Response to 3RD Technical Notice of Deficiency
Type V Permit Application

WPD RECEIVED:	October 23, 2025
PROJECT MANAGER:	R Pedersen
TRACKING NUMBER:	30514769
DUE DATE:	November 22, 2025

J.C. Elliott Transfer Station
City of Corpus Christi, Texas
TCEQ Permit No. MSW-2423

Prepared for:
City of Corpus Christi
P.O. Box 9277
Corpus Christi, Texas 78469

Prepared by:

SCS ENGINEERS

File No. 16221088.00 | October 2025

Texas Board of Professional Engineers Registration No. F-3407
12651 Briar Forest Drive, Suite 205
Houston, TX 77077
(281) 293-8494

October 23, 2025

Mr. Robert C. Pedersen
MC 124
Municipal Solid Waste Permits
Waste Permits Division
Texas Commission on Environmental Quality
12100 Park 35 Circle
Austin, Texas 78753

VIA EMAIL/FEDEX

Subject: Response to 3RD Technical Notice of Deficiency (NOD)
J.C. Elliott Transfer Station City of Corpus Christi, Nueces County, Texas
Proposed Municipal Solid Waste Permit Number: 2423
Tracking No. 30514769; RN112093794/CN600131858
Type V Permit Application

Dear Mr. Pedersen:

On behalf of the City of Corpus Christi (City), SCS Engineers (SCS) is pleased to submit this response to your June 13, 2025 email regarding technical deficiencies in the Type V MSW permit application for the proposed J.C. Elliott Transfer Station to be located in Nueces County, Texas.

In the NOD, the following comment was offered accompanied by our written response in ***bold and italic.***

ID	Deficiency Description/Resolution	*SCS Response*
1	Provide the archaeological survey required by the Texas Historical Commission (THC) and a review letter from the THC documenting compliance with the Natural Resources Code, Chapter 191, Texas Antiquities Code. (30 TAC Chapter 330.61(o))	***The required archaeological survey has been completed and submitted to THC. The email response from THC has been included in this submittal.***

The following items are being submitted with this response:

Section	Description
Part I Application Form (TCEQ-00650)	Completed form.
Binder Cover	Revised cover.
Parts I & II Narrative	Revised cover and TOC.
Parts I & II Appendix I/II-A.2	Added correspondence.

The certification statement required by 30 TAC §305.44 is included as part of the enclosed Part I Form.

As required by 30 TAC §330.125(c) of TCEQ rules, please be advised that this letter with enclosures is being placed in the operating record for the subject facility in accordance with the requirements of 30 TAC §330.125(a) and /or (b). Also, as required, an original, two unmarked copies, and one redline-strikeout copy of this permit application technical nod response are being submitted. An additional copy of this response is being submitted directly to the TCEQ Region 14 office.

We trust that this submittal is complete and will lead towards technical approval of this Type V permit application. If you have any questions or comments concerning this submittal, please contact Chad Ellinger at (281) 293-8494.

Sincerely,

Chad Ellinger, P.E.
Project Director
SCS ENGINEERS

Ricardo Espinoza
Project Professional
SCS ENGINEERS

CC: Mr. Philip Aldridge – City of Corpus Christi
TCEQ Region 14

Texas Commission on Environmental Quality

Waste Permits Division Correspondence Cover Sheet

Date: 10/23/2025
Facility Name: J.C. Elliott Transfer Station
Permit or Registration No.: MSW-2423

Nature of Correspondence:
☐ Initial/New
☒ Response/Revision to TCEQ Tracking No.: 30514769 (from subject line of TCEQ letter regarding initial submission)

Affix this cover sheet to the front of your submission to the Waste Permits Division. Check appropriate box for type of correspondence. Contact WPD at (512) 239-2335 if you have questions regarding this form.

Table 1 - Municipal Solid Waste Correspondence

Applications	Reports and Notifications
☐ New Notice of Intent	☐ Alternative Daily Cover Report
☐ Notice of Intent Revision	☐ Closure Report
☒ New Permit (including Subchapter T)	☐ Compost Report
☐ New Registration (including Subchapter T)	☐ Groundwater Alternate Source Demonstration
☐ Major Amendment	☐ Groundwater Corrective Action
☐ Minor Amendment	☐ Groundwater Monitoring Report
☐ Limited Scope Major Amendment	☐ Groundwater Background Evaluation
☐ Notice Modification	☐ Landfill Gas Corrective Action
☐ Non-Notice Modification	☐ Landfill Gas Monitoring
☐ Transfer/Name Change Modification	☐ Liner Evaluation Report
☐ Temporary Authorization	☐ Soil Boring Plan
☐ Voluntary Revocation	☐ Special Waste Request
☐ Subchapter T Disturbance Non-Enclosed Structure	☐ Other:
☐ Other:	

Table 2 - Industrial & Hazardous Waste Correspondence

Applications	Reports and Responses
☐ New	☐ Annual/Biennial Site Activity Report
☐ Renewal	☐ CPT Plan/Result
☐ Post-Closure Order	☐ Closure Certification/Report
☐ Major Amendment	☐ Construction Certification/Report
☐ Minor Amendment	☐ CPT Plan/Result
☐ CCR Registration	☐ Extension Request
☐ CCR Registration Major Amendment	☐ Groundwater Monitoring Report
☐ CCR Registration Minor Amendment	☐ Interim Status Change
☐ Class 3 Modification	☐ Interim Status Closure Plan
☐ Class 2 Modification	☐ Soil Core Monitoring Report
☐ Class 1 ED Modification	☐ Treatability Study
☐ Class 1 Modification	☐ Trial Burn Plan/Result
☐ Endorsement	☐ Unsaturated Zone Monitoring Report
☐ Temporary Authorization	☐ Waste Minimization Report
☐ Voluntary Revocation	☐ Other:
☐ 335.6 Notification	
☐ Other:	

Attachment No. 1

Part I Application Form for New Permit, Permit Amendment, or Registration for a Municipal Solid Waste Facility

(Form TCEQ-00650)

Texas Commission on Environmental Quality

Part I Application Form for New Permit, Permit Amendment, or Registration for a Municipal Solid Waste Facility

Instructions for completing this Part I Application Form are provided in TCEQ 00650-instr[1]. Include a Core Data Form (TCEQ 10400)[2] with the application for the facility owner, and Core Data Forms for the operator and property owner if different from the facility owner. If you have questions, contact the Municipal Solid Waste (MSW) Permits Section by email to mswper@tceq.texas.gov, or by phone at 512-239-2335. Rules cited on this form are in Title 30 Texas Administrative Code (30 TAC) and may be viewed online at www.tceq.texas.gov/goto/view-30tac.

Application Tracking Information

Facility Regulated Entity Name[3]:
J.C. Elliott Transfer Station

Site Operator (Permittee or Registrant Name)[4]:
City of Corpus Christi

MSW Authorization Number: 2423

Initial Submission Date: 11/8/2024

Revision Date: 10/23/2025

Application Data

1. Submission Type

☐ Initial Submission ☒ Notice of Deficiency (NOD) Response

2. Authorization Type

☒ Permit ☐ Registration

3. Application Type

☒ New Permit

☐ Permit Major Amendment ☐ Permit Limited Scope Major Amendment

☐ New Registration

[1] www.tceq.texas.gov/downloads/permitting/waste-permits/msw/forms/00650-instr.pdf
[2] www.tceq.texas.gov/goto/coredata
[3] Facility Regulated Entity Name must match the Regulated Entity Name indicated on the TCEQ Core Data Form.
[4] Site Operator is defined in 30 TAC 330.3(148) as the holder of, or the applicant for, an authorization (or license) for a municipal solid waste facility.

4. Application Fee

Amount

☐ $2,050—New Landfill Permits, and Landfill Permit Major Amendments Described in 30 TAC 305.62(j)(1)

☒ $150—Other Permits, Permit Amendments, Limited Scope Major Amendments, and all Registrations

Payment Method

☒ Online through ePay portal www3.tceq.texas.gov/epay/

Enter ePay Trace Number: 729398, 729399

☐ Check (send to TCEQ Financial Administration Division)

Payor Name: _____ Check Number: _____

5. Electronic Versions of Application

TCEQ will publish electronic versions of the application online. Applicants must provide a clean copy of the administratively complete application and technically complete application. TCEQ will also publish electronic versions of NOD responses online.

