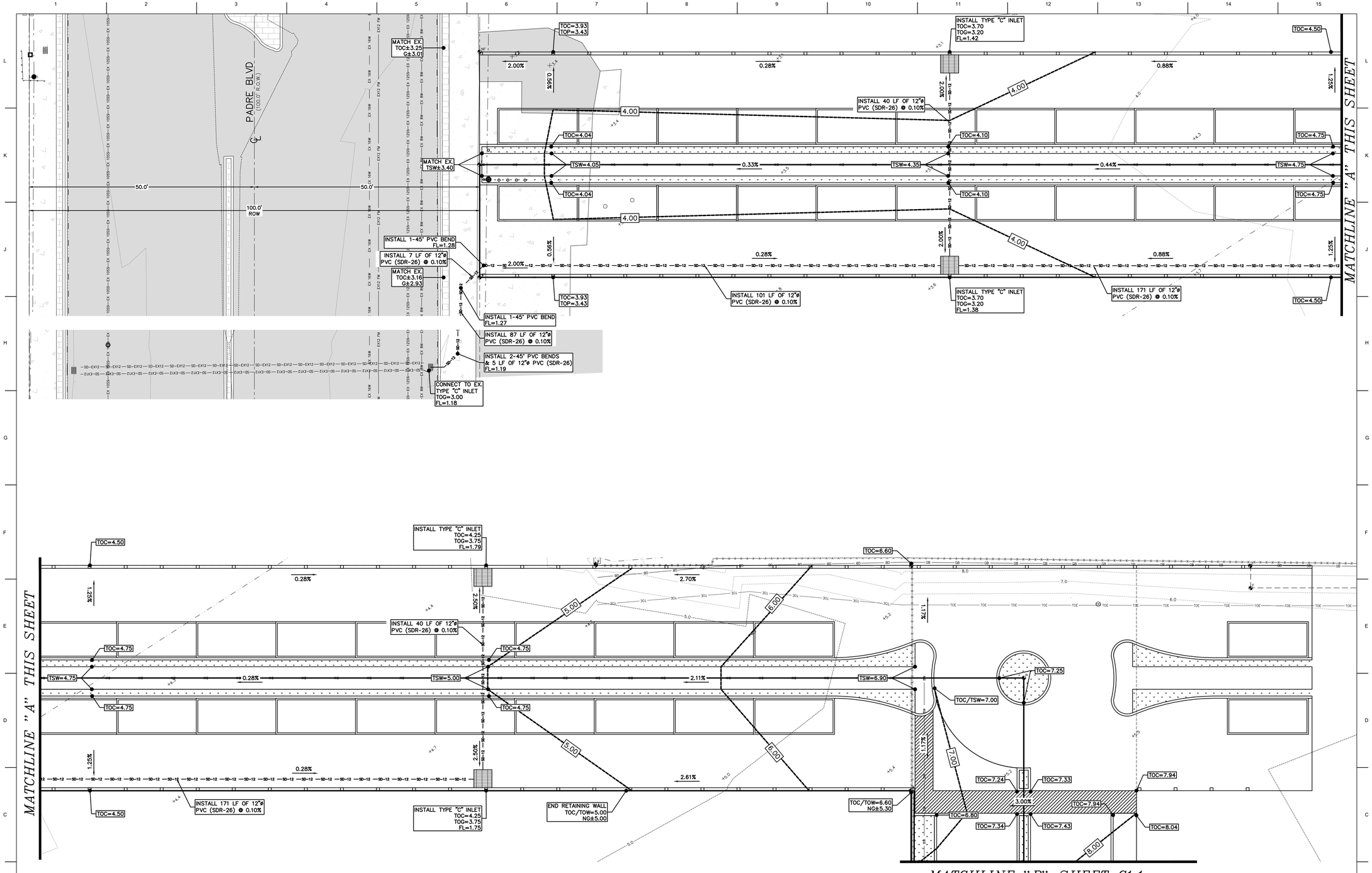
| | | | |
|---|---|---|---|
| ● | IRON ROD FOUND | ▣ | ELECTRIC JUNCTION BOX |
| ● | IRON ROD SET WITH CAP STAMPED "MOORE-6370" | ▤ | TRANSFORMER |
| ● | NAIL FOUND | ☎ | TELEPHONE PEDESTAL |
| ● | "X" MARK FOUND | ⊙ | CLEANOUT |
| ☀ | LIGHT POST | ⊕ | WATER VALVE |
| ◆ | TRANSMISSION POLE | ▣ | WATER METER |
| ↘ | POWER POLE | ◉ | MANHOLE |
| ▦ | GRATE INLET | ○ | POST |
| | | ⚑ | SIGN |

**TOPOGRAPHIC SURVEY OF:**

LOT NUMBER TWO D (2D),
BLOCK NUMBER ONE (1),
MIRAMAR SUBDIVISION AND SAND PILES SUBDIVISION,
IN THE CITY OF SOUTH PADRE ISLAND,
CAMERON COUNTY, TEXAS, ACCORDING TO MAP RECORDED IN DOCUMENT NO. 1 3825, MAP RECORDS OF CAMERON COUNTY, TEXAS.

FOR: LAS PERLAS GP, LLC
DATE: 29 APRIL 2026 | JOB NO: 672001

Moore Land Surveying, LLC
14216 Palis Drive, La Feria, TX 78559
(956)245-0988 TBPLS Firm No. 10194186




1. CONTRACTOR TO VERIFY VERTICAL AND HORIZONTAL LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL CONTACT CITY OF SPI OR LMWD INSPECTOR FOR INSPECTION PRIOR TO BACKFILLING.
3. CONTRACTOR SHALL CONTACT LMWD PRIOR TO CONNECTING TO EXISTING MAIN WATER.
4. CONTRACTOR TO SUBMIT TRAFFIC CONTROL PLAN TO CITY OF SPI FOR APPROVAL PRIOR TO CONSTRUCTION.
5. CONCRETE CYLINDERS (SET OF 5) TO BE TAKEN FOR ALL CONCRETE POURS (1 SET PER DAY OR EVERY 60 CY).
6. MECHANICAL COMPACTION UNDER ROADWAYS TO BE PERFORMED PER STANDARD DETAILS AND REQUIRED TO BE TESTED A MAXIMUM OF EVERY 1' OF COMPACTED BACKFILL (1 TEST PER 1,000 SY OF COMPACTION)

| | | | | | |
|---|---|---|---|---|---|
| IRON ROD FOUND | | FIRE HYDRANT | | A/C UNIT | |
| CONC MONUMENT FOUND | | WATER VALVE | | MAILBOX | |
| NAIL FOUND | | GAS METER | | CLEANOUT | |
| "X" MARK FOUND | | GAS VALVE | | POWER POLE | |
| IRON ROD SET WITH CAP STAMPED "MOORE-6370" | | ELECTRIC JUNCTION BOX | | GUY WIRE ANCHOR | |
| | | TELEPHONE PEDESTAL | | IRRIGATION VALVE | |
| TREE | | STORM INLET | | IRRIGATION STANDPIPE | |
| WATER METER | | SIGN | | SEPTIC TANK | |
| TRANSFORMER | | LIGHT POST | | POST | |
| CABLE PEDESTAL | | MANHOLE | | GRATE INLET | |

LEGEND

| | | | |
|---|---|---|---|
| GRADE BREAK | EXIST. 12" STORM SEWER | EXIST. 12" FORCEMAIN | EASEMENT LINE |
| FLOW LINE | PROP. 18" STORM SEWER | EXIST. 8" SEWER | RIGHT-OF-WAY LINE |
| TOE OF EMBANKMENT | EXIST. FIBER OPTIC | EXIST. 10" SEWER | EX. 16" WATERLINE |
| EXISTING FENCE | EXIST. OVERHEAD ELEC. | EXIST. 12" SEWER | EX. 8" WATERLINE |
| EXIST. HMAC | PROP. HMAC | EXIST. CONCRETE | PROP.. CONCRETE |

10 0 10
Scale: 1" = 10'

SCALE 1"=10'

30/04/2026 06:38:20 p.

**GOMEZ VAZQUEZ**
INTERNATIONAL

ARCHITECTURE | PLANNING | URBAN DESIGN

210-404-9658 www.gvi.archi

ISSUED SETS

| Date | Description |
|---|---|
| | |

**MARENA - SOUTH PADRE ISLAND**
LOT 2D, BLOCK 33,
PADRE BEACH SUBDIVISON
SOUTH PADRE ISLAND, TEXAS

This drawing was made specifically for this site and intent and does not apply to any other projects.
The reproduction or use of this set of drawings for other projects is prohibited. Use of this set of drawings requires appropriate authorization from Gomez Vazquez International.

PROFESSIONAL SEAL

STATE OF TEXAS
DUSTIN MOORE
119107
LICENSED
ENGINEER
5/7/26

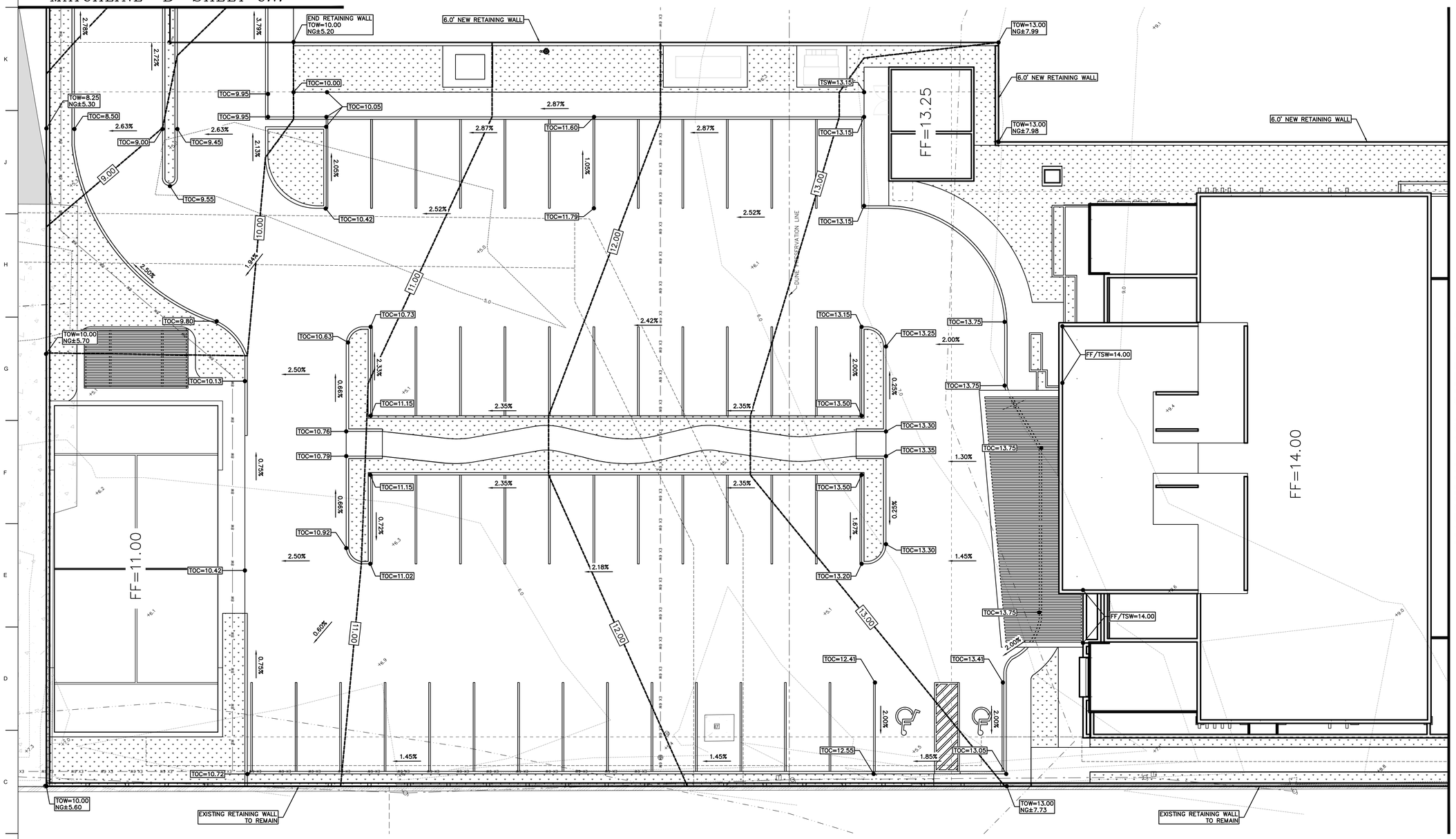
SHEET NAME
DUNE PERMIT GRADING PLAN (WEST)

| | |
|---|---|
| Phase | DD |
| Project No. | 672001 |
| File | 672001 STATEPLANE.DWG |
| Date 04/30/26 | Code |

SCALE N.T.S

SHEET NUMBER
DPC-1.0

*MATCHLINE "B" SHEET C1.1*




*MATCHLINE "C" SHEET C1.2*

1. CONTRACTOR TO VERIFY VERTICAL AND HORIZONTAL LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.
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| | | | | | |
|---|---|---|---|---|---|
| IRON ROD FOUND | FH | FIRE HYDRANT | AC | A/C UNIT |
| CONC. MONUMENT FOUND | WV | WATER VALVE | MB | MAILBOX |
| NAIL FOUND | GM | GAS METER | CO | CLEANOUT |
| "X" MARK FOUND | GV | GAS VALVE | PP | POWER POLE |
| IRON ROD SET WITH CAP STAMPED "MOORE-6370" | EJ | ELECTRIC JUNCTION BOX | GW | GUY WIRE ANCHOR |
| TREE | TP | TELEPHONE PEDESTAL | IV | IRRIGATION VALVE |
| WATER METER | SI | STORM INLET | IS | IRRIGATION STANDPIPE |
| TRANSFORMER | SN | SIGN | ST | SEPTIC TANK |
| CABLE PEDESTAL | LP | LIGHT POST | PO | POST |
| | MH | MANHOLE | GI | GRATE INLET |

LEGEND

| | | | |
|---|---|---|---|
| GRADE BREAK | EXIST. 12" STORM SEWER | EXIST. 12" FORCEMAIN | EASEMENT LINE |
| FLOW LINE | PROP. 18" STORM SEWER | EXST. 8" SEWER | RIGHT-OF-WAY LINE |
| TOE OF EMBANKMENT | EXIST. FIBER OPTIC | EXST. 10" SEWER | EX. 16" WATERLINE |
| EXISTING FENCE | EXIST. OVERHEAD ELEC. | EXST. 12" SEWER | EX. 8" WATERLINE |
| EXIST. HMAC | PROP. HMAC | EXIST. CONCRETE | PROP.. CONCRETE |

10 0 10
Scale: 1" = 10'

SCALE 1"=10'

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**GOMEZ VAZQUEZ**
INTERNATIONAL

ARCHITECTURE | PLANNING | URBAN DESIGN

210-404-9658 www.gvi.archi

ISSUED SETS

| Date | Description |
|---|---|
| | |

**MARENA - SOUTH PADRE ISLAND**

LOT 2D, BLOCK 33,
PADRE BEACH SUBDIVISON
SOUTH PADRE ISLAND, TEXAS

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PROFESSIONAL SEAL

STATE OF TEXAS
DUSTIN MOORE
119107
LICENSED ENGINEER
5/7/26

SHEET NAME

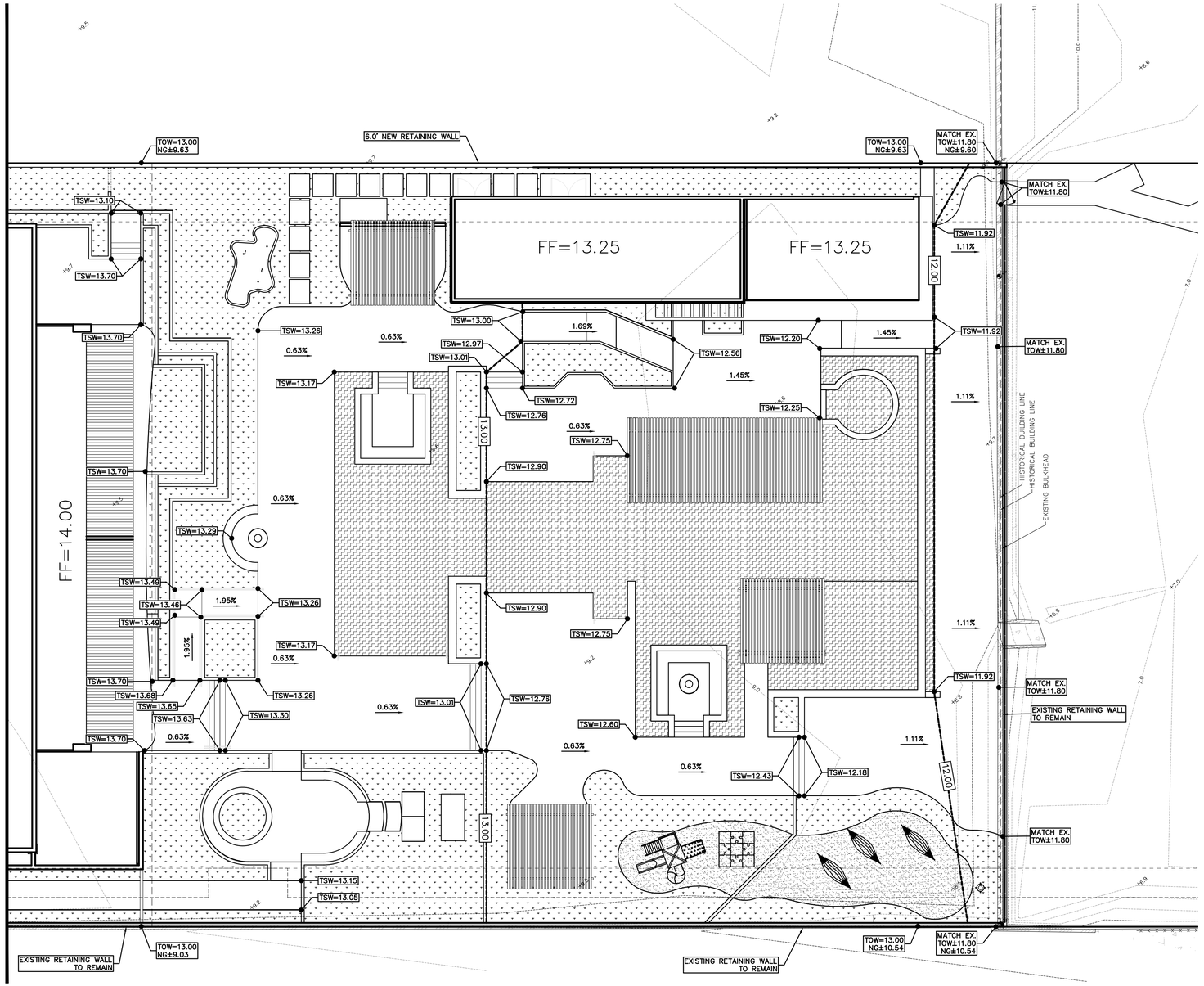
DUNE PERMIT GRADING PLAN (MIDDLE)

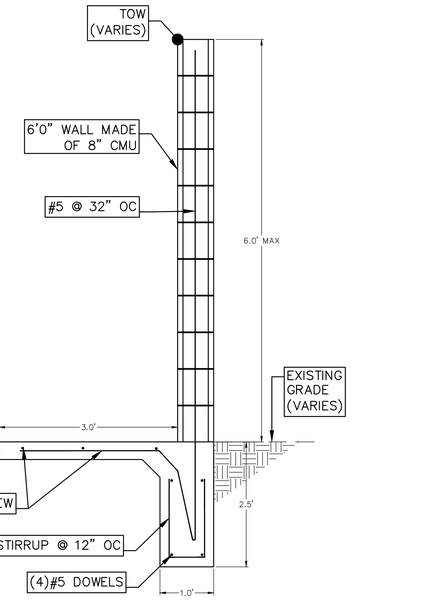
Phase DD
Project No. 672001
File 672001 STATEPLANE.DWG
Date 04/30/26 Code

SCALE N.T.S

SHEET NUMBER

DPC-1.1




STANDARD RETAINING WALL X-SECTION

NTS

1. CONTRACTOR TO VERIFY VERTICAL AND HORIZONTAL LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.
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| | | | | | |
|---|---|---|---|---|---|
| IRON ROD FOUND | FH | FIRE HYDRANT | A/C | A/C UNIT |
| CONC. MONUMENT FOUND | WV | WATER VALVE | MB | MAILBOX |
| NAIL FOUND | GM | GAS METER | CO | CLEANOUT |
| "X" MARK FOUND | GV | GAS VALVE | PP | POWER POLE |
| IRON ROD SET WITH CAP STAMPED "MOORE-6370" | EJB | ELECTRIC JUNCTION BOX | GW | GUY WIRE ANCHOR |
| TREE | TP | TELEPHONE PEDESTAL | IV | IRRIGATION VALVE |
| WATER METER | SI | STORM INLET | IS | IRRIGATION STANDPIPE |
| TRANSFORMER | SN | SIGN | ST | SEPTIC TANK |
| CABLE PEDESTAL | LP | LIGHT POST | PO | POST |
| | MH | MANHOLE | GI | GRATE INLET |

LEGEND

| | | | |
|---|---|---|---|
| GRADE BREAK | EXIST. 12" STORM SEWER | EXIST. 12" FORCEMAIN | EASEMENT LINE |
| FLOW LINE | PROP. 18" STORM SEWER | EXST. 8" SEWER | RIGHT-OF-WAY LINE |
| TOE OF EMBANKMENT | EXIST. FIBER OPTIC | EXIST. 10" SEWER | EX. 16" WATERLINE |
| EXISTING FENCE | EXIST. OVERHEAD ELEC. | EXIST. 12" SEWER | EX. 8" WATERLINE |
| EXIST. HMAC | PROP. HMAC | EXIST. CONCRETE | PROP.. CONCRETE |

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Scale: 1" = 10'

SCALE 1"=10'

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ARCHITECTURE | PLANNING | URBAN DESIGN

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ISSUED SETS

| Date | Description |
|---|---|
| | |

**MARENA - SOUTH PADRE ISLAND**
LOT 2D, BLOCK 33,
PADRE BEACH SUBDIVISON
SOUTH PADRE ISLAND, TEXAS

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PROFESSIONAL SEAL

STATE OF TEXAS
DUSTIN MOORE
119107
LICENSED
PROFESSIONAL ENGINEER
5/7/26

SHEET NAME
DUNE PERMIT GRADING PLAN (EAST)

Phase DD
Project No. 672001
File 672001 STATEPLANE.DWG
Date 04/30/26
Code

SCALE N.T.S

SHEET NUMBER
DPC-1.2

# MARENA
# SOUTH PADRE ISLAND CONDOS
# BEACH AND DUNE PERMIT
# MAY 6 , 2026

## PROJECT INFORMATION

| DPA DRAWING INDEX | |
|---|---|
| **SHEET NUMBER** | **SHEET NAME** |
| DPA-01 | DUNE PERMIT SITE PLAN |
| DPA-02 | DUNE PERMIT SITE SECTION |
| DPA-03 | DUNE PERMIT SITE ELEVATIONS |
| DPA-04 | DUNE PERMIT SITE ELEVATIONS |
| DPA-05 | DUNE PERMIT SITE GROUND LEVEL 1 |



### CLIENT

PAEZ DEVELOPMENT
219 Las Joyas BLVD
Port Isabel, TX 78578
956-761-2727

### CIVIL

MOORE LAND SURVEYING, LLC
14216 Palis Drive
La Feria TX 78559
956-245-0988

### ARCHITECT OF RECORD

GVI
700 E Sonterra Blvd. Suite 1211
San Antonio TX 78258
210-404-9658

### ENVIRONMENTAL CONSULTANT

ERGIS
PHILIP HANLEY
PO BOX 1072, CLAREMORE OK 74018
361-549-6699


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**ISSUED SETS**

| Date | Description |
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**MARENA - SOUTH PADRE ISLAND**
LOT 2D, BLOCK 33,
PADRE BEACH SUBDIVISON
SOUTH PADRE ISLAND, TEXAS

**PROFESSIONAL SEAL**

**SHEET NAME**
DUNE PERMIT
COVER SHEET

Phase: DD
Project No.: 25135
File: DPA-00.DWG
Date: 05/06/2026
Code:

**SCALE** N.T.S

**SHEET NUMBER**
DPA-00


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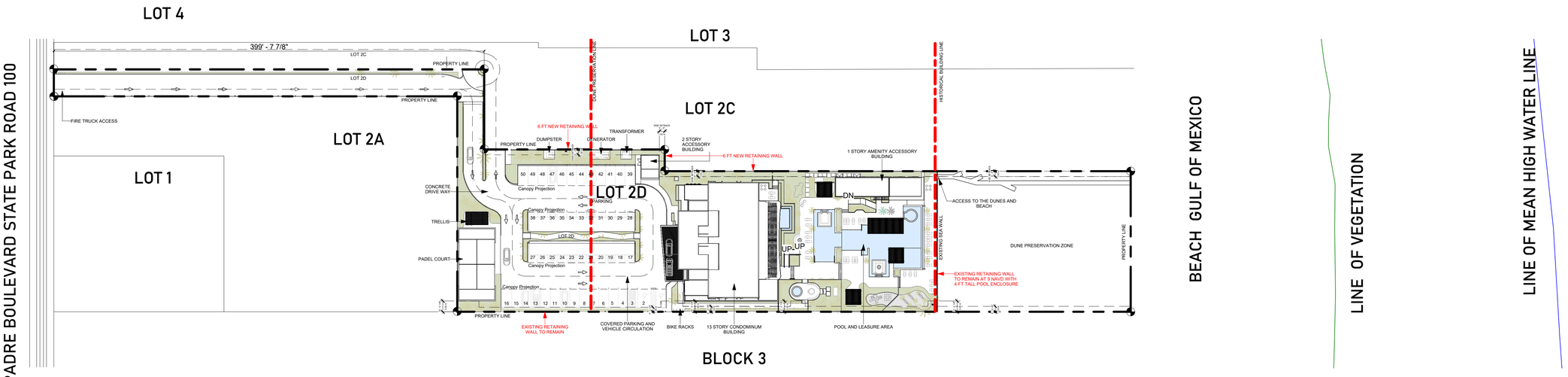

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## *BOUNDARY OF TOPOGRAPHIC SURVEY OF*

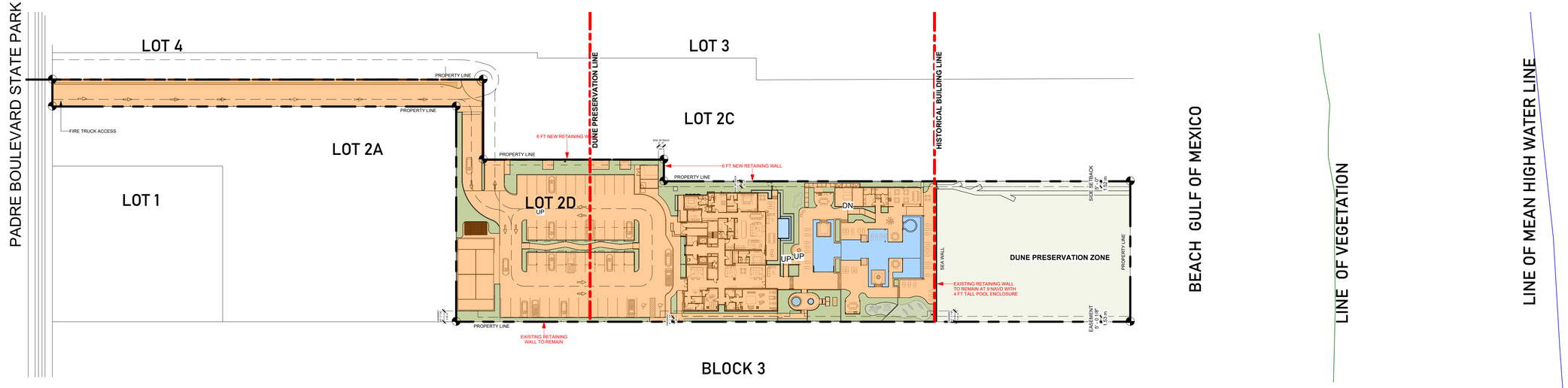
LOT TWO D (2D), OF THE "LOT NUMBER TWO C (2C) AND TWO D (2D), MIRAMAR SUBDIVISION AND SAND PILES SUBDIVISION" CITY OF SOUTH PADRE ISLAND, CAMERON, COUNTY, TEXAS, ACCORDING TO THE MAP RECORDED IN CABINET I, SLOT 3825, MAP RECORDS OF CAMERON COUNTY, TEXAS.

| PARKING SCHEDULE DPA | |
|---|---|
| TYPE | DIMENSIONS |
| ADA PARKING | PARKING STALL 12'x18' |
| 1 | |
| ADA PARKING | PARKING STALL 9'x18' |
| 1 | |
| PARKING SPOT | PARKING STALL 9'x18' |
| 48 | |

TOTAL PARKING STALLS: 50



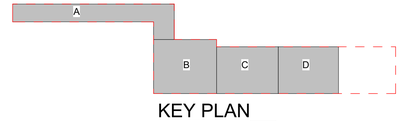

1 OVERALL SITE PLAN-DPA
1" = 50'-0"




2 LOT COVERAGE PERVIOUS AND IMPERVIOUS CALCULATIONS DPA
1" = 50'-0"

| | | | |
|---|---|---|---|
| | IMPERVIOUS AREA | 56,958.02 SQF | 58.92% TOTAL IMPERVIOUS AREA |
| | POOL AREA | 3,782.63 SQF | |
| | PERVIOUS AREA | 12,123.63 | |
| | PROPERTY LINE | 96,668.23 SQF | EXCLUDING POOL AREA |
| | DUNE ZONE | 23,401.86 SQF | |

IMPERVIOUS SCHEDULE
1" = 50'-0"




KEY PLAN
NO SCALE

06/05/2026 01:20:33 p. m.

**GOMEZ VAZQUEZ INTERNATIONAL**

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ISSUED SETS

| Date | Description |
|---|---|
| | |

**MARENA - SOUTH PADRE ISLAND**

LOT 2D, BLOCK 33,
PADRE BEACH SUBDIVISON
SOUTH PADRE ISLAND, TEXAS

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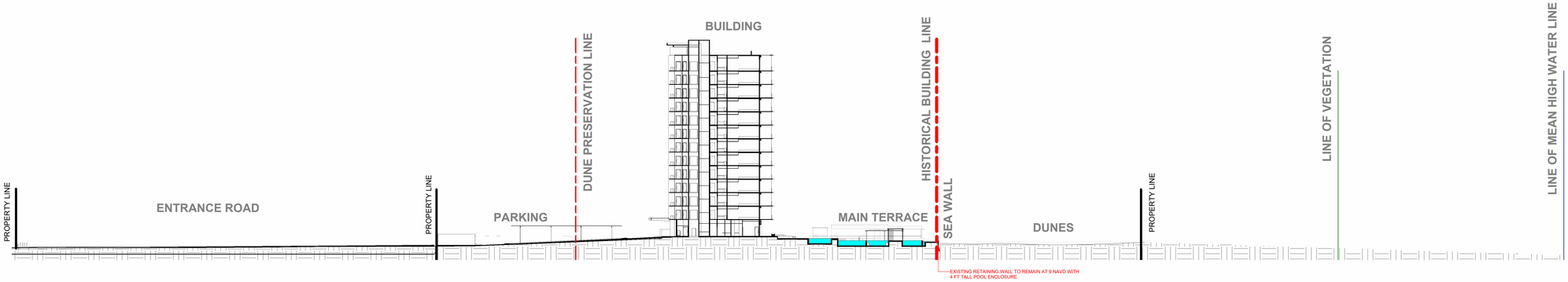
PROFESSIONAL SEAL

SHEET NAME
DUNE PERMIT SITE PLAN

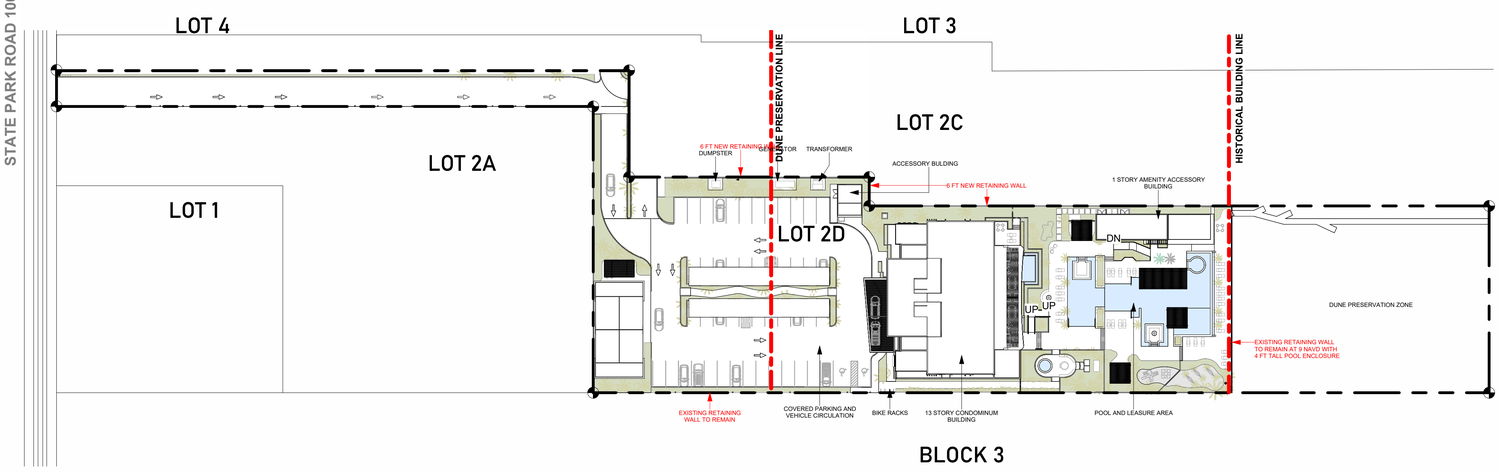
Phase DD
Project No. 25135
File DPA-01.DWG
Date 05/06/2026
Code

SCALE N.T.S

SHEET NUMBER
DPA-01




2 OVERALL SECTION-DPA
1" = 50'-0"




3 OVERALL SITE PLAN-DPA.
1" = 50'-0"

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m.

**GOMEZ VAZQUEZ**
INTERNATIONAL

ARCHITECTURE | PLANNING | URBAN DESIGN
210-404-9658 www.gvi.archi

ISSUED SETS

| Date | Description |
|---|---|
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**MARENA - SOUTH PADRE ISLAND**
LOT 2D, BLOCK 33,
PADRE BEACH SUBDIVISON
SOUTH PADRE ISLAND, TEXAS

PROFESSIONAL SEAL

SHEET NAME
DUNE PERMIT
SITE SECTION

| | |
|---|---|
| Phase | DD |
| Project No. | 25135 |
| File | DPA-02.DWG |
| Date | 05/06/2026 |
| Code | |

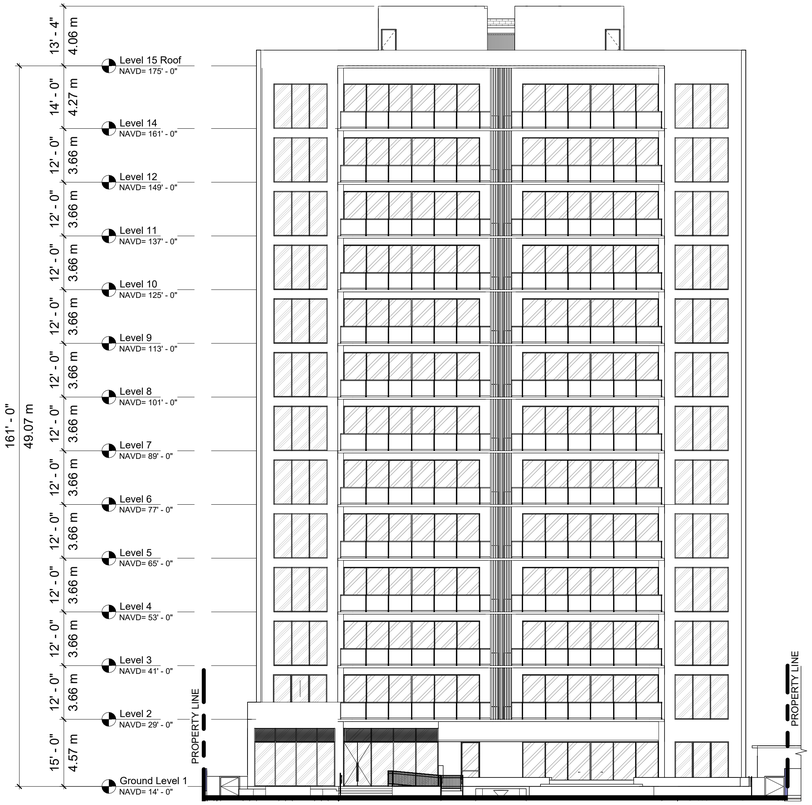
SCALE N.T.S

SHEET NUMBER
DPA-02

The drawings and models specification for this site and cannot and does not be used, in any other projects.
The reproduction or use of this set of drawings for other projects is prohibit. User of this set of drawings requires appropriate authorization from Gomez Vazquez International.




1 WEST ELEVATION (STREET VIEW) - DPA
1/16" = 1'-0"




2 EAST ELEVATION (BEACH VIEW) - DPA
1/16" = 1'-0"

**GOMEZ VAZQUEZ**
INTERNATIONAL

ARCHITECTURE | PLANNING | URBAN DESIGN

210-404-9658 www.gvi.archi

**ISSUED SETS**

| Date | Description |
|---|---|
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# MARENA - SOUTH PADRE ISLAND

LOT 2D, BLOCK 33,
PADRE BEACH SUBDIVISON
SOUTH PADRE ISLAND, TEXAS

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User of this set of drawings is prohibited from using them for other projects.