6. Party Responsible for Publishing Notice

Indicate who will be responsible for publishing notice:

☒ Applicant ☐ Agent in Service ☐ Consultant

Contact Name: Philip Aldridge

Title: Director of Solid Waste Services

Email Address: [redacted]

7. Alternative Language Notice

Use the Alternative Language Checklist on Public Notice Verification Form TCEQ-20244-Waste-NORI, TCEQ-20244-Waste-NAPD, or TCEQ-20244-Waste-NAORPM available at www.tceq.texas.gov/permitting/waste_permits/msw_permits/msw_notice.html to determine if an alternative language notice is required.

Is an alternative language notice required for this application?

☒ Yes ☐ No

Indicate the alternative language: Spanish

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8. Public Place for Copy of Application

Name of the Public Place: Ben F. McDonald Public Library

Physical Address: 4044 Greenwood Drive

City: Corpus Christi County: Nueces State: TX Zip Code: 78416

Phone Number: 361-826-2356

9. Consolidated Permit Processing

Is this submittal part of a consolidated permit processing request, in accordance with 30 TAC Chapter 33?

☐ Yes ■ No

If "Yes", indicate the other TCEQ program authorizations requested:

10. Confidential Documents

Does the application contain confidential documents?

☐ Yes ■ No

If "Yes", reference the confidential documents in the application, but submit the confidential documents as an attachment in a separate binder marked "CONFIDENTIAL."

11. Permits and Construction Approvals

Mark the following table to indicate status of other permits or approvals.

Table 1. Permits and Construction Approvals.

Permit or Approval	Received	Pending	Not Applicable
Hazardous Waste Management Program under Texas Solid Waste Disposal Act			X
Underground Injection Control Program under Texas Injection Well Act			X
National Pollutant Discharge Elimination System Program under Clean Water Act; Waste Discharge Program under Texas Water Code, Chapter 26		X	
Prevention of Significant Deterioration Program under Federal Clean Air Act (FCAA); Nonattainment Program under the FCAA			X
National Emission Standards for Hazardous Air Pollutants Preconstruction Approval under the FCAA			X
Ocean Dumping Permits under Marine Protection Research and Sanctuaries Act			X
Dredge or Fill Permits under Clean Water Act			X
Licenses under the Texas Radiation Control Act			X
Other (describe): Standard Air Permit for MSW Facilities (30 TAC Chapter 330, Sub-Chapter U)		X	
Other (describe):			

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12. General Information About the Facility

Facility Regulated Entity Name:
J.C. Elliott Transfer Station

Contact Name: Philip Aldridge Title: Director of Solid Waste Services

MSW Authorization Number (if existing): _____

Regulated Entity Reference Number: **RN** 112093794

Physical or Street Address (if available): _____

City: Corpus Christi County: Nueces State: TX Zip Code: 78415

Phone Number: 361-826-4482

Latitude (decimal degrees, six decimal places): 27°42'16"

Longitude (decimal degrees, six decimal places): 97°27'11"

Elevation (above mean sea level): 20.0' feet (benchmark elevation for landfills)

Description of facility location with respect to known or easily identifiable landmarks:

The J.C. Elliott Transfer Station will be located in Nueces County, Texas, off State Highway 286 approximately 0.8 miles southwest of the intersection of State Highway 286 and State Highway 357.

Access routes from the nearest United States or state highway to the facility:

From State Highway 357, travel south on State Highway 286 for approximately 0.8 miles and exit Business State Highway 286. The facility if located on the west side of road at the intersection of Business State Highway 286 and Greenwood Drive.

Coastal Management Program

Is the facility within the Coastal Management Program boundary?

☒ Yes ☐ No

13. Facility Types

Facility types are described in 30 TAC 330.5(a).

Indicate facility type (select all that apply):

☐ Type I ☐ Type IV ☒ Type V

☐ Type IAE ☐ Type IVAE ☐ Type VI

14. Activities Conducted at the Facility

☒ Storage ☒ Processing ☐ Disposal

15. Facility Waste Management Units

Check the box for each type of waste management unit proposed.

- ☐ Landfill Unit(s)
- ☐ Incinerator(s)
- ☐ Class 1 Landfill Unit(s)
- ☐ Process Tank(s)
- ☐ Storage Tank(s)
- ■ Tipping Floor
- ☐ Storage Area
- ☐ Other (specify):
- ☐ Container(s)
- ☐ Roll-off Boxes
- ☐ Surface Impoundment
- ☐ Autoclave(s)
- ☐ Refrigeration Unit(s)
- ☐ Mobile Processing Unit(s)
- ☐ Compost Pile(s) or Vessel(s)

16. Description of Proposed Facility or Changes to Existing Facility

Provide a brief description of the proposed activities if application is for a new facility, or the proposed changes to an existing facility or permit conditions if the application is for an amendment.

Applicant is requesting authorization to transfer municipal solid waste which includes wastes resulting from or incidental to municipal, community, commercial, institutional, and recreational activities; construction or demolition waste; special waste that does not interfere with site operations; and other wastes such as Class 2 and Class 3 industrial waste. A complete listing of acceptable and prohibited wastes is contained in the application which can be viewed online (refer to Section 5 of this form for online location).

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17. Facility Contact Information

Site Operator (Permittee or Registrant)

Name: City of Corpus Christi

Customer Reference Number: **CN** 600131858

Contact Name: Philip Aldridge Title: Director of Solid Waste Services

Mailing Address: 2525 Hygeia Street

City: Corpus Christi County: Nueces State: TX Zip Code: 78415

Phone Number: 361-826-4482

Email Address: [redacted]

Operator (if different from *Site Operator*)

Name: _____

Customer Reference Number: **CN** _____

Contact Name: _____ Title: _____

Mailing Address: _____

City: _____ County: _____ State: ___ Zip Code: ____

Phone Number: _____

Email Address: _____

Consultant (if applicable)

Firm Name: SCS Engineers

Consultant Name: _____

Texas Board of Professional Engineers Firm Registration Number: F-3407

Contact Name: Chad Ellinger, P.E. Title: Project Director

Mailing Address: 12651 Briar Forest Drive

City: Houston County: Harris State: TX Zip Code: 77077

Phone Number: 281-293-8494

Email Address: [redacted]

Agent in Service (required for out-of-state applicants)

Name: _____

Mailing Address: _____

City: _____ County: _____ State: TX Zip Code: ____

Phone Number: _____

Email Address: _____

18. Facility Supervisor License

Indicate the level of Municipal Solid Waste Facility Supervisor license, as defined in 30 TAC Chapter 30, Occupational Licenses and Registrations, Subchapter F that the individual who supervises or manages the operations will obtain prior to commencing operations.

☒ Class A Supervisor License ☐ Class B Supervisor License

19. Facility Ownership

Facility Owner

Does the Site Operator (Permittee or Registrant) own all the facility units and all the facility property?

☒ Yes ☐ No

If "No", provide the following information for the other owner, and include a Core Data Form for the other owner. Attach supplemental sheet if more than one other owner.

Other Owner Name: _____

What is Owned: ☐ Facility Units ☐ Property

☐ Other (describe): _____

Mailing Address: _____

City: _____ County: _____ State: ____ Zip Code: ____

Phone Number: _____

Email Address: _____

20. Other Government Entities Information

Texas Department of Transportation

District: 16

District Engineer's Name: Mike Walsh, P.E.

Mailing Address: 1701 S. Padre Island Drive

City: Corpus Christi County: Nueces State: TX Zip Code: 78416

Phone Number: 361-808-2275

Email Address: [redacted]

Local Government Authority Responsible for Road Maintenance (if applicable)

Government or Agency Name: City of Corpus Christi

Contact Person's Name: Renee Couture, P.E.

Mailing Address: 1201 Leopard, 3rd Floor City Hall

City: Corpus Christi County: Nueces State: TX Zip Code: 78401

Phone Number: 361-826-3539

Email Address: [redacted]

City Mayor Information

City Mayor's Name: Paulette M. Guajardo
Mailing Address: 1201 Leopard Street
City: Corpus Christi County: Nueces State: TX Zip Code: 78401
Phone Number: 361-826-3100
Email Address: [redacted]

City Health Authority

Authority Name: Corpus Christi - Nueces County Public H
Contact Person's Name: Dr. Fauzia Khan
Contact Person's Title: Director of Public Health
Mailing Address: 1702 Horne Road
City: Corpus Christi County: Nueces State: TX Zip Code: 78416
Phone Number: 361-826-7200
Email Address: [redacted]

County Judge Information

County Judge's Name: Connie Scott
Mailing Address: 901 Leopard Street, Room 303
City: Corpus Christi County: Nueces State: TX Zip Code: 78401
Phone Number: 361-888-0444
Email Address: [redacted]

County Health Authority

Agency Name: Corpus Christi - Nueces County Public H
Contact Person's Name: Dr. Srikanth Ramachandruni, MD
Contact Person's Title: Local Health Authority
Mailing Address: 1702 Horne Road
City: Corpus Christi County: Nueces State: TX Zip Code: 78416
Phone Number: 361-826-7200
Email Address: [redacted]

State Representative Information

House District Number: 34
State Representative's Name: Abel Herrero
District Office Mailing Address: 101 East Main Avenue
City: Robstown County: Nueces State: TX Zip Code: 78380
Phone Number: 361-387-0457
Email Address: [redacted]

State Senator Information

District Number: 27

State Senator's Name: Morgan LaMantia

District Office Mailing Address: 1324 E Madison Street

City: Brownsville County: Cameron State: TX Zip Code: 78520

Phone Number: 956-689-1860, ext. 230

Email Address: [redacted]

Council of Governments (COG)

COG Name: Coastal Bend Council of Governments

COG Representative's Name: Emily Martinez, MPA

COG Representative's Title: Executive Director

Mailing Address: 2910 Leopard Street

City: Corpus Christi County: Nueces State: TX Zip Code: 78408

Phone Number: 361-883-5743

Email Address: [redacted]

River Basin Authority

Authority Name: Nueces River Authority

Contact Person's Name: John J. Byrum II

Watershed Sub-Basin Name: Nueces River Basin

Mailing Address: 539 South Hwy 83

City: Uvalde County: Uvalde State: TX Zip Code: 78801

Phone Number: 830-278-6810

Email Address: [redacted]

Local Drainage or Flood Management Authority

Authority Name: City of Corpus Christi, Floodplain & Coastal Protection Manager

Contact Person's Name: Melanie Barrera

Mailing Address: P.O. Box 9277

City: Corpus Christi County: Nueces State: TX Zip Code: 78469

Phone Number: 361-826-3064

Email Address: [redacted]

U.S. Army Corps of Engineers District

Indicate the U.S. Army Corps of Engineers district in which the facility is located:

☐ Albuquerque, NM ■ Galveston, TX

☐ Fort Worth, TX ☐ Tulsa, OK

Local Government Jurisdiction

Within City Limits of: Corpus Christi

Within Extraterritorial Jurisdiction of: N/A

Is the facility located in an area in which the governing body of the municipality or county has prohibited the storage, processing, or disposal of municipal or industrial solid waste?

☐ Yes ■ No

If "Yes", provide a copy of the ordinance as an attachment.

PAGE REVISION DATE: 10/23/2025

Applicant Signature Page

Site Operator (Permittee or Registrant Name) or Authorized Signatory

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: Philip Aldridge Title: Director of Solid Waste Services

Email Address: [redacted]

Signature: _____ Date: 10/21/25

Authorization by Facility Owner for Operator to Submit Application

To be completed by the facility owner if the application is submitted by an operator who is not the facility owner.

I am the owner of the facility that is the subject of this application, and authorize the operator, _____ to submit this application pursuant to 30 TAC 305.43(c).

Name: _____ Title: _____

Email Address: _____

Signature: _____ Date: _____

Notary

SUBSCRIBED AND SWORN to before me by the said Property Owner affidavit

On this 21 day of October, 2025

My commission expires on the 18 day of December 2025

Vanessa Burnett

Notary Public in and for

Nueces County, TX (notary's jurisdiction, including county and state)

VANESSA BURNETT
Notary ID #128367603
My Commission Expires
December 18, 2028

Note: Application Must Bear Signature & Seal of Notary Public

PAGE REVISION DATE: 10/23/2025

Property Owner Affidavit

Property Owner Affidavit for Landfill Facility

I acknowledge in accordance with 30 TAC 330.59(d)(2) that the State of Texas may hold me either jointly or severally responsible for the operation, maintenance, and closure and post-closure care of the facility. For a facility where waste will remain after closure, I acknowledge that I have a responsibility to file with the county deed records an affidavit to the public advising that the land will be used for a solid waste facility prior to the time that the facility actually begins operating as a municipal solid waste landfill facility, and to file a final recording upon completion of disposal operations and closure of the landfill units according to 30 TAC 330.19 (relating to Deed Recordation). I further acknowledge that the facility owner or operator and the State of Texas shall have access to the property during the active life and post-closure care period for the purpose of inspection and maintenance.

Name: _____

Email Address: _____

Signature: _____ Date: _____

Property Owner Affidavit for Processing Facility

I acknowledge in accordance with 30 TAC 330.59(d)(2) that the State of Texas may hold me either jointly or severally responsible for the operation, maintenance, and closure of the facility. I further acknowledge that the facility owner or operator and the State of Texas shall have access to the property during the active life and post-closure care period for the purpose of inspection and maintenance.

Name: Philip Aldridge

Email Address: [redacted]

Signature: _____ Date: 10/21/25

Notary

SUBSCRIBED AND SWORN to before me by the said Property Owner affidavit

On this 21 day of October, 2025

My commission expires on the 18 day of December, 2028

VANESSA BURNETT
Notary ID #128367603
My Commission Expires
December 18, 2028

Vanessa Burnett

Notary Public in and for

Nueces County, TX (notary's jurisdiction, including county and state)

Note: Application Must Bear Signature & Seal of Notary Public

Part I Attachments

Refer to instruction document TCEQ 00650-instr[5] for professional engineer seal requirements.

Attachments Table 1. Required attachments.

Required Attachments	Attachment Number
Supplementary Technical Report [30 TAC 305.45(a)(8)]	
Property Legal Description [30 TAC 330.59(d)(1)]	Documentation
Property Metes and Bounds Description [30 TAC 330.59(d)(1)]	Documentation
Facility Legal Description [30 TAC 330.59(d)(1)]	Documentation
Facility Metes and Bounds Description [30 TAC 330.59(d)(1)]	Documentation
Metes and Bounds Drawings [30 TAC 330.59(d)(1)]	Documentation
On-Site Easements Drawing [30 TAC 330.61(c)(10)]	Figure I/II-6
Land Ownership Map [30 TAC 330.59(c)(3)]	Figure I/II-5
Landowners List [30 TAC 330.59(c)(3)]	Appendix I/II-D
Mailing Labels (in electronic file, in Avery 5160 format; see instructions) [30 TAC 281.5(7)]	Part I/II
General Location Maps [30 TAC 330.59(c)(2)]	Figure I/II-1
Texas Department of Transportation (TxDOT) County Map [30 TAC 330.59(c)(2)]	Figure I/II-1
General Topographic Maps [30 TAC 330.61(e)]	Figure I/II-4
Verification of Legal Status / Legal Authority (certificate of incorporation) [30 TAC 281.5 and 330.59(e)]	Documentation
Evidence of Competency [30 TAC 330.59(f)]	Documentation
Signatory Authority Documentation [30 TAC 305.44 and 330.59(g)]	Documentation
TCEQ Core Data Form(s) TCEQ-10400[6] [30 TAC 281.5(7)]	Application Forms

[5] www.tceq.texas.gov/downloads/permitting/waste-permits/msw/forms/00650-instr.pdf
[6] www.tceq.texas.gov/permitting/central_registry/guidance.html

Attachments Table 2. Additional attachments as applicable.