PROFESSIONAL SEAL

SHEET NAME
DUNE PERMIT
SITE ELEVATIONS

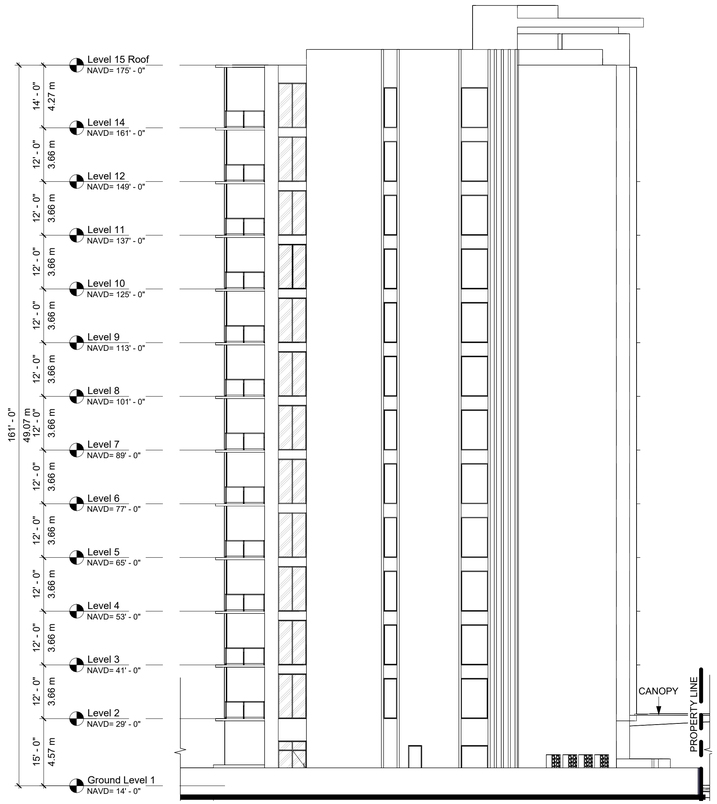
Phase: DD
Project No.: 25135
File: DPA-03.DWG
Date: 05/06/2026
Code:

SCALE: N.T.S

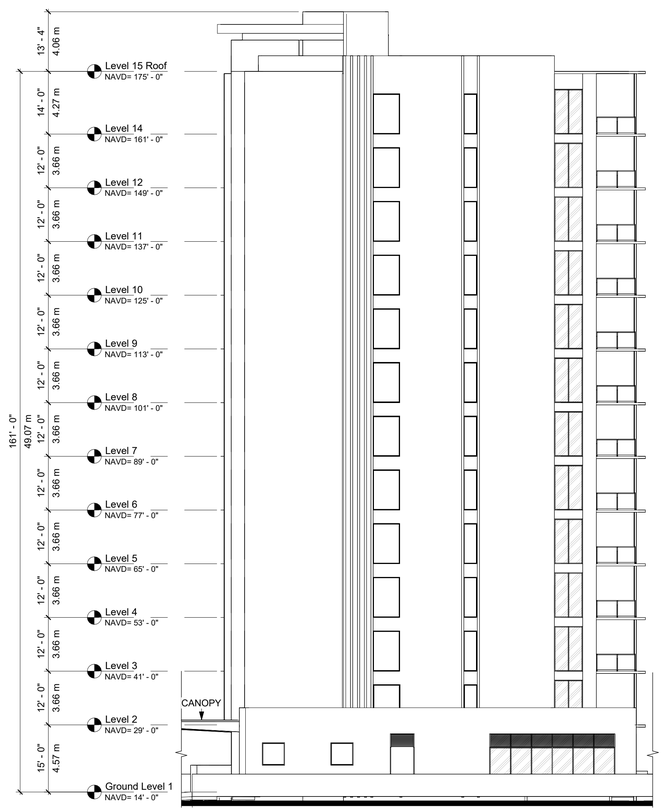
SHEET NUMBER
DPA-03



06/05/2026 01:22:21 p. m.




1 NORTH ELEVATION - DPA
1/16" = 1'-0"




2 SOUTH ELEVATION - DPA
1/16" = 1'-0"

**GOMEZ VAZQUEZ**
INTERNATIONAL

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210-404-9658 www.gvi.archi

**ISSUED SETS**

| Date | Description |
|---|---|
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# MARENA - SOUTH PADRE ISLAND

LOT 2D, BLOCK 33,
PADRE BEACH SUBDIVISON
SOUTH PADRE ISLAND, TEXAS

This drawing was made specifically for this site and client, and does not fit to any other projects.
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**PROFESSIONAL SEAL**

**SHEET NAME**
DUNE PERMIT
SITE ELEVATIONS

Phase DD
Project No. 25135
File DPA-04.DWG
Date 05/06/2026 Code

**SCALE** N.T.S

**SHEET NUMBER**
DPA-04

06/05/2026 01:23:32 p. m.

6 FT NEW RETAINING WALL

DUMPSTER

GENERATOR

TRANSFORMER

DUNE PRESERVATION LINE

SETBACK 5' - 0" 1.52 m

PROPERTY LINE

14' - 4 1/2" 4.38 m

2 STORY ACCESSORY BUILDING

SETBACK 5' - 0" 1.52 m

PROPERTY LINE

LOT 2C

1 DPA-04

6 FT NEW RETAINING WALL

1 STORY AMENITY ACCESSORY BUILDING

HISTORICAL BUILDING LINE

SETBACK 5' - 0" 1.52 m

SIDE SETBACK 5' - 0" 1.52 m

ACCESS TO TWIN DUNES AND BEACH

50 49 48 47 46 45 44 43 42 41 40 39

18' - 0" 5.49 m

18' - 0" 5.49 m

Canopy Projection

LOT 2D

24' - 0" 7.31 m

Canopy Projection

38 37 36 35 34 33 32 31 30 29 28

24' - 3 1/4" 7.40 m

18' - 0" 5.49 m

5' - 0" 1.52 m

12' - 5" 3.78 m

5' - 0" 1.52 m

12' - 0" 3.66 m

96' - 0" 29.26 m

1 DPA-03

6' - 8 3/4" 2.05 m

CANOPY PROJECTION

DROP OFF

SLOPE 4.61%

CONDO UNIT 1A
U101A

A703

LOBBY LOUNGE

L+ 14' - 0"

LOBBY

FAMILY CO-WORK

FITNESS CENTER

DN

A421

1 / A101.4

2 DPA-03

UP

UP

UP

L+ 12' - 0"

L+ 12' - 0"

27 26 25 24 23 22 21 20 19 18 17

18' - 0" 5.49 m

Canopy Projection

24' - 0" 7.32 m

Canopy Projection

16 15 14 13 12 11 10 9 8 7 6 4 3 1

18' - 0" 5.49 m

18' - 0" 5.49 m

EASEMENT 4' - 2 1/4" 1.28 m

EASEMENT 10' - 0 1/8" 3.05 m

EASEMENT 5' - 0 1/8" 1.53 m

EASEMENT 5' - 0 1/8" 1.53 m

EASEMENT 10' - 0 1/8" 3.05 m

EASEMENT 5' - 0 1/8" 1.53 m

EASEMENT 10' - 0 1/8" 3.05 m

EASEMENT 5' - 0 1/8" 1.53 m

PROPERTY LINE

EXISTING RETAINING WALL TO REMAIN

COVERED PARKING AND VEHICLE CIRCULATION

2 DPA-04

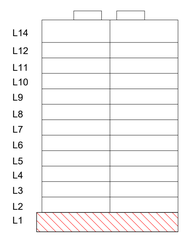
13 STORY CONDOMINUM BUILDING

POOL AND LEASURE AREA

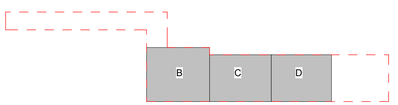
EXISTING RETAINING WALL TO REMAIN AT 9 NAVD WITH 4 FT TALL POOL ENCLOSURE

1 GROUND LEVEL 1 PLAN C&D -DPA
1/16" = 1'-0"

BLOCK 3




KEY PLAN
NO SCALE




KEY PLAN
NO SCALE

06/05/2026 01:23:35 p. m.


**GOMEZ VAZQUEZ**
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ISSUED SETS

| Date | Description |
|---|---|
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**MARENA - SOUTH PADRE ISLAND**

LOT 2D, BLOCK 33,
PADRE BEACH SUBDIVISON
SOUTH PADRE ISLAND, TEXAS


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PROFESSIONAL SEAL

SHEET NAME

DUNE PERMIT SITE GROUND LEVEL 1

| | |
|---|---|
| Phase | DD |
| Project No. | 25135 |
| File | DPA-05.DWG |
| Date | 05/06/2026 |
| Code | |

SCALE N.T.S

SHEET NUMBER

DPA-05

# Drainage Report

# DRAINAGE STATEMENT

# FOR

# MARENA
# SOUTH PADRE ISLAND, TX

MAY 2026




Prepared by:

**Moore Land Surveying, LLC**

**14216 Palis Drive,**
**La Feria, TX 78552**

**(956)245-9163**

**TBPLS Firm No. 10194186**
**TBPE Firm No. 19190**

## DRAINAGE STATEMENT
## MARENA – SOUTH PADRE ISLAND, TX

01 MAY 2026

MARENA – SOUTH PADRE ISLAND, TX is a 2.22 ac. Tract of land. The property is located approximately 455-feet South from the intersection of Haas St. and Padre Blvd. The property is a commercial lot being developed into a condominium complex. The property is currently undeveloped and is in short grass condition and sand dunes. The subdivision lies in Zone "AE-7", "VE-11", "VE-14" & X-Shaded according to FEMA's Flood Insurance Rate Map, Community Panel No. 480115 0510 F, Revised February 16, 2018, with a Base Flood Elevation of 7.0', 11.0' in the areas where the construction will be taking place . The construction plans will call for the building's finished floor to be at elevation 14.0 MSL or higher in order to adhere to FEMA's Base Flood Elevation requirements.

The soil is 100% fine sand which is in hydrologic dual soil group "A" with high infiltration and slow infiltration. (See excerpts from "Soil Survey of Cameron County, Texas").

Existing runoff of MARENA – SOUTH PADRE ISLAND, TX is by surface flow in a westerly direction from a high point just west of the existing retaining wall until it flows to the storm drain system along Padre Blvd, thence to the Laguna Madre. Part of the lot from this high point flows west over the retaining wall to the sand dunes along the Gulf of Mexico. The subdivision has an existing runoff of 2.38 CFS during the 10-year storm frequency as per the attached calculations.

The proposed drainage for MARENA – SOUTH PADRE ISLAND, TX shall route the runoff from the building westward via sheet flow toward the west end of the property, where it will be collected in storm inlets and discharged into the storm drain system along Padre Blvd, thence to the Laguna Madre. From the building westward will be drained via sheet flow towards the existing retaining wall as per the original drainage pattern. Detention will not be proposed as the required amount is negligible, however, permeable surfaces will be utilized throughout the property, and landscape areas will be provided. The discharge into the existing storm inlet will also be restricted to a 12" PVC pipe per TXDOT standards.




By: _____ 01/MAY/26

Dustin Moore, PE Date

**MARENA - SOUTH PADRE ISLAND, TX** **2.22 AC**

**Drainage Calculations**

**5/1/2026**

**Pre-developed Conditions**

| | | |
|---|---|---|
| Area = | 2.22 | AC |
| "C" = | 0.20 | (10) YR |
| Tc = 24 min | 5.35 | (I10)=IN/HR |
| Q10pre = | 2.38 | CFS |

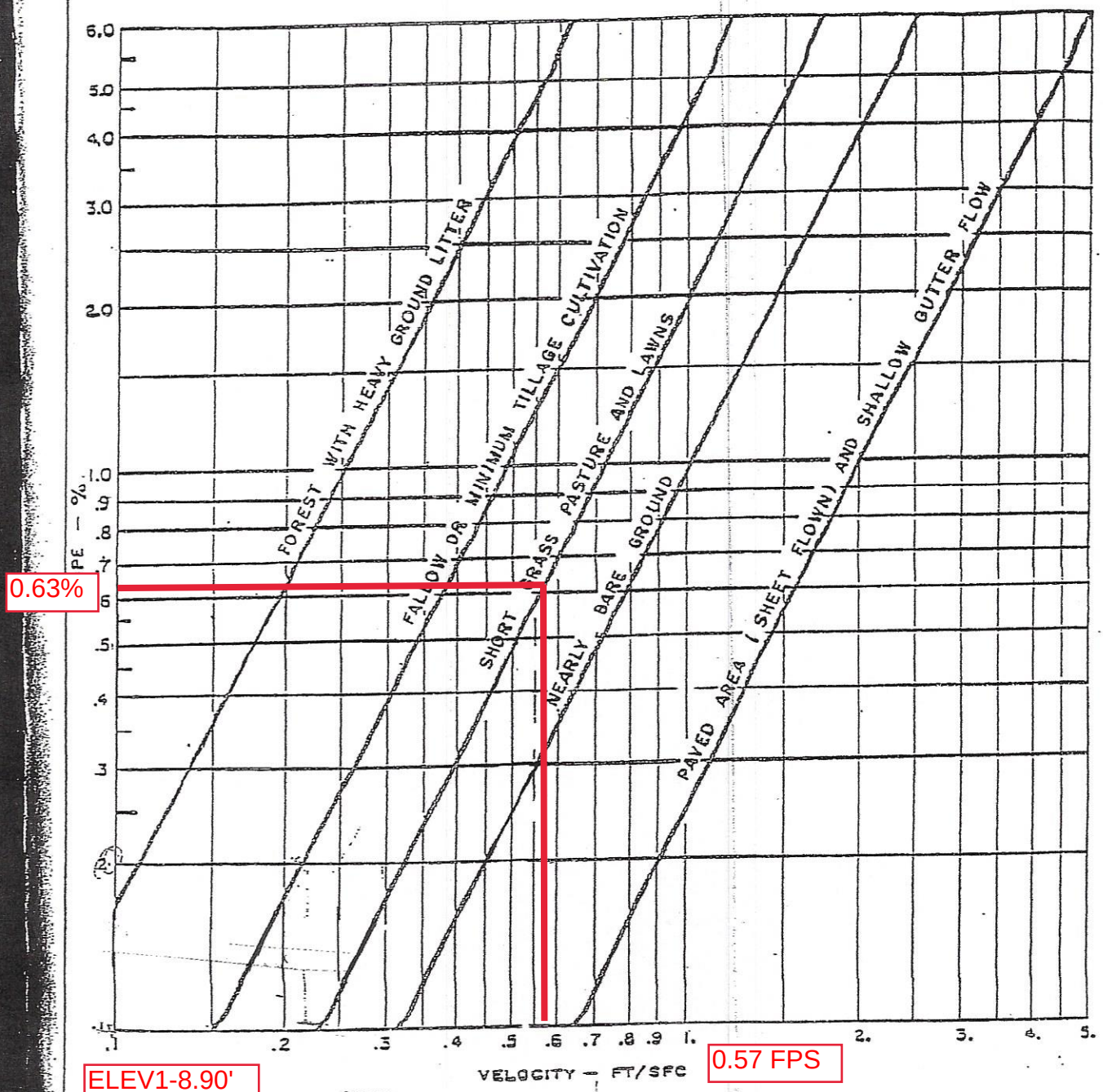
**Developed Conditions**

**Detention…25 year storm**

| C FACTOR | STORM DURATION T (HR) | I (IN/HR) | DRAINAGE AREA A (AC) | INFLOW RATE Q1=CIA (CFS) | RELEASE RATE Qo (CFS) | STORAGE RATE Q1-Qo (CFS) | STORAGE REQ'D 1/12(Q1-Qo)xT (AC-FT) |
|---|---|---|---|---|---|---|---|
| 0.7 | 0.08 | 9.00 | 2.22 | 13.99 | 2.38 | 11.61 | 0.08 |
| 0.7 | 0.17 | 7.80 | 2.22 | 12.12 | 2.38 | 9.75 | 0.14 |
| 0.7 | 0.25 | 6.68 | 2.22 | 10.38 | 2.38 | 8.01 | 0.17 |
| 0.7 | 0.33 | 6.50 | 2.22 | 10.10 | 2.38 | 7.73 | 0.21 |
| 0.7 | 0.50 | 5.96 | 2.22 | 9.26 | 2.38 | 6.89 | 0.29 |
| 0.7 | 0.67 | 4.80 | 2.22 | 7.46 | 2.38 | 5.08 | 0.28 |
| 0.7 | 0.83 | 4.25 | 2.22 | 6.60 | 2.38 | 4.23 | 0.29 |
| 0.7 | 1.00 | 3.77 | 2.22 | 5.86 | 2.38 | 3.48 | 0.29 |
| 0.7 | 1.50 | 3.00 | 2.22 | 4.66 | 2.38 | 2.29 | 0.29 |
| 0.7 | 2.00 | 2.35 | 2.22 | 3.65 | 2.38 | 1.28 | 0.21 |
| 0.7 | 3.00 | 1.72 | 2.22 | 2.67 | 2.38 | 0.30 | 0.07 |
| 0.7 | 4.00 | 1.70 | 2.22 | 2.64 | 2.38 | 0.27 | 0.09 |
| 0.7 | 5.00 | 1.50 | 2.22 | 2.33 | 2.38 | -0.04 | -0.02 |
| 0.7 | 6.00 | 1.07 | 2.22 | 1.66 | 2.38 | -0.71 | -0.36 |
| 0.7 | 12.00 | 0.62 | 2.22 | 0.96 | 2.38 | -1.41 | -1.41 |
| 0.7 | 24.00 | 0.38 | 2.22 | 0.59 | 2.38 | -1.78 | -3.57 |

**Detention required =** 0.29 Ac.-Ft. 12,741.86 CF

FIGURE 11




0.63%

0.57 FPS

ELEV1-8.90'
ELEV2-3.60'
D=837
S=0.67%
V=0.57 FPS

V=D/T => T=D/V => T=(837) / (0.57 FPS)

T= 1468 S => 24 min

AVERAGE VELOCITIES FOR ESTIMATING TRAVEL TIME FOR OVER LAND FLOW

## Rainfall Intensity-Duration-Frequency Coefficients for Texas

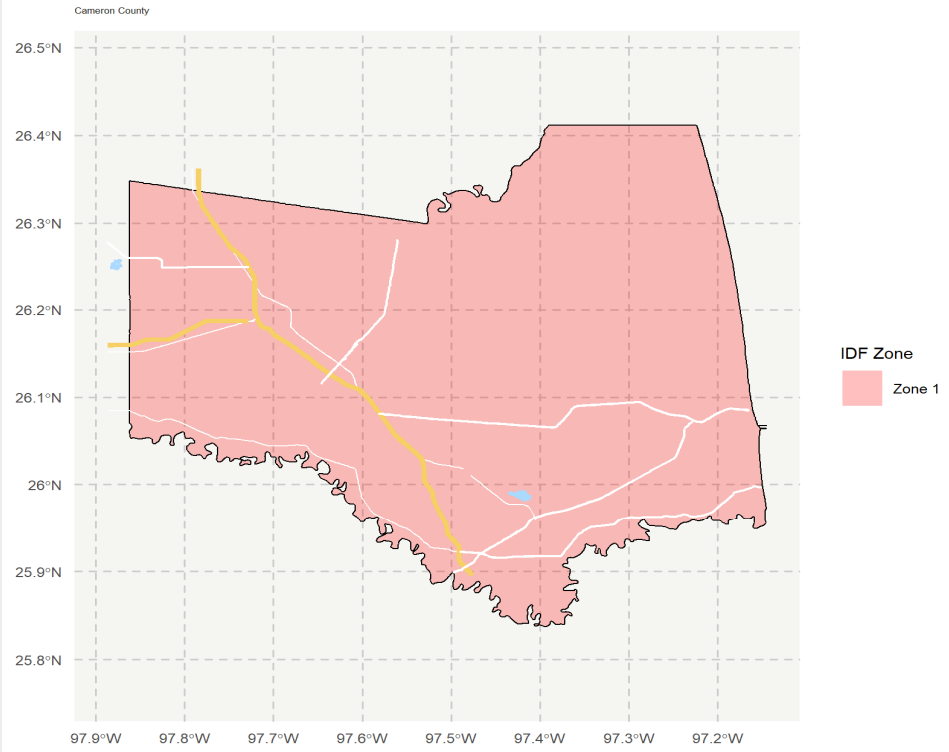
Based on "National Oceanic and Atmospheric Administration's (NOAA) Atlas 14
Precipitation-Frequency Atlas of the United States, Volume 11 Version 2.0: Texas" (Perica et al. 2018)

**Parameter Selection**

1. **Select Units**
   English
2. **Select Methodology**
   Annual Maximum Series (AMS) (i)
3. **Select County**
   CAMERON
4. **Select County Zone**
   Zone-1 (i)
5. **Select Time of Concentration ($t_c$)**
   24 Minute (i)

| Coefficient | Design Annual Exceedance Probability (Design Annual Recurrence Interval) | | | | | | |
|---|---|---|---|---|---|---|---|
| | 50% (2-year) | 20% (5-year) | 10% (10-year) | 4% (25-year) | 2% (50-year) | 1% (100-year) | 0.2% (500-year) |
| e | 0.8299 | 0.8114 | 0.8004 | 0.7870 | 0.7762 | 0.7667 | 0.7573 |
| b | 65.5690 | 82.9421 | 95.4717 | 110.9163 | 120.7404 | 131.4408 | 170.0188 |
| d (min) | 12.6865 | 12.6302 | 12.6506 | 12.7470 | 12.7443 | 13.0203 | 15.4623 |
| **Intensity (inches/hour)** | **3.30** | **4.47** | **5.35** | **6.50** | **7.36** | **8.24** | **10.51** |

Note: Cameron County has 1 rainfall zone.




Filename: TXDOT INTENSITIES.xlsm

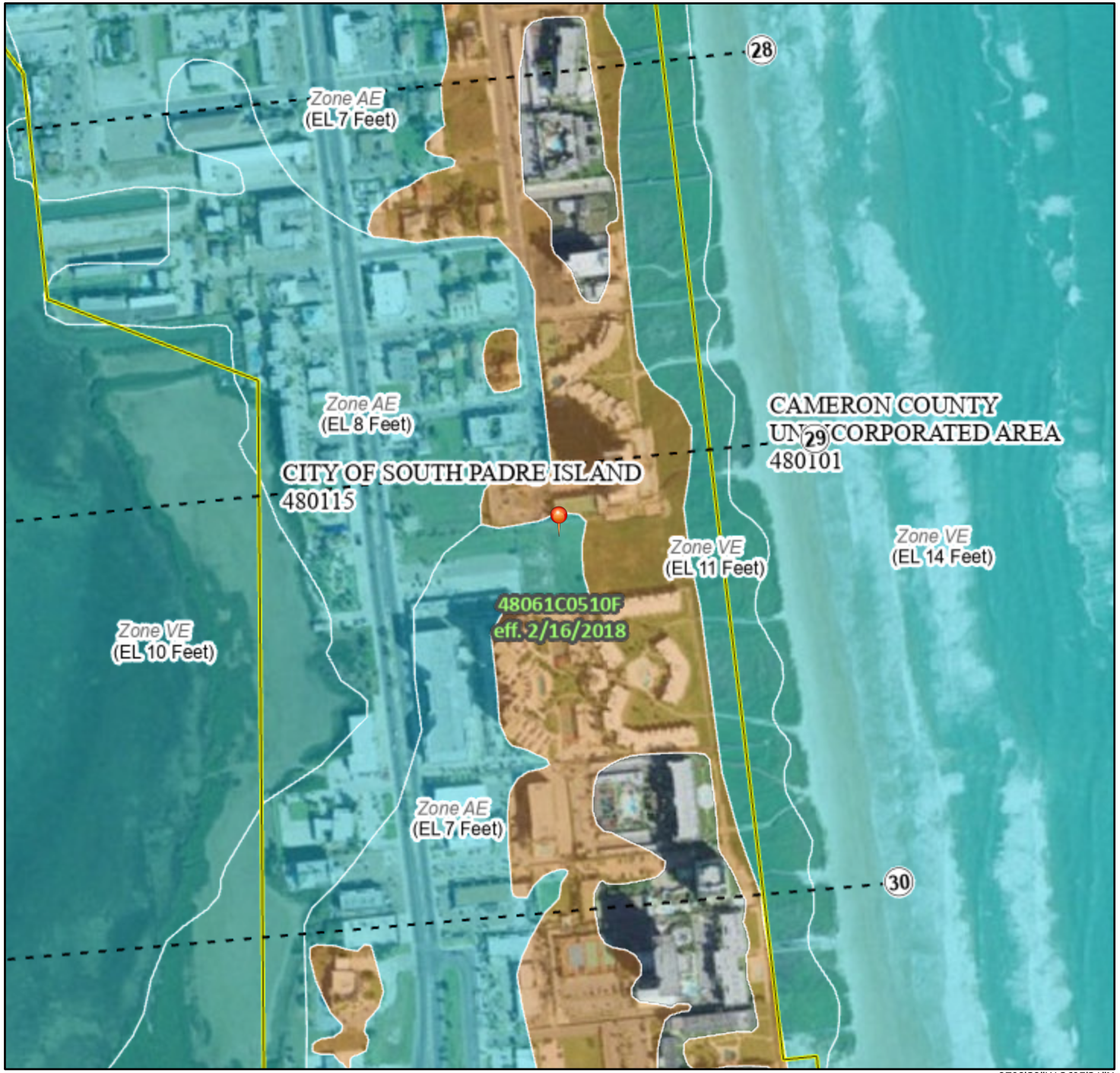
**Table 4-10: Runoff Coefficients for Urban Watersheds**

| Type of drainage area | Runoff coefficient |
|---|---|
| Business: | |
| Downtown areas | 0.70-0.95 |
| Neighborhood areas | 0.30-0.70 |
| Residential: | |
| Single-family areas | 0.30-0.50 |
| Multi-units, detached | 0.40-0.60 |
| Multi-units, attached | 0.60-0.75 |
| Suburban | 0.35-0.40 |
| Apartment dwelling areas | 0.30-0.70 |
| Industrial: | |
| Light areas | 0.30-0.80 |
| Heavy areas | 0.60-0.90 |
| Parks, cemeteries | 0.10-0.25 |
| Playgrounds | 0.30-0.40 |
| Railroad yards | 0.30-0.40 |
| Unimproved areas: | |
| Sand or sandy loam soil, 0-3% | 0.15-0.20 |
| Sand or sandy loam soil, 3-5% | 0.20-0.25 |
| Black or loessial soil, 0-3% | 0.18-0.25 |
| Black or loessial soil, 3-5% | 0.25-0.30 |
| Black or loessial soil, > 5% | 0.70-0.80 |
| Deep sand area | 0.05-0.15 |
| Steep grassed slopes | 0.70 |
| Lawns: | |
| Sandy soil, flat 2% | 0.05-0.10 |
| Sandy soil, average 2-7% | 0.10-0.15 |
| Sandy soil, steep 7% | 0.15-0.20 |
| Heavy soil, flat 2% | 0.13-0.17 |
| Heavy soil, average 2-7% | 0.18-0.22 |

# National Flood Hazard Layer FIRMette

FEMA

97°10'7"W 26°5'53"N




0 250 500 1,000 1,500 2,000 Feet

1:6,000

97°9'30"W 26°5'21"N

*Basemap Imagery Source: USGS National Map 2023*

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

**SPECIAL FLOOD HAZARD AREAS**
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

**OTHER AREAS OF FLOOD HAZARD**
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

**OTHER AREAS**
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

**GENERAL STRUCTURES**
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

**OTHER FEATURES**
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

**MAP PANELS**
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/1/2026 at 9:41 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Hydrologic Soil Group—Cameron County, Texas
(MARENA SOUTH PADRE ISLAND)



## MAP LEGEND

**Area of Interest (AOI)**
- Area of Interest (AOI)

**Soils**

**Soil Rating Polygons**
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

**Soil Rating Lines**
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

**Soil Rating Points**
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

**Water Features**
- Streams and Canals

**Transportation**
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

**Background**
- Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Cameron County, Texas
Survey Area Data: Version 22, Sep 4, 2025

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 21, 2021—Mar 2, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

# Hydrologic Soil Group

| Map unit symbol | Map unit name | Rating | Acres in AOI | Percent of AOI |
|---|---|---|---|---|
| CU | Daggerhill fine sand, 2 to 12 percent slopes, rarely flooded | A | 0.5 | 25.3% |
| GA | Galveston fine sand, hummocky, occasionally flooded | A | 1.5 | 74.7% |
| **Totals for Area of Interest** | | | **2.0** | **100.0%** |

## Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

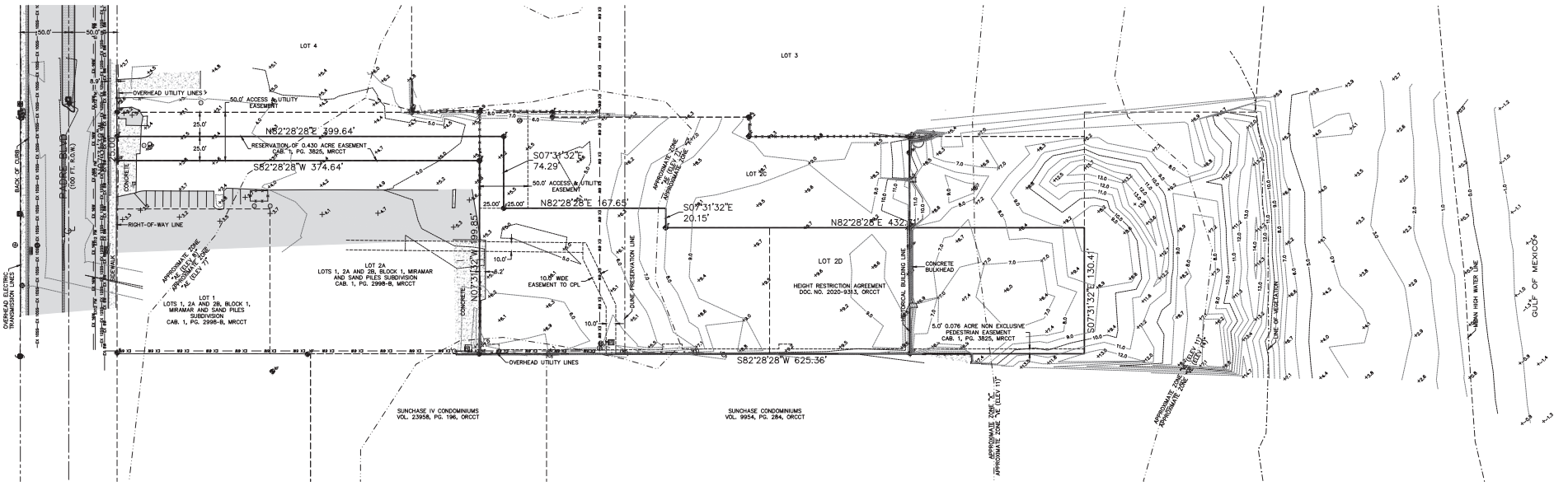
If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

## Rating Options

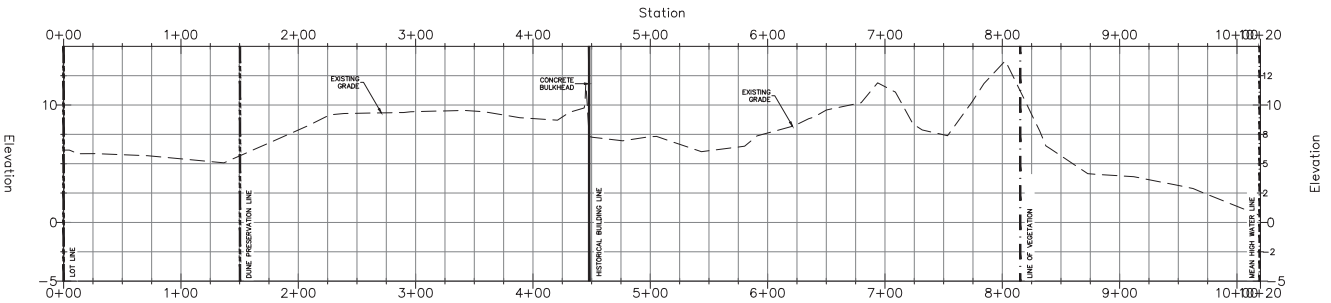
*Aggregation Method:* Dominant Condition

*Component Percent Cutoff: None Specified*

*Tie-break Rule:* Higher




## DUNE X-SECTION PROFILE




NOTES

1. BASIS OF BEARINGS AS PER THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, NAD 83.
2. ADDRESS: PADRE BLVD SOUTH PADRE ISLAND, TEXAS 78597
3. COMMITMENT FOR TITLE INSURANCE WITH FILE NO. 202098341, ISSUED FEBRUARY 09, 2026 WAS USED TO PREPARE THIS SURVEY.

FLOOD ZONE

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY LIES IN ZONE "X", ZONE "AE (ELEV 7 & 8)" AND ZONE "VE (ELEV 11)", AS PER THE NATIONAL FLOOD INSURANCE PROGRAM OF COMMUNITY NO. 480115, PANEL NO. 0510, SUFFIX "F", EFFECTIVE FEBRUARY 16, 2018.

SURVEYOR CERTIFICATE

THE UNDERSIGNED HEREBY CERTIFIES THAT THIS SURVEY AS DESCRIBED HEREIN WAS MONUMENTED ON THE GROUND ON 02/04/2026, THAT THE ONLY VISIBLE IMPROVEMENTS ARE AS SHOWN; THAT THERE ARE NO VISIBLE ENCROACHMENTS, VISIBLE OVERLAPPINGS, APPARENT CONFLICTS, OR VISIBLE EASEMENTS EXCEPT AS SHOWN HEREIN, THIS SURVEY CONFORMS TO THE MINIMUM STANDARDS OF PRACTICE PROMULGATED BY THE TEXAS BOARD OF PROFESSIONAL LAND SURVEYING.

CODY MICHAEL MOORE, R.P.L.S.
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 6370

04/30/2026
DATE

STATE OF TEXAS REGISTERED CODY MICHAEL MOORE 6370 PROFESSIONAL LAND SURVEYOR

Scale: 1" = 50'

LEGEND

| | | | |
|---|---|---|---|
| ● | IRON ROD FOUND | ▣ | ELECTRIC JUNCTION BOX |
| ⊙ | IRON ROD SET WITH CAP STAMPED "MOORE-6370" | ▤ | TRANSFORMER |
| ⊙ | | ☎ | TELEPHONE PEDESTAL |
| ● | NAIL FOUND | ⊙ | CLEANOUT |
| ✕ | "X" MARK FOUND | ⊕ | WATER VALVE |
| ✱ | LIGHT POST | ▣ | WATER METER |
| ◉ | TRANSMISSION POLE | ◉ | MANHOLE |
| ○ | POWER POLE | ○ | POST |
| ▩ | GRATE INLET | ⚠ | SIGN |

TOPOGRAPHIC SURVEY OF:

LOT NUMBER TWO D (2D), BLOCK NUMBER ONE (1), MIRAMAR SUBDIVISION AND SAND PILES SUBDIVISION, IN THE CITY OF SOUTH PADRE ISLAND, CAMERON COUNTY, TEXAS, ACCORDING TO MAP RECORDED IN DOCUMENT NO. 1 3825, MAP RECORDS OF CAMERON COUNTY, TEXAS.

FOR: LAS PERLAS GP, LLC
DATE: 29 APRIL 2026 JOB NO: 672001

Moore Land Surveying, LLC
14216 Palo Drive, La Feria, TX 78559
(956)245-0988 TBPLS Firm No. 10194186

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ENVIRONMENTAL AND GIS CONSULTING

Marena Project Description

Date: May 7, 2026

Marena is a proposed beachfront residential condominium development located in South Padre Island, on the site formerly occupied by the Sandy Retreat complex. The property is located between the Isola Bella condominiums to the north and Sunchase to the south, Gulf of Mexico to the east with direct access from Padre Boulevard to the west.

The project consists of a 13-story residential tower (ground floor plus 12 residential levels) containing 25 condominium residences, each with approximately 3,100 SQFT of living area, for a total construction area of approximately 112,355 SQFT, together with associated parking, utility infrastructure, landscaping, pool areas, amenity spaces, and related site improvements. A six foot high concrete retaining wall will be used for soil retention and privacy fence starting at the Historical Build Line on the north property line and extending westward. The south property line has an existing common CMU retaining wall with neighboring Sunchase development. See drawing DPA-01 through DPA-05 in the drawing files.

The total site area is approximately 96,658 square feet of total area, including an estimated 62,025 square feet of developable area, with approximately 130 feet of beachfront frontage. See Boundary and Topographical drawings in the Maps and Drawing package.

The building is planned to be constructed using reinforced concrete and/or reinforced masonry systems, hurricane-rated glazing systems, and materials suitable for the coastal environment and applicable code requirements. The project is being designed in compliance with applicable local, state, coastal, floodplain, windstorm, and life safety regulation.

The development is planned with direct beach access and incorporates common areas and recreational amenities intended to support residential use. Beach access plan to be determined upon coordination with the north adjoining development project.

PO Box 1072 Claremore OK 74018 • 361.549.6699 • philiph@ergis.us

**MEMORANDUM: PRELIMINARY DETERMINATION**

TO: Mei Ling Valdes, General Land Office
FROM: Emily Kornblum, Coastal Coordinator
DATE: 13 May 2026
RE: Preliminary determination on proposed construction at Lot 2D in the Miramar & Sand Piles Subdivision

The enclosed application materials present plans for construction of a 13 story residential condominium, parking structure, and pool area located at Lot 2D in the Miramar & Sand Piles Subdivision. This site was formerly the Sandy Retreat, but was destroyed on site, leaving the lot devoid of critical dunes, native vegetation, and beach-quality sand. All construction will take place landward of the Historic Building Line (HBL), where there are no dunes or dune vegetation present.

They are collaborating with their neighbor to the north, Lot 2C, on potentially sharing a walkover beach access point. These plans will be brought up in a later separate permit. This plan is consistent with the City's Beach Use and Access Plan.

With consideration given to conformance with TAC regulations our preliminary determination is that:

1. The proposed activity will not reduce the size of the public beach. [TAC 15.5 (b)(1)]

2. The proposed activity does not appear to involve construction upon the public beach. [TAC 15.5 (c)(1)]

3. The proposed activity will not encroach upon the public beach. [TAC 15.5 (c)(1)]

With consideration given to the City's *Dune Protection, Beach Renourishment, and Beach Access Plan* [B&D Ord. Section 22-10]:

1. The proposed activity will not result in the potential for increased flood damage to the subject property or adjacent properties.

2. The proposed activity will not result in run-off or drainage patterns that aggravate erosion on and off the site.

3. The proposed activity will cause no changes to the existing dune hydrology east of the HBL.

4. The proposed activity will result in no adverse effects on dune complexes of vegetation.

5. The proposed activity will not significantly increase the potential for washover or blowouts.

If you have any further questions, please feel free to contact me via email at ekornblum@myspi.org or by phone at 956-761-8111.

Sincerely,

Emily Kornblum
Coastal Coordinator

*City of South Padre Island Shoreline Department*
*321 Padre Boulevard, South Padre Island, TX 78597*
*956-761-8111*

**CITY OF SOUTH PADRE ISLAND**
**SHORELINE TASK FORCE**
**AGENDA REQUEST FORM**

**MEETING DATE:** June 23, 2026

**NAME & TITLE:** Kristina Boburka, Shoreline Director

**DEPARTMENT:** Shoreline Department

**ITEM**
Discussion and action to recommend to City Council the approval of the City's Dune Protection, Beach Renourishment, and Beach Acces Plan, which includes Chapter 22 of the City's Code of Ordinances and amendments to the City's Dune Protection Line. (Boburka)

**ITEM BACKGROUND**
In the Texas Natural Resources Code (Â§61.015), it states that each local government with ordinance authority over construction adjacent to public beaches shall adopt a plan for preserving and enhancing access to and use of the public beaches within its jurisdiction. The plans must be consistent with the policies and rules in Section 61.011 of the code and Chapter 63 of the code. Any changes and amendments to the plan must be certified as consistent with state law by the Texas General Land Office (GLO) and must go through a public comment period before becoming effective.

The plan must be formally approved by the governing body of the local jurisdiction prior to submission to the GLO for certification. Once approved, the plan is to be submitted to the GLO for certification as to compliance with such policies and rules. The GLO shall act on the proposed plan wihtin 90 days of submission by either approving the plan or denying certification. All amendments are posted in the Texas Register for a 30-day public comment period. Once that is completed, the GLO is required to respond in writing to any public comments recevied. All responses, and any changes made because of them, are then posted in the Texas Register for another 21 days. After the last day, the amended plan becomes effective and implementation can then start.

The GLO's certification of local government plans shall be by adoption into the rules authorized under the Texas Natural Resources Code, Â§61.011. Local government plans, once approved, are incorporated into Chapter 15 of the Texas Administrative Code (TAC) and become state law. Any activities or construction in violation of the plan is a violation of state law under the TAC.

The City has been working closely with the GLO over the last few years on informal reviews of the City's Plan and its appendices, which includes Chapter 22 of the City's Code of Ordinances (the Plan's implementing provisions). Between 2015 and 2018, the City had approved a few ordinance changes to Chapter 22 that had never been formally submitted to the GLO for the certification process. The City and GLO, after multiple in-depth searches and reviews, have determined those changes and have incorporated them into the last approved Plan and Chapter 22 documents.

Changes to the Plan primarily include updated language (Town to City; Board of Alderman to City Council), to incorporate language that has since been adding into the TAC, such as walkover regulations, and to remove the previosuly approved Beach User Fee Plan. A summary document of

changes is attached along with the redline version of the Plan and Chapter 22.