Additional Attachments (select all that apply and add others as needed)	Attachment Number
■ Plain Language Summary Form TCEQ-20947[7] [30 TAC 39.405(k)]	Submittal Letter
■ Public Involvement Plan Form TCEQ-20960[8]	Submittal Letter
■ Fee Payment Receipt	Application Forms
☐ Confidential Documents	
☐ Waste Storage, Processing and Disposal Ordinances [Texas Health and Safety Code, Section 363.112[9]]	
☐ Final Plat Record of Property Description [30 TAC 330.59(d)(1)(B)]	
Other (describe):	
Other (describe):	
Other (describe):	

[7] www.tceq.texas.gov/downloads/permitting/waste-permits/msw/forms/20947-instr.pdf
[8] www.tceq.texas.gov/downloads/agency/decisions/hearings/environmental-equity/pip-form-tceq-20960.pdf www.tceq.texas.gov/downloads/agency/decisions/hearings/environmental-equity/instructions-for-pip-form-tceq-20960.pdf
[9] statutes.capitol.texas.gov/Docs/HS/htm/HS.363.htm#363.112

Attachment No. 2

Replacement Pages

TYPE V PERMIT APPLICATION

FOR:

J.C. ELLIOTT TRANSFER STATION
NUECES COUNTY, TEXAS
TCEQ PERMIT NO. MSW-2423

VOLUME I OF I

Prepared for:

City of Corpus Christi
P.O. Box 9277
Corpus Christi, TX 78469

Prepared by:

SCS ENGINEERS
Texas Board of Professional Engineers Registration No. F-3407
12651 Briar Forest Dr., Suite 205
Houston, TX 77077
(281) 293-8494

November 2024
Revision 1 – December 2024
Revision 2 – March 2025
Revision 3 – May 2025
Revision 4 – October 2025

FOR PERMITTING PURPOSES ONLY

PARTS I & II

TYPE V PERMIT APPLICATION

FOR

J.C. ELLIOTT TRANSFER STATION
NUECES COUNTY, TEXAS
TCEQ PERMIT NO. MSW-2423

Prepared for:

City of Corpus Christi
P.O. Box 9277
Corpus Christi, TX 78469

Prepared by:

SCS ENGINEERS
Texas Board of Professional Engineers Registration No. F-3407
12651 Briar Forest Dr., Suite 205
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November 2024
Revision 1 – December 2024
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PARTS I & II

TYPE V PERMIT APPLICATION
J.C. ELLIOTT TRANSFER STATION
NUECES COUNTY, TEXAS
TCEQ PERMIT NO. MSW-2423

SCS Engineers
TBPE Reg. #F-3407

TABLE OF CONTENTS

SCS Engineers
TBPE Reg. #F-3407

STATE OF TEXAS
CHAD ELLINGER
120182
LICENSED
PROFESSIONAL ENGINEER
10-28-2025

TABLES

APPLICATION FORMS

Part I Application Form
TCEQ Core Data Form

SCS Engineers
TBPE Reg. #F-3407

DOCUMENTATION

Legal Description
Legal Authority
Evidence of Competency
Appointment
Property Owner Affidavit

FIGURES

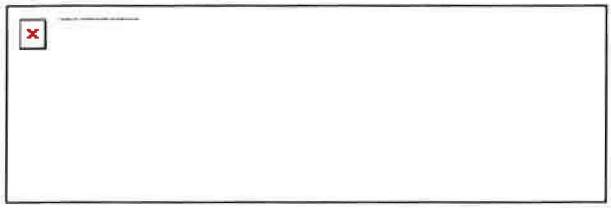
APPENDICES

SCS Engineers
TBPE Reg. #F-3407

APPENDIX I/II-A.2

ARCHAEOLOGICAL / HISTORICAL REVIEW CORRESPONDENCE

---------- Forwarded message ---------
From: [redacted]
Date: Mon, Sep 22, 2025 at 11:01 AM
Subject: Phase I Cultural Resources Survey at the [redacted]



Re: Project Review under the Antiquities Code of Texas
THC Tracking #202600144
Date: 09/22/2025
Phase I Cultural Resources Survey at the Proposed Location of a Solid Waste Transfer Station in Corp (Permit 32329)
7001 Ayers St.

Description: Insufficient documentation: Needed more information in the environmental and pre-field sections.

Dear Rolando L. Garza:
Thank you for your submittal regarding the above-referenced project. This response represents the comments of the Executive Director of the Texas Historical Commission (THC), pursuant to review under the Antiquities Code of Texas.

The review staff, led by Caitlin Brashear and Tracy Lovingood, has completed its review and has made the following determinations based on the information submitted for review:

Above-Ground Resources

- No further review of potential effects to above-ground historic resources is required under the Antiquities Code of Texas. However, should this project ultimately include any federal involvement, additional consultation with THC/SHPO under Section 106 of the National Historic Preservation Act will be required.

Archeology Comments

- No effect on identified archeological sites or other cultural resources. However, if cultural materials are encountered during project activities, work should cease in the immediate area; work can continue where no cultural materials are present. Please contact the THC's Archeology Division at 512-463-6096 to consult on further actions that may be necessary to protect the cultural remains.
- This draft report is acceptable. Please submit of one bound and one unbound paper final report, a completed Abstracts in Texas Contract Archeology online form, a curation form, and complete and redacted tagged PDF copies of the final report for the above referenced permit. Archeological project area shapefiles are due with the submittal of the draft report; if this has not occurred, please submit the via the tab on eTrac. For questions on how to submit these please visit our video training series at: https://www.youtube.com/playlist?list=PLONbbv2pt4cog5t6mCqZVaEAx3d0MkgQC

We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this review process, and for your efforts to preserve the irreplaceable heritage of Texas. If the project changes, or if new historic properties are found, please contact the review staff. If you have any questions concerning our review or if we can be of further assistance, please email the following reviewers: [redacted]

This response has been sent through the electronic THC review and compliance system (eTRAC). Submitting your project via eTRAC eliminates mailing delays and allows you to check the status of the review, receive an electronic response, and generate reports on your submissions. For more information, visit http://thc.texas.gov/etrac-system.

Sincerely,

for Joseph Bell, State Historic Preservation Officer
Executive Director, Texas Historical Commission

Please do not respond to this email.

Phase I Cultural Resources Survey at the Proposed Location of a Solid Waste Transfer Station in Corpus Christi, Nueces County, Texas.

FINAL REPORT

Prepared for:
Hanson Professional Services Inc.
4501 Gollihar Road
Corpus Christi, TX 78411

Prepared by:
Rolando L. Garza, Principal Investigator
Jared Pringle
Alex Lopez

Coastal Environments Inc.
525 S. Carancahua
Corpus Christi, Texas 78401

June 2025
TAC Permit #32329

Abstract

Coastal Environments, Inc., (CEI) was contracted by Hanson Professional Services Inc. to conduct a Phase I Cultural Resources Survey of a proposed solid waste transfer station in Corpus Christi, Texas, a project sponsored by the City of Corpus Christi. The proposed solid waste transfer station is along the southwestern boundary of the city on municipal property. The eastern boundary of the proposed transfer station runs along State Highway. (SH) 286 (Crosstown Expressway) just west of Cabaniss Naval Landing Airfield. It is situated between Greenwood Dr. to the north and west and Oso Creek to the south. The approximately 61.5-acre site is located on a relatively level plain that gradually slopes down to Oso Creek.

The investigation included archaeological survey, shovel testing, site recordation and eligibility assessment (as necessary), and report preparation in accordance with Texas Historical Commission (THC), Secretary of the Interior, and Council of Texas Archeologists (CTA) standards. However, no artifacts were found, and no archeological sites or historic structures were recorded as a result of this survey. No further cultural resources investigations are recommended.

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Chapter 1: Introduction

Coastal Environments, Inc., (CEI) was contracted by Hanson Professional Services Inc., to conduct a Phase I Cultural Resources Survey of a proposed solid waste transfer station in Corpus Christi, Texas, on behalf of the City of Corpus Christi. The survey took place May 1 through May 9, 2025. The proposed solid waste transfer station is along the southwestern boundary of the city on municipal property. The eastern boundary of the proposed transfer station runs along State Highway (SH) 286 (Crosstown Expressway) just west of the Naval Outlying Field Cabaniss. It is situated between Greenwood Dr. to the north and west and Oso Creek to the south (Figure 1). The approximate 61.5-acre site is located on a relatively level plain that gradually slopes down to Oso Creek near its southern end.

The proposed undertaking is on land owned by a political subdivision of the State (the City of Corpus Christi), and therefore falls under the jurisdiction of the Texas Historical Commission (THC) in compliance with the Antiquities Code of Texas (ACT) (Texas Natural Resource Code, Title 9, Chapter 191). In accordance with the state standards, a total of 57 Shovel Test Units (STs) was planned within the 61.5-acre Area of Potential Effect (APE). The shovel test survey focused on those portions of the landform that appeared to have the best potential for containing archeological sites, i.e., those areas identified as having a "high" probability for prehistoric archaeological sites according to the "Potential Archeological Probability Map" (PALM) for the Corpus Christi region (Abbott and Pletka 2016), as prepared by the Texas Department of Transportation for the Texas Historical Commission (Figure 2). Figure 3 shows the planned locations of STs across the project area in relation to high and moderate/low probability areas of the APE. There were 12 STs (yellow diamonds with black outline) planned in high-probability areas spaced at 30-meter (m) intervals from each other. Another 45 STs (light yellow diamonds) were spaced across the low and moderate probability areas indicated on the PALM map. All STs were to be a minimum of 30 centimeters (cm) in diameter and would be excavated to a minimum depth of 80 cm. Should cultural material be encountered in a shovel test, additional STs were to be excavated in a cruciform pattern at 15-m intervals until there were two negative STs excavated in each direction.

The locations for all survey STs were pre-plotted as shown on Figure 3, and their positions uploaded into a hand-held TDC Trimble GPS unit that guided the field team to each ST location. Should a ST need to be moved slightly because of the presence of an obstruction, such as a tree or pile of modern debris, its new location was to be recorded with the GPS unit. Similarly, all data obtained during the excavation of each ST was recorded on forms uploaded into the GPS unit. Such data included stratigraphic information (soil type and Munsell color), thickness of each stratigraphic unit, presence or absence of cultural remains, and a description of such remains.

CEI advocates for a no-collection policy for artifacts identified during a Phase I Cultural Resources Survey. Accordingly, if artifacts were found during field investigations, they would be counted and documented on the GPS unit. All diagnostic artifacts were to be photographed in the field and then returned to their original locations.

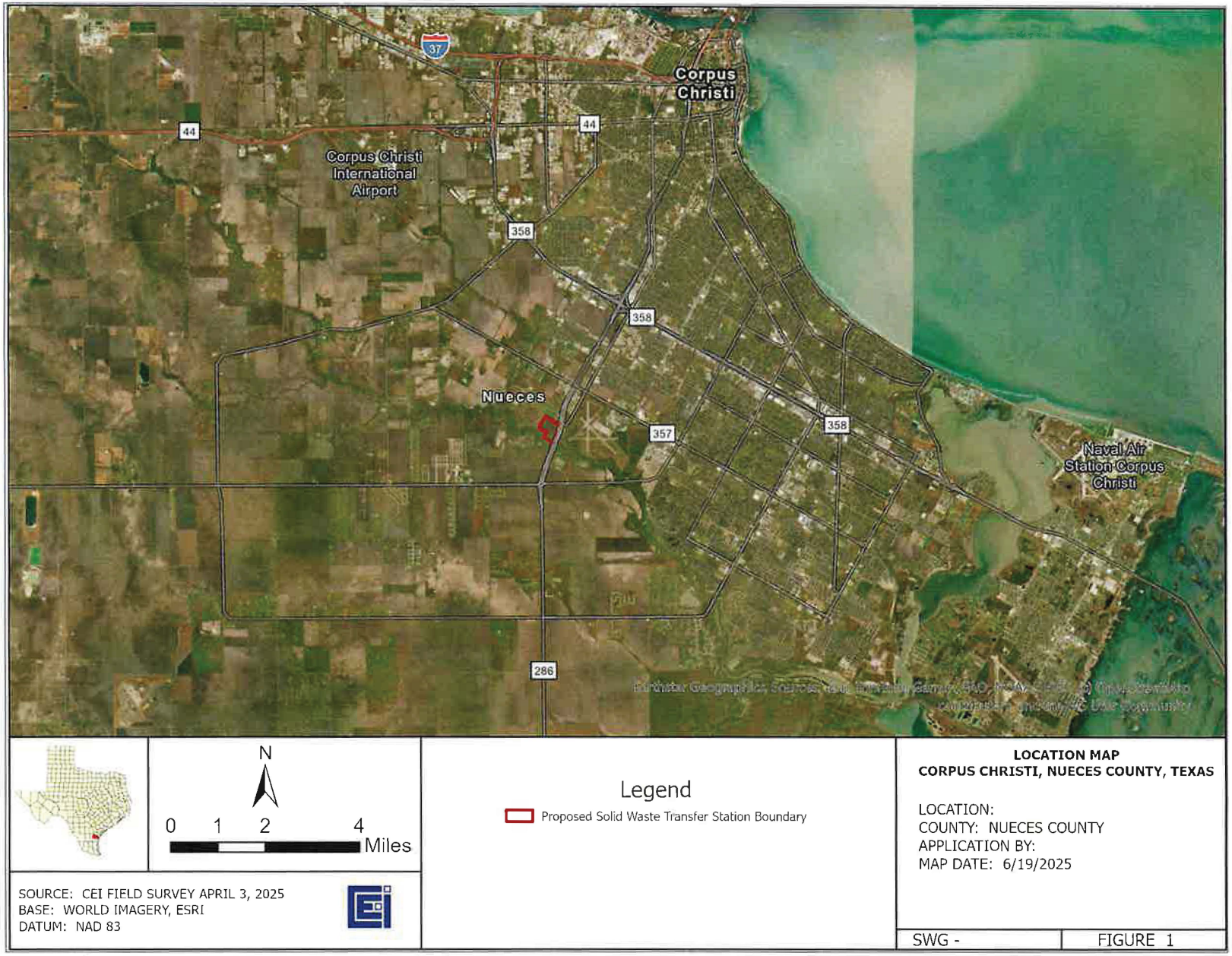

Figure 1. Map showing location of proposed Transfer Station in relation to Corpus Christi. Background aerial photograph from ESRI World Imagery (2025).

Personnel

Rolando L. Garza served as the Principal Investigator for this survey and was in the field 25 percent of the time (2 days). Mr. Garza was aided by Alex Lopez and Jared Pringle, two of CEI's Archeologist III Field Technicians.

Curation

Since this survey was designed as a "no-collection" project, only paperwork and other digital records will be curated. The Center for Archaeological Research at the University of Texas San Antonio will serve as the curatorial facility.