Additionally attached are the appendices which include:
Appendix 1: Chapter 22 of the City's Code of Ordinances (the Plan's implementing provisions)
Appendix 2: Maps of the Dune Protection Line, Historica Building Line, and Building Setback Line.
Appendix 3: Erosion Response Plan
Appendix 4: Beach Access Guide
Appendix 5: Beach Access Parking Guide

**BUDGET/FINANCIAL SUMMARY**
None

**COMPREHENSIVE PLAN GOAL**
Chapter 9: Shoreline

**LEGAL REVIEW**
Sent to Legal:
Approved by Legal:

**RECOMMENDATIONS/COMMENTS:**

20 August 2026

Mei Ling Valdes
Beach Access & Dune Protection Program
Coastal Resources Division
Texas General Land Office

RE: Request to Amend the City of South Padre Island's *Dune Protection, Beach Renourishment, and Beach Access Plan*

Dear Ms. Valdes,

The City of South Padre Island formally requests an amendment to its *Dune Protection, Beach Renourishment, and Beach Access Plan* currently on file with the Texas General Land Office. Enclosed is the amended *Plan*, which the City Council of South Padre Island officially approved and adopted following the second ordinance reading on August 19, 2026.

This amendment updates the language within the *Plan* and Chapter 22 of the City's Code of Ordinances to reflect current terminology, such as changing "Town" to "City" and "Board of Aldermen" to "City Council." Furthermore, the update incorporates revised walkover regulations from the Texas Administrative Code and provides current data for beach access counts, amenities, and available parking.

To strengthen long-standing policies within the *Plan* (pages 11–12 of the tracked changes version), the City recommends that new access paths and walkovers within 100 feet of a public access point may not be considered. This encourages connecting all new private paths and walkovers to existing public or private accesses and reinforces studies that have been conducted on our beach and dune system, which state that minimization of cuts through the dunes will help to increase the overall resiliency of South Padre Island.

Through those studies, it has been found that the most resilient configuration for dunes is to maintain a height of equal to or greater than 12.5 feet above sea level. The City is requesting to revise the language related to dune ridge construction projects that allow applicants to alter existing dune shape and size if they are greater than 15 feet in elevation. Currently, dunes can be altered if they are greater than 15 feet above sea level and can be reduced to no lower than 10 feet in elevation. Changes would not allow dunes to be altered to no lower than the recommended 12.5 feet above sea level.

Furthermore, the City proposes to adjust the Dune Protection Line to incorporate previously annexed areas and to establish corresponding Building Setback Lines for those areas. The *Plan* also proposes to establish a Dune Protection Line and Building Setback Line for future annexed areas and any areas within the City limits that do not have an established Dune Protection Line or Building Setback Line.

It is also the City's intent to rescind the Beach User Fee Plan approved in 2015; notably, there is no proposal to implement a Beach User Fee at this time. The City has also revised its Beach Access Guide and developed a comprehensive Beach Access Parking Guide to document current infrastructure and public accessibility.

The *Plan* is supported by the following Appendices:

1. Chapter 22 of the City's Code of Ordinances (implementing provisions)
2. Maps of the City's Dune Protection Line, Historic Building Line, and Building Setback Line
3. Erosion Response Plan
4. Beach Access Guide
5. Beach Access Parking Guide

Should you require further clarification or have any questions regarding the contents of this submission, please feel free to contact me.

Sincerely,

Kristina Boburka
Shoreline Director, City of South Padre Island

# *City of South Padre Island*

## *Dune Protection, Beach Renourishment, and Beach Access Plan*

## I. HISTORY

**1959** The 2nd called session of the 56th Texas Legislature passed the **Texas Open Beaches Act,** which guaranteed the public's right to use the beaches.

**1973** The 63rd Texas Legislature passed and enacted the **Dune Protection Act,** which allowed the Commissioner's Court of any county bordering the Gulf of Mexico and North of the Mansfield Ship Channel that has a barrier island or peninsula to establish a dune protection line on the Gulf Beach (only Nueces and Brazoria counties established Dune Protection Lines) and the **Coastal Public Lands Management Act of 1973,** which set the stage for how, by whom, and for whom coastal public lands will be managed.

**July 25, 1979** The Town of South Padre Island (Town) Board of Aldermen passed Resolution No. 91, which set forth the Town's policy in regards to the enforcement by the Office of the Attorney General, under the direction of Mark White, of the Open Beaches Act, the Dune Protection Act, and other state and federal agencies' control of the Laguna Madre.

**September 3, 1981** Letter from John W. Fainter, Jr., First Assistant Attorney General, representing the State of Texas written to then-Mayor Glen McGehee, establishing a building line, commonly referred to as the Historic Building Line, for the Town of South Padre Island beachfront construction that would provide a minimum of two hundred feet of open beach above the mean low tide line according to then-available data. The letter stated that the Attorney General could review the line and change it to ensure the protection of the State's open beaches. The line was located on a map (drawn by Chas R. Haile Associates, Inc., Consulting Engineers, Houston, Texas City, Corpus Christi, Nederland, and is dated March 1981) provided by the Texas Attorney General and is on file with the Shoreline Department of the City of South Padre Island.

**1989** At the request of the 71st Texas Legislature, the General Land Office (GLO) began coordinating the development of a comprehensive coastal management plan.

**February 1991** The GLO, under the leadership of Garry Mauro, submitted their Texas Coastal Management Plan to the 72nd Texas Legislature, recommending that the Dune Protection Act be amended.

**June 7, 1991** Sections 61 & 63 of the Texas Natural Resources Code (i.e., the Open Beaches Act and the Dune Protection Act) were amended, requiring local governments along the entire Texas Coast to submit to more rigorous beach regulations as well as to develop and implement a Dune Protection Line and Beach and Dune Management Plan.

**September 9, 1991** The Cameron County Commissioner's Court delegated to the Town the authority to establish and administer the Dune Protection Line and implement a Dune Protection and Beach Access Plan within the Town corporate, municipal limits.

**September 18, 1991** The Town of South Padre Island Board of Aldermen passed a Resolution establishing the Town's Beach and Dune Task Force, whose charge is to carry forth the State's Coastal Management Plan.

**November 11, 1991** First meeting of the Town of South Padre Island Beach and Dune Task Force was held.

**September 21, 1992** The first draft Dune Protection Ordinance was recommended for approval by the Beach and Dune Task Force of the Town of South Padre Island.

**October 13, 1992** The Town of South Padre Island Board of Aldermen approved, on second reading, the first draft of the Dune Protection Ordinance 161 – ***Dune Protection and Beach Access Plan*** (i.e., Chapter 22 of the Town's Code of Ordinances) and forwarded it to the GLO for review and approval.

**August 9, 1993** The Town of South Padre Island Board of Aldermen approved, on second reading, the amended Dune Protection Ordinance 161A – ***Dune Protection and Beach Access Plan*** (i.e., Chapter 22) and forwarded it to the GLO for review and approval.

**April 11, 1994** Ken Cross & Susan Theisen of the Environmental Protection Division of the Office of the Attorney General wrote a letter to then-City Manager Jim Chisholm detailing the Town's Public Beach Access plans from an April 7, 1994 workshop.

**May 18, 1994** The Town of South Padre Island Board of Aldermen approved, on second reading, the further amended Dune Protection Ordinance 161B – ***Dune Protection and Beach Access Plan*** (i.e., Chapter 22) and forwarded it, along with the Board-approved and revised, *Comprehensive Beach Management Plan,* to the GLO for review and approval.

**October 5, 1994** The Town of South Padre Island Board of Aldermen approved, on second reading, the further amended Dune Protection Ordinance 161C – ***Dune Protection and Beach Access Plan*** (i.e., Chapter 22) and forwarded it, along with the Board-approved and revised, *Comprehensive Beach Management Plan,* to the GLO for review and approval.

**January 5, 1995** The Town of South Padre Island Beach & Dune Task Force reviewed and recommended approval of the first *Beach and Dune Permit Application Guidelines*, an informational handout for applicants.

**July 1995** The GLO approved and certified the Town's *Comprehensive Beach Management Plan*. This Plan allows for the following special provisions within the eroding section of the Town's beach, Padre Beach Section VIII and north: 1) Beach renourishment; 2) the construction of retaining walls if the applicant submits some type of financial guarantee to secure the removal of the wall; 3) mitigation of critical dunes on a 1:1 basis; 4) swimming pools will be allowed, but will not be considered "impervious"; and, 5) the Town will submit annual reports monitoring the shoreline as well as quarterly progress reports on beach renourishment efforts.

**October 20, 1999** The Town met with the GLO staff, under the direction of newly elected Commissioner David Dewhurst, to discuss Town beach and dune concerns. This meeting prompted the request for comments to revise GLO Beach/Dune Rules as well as Town Beach/Dune Regulations.

**November 22, 1999** The Task Force recommended changes to the Town Board of Aldermen concerning the Town's ***Dune Protection and Beach Renourishment and Beach Access Plan.***

**December 15, 1999** The Town responded to the GLO's request for comments on suggested amendments to the GLO Beach/Dune Rules and gave preliminary approval to the proposed changes in Ordinance 99-

20, amending Chapter 22, the Town's ***Dune Protection, Beach Renourishment, and Beach Access Plan (Plan).***

**August 14, 2000** The Town was informed that the GLO understood the December letter and enclosures to be in response to requests for comments regarding GLO Beach/Dune Rules and not a formal request to update the ***Town of South Padre Island Dune Protection, Beach Renourishment, and Beach Access Plan.***

**February 7, 2001** The Board of Aldermen for the Town of South Padre Island reviewed and approved another draft of the ***Town of South Padre Island Dune Protection, Beach Renourishment, and Beach Access Plan*** on which the Beach and Dune Task Force had been working on since August 2000.

**February 8, 2001** The Town sent a copy of the draft Plan to the GLO and the Office of the Attorney General requesting legal and technical advice on the proposed Plan as allowed under §15.3(o) of the Beach/Dune Rules.

**July 11, 2001** The Town received a response letter from the GLO regarding the proposed Plan, stating their specific concerns and suggested a meeting between Town representatives and State GLO staff.

**August 15, 2001** The date of the Town's response to the July 11, 2001 GLO letter. The Town requested a meeting between Town representatives and GLO staff.

**November 8, 2001** A joint meeting between representatives of the Town and the GLO took place on the Island to view areas of concern along the beach as well as to discuss significant points within the proposed Plan.

**January 28, 2002** The Beach and Dune Task Force reviewed and recommended approval of the revised draft of the ***Town of South Padre Island Dune Protection, Beach Renourishment, and Beach Access Plan.***

**February 6, 2002** The Board of Aldermen approved, on first reading, the revised draft Plan and ordinance. Staff forwarded a copy to the state agencies for review and comment.

**May 16, 2002** The date of response from the GLO office that expressed concerns with the Town's proposed Plan that warrant further discussion.

**June 26, 2002** The date of response from the Attorney General's Office expressed concerns with the Town's proposed Plan that warrant further discussion.

**September 18, 2002** Receipt by the GLO of the revised ***Town of South Padre Island Dune Protection, Beach Renourishment, and Beach Access Plan*** for technical review.

**January 3, 2003** Jerry Patterson was sworn in as Land Commissioner of the Texas General Land Office.

**February 20 & 21, 2003** The Town met with representatives of the General Land Office to discuss the February 14, 2003, written comments from the GLO and other additional changes to the Plan to facilitate State certification of the Town's Plan.

**April 28, 2003** The Beach and Dune Task Force recommended approval of the most recent draft with minor modifications.

**May 7, 2003** The Board of Aldermen reviewed and approved the revised ***Town of South Padre Island Dune Protection, Beach Renourishment, and Beach Access Plan.***

**January 24, 2005** The Beach and Dune Task Force recommended the request to amend the ***Town of South Padre Island Dune Protection, Beach Renourishment, and Beach Access Plan*** in order to allow the construction of a proposed retaining wall and townhouse development seaward of the Historic Building Line for Lots 1, 2, 3, & 4 of Block 156.

**February 2, 2005** The Board of Aldermen voted in support of the Plan amendment to build seaward of the Historic Building Line for Lots 1, 2, 3, & 4 of Block 156 as shown in a survey exhibit included within the Plan.

**April 5, 2006** The Board of Aldermen of the Town of South Padre Island approved, on second reading, Ordinance 06-02, amending the Town's implementing provisions for the *Dune Protection, Beach Renourishment, and Beach Access Plan* to address the Dune Protection Line within The Shores Subdivision. An amendment was never sent to the GLO for approval and adoption.

**February 2, 2011** The City Council of the City of South Padre Island (City) approved, on second reading, Ordinance 11-01, amending the City's implementing provisions for the *Dune Protection, Beach Renourishment, and Beach Access Plan* to establish the Shoreline Task Force for the City and to transfer all the functions of the Bay Area and Beach and Dune Task Forces (both abolished) to the Shoreline Task Force. An amendment was never sent to the GLO for approval and adoption.

**August 1, 2012** The City Council approved, on second reading, Ordinance 12-09, amending the City's *Dune Protection, Beach Renourishment, and Beach Access Plan* to adopt the City's Erosion Response Plan (ERP) (Appendix 3). This was forwarded to the GLO for review and approval.

**March 28, 2013** The GLO notified the City that the amended *Dune Protection, Beach Renourishment, and Beach Access Plan* which included the City's Erosion Response Plan, was consistent with state law. The Plan and ERP became effective on April 17, 2013.

**May 20, 2015** The City Council of the City of South Padre Island approved, on second reading, Ordinance 15-06, amending the City's *Dune Protection, Beach Renourishment, and Beach Access Plan* to adopt a Beach User Fee. This was forwarded to the GLO for review and approval.

**January 14, 2016** The GLO notified the City that the amended *Dune Protection, Beach Renourishment, and Beach Access Plan* which included the City's Beach User Fee Plan, was consistent with state law. The Plan became effective on February 2, 2016. Under this amendment approval, the GLO granted a variance to the City from 31 Texas Administrative Code (TAC) §15.7(h)(1)(A), which requires parking adjacent to the beach to accommodate one car per 15 linear feet of beach.

**May 3, 2017** The City of South Padre Island approved, on second reading, Ordinance 17-02, amending the City's implementing provisions for the *Dune Protection, Beach Renourishment, and Beach Access Plan* to establish a Dune Protection Line at Lot 1, Block 1, Padre Island Inn Subdivision. An amendment was never sent to the GLO for approval and adoption.

**May 16, 2018** The City Council of the City of South Padre Island approved, on second reading, Ordinance 18-14, amending the City's implementing provisions for the *Dune Protection, Beach Renourishment, and Beach Access Plan* to revise the Shoreline Task Force's chairperson's voting authority and to create the position of vice-chairperson. An amendment was never sent to the GLO for approval and adoption.

**December 5, 2018** The City Council of the City of South Padre Island approved, on second reading, Ordinance 18-25, amending the City's implementing provisions for the *Dune Protection, Beach Renourishment, and Beach Access Plan* to establish the Dune Protection Line and Building Setback Line to the property unsubdivided, 6.5 acres leasehold, addressed 7010 Padre Boulevard. An amendment was never sent to the GLO for approval and adoption.

**July 14, 2020** The Cameron County Commissioners' Court ratified the 1991 delegation of authority to set a dune protection line in corporate, municipal limits of South Padre Island to the City of South Padre Island and to any expansion of their jurisdiction without further authorization by the Cameron County Commissioners' Court.

**September 1, 2021** The City Council of the City of South Padre Island approved, on second reading, Ordinance 21-11, amending the City's *Dune Protection, Beach Renourishment, and Beach Access Plan* to further define the City's Dune Protection Line. This ordinance was submitted to the GLO for review and comment on September 2, 2021.

**DATE** The City Council of the City of South Padre Island approved, on second reading, Ordinance 26-XX, amending the City's *Dune Protection, Beach Renourishment, and Beach Access Plan* and the Plan's implementing provisions, Chapter 22 of the City's Code of Ordinances (Appendix 1). This amendment was submitted to the GLO on XXXXX.

## II. RENOURISHMENT ACTIVITIES

It was not until the late 1990's that the Town began significant beach renourishment efforts onshore, but have been placing material on nearshore placement areas since 1988:

| Year | Material/Source | Placement Location | Cubic Yards | Total Cost of Project | Cost to City |
|---|---|---|---|---|---|
| 1988 | Dredge material/ Brownsville Ship Channel | Nearshore Placement Area 1A/1B | 220,000 | Unknown | N/A |
| 1991 | Dredge material/ Brownsville Ship Channel | Nearshore Placement Area 1A/1B | 580,000 | Unknown | N/A |
| 1995 | Dredge material/ Brownsville Ship Channel | Nearshore Placement Area 1A/1B | 750,000 | Unknown | N/A |
| 1997 | Dredge material/ Brownsville Ship Channel | Nearshore Placement Area 1A/1B | 396,000 | Unknown | N/A |
| Feb. 1997 | Dredge material/ Brownsville Ship Channel | Onshore | 489,211 | $1,938,700 | $661,259 |
| 1999 | Dredge material/ Brownsville Ship Channel | Nearshore Placement Area 1A/1B | 195,000 | Unknown | N/A |
| Feb. 1999 | Dredge material/ Brownsville Ship Channel | Onshore | 494,766 | $3,136,170 | $55,388 |
| May 1999 | Sand off Highway 100 north of Town | Onshore | 41,628* | TxDOT donated men | $22,565 |

| | | | | & equip. to clear road | |
|---|---|---|---|---|---|
| Dec. 2000 | Dredge material/ Brownsville Ship Channel | Onshore | 366,886 | $2,277,893 | $177,314 |
| Feb. 2001 | Sand off Highway 100 north of Town | Onshore | 27,956* | TxDOT / GLO CEPRA | $3,200 |
| 2002 | Dredge material/ Brownsville Ship Channel | Nearshore Placement Area 1A/1B | 329,000 | Unknown | N/A |
| Jan. 2002 | Sand off Highway 100 north of Town | Onshore | 23,895* | $109,917 ($4.60 / cu yd) | $3,125 |
| Nov. 2002 – Jan. 2003 | Sand off Highway 100 north of Town | Onshore | 81,252* | TxDOT / GLO CEPRA | $9,411 |
| 2003 | Dredge material/ Brownsville Ship Channel | Nearshore Placement Area 1A/1B | 356,000 | Unknown | N/A |
| Nov. 2002 | Dredge material/ Brownsville Ship Channel | Onshore | 306,402 (331,037 = in-place yardage) | $1,097,900 | $183,090 |
| Dec. 2004 – Jan. 2005 | Dredge material/ Brownsville Ship Channel | Onshore | 261,600 (??? = in-place yardage) | $1,495,000 | $84,525 |
| 2006 | Dredge material/ Brownsville Ship Channel | Nearshore Placement Area 1A/1B | 340,000 | Unknown | N/A |
| 2007 | Dredge material/ Brownsville Ship Channel | Nearshore Placement Area 1A/1B | 443,000 | Unknown | N/A |
| 2008 | Dredge material/ Brownsville Ship Channel | Nearshore Placement Area 1A/1B | 500,000 | Unknown | N/A |
| 2009 | Dredge material/ Brownsville Ship Channel | Onshore | 407,000 | Unknown | Unknown |
| 2010 | Dredge material/ Brownsville Ship Channel | Onshore | 220,000 | Unknown | Unknown |
| 2011 | Dredge material/ Brownsville Ship Channel | Onshore | 567,000 | Unknown | Unknown |
| 2012 | Dredge material/ Brownsville Ship Channel | Onshore | 350,000 | Unknown | Unknown |
| 2014 | Dredge material/ Brownsville Ship Channel | Nearshore Placement Area 1A/1B | 305,000 | Unknown | N/A |
| 2015 | Dredge material/ Brownsville Ship Channel | Onshore | 324,000 | Unknown | Unknown |
| 2016 | Dredge material/ Brownsville Ship Channel | Onshore | 361,027 | Unknown | Unknown |
| 2018 | Dredge material/ Brownsville Ship Channel | Nearshore Placement Area 2A/2B | 408,000 | Unknown | N/A |

| | | | | | |
|---|---|---|---|---|---|
| 2019 | Dredge material/ Brownsville Ship Channel | Nearshore Placement Area 2A/2B | 183,000 | $3,231,920 | N/A |
| 2020 | Dredge material/ Brownsville Ship Channel | Nearshore Placement Area 2A/2B | 350,000 | Continued from 2019 event | N/A |
| 2021 | Dredge material/ Brownsville Ship Channel | Onshore- PAs 1 & 5 | PA 5: 269,250 PA 1: 85,998 | $1,912,500 | $382,500 |
| 2023 | Dredge material/ Brownsville Ship Channel | Onshore- PAs 1 & 4 | PA 4: 238,699 PA 1: 62,615 | $2,115,478.85 | $396,652.28 |
| 2024 | Dredge material/ Brownsville Ship Channel | Onshore- PA 5 | 227,194 | $2,237,250 | $559,312.50 |

*estimated yardages based upon Town count of 12 cubic yard trucks

The first renourishment effort in 1997 deposited sand on the northern portions of the Town beach 3.5 to 4.5 miles north of the jetties between the Padre South condominium complex north to the Suntide II condominium complex. The renourishment event in February of 1999 took place on the southern portion of the Town beach, approximately 1.5 to 2.25 miles north of the jetties between the Radisson Resort north to Padre Grand. The renourishment project in May 1999 occurred because the Texas Department of Transportation (TxDOT) needed to clear the portion of Highway 100 north of town that had been covered by beach sand that had blown over the road to allow owners access to their property. This blown sand was loaded and deposited on the northern portion of the Town's beach from the Tiki and White Sands St. area south to the Inverness. The Town's portion of the costs involved paying for half of the dump trucks and two of the four front-end loaders.

The fourth renourishment activity, a dredging event that began in December 2000, deposited sand on the north end of the Island from the Bahia Mar south to roughly Starlight Circle beach access. The Federal Government paid the bulk of the costs for this activity (75%); the remaining 25% was split between the GLO via Coastal Erosion Planning and Response Act (CEPRA) funds (75% of the remaining 25%) and the Town (25% of the 25%). The fifth renourishment activity in February of 2001 again used sand that had blown over Highway 100 and deposited that sand in the northern portion of the Town's beach from the Tiki/White Sands St. area south to the Inverness, overlapping slightly in the area of the recent dredging. In this particular beach renourishment activity, the Town was required only to pay for a front-end loader ($3,200). TxDOT again used CEPRA funds the Town had received to pay for the cost of hauling the sand to the beach. The renourishment activity in January 2002 hoped to have been another GLO / TxDOT partnership within the CEPRA program to move approximately 40,000 cubic yards of sand. However, the GLO could not finalize the necessary paperwork in time, and TxDOT canceled the project after paying the total cost to move 23,895 cubic yards of sand, which was placed on the northern portion of the beach between the Tiki/White Sands St. area south to the Inverness. The cost to the Town (EDC) for this last project was $3,125 for the rental of one front-end loader.

In the fall of 2002, the Town began work on two renourishment activities. A cooperative partnership between the Town, Cameron County, the GLO through the CEPRA program, the Port of Brownsville, and the United States Army Corps of Engineers (USACE) facilitated the beneficial use of dredged material from the Brownsville Ship Channel during the months of November and December 2002. This project deposited 331,037 cubic yards of material between Neptune Circle beach access (Lighthouse Condominiums) north to Gay Dawn Circle beach access. Meanwhile, during November 2002, December 2002, and January 2003,

the Town worked closely with TxDOT and the General Land Office through a second CEPRA program project to move sand on Highway 100 onto the north end of the Town's beach, between the Inverness and the northern Town limits (La Quinta). These projects, combined, resulted in a noticeably wider beach on the north end of town.

Since 2003, the City has continued its work with the GLO and the USACE on placing material either onshore as a direct beach renourishment method, or offshore on two nearshore berms. The City partners with the GLO through the CEPRA program to cost-share direct beach renourishment. When the placement of material onshore is not feasible, the material before 2018 was placed on nearshore berm Placement Area (PA) 1A/1B. In 2018, when an emergency dredging event needed to take place, the material was placed on PA 2A/2B, which is about a half-mile offshore in the northern portion of the City limits. The regular maintenance event that took place at the end of 2019 and in the spring of 2020 was unable to be placed onshore but rather placed on PA 2A/2B as well. This was one event that was separated into two parts.

In 2021, beneficial use material was placed in Placement Area 1 (85,998 cubic yards) and Placement Area 5 (269,250 cubic yards) between May 2021 to July 2021. In 2023, the material was again split between Placement Area 1 (62,615 cubic yards) and Placement Area 4 (238,699 cubic yards) from June to July 2023. The most recent event took place in October through November 2024 where approximately 227,194 cubic yards was placed in Placement Area 5. The amount was split between the City and County's jurisdiction in this placement area. As of the amendment to this Plan, the total cost for this project stated in the table above is the estimated costs.

## III. HISTORICAL AND EXISTING CONDITIONS

The most critical coastal management issues that the City has faced involve erosion, beach nourishment, dune protection, and beach access. Erosion has long been an identified problem within the City's four (4) miles of beachfront. In the historic sense, accretion has occurred to the south since the construction of the jetties, which have helped trap sand and keep it within the Padre Island sand system, while erosion has taken place at a higher rate beginning approximately 2.75 miles from the jetties. Short-term erosion rates in 2000 (Dec. 1991 to March 2000), however, show a different trend: the very southern portion of the Town's beach was eroding, the middle portion of the Island had seen sporadic accretion, and the northern-most portion of the Town's beach, although experiencing long-term erosion, the trend had reversed, at least since 1993, and accreted. This slowing of shoreline rates of change in 2000 (i.e. erosion) and accretion of the beach is assuredly due to the renourishment efforts that have taken place since 1997.

The general consensus was that the only realistic long-term solution, other than building prohibition and retreat, is beach nourishment coupled with the building of dunes along the beachfront. The results of the Town's renourishment efforts up to 2000, substantiate this consensus and show the positive results that beach renourishment efforts can provide. However, in planning these events for the future, the City must consider the tourist season and the type of visitors likely to be on the Island. The most desirable time of year for beach renourishment activities is in the fall months of September through December, thereby dodging the spring and summer visitors, as well as the Winter Texan visitors who generally enjoy the Island during the months of January and February.

The most practical source of beach nourishment material is from the maintenance dredging of the Brownsville Ship Channel which occurs about every eighteen months to two years:

- The distances from the dredge locations to the beach are within realistic pumping distances.
- The amount of dredge material within reasonable pumping distance appears to be more than required for nourishment – an average of 420,000 +/- cubic yards every 2 years or so.
- Maintenance dredging must occur and beach nourishment constitutes a positive use of this material, as compared to other alternatives.
- The dredge material is uncontaminated sand.
- The Town adopted Resolution No. 442 on December 1, 1993, supporting beach nourishment and requesting all Federal, State, and local entities to support, fund, and assist in expediting the nourishment of the beaches of South Padre Island, Texas.

Detailed surveys of the beach within the City's limits began in December 1993, and surveys of the beach have continued on an annual basis each year since, as required by the agreement with the GLO. The first 1993 surveys revealed a number of characteristics.

- The beach topography had been extensively shaped by the regular scraping of debris to form "dunes." A substantial amount of sand was contained in such "dunes."
- Both topography and bathymetry differed greatly between accreting/stable areas and eroding areas.
- In December 1993, of the 4 miles of the Town's beachfront, approximately 2.8 miles (70%) had retaining walls. Of these 2.8 miles of retaining walls, 1.9 miles were located within accreting/stable areas, and 0.85 miles were located within eroding areas.

Most of the City had already been developed prior to the adoption of a Beach Management Plan in 1994. The City understands that the purpose of the General Land Office's Beach Access/Dune Protection Rules (31 TAC §15.1 – 15.17) is to protect beach access and existing dunes from destruction caused by the development process, and when those conditions are threatened, the City fully understands the need and rationale to follow these regulations.

With the above in mind, and pursuant 31 TAC §15.3(a) of the General Land Office Beach/Dune Rules, which allows local governments to adopt and implement a beach/dune program consistent with the requirements of the Open Beaches Act, Dune Protection Act, and 31 TAC §§15.1 – 15.17 of the beach/dune rules, the City of South Padre Island submits this revised *Dune Protection, Beach Renourishment, and Beach Access Plan* with attached local plan implementing provisions.

## IV. BEACH MANAGEMENT PLAN

The City's beach and dune management plan has five primary components:

### *A. Beach Access*

The City has provided twenty-eight (28) beach access points within the City limits. Twenty-five (25) of those accesses are located off Gulf Boulevard, two are located in the southern City limits from Padre Boulevard, and the last is off White Sands Street. No construction shall adversely affect or allow encroachments upon the public beach nor interfere with or otherwise impair the public's right to use and have access to and from the public beach.

On November 1, 1995, the Board of Aldermen adopted the following policy concerning private dune walkovers:

"Private dune walkovers attached to private property will be discouraged. Because a single- or two-family dwelling will not generate pedestrian traffic sufficient to warrant a dune walkover, single- and two-family dwelling will not qualify for private dune walkovers. For multiple-family uses, their proximity to a public beach access will be the primary consideration in evaluating the necessity for a private dune walkover. In all cases, properties and/or developments with direct access to a public beach access will be expected to utilize that access and a separate private dune walkover will not be allowed."

At their October 23, 2000 meeting, the Beach and Dune Task Force expanded this policy to include:

"Since the idea of building dune walkovers makes no sense unless dunes exist to walk over, the Task Force will not recommend approval of applications for dune walkovers unless or until significant dunes exist on the beach side of the property to walk over, OR until the applicant submits plans to construct dunes, with vegetation, on the property east of the Historic Building Line. Part of the dune construction plans must address the width and height of the constructed dune. The Task Force will review the dune construction plan with the applicant and give feedback and suggestions. The Task Force further encourages partnering between property owners in regards to dune construction and/or dune walkover construction and maintenance."

The City is continually working to improve under- or undeveloped accesses for the public. These improvements include parking, signage, walkovers, and amenities. Attached to this Plan is a detailed document that lists all City beach accesses (Appendix 4) and their associated amenities. Also attached is a brief parking guide (Appendix 5) that maps the locations of beach access parking.

***1. Parking Improvements.*** The City provides free public parking for beach access throughout the City limits. There are 1,450 public beach access parking spots and forty-six (46) handicap accessible spaces, for a total of 1,496 public beach access parking spaces. As required by §15.7(h)(1)(A), the City is required to have 1,629 public beach access parking spaces (one parking space for every 15 linear feet of beach). In 2016, the GLO granted the City a variance to this requirement due to historic, physical, and geographic constraints adjacent to the beach, as well as economic constraints, that make it difficult to acquire the rights to the land necessary to provide the required parking. The City continues to be committed to improve and increase the number of public beach access parking spaces available. These continued and regular efforts were detailed in documentation to the GLO on November 20, 2025, showing the City has committed to maintaining efforts to increase the number of public parking spaces. In the GLO's letter dated December 16, 2025, it stated the GLO suggested no changes to the variance. The City has been fortunate to receive Coastal Management Program (CMP) funding each year that helps improve the City's public beach accesses, increasing the number of public beach access parking spaces gradually. Currently (2026), the City received funding to design access improvements to four (4) beach accesses and expects to continue applying for funding for other access improvements. The City also has free, public transportation that has routes that run along Gulf Boulevard to provide a way for the public to access the beach by parking at offsite locations.

There are 408 parking spaces and thirty-five (35) ADA spaces available at twenty-eight (28) beach accesses. An additional 568 spaces are located at twenty-one (21) improved east side-streets. Gulf Boulevard provides 312 parking spaces and nine (9) handicap accessible spaces. The City's Tompkins Park that leads to the Sunset beach access (#24) at the end of Gulf Boulevard has twenty-one (21)

spots and two (2) ADA accessible spots. There are five (5) spaces at the City's Turtle Park which is located 0.18 miles from either Beach Access #21 or Beach Access #22 and thirty-six (36) spaces at the lot south of the Multi-Modal Facility which is 0.15 miles from the Pearl Beach Access. There are 100 spaces accounted for at Cameron County Beach Access #3 for the Shores Subdivision.

Within the last three years, the City of South Padre Island completed construction at multiple beach accesses with the help of funding through the Coastal Management Program. Those improvements were completed at Whitecap Circle (#8), Sea Island Circle (#5), Fantasy Circle (#22), and Neptune Circle (#16) with improvements at Bluewater Circle (#9) to start in 2026. Improvements at these accesses included parking enhancements and are accounted for in the above-mentioned numbers. Additionally, the City has been proactive in improving side streets which also increases the overall amount of parking available. Since 2016, the City has improved nineteen (19) east side streets and anticipates improving two (2) more in 2026.

2. ***Signage.*** The City has installed signs at all twenty-eight (28) beach accesses. Signs indicate improvements (i.e. handicap access, amenities, etc.) and are updated as accesses become developed. Parking signage has also been placed to designate the improved east side streets as well as other lots that are included in the City's beach access parking count.
3. ***Impacts of Future Development.*** Future growth, especially along Gulf Blvd, has the potential to impact public parking. The City will ensure that any new development shall not interfere with and/or diminish public beach access, public beach use, and/or public parking.
4. ***South End Access.*** Access easements exist between the end of Gulf Blvd. and Isla Blanca Park. The City has cooperated with the Attorney General to identify the owners of these easements.
5. ***Dune Walkovers.*** The City has built dune walkovers to improve access at the following beach access locations:
    - Pearl Beach Access
    - La Copa Beach Access
    - Ocean Drive (ADA pathway and walkover)
    - Beach Circle (ADA pathway and emergency drive-over)
    - Seaside Circle (ADA walkover)
    - Surf Circle (ADA walkover)
    - Whitecap Circle (ADA pathway and walkover)
    - Moonlight Circle (ADA walkover)
    - Bougainvillea Circle (ADA walkover)
    - Neptune Circle (ADA pathway and walkover)
    - Starlight Circle (ADA emergency drive-over)
    - Aquarius Circle (ADA pathway and walkover)
    - Gay Dawn Circle (ADA pathway and walkover)
    - Good Hope Circle (ADA walkover)
    - Fantasy Circle (ADA pathway, walkover, and emergency drive-over)

The following beach accesses will receive updated engineering design plans to improve ADA accessibility and amenities within the next two years (construction will take place when funding is available):

- Harbor Circle

- Gulf Circle
- Surf Circle (ADA walkover)
- Bluewater Circle
- Treasure Island Circle (ADA pathway)
- Day Dream Circle
- Poinsettia Circle

The following beach access areas do not currently have walkovers, but the City may install them depending on funding availability and need:

- Sea Island Circle (ADA pathway)
- Riviera Circle
- Butterfly Garden Beach Access
- Aurora Circle
- Sapphire Circle
- Sunset Circle
- White Sands Street

### B. ***Dune Ridge Construction***

A study conducted by Robert A. Morton, Bureau of Economic Geology, The University of Texas at Austin: *Beach and Dune Conditions at South Padre Island, Texas; Assessment and Recommendations;* 1993; (pp 33-34), states that dune complexes ten to twelve feet (10' – 12') in height above sea level and seventy-five to one hundred feet (75' – 100') in width at the base should "survive most large storms and minimize the beach-front damage most frequently caused by direct wave attack." A study conducted by Integral Consulting in 2020-2022 found that the most resilient configuration for dunes would be a maintained height of ≥ 12.5 feet. The City has and will continue to undertake efforts in cooperation with the Texas General Land Office, TxDOT, the US Army Corps of Engineers, and any other agency or program to construct a continuous dune system throughout the City limits.

The City proposes the following general approach in regards to its dune system:

- Allow the construction of private retaining walls, but not seawalls, landward of the dunes and the Historic Building Line. The only exception to this rule is that construction seaward of the Historic Building Line may take place in the area shown on the survey labeled "Exhibit B" for Lots 1, 2, 3, & 4 of Block 156 Padre Beach Subdivision, Section X;
- Require financial guarantees by all those constructing private retaining walls behind the dunes;
- Construct a seventy-five to one hundred feet (75' – 100') wide dune system parallel to the shoreline and running the entire length of the City. This dune system will be located between retaining walls within the City on the west and the public beach on the east and average twelve feet (12') in height above sea level;
- The City will continue its program of raking/cleaning the beach when it is necessary and when the influx of material is heavy enough to impact the public's ability to use the beach. The City will do so in a manner that will encourage and promote beach cleaning and dune construction while also coordinating this effort with property owners who appreciate this material. Long-term remedies for beach cleaning rely on the cooperation between the City and private property owners;

- Use a combination of existing sand in dunes presently seaward of existing walls and new beach nourishment material to build the dunes and to maintain a recreational beach seaward of the dunes;
- The City promotes the recreational use of the beach and encourages, but does not require, these recreation activities to occur on the wet portion of the sand (recreational beach) east of the dune ridge and line of vegetation in an effort to protect the dunes and dune vegetation;
- The City endorses the concept to enhance and improve the City's continuous dune line and will allow property owners to haul in beach-quality sand to construct dunes in barren and low-lying areas. Since vegetated dunes are a primary component to dune ridge stabilization and beach renourishment, revegetation of bare dunes/newly constructed dunes with indigenous dune vegetation is strongly encouraged along with the use of sand fencing to capture wind-driven sediment. Any dune restoration activities must be approved through a Beach and Dune Permit;
- Property owners may submit a Beach and Dune Protection Permit application for activities that would alter existing dune shape and size. In such cases, the plan must meet the following criteria:
    1) The property for the proposed activity must be located in a non-eroding or stable area of the beach (the activities mentioned in this section will not be permitted in an eroding area);
    2) The height of the existing dune(s) is/are greater than fifteen feet (15') above sea level;
    3) An affirmative demonstration can be made that substantial dunes would likely form naturally in the area of the proposed dune ridge construction project;
    4) The project demonstrates equal or better protection with the proposed dune ridge construction plan;
    5) The adjacent littoral property owner(s) provide written consent for the proposed dune ridge construction project; and,
    6) The adjacent littoral property owner(s)are in compliance with previously issued and approved Beach and Dune Permits;
    7) In such instances that the shape and/or size of the existing dune(s) are altered:
        a. The City shall ensure that all sand seaward of the Historic Building Line (or in the case of Lots 1, 2, 3, & 4 of Block 156, BP X, seaward of the retaining wall) remains in the beach/dune system;
        b. The height of the altered dunes seaward of the Historic Building Line (or in the case of Lots 1, 2, 3, & 4 of Block 156, BP X, seaward of the retaining wall) can be no lower than twelve and a half feet (12.5') above sea level;
        c. The altered dune(s) must be vegetated with indigenous dune vegetation and watered to stabilize the dune(s); and,
        d. The project shall not restrict or interfere with the public's access to or use of the beach at normal high tide.
- The City encourages cooperation and partnering between adjacent property owners in the maintenance of dunes/dune heights as well as the design of dune walkovers in an effort to reduce the need and number of walkovers at every beach-front structure.

NOTE: All dunes seaward of the Dune Protection Line are critical dunes.

***C. <u>Beach Nourishment</u>***

The City will continue to undertake beach nourishment efforts, in cooperation with the General Land Office and the USACE under Section 933 program and/or other appropriate programs, such as CEPRA, to widen the beach in the eroding areas and to use a portion of these materials to construct a continuous dune ridge along the entire length of the City. The City will utilize any other acceptable beach nourishment sources and resources as needed.

The historic trend of erosion and the increased risk to beach-front structures associated with the temporary shoreline undulations demonstrate that future renourishment projects should be concentrated north of Esperanza Street, along the northern portions of the City's beaches. Placement of renourishment material south of Esperanza Street should probably be done if funding is not available for placement further north, or when funding is available to renourish this area in addition to the northern beaches of the City. However, the City should continue to monitor the beach erosion pattern to ensure that the southern portions of the City's beaches are not neglected.

The City recognizes that any long-term remedy will have to rely on an ongoing beach nourishment program that:

- Uses beach-quality material from any and all acceptable sources;
- Revegetates bare dunes since that is a primary component to dune ridge stabilization and beach renourishment;
- Requires significant local funding even with the help of Federal Section 933, Coastal Erosion Planning & Response Act funds, and other federal grant programs; and,
- Complies with all applicable State and Federal laws.