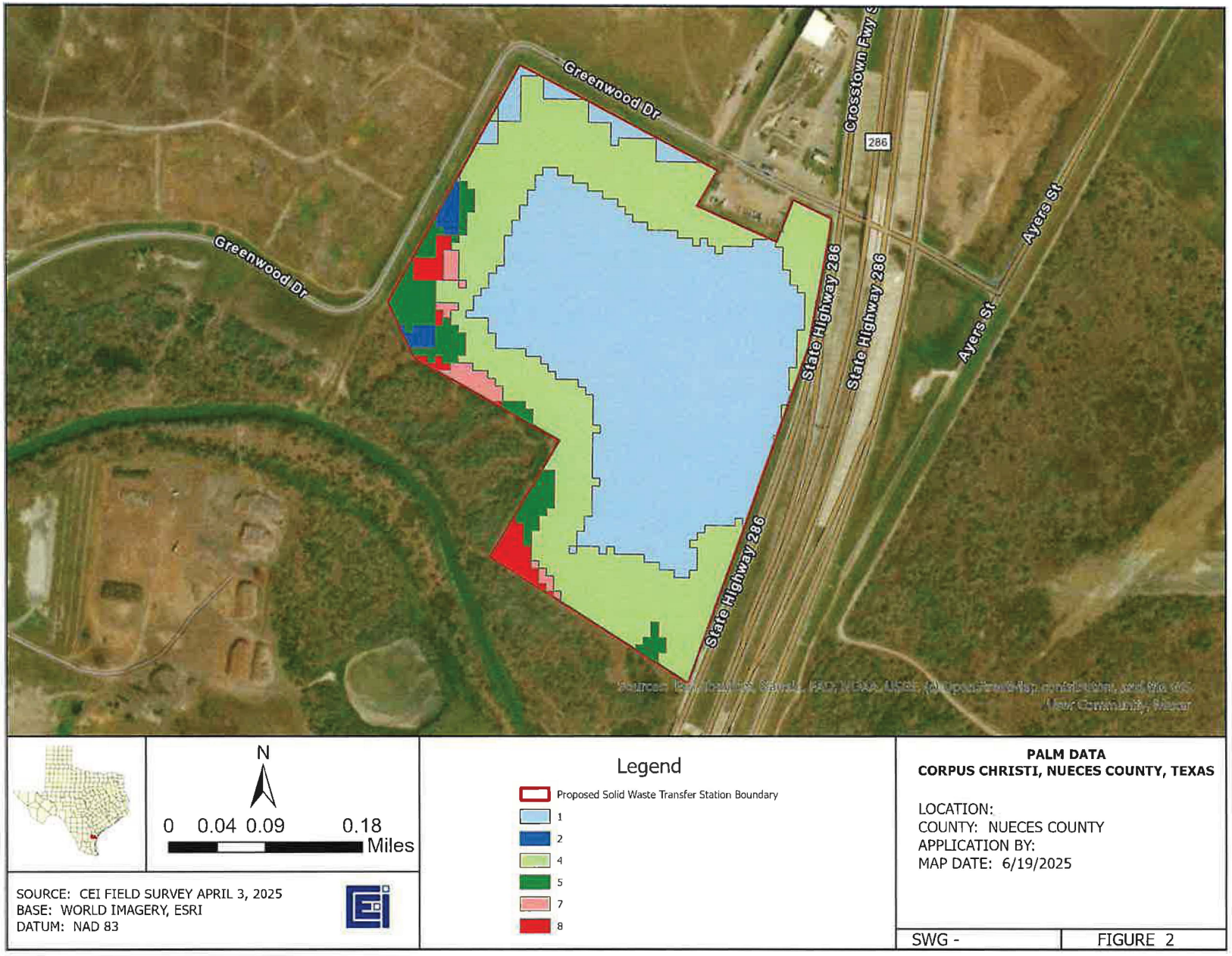

Figure 2. Potential Archeological Liability Map overlaid on the project area (0 being low and 8 being high). After Abbott and Pletka (2016).

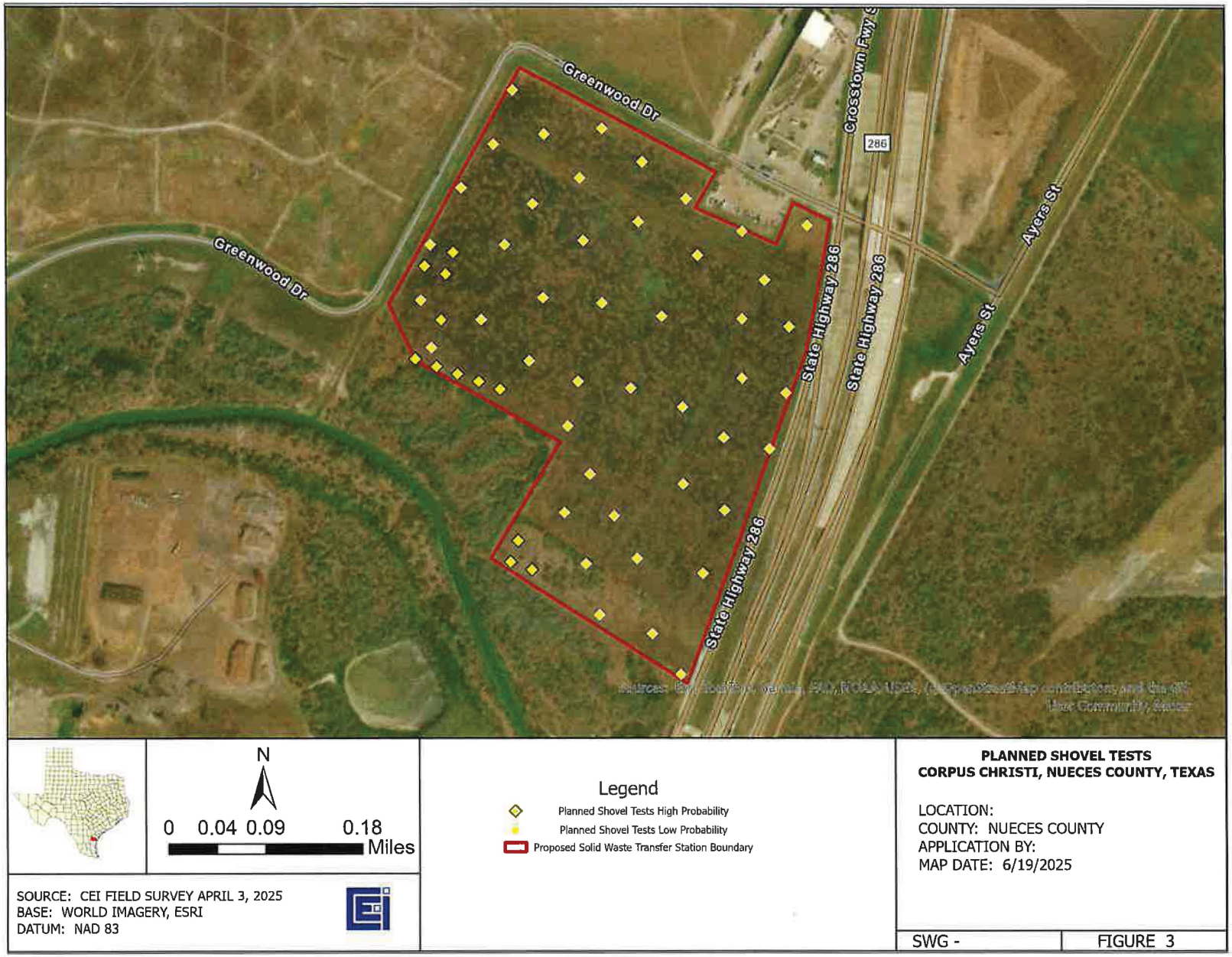

Figure 3. Planned ST locations in high and low probability areas.

Chapter 2: Natural and Cultural Setting

ENVIRONMENTAL SETTING

The project area is located within the Southern Subhumid Gulf Coastal Prairies ecoregion, composed of low, flat plains, and some stream terraces with sandy, silty, and clayey substrates (Griffiths et al. 2007). Vegetation is mainly prairie grasslands comprised of little bluestem, common curly mesquite, scattered live oak, and plains bristle. The land is used primarily for pasture and agriculture, with some industrial and oil and gas production. Crops include cotton, corn, grain and sorghum.

Hydrology and Topography

The major water sources impacting the project area are Oso Creek and its tributaries. Oso Creek is a perennial stream that flows roughly northwest to southeast toward Corpus Christi Bay. The creek lies just 40 m or so from the southern boundary of the project area, and represents the primary source of water and aquatic resources for any occupants of the project area. A minor, unnamed tributary of the creek lies 1,200 m to the northwest, draining developing areas at the southern margin of the city of Corpus Christi. A drainage canal occupies much of the northern and western margins of the project area, but this appears to be a relatively modern addition to the landscape.

The project area is relatively flat, rising slightly near the southern edge of the property near Oso Creek (NRCS 2025). Gullied areas occur in the slopes leading down to Oso Creek, which lies about 6 m (20 ft) below the level of the project area. It is likely that any prehistoric occupation would have occurred in the slightly higher areas near the creek. This would have given the occupants access to water and aquatic resources, while providing somewhat better drained soils.

Geology and Soils

Geologically, the project area is composed of Late Pleistocene delta sand, silt, and clay located within the Beaumont Formation, as well as some portions containing Middle Pleistocene sand, silt, and clay within the Lissie Formation (Griffiths et al. 2007). Soils are primarily composed of dark clayey Vertisols, common within the Beaumont Formation, and the annual precipitation is between 26-37 inches annually.

There are three soil types found within the APE. The NRCS Web Soil Survey for Nueces County (NRCS 2025) shows the project area containing VcA, - Victoria clay 0 to 1 percent slopes, VcB - Victoria clay 1 to 3 percent slopes, and Gv – Gullied land, saline (Figure 4, Table 1).

Victoria clay (VcA) - soils are comprised of flat linear features, with a 0 to 1 percent slope, and are composed of clayey fluviomarine deposits derived from igneous, metamorphic and sedimentary rock. These soils are well drained with medium runoff and no frequency of flooding. Typical shovel test profiles include clay from 0 to 80 inches (NRCS 2025).

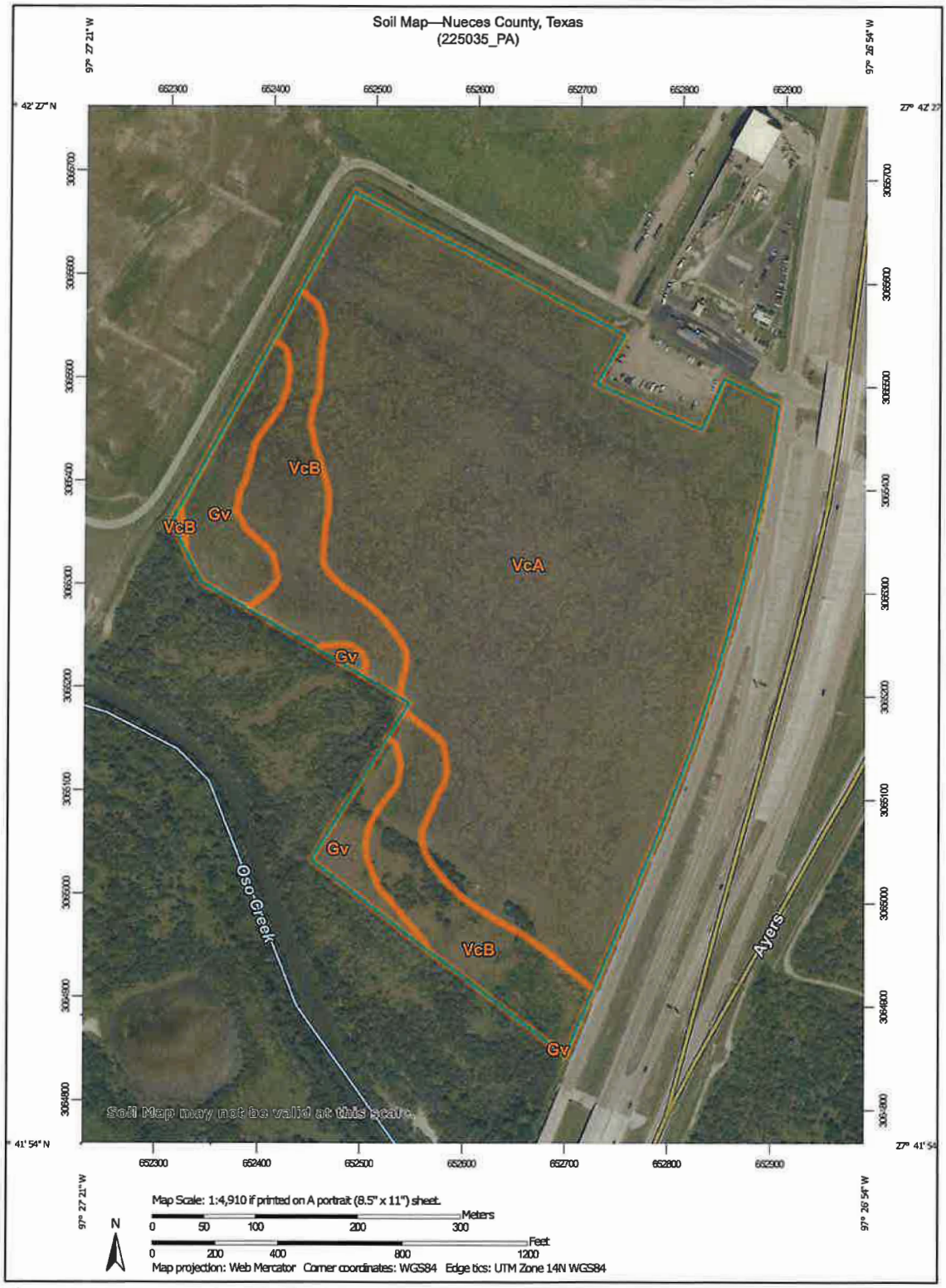

Figure 4. NRCS Soil Classification Map, Nueces County, TX. From NRCS (2025).

Table 1. Soil Map Units within the Project Area (from NRCS 2025).

Symbol	Map Unit Name	Acres	Percent
Gv	Gullied land, saline.	4.4	7.2%
VcA	Victoria clay, 0-1 % slopes	46.9	76.3%
VcB	Victoria clay, 1-3 % slopes	10.1	16.4%
	Total	**61.5**	**100%**

Victoria clay (VcB) - soils are flat, convex-linear features with a 1 to 3 percent slope and are composed of clayey fluviomarine deposits derived from igneous, metamorphic and sedimentary rock. This soil is well drained with high runoff and no frequency of flooding. Typical soil profiles include clay from 0 to 80 inches (NRCS 2025).

Gullied land (Gv) - soils are composed of gullied land and have a typical soil profile that includes clay from 0 to 80 inches (NRCS 2025).

Climate

The modern climate of Nueces County is defined as subtropical and is marked by hot summers and temperate winters. While summer temperature highs can range between an average of 91°F and 94°F, the average yearly high temperature is 82°F. The average yearly low is 63°F. Annual precipitation averages 31.76 inches (80.67 cm), with rainfall primarily occurring in September (U.S. Climate Data 2025).

Flora and Fauna

The project area is located within Griffiths et al.'s (2007) Southern Subhumid Gulf Coastal Prairies subregion of the Western Gulf Coastal Plain ecoregion, which occupies Texas' coastal and near-coastal counties. While the majority of the region has been cleared for agriculture or altered by pasturage and development, it was once dominated by grasslands, especially species such as yellow indiangrass (*Sorghastrum nutans*), little bluestem (*Schizachyrium scoparium*), and tall dropseed (*Sporobolus asper*). More minor constituents, such as silver bluestem (*Bothriochloa laguroides*), common curleymesquite (*Hilaria belangeri*), and plains bristlegrass (*Setaria leucopila, S. macrostachya*), were present as well. The narrow floodplain of Oso Creek, and the gulleys connected to it, are dominated by oaks (*Quercus* spp.), pecan (*Carya illinoensis*), and elm (*Ulmus* spp.).

In addition to rodents, such as pocket gophers, spotted ground squirrels, grasshopper mice, and rice and cotton rats, mammalian wildlife includes opossums, raccoons, coyotes, white-tailed deer, bobcats, jackrabbits, and cottontail rabbits. Coastal and migratory birds are common. Songbirds and wading birds include reddish egrets, roseate spoonbills, least grebes, bitterns and rails.

Predatory birds such as aplomado falcons have been released along Coastal Texas in an effort to re-establish the species (Texas Parks and Wildlife Department [TPWD] 2021).