The funding for City beach renourishment projects may be provided by the portion of hotel occupancy tax (HOT) funds that are dedicated for beach renourishment; grants for which the City may apply and receive; or, if required, additional revenue from the general fund and/or from a general obligation bond issue.

### *D. Local Planning Policies, Guidelines, and Construction Standards*

The City's goal is to provide compliance under the state program, provide equal and consistent application of rules and regulations for all beach-front properties within the City, and yet protect the private property owners from extravagant permitting procedures for regular maintenance and landscaping activities. In order to provide consistency regarding the local permitting procedure within City limits, the City will follow the additional policies and guidelines that are outlined below as well as all regulations that are outlined in the implementing provisions, referred to as Chapter 22 of the City's Code of Ordinances (Appendix 1).

#### *1. Major regulatory provisions*

- Final authority over permits lies with the City Council; however, the Shoreline Task Force has been established to make recommendations for Beach and Dune Protection Permits.
- A Beach and Dune Protection Permit is required for activities seaward of the Dune Protection Line if such activities impact dunes and/or dune vegetation.
- The City Council does hereby establish a Dune Protection Line (mapped in Appendix 2). The Dune Protection Line is applicable to all areas within the City's corporate, municipal limits. No area seaward of the Dune Protection Line within the City is exempt from this Chapter. The Dune Protection Line is a "moving" line changing with shoreline changes and subject to modification.

The Dune Protection Line shall be reviewed at least every five (5) years to determine if the Line is adequately located to achieve the purpose of preserving critical dune areas. In addition to the five-year review, the City will review the adequacy of the Line within ninety (90) days after a tropical storm or hurricane that affects the beach within the City limits.

- The Line shall be the East Right-of-Way line of Gulf Boulevard and a line extended therefrom to the North property line of Lot 20 of Padre Beach Estates and to the southern boundaries of the City's corporate limits, or 1000 feet from Mean High Tide, whichever is lesser. A portion of the Dune Protection Line is also depicted on the Historical Building Line Map dated March 1981. The map shows the East Right-of-Way line of Gulf Boulevard as that Line is extended to both the North and South boundaries of the City, at the time the Historic Building Line was established. The East Right-of-Way line of Gulf Boulevard is tied to specific monuments on Gulf Boulevard, and the existing monuments are referenced to the Texas State Plane Coordinate System.
- For unsubdivided, 6.5 acres leasehold, addressed 7010 Padre Boulevard, the Dune Protection Line shall be set in accordance with the line surveyed on October 3, 2018, encompassing all critical dune areas within the property and extend north and south to the extent of the property boundaries.
- The Park Road 100 Right-of-Way within the Andy Bowie Park area is within City limits. The Dune Protection Line from the north property boundary of unsubdivided, 6.5 leasehold, addressed 7010 Padre Boulevard to the North boundary of The Shores Subdivision shall be the East Right-of-Way of Texas State Park Road 100.
- For the parcel and Park Road 100 Right-of-Way within City limits that is just north of The Shores Subdivision, with the legal description as Abst 260 S 457.7570 Acres out of 684.91 AC Tract 8, the Dune Protection Line shall be 1,000 feet from Mean High Tide.

- The Historic Building Line (mapped in Appendix 2) was established by the Texas Attorney General in March 1981. A map depicting this line (drawn by Chas R. Haile Associates, Inc., Consulting Engineers, Houston, Texas City, Corpus Christi, Nederland) was furnished to the City of South Padre Island, Texas, and is on file with the Shoreline Department. This line indicates the buildable depth line for the construction of buildings or structures on or to the landward side of the Line. The only exceptions to construction seaward of this Line shall be that area designated in the survey labeled "Exhibit B" for Lots 1, 2, 3, & 4 of Block 156 Padre Beach Subdivision, Section X. The Line was intended to retain a minimum of two hundred feet of open beach above the mean low tide according to then-available data and is subject to change by the Attorney General to ensure the protection of the State's open beaches.
- The Building Setback Line (mapped in Appendix 2) has been established for areas within the City that were annexed after the Historic Building Line was established.
    - The Building Setback Line for the Isla Blanca Park property that is within City limits shall be an extension from the City's Historic Building Line and extend across the property from the southern boundary of the City's limits to the South property boundary of Sea Vista I Condominiums Unit 101 Bldg. A, 1.5890% Int. in Com. Area (110 Padre Blvd. South Padre Island, TX 78597).
    - The Building Setback Line for the lot addressed 7010 Padre Boulevard shall be an extension from the City's Historical Building Line and extend across the property from the

North property line of Lot 20 of Padre Beach Estates to the North property line of unsubdivided, 6.5 acres leasehold, addressed 7010 Padre Boulevard.

- For Lot 1, Block 1 of Padre Island Inn Subdivision and for The Shores Subdivision, the Building Setback Line shall be fixed at 440 feet landward of the mean low tide line (as depicted as the fixed line in Figure 6 of Appendix 2) and extend north and south to the extent of the subdivisions.
- For future annexed areas after [THE DATE THIS PLAN IS APPROVED], the Building Setback Line will be set at 440 feet landward of the mean low tide line.

- Beach and Dune Protection Permits can be issued only if the action is consistent with this Plan and will not encroach/restrict/interfere with the public's right to use and have access to and from the beach.
- Beach and Dune Protection Permits can be issued only if the action will not materially weaken any dune or dune vegetation, or increase flooding, etc. If damages cannot be avoided, then they must be minimized, and then any resulting damage must be mitigated or compensated for by the permittee. All requirements for dune mitigation and compensation found in 31 TAC Chapter 15.4 must be adhered to.
- Beach and Dune Protection Permits for construction are issued only if the proposed action will not interfere with the public access to the beach as provided for in the Open Beaches Act.
- Additional activity permitted through a Beach and Dune Protection Permit includes minor trimming of excess vegetation in order to maintain existing beach access. Trimming means nonpermanent maintenance of dune vegetation through limited mechanical or manual methods, including string trimmers or 'weed-whackers,' pruning shears, or small hand-held saws. This does not include permanent damage or removal of dune vegetation through mechanical or chemical methods such as heavy machinery of any type, lawn mowers, herbicides, pesticides, or any other chemical substance. The City's dune system has shown and proven to become a well-established system through tremendous growth over the previous years. Nonpermanent trimming within access paths and walkovers has become a necessary maintenance activity to ensure access to the beach is not impeded by the fast-growing dune vegetation.
    - Trimming activity will be permitted only within the immediate vicinity of placed structures such as retaining walls, access matting, or elevated walkovers. Applicants may trim dune vegetation from either side of the boundary of a retaining wall, access mat, or unelevated pathway structure.
    - Applicants may trim dune vegetation that has grown into the walkway of an elevated dune walkover; however trimming will not be permitted underneath or outside of the hard boundary of said walkover.
    - Existing organic sand beach access paths with no access mat or unelevated pathway structure shall only be trimmed up to the boundary of the access path and only to maintain a suitable walking distance. The existing organic sand beach access path shall not exceed a total of three (3) feet in width.
    - Applicants may need to perform mitigation for trimming unless they can guarantee no adverse effects to dune vegetation. This means trimming must be nonpermanent and show no removal of dune vegetation root systems or permanent damage to dune vegetation of any type. The Shoreline Department will determine possible mitigation needs on a case-by-case basis.

        - Applicants must contact the Shoreline Department before and after each trimming event. Photos of the area will be required to be submitted before and after each trimming event. Time intervals between trimming events will be determined on a case-by-case basis.
    - The City will be required to approve any property maintenance activities that occur east of the City's Dune Protection Line prior to undertaking such activities. If the Shoreline Department determines that the activity conforms to the requirements that are outlined in Section 22-8 of the City's implementing provisions, Chapter 22 (Appendix 1), then the City Manager or designee may issue a property maintenance permit.
        - Property maintenance activities will not: increase or alter the footprint of an existing structure; increase the impervious surface on the property; adversely affect the dunes or dune vegetation; nor will it obstruct the public's access to or use of the public beach.
    - Unless otherwise specified within the permit and approved by the City Council, Beach and Dune Protection Permits expire after three (3) years. At this time, the applicant will need to reapply if the activity has not been completed.

For all areas within the City's jurisdiction where there is no Historic Building Line or an established Building Setback Line as of the date this Plan is approved, the following apply:

- The Dune Protection Line shall be 1,000 feet from Mean High Tide.
- The future Building Setback Line will be set at 440 feet landward of the mean low tide line.
- The regulations for eroding areas under 31 TAC §§ 15.6(f) and (g) apply.

***2. Special Provisions within the City as provided by this Plan and these policies.***

The special regulatory provisions under this Plan are structured to allow for compliance under the state coastal program.

- No construction will take place seaward of the Historic Building Line, except as shown on the surveys labeled "Exhibit B" for Lots 1, 2, 3, & 4 of Block 156 Padre Beach Subdivision, Section X.
- In areas identified in the 1981 Attorney General Opinion and accompanying survey, property owners will be permitted to build retaining walls, but not seawalls, across the beachside of their property, which may connect with adjacent walls, subject to other requirements of State Law and the following conditions:
    - The property owner will be required to remove any wall that is exposed to substantial wave action for 20 days out of any 30 consecutive days, except following major storm events (tropical storms, hurricanes, etc.), in which case, the owner will be given additional time to determine compliance, as determined by the City and State agencies;
    - Such removal will be at the property owner's expense;
    - The City will require property owners to either agree to a deed covenant or other suitable financial guarantee acceptable to the City to secure removal of the wall; and,
    - If the property owner fails to remove the wall, the City will remove the wall and assess the cost against the financial guarantee.
- Structures must be built according to FEMA's minimum standards, whether that is elevated on pilings or above the natural elevation, whichever is greater.
- Impervious material outside of the habitable structure footprint cannot exceed 5% of the lot size in eroding areas.

- Permit applicants will be allowed to alter and/or pave the ground underneath a habitable structure in an eroding area as long as the work will be undertaken landward of the Historic Building Line or the Building Setback Line, whichever is applicable.
- Construction outside of the perimeter of the habitable structure utilizing concrete or another impervious surface may be allowed in eroding areas for the following exemptions:
    - Swimming pools will be allowed to be installed with concrete, but their footprint will not count against the 5% impervious area allocation outside of a habitable structure.

  Concrete curbs and concrete pads to place utilities may be exempt from the 5% of impervious cover outside of the habitable structure and shall be limited to the minimum dimensions required to meet applicable building codes.
- Ecocreto, a pervious concrete, will be an additional allowable pervious material that beachfront property owners may use to reduce the amount of impervious surface within the dune protection area.
- Dunes are considered critical east of the City's Dune Protection Line.
- Mitigation for any critical dune alteration will be required on a 1:1 basis. All material above ten feet (10') of elevation needs to be placed east of the Building Setback Line or the Historic Building Line (except for Lots 1, 2, 3, & 4 of Block 156, where sand must be placed seaward of the retaining wall) and preferably on the subject property.
- Exemptions for construction seaward of the Historic Building and Building Setback lines include dune walkovers, beach access paths, and dune restoration activities. These will be the only allowable permitted items east of both the Historic Building Line and the Building Setback Line to provide access to and recreation on the public beach. See the Erosion Response Plan, Section 6 for more information.
- Proposed new access paths and dune walkovers shall not be considered within one hundred (100) feet of any public beach access point. Furthermore, single-family and multi-family residences may not construct a new access path or dune walkover unless such facilities are shared with at least one other residence. These regulations are intended to mitigate excessive dune fragmentation, thereby preserving the structural resiliency of South Padre Island. These measures reinforce the findings from the previously mentioned Integral study as well as the policies established by the Council and Task Force as detailed in Section IV.A (Beach Access) above, and further promote the utilization of shared private access ways. The City encourages the connection of all new private paths and walkovers to existing public or private access paths or walkovers.
- Dune walkovers shall be constructed to allow for the growth of dune vegetation and the migration of dunes under the walkovers.
    - The width of a dune walkover or similar structure is limited to 4 feet wide, where practicable. An increased width may be permitted for public access walkovers, shared walkovers for three or more residences, or for wheelchair or golf-cart use with approval of the City. The need for a dune walkover or similar structure wider than 4 feet must be demonstrated during the permit application process.
    - The lowest level of the walkover must be of sufficient elevation to accommodate expected increases in dune height. At a minimum, the lowest level of the dune walkover with a width of 4 feet or less must be constructed at a height of at least 3 feet above the highest point of the tallest dune crest beneath and immediately adjacent to the dune walkover. A dune walkover with a width of greater than 4 feet must be constructed at an

adequate height that will allow for the growth of dune vegetation and migration of dunes under the walkover. Exceptions to the height requirement may be made for walkovers to descend to the beach over the foredune ridge.

- Slats forming the deck of the dune walkover shall be spaced at least 1/2 inches apart so that sunlight and rainfall can penetrate to vegetation below and so that sand will not accumulate on the deck.
- Use of concrete to stabilize dune walkover pilings is prohibited.
- For all new construction of public dune walkovers in areas where vehicles are prohibited from driving on and along the public beach, the City is required to construct walkovers accessible for persons with disabilities, where practicable.

- The City will strive to undertake and fund beach nourishment approximately every two years.
- The City will continue to provide annual monitoring of the shoreline and beach (plus additional post-hurricane monitoring) as well as progress reports on the beach nourishment efforts.
- In order to facilitate a continuous dune line, the City may permit activities to alter dune shape and size as detailed under section ***B. Dune Ridge Construction*** of this Plan.
- A primary goal of this Plan is to create an expedited permitting process whereby the City Manager or designee of the City of South Padre Island has the authority to issue permits for certain designated beach/dune-related items without having property owners go through the extensive review period normally required for new construction. None of the following permits may be issued by the City Manager or designee if the proposed activities will:
    a. Increase or alter the footprint of the existing structure;
    b. Increase the impervious surface on the property;
    c. Adversely affect dunes or dune vegetation; or
    d. Impact the public's access to the beach or use of the beach at normal high tide along the beach.
- This expedited permitting process would be available for the following activities:
    - Maintenance activities of existing properties between the Dune Protection Line to the Historic Building Line or the Building Setback Line that result in no net increase in impervious cover (i.e. Property Maintenance Permits).
    - Minor construction projects on pre-developed properties between the Dune Protection Line to the Historic Building Line or the Building Setback Line that result in no net increase in impervious cover and no increase in the footprint of existing structures such as installation/construction of fences, open wooden decks, spas, swimming pools, landscaping features, installation of sprinkler systems (i.e. Property Maintenance Permits).
    - Special Event permitting for activities that occur on the public beach. The duration of this permit will be for no greater than thirty (30) consecutive days, and the permitting procedure will be compatible with the City Special Event ordinance(s) as well as with normal beach and recreation activities. This is intended to include weddings, anniversaries, and other occasion parties; Spring Break-type activities which may require the construction of stages and towers; the setup of tents and inflatables for outdoor displays; as well as other sport-related events. These permits can be issued for special events seaward of the Historical Building Line, but only if the action will not materially weaken any dune or dune vegetation, block access to or on the beach, or increase

flooding. Copies of Special Events Permits issued by the City will be sent to the General Land Office for their files.

- City-sponsored beach renourishment activities.
- Retaining Wall/Walkway Maintenance Permits to move non-vegetated sand that has accumulated on or within ten (10') feet of an established retaining wall or dune walkover if it is determined that the proposed activity: 1) is purely maintenance of existing facilities and not new construction; 2) has no impact on the dunes or dune vegetation; and, 3) does not cause any sand to be removed from the beach.

### *E. Compliance with Local and State Regulations*

The City will implement State-mandated coastal management using the following approach:

All proposed actions within the City will be handled in a manner consistent with this Plan and will emphasize the implementation of beach nourishment, required mitigation, and allow development in the interim with mandatory removal requirements if erosion reaches any walls. The City will enforce the various components of this management Plan by Ordinance – Chapter 22 of the City of South Padre Island Code of Ordinances (Appendix 1) – as well as other rules and regulations referenced in the Plan and the Ordinance.

## V. RESPONSIBILITIES

The successful implementation of the City's Plan will require the concerted, cooperative effort of both the public and private sectors.

***Local Government***

- Seek renewed acceptance and certification under the State Coastal Program.
- Provide substantial, ongoing funding commitment.
- Enforce the agreed-upon codes and requirements.
- Agree to remove any walls that are subject to substantial wave action 20 days out of any 30 days (except following a major storm event, such as a hurricane or tropical storm) and adopt an ordinance requiring all property owners to agree to such a deed covenant or other financial guarantee.

***State Government***

- Approve the overall approach, including the Master Planned approach within the City limits.
- Monitor local activities to ensure compliance with overall agreements.
- Provide technical assistance and support for the beach nourishment project.
- Provide maintenance material from all available sources.

***Federal Government***

- Provide maintenance material from all available sources.
- Provide matching funds under USACE Section 933 Program and other federal grant programs.
- Provide technical assistance in the planning and design of the City's Beach Nourishment Program.

***Private Sector***

- Recognize that under current state law, the City must meet State requirements and support the City in its dealings with the State.
- Accept that there will be a change in beachfront developments.
- Realize that costs will go up.
- Work with neighboring property owners to build and maintain a continuous dune line while reducing the number of cuts and breaks in the dunes by consolidating dune walkovers.

# CHAPTER 22

# DUNE PROTECTION, BEACH RENOURISHMENT, AND BEACH ACCESS PLAN IMPLEMENTING PROVISIONS

## Sec. 22-1. DEFINITIONS.

For the purpose of this ordinance, the following words and terms as used herein are defined to mean the following:

*Beach & Dune Protection Permit* means a permit that is required for all construction activities east of the Dune Protection Line, and which requires the full review and approval of the General Land Office, the Shoreline Task Force, and the City Council.

*Building Setback Line* indicates the buildable depth line for the construction of buildings or structures on or to the landward side of the line in areas of the City that were annexed after the Texas Attorney General established the Historic Building Line.

*Coppice Mounds* means the initial stages of dune growth formed as sand accumulates on the downwind side of plants and other obstructions on or immediately adjacent to the beach seaward of the foredunes. Coppice mounds may be unvegetated.

*City* means all areas within the corporate, municipal limits of the City of South Padre Island, Texas.

*Construction* means causing or carrying out any building, bulkheading, filling, clearing, excavation, or substantial improvement to land or any structure's size. “Building” includes, but is not limited to, all related site work and placement of construction materials on the site; however, “Building” does not include maintenance activities. “Filling” includes but is not limited to disposal of dredged materials. “Excavation” includes but is not limited to removal or alteration of dunes and dune vegetation and scraping, grading, or dredging a site. “Substantial improvements to land or the size of any structure” includes but is not limited to the creation of vehicular or pedestrian trails, landscape work (that adversely affects dunes or dune vegetation), and increasing the size of the structure.

*Critical Dune Area* means those portions of the beach/dune system as designated by the Texas General Land Office that are located within 1,000 feet of mean high tide of the Gulf of Mexico that contain dunes and dune complexes that are essential to the protection of public beaches, submerged land, and State-owned lands, such as public beaches and coastal public lands, from nuisance, erosion, storm surge, and high wind and waves. Critical dune areas include, but are not limited to, the dunes that store sand in the beach/dune system to replenish eroding public beaches. Specifically, within the City of South Padre Island's corporate, municipal limits, critical dune areas encompass the undeveloped portions of the City east of the right-of-way of Gulf Blvd. and the extension thereof, or 1000 feet west of mean high tide.

*Damage to Dunes* means any unauthorized alteration to dunes or dune vegetation.

*Designated Beach Access Areas* means all dedicated street right-of-ways abutting the Gulf of Mexico and any other dedicated beach access route(s) that may be designated as a beach access area.

*Dune* means a natural or human-made emergent mound, hill, or other ridges of sand, either bare or vegetated, located on land which is adjacent to the waters of the open Gulf of Mexico.

*Dune Enhancement and Restoration* means activity approved under a Beach and Dune Protection Permit which will only elevate dune height and/or promote dune vegetation propagation, will not negatively impact or alter existing dunes and/or dune vegetation, and is consistent with the City's Plan to create a continuous dune line.

*Dune Protection, Beach Renourishment, and Beach Access Plan* shall be that Plan that is adopted by the City and Texas General Land Office pursuant to §61.015 of the Texas Natural Resources Code, which includes this Chapter 22 of the City of South Padre Island Code of Ordinances.

*Dune Protection Line* means a line established within the City of South Padre Island for the purpose of preserving, at a minimum, all critical dune areas identified by the General Land Office pursuant to the Dune Protection Act, §63.011, and §15.3(f) of this title (relating to Administration). Cameron County's Commissioner Court delegated authority to establish a Dune Protection Line within the City of South Padre Island municipal limits to the City on 9 September 1991. They ratified the delegation again on 14 July 2020.

*Dune Ridge Construction* means those authorized activities involved solely with modifying the shape and/or size of dunes and/or dune vegetation east of the Historic Building Line. In those instances where activity qualifies as dune enhancement and restoration or those instances where dune height(s) and/or dune vegetation is/are proposed to be reduced, the property owner will be required to submit an application for a Beach and Dune Protection Permit that will be reviewed and approved by the City and the General Land Office.

*Erosion* is the wearing away of land or the removal of the beach and/or dune material by wave action, tidal currents, littoral currents, or deflation. Erosion includes but is not limited to the horizontal recession and scour and can be induced by human activities.

*FEMA* means the Federal Emergency Management Agency of the United States Government. This agency administers the National Flood Insurance Program and the Flood Insurance Rate Maps.

*Foredune* means those dunes which offer the first significant means of dissipating storm-generated wave and current energy ensuing from the open Gulf of Mexico. Because various heights and configurations of dunes may perform this function, no standardized physical description can be offered. However, where they occur, foredunes are distinguishable from surrounding dune types by their relative location and physical appearance. Foredunes are the first distinguishable, usually grass-covered stabilized large dunes encountered landward from the open Gulf of Mexico. Although they may be large and continuous, foredunes are typically hummocky and discontinuous and are often interrupted by breaks and washover channels.

*GLO* means the General Land Office of the State of Texas.

*Historic Building Line* shall mean that line established by the Texas Attorney General that indicates the buildable depth line for the construction of buildings or structures on or to the landward side of the line. The only exceptions to construction seaward of this line shall be that area designated in the survey labeled "Exhibit B" for Lots 1, 2, 3, & 4 of Block 156 Padre Beach Subdivision, Section X. The Historical Building Line is located on a map (drawn by Chas R. Haile Associates, Inc., Consulting Engineers, Houston, Texas City, Corpus Christi, Nederland, dated March 1981) provided by the Texas Attorney General and is on file with the Shoreline Department of the City of South Padre Island. The line was intended to retain a

minimum of two hundred feet of open beach above the mean low tide according to then-available data and is subject to change by the Attorney General to ensure the protection of the State's open beaches.

*Line of Vegetation* means the extreme seaward boundary of natural vegetation which spreads continuously inland.

*Maintenance* means those activities involved with repairing and/or renovating existing structures and those that do not alter or increase the footprint of existing structures, increase the impervious surface on the property, obstruct the public's access to or use of the beach, or adversely impact dunes and /or dune vegetation. Maintenance activities include but are not limited to repairing or replacing siding, steps, roofs, windows, doors, fences, sidewalks, landscaping. Maintenance activities will require a Property Maintenance Permit.

*Manufacture* means something made from raw materials by hand or by machine. (i.e., anything human-made).

*Practicable* means the City shall consider the effectiveness, scientific feasibility, and commercial availability of the technology or technique, as well as the cost of the technology or technique.

*Property Maintenance Permit* means a permit which is required for all maintenance activities east of the Dune Protection Line that can be issued by the Shoreline Department without the necessary review of the General Land Office, Shoreline Task Force, and the City Council.

*Public Beach* means any beach bordering on the Gulf of Mexico that extends inland from the line of mean low tide to the natural line of vegetation bordering on the seaward shore of the Gulf of Mexico, or such larger contiguous area to which the public has acquired a right to use or easement to or over by prescription, dedication, or estoppel, or has retained a right by virtue of continuous right in the public since time immemorial as recognized by law or custom. This definition does not include a beach that is not accessible by a public road or ferry as provided in Section 61.021 of the Texas Natural Resources Code.

*Retaining Wall* means a structure designed primarily to contain material and to prevent the sliding of land.

*Retaining Wall/Walkway Maintenance* means those activities that result in the raking and/or moving debris, litter, trash, and non-vegetated sand that has accumulated in designated walkways or within ten (10) feet of an established retaining wall or fence. Retaining wall/walkway maintenance activities shall not be construed to allow excavation, trimming, or disturbance of natural dune formations seaward of the Dune Protection Line or the removal of sand, either temporary or permanent, from the beach/dune system within the City. Pursuant to the Texas Administrative Code [31 TAC § 15.3 (s)(1)(B)] and the Texas Natural Resources Code [Sec. 63.091], retaining wall/walkway maintenance does not constitute any modification of any dune vegetation in any manner.

*Retaining Wall/Walkway Maintenance Permit* means a permit which is required for all retaining wall/walkway maintenance activities east of the Dune Protection Line that can be issued by the Shoreline Department without the necessary review of the General Land Office, Shoreline Task Force, and the City Council.

*Seawall* means a manufactured embankment located along a shoreline designed and engineered specifically to withstand flooding and wave action. Seawalls are not authorized east of the City's Dune Protection Line.

*Shoreline Department* means a City entity that manages the beach and dune systems as well as the bay system within the City of South Padre Island. The department acts as a liaison between the City, the Texas General Land Office, and other state and federal agencies to ensure compliance with state and federal law related to the aforementioned shoreline systems.

*Shoreline Task Force* means any advisory body consisting of seven (7) individuals appointed by the City Council whose task shall be to review and make recommendations to the City Council regarding Beach and Dune Protection Permit applications, the *Dune Protection, Beach Renourishment, and Beach Access Plan*, and all duties and responsibilities outlined in Sec. 22-2 A.

*Structure* includes, without limitation, any building or combination of related components constructed in an ordered scheme that constitutes a work or improvement construction on or affixed to land.

*Washover* means local areas that channel hurricane flood tide across barrier islands and peninsulas into bay areas.

**Sec. 22-2. GENERAL PROVISIONS.**

A. The City Council does hereby establish the Shoreline Task Force whose charge it shall be to identify problems, develop goals and objectives, and develop a strategic plan to give advice and to make recommendations to the City Council on the *Dune Protection, Beach Renourishment, and Beach Access Plan* and for the renourishment of the beach within the City. In addition to the duties and functions as provided in this Chapter, the Shoreline Task Force may also make recommendations to the City Council pertaining to the following:
    1) Bay accesses;
    2) Boat ramps;
    3) Parking for boat trailers and vehicles;
    4) Public safety of the Bay;
    5) Marina feasibility;
    6) Bayside issues; and
    7) Any additional tasks assigned by the City Council.

B. The City of South Padre Island shall endeavor to protect the dune system and the foredune line within the corporate, municipal limits of the City. The foredunes offer protection and provide a buffer against significant weather events and accelerated sea-level rise, and will keep sand in the beach dune system.
    1) When considering any Beach and Dune Protection Permit, the City shall strive to avoid any damage and destruction to dunes, and in particular the foredunes and the foredune ridge to the maximum extent practical. The foredunes and the foredune ridge are the primary focus of protection; however, they depend on the backdunes for preservation. The backdunes shall be protected by the same standard that protects the foredunes and foredune ridge. Therefore, damage and destruction to backdunes that actively exchange sand with and extend vegetation to foredunes and the foredune ridge shall be avoided to the maximum extent practicable.
    2) Every dune in the beach/dune system is linked to and dependent upon the other dunes for survival. Therefore, the backdunes that do not directly protect and preserve foredunes and the foredune ridge shall be protected to the maximum extent practicable.

3) Hurricane storm surge is the most destructive element of the Texas coast. As this is particularly true for South Padre Island, where elevations are low and continuous dunes are lacking, it is recognized and established that the primary focus is to protect the foredune area and the foredune ridge. At the same time, protection of all dunes east of the Dune Protection Line will continue.

C. The City of South Padre Island recognizes the importance of beach renourishment to stabilize and protect the public beach. The significance of tourism and its contribution to the economy reinforces the necessity to renourish our most precious resource, the beach. The City of South Padre Island shall provide for the renourishment of our beach and appropriate the resources necessary to accomplish this project. The City of South Padre Island shall develop a dune system in front of all properties to offer protection from severe storms and beach erosion.
D. The City of South Padre Island will not abandon, relinquish, or convey any right, title, easement, right-of-way, street, path, or other interest that provides existing or potential beach access unless an alternative equivalent or better beach access is first provided consistent with the City's *Dune Protection, Beach Renourishment, and Beach Access Plan*.
E. The City of South Padre Island does hereby adopt an Erosion Response Plan (Appendix 3) to explore means and methods to reduce the public expenditures due to damage to property and infrastructure that can result from shoreline change, erosion, and storm conditions. This plan is filed with the City Secretary and is located on the City's website.

**Sec. 22-3. SHORELINE TASK FORCE APPOINTMENT.**

A. The City Council shall appoint seven (7) individuals to serve on the Shoreline Task Force. The appointment of individuals shall be for two (2) year terms, such terms shall be staggered.
B. All terms shall expire on 31 December of the year said member's term is scheduled to expire or until their successor is appointed. Any vacancies for a position/seat shall be filled for the unexpired term of that position. A member shall hold office until the City Council has appointed his/her successor. City Council has the right to remove a member for the Shoreline Task Force at any time.
C. The Shoreline Task Force shall elect one member as Chairperson and another as Vice-Chairperson to a one-year term. If the Chairperson is absent, the Vice-Chairperson shall preside at the meeting. The Chairperson will function as a voting member of the Shoreline Task Force.

**Sec. 22-3.1. MEETINGS.**

The Shoreline Task Force shall conduct all its meetings in a public setting and shall follow all of the procedures required by the Open Meetings Act to conduct all its business.

**Sec. 22-3.2. QUORUM.**

The majority of the Shoreline Task Force's appointed members shall constitute a quorum, but no action or recommendation of the Shoreline Task Force shall be of any force or effect unless it is adopted by a favorable vote of four (4) or more members.

**Sec. 22-3.3. GUIDELINES.**

The Shoreline Task Force has adopted general guidelines as stated within this Plan for the construction of a continuous dune line based upon a 1993 study conducted by Robert A. Morton: *Beach and Dune*

*Conditions at South Padre Island, Texas; Assessment and Recommendations* (Bureau of Economic Geology, The University of Texas at Austin). Additional specifications and/or guidelines for the preservation and enhancement of dunes shall be consistent with City's updated *Assessment and Investigation of the Beach and Dune Conditions at South Padre Island* (Final Report, 07 June 2022) as well as with the *Dune Protection and Improvement Manual for the Texas Gulf Coast* (as published and amended by the General Land Office).

**Sec. 22-4. DUNE PROTECTION LINE.**

A. The City Council does hereby establish a Dune Protection Line. The Dune Protection Line is applicable to all areas within the City's corporate, municipal limits. No area seaward of the Dune Protection Line within the City is exempt from this Chapter. The Dune Protection Line is a "moving" line changing with shoreline changes and subject to modification. The Dune Protection Line shall be reviewed at least every five (5) years to determine if the line is adequately located to achieve the purpose of preserving critical dune areas. In addition to the five-year review, the City will review the adequacy of the line within ninety (90) days after a tropical storm or hurricane that affects the beach within the City limits.

B. The Line shall be the East Right-of-Way line of Gulf Boulevard and a line extended therefrom to the North property line of Lot 20 of Padre Beach Estates and to the southern boundaries of the City's corporate limits, or 1000 feet from Mean High Tide, whichever is lesser. A portion of the Dune Protection Line is also depicted on the Historical Building Line Map dated March 1981. The map shows the East Right-of-Way line of Gulf Boulevard as that Line is extended to both the North and South boundaries of the City, at the time the Historic Building Line was established. The East Right-of-Way line of Gulf Boulevard is tied to specific monuments on Gulf Boulevard, and the existing monuments are referenced to the Texas State Plane Coordinate System.

C. For unsubdivided, 6.5 acres leasehold, addressed 7010 Padre Boulevard, the Dune Protection Line shall be set in accordance with the line surveyed on 3 October 2018, encompassing all critical dune areas within the property and extend north and south to the extent of the property boundaries.

D. The Park Road 100 Right-of-Way within the Andy Bowie Park area is within City limits. The Dune Protection Line from the north property boundary of unsubdivided, 6.5 leasehold, addressed 7010 Padre Boulevard to the North boundary of The Shores Subdivision shall be the East Right-of-Way of Texas State Park Road 100.

E. For the parcel and Park Road 100 Right-of-Way within City limits that is just north of The Shores Subdivision, with the legal description as Abst 260 S 457.7570 Acres out of 684.91 AC Tract B, the Dune Protection Line shall be 1,000 feet from Mean High Tide.

**Sec. 22-4.1. HISTORIC BUILDING LINE.**

A. The Historic Building Line (mapped in Appendix 2) was established by the Texas Attorney General in March 1981. A map depicting this line (drawn by Chas R. Haile Associates, Inc., Consulting Engineers, Houston, Texas City, Corpus Christi, Nederland) was furnished to the City of South Padre Island, Texas, and is on file with the Shoreline Department. This line indicates the buildable depth line for the construction of buildings or structures on or to the landward side of the line. The only exceptions to construction seaward of this line shall be that area designated in the survey labeled "Exhibit B" for Lots 1, 2, 3, & 4 of Block 156 Padre Beach Subdivision, Section X. The line

was intended to retain a minimum of two hundred (200) feet of open beach above the mean low tide according to then-available data and is subject to change by the Attorney General to ensure the protection of the State's open beaches.

**Sec. 22-4.2. BUILDING SETBACK LINE.**

A. The Building Setback Line for the Isla Blanca Park property that is within City limits shall be an extension from the City's Historical Building Line and extend across the property from the southern boundary of the City's limits to the South property boundary of Sea Vista I Condominiums Unit 101 Bldg. A, 1.5890% Int. in Com. Area (110 Padre Blvd. South Padre Island, TX 78597).
B. The Building Setback Line for the lot addressed 7010 Padre Boulevard shall be an extension from the City's Historical Building Line and extend across the property from the North property line of Lot 20 of Padre Beach Estates to the North property line of unsubdivided, 6.5 acres leasehold, addressed 7010 Padre Boulevard.
C. For Lot 1, Block 1 of Padre Island Inn Subdivision and for The Shores Subdivision, the Building Setback Line shall be fixed at 440 feet landward of the mean low tide line (as depicted as the fixed line in Figure 6 of Appendix 2) and extend north and south to the extent of the subdivisions.
D. For future annexed areas after [THE DATE THIS PLAN IS APPROVED], the Building Setback Line will be set at 440 feet landward of the mean low tide line.

**Sec. 22-5. FOREDUNE LINE.**

The City of South Padre Island shall endeavor to enhance and/or establish a foredune line within the corporate, municipal limits of the City. Such line will offer protection and be used as a buffer against significant weather events and will keep sand in the beach/dune system.

**Sec. 22-6. CITY PERMIT EXEMPTIONS.**

The City's activity shall be consistent with the City's mission to preserve and enhance the beach and public beach accesses located within the City of South Padre Island. In order to promptly and adequately address the needs of the public, the City of South Padre Island will not be required to obtain a permit for the following activities:

A. Cleaning and grooming of the beaches within the City that does not damage dunes and/or dune vegetation.
B. City designated public beach access dune walkover clearing and maintenance activities.
C. City-sponsored beach renourishment projects.
D. The use of official City vehicles on the beach.

**Sec. 22-7. PERMITS AND APPROVALS REQUIRED.**

A. An applicable permit is required for all construction, maintenance, dune management activities, and/or retaining wall/walkway maintenance east of the Dune Protection Line. A permit must be obtained from the City prior to any activity. Failure to acquire a permit prior to any construction activity east of the Dune Protection Line is subject to penalty or may be provided in this or any other ordinance of the City. Such penalty for failure to acquire a permit when necessary can result in a fine, removal, restoration, and/or remediation orders.

B. Permits issued pursuant to this Chapter shall be accomplished by a permit fee established by the City Council. The permit fee shall be the amount set out in the approved fee schedule at the time the application is submitted.

## Sec. 22-8. SHORELINE DEPARTMENT AUTHORIZED PERMITS.

A. The following permits under this Sec. 22-8 may be authorized directly under the Shoreline Department and are not required to be reviewed or approved by the Shoreline Task Force, City Council, or the General Land Office. The Shoreline Department may authorize permits under this Section 22-8 only if the proposed activity will not:
    1) Increase or alter the footprint of an existing structure;
    2) Increase the impervious surface on the property;
    3) Adversely affect dunes or dune vegetation; and/or
    4) Obstruct the public's access to or use of the beach.
B. The Shoreline Department may request whatever information may be necessary to determine the extent and nature of the activities prior to approving such activity. Such information must include the name of the property owner and the owner's representative. An on-site inspection with the owner, owner's representative, or the individual who will be responsible for undertaking the proposed activities of the permit may be requested by the Shoreline Department.
C. The Shoreline Department will determine the expiration date of the permit depending on the nature of the activity, but under no circumstance will the permit be applicable for greater than six (6) months from the original date of permit approval.
D. If the Shoreline Department denies an applicant's request, the applicant may appeal the decision to the Shoreline Task Force. In doing so, the applicant will need to submit to City staff a copy of all information necessary to thoroughly understand the nature of the situation for submission to the Task Force. The Task Force can then make a recommendation that will be forwarded to the City Council for final review and approval.

## Sec. 22-8.1. BEACH SPECIAL EVENT PERMITTING.

The City must approve all beach special event activities prior to the commencement of such activities. The City Council or the City Manager may designate a Special Event period [length of time], and permits may be granted during such period for setting up temporary outdoor facilities both on beachfront properties and seaward of the City's Building Setback Line or Historic Building Line established by the Attorney General of Texas. A Beach Special Event Permit is only valid for the specific Special Event period [length of time] and not for any other Special Event period. Each Special Event period requires a separate permit. These permits shall be granted with special conditions and requirements as the City Manager, or his/her designee may believe is necessary to preserve the public beaches and the users' general health and safety thereof. A copy of the permit issued by the City will be forwarded to the General Land Office for their files no later than five (5) days from the date the City issued the permit. Any person desiring to set up any type of temporary facility during the Special Event period on the beach shall comply with the following:

A. No facility or Manufacture may be set up in a manner to destroy, damage, or modify dunes and/or vegetation.
B. No outdoor facility or Manufacture may be set up that will impair public access to the beach or use of the public beach.

C. Any applicant obtaining a Special Event Permit will provide whatever sanitary facilities that the City believes are reasonably necessary as a result of the number of people being attracted to the Special Event Activities.
D. The permit will specifically describe the facilities being set up and what will be left in place overnight and shall comply with all requirements of the Building Department that pertain to safe installations. Any permit application must either be signed by the beachfront property owner or have a letter of consent from the beachfront property owner for the applicant seeking the permit.
E. The permit will only be validated for the Special Event period [length of time] and not for any other Special Event period. Each Special Event period requires a separate permit.
F. No sales of any nature may take place on the beach (seaward of the Historic Building Line or Building Setback Line).
G. The permit fee shall be paid at the time the request or application for a special event permit is submitted and shall be the amount set out in the approved fee schedule at the time said request is made or application is submitted.

**Sec. 22-8.2. RETAINING WALL/WALKWAY MAINTENANCE.**

All retaining wall/walkway maintenance activities must be approved by the City prior to undertaking such maintenance activities.

A. The Shoreline Department may require modifications to the retaining wall/walkway maintenance activities to ensure that such activities constitute property maintenance activities and do not damage dunes and/or dune vegetation.
B. If the Shoreline Department issues a permit for retaining wall/walkway maintenance activities, any and all sand that will be moved and/or removed from the designated walkways and/or retaining walls must be used to establish and/or enhance the foredune line and may not be placed on top of existing or new vegetation. The Shoreline Department will work with the owner, owner's representative, and/or permittee to determine the placement of the sand.
C. The permit fee shall be paid at the time the request or application for a retaining wall/walkway maintenance permit is submitted and shall be the amount set out in the approved fee schedule at the time said request is made or application is submitted.

**Sec. 22-8.3. VEHICLE ACCESS.**

The City of South Padre Island prohibits vehicular access to the public beaches, except for public safety, emergency vehicles, beach maintenance equipment, and permitted vehicles. The Shoreline Department may permit vehicle access to the beach in coordination with permitted construction and/or property maintenance activities; however, a separate vehicle access permit and fee will be required. The permit fee shall be paid at the time the request or application for a vehicle access permit is submitted and shall be the amount set out in the approved fee schedule at the time said request is made or application is submitted.

**Sec. 22-8.4. PROPERTY MAINTENANCE.**

The City must approve all property maintenance activities east of the Dune Protection Line prior to undertaking such activities. If the Shoreline Department determines that the activity conforms to the

requirements set forth in Section 22-8 above, then the Shoreline Department may issue a permit for the property maintenance activities. The Shoreline Department may require modifications to the property maintenance activities to ensure that such activities conform to the requirements. The permit fee shall be paid at the time the request or application for a property maintenance permit is submitted and shall be the amount set out in the approved fee schedule at the time said request is made or application is submitted.

**Sec. 22-9. DUNE RIDGE CONSTRUCTION.**

A. Property owners may submit a Beach and Dune Protection Permit application for activities that would alter existing dune shape and size. In the event that a specific property owner wishes to alter dunes seaward of their retaining wall, that property owner may present a plan to City staff that includes the pertinent items and information as necessary to understand and review the application thoroughly. Once complete, staff will forward the plan to the General Land Office for comments. It will then be reviewed by the Shoreline Task Force, who will, in turn, provide a recommendation to the City Council for review and consideration. The City Council will determine if the City wishes to approve and allow such activity.

B. The City may approve dune ridge construction activities only if it finds as a fact, after a full investigation, that the particular proposed project meets the criteria below. Failure to meet any one of these criteria will result in a finding of material weakening, or material damage and the City shall not approve the application for the dune ridge construction activity as proposed.
    1) The property for the proposed activity must be located in a non-eroding or stable area of the beach (the activities mentioned in this section will not be permitted in an eroding area);
    2) The height of the existing dune(s) is/are greater than fifteen feet (15') above sea level;
    3) An affirmative demonstration can be made that substantial dunes would likely form naturally in the area of the proposed dune ridge construction project;
    4) The project demonstrated equal or better protection with the proposed dune ridge construction plan;
    5) The adjacent littoral property owner(s) provide written consent for the proposed dune ridge construction project;
    6) The adjacent littoral property owner(s) are in compliance with previously issued and approved Beach and Dune Permits;
    7) In such instances that the shape and/or size of the existing dune(s) are altered:
        i. The City shall ensure that all sand seaward of the Historic Building Line (or in the case of Lots 1, 2, 3, & 4 of Block 156, BP X, seaward of the retaining wall)remains in the beach/dune system;
        ii. The height of the altered dunes seaward of the Historic Building Line (or in the case of Lots 1, 2, 3, & 4 of Block 156, BP X, seaward of the retaining wall) can be no lower than twelve and a half feet (12.5') above sea level;
        iii. The altered dune(s) must be vegetated with indigenous dune vegetation and watered to stabilize the dune(s); and
        iv. The project shall not restrict or interfere with the public's access to or use of the beach at normal high tide.

C. The City encourages cooperation and partnering between adjacent property owners in the maintenance of dunes/dune heights as well as the design of dune walkovers in an effort to reduce the need and number of walkovers at every beach-front structure.

NOTE: All dunes seaward of the Dune Protection Line are critical dunes.

**Sec. 22-10. BEACH & DUNE PROTECTION PERMITS.**

For all other construction activities east of the Dune Protection Line or any activity that impacts dunes and/or dune vegetation within the Dune Protection area not already addressed by the permits mentioned in the preceding sections, an application for a Beach and Dune Protection Permit will be required.

A. Staff will review any submitted application within a minimum of ten (10) working days to determine its completeness. A Beach and Dune application shall contain the applicable items and information set forth in 31 TAC §15.3(s)(5).
B. If the Beach and Dune application is determined to be complete, then staff shall forward the application and the development plan to the General Land Office. After receipt, the GLO will have ten (10) working days to review small-scale construction projects or thirty (30) working days for large-scale construction projects before submitting any comments back to the City of South Padre Island on the proposed plan.
C. After reviewing the application for completeness, the Shoreline Department shall forward the application to the Shoreline Task Force. The Task Force shall review the application and make recommendations to the City Council on all Beach and Dune Protection Permit requests. The Task Force shall have up to six (6) weeks to review permit applications and forward a recommendation to the City Council. The City Council shall grant or deny a permit within four (4) weeks of receiving a recommendation from the Task Force. The City Council may make modifications to and/or overturn a recommendation of the Task Force with a majority vote of the City Council.
D. The City may approve a permit application only if it finds as a fact, after a full investigation that the particular conduct proposed will not materially weaken any dune or materially damage dune vegetation or reduce the effectiveness of any dune as a means of protection against erosion and high wind and water. In finding whether such material weakening or material damage will occur, the City shall use the following technical standards. Failure to meet any of these standards that are not adequately mitigated as provided herein will result in a finding of material weakening, or material damage and the City shall not approve the application for the construction as proposed.
    1) The activity shall not result in the potential for increased flood damage to the proposed construction site or adjacent property.
    2) The activity shall not result in runoff or drainage patterns that aggravate erosion on or off the site.
    3) The activity shall not result in significant changes to dune hydrology.
    4) The activity shall not disturb unique flora or fauna or result in adverse effects on dune complexes or dune vegetation.
    5) The activity shall not significantly increase the potential for washovers or blowouts to occur.
E. The City shall consider the following items and information when determining to grant a permit:
    1) All comments submitted to the City by the General Land Office

2) Cumulative impacts and indirect effects of the proposed construction on all dunes and dune vegetation within critical dune areas or seaward of the Dune Protection Line.
3) Cumulative impacts and indirect effects of other activities on dunes and dune vegetation located on the proposed construction site.
4) The pre-construction type, height, width, slope, volume, and continuity of the dunes, the pre-construction condition of the dunes, the type of dune vegetation, and percent of vegetation cover on the site.
5) The most recent historical erosion rate as determined by the University of Texas at Austin, Bureau of Economic Geology, and whether the proposed construction may alter dunes and dune vegetation in a manner that may aggravate erosion.
6) The applicant's mitigation plan for any unavoidable adverse effects on dunes and dune vegetation and the effectiveness, feasibility, and desirability of any proposed dune reconstruction and revegetation.
7) The impacts on the natural drainage patterns of the site and adjacent property.
8) Any significant environmental features of the potentially affected dunes and dune vegetation, such as their value and function as flora and fauna habitat or any other benefits the dune and dune vegetation provide to other natural resources.
9) Wind and storm patterns, including the history of washover patterns.
10) Location of the site on the flood insurance rate map.
11) Success rates of dune stabilization in the area.
12) The size of the proposed impervious surface area that is outside the footprint of the proposed structure.

F. The City shall also consider the mitigation plan presented with the permit application. The City shall strive to balance the objective of dune protection and preservation while recognizing a property owner's right to reasonable development of private property. The permit application review process shall consider mitigation proposals or other options to reduce the disturbance and/or loss of dune(s) if the property owner/applicant can demonstrate that all reasonable efforts to avoid the disturbance and/or loss of dune(s) are impracticable. It is recognized and established that the primary focus of dune protection is to protect the foredune area while at the same time desiring to afford reasonable protection of all dunes east of the Dune Protection Line. The mitigation sequence shall be used as a decision-making basis for granting Beach and Dune Protection Permits. Mitigation is an acceptable method to ensure the continued stability of the beach. It does allow for the construction of hard structures and surfaces within the permitted area so long as at no time will the structures come in routine contact with wave action. The removal of sand from permitted areas adjacent to dunes and replenishing the beach system is specifically provided for and encouraged. If a sand dune on a lot needs to be moved or leveled for construction, it must be moved and reconstructed east of the Historic Building Line (or in the case of Lots 1, 2, 3, & 4 of Block 156, PB X, seaward of the retaining wall) or the Building Setback Line. Mitigation notice letters are required to be sent to the adjacent property owners (with a copy sent to the City's Shoreline Department) at least ten (10) days prior to the hearing on the application. The mitigation sequence consists of the following steps:

1) Avoid damage to dunes, including human-made alteration of dunes or the beach profile, removal or destruction of vegetation, and removal of sand from the dunes. Permits

allowing damage to dunes shall only be issued where there is no practicable alternative to the proposed activity, proposed site, or proposed methods for conducting the activity.

2) Minimize damage to dunes. If an application for a Beach and Dune Protection Permit or beachfront construction certificate proves to the City that damage to dunes and/or dune vegetation is unavoidable, a permit allowing the unavoidable damage may be issued provided that there is a permit condition requiring that the damage shall be minimized to the greatest extent practicable.
3) Mitigate or compensate for all damage to dunes. Unavoidable damage to dunes and dune vegetation shall be compensated for by the creation of new dunes, the enhancement of existing dunes, and/or the repair of the damaged dunes, as well as the planting of indigenous vegetation. The new, enhanced, and/or repaired dunes shall strive to be superior or equal to the damaged dunes in their ability to protect the community from potential flood damage, to support indigenous flora and fauna, and to protect the adjacent beach from erosion. As per the City's Assessment and Investigation of the Beach and Dune Conditions at South Padre Island (Final Report, 07 June 2022), a primary dune height of ≥ 12.5 feet should be maintained for the most resilient configuration.
4) Compensation efforts shall be continuous and concurrent with the construction until the new, enhanced, and/or repaired dunes and dune vegetation are equal or superior to the damaged dune and dune vegetation. However, in no event shall the compensation process take more than three (3) years. After three (3) years, the permittee shall be liable for penalties if compensation is incomplete unless natural causes have prevented the same.

G. Additional activity permitted through a Beach and Dune Protection Permit includes minor trimming of excess vegetation in order to maintain existing beach access. Trimming means nonpermanent maintenance of dune vegetation through limited mechanical or manual methods, including string trimmers or "weed-whackers," pruning shears, or small hand-held saws. This does not include permanent damage or removal of dune vegetation through mechanical or chemical methods such as heavy machinery of any type, lawn mowers, herbicides, pesticides, or any other chemical substance. The City's dune system has shown and proven to become a well-established system through tremendous growth over the previous years. Nonpermanent trimming within access paths and walkovers has become a necessary maintenance activity to ensure access to the beach is not impeded by the fast-growing dune vegetation.

1) Trimming activity will be permitted only within the immediate vicinity of existing beach access pathways and placed structures such as retaining walls, access matting, or elevated dune walkovers.
    a. Applicants may trim dune vegetation from either side of the boundary of a retaining wall, access mat, or unelevated pathway structure.
    b. Applicants may trim dune vegetation that has grown into the walkway of an elevated dune walkover; however, trimming will not be permitted underneath or outside of the hard boundary of said elevated walkover.
2) Existing organic sand beach access paths with no access mat or unelevated pathway structure shall only be trimmed up to the boundary of the access path and only to maintain a suitable walking distance. The existing organic sand beach access path shall not exceed a total of three (3) feet in width.

3) Applicants may need to perform mitigation for trimming unless they can guarantee no adverse effects to dune vegetation. This means trimming must be nonpermanent and show no removal of dune vegetation root systems or permanent damage to dune vegetation of any type. The Shoreline Department will determine possible mitigation needs on a case-by-case basis.
4) Applicants must contact the Shoreline Department before and after each trimming event. Photos of the area will be required to be submitted before and after each trimming event. Time intervals between trimming events will be determined on a case-by-case basis.

H. Unless otherwise specified within the permit and approved by the City Council, Beach and Dune Protection Permits expire after three (3) years. At this time, the applicant will need to reapply if the activity has not been completed.

**Sec. 22-10.1. BEACH & DUNE PROTECTION PERMITTING PROCESS.**

Any applicant for a Beach and Dune Protection Permit shall be subject to the following review requirements to determine if said activities adversely affect public access to and use of the public beach. No permit shall be issued unless all of the review requirements have been met.

A. The City shall review the proposed development plan, the General Land Office's comments, and other information it considers useful to determine consistency with the *Dune Protection, Beach Renourishment, and Beach Access Plan*.
B. Any development of property seaward of the Dune Protection Line, including but not limited to areas adjoining a designated beach access area, must demonstrate that such development shall not interfere with and/or diminish public access, public beach use, and/or public parking.
C. If the proposed construction is recommended to be permitted by the City of South Padre Island, the application shall also be reviewed for compliance with the *Dune Protection, Beach Renourishment, and Beach Access Plan* and if the proposed activity will adversely affect public access to and use of the public beach.
D. After considering all appropriate information, the City of South Padre Island shall make the determination and shall certify that the construction as proposed either is consistent or inconsistent with the *Dune Protection, Beach Renourishment, and Beach Access Plan*. In which case, the City of South Padre Island must specify how the construction is inconsistent with the Plan or how it will adversely affect public access to and use of the public beach.
E. The City of South Padre Island may include in the permit any reasonable terms and conditions it finds necessary to assure adequate public beach access and use rights consistent with Chapter 61 of the Texas Natural Resources Code. If the proposed activity will impair existing beach access, the applicant must provide equal or better access.
F. There shall be no construction or erection of a permanent structure seaward (east) of the Historic Building Line as depicted on the Map on file with the Shoreline Department of the City of South Padre Island, except for that area designated in the survey labeled "Exhibit B" for Lots 1, 2, 3, & 4 of Block 156 Padre Beach Subdivision, Section X, nor east of the Building Setback Line.

**Sec. 22-11. COMPLIANCE WITH OTHER LAWS.**

A. Permits may not be issued if the proposed activity is determined to be in violation of Chapters 61 and/or 63 of the Texas Natural Resources Code or any other state, local, and federal laws related to the requirements of the Dune Protection Act and Open Beaches Act.
B. Permits may not be issued if the proposed activity is determined to be in violation of the GLO beach access/dune protection rules (31 TAC §§15.1 – 15.10), except as may be authorized by the *Dune Protection, Beach Renourishment, and Beach Access Plan* of the City provided for in this Chapter.
C. A violation of any law(s) related to the requirements of the Dune Protection Act and Open Beaches Act is a violation of this Chapter.

**Sec. 22-12. ADMINISTRATIVE RECORD.**

A. The City shall compile and maintain an administrative record which demonstrates the basis for each final decision made regarding the issuance of permits pursuant to this Chapter. The administrative record shall include copies of the following:
    1) All materials the City received from the applicant as part of or regarding the permit application,
    2) The transcripts, if any, or the minutes and/or tape of the City's meeting(s) during which a final decision regarding the permit was made, and
    3) All comments received by the City regarding the permit, if any.
B. The City shall keep the administrative record for a minimum of four (4) years from the expiration date of a permit. The City shall send to the General Land Office upon request by either agency, a copy of those portions of the administrative record that was not originally sent to those agencies for permit application review and comment. The GLO must receive the record no later than ten (10) working days after the City receives the request. The GLO shall notify the appropriate permittee of the request for a copy of the City's administrative record. Upon request of the permittee, the City shall provide the permittee copies of any materials in the administrative record regarding the permit that were not submitted to the City by the permittee (i.e., the permit application) or given to the permittee by the City (i.e., the permit).

**Sec. 22-13. BUILDING PERMIT REQUIRED.**

If a permit is granted pursuant to this Chapter, the applicant must also obtain a Building Permit from the City of South Padre Island for the proposed activity subject to compliance with all other ordinances and codes of the City, including, but not limited to the Master Flood Hazard Prevention Ordinance. After Beach and Dune Protection and Building Permits are obtained, the applicant must contact the appropriate City staff for all necessary inspections. Failure to call for an inspection when necessary may result in fines, removal, restoration, and/or remediation orders.

**Sec. 22-14. VOIDABLE PERMITS.**

Any permit issued by the City under this Chapter shall be voidable under the following circumstances:

A. The permit is inconsistent with this Chapter or with State law at the time the permit was issued.
B. A material change occurs after the permit is issued.

1) The permittee or applicant shall submit a permit amendment request if material changes occur. Material changes include human or natural conditions that have adversely affected dunes, dune vegetation, or beach access and use that either:
    i. Did not exist at the time the permittee prepared the original permit application; or
    ii. Were not considered by the City staff making the permitting decision because the permittee failed to provide information regarding the site condition in the original application for a permit.

C. A permittee fails to disclose any material fact in the application.

D. A permit automatically terminates in the event the construction comes to lie within the boundaries of the public beach by artificial means or by the action of storm, wind, water, or other naturally influenced causes. Nothing in the permit shall be construed to authorize the construction, repair, or maintenance of any construction within the boundaries of the public beach at any time.

**Sec. 22-15. DUNE PROTECTION, BEACH RENOURISHMENT, AND BEACH ACCESS PLAN.**

A. The City of South Padre Island shall utilize all dedicated street right-of-ways abutting the Gulf of Mexico for public beach access. The City shall endeavor to enhance public beach access through the utilization of twenty-eight (28) beach accesses and through the dedication of private land and/or the acquisition of private land for purposes of providing public beach access. The City Council may provide through the course of budgeting the City's financial resources, funds to improve and/or enhance public beach access points or public recreational facilities. The City may build or require dune walkovers for beach access whenever practicable.

B. The *City's access plan, guide,* and *Implementing Provisions* are contained in the City's *Dune Protection, Beach Renourishment, and Beach Access Plan* on file with the Texas General Land Office.

**Sec. 22-15.1. SIGNAGE.**

The City of South Padre Island shall provide beach access signs and will adopt uniform signage requirements as may be required by any State or Federal regulations.

**Sec. 22-16. APPEAL FROM DECISION OF THE CITY COUNCIL.**

Any person aggrieved by a decision of the City Council may present to any District Court in Cameron County, Texas, a duly verified petition, setting forth that the decision is illegal, in whole or in part, and specifying the grounds of the illegality. The petition must be presented to the court no later than the 20th day after the day the Council renders the decision.

**Sec. 22-17. ACTS PROHIBITED.**

It shall be unlawful for any person to do any of the following acts:

A. To undertake any construction east of the Dune Protection Line without a Beach & Dune Permit.
B. To undertake any retaining wall/walkway maintenance activities without a permit.
C. To violate conditions of any permit issued under this ordinance.
D. To remove sand from the beach system within the City located east of the Dune Protection Line.

E. To remove sand, dirt, or earthen materials from the City limits unless the same is contaminated.
F. The construction of seawalls.
G. To violate any other provisions of this ordinance or the City's approved *Dune Protection, Beach Renourishment, and Beach Access Plan*.

**Sec. 22-18. PENALTIES.**

Any person who commits a violation of any provision of this Chapter and/or the City's approved *Dune Protection, Beach Renourishment, and Beach Access Plan* shall be fined not more than two thousand dollars ($2000.00) as provided by Sec. 21-1 of the Code of Ordinances, and each day that the violation continues shall be a separate violation.

**Sec. 22-19. APPROVAL.**

Pursuant to 31 TAC §15.3(o) of the General Land Office Beach/Dune Rules, which allows local governments to amend their dune protection and beach access plan in a manner consistent with the requirements of the Open Beaches Act, Dune Protection Act, and 31 TAC §§15.1-15.10 of the beach/dune rules, the City of South Padre Island formally submits this amended and revised ***Dune Protection, Beach Renourishment, and Beach Access Plan*** with attached revised local implementing provisions for review and approval.

The prior *Dune Protection, Beach Renourishment, and Access Plan* that addressed dune protection, beach access, and beach renourishment, and which the City Council adopted by Ordinance No. 15-06, dated May 20, 2015, is hereby replaced and superseded by this *Dune Protection, Beach Renourishment, and Beach Access Plan* dated XXX [SECOND ORDINANCE READING DATE] and is hereby approved and incorporated herein for all processes.

The City has submitted Ordinance No. 26-XX as amended (Chapter 22 of the Code of Ordinances of the City of South Padre Island) to the General Land Office pursuant to Chapters 61 and 63 of the Texas Natural Resources Code and rules enacted pursuant thereto.

# Appendix 2

Maps of the Dune Protection Line, Historic Building Line, and Building Setback Line

# Figure 1. City of South Padre Island Dune Protection and Building Setback Lines



# Figure 2. City of South Padre Island Dune Protection and Historical Building Lines

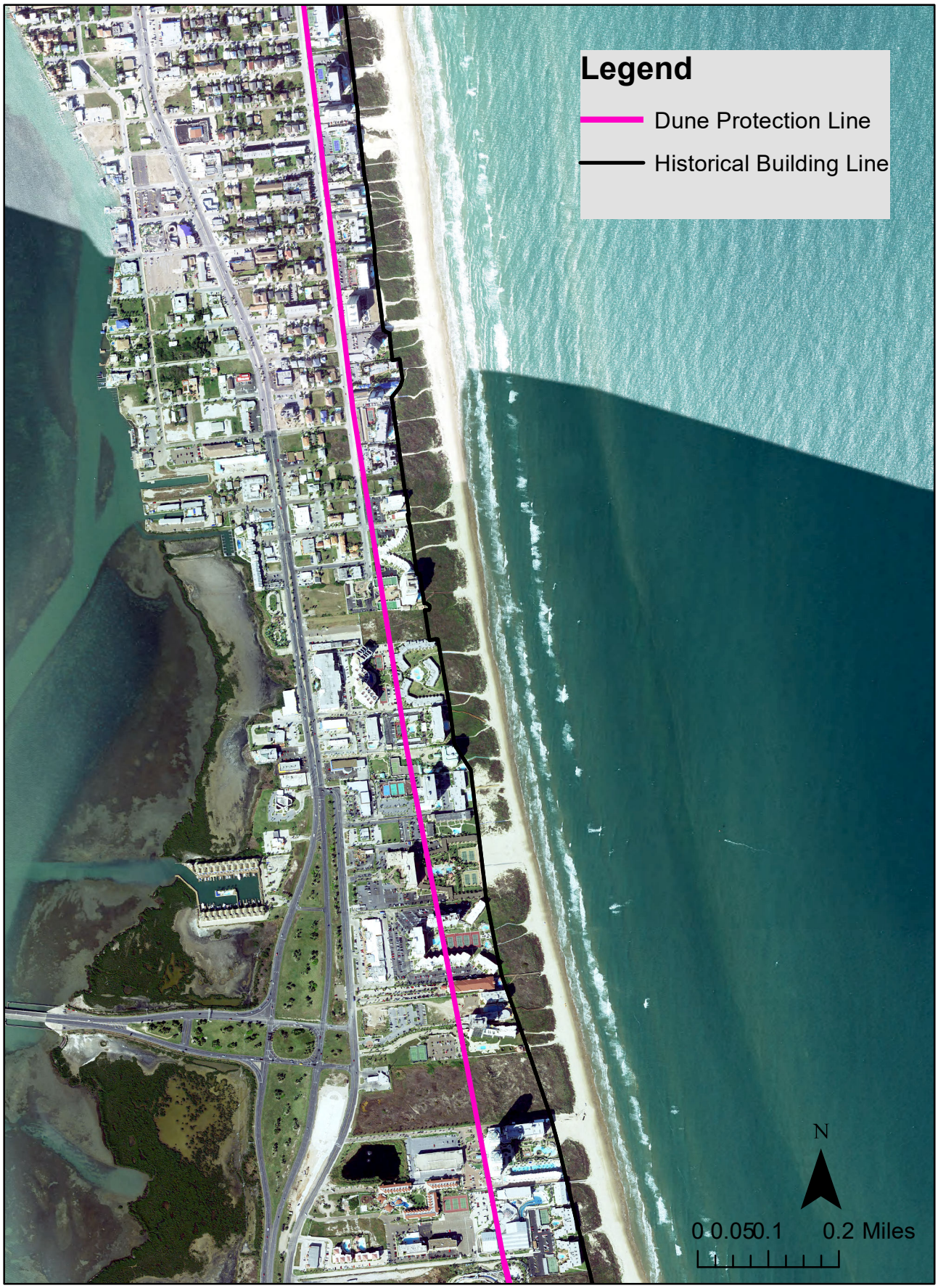


Figure 3. City of South Padre Island Dune Protection and Historical Building Lines



Figure 4. City of South Padre Island Dune Protection and Historical Building Lines



Figure 5. City of South Padre Island Dune Protection Line

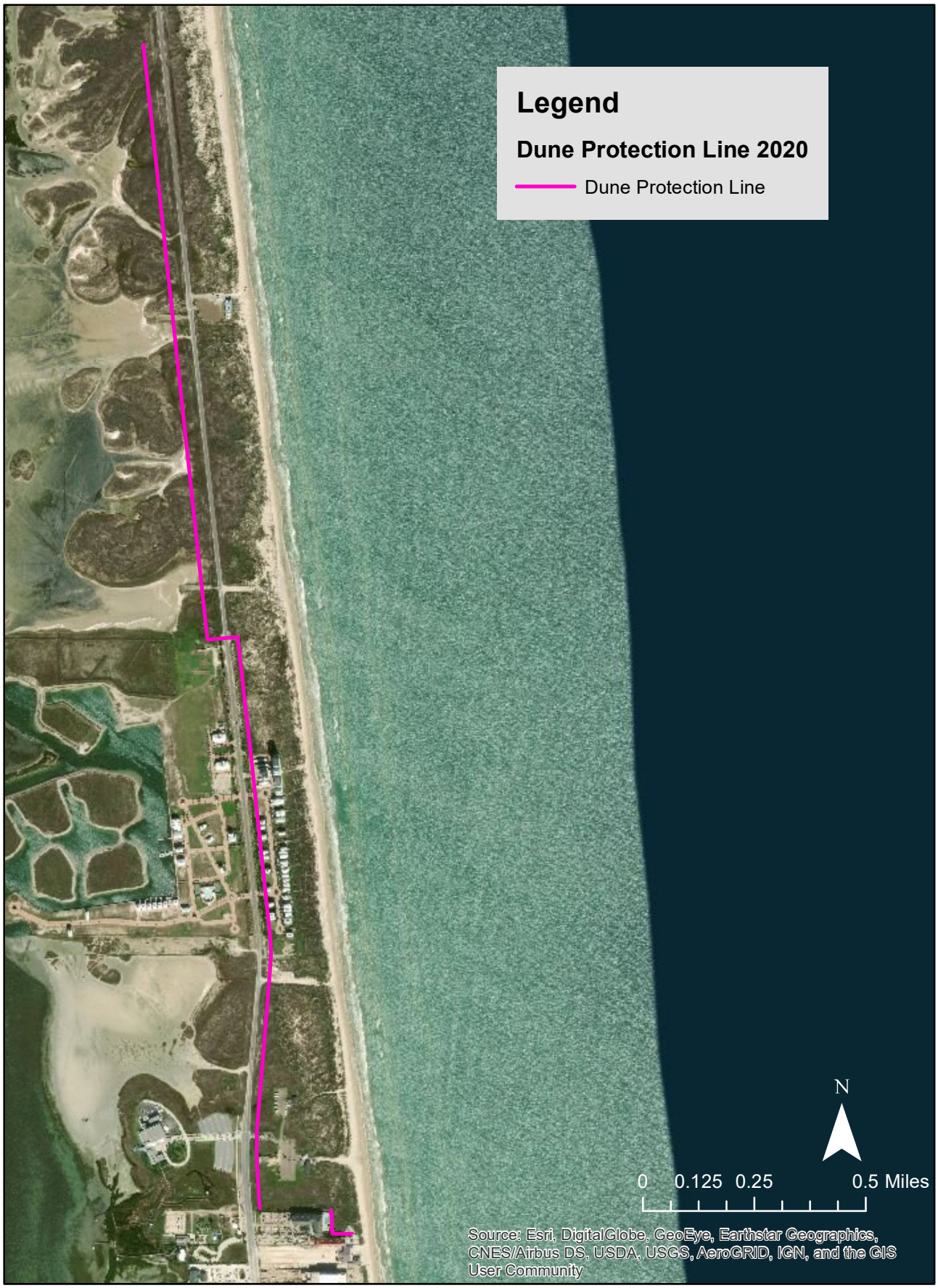


Figure 6. City of South Padre Island Building Setback Line



# Appendix 3

Erosion Response Plan

# City of South Padre Island Erosion Response Plan

Submitted to the
Texas General Land Office
In Compliance with
31 TAC 15.17

Approved for Submission
June 20, 2012

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SOUTH PADRE ISLAND EROSION RESPONSE PLAN

## 1.0 OVERVIEW

Recognizing the long-term benefits of effective shoreline management, the City of South Padre has elected to prepare and implement an Erosion Response Plan.

### 1.1 Purpose

In accordance with state law, the City of South Padre Island has elected to prepare an Erosion Response Plan. In general, the purpose of this plan is to explore means and methods to reduce the public expenditures due to damage to property and infrastructure that can result from shoreline change, erosion, and storm conditions.

In 2009, the Texas Legislature passed House Bill 2571 which mandated that each coastal community develop an Erosion Response Plan (ERP). While this legislative directive is "voluntary," cities and counties that fail to prepare an ERP are ineligible for state assistance under certain grant programs such as the Coastal Erosion Planning and Response Act. It is in the best interest of the City to develop an ERP in accordance with the statute and the regulatory requirements found in Texas Natural Resources Code, §33.607 and Chapter 31, Texas Administrative Code, §15.17 et. seq.

### 1.2 Scope of the Plan

In this plan, the City of South Padre Island has elected to address erosions and storm risks within the current City boundaries. Subsequent editions of the ERP may be added to address potential risks in the undeveloped areas north of the City in what is called its "extraterritorial jurisdiction" or ETJ. The City recognizes that Cameron County currently has principal jurisdiction over beach and dune matters in the ETJ, however, because it is likely the City will annex portions of the ETJ in the future, development in this area may lead to significant financial exposure to the City and its taxpayers from poor development practices and predicted storm damage and shoreline erosion.

### 1.3 ERP Requirements

The detailed requirements for local Erosion Response Plans are set forth in Chapter 31 Texas Administrative Code, §15.17. In general, the rules require that the ERP address the following elements:

- ✓ Construction setback limits
- ✓ Prohibitions on construction seaward of the setback line
- ✓ Exemptions from the setback line
- ✓ Requirements for exempt construction
- ✓ Procedures to preserve public access
- ✓ Procedures for protection and enhancement of dunes
- ✓ Criteria for voluntary acquisition or buyout
- ✓ Post-Storm recovery plans

## 1.4 Process for ERP Development, Adoption and Certification

The process for the development, adoption, and certification of the City's ERP is set forth in the General Land Office (GLO) rules governing the program. Local governments are charged with the responsibility to develop an ERP in draft form for submission to the state no later than July 2011.

Upon submission to the state, the GLO will review the Draft ERP and provide comments to the City. The City will then have the opportunity to undertake necessary and appropriate revisions to the Draft, leading to the submission of a Final ERP. Once in final form, the City will be required to include the Plan as an appendix to its existing Beach Access and Dune Protection Plan.

Following local adoption, the GLO will review the ERP for final certification in accordance with state procedures. To do so, the GLO is required to propose an administrative rule to either reject or certify the City's plan. The proposed certification is published in the Texas Register followed by a minimum of 30-day public comment period. Assuming acceptable public comments and compliance with all regulatory requirements, the GLO can then move forward with final certification of the City's ERP in the form of a final administrative rule. The certification process may require up to 180 days to complete.

Once certified, the City is then required to move forward with amendments to its Beach Access and Dune Protection Plan and ultimately to implementation of the certified ERP. This completes the adoption, approval, and certification process.

## 1.5 ERP Shoreline Data Sources

In developing its City's ERP, the City relied on three principal data sources: (1) the University of Texas Bureau of Economic Geology (UT-BEG); (2) the Texas General Land Office; and (3) data available through the City's beach management program archives.

Shoreline change rates, beach profiles, and projected shoreline positions were obtained from the UT-BEG. From the GLO, the City obtained the 2009 Texas Coastwide Erosion Response Plan, which includes substantial data and information necessary for the local plan, LIDAR elevation data, and updated aerial photography of the City's shoreline. Finally, the City compiled data on previous beneficial use projects, updated shoreline profiles, dune enhancement projects, and cost estimates for various shoreline management activities. No new survey data was collected in the field during the course of developing this ERP.

# 2.0 CURRENT SHORELINE MANAGEMENT PRACTICES

## 2.1 Periodic Nourishment/Beneficial Use

For more than ten years, the City has worked with the U.S. Army Corps of Engineers to place sand dredged from the federally maintained Brazos Santiago Pass on its beaches. This beneficial use

project is a critical component of the City's shoreline management program and will remain a cornerstone of the ERP.

Table 1 shows the history of beneficial use projects within the City, beginning in 1997 and extending through March 2011. The beneficial use projects are shaded in orange and constitute the largest source of sand volume placed on the beach during the reporting period. Over the 14 years, total sand volume placed reached 2,774,390 cubic yards.

Project costs for all efforts identified totaled $18,885,015, with the City assuming $1,636,832 of the cost. The remaining costs were paid by the state or federal government, depending on the specific project type and the financial arrangements made among the parties.

| Table 1: City of South Padre Island Renourishment History | | | | | | Note: Beneficial Use Projects are in Orange |
|---|---|---|---|---|---|---|
| ***Project Date*** | ***Sand Source*** | ***Project Location*** | ***Project Length (ft)*** | ***Fill Volume (cu yds)*** | ***Cost of Project*** | ***Cost to City*** |
| Feb 1997 | Dredge Brownsville Ship Channel | 3.5 - 4.5 mi from Jetties; Padre S north to Suntide | 8,100 | 489,211 | $1,938,700 | $661,259 |
| Feb 1999 | Dredge Brownsville Ship Channel | 1.5 - 2.25 miles from Jetties; Radisson N to Padre Grand | 4,600 | 494,766 | $3,136,170 | $55,388 |
| May 1999 | Highway 100 Sand | Tiki south to Inverness | 3,200 | 41,628 | $48,500 | $22,565 |
| Dec 2000 | Dredge Brownsville Ship Channel | Bahia Mar S to Starlight Circle beach access | 5,200 | 366,886 | $2,277,893 | $177,314 |
| Feb 2001 | Highway 100 Sand | Tiki south to Inverness | 3,200 | 27,956 | $107,200 | $3,200 |
| Jan 2002 | Highway 100 Sand | Tiki south to Inverness | 3,200 | 23,895 | $109,917 | $3,125 |
| Nov 2002-Jan 2003 | Highway 100 Sand | La Quinta/City limits S to Inverness | 3,800 | 81,252 | $37,644 | $9,411 |
| Nov 2002 | Dredge Brownsville Ship Channel | Neptune Circle N to Gay Dawn Circle | 2,400 | 306,402 | $2,946,400 | $183,210 |
| Dec 2003 | Highway 100 Sand | La Quinta/City limits south to Inverness | 3,800 | 53,560 | | |
| Nov 2004 - Jan 2005 | Dredge Brownsville Ship Channel | Neptune Circle N to Gay Dawn Circle | 1,200 | 261,600 | $1,495,000 | $84,525 |
| Feb - Mar 2007 | Highway 100 Sand | La Quinta/City limits S to Good Hope Circle | 4,400 | 71,045 | $432,133 | $108,033 |
| Feb - Mar 2008 | Highway 100 Sand | La Quinta/City limits S to Inverness | 3,800 | 100,178 | $528,545 | $132,136 |
| Dec 2008 – Mar 09 | Dredge Brownsville Ship Channel | Gay Dawn Circle to White Sands | 2,200 | 406,000 | $5,600,000 | $139,938 |
| Mar 2009 | Highway 100 Sand | White Sands to La Quinta/ City Limits | 900 | 50,011 | $226,913 | $56,728 |
| Mar 2010 | Dredge Brownsville Ship Channel | Parkshore to N of La Quinta | 2500 | 130,000 | $1,839,222 | $138,750 |
| Mar 2011 | Dredge Brownsville Ship Channel | Northern City Limits | 2500 | 367,000 | $4,017,000 | $600,000 |
| Totals | | | | 2,774,390 | $18,885,015 | $1,636,832 |

## 2.2 Dune Enhancement/Dune Planting Program

In 2009, the City initiated a Dune Enhancement and Planting Program to respond to dune losses following Hurricane Dolly and Hurricane Ike. This program has evolved and grown to become an integral element of the City's shoreline management program and a cornerstone of the Erosion Response Plan described in this report.

The preservation and restoration of the dune line provides many benefits to the City and its residents. Land Commissioner Jerry Paterson succulently articulated the value of dunes in the agency's Dune Protection Manual:

> "The Texas Coast is an environmental and economic treasure composed of interlocking, interdependent ecological systems. Coastal sand dunes are a crucial part of that system. Dunes serve not only as vital habitat for numerous native plants and animals, but an irreplaceable recreational resource upon which humans must tread lightly."

Most beachfront property owners today understand that the dune line provides an effective natural barrier to erosion, flooding, and storm damage that protects public and private property, including inland infrastructure. In addition, visitors appreciate that the dune system provides habitat for local plants and animals. It is generally well understood that healthy dunes create a "sand savings account" for the beach itself. While a seawall or other hard structures can undermine the beach -- because they focus and refract wave energy back to the sandy beach -- a healthy dune system can better absorb wave energy and provide a source of sand to the beach when it is under wave attack. Sand that is stored in the dunes is beneficial to the function and stability of the beach. During storms, dune sand can be redistributed down the beach face by wave attack and erosion, where summer currents can move it back to beach face. This "sand cycle" is well described in the GLO Dune Protection Manual:

> "During a storm, high-energy waves flatten the beach. Waves washing against the base of the foredunes erode sand, undermining and collapsing the seaward dune face. In severe storms, the dune face commonly recedes several yards — in extreme cases as much as 100 yards — leaving a steep cliff. Sometimes dunes are completely destroyed. Retreating waves carry the eroded sand offshore and deposit it just seaward of the surf zone in large bars. This process of dune erosion and sand movement dissipates much of the energy of storm waves. Sandbars also dissipate storm wave energy by causing waves to break further offshore.
>
> If the supply of sand remains constant, the natural exchange between the beach, dunes, and offshore areas will repair and rebuild dunes to a height and width determined by local conditions. However, the loss of vegetation that traps and holds sand makes the beach and dunes more susceptible to wind and water erosion, thus inhibiting their recovery from storms. Bays, channels, marshes, and grass flats behind the weakened foredune are exposed to storm-surge flooding and to accumulation of windblown sand." (*Dune Protection Manual,* Chapter 2, page 5).

Starting in 2008, the City of South Padre Island, in cooperation with the South Texas Surfrider Foundation South Texas Chapter and University of Texas Brownsville (UTB), initiated a pilot project to harvest dune plants for dune restoration projects following Hurricanes Dolly and Ike. Harvested plants were transported to the UTB greenhouse where they were propagated and eventually replanted on the City's dunes as part of the post-hurricane recovery effort. While this modest pilot program planted a few thousand plants here and there, it demonstrated that the parties could cooperatively work together and that dune plantings could be successfully completed, leading to a more organized and comprehensive effort.

2.2.1 2010/11 Plantings

In 2010, the City developed a more aggressive dune-planting schedule with the goal of 8,000 to 10,000 plants per planting event. Planting projects started in December 2010 and were scheduled once a month through May 2011, with the specific goal of installing approximately 50,000 plants along the most narrow and vulnerable sections of the City's beaches. As the program expanded, property owners and homeowner associations raised concerns that the dune enhancement/planting projects could elevate the dunes, blocking the view from ground-level condos or rooms. However, but constructively working through these issues, many of these concerns have been resolved. Many property owners recalled that even though Hurricane Ike made landfall in the Galveston, Texas area, more than 300 miles to the north, the storm produced significant storm surge and dune damage in South Padre Island. Presently, there is greater appreciation for the dune enhancement/planting program and increasing landowner demand for projects along the City's beachfront.

The dune enhancement and planting program has been successful. Over the last year, the vegetation planted by the volunteers has become more established and, most importantly, monitoring has shown that the root systems have extended into the dunes, increasing their stability. Starting in December 2010, the City hosted one Saturday morning volunteer planting events each month until May. In all, more than 400 volunteers have participated in the program from various organizations including students from South Texas College and the University of Texas at Brownsville, Texas Master Naturalists, winter visitors, island locals, and students from school districts across the Rio Grande Valley. More than 350 local elementary school kids from the 3rd, 4th, and 5th grade levels have participated through school field trips to the beach where they were taught the importance of the dunes and given a chance to help plant dune vegetation.

Since the program's inception, the City purchased more than $21,000.00 of dune plants and, with the help of the volunteers, was able to substantially reduce its installation costs. To date, volunteer have donated approximately 2,100 man-hours to the program, saving the City approximately $50,000.00 in labor costs.

### 2.2.2 2011/12 Plantings

The City and the Surfrider Foundation South Texas Chapter hosted 7 volunteer events and school field trip for the 5th graders of a local elementary. Together a total of 50,000 indigenous plants were planted in bare areas that were low in elevation and vulnerable.

### 2.2.3 Volunteer Reports

The value of these dune enhancement/planting projects goes beyond the number of volunteers, the plants installed, or even the size of the dune area restored. Certainly, the projects have a positive environmental, ecological and even economic impact, as difficult as it may be to quantify these benefits. Through this program, the City and its partners are also changing the community's ethic and enhancing the public's understanding of beach and dune system. The City has brought together disparate groups from around the region and given them an opportunity to invest their time and energy in the betterment of South Padre Island's beaches. In the process, these volunteers are educated about the function and value of a healthy beach/dune system. Participants unavoidably gain a vested interest in the protection and maintenance of the island's beaches and dunes, an investment that cannot be measured in dollars or statistics. The SPI Dune Enhancement and Planting Program has helped create a more educated, caring, and motivated beach community and it is hoped the participating volunteers will share their knowledge and their desire to protect our local beaches with others for many years to come.

## 2.3 Seaweed Management

Over the years, the City has developed a set of guidelines governing seaweed management on the beach. These guidelines have originated through practice and experience and are generally consistent with sound practice. However, given the significant influx of seaweed that can occur during the Spring months, the City seeks to maximize the benefits to the dune system by improving its seaweed and beach maintenance practices.

### 2.3.1 Goal

The goal of the City's seaweed management program is to limit damage to the beach dune system from raking activities and promote the formation of a continuous dune system along the City's developed beachfront. The presence of seaweed along the beach is not detrimental to the condition of the shoreline itself but can be a nuisance to beach visitors. In general, the City will seek to limit seaweed raking and mechanical beach manipulation to circumstances clearly warranting the relocation of seaweed.

Harvesting the Sargassum/other seaweeds for placement of coppices and dunes is a beneficial and valuable practice. Sargassum relocation from the beach, however, should conform to the City's management and scheduling requirements.

2.3.2 Methods for Sargassum Relocation

When relocating Sargassum from above the high-tide line, care should be taken to separate the seaweed from the sand substrate, i.e., with hay rakes (tine equipped) or sand sifting machinery rather than with bulldozer blades. Doing so will allow the surface sand, deposited there by the surf, to keep in service as a supply source for both the dunes, by wind-driven sand, and for nearshore berms and terraces. This dynamic of exchange back and forth between the beach and the nearshore serves to maintain a proper sand budget for both tiers. Removing sand along with the Sargassum and even more so with hauling beach sand to supplement dune elevation, subtracts some supply from the equation. While wind does move beach sand landward regularly, relocation of sand unauthorized by the Coastal Resources Manager should be prohibited.

2.3.3 Location and Timing of Seaweed Relocation.

The City seeks to limit the location and timing of its seaweed management practices to those areas that warrant seaweed relocation mechanically and to the seasonal demand of the beach. Within the City Limits all areas are highly used by the public since all beach areas are in front of condominiums and hotels. Areas that have a higher demand are generally more appropriate for seaweed relocation than rarely used stretches of the shoreline.

Weather forecasts and tides are always considered when determining the whether to relocate seaweed or to wait.

2.3.4 Seaweed Coverage.

The City seeks to limit seaweed relocation to circumstances where seaweed coverage and deposition interfere with the public's use and enjoyment of the beach. This subjective decision is a matter of judgment and can be exercised by the Mayor, City manager, Public Works Director, or the Coastal Resources Manager.

2.4 Management of relocated Seaweed.

In the course of the year, the City relocates thousands of cubic yards of seaweed on the beach. This volume constitutes a significant resource, as it is excellent dune building material. The City's intent is to maximize the benefits that can be obtained by effectively using the raked seaweed to rebuild to dunes, fill in gaps, and raise the elevation of portions of the backbeach that lead to washouts and inundation. These areas are typically vegetated through the dune volunteer program to encourage seaward migration of the vegetation line.

The City is continually adapting its beach maintenance practices to use the most up to date information available.

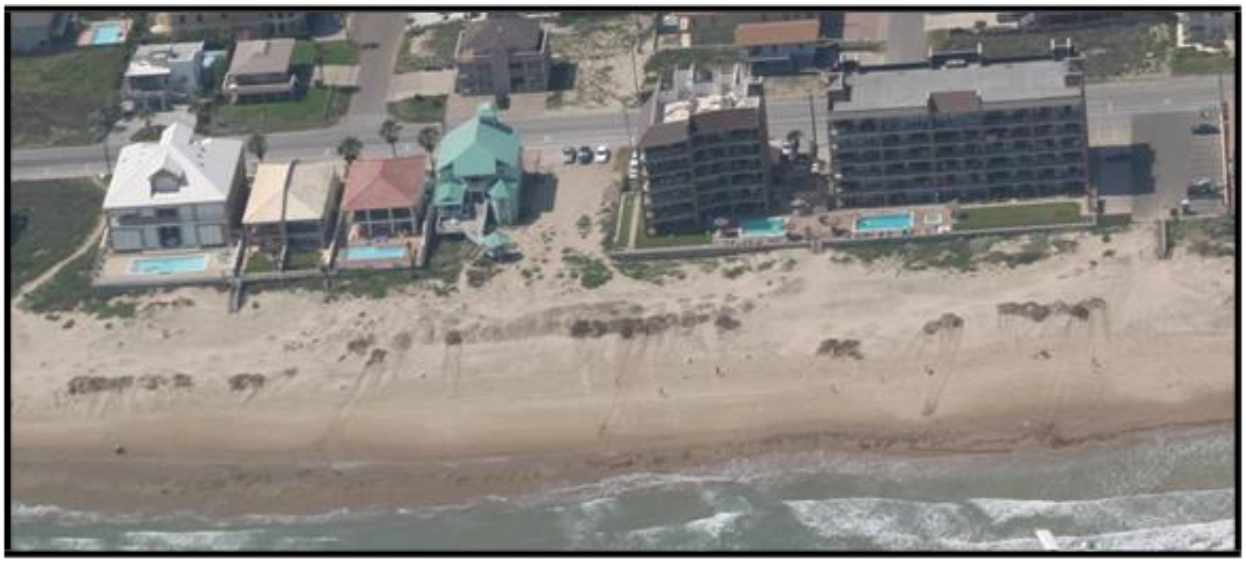


Photo 1 – Typical Seaweed Management showing deposition of seaweed on upper beach (*Photograph by Nancy Marsden, March 10, 2007*)



Photo 1b – Same section of beach from above showing the results of the City's seaweed management and volunteer plantings programs (*Photograph by Richard Stockton, May 2012*)

## 3.0 EXISTING SHORELINE CONDITIONS

The purpose of this section is to generally describe the shoreline conditions that exist within the jurisdiction of the City of South Padre Island. In general, the assessment is divided into three broad subject areas: (§3.1) the Beach and Beach Profile, (§3.2) the Dune System, and (§3.3) Beach Accessways.

### 3.1 Beach and Beach Profile

The Gulf of Mexico shoreline is a continuous, sandy beach/dune system within the City and extending to the south and north of the City. To the south, about 1 mile of beach separates the City portion of the beach from the north jetty of the Brazos Santiago Pass, a deep-draft federal navigation channel. To the north, over six miles of undeveloped beach, most of which is within the City's extraterritorial jurisdiction (ETJ), separates the northerly City limit from the southerly limit of the Padre Island National Seashore.

About 5.5 miles of sandy beaches lie between the southerly and northerly City limits, including about 0.75 miles within Andy Bowie County Park near the north end of City. Virtually all of the property immediately landward of the beach is developed with the exception of the county park.

Construction of the navigation jetties at Brazos Santiago Pass in 1935 has caused profound changes to the beach/dune system in the City. The jetties as well as the deep-draft channel act as barriers to both northward and southward longshore transport of sand along the beach and in the submerged nearshore.

Over the long term (years to decades), more sand travels toward the north than to the south at this point along the Gulf shoreline. As a result, construction of the jetties caused sand to accumulate on the south side of the south jetty, while the beach to the north of the north jetty was starved. Initially, this resulted in a rapid retreat of the Gulf shoreline in the southerly part of the City. City beaches are also adjusting to ongoing sea level rise by migrating landward and upward over the long term.

After significant initial shoreline retreat during a period of adjustment to the new conditions with the jetties and channel, the beach to the north of the jetties became sheltered such that sand arriving from the north now becomes trapped in the jetty's shadow. Shoreline retreat in the southerly end of the City has effectively ceased and seaward advance has now been documented. The northerly portion of the City still experiences shoreline retreat, with a more or less stable shoreline segment in between (see Figure 1).

City streets and individual property lines were laid out decades ago, such that changes in the beach location due to shoreline advance and retreat have affected the depth of the beach/dune complex between the Gulf of Mexico and the beachfront development.

It is apparent when viewing the present shoreline location relative to streets and developed properties that the shoreline has rotated in a counterclockwise direction about a point roughly three miles north of Brazos Santiago Pass. Cross-shore beach surface profiles extending from the dunes out into deep water and taken at intervals along the beach appear to be very similar from the south end of the City to the north end, even though the profiles are migrating seaward (south end) or landward (north end) over time such that the effects of development on the landward ends of the profiles are quite different.

### 3.1.1 Shoreline Change Rates

The State of Texas has designated the University of Texas—Bureau of Economic Geology (BEG) as the official repository of statewide shoreline change information. BEG mapped historical shorelines using data beginning with charts from the mid-19th Century, to 20th-Century aerial photography, to 21st Century Lidar. Longterm average annual rates of shoreline change were determined based on comparisons of these historical shorelines. The determinations generally do not consider the physical processes causing shoreline change; rather, they are only indications of past rates of such change.

Along the Texas coast, there is considerable variability in actual shoreline change rates from year to year. A typical cycle consists of a large storm-induced retreat followed by months and sometimes years of recovery during relatively benign wave conditions. Shoreline locations also vary seasonally, typically exhibiting winter retreat and summer advance.

For purposes of this Erosion Response Plan, the beaches within the City are divided into three zones based on BEG analyses (see Figure 1):

1. The Southerly Zone of Accretion (green) – average annual shoreline advance in excess of +2 ft, a shoreline reach roughly 12,000 feet in length;
2. The Central Zone of Stability (yellow) – average annual shoreline change of -2 ft to +2 ft, a shoreline reach roughly 4,000 feet in length; and
3. The Northerly Zone of Erosion (red) – average annual retreat of greater than -2 ft, a shoreline reach roughly 11,000 feet in length.

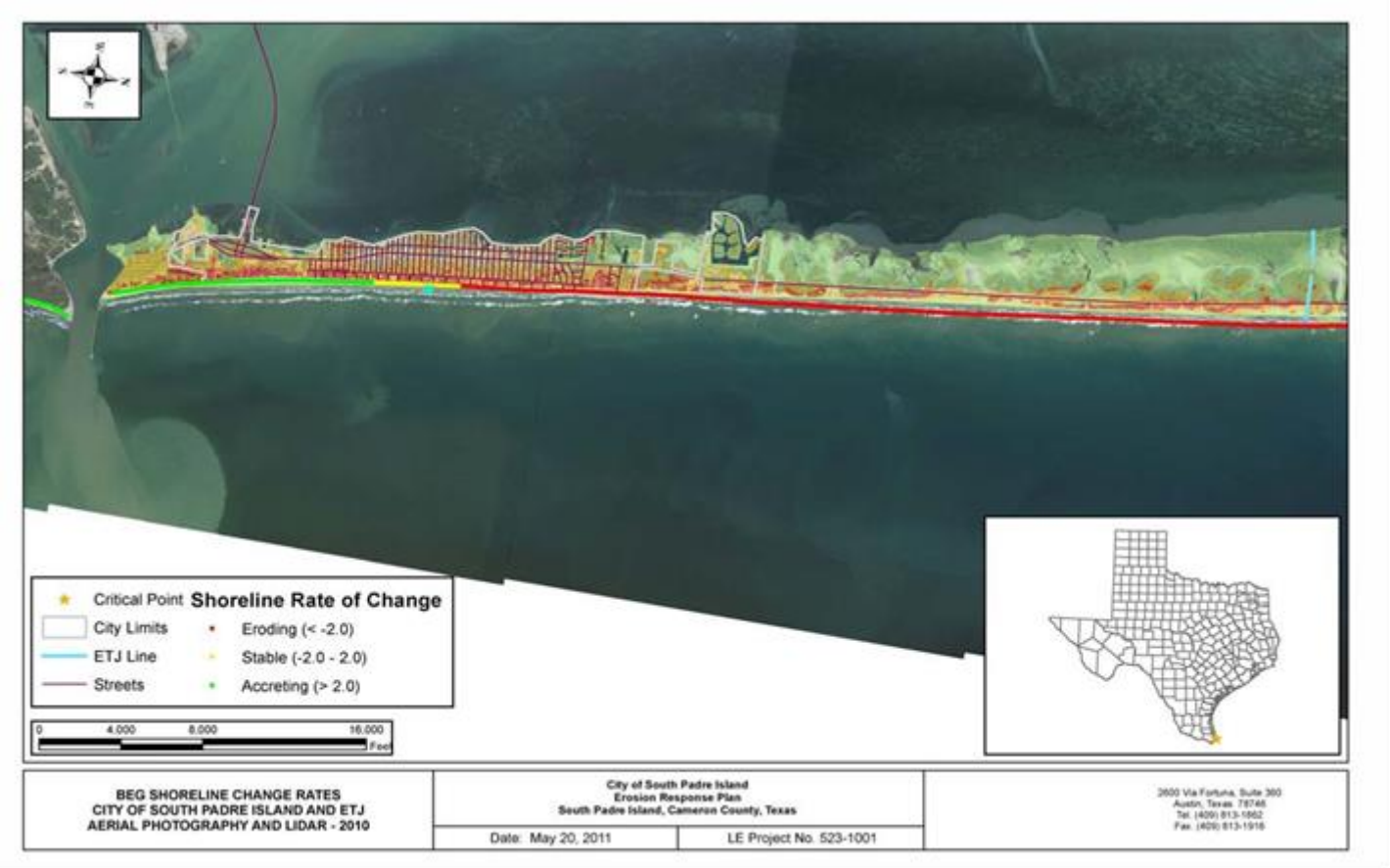



Figure 1. SPI Accreting, Stable, and Eroding Zones

### 3.1.2 Annual Volume Losses and Gains

Data regarding the magnitude of sand deficits and surpluses at locations along the City beachfront is useful to inform any discussion of reasonable alternative actions to address shoreline retreat and reduce future public expenditures due to erosion and storms. The BEG shoreline change rates provide an excellent basis for a planning-level estimate of the volume (quantity) of sand needed to offset some or all of the sand deficit within the City, (including the effect of sea level rise) that results in shoreline retreat.

Knowledge of volume requirements leads directly to cost estimates of sand management strategies. Once these strategies can be viewed in dollar terms, they can be compared to the costs of dissimilar alternative strategies such as land purchases or constraints placed upon development or post-disaster reconstruction.

To the extent that the ERP is by definition intended to address the effects of erosion, the southerly accreting beach is not an obvious focal point of planning efforts. Dune resilience and public access issues in the accreting area are addressed elsewhere in the ERP. However, it is important to understand the extent of sand accretion in this area as a potential resource for

combating sand deficits and shoreline retreat in areas further to the north while acknowledging potential equity issues that may arise depending on the response approach being considered.

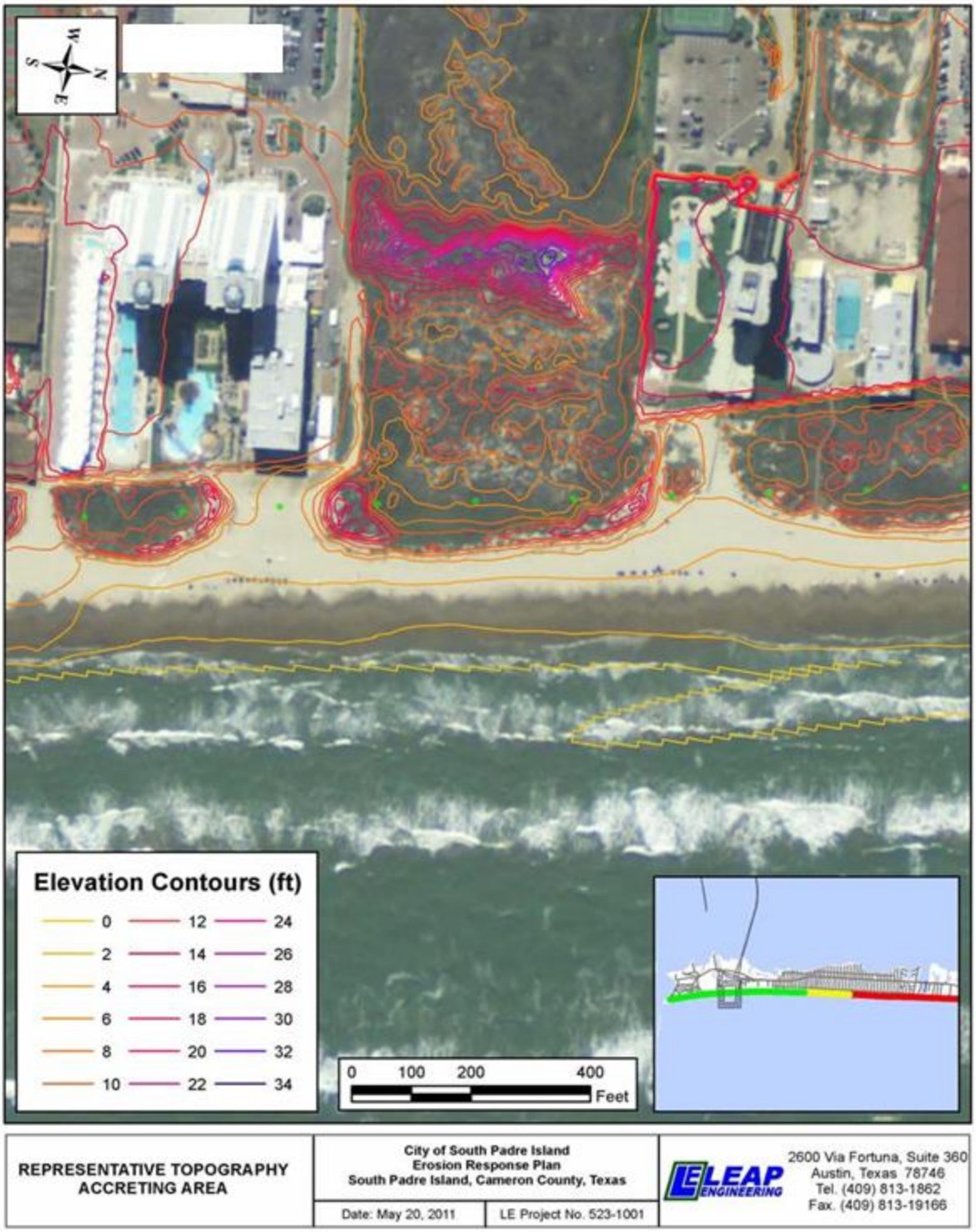
The notion of an annual volume change is useful for planning and cost estimating, but to reiterate the discussion of shoreline change rates, the mechanism of change is generally not a steady gain or loss of sand. Rather, episodes of large changes are separated by potentially long periods of recovery to equilibrium. That equilibrium may be (and generally is) a gradual gain or loss over the long term. These mechanisms should be kept in mind during the development of response measures.

Planning-level estimates of average annual volume change were developed using typical beach profiles taken in the accreting (south), stable (central), and eroding (north) zones of the City beachfront and translating them landward or seaward. This simple estimation approach is appropriate in the context of the ERP level of effort and is not the result of an original, rigorous analysis of coastal processes. For ease of comparison, quantities are broken down to cubic yards of sand per foot of beach (cy/ft) throughout the ERP. This unit can be multiplied by a selected dollar amount per cubic yard ($/cy) to arrive at a cost per foot of alongshore beach length ($/ft).

- ✓ In the accreting zone, where average annual shoreline advance ranges from 2 ft to about 10 ft, the average annual increase in sand volume ranges from 2 cy/ft to 11 cy/ft.
- ✓ The stable zone, by definition, does not have an average annual accretion or erosion quantity.
- ✓ In the eroding zone, where average annual shoreline retreat ranges from -2 ft to about -5 ft (within the City limits), the average annual decrease in sand volume ranges from 2 cy/ft to 5 cy/ft.

Note that the effects of sea level rise are captured within the BEG rates and do not need to be added to the calculations based on the BEG rates.

In the three figures below (designated 2a, 2b and 2c), typical areas are shown in each of the three beach sections – accreting, stable and eroding.




In Figure 2a, it is apparent that sufficient beach depth exists for a dune system and dune elevations can reach +14 feet or greater. Beach conditions in the accreting area are thus conducive to dune restoration, enhancement, and replanting.




Figure 2b depicts a typical section of the beach/dune system in the stable area. Here, dunes are typically narrower than those found further south and dune elevations are usually lower. The lack of dune walkovers results in the proliferation of footpaths through the dunes and fragmentation of the system.




Figure 2c depicts a typical section of the beach/dune system in the eroding area. Here, dunes are extremely narrower than those found further south.

### 3.1.3 Areas of Concern

It comes as no surprise locally that the area of greatest general concern is the northerly zone of retreating shorelines, as depicted in Figure 2c, above. Progressing northward from the jetties, the beach generally narrows and is subjected to increasingly higher erosion rates. At the northern City limit, in the vicinity of Andy Bowie Park, the narrow beaches leaves limited area for the formation of dunes and, where dunes are found, they are typically lower, more fragmented, and provide less protection to the dunes found in the southern reach of the City's beach.

As described previously, the shoreline is rotating in a counterclockwise direction, while the historical building line and the existing beachfront buildings within the City remain stationary. Other more localized areas of concern are portions of the beach were dunes do not exist at the landward side of the dry beach, as shown in Photo 2 below.



Photo 2 – Dunes are limited or poorly formed in eroding areas along the northern reach of the City's beach (*Photograph by Richard Stockton, May 2012*)

These narrow beach areas are more susceptible to downcutting (vertical erosion), causing sand loss either seaward into deeper water or landward into the developed area and lost to the beach/dune system. This is because the dune provides a barrier to landward washover as well as a reservoir of sand that is drawn down to the beach during elevated tides and high wave action. Without this barrier and reservoir, much more sand loss can occur.

Washovers do occur periodically, and result in the transport of significant quantities of sand into the Laguna Madre and seaward into deep water. These quantities are effectively lost to the beach/dune system, although sand washed into the Laguna is a natural part of the barrier island's response to rising sea level as the island moves landward and upward.

Natural washovers tend to reappear in similar locations over time. In addition, development patterns can create manmade washover opportunities. A shore-perpendicular street end not adequately protected by a dune is an example of a washover opportunity.

In terms of other beach responses to storm activity, any structural feature that is impacted by wave action has an effect on the beach profile at that location and upon adjacent areas. Any exposed feature such as a seawall, dune walkover, or pavement will have an effect. Mitigation opportunities to address washovers and structural impacts are discussed elsewhere in this report.

Although dunes and dune maintenance/mitigation are also discussed elsewhere in this report, it is worth noting that dunes cannot be readily sustained at a location on the beach that is too low to provide for a roughly 200 ft depth of sandy beach between the typical water line and the foredune (see Figure 2c, Photo 3, and Photo 3b).



Photo 3 – Narrow beach at White Sands St., dune restoration would be problematic seaward of the structure (*Photograph by Nancy Marsden, March 10, 2007*)



Photo 3b – Narrow beach at White Sands St. (*Photographed by Richard Stockton, May 2012*)

That is to say, in northerly areas or any area where the wet beach is typically within roughly 200 ft of the historical building line, beach nourishment of the dry beach and submerged nearshore is appropriate before or in conjunction with dune building efforts. Otherwise, restored dunes will tend to be short-lived and only serve to nourish the beach with sand while losing the value of any dune mitigation/planting/watering efforts.

#### 3.1.3.1 Hot Spots

The BEG shoreline change data portrays a fairly consistent progression of changing rates from south to north along the City beachfront. One example of a relative hot spot can be seen near the northerly City limit. This localized increase in the BEG retreat rate is likely an artifact of the location being a historical natural washover area, although fill associated with the development of this portion of the beachfront has restored elevations such that the washover will not be easily activated.

#### 3.1.3.2 Developed and Undeveloped Beachfront Tracts

The vast majority of beachfront properties within the City are developed, including bulkheads along the historical building line. From an erosion response perspective, there is little to suggest at this point that infill development of the remaining undeveloped parcels will be detrimental to City-wide erosion response.

Protection of the built environment landward of the beach from damage caused by coastal storms is dependent upon the maintenance of a healthy, continuous dune system which is itself predicated on a dry beach of some depth between the typical water line and the dunes.

Anecdotal evidence suggests that ongoing dune building/restoration activities have resulted in some seaward advance of the beach itself. Such a result is not inconsistent with the coastal processes at work in SPI to the extent that the restored dunes are contributing sand to the beach over time. However, within the limited scope and level of effort facilitated by the production of this ERP, there is insufficient evidence to make a strong determination of either correlation or causation of this effect.

#### 3.1.3.3 Vulnerability

The City, including its public infrastructure and private property, is vulnerable to the effects of beach erosion in several ways, including the following:

- ✓ Discrete events (storms) – High tides and waves can directly impact and cause damage to infrastructure and property that is not adequately separated from Gulf waters by a continuous and robust beach/dune system.
- ✓ Washover – Internal flooding within the City can occur as a result of activation of natural or manmade washover locations allowing high Gulf water levels to encroach landward of the dune system.

- ✓ Sand deficit – Assuming a static building line, sand deficit causes the landward retreat of the beach/dune system over time. Eventually the stationary structures impact the retreating dunes and beach, weakening the City's defense against coastal storms and increasing the frequency and severity of damage.
- ✓ Relative sea level rise – The natural response of a barrier island to progressive sea level rise is for the island to "roll over" as washover deposits raise elevations in the back bay. This process is ongoing in SPI despite the presence of development.
- ✓ Effects of built environment – The built environment primarily affects the availability of sand to the beach/dune system. The navigation channel and jetties starve the entire City of beach sand, while beachfront development both captures sand beneath pavement and causes more wind-transported sand to be lost to landward areas.
- ✓ Vehicle/pedestrian impacts – Public vehicles and pedestrians cause damage to dune vegetation and the loss of dune elevation. The resulting weakened dune system is more susceptible to wave erosion and washover.

## 3.2 Dune Complex and Uplands

The following descriptions are based on 2011 observations and data, which follow a period of relative quiet, in terms of the absence of severe storms and wave action along South Padre Island's Gulf shores. i.e., without serious beach/dune erosion and loss.

### 3.2.1 Location, Elevation, and Depth of Dunes.

Dunes are found in both healthy and degraded states in the City's jurisdiction, the better dunes being components or parts of continuous dune fields or systems. In the south, certain areas are devoid of dunes, having been removed over time by recreational use, beach access, and storm surge (see Photo 4 below).



Photo 4 – Typical area where dunes have been damaged by recreational use and beach access, showing Franke Plaza, Radisson, and Coca Cola Beach (*Photo by Nancy Marsden, March 2007*)

In the beach's central section, dunes are fairly continuous, with disruptions for the causes similar to the south beach examples but of generally smaller magnitudes. In the north, particularly in the City's ETJ, with sparser development to date, dunes are generally broader and higher, are components of integrated natural dune fields, and have experienced fewer disturbances other than natural dune migration and wind- erosion dynamics



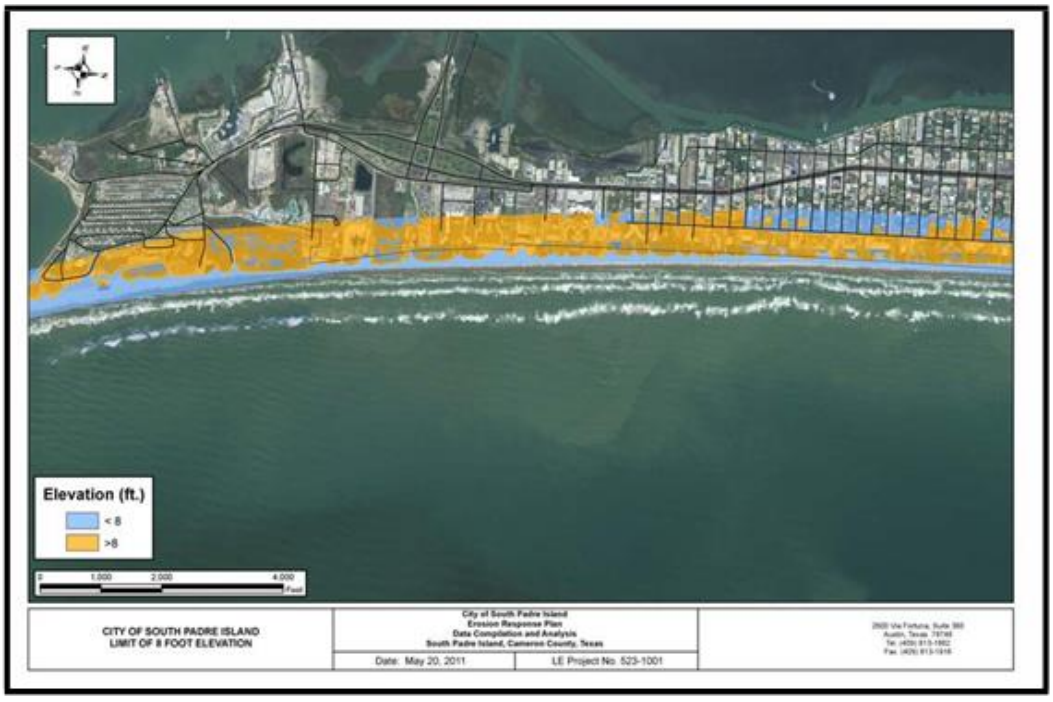
Photo 5 – Area of generally continuous dunes with intermittent footpath damage (*Photo by Richard Stockton, May 2012)*

Dune Elevation: At the south end, most dunes are on average below 7 feet in elevation above grade, with many below 5 feet. In the center, stable and vegetated dunes range in elevation, on average, between 6 and 11 feet above grade. In the north, the average is higher, with some stable and vegetated dunes reaching 12 to 16 feet in elevation or higher. In the developed areas of the beach, as previously noted, many dunes have been disturbed, eroded, and/or removed.

Dune Depth: In the more extensively disturbed areas, some dune formations have disappeared entirely, while remnant dunes, mainly low in elevation, vary from 20 to 40 feet in depth (running landward from the shore), in many examples. In the slightly disturbed reaches, some largely intact dune clusters extend 50 to more than 100 feet in depth, with fairly distinct foredunes, interdune areas, and backdunes. In the least disturbed areas, primarily in the north of Andy Bowie Park, including the ETJ, dune fields are found in excess of 200 feet in depth. Where housing and other development has not yet occurred along Gulf Boulevard in the north, many dune fields extend the full distance between high beach and the road, in many cases in excess of 300 feet.

Analysis of 2010 survey data reveals that a significant percentage of the landward beach area within the City limits -- the zone of potential for dune development -- is actually covered by established and emerging dunes. The City would gain in protection from storm damage protection were this percentage to increase.

Figure 3a below shows beach elevations above and below +8 feet, with areas shaded gold being greater than +8 ft. In this figure, it is typical that beach and dune elevations reach at least eight feet, but areas of lower elevation, usually coinciding with foot paths, access roads, or dune areas cleared to expand the dry beach, can be seen.



3.2.2. Dune Vegetative Cover.

Where dunes have been protected, both by dune fencing set to augment the dunes by sand trapping and by owner and visitor adherence to City and non-profit organizational guidance on dune protection and sustainability, dune plants are well established (see Photo 5 above). The City, with extensive help from visitors, and non-profits through the Dune Planting efforts has established a planting program. Through the program these plants have naturalized onto the dune surfaces, resulting in successful cover and a build-up of dune defenses against storm effects.

Further analysis of the 2010 aerial photos reveals that most of the established and emerging dunes within the City limits are well vegetated, where the dunes are allowed to exist. To the extent that further vegetated cover is planted and supported and dunes are restored and expanded in the bare areas, properties and infrastructure landward of these zones can be made more secure from storm damage.

3.2.3 Dune Hotspots and Overwash Areas.

The City's dune system is fragmented and inconsistent limiting the protective value of this natural storm and flood barrier. There are several causes for this condition, which can be catalogued as follows:

Excessive number pedestrian trails and walkways through the dunes – Along the City's 4 mile-long beachfront, there are dozens of unimproved pedestrian trails or paths through the dunes. Cumulatively, these paths result in a substantial loss of dune mass from down cutting due to foot traffic.



Photo 6 – Typical footpaths causing dune fragmentation. Opportunities for consolidating these paths should be explored (*Photo by Richard Stockton, May 2012*)

In addition, no effort has been made to consolidate or limit the number of dune walkovers along the developed shoreline. While dune walkovers are clearly preferable to unimproved pedestrian trails or paths, the dune system could be strengthened if public and private walkovers were consolidated where appropriate.

Poor dune walkover design – The low profile of some dune walkovers hinders sand accumulation and dune growth, primarily on the lee of the walkovers. Poor walkover design also curtails dune building overall by preventing sand blow from moving and accumulating beneath the low spans.

International dune excavation and relocation of dune sand – In previous decades, significant portions of the City's dune system were intentionally removed in an effort to create or expand recreational areas on the beach, improve ocean views, and expand pedestrian trails and paths. While this practice has ceased in the City and efforts are underway to restore and enhance the dune system, the impact of these activities is still visible today. Based on the data available, it is roughly estimated that 144,000 cubic yards of imported sand would be needed to construct a continuous dune along the city-front with a 10-foot elevation and a minimum base depth of 60 feet:

- Southern zone of accretion 89,550 cu.yds.
- Central zone of stability 15,740 cu.yds.
- Norther zone of erosion 39,000 cu.yds.

Overwash Areas - The locations in which storm and spring high tide overwash occur are governed by a complex set of coastal processes and dynamics. Human impacts also help determine where overwash may occur, as in the instances of street-end beach access improvements where dune crossovers are built to insufficient elevations. In such cases the low profiles of the crossovers and walkway extensions, combined with the absence of high and moderate-height vegetated dunes in these locations contribute to the funneling of surging waves and wind through these "windows of opportunities" and into the streets.

Overwash also occurs in undeveloped or sparsely developed areas of the City at the north end. Here, too, causative factors are complex, but wind and wave forces generally act freely where dunes are absent, whatever the cause and where the high beach has been lowered by either wind erosion or human activity or both. Here, in the north, natural forces dominate, while in the southern and central reaches of the City's shoreline, human intervention can contribute to the sharpening of natural storm impacts.

3.2.4 Conclusion

In the case of South Padre Island, the best approach to reduce public expenditures and property damage due to erosion and storms is to undertake a program to nourish the beach and enhance and restore the dune system that forms the first tier of protection for upland development and infrastructure.

3.3. Beach Access Handbook (Available on the City website)

The City inventories and documents all beach access conditions on an annual basis to show improvements and track conditions of existing walkovers or mobi-mats that may be in need to repair. Information available in the document includes: photos, amenities, disabled accessibility, construction year and costs, and funding sources. This document is used to plan for budget and grant needs. Because the document is updated on an annual basis the most recent version can be accesses on the City of South Padre Island's website.




Photo 7 – An example of information available in the Beach Access Handbook

## 4.0 DESIRED SHORELINE CONDITIONS

### 4.1 Beach and Beach Profile

In the desired condition, there is an adequate space between the Gulf of Mexico and the developed beachfront to maintain a natural beach depth and healthy protective dune system.

The beach along the south end of South Padre Island is continuous, healthy, and unhampered by structural encroachments during times of normal water levels. It is only to the extent that insufficient space remains between the beach and existing beachfront development that active intervention such as beach nourishment is needed to sustain the City's desired buffer zone. Such is the case only in the northerly erosion zone within the City.

The profile or "shape" of the beach – including its slope, the number, size and location of sandbars in shallow water, beach depth between water's edge and the dunes – is determined by the water levels and wave conditions present over long periods, as occasionally interrupted and changed by storms. As such, it is difficult and expensive, if not altogether futile, to attempt to create a lasting beach profile that differs from the "natural" profile.

There must be a clear understanding among decision makers and the community that in order to provide space for a healthy dune system in the northerly erosion zone, the entire beach profile including the submerged part must be "moved" seaward by providing the appropriate quantity of sand. In practice, the added sand can be placed on the visible beach, but it must be recognized that the Gulf will rework the material over the entire profile including the offshore area to 15 ft or more of depth. Thus, when discussing the long-term approach to maintaining a healthy beach-dune buffer, we are talking about everything between 15 ft depth and the historical building line.

#### 4.1.1 Beach Depth and Elevation

The typical beach depth in SPI between a typical water level (say Mean Sea Level) and the vegetated foredune is about 200 ft. The actual depth can vary seasonally and in response to storms, but for planning purposes this typical depth is useful.

The elevation at which foredunes emerge and tend to sustain vegetation is a minimum of about 5 ft above the typical sea level in SPI. That is, the beach elevation varies from sea level to about 5 ft within the roughly 200 ft depth.

#### 4.1.2 Sand Volume and Sources

Two goals must be achieved to protect and maintain development along the historical building line without retreat and with a healthy beach-dune buffer. First, sufficient room must be provided between the water's edge and the building line by moving the beach profile seaward to create a stable beach depth and healthy dune system. Second, once the beach and dune are established at the desired location, the annual sand deficit must be brought to zero thereafter.

Planning-level estimates of sand quantities needed to create and maintain a relatively stable shoreline location were determined by accounting for the amount needed to move the entire beach profile (between 15 ft depth and the foredune) seaward.

In round numbers for the specific case of SPI (not applicable to all beaches), each 1 ft of profile movement represents a volume of approximately 1 cy/ft of beach. Based on this approximation, the sand required to move the profile of the northerly eroding zone (11,000 linear feet of beach) is roughly 660,000 cubic yards. This assumes the present beach depth is acceptable but space for an additional 60 ft of dune is needed.

An additional sand contribution will then be necessary to offset the average annual shoreline retreat, which will continue to occur. The approximate amount needed to maintain the new shoreline location in the northerly zone, and including a small amount to maintain the central "stable" zone as defined, is 40,000 cubic yards per year (cy/yr). This figure is based on an annual retreat rate of 0 ft to 2 ft in the "stable" area, and retreat varying from 2 to 5 ft in the northerly eroding zone, multiplied by the beach length (say 2,000 ft of stable beach and 11,000 ft of eroding beach) and the profile movement figure of 1 cy per ft of beach per ft of retreat.

Potential sand sources include the federal navigation channel at Brazos Santiago Pass, accretions located immediately south and north of the pass jetties, offshore borrow sites, the state highway right of way (per historical practice), maintenance dredging material from the Gulf Intracoastal Waterway (GIWW), and land-based sources (including barge-accessible deposits located near the GIWW many miles north of the City.

Conservation can also be viewed as a "source." Examples include reducing losses of windblown sand into developed areas, losses of waterborne sand through washovers, avoidance of pavement over sand that is within the active beach/dune system, and the recycling and crushing of glass into sand-size grains.

#### 4.1.3 Methods

Dredging of sand from submerged sources will likely continue to be the most cost-effective method of producing required volumes of sand. The beneficial use of material dredged from the federal navigation channels is particularly cost effective.

Healthy dunes represent perhaps the best trapping mechanism to limit the landward loss of beach sand from the active beach/dune system. Sand fencing can boost the trapping of windblown sand as well.

A pre-positioned contract with Corps of Engineers should be explored for emergency dredging events that tend to be associated with significant coastal storms, to ensure that valuable sand is not simply dumped offshore in deep water.

#### 4.1.4 Estimated Annual Cost

The historical cost (to the City) for the receipt of material dredged from the federal navigation channel has averaged about $1/cy. The actual cost to pay for similar dredging not associated with channel maintenance, as may be the case for a large, stand-alone beach nourishment, is estimated to be about $6 to $8/cy based on recent navigation dredging costs. A recent example of sand imported into the City from a mainland source was priced at $10/cy which should perhaps be inflated to between $10 and $12/cy given current fuel costs.

Thus, a planning estimate for a large initial nourishment to move the profile seaward to provide room for a healthy dune system in the eroding zone could use $10/cy as a conservative estimate. This unit cost multiplied by 660,000 cy suggests a $6.6 million sand cost to which planning, engineering and permitting costs can be added.

Similarly, the annual maintenance volume of 40,000 cy can be multiplied by $10/cy to arrive at a $400,000 annual sand cost for planning purposes.

4.2 Dune Complex

In general terms, a strong and stable dune system, with a capacity for relatively effective resistance to minor and moderate storm and tidal events, capable of sustaining dune vegetation, and protection in some measure of backshore property and infrastructure, exhibits the following parameters:

- ✓ Relatively high quantities of dune and beach sand, over the beach-dune cross-section, for each linear foot of beach-line.
- ✓ Dune landforms that conform to mature dune types, that is, classically stable shapes that are primarily wind-carved, with wind-delivered accreting sand balancing, by and large, wind-driven sand loss.
- ✓ Absence of human (foot and vehicle) disturbance in the dunes and on the beach surfaces fronting the foredunes.
- ✓ Minimum primary dune and inter-dune elevations of 10 feet, with some dunes in the system reaching an optimum 12 feet in elevation or greater.
- ✓ Vegetation with minimum eight-five percent coverage, or better, of dune surfaces.

Although protection of South Padre Island's beach and dunes from erosion, a central subject of this plan, is vital to defense of the urban fabric and the lives of its citizens, protection of natural habitat is also a matter of highest priority. It is as well a matter of interest to thousands of beachgoers, citizen and visitor alike, and protection of natural habitat is an obligation of the City of South Padre Island.

Securing ample beach depth and well-vegetated high and deep dunes are essential to beach wildlife as they are for erosion protection. As stated on the City's Website, habitat restoration (and maintenance in a quality state) is a public priority: "… numerous species such as the Kemp Ridley sea turtles and Piping Plovers rely on wide, healthy beaches as a place to live, feed and nest." As do various terns, gulls, sanderlings, willets, crabs, and other life forms that help make up the complete shore ecosystem – and serve as key visitor attractions.

The City's website concisely points out that "Dunes are important because they are our first line of defense from storms and flooding. Coastal communities are protected from the storms that occur in the Gulf by a system of vegetated sand dunes which provide a protective barrier. The General Land Office has directed coastal communities to protect these dunes because stabilized, vegetated dunes offer the best natural defense against damage caused by storms."

4.2.1 Goals and Objectives of a SPI Dune Enhancement Program

The goal and objectives of restoring and enhancing dune vegetative cover are defined above. Locally, the City is working with the Shoreline Task Force to develop a dune enhancement technique first effectively demonstrated by Padre Grande Condominiums and second by La Concha Condominiums. The GLO approved these two pilot projects before the beach and dune plant amendment was approved. Following the pilot projects success the City's beach and dune plan was amended to allow for such projects to take place. In general, the technique is intended to work in areas where dunes have been lost or only remnants remain or where excessive sand has built up in excess of +10 feet elevation. The technique also seeks to make effective use of raked seaweed to advance the dune system from its most landward position seaward to the extent of the natural line of vegetation. Using sand fence and raked seaweed, piles are placed on the seaward edge of remnant dunes or in dune gaps. Vegetation is encouraged by irrigation and allowed to propagate. As the vegetation line advances, relocated seaweed piles are added to the toe of the dune, shaped to 10 ft elevation, and irrigated. Over time, dune vegetation has advanced seaward to the position it will naturally occur, such that no encroachment of the public easement occurs.

In areas where dune elevations exceed a specified elevation in the Beach and Dune Plan, dunes can be "topped" and the sand used first to add depth and sand volume to the immediate surrounding dune field in the areas of low elevation to bring the area to a 10' elevation which will strengthen the dune system against blowouts. Secondly the sand can be transported to areas with weak dunes to elevate and strengthen the dune system against over wash and inundation. These projects require individual beach dune permits and should be undertaken sparingly and preferably only in areas that are stable.

Location: The goal of an erosion-control and protective dune program is to both preserve mature, high, vegetated dunes, and to restore and revegetate disturbed and missing dunes, yielding fully vegetated dune fields with ample elevations and depths between the high-beach and the building setback line (SBL). Objectives that will need to be met in this regard are dune preservation, repair and revegetation of disturbed and missing dunes, infilling of disturbed and dune-depleted areas with new dunes and plantings, installation of dune-fencing and other dune development and maintenance measures, consolidation of walkways wherever feasible, development of new walkways and dune crossovers that achieve sustainable beachgoer access and are of superior design and durable construction, and elimination of beach access ways that are detrimental to the dune system. The foregoing recommendation for consolidation is consistent with the 2007 Dune Gap Report, which recommended that the City, "consolidate paths, when possible, through the dunes for less impact."

Elevation: Dune building and rehabilitation should meet the goal of providing sufficient elevation in the dune fields to enable the dune system to function as a protective feature in moderate storm conditions. By defending beachfront and upland buildings, infrastructure, and lives from severe storms. Where sufficient beach depth exists, the City's objective is to provide a continuous dune system with a minimum elevation of +10 feet in areas where visibility of the surf zone is an

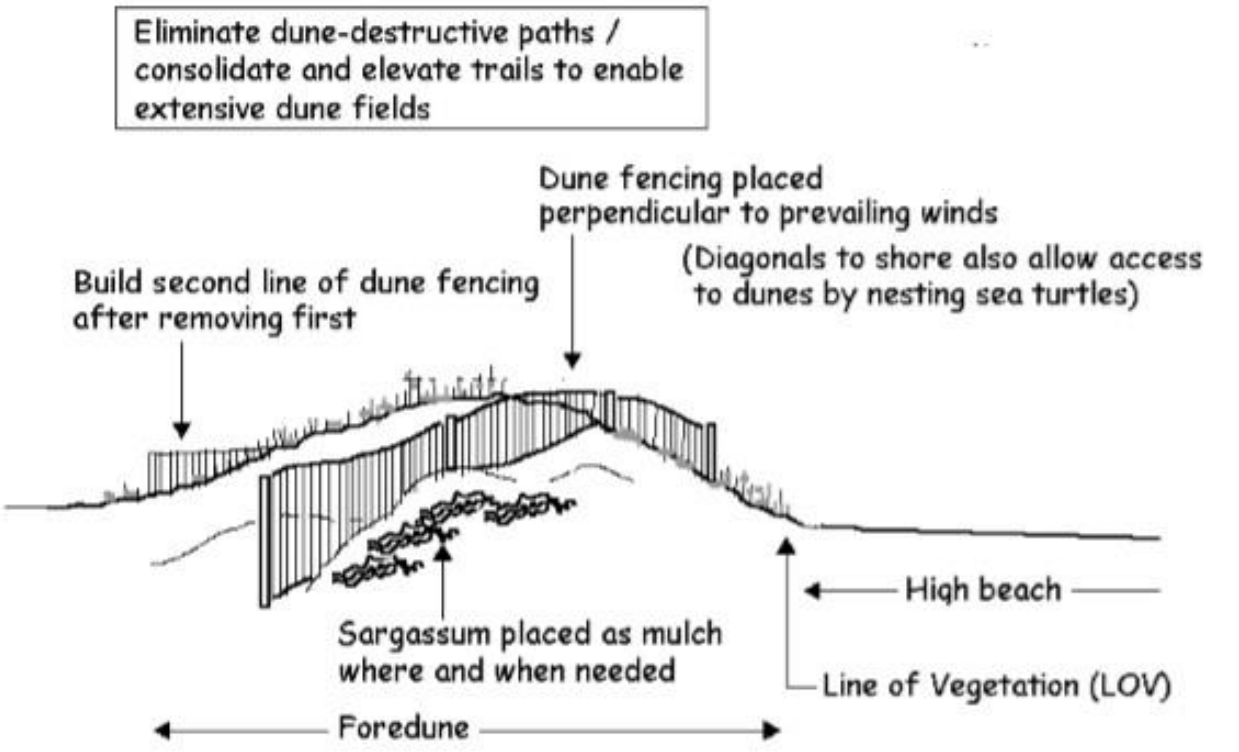
important consideration, and a target optimum elevation of +12 feet or higher, as determined as appropriate by the SPI Coastal Resource Manager, where visibility of the surf zone is a secondary consideration.

Depth: Beach dynamics will need to be taken into account, with deeper beach and dune fields more achievable in the southern (accreting beach) reaches, narrower beach and dune fields probable in the northern (depleting) reach, and mixed conditions in the center. The City intends to develop a continuous dune field, along the entire beachfront, between the high beach and the SBL. Where beach depth is sufficient, the base dune depth should be a minimum of 60 feet, with 100 feet preferable. In the northern eroding areas, a minimum base dune depth of 60 feet should be attained and efforts to nourish the shoreline should be aggressively pursued such that base dune depth of 100 feet can be sustained.

Dune Volume: In order to function as a protective feature in moderate storm conditions a target sand volume should be used. The City will strive for every beach front property to have a Dune Volume (DV) at a minimum 66 cy and a goal of 110 cy per linear yard. Using the above desirable dune conditions at a 10’ (3.3 yd) elevation with 100’ (33.3 yd) of depth equals to a target volumetric goal of 110 cy per linear yard of beach. Where beach widths do not allow for a dune with a 100’ depth the elevation requirements can be adjusted in order to meet the target dune volume.

Methods: In the Figure, below, recommended dune plant species are identified. Sargassum and other seaweed in the wrack line will continue to be critical in both retaining moisture on the wet beach, thereby sustaining its resistance to wind erosion, and in protecting dunes, especially the foredunes, from wind erosion and high surf erosion.

Remediation and/or consolidation of footpaths will be critical if the City is to establish a continuous dune field at a minimum elevation of +10 feet and base depth of 60 feet. Close coordination with landowners will be required.




**Dune Building and Foot-Traffic Control**

Dune Fencing to Control Foot Traffic: Installation of stable dune fencing approximately 2 feet away from the toe of slope on one or more sides of the healthy dune, as ruled as necessary by the City's coastal resources manager, should be installed to deter foot traffic across dunes. These barriers should be opened significantly or fully removed during turtle nesting seasons. The alignment of this fencing should be adjusted as necessary as determined by the Coastal Resources Manager. This protective fencing need not follow guidelines for sand entrapment (dune building) as the perimeter alignments are intended to preserve (protect from human impacts) rather than build.

4.2.2 Sand Volume and Sources

Sand Volume: The estimated volume of sand needed to restore the dune field is 144,000 to 161,540 cubic yards with the Southerly Zone of Accretion requiring approximately 39,000 cu. yds, the Central Zone of Stability requiring 15,740 cu. yds., and the Northerly Zone of Erosion requiring 89,550 cu. yds. up to as much as 106,800 cu. yds.

Sand Sources: Sand sources for dune building may include: (1) offshore sources; (2) sand dredged from the Brazos Santiago Pass as part of the USACE's routine maintenance of the channel; (3) windblown sand on and within the right-of-way of Park Road 100; and (4) truck-hauled river sand.

### 4.2.3 Methods

Given the limited amount of sand in the sand budget utilizing all available sources is a must. Through the Dune Planting program and utilization of sand fences the City can build dunes that will provide protection to public infrastructure and store sand to replenish the beach system after a storm.

Through the Dune Ridge Enhancement program sand that is stored in sand dunes in elevations above +10 feet or higher can be used to fill in low elevations to prevent blowouts of frontal dunes and to build a solid continuous dune system with a goal of building a dune system to function as a protective feature in storm events.

### 4.2.4 Estimated Costs

Given the variety of potential sand sources for dune building, no single cost estimate for dune sand can be provided. It is expected however that obtaining sufficient quantities of off-beach sand (sources other than windblown sand of seaweed management) could cost at least $10 per cubic yard and increase significantly from there.

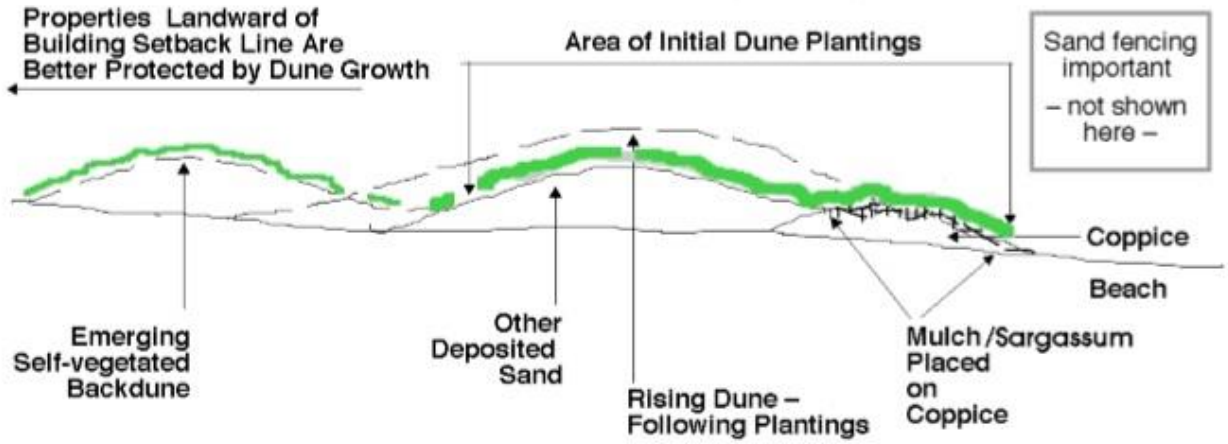
The species and types of plants needed for the dune revegetation efforts are noted above and fully described in the GLO Dune Protection Manual. Based on available information plants are currently available to the City at $0.42 per plant.

## Dune Stabilizing Grasses for South Padre Island

| Species | Roles | Transplanting | Watering |
|---|---|---|---|
| Bitter Panicum<br>Panicum amarum | Strong foredune stabilizer | January/April | Transplant after rain or water before and after (for 3-4 weeks, sparingly). |
| Sea Oats<br>Uniola paniculata | Good for main dune/interplant | November/April | |
| Marshhay Cordgrass<br>Spartina patens | Best backslope grass | November/April | |
| Ave. planting density: 24" on-ctr. | Mulch before/after with Sargassum desposited on beach | | |

| Other Stabilizing & Attractive Plants | |
|---|---|
| **Seaward Face of Foredunes** | **Back Sides of Dunes*** |
| Beach Morning Glory (vine)<br>Sea Grape (vine) | Cucumber Leaf Sunflower<br>Lantana Partridge Pea<br>Prickly Pear<br>Rose Ring Gallardia<br>Seacoast Bluestem<br>* Ample dune width needed for certain species |

References: City of South Padre Island Coastal Resources Manager
Coastal Dunes: Dune Protection and Improvement Manual for the Gulf Coast, Fifth Edition, Texas General Land Office




**Dune Planting / Dune Building**

4.3 Beach Access Points – Public and Private

4.3.1 Access Enhancement Goals:

The City is dedicated to providing the public access to the beach. When possible the City will fund access improvements through hotel/motel tax but relies heavily on grants for matching funds.

4.3.2 Walkovers, Mobi-mats

Walkover Design Standards: Both public and private access ways should meet standards for upgraded construction methods and design in order to reduce storm damage and post-storm repair costs.

Stainless steel cable-stay railing systems are recommended for access ramps, staircases, and crossovers. Though they are costlier than wood counterparts, they are highly resistant to storm damage and salt spray corrosion and require lower maintenance and repair attention.

For ramp, crossover, and other hardened walking surfaces, several highly durable materials have been substituted for wood planking in recent years. These include TREX and other plasticized composites and boards made from kenaf, a plant grown and processed, among other locations, in Willacy County.

As the City proceeds in the design of additional street-end and other ramps, crossovers, and walkways/boardwalks, such alternative materials and their costs – initial and life-span – should be investigated.

With employment of sturdier structural elements and more durable railing systems and walkway surfaces, O&M costs may be kept at minimal levels over a multi-decade life-span.

ADA-conforming Handicapped Ramps Linking to Dune Crossovers: The City builds handicapped accessible ramps from street-ends on a continuing schedule. By Texas Accessibility Standards and Americans with Disabilities Act criteria, handicapped ramps must by law not exceed 8.33 percent where railings are installed; 5.0 percent is the maximum where pathways lack railings. The steeper, 1:12 designs must also have landings of specified dimensions at given ramp intervals.

Mobi-Mats: When unable to provide a walkover the City will use, if available, a polymer mat that is able to create a solid walking surface for the public to use to access the beach. These mats protect the dunes from erosion and damage to the surrounding vegetation.

Eliminating Duplicative and Dune-damaging Paths to the Beach: One alternative to the existing multitude of private walkways between the built beachfront and the beach is to reduce the number of walkovers and open walkways to the shore in exchange for a more limited number of crossovers, ramps, and walkways built with stronger components and more durable materials, while at the same time constructed more sustainably with respect to the dune systems over which the new elements will traverse.

Continuation of the City's street-end handicapped ramp program will expand the number of general access structures that are well-built and offer the potential for eliminating nearby duplicative and/or dune-damaging private trails to the beach that lie between the street-ends.

It is therefore recommended that the City confer with property owners where private paths to the beach have been fashioned with resulting dune depletion and loss to determine whether agreement can be reached for such eliminations – given easily reached alternative crossovers such as nearby street-end accessways that would serve their residents or other users without significant loss of convenience.

Options would include the retaining of one private walkway midway between two adjacent street-ends and acquisition by the City and dismantling of other private walkways in this reach. The remaining walkway should also be upgraded, as needed, to yield a raised crossover built of durable and sustainable materials that arches over the regenerated dune system beneath. The cost of this improvement would be borne by the City in exchange for a perpetual access easement to allow sharing of access by the owner with the public.

4.3.3 Conceptual Walkways and Footpaths

North-south Walkways (at-grade "Boardwalks") Linking to Public Street-end Crossovers and Approved Intermediate Crossovers. The foregoing improvements would be dependent on the construction of north-south walkways or "boardwalks" that would afford access from in-the-block addresses to the street-end public walkways.

Here, too, access easements would need to be purchased by the City from agreeable property owners. To preserve owner privacy, the north-south walkways would be aligned a reasonable short distance Gulf-ward from the buildings and gated approaches to the building entrances would ensure access by residents and guests only. The distances from the buildings the north-south walkways would be offset would take into account the dune system in each location. Where dunes are close by, the walkways would be raised somewhat to clear the dune slope. The walkway surfaces would also be permeable, as is provided by spaced wood or other sustainable-material boards or by such manufactured materials as "Mobi-Mat". This permeability will also secure conformance with the Texas and City requirements for construction within the building Setback Lines.

Convenience for beachfront residents and guests, where existing private paths are eliminated except for a mid-point improved and raised private crossover, would easily be conserved. The time lost by the short detours would not exceed a half-minute on average where a midpoint crossover is retained and 1 minute on average where no private paths are retained between two street-ends.

Such walkway consolidation was recommended in the 2007 South Padre Island Dune Gap Report.

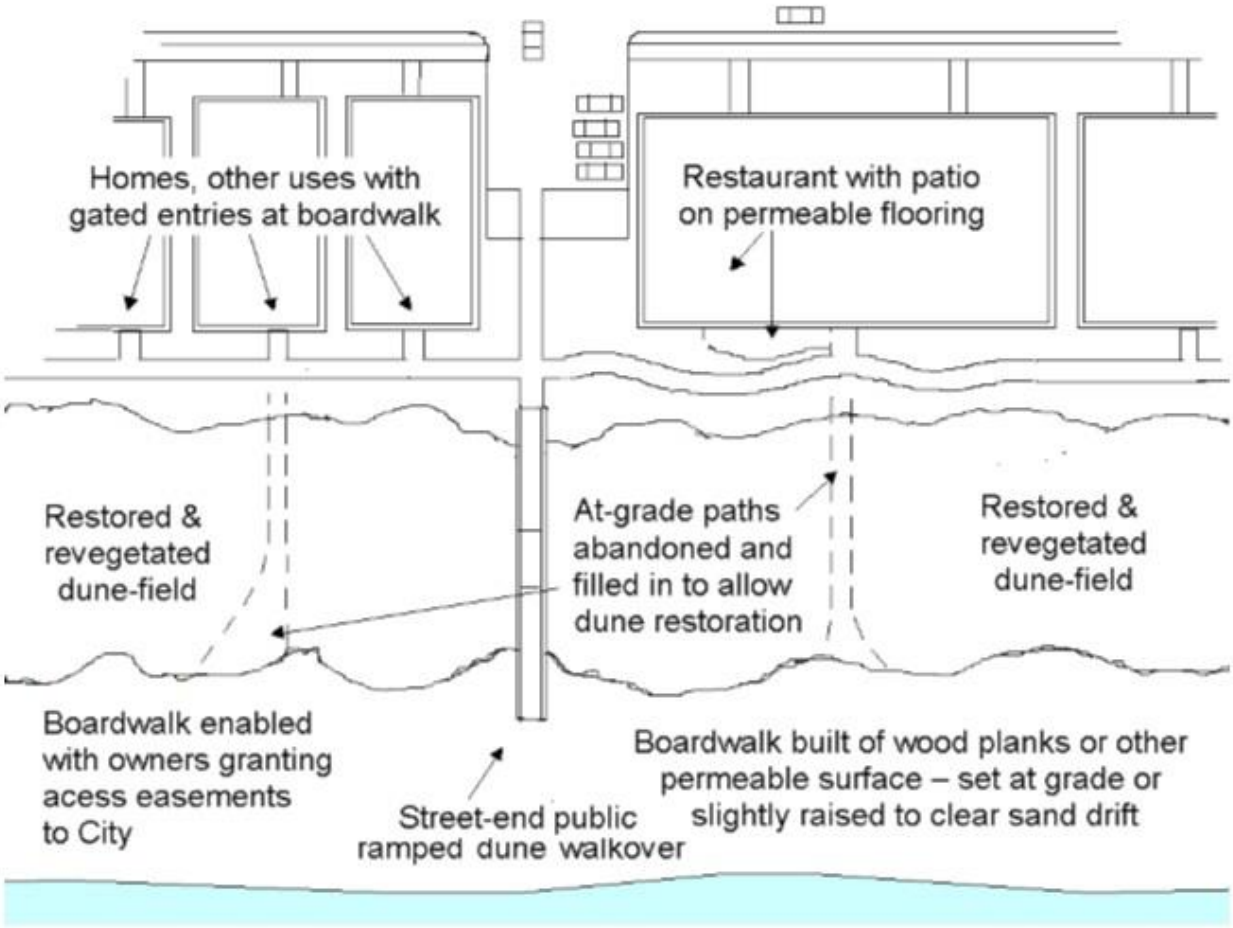



Figure : Path Consolidation/Boardwalk Concept

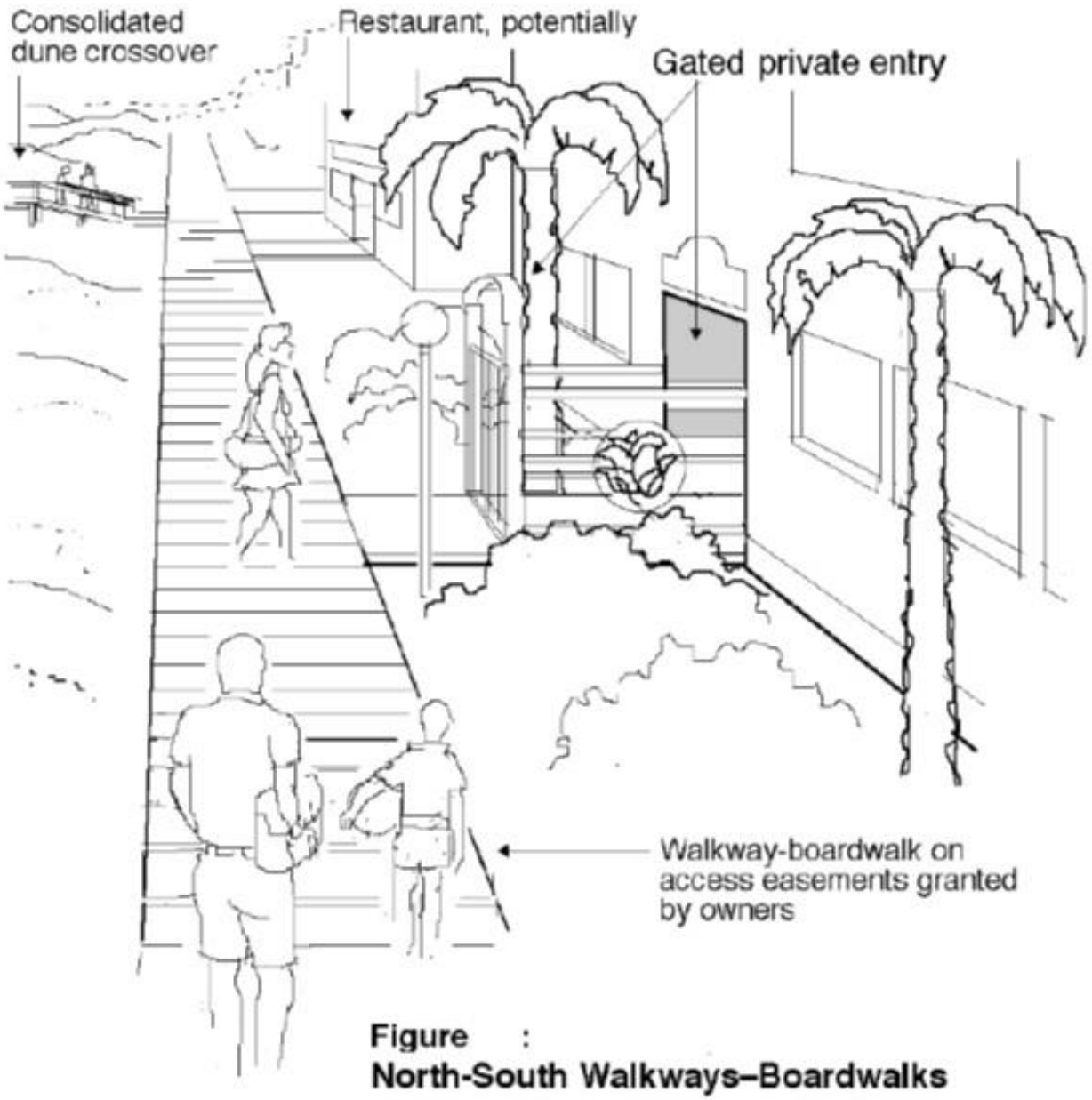



**Figure :**
**North-South Walkways–Boardwalks**

Applicability of Walkways-Boardwalk Concepts to South Padre Island's Hotel/Dining Districts: The principal of protecting and restoring dunes by consolidating walkways and channeling foot traffic along beach-parallel boardwalks is also applicable to the City's hotel-dining districts. As with the examples discussed here, economic benefits to the private sector, in addition to long-term cost savings and sustainability in the public sector, are possible.

### 4.3.4 Estimated Annual Cost

The annual cost for beach access improvements cannot be calculated as it's based on project size. The Cost to construct a walkover based on historical projects is $775.00 a linear foot. The cost of Mobi-Mat ranges from $110 - $135 a linear foot.

The City operates on a beach maintenance budget solely funded by hotel/motel tax. The City does not have a beach user fee at this point but may be a necessary option in the future for revenue.

## 5.0 SEMI-ANNUAL PRE-STORM MONITORING PROGRAM

### 5.1 Goal

The purpose and need of a monitoring program is to accomplish at least two goals: (1) to inform local decision makers and the community at large about the status and upcoming maintenance needs; and (2) to ensure that adequate, recent data is available to document storm losses and ensure eligibility for federal disaster assistance related to nourished beaches.

### 5.2 Frequency, Method, and Location

A twice-annual program consisting primarily of profile surveys augmented with other forms of data collection (e.g., photography, sand tracer studies, numerical simulations) can provide year to year comparisons as well as indications of seasonal variations to inform decision making. Previously established profile locations can be used to ensure the best use of existing data and the cost effectiveness of new data collection/analysis efforts.

In addition to periodic profile surveys, project-specific surveys of nourishment activities and the progressive movement of material from designed nourishment prisms by natural forces can allow the optimization of subsequent nourishment activities. Maintenance practices that result in movement of sand resources (and seaweed) along and across the beach can be factored into monitoring tasks and results to provide a clear picture of the program's achievements.

### 5.3 Output Report/ Recordkeeping

The deliverable products generated through monitoring can include the profile data reduced and presented graphically, comparisons to historical profiles at the same location, trend analyses, quantity calculations, and projected maintenance needs. The information will also be available to City officials dealing with FEMA in post- storm response mode to determine federal assistance qualifications.

### 5.4 Estimated annual monitoring cost.

A detailed scope of monitoring effort can be developed to suit the City's needs and budget. The order of magnitude cost can be expected to be $50,000 to $100,000 per year.

## 6.0 EROSION RESPONSE PLAN FOR SPI CITY LIMITS

The specific contents each local government's erosion response plan are set forth in 31 TAC Part I, section 15.17. These elements are identified and described below.

### 6.1 Construction Setbacks

For the purpose of the ERP, the "setback" is the line seaward of which no new construction should occur. In establishing the setback line, the state requires that the City utilize data obtained from the University of Texas Bureau at Economic Geology. The most further allow the City for options in establishing of baseline from which the setback line is measured. These options are:

- ✓ The Line of Vegetation (LOV)
- ✓ The Mean Low Tide (MLT)
- ✓ The Mean High Tide (MHT)
- ✓ GLO – approved Coastal Boundary Survey

The rules further specify that the setback line cannot be further landward than the dune protection line and must protect as much of the critical dune area as practicable.

The existence of the setback line is intended to improve shoreline management practices in Texas by reducing the risks to beachfront structures from erosion, storms and waves. Currently, no statewide setback limit exists in state law, however, current GLO rules specify that no construction is permitted seaward of the line of vegetation, as this is within the public beach easement. In eroding areas, GLO rules impose certain construction limits and restrictions within 200 feet landward of the mean low tide line. Subjectively, state rules also require that new construction along the Gulf beaches of the state be located "as far landward as practicable."

For the purposes of this erosion response plan, the City of South Padre Island proposes that its setback line be the Historic Building Line (HBL) established by the City and approved by the General Land Office in the City's certified Beach Access and Dune Protections Plan. The HBL is shown apparent as the line of retaining walls that front all existing and developed properties within the City limits.

This Historic Building Line (HBL) was established on September 3, 1981. A letter from John W. Fainter, Jr., First Assistant Attorney General, representing the State of Texas written to then-Mayor Glen McGeHee, establishing a building line, commonly referred to as the Historic Building Line, for the City of South Padre Island Beachfront Construction that would provide a minimum of two hundred feet of open beach above the mean low tide line according to then available data. The letter stated that the Attorney General could review the line and change it to ensure the protection of the State's open beaches. The line was located on a map (drawn by Chas R. Haile Associates, Inc., Consulting Engineers, Houston, Texas City, Corpus Christi, Nederland, and is dated March 1981) provided by the Texas Attorney General and is on file with the Public Works Department of the City of South Padre island. See pictures 8a, 8b, and 8c.

The HBL has unmistakably established the public beach on South Padre Island and has also given beachfront property owners an understanding of where they can build up to. The HBL also makes

it clear where the dune field should start to provide protection for beachfront properties. With the clear knowledge of where the dunes should be the City has the ability to build a continuous dune line of similar elevation to withstand storm surge. The natural cycle of a barrier island is to migrate landward but with healthy dune fields east of the HBL that store and hold the sand volumes needed to provide protection and supply the beach with sand following major storms. With the ability to keep a healthy dune/beach system seaward of the HBL we are able to reduce public expenditures due to erosion and storm damage loss.

The Shore subdivision has a building line (formerly called the "440-foot Line") that was established to ensure that proposed construction on the site would be located far landward of the beach so as to protect the foredune area and reduce the risk of storm damage to the subdivision. See photo 8d.

As a developed urban shoreline, it is impractical for the City to establish a new or different setback line other than the HBL, established more than a decade ago and upon which this highly developed shoreline was constructed. The City recognizes that for it to maintain the HBL as its designated Setback Line for the ERP, the City is obligated to manage the position of the shoreline – the beach and dune system – so that existing development is not subject to an undue risk of damage from erosion, waves and storm surge. The City's strategy to accomplish this outcome – and thereby limit public expenditures due to shoreline erosion, waves and storms – is to undertake a dedicated program of beach nourishment and dune restoration, as described in Section 4.0, Desired Shoreline Conditions.



Photo 8a – Aerial photo showing the Southern portion of the City. The Dune Protection Line (DPL) is in red and the Historic Building Line (HBL) is in green.



Photo 8b – Aerial photo showing the middle portion of the City with the HBL and DPL shown.



Photo 8c – Aerial photo showing the Northern portion of the City with the HBL and DPL shown.




Photo 8d – The Shores Subdivision. The “440-foot line” is in green.

## 6.2 Prohibition on Construction Seaward of Setback Line

In accordance with state rules and the requirements of this ERP, all new or rebuilt habitable structures must be constructed landward of the building setback line, to the maximum extent practicable. Except for those non-habitable amenities specifically exempt below, all new construction within the City of South Padre Island will be required to be constructed landward of the setback line.

In this ERP, the City is not proposing to allow construction or repair of any habitable structures seaward of the HBL, which serves as the SBL.

## 6.3 Exemptions from the Setback Line

Exemptions from the setback line have only been granted for non-habitable structures such as dune walkovers. Dune walkovers remove the pedestrian traffic from the dunes that lead to erosion and blowouts along the frontal dunes. The most harmful activity that takes place on the dunes is the continuous pedestrian traffic that leads to low elevations. Storm surge makes its way up the paths and erodes the path with each wave which can eventually undermine the massive dunes that provide protection (see Photo 9).



Photo 9 – Shows the effectiveness of using dune walkovers to keep pedestrian traffic off the dunes.

6.4 Requirements for Exempt Structures

Habitable structures may be exempt from the SBL limitations in three limited circumstances: (1) if the owner demonstrates that there is no practicable location for the construction to occur landward of the setback line; (2) the construction is consistent with an existing setback line certified by the General Land Office prior to the ERP; or (3) the construction consists of minor repairs to an existing structure that does not increase the footprint of the structure.

In this case, the ERP requires all new habitable construction or repairs to existing habitable structures to occur landward of the setback line – which is the Historic Building Line as specified herein. Non-habitable amenities such as walkways, dune crossovers, small decks, and other access improvements are exempt from the construction setback limit.

State rules establish the requirements for exempt structures for local governments that choose to permit more seaward construction. First, the exempt structure must be elevated to a minimum of 2 feet above the FEMA base flood elevation (BFE) and the foundation for the structure must conform to ASCE flood resistant standards. In addition, the structure must be designed for feasible relocation and it must be planned in a way that minimizes impact natural hydrology. The rules also prohibit enclosures below the BFE. In any event, all exempt structure construction must be located landward of the landward toe of the foredune ridge whenever practicable. Registered professional engineers must certify that these requirements have been met.

6.5 Enhancing and Preserving Public Access

The state requirements for erosion response plans are also intended to enhance public access to the shoreline in addition to reducing potential public expenditures for erosion and storms. With respect to access, the rules require that the City evaluate the vulnerability of access points to erosion and storm surge damage. The rules require that the City upgrade public access construction methods and designs to reduce post-storm repair costs. The City is required to create a schedule for public access design improvements and inventory existing access amenities in order to support any future FEMA post-storm funding claims. Finally, the City is required to establish post-storm beach access assessment procedures so that damages can be cataloged.

The steps for the improvement of preservation of public access are described above in Desired Conditions 4.3 Beach Access Points.

Beach Access Handbook: The City inventories and documents all beach access conditions on an annual basis to show improvements and track conditions of existing walkovers or mobi-mats that may be in need of repair. Information available in the document includes: photos, amenities, disabled accessibility, construction year and costs, and funding sources. This document is used to plan for budget and grant needs. It can also be used for FEMA reimbursement requests.

Post-storm assessment procedures will take place immediately following the storm event once it is safe to enter the beach. The Coastal Resources Manager will inventory all beach access conditions pre storm and post storm. A list of access points not in compliance with the local plan and Beach/Dune rules, descriptions of repairs, and replacements needed will be compiled. This assessment will also be used for FEMA reimbursement requests along with the annual fixed assets report that values all City property for the fiscal year.

6.6 Dune Protection and Enhancement

Dune protection and enhancement projects are a critical component of the City's ERP. GLO rules require that the City specify the target dune elevation and percent vegetative cover for its dune protection and enhancement program. The City is further required to identify specific locations of dune gaps and blowouts for potential dune restoration projects. Finally, the City is required to outline specific dune re-vegetation projects, identify measures to protect the landward side of the foredune ridge, and identify the goals, schedules, and funding sources to accomplish its dune protection and enhancement program.

As specified under Desired Conditions, above, the City seeks to establish a continuous dune system with a minimum 10 foot elevation and 60-foot base depth. In the accreting areas and in areas where beach nourishment has created and can sustain a beach with of 200 feet, the City's goal is to establish the dunes with a minimum base depth of 100 feet.

As illustrated above, dune gaps have been identified using LIDAR data and aerial photography. Through the Dune Volunteer Planting program the City will be able to fill in these gaps and narrow beach access paths enhancing our continuous dune line. The City was successful in getting the Dune Planting Program funded through the CMP Cycle 17. The City will continue to apply for grant funds in order to fund this program.

6.7 Criteria for Voluntary Acquisition or Buyouts.

One recognized strategy to reduce public expenditures following storms and erosion events is to purchase or buyout vulnerable properties along the shoreline. The state rules allow local governments to develop criteria governing the voluntary acquisition or buyout of beachfront parcels and structures. If such an approach is to be employed, the City is required to identify properties entirely seaward of the building setback line, provide for voluntary acquisition, and establish procedures for prioritizing property to be acquired.

Using the HBL as the setback, no habitable structures currently exist seaward of the proposed setback line. The City of South Padre Island has also elected an ERP strategy based upon maintenance of the beach and restoration and enhancement of the dune system. This approach is an alternative to the available strategy for voluntary acquisition and buyouts. The City has not elected to develop a voluntary acquisition and buyout program at this time.

## 7.0 CONCEPTUAL FUNDING STRATEGY – SPI SHORELINE MANAGEMENT PROGRAM

As ERP strategies are refined and cost estimates are developed, the City intends to develop a funding strategy to support implementation of the ERP. Preliminary discussions indicate that there is community support for establishment of a Dedicated Shoreline Maintenance Account to provide funds for:

1. On-going beach nourishment projects
2. Annual beach monitoring, including aerial photography, beach transects, mapping, and assessment of the condition of beach accesses
3. Dune enhancement and restoration projects, including the dune gap projects and volunteer dune planting program
4. Public access improvements and enhancements, including walkovers, parking improvements, and consolidation of walkovers and pathways
5. Planning, permitting, and design costs associated with the projects above
6. Minor program administration and support costs

While annual revenue needs cannot be accurately predicted at this time, conceptual funding options have been discussed with the City and Shoreline Task Force. In general, the City expects to develop a funding plan broadly reflecting the following principles:

1. Seek to maximize state and federal support for the City's shoreline management program, particularly seeking on-going CEPRA and CMP grant funds whenever possible and continued efforts to secure USACE commitment to the beneficial use projects
2. Seek to identify the local and visitor beneficiaries of sound beach, dune, and shoreline management practices and to employ, to the extent practical, a "beneficiaries pay" strategy
3. Seek to implement a "blended" funding stream such that revenues supporting the Dedicated Shoreline Maintenance Account are derived from multiple funding sources at the federal, state, and local level
4. Seek to develop a long-term funding strategy that is stable, predictable, and sufficient to support current and future shoreline management needs
5. Seek to develop a funding strategy through a community-based process that is transparent, engages the public, and provides robust opportunities for public input and discussion.

Though no specific recommendations can be made at this time, there are three potential funding sources at the local level that the City may wish to "blend" to support the local share of the Dedicated Shoreline Maintenance Account:

1. *Ad valorem* Revenues: The City may wish to consider a Shoreline maintenance *ad valorem* assessment as one contributing revenue stream to the dedicated account. Currently, property owners in South Padre Island pay a total *ad valorem* tax rate of $1.962379 per $100 of assessed value. This tax rate is comprised of assessments from a number of taxing entities besides the City, including Cameron County and the school district. The City's current *ad valorem* tax rate is $0.2456 per $100 of assessed value, which is the lowest municipal tax rate in Cameron County. A modest increase in the City's ad valorem tax rate of three cents per $100 would increase to local rate from $0.2456 to $0.2756 per $100 value. Even at this increased rate, the City's *ad valorem* rate would still be the lowest in Cameron County – less than that of Los Fresnos, San Benito, Brownsville, Port Isabel, Harlingen, and Laguna Vista.

   Based on a total assessed value of property in the City of about $2.6 billion, an additional three-cent *ad valorem* assessment would generate about $780,000 per year for the Dedicated Shoreline Maintenance Account.

2. Hotel Occupancy Tax Revenues: Like most beach resort communities, the City is blessed with a diverse and substantial hotel and rental market sector. Visitorship to the City increases substantially beginning in the spring months, peaks in the summer, and gradually declines in the winter. This visitorship pattern is typical of many beach resort communities and reflects the strong influence of the beach as the cornerstone of the local tourist economy. Currently, hotel patrons and short-term vacation property renters pay Hotel Occupancy Taxes that benefit the City and state. Below is a typical breakdown of HOT revenues on a one-night stay at a SPI hotel:

| Room at $99.00/night | HOT Rate | $99.00 |
|---|---|---|
| City Occupancy Tax | 8.0% | $7.92 |
| State Occupancy Tax | 6.0% | $5.94 |
| City Beach Nourishment Occupancy Tax | 0.5% | $0.50 |
| TOTAL HOTEL OCCUPANCY TAXES | 14.5% | $14.36 |

   Out of the 14.5% occupancy tax rate, the City currently dedicates a one-half of one percent to support its beach nourishment program. Given that a substantial percentage of out-of-town visitors come to South Padre Island to enjoy the beach and given the substantial long-term cost of beach and dune management, the City may wish to consider

some adjustment to the rate or allocation of revenues. Modifying HOT rates is a sensitive subject and would require close coordination with hotel owners and operators and other stakeholders before any proposal could be developed. Nationally, the use of HOT revenues as a component of a comprehensive funding strategy has proven to be a useful and reliable revenue source to support beach and shoreline management projects.

3. Sales Tax Revenues: In a beach resort town like South Padre Island, sales taxes revenues typically increase substantially during the tourist season. Out-of-town visitors swell the summer population contributing substantial revenues to the community. Attracted to the beautiful beaches, these visitors clearly benefit from a well-maintained beach and public access improvements. As the community continues to grow, sales taxes typically grow as well. Though the financial and community issues regarding the use of sales tax revenues for shoreline management would be complex, it would be prudent to explore this revenue stream as a potential component of the blended funding stream.

   Overall, the City would benefit if it can identify a reliable and predictable funding strategy to support its long-term shoreline management program. Erosion is a persistent force that directly and substantially threatens many barrier island beach towns. The response strategy and funding plan must be equally persistent if the City is to maintain its place as the premier beach resort community in Texas.

# Appendix 4

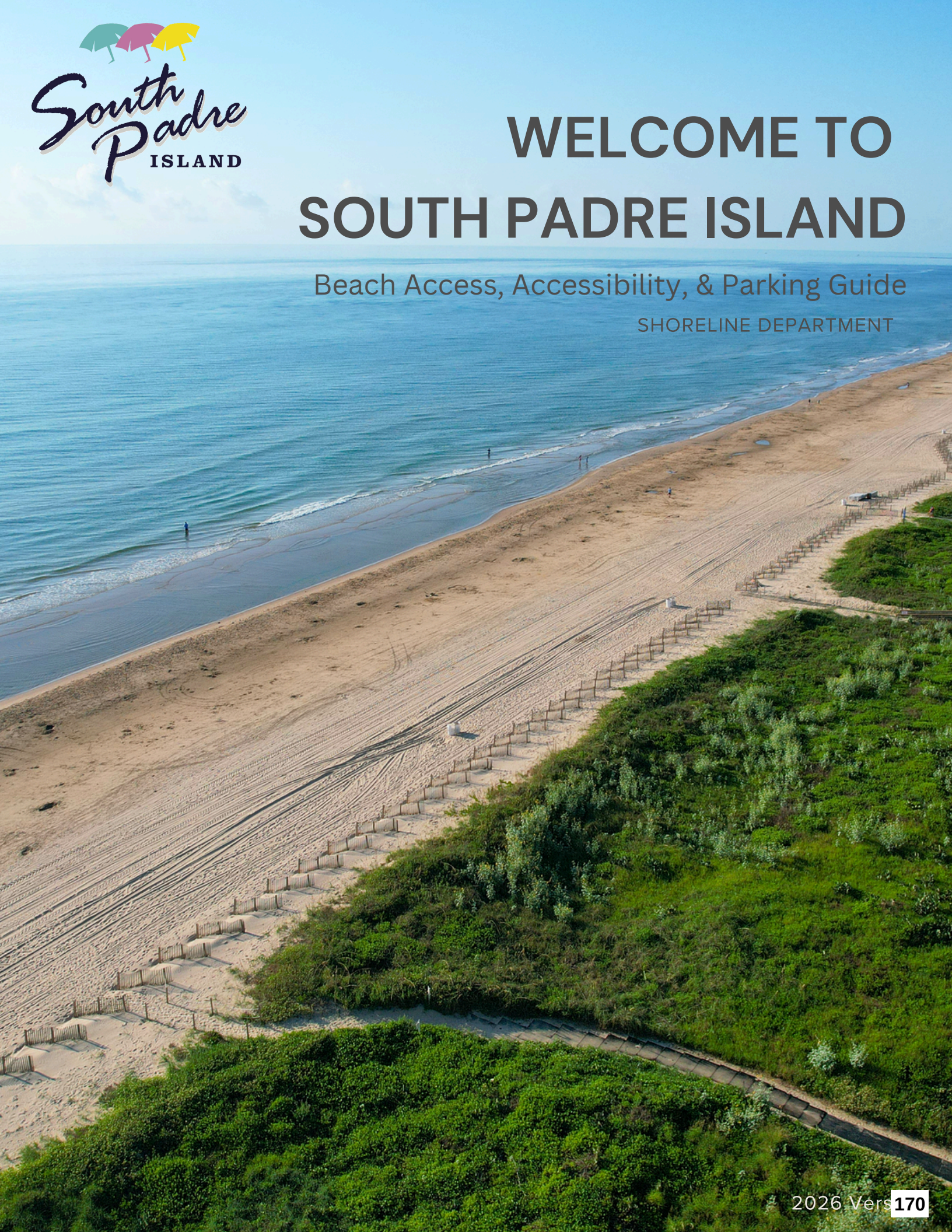
Beach Access Guide

South Padre ISLAND

# WELCOME TO SOUTH PADRE ISLAND

## Beach Access, Accessibility, & Parking Guide

SHORELINE DEPARTMENT



2026 Vers 170

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SOUTH PADRE ISLAND
ANDY BOWIE PARK
SOUTH PADRE ISLAND CONVENTION CENTER
7355 Padre Blvd.
#25 WHITE SANDS STREET
Laguna Cir N
Yucca Cir
Havana
Tropical
Sunset
#24 SUNSET CIRCLE
#23 SAPPHIRE CIRCLE
#22 FANTASY CIRCLE
Parade
Laguna Cir S
Citrus Cir
Hemingside
Cora Lee
Carolyn
#21 GOOD HOPE CIRCLE
Georgia Ruth
Verna Jean
Polaris
#20 GAY DAWN CIRCLE
#19 AURORA CIRCLE
LAGUNA MADRE BAY
Aries
Capricorn
Constellation
#18 AQUARIUS CIRCLE
CITY HALL
4601 Padre Blvd
Mars
Jupiter
Venus
Saturn
#17 STARLIGHT CIRCLE
#16 NEPTUNE CIRCLE
BUTTERFLY GARDEN
Esperanza
#15 POINSETTIA CIRCLE
Hibiscus
Gardenia
Oleander
#14 BOUGAINVILLEA CIRCLE
Lantana
#13 MOONLIGHT CIRCLE
Huisache
Mesquite
#12 DAY DREAM CIRCLE
Retama
Fire
Ambulance
Laguna Blvd.
Padre Blvd
Atol
#11 TREASURE ISLAND CIRCLE
Bahama
#10 RIVIERA CIRCLE
Campeche
Acapulco
#9 BLUEWATER CIRCLE
Kingfish
Dolphin
Red Snapper
#8 WHITE CAP CIRCLE
Swordfish
Whiting
Amberjack
#7 SURF CIRCLE
Pike
Ling
Marlin
Gulf Blvd.
#6 SEASIDE CIRCLE
#5 SEA ISLAND CIRCLE
Tarpon
Pompano
#4 BEACH CIRCLE
Sheepshead
Corral
#3 GULF CIRCLE
Palm
Marisol
#2 OCEAN CIRCLE
Sunny Isles
Harbor
#1 HARBOR CIRCE
Haas
#0.0 LA COPA
Queen Isabella Memorial Bridge
#0 PEARL ACCESS
N
GULF OF MEXICO
The Jetties
ISLA BLANCA COUNTY PARK
South Padre ISLAND
956-761-6433
1-800-SO-PADRE
sopadre.com




P

PEARL

- ✗ Beach Mat
- ✗ Rinse Station
- ✓ Walkover
- ✗ Restrooms
- ✓ Amenities
- ✓ Parking - 126 spaces

Bike Rack and Trash Receptacle




# L

## LA COPA

- ✗ Beach Mat
- ✓ Walkover
- ✗ Amenities
- ✗ Rinse Station
- ✗ Restrooms
- ✓ Parking - 27 spaces




# 1 HARBOR CIRCLE




# 1

## HABOR CIRCLE

- ✓ Beach Mat
- ✗ Rinse Station
- ✗ Walkover
- ✓ Restrooms
- ✓ Amenities
- ✓ Parking - 11 spaces

Bike Rack and Trash Receptacle



# 2 OCEAN CIRCLE




# 2

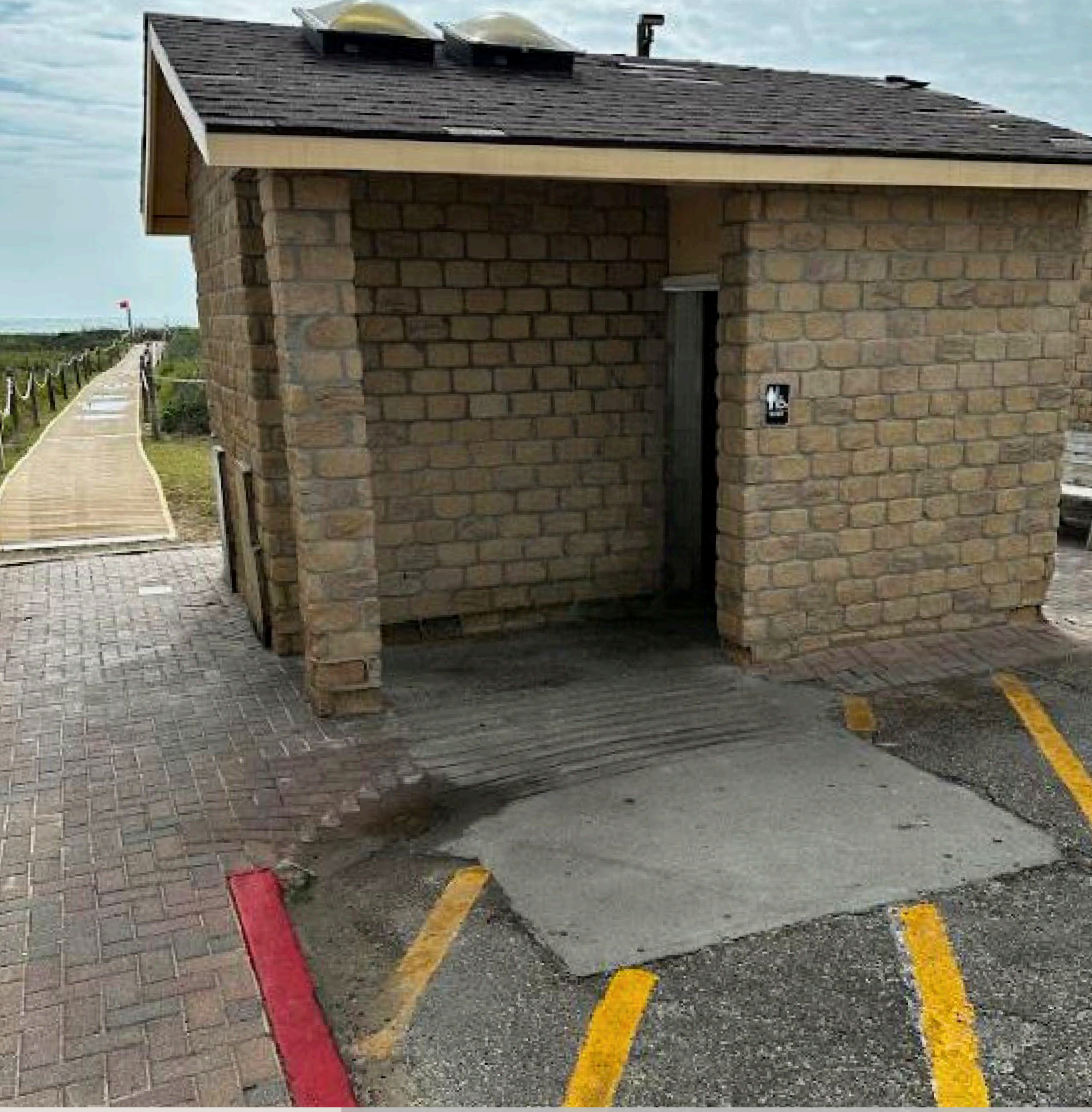
## OCEAN CIRCLE

- ✗ Beach Mat
- ✓ Rinse Station
- ✓ Walkover
- ✓ Restrooms
- ✓ Amenities
- ✓ Parking - 28 spaces

ADA Path, Bike Rack, Drinking Fountain, and Trash Receptacle



# 3 GULF CIRCLE



# 3

## GULF CIRCLE

- Beach Mat
- Rinse Station
- Walkover
- Restrooms
- Amenities
- Parking - 19 spaces

Bike Rack, Drinking Fountain, and Trash Receptacle



# 4 BEACH CIRCLE




# 4

## BEACH CIRCLE

- ✓ Beach Mat
- ✓ Walkover
- ✓ Amenities
- ✗ Rinse Station
- ✓ Restrooms
- ✓ Parking - 16 spaces

ADA Path, Bike Rack, and Trash Receptacle




# 5 SEA ISLAND CIRCLE




# 5

## SEA ISLAND CIRCLE

- Beach Mat
- Walkover
- Amenities
- Rinse Station
- Restrooms
- Parking - 8 spaces

ADA Path, Beach Gym, Bike Rack, Changing Room, and Trash Receptacle



# 6 SEASIDE CIRCLE



# 6

## SEASIDE CIRCLE

- Beach Mat
- Walkover
- Amenities
- Trash Receptacle
- Rinse Station
- Restrooms
- Parking - 13 spaces



# 7 SURF CIRCLE



# 7

## SURF CIRCLE

- ✗ Beach Mat
- ✓ Walkover
- ✓ Amenities
- ✗ Rinse Station
- ✗ Restrooms
- ✓ Parking - 22 spaces

Bike Rack and Trash Receptacle




# 8

# WHITECAP CIRCLE



# 8

## WHITECAP CIRCLE

- ✗ Beach Mat
- ✓ Rinse Station
- ✓ Walkover
- ✓ Restrooms
- ✓ Amenities
- ✓ Parking - 20 spaces

ADA Path, Bike Rack, Drinking Fountain, and Trash Receptacle



# 9

# BLUEWATER CIRCLE*




# 9

## BLUEWATER CIRCLE

- ✓ Beach Mat
- ✗ Rinse Station
- ✗ Walkover
- ✓ Restrooms
- ✓ Amenities
- ✓ Parking - 25 spaces

Bike Rack and Trash Receptacle

*Access improvements anticipated in 2026



# 10 RIVIERA CIRCLE




# 10

## RIVIERA CIRCLE

- ✓ Beach Mat
- ✗ Rinse Station
- ✗ Walkover
- ✗ Restrooms
- ✓ Amenities
- ✗ Parking

Bike Rack and Trash Receptacle



# 11 TREASURE ISLAND CIRCLE




# 11

## TREASURE ISLAND CIRCLE

- ✓ Beach Mat
- ✓ Rinse Station
- ✗ Walkover
- ✓ Restrooms
- ✓ Amenities
- ✓ Parking - 8 spaces

ADA Path, Changing Room, Drinking Fountain, Picnic Tables, and Trash Receptacle



12

# DAY DREAM CIRCLE




# 12

## DAY DREAM CIRCLE

- ✓ Beach Mat
- ✗ Rinse Station
- ✗ Walkover
- ✗ Restrooms
- ✓ Amenities
- ✗ Parking

Bike Rack and Trash Receptacle



# 13 MOONLIGHT CIRCLE



# 13

## MOONLIGHT CIRCLE

- ✗ Beach Mat
- ✓ Rinse Station
- ✓ Walkover
- ✗ Restrooms
- ✓ Amenities
- ✓ Parking - 5 spaces

Bike Rack, Drinking Fountain, and Trash Receptacle



# 14 BOUGAINVILLEA CIRCLE



# 14

## BOUGAINVILLEA CIRCLE

- ✗ Beach Mat
- ✗ Rinse Station
- ✓ Walkover
- ✓ Restrooms
- ✓ Amenities
- ✓ Parking - 11 spaces

Bike Rack and Trash Receptacle



15

# POINSETTIA CIRCLE




# 15

## POINSETTIA CIRCLE

- Beach Mat
- Walkover
- Amenities
- Trash Receptacle
- Rinse Station
- Restrooms
- Parking - 10 spaces



# B

# BUTTERFLY GARDEN



# B

## BUTTERFLY GARDEN

- ✓ Beach Mat
- ✗ Rinse Station
- ✗ Walkover
- ✗ Restrooms
- ✓ Amenities
- ✓ Parking - 3 spaces

Picnic Tables and Trash Receptacle




# 16 NEPTUNE CIRCLE




# 16

## NEPTUNE CIRCLE

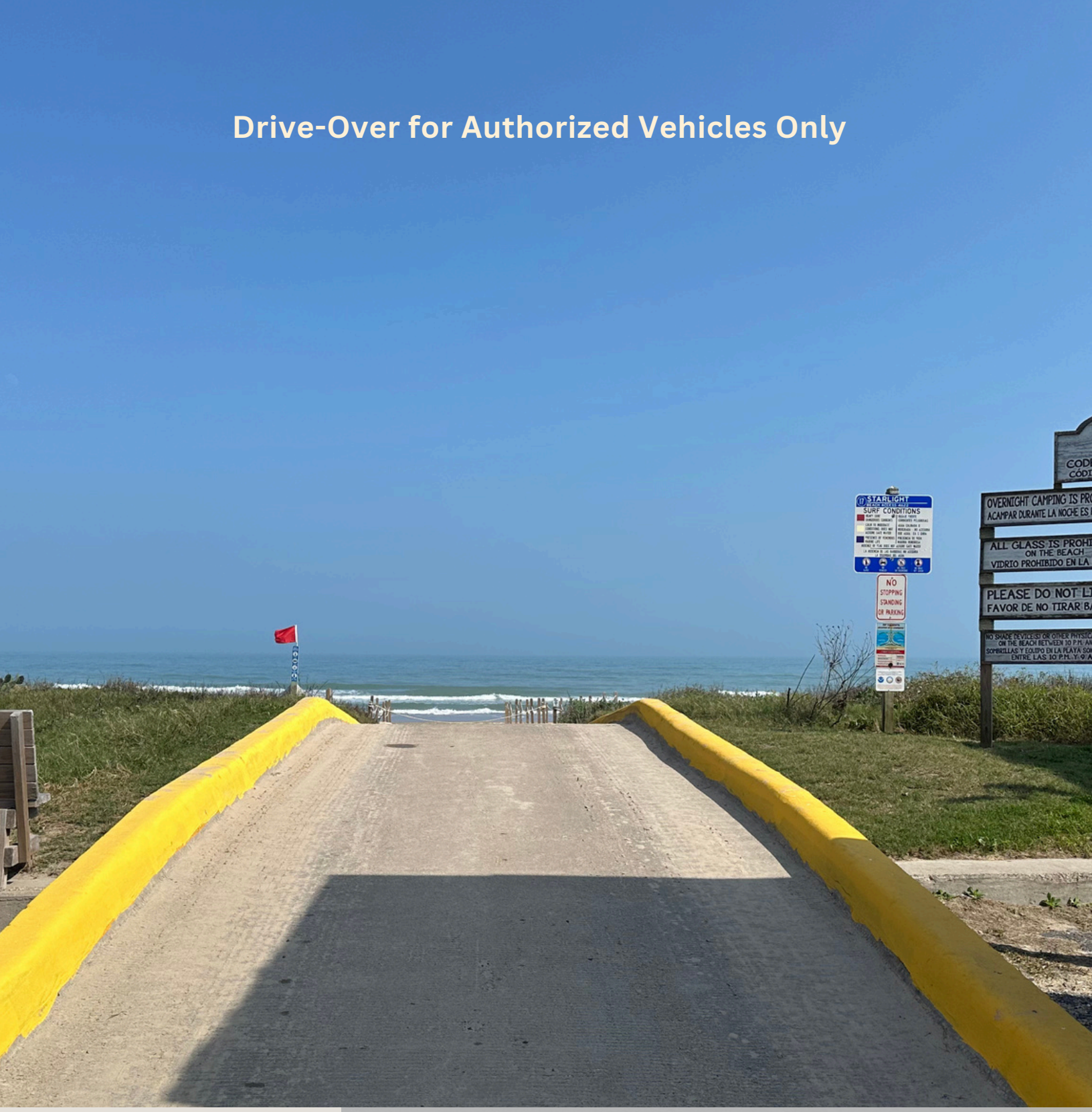
- ✗ Beach Mat
- ✓ Rinse Station
- ✓ Walkover
- ✓ Restrooms
- ✓ Amenities
- ✓ Parking - 12 spaces

ADA Path, Bike Rack, Drinking Fountain, and Trash Receptacle



# 17 STARLIGHT CIRCLE

Drive-Over for Authorized Vehicles Only




# 17

## STARLIGHT CIRCLE

- Beach Mat
- Walkover
- Amenities
- Rinse Station
- Restrooms
- Parking - 12 spaces

Bike Rack and Trash Receptacle



# 18 AQUARIUS CIRCLE




# 18

## AQUARIUS CIRCLE

- ✗ Beach Mat
- ✓ Walkover
- ✓ Amenities
- ✓ Rinse Station
- ✗ Restrooms
- ✓ Parking - 10 spaces

ADA Path and Trash Receptacle



19

# AURORA CIRCLE



# 19

## AURORA CIRCLE

- ✗ Beach Mat
- ✗ Rinse Station
- ✗ Walkover
- ✗ Restrooms
- ✓ Amenities
- ✓ Parking - 20 spaces

Bike Rack and Trash Receptacle



# 20 GAY DAWN CIRCLE




# 20

## GAY DAWN CIRCLE

- ✗ Beach Mat
- ✓ Rinse Station
- ✓ Walkover
- ✗ Restrooms
- ✓ Amenities
- ✓ Parking - 8 spaces

ADA path, Bike Rack, Drinking Fountain, and Trash Receptacle



# 21 GOOD HOPE CIRCLE




# 21

## GOOD HOPE CIRCLE

- ✗ Beach Mat
- ✓ Rinse Station
- ✓ Walkover
- ✗ Restrooms
- ✓ Amenities
- ✓ Parking - 11 spaces

Bike Rack and Trash Receptacle




# 22

# FANTASY CIRCLE




# 22

## FANTASY CIRCLE

- ✗ Beach Mat
- ✓ Rinse Station
- ✓ Walkover
- ✓ Restrooms
- ✓ Amenities
- ✓ Parking - 8 spaces

ADA path, Bike Rack, Drinking Fountain, and Trash Receptacle



# 23

# SAPPHIRE CIRCLE




# 23

## SAPPHIRE CIRCLE

- ✓ Beach Mat
- ✗ Walkover
- ✓ Amenities
  - Trash Receptacle
- ✗ Rinse Station
- ✗ Restrooms
- ✗ Parking



# 24

# SUNSET CIRCLE




# 24

## SUNSET CIRCLE

- ✓ Beach Mat
- ✗ Walkover
- ✓ Amenities
- ✗ Rinse Station
- ✓ Restrooms
- ✗ Parking

Bike Rack and Trash Receptacle




# 25 WHITE SANDS STREET

## Drive-Over for Authorized Vehicles Only




# 25

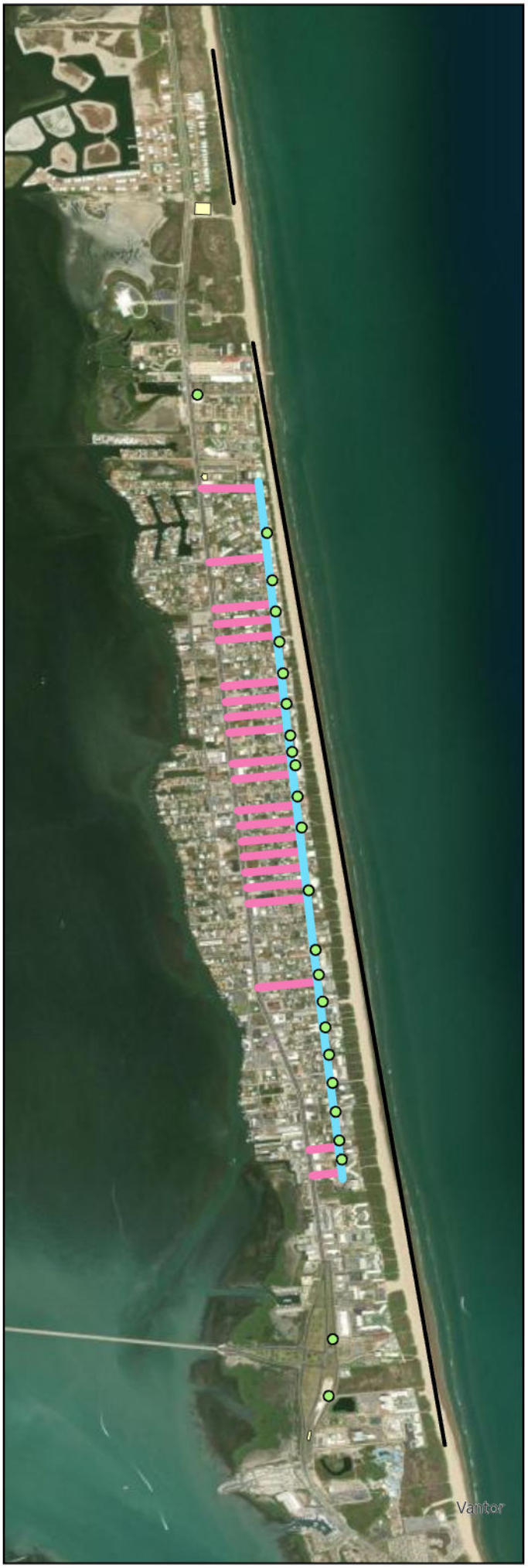
**WHITE SANDS STREET**

- ✓ Beach Mat
- ✗ Rinse Station
- ✗ Walkover
- ✗ Restrooms
- ✓ Amenities
- ✓ Parking (on street)

Bike Rack and Trash Receptacle

# Appendix 5

Beach Access Parking Guide




South Padre ISLAND

**Legend**

- Beach accesses parking
- Gulf Boulevard parking
- Side street parking
- Extra parking lots
- Linear Ft

| SPI Parking | Public | ADA | Total |
|---|---|---|---|
| Beach Accesses | 408 | 35 | 443 |
| Side Streets | 568 | 0 | 568 |
| Gulf Blvd | 312 | 9 | 321 |
| Other Lots | 162 | 2 | 164 |
| Total | 1450 | 46 | 1496 |

0 0.25 0.5 1 Miles

N

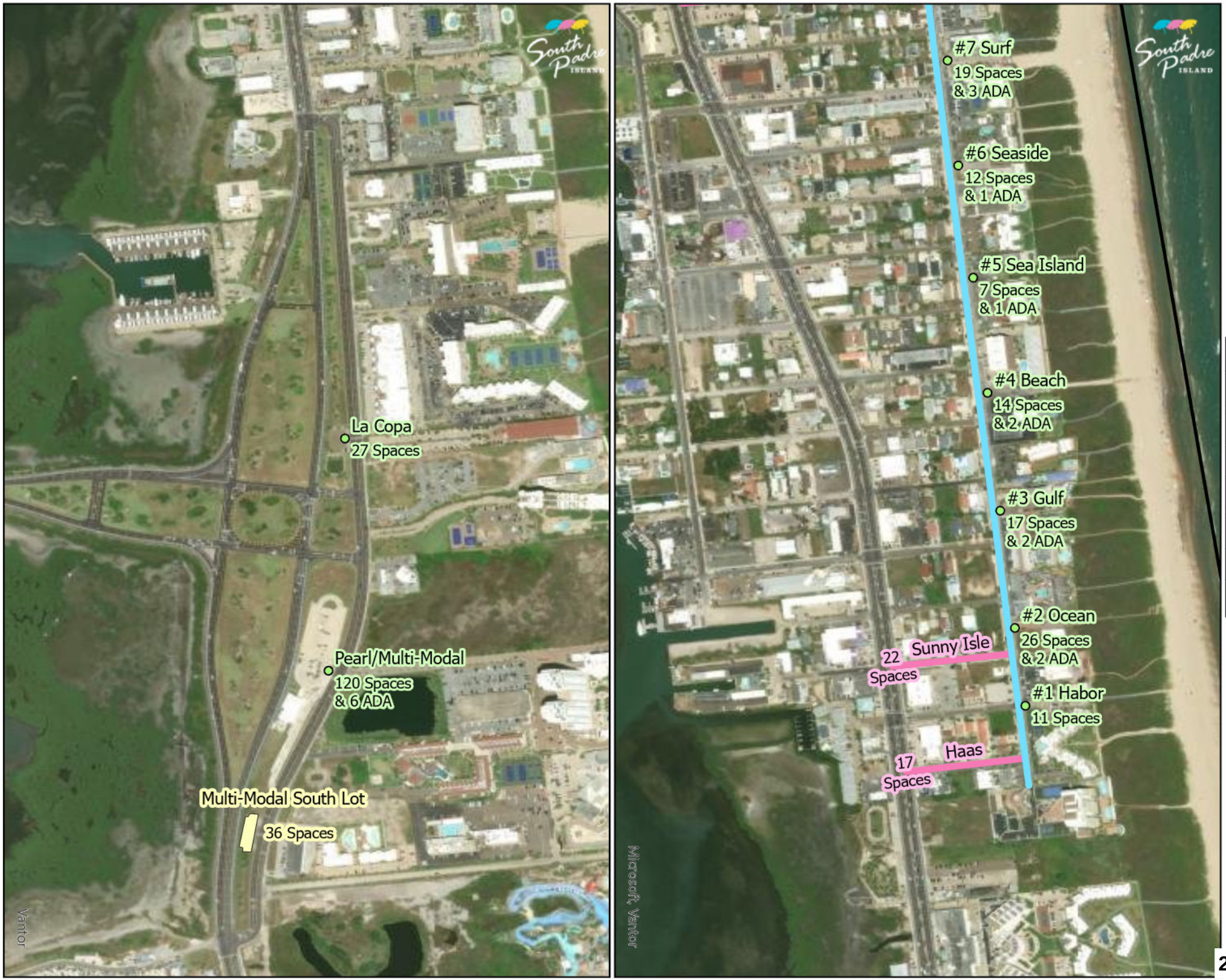
| Beach Access Parking | | |
|---|---|---|
| **Access** | **Public** | **ADA** |
| Pearl (Multi-Modal Facility) | 120 | 6 |
| La Copa | 27 | 0 |
| 1 Harbor | 11 | 0 |
| 2 Ocean | 26 | 2 |
| 3 Gulf | 17 | 2 |
| 4 Beach | 14 | 2 |
| 5 Sea Island | 7 | 1 |
| 6 Seaside | 12 | 1 |
| 7 Surf | 19 | 3 |
| 8 Whitecap | 19 | 1 |
| 9 Bluewater | 22 | 3 |
| 10 Riveria | 0 | 0 |
| 11 Treasure Island | 7 | 1 |
| 12 Day Dream | 0 | 0 |
| 13 Moonlight | 4 | 1 |
| 14 Bougainvillea | 9 | 2 |
| 15 Pointsettia | 10 | 0 |
| Butterfly Garden | 3 | 0 |
| 16 Neptune | 10 | 2 |
| 17 Starlight | 11 | 1 |
| 18 Aquarius | 8 | 2 |
| 19 Aurora | 20 | 0 |
| 20 Gay Dawn | 6 | 2 |
| 21 Good Hope | 9 | 2 |
| 22 Fantasy | 7 | 1 |
| 23 Sapphire | 0 | 0 |
| 24 Sunset | 0 | 0 |
| 25 White Sands | 10 | 0 |
| **TOTAL** | **408** | **35** |

| East End Side Street Parking | | |
|---|---|---|
| **Side Street** | **Public** | **ADA** |
| Haas | 17 | 0 |
| Sunny Isle | 22 | 0 |
| Swordfish | 9 | 0 |
| Bahama | 30 | 0 |
| Atol | 16 | 0 |
| Retama | 38 | 0 |
| Mesquite | 36 | 0 |
| Huisache | 34 | 0 |
| Lantana | 26 | 0 |
| Oleander | 11 | 0 |
| Hibiscus | 22 | 0 |
| Esperanza | 16 | 0 |
| Venus | 48 | 0 |
| Jupiter | 44 | 0 |
| Mars | 23 | 0 |
| Constellation | 27 | 0 |
| Polaris | 38 | 0 |
| Verna Jean | 34 | 0 |
| Georgia Ruth | 20 | 0 |
| Morningside | 16 | 0 |
| Sunset | 41 | 0 |
| **TOTAL** | **568** | **0** |

| Gulf Boulevard Parking | | |
|---|---|---|
| **Gulf** | **Public** | **ADA** |
| Haas to Corral | 63 | 2 |
| Corral to Sheepshead | 6 | 0 |
| Sheepshead to Kingfish | 81 | 2 |
| Acapulco to Oleander | 41 | 3 |
| Oleander to Gardenia | 6 | 0 |
| Gardenia to Esperanza | 9 | 0 |
| Esperanza to Saturn | 6 | 0 |
| Saturn to Polaris | 47 | 1 |
| Polaris to Verna Jean | 10 | 0 |
| Verna Jean to Cora Lee | 26 | 1 |
| Morningside to Sunset | 17 | 0 |
| **TOTAL** | **312** | **9** |

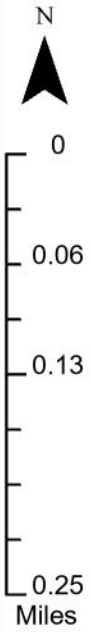
| Other Parking | | |
|---|---|---|
| **Other** | **Public** | **ADA** |
| Tompkins Park (leads to Sunset Beach Access) | 21 | 2 |
| Contributed by Cameron County Parks for the Shores | 100 | 0 |
| Turtle Park | 5 | 0 |
| Multi-Modal South Lot | 36 | 0 |
| **TOTAL** | **162** | **2** |

| | |
|---|---|
| **REQUIRED PER 15:1 TAC RULE:** | **1629** |
| **Total Public** | 1450 |
| **Total ADA** | 46 |
| **TOTAL** | **1496** |
| **TOTAL DEFICIT** | 133 |


La Copa
27 Spaces
Pearl/Multi-Modal
120 Spaces
& 6 ADA
Multi-Modal South Lot
36 Spaces
#7 Surf
19 Spaces
& 3 ADA
#6 Seaside
12 Spaces
& 1 ADA
#5 Sea Island
7 Spaces
& 1 ADA
#4 Beach
14 Spaces
& 2 ADA
#3 Gulf
17 Spaces
& 2 ADA
#2 Ocean
26 Spaces
& 2 ADA
Sunny Isle
22
Spaces
#1 Habor
11 Spaces
Haas
17
Spaces
N
0
0.06
0.13
0.25
Miles
Vantor
Microsoft, Vantor


Esperanza
16 Spaces
#15 Pointsettia
10 Spaces
Hibiscus
22 Spaces
#14 Bougainvillea
9 Spaces & 2 ADA
Oleander
11 Spaces
Lantana
26 Spaces
#13 Moonlight
4 Spaces & 1 ADA
Huisache
34 Spaces
Mesquite
36 Spaces
Retama
38 Spaces
Atol
16 Spaces
#11 Treasure Island
7 Spaces & 1 ADA
Bahama
30 Spaces
#9 Bluewater
25 Spaces
#8 Whitecap
19 Spaces & 1 ADA
Swordfish
9 Spaces
South Padre Island
Vantor


#22 Fantasy
7 Spaces & 1 ADA
5 Spaces
Morningside
16 Spaces
Turtle Park
#21 Good Hope
9 Spaces & 2 ADA
Georgia Ruth
20 Spaces
#20 Gay Dawn
6 Spaces & 2 ADA
Verna Jean
34 Spaces
Polaris
38 Spaces
#19 Aurora
20 Spaces
#18 Aquarius
8 Spaces & 2 ADA
Constellation
27 Spaces
Mars
23 Spaces
#17 Starlight
11 Spaces & 1 ADA
Jupiter
44 Spaces
Venus
48 Spaces
#16 Neptune
10 Spaces & 2 ADA
Butterfly Garden
3 Spaces
Esperanza
South Padre Island
Microsoft Vantor


N
0
0.06
0.13
0.25
Miles


#25 White Sands
10 Spaces
Tompkins Park
21 Spaces and 2 ADA
Sunset
41 Spaces
Microsoft, Vantor


Contributed by Cameron County Parks for the Shores
100 Spaces
Vantor
N
0
0.06
0.13
0.25
Miles