CULTURAL SETTING

Prehistoric Overview

The project area is situated within the Central Texas Coast archaeological region (Ricklis 2004). This section of the Texas Gulf coastline features estuarine bays protected by barrier islands that have attracted human occupation since as early as the Paleoindian period (ca 13000 – 9000 B.P.). In this region, the Paleoindian period is underrepresented due to a lack of intact archaeological sites dating to that time, and very few artifacts found within isolated contexts (Ricklis 2004). This is likely the result of the evolving geography of the Central Texas coastal barrier island complex. During the Paleoindian period, the last glacial episode was in remission, thus causing the shoreline of the gulf coast to lay further out than it does today (Brown et al. 1976)

Archaic Period (ca. 7,500 to 950 B.P.)

The Early Archaic Period (ca. 7,500 to 4,200 14C years B.P.) on the Central Texas Coast is relatively well represented and has been confirmed based on radiocarbon dates on discrete stratigraphic components from several archaeological sites in the Nueces Bay area (Ricklis 2004). Many of these earliest sites reflect a heavy dependence on shellfish in the form of thin, but dense oyster and Rangia shell deposits within Holocene sediments atop the Beaumont Formation. Diagnostic lithic artifacts are scarce in these sites. However, the Buckeye Knoll site (41VT98), an Archaic cemetery south of Victoria, produced numerous diagnostic lithic artifacts, which indicate a far-reaching trade network across Texas and the southeastern U.S. (Ricklis et al. 2012). Although few artifacts are typically observed within Early Archaic shell lenses, various species of mollusk were likely exploited as an estuarine resource base. Faunal bone and fish otoliths are rare in Early Archaic contexts, indicating such resources were not yet rendered important food resources (Ricklis 2004). Subsequent Archaic sites on this portion of the coast yield more cultural information and indicate an increased exploitation of shellfish, as well as pelagic (fin) fish, deer, and reptiles. Such exploitation may point to a seasonal procurement strategy that relied heavily on shellfish during the winter and early spring when plant foods and game were scarce (Ricklis 2004). These sites tend to be situated on the eroded surface of the Beaumont Formation, indicating they may have been eroded during the Middle Holocene (Ricklis 2004).

Intriguingly, almost no archaeological sites conclusively dated to the Middle Archaic period (ca. 4,200 to 3,100 14C B.P.) have been found along this central portion of the Texas coast. Ricklis (2004) suggests this lack of evidence of human occupation of the area is related to a hypothesized reduction in exploitable resources available within the fragile estuarine ecological system of this portion of the coast. Environmental changes involving sea level high stands around 4,200 B.P. are

also likely to have resulted in the removal of alluvial deposits, including any archaeological deposits, in lower stream systems.

Sea levels stabilized at its modern elevation at ca. 3,000 B.P., which roughly corresponds with the beginning of the Late Archaic period in Texas (ca. 3,100 to 950 14C B.P.). Human occupation of the coastline intensified during this period, and archaeological sites are more abundant and larger than those dating to the Early Archaic (Ricklis 2004). Shellfish, fish, and game were important sources of food during this period, and Ricklis (2004) suggests a seasonal pattern of fall through early spring occupation of shoreline fishing camps and warm-season riverine hunting camps; this seasonal migration pattern is better documented for the Late Prehistoric period in the region but may have begun during the Late Archaic. Site 41NU2, a large prehistoric cemetery dating to the Late Archaic and later periods, is located at the mouth of Oso Creek.

Late Prehistoric (ca. 950 to 250 B.P.)

The beginning of the Late Prehistoric period coincides with the replacement (or at least supplementation) of the atlatl and dart with the bow and arrow, along with the more common use of ceramics, which are known in small quantities from Late Archaic assemblages (Ricklis 2004). The early portion of the Late Prehistoric period in this region (ca. 950 to 700 B.P.) is represented by sites yielding Fresno and Scallorn arrow points and plain, sandy-paste pottery. The later portion of the Late Prehistoric period on the central Texas coast (ca. 700 to 250 B.P.) is characterized by the emergence of a distinctive artifact assemblage including Perdiz arrow points and other specific types of lithic tools and Rockport pottery (Ricklis 2004). Fishing and the gathering of shellfish continued as subsistence activities but may have declined in importance as the peoples of the central Texas coast shifted their focus to bison hunting. Ricklis (2004) suggests seasonal migration patterns among the peoples of the central Texas coast during the latter part of the Late Archaic, based on evidence of occupation of fishing camps during the winter and early spring and a movement to prairie-riverine camps during the spring and summer months. Interestingly, the fishing camp sites are relatively larger but fewer in number than the hunting camp sites, suggesting a winter/early spring gathering of people at few large sites and a dispersal into smaller groups during the spring and summer (Riklis 2004).

Historic Overview

The historic period of the Corpus Christi Bay area begins in 1519 with the mapping of the gulf coast, between Veracruz and Pensacola, by Alonso Alvarez de Pineda. Several years later the survivors of the Panfilo de Narváez expedition, led by Alvar Nunez Cabeza de Vaca, were said to be the first Europeans to set foot in the area (Long 2010). Interest in the area increased in the 1680's, with the establishment of a colony in 1685 by Sieur de La Salle, and an expedition in 1689 by the Spanish under Alonso De Leon. The native tribes La Salle encountered were made up of the Cujane, Coapite, Copano, and Coco, but were collectively known as the Karankawa (Foster and Warren 1998). The Karankawa remained near the bay areas, where they hunted bison, in

addition to subsisting on small game, fish, and local vegetation such as cactus fruit and berries. Little is known of the native tribes along the Gulf Coast region at the time of European contact. However, archeological sites in this region dated to this period have contained imported European goods including metal objects, tools, and glass beads.

After multiple failed settlement attempts by European expeditions, the area was largely ignored during the 16th and 17th centuries. The Spanish were eager to expand their landholdings in Texas, and attempted to establish a colony, Villa de Vedoya, at the mouth of the Nueces River in 1749 (Long 2010). This effort ultimately failed due to lack of resources. Numerous attempts were made throughout the late 1700s to colonize the area, but all attempts proved unsuccessful. In 1839 Henry Lawrence Kinney established a trading post on the shore of Corpus Christi Bay. By 1842 a post office had been opened, and the settlement now known as "Corpus Christi", had become a small village and center of trade in the area (Long 2010). By 1846, the town had become the seat of the newly formed Nueces County. Growth was slow yet gradual. A yellow fever epidemic decimated the population in 1854, a dearth of fresh water, and the absence of a deepwater port conspired to retard the growth of the town into the latter portion of the nineteenth century.

At the early onset of the Civil War, Corpus Christi served as a hub of Confederate commerce. To skirt the Union blockade, small boats sailed between the barrier islands in the area transporting goods. In 1862, to halt trade in the city, small Union boat crews began attacking waterborne commerce, and several skirmishes with Confederate shore patrols took place. Union forces eventually seized Mustang Island and began shelling the city on two occasions. Earthworks erected by General Taylor in 1846 were used as protection by the Confederate battery protecting the town, and the first attack was thwarted with few Confederate casualties (Barr 1961). Union forces occupied the city in 1863, and it remained under Union occupation into the early 1870's.

During the postbellum period, the population of Nueces County rapidly increased, growing from 3,975 in 1870 to 21,955 by 1910, with much of the population located in the Corpus Christi area. By 1914, four railroad networks had expanded to the city, also contributing to rapid development and population growth. With the continued growth of the region and the city as an economic, trading, and shipping center, efforts were made to improve access to the ocean with dredging of the main sea channel in 1874 (Long 2010; Walraven 1982). In the aftermath of the 1919 hurricane, the county and state governments agreed that Corpus Christi needed both protection from hurricanes and a deepwater port, which would require the dredging of a sufficiently deep ship channel (Walraven 1982).

In September 1919, large areas of the burgeoning city were destroyed by a hurricane, with a death toll estimated between 350 to 400 people. It was the most catastrophic event to occur in the city's history at that time, with a recorded storm surge of 16 feet. City leaders were convinced that the only way to revive the decimated city was to construct a deepwater port, which opened in 1926 and immediately brought with it a growth in population (Long 2010). Oil and natural gas deposits were discovered in Nueces County in 1922, several major oilfields were developed, and the oil and natural gas industry became prominent in Corpus Christi and continues to dominate the area

today. Opened in 1926, the deepwater Port of Corpus Christi serves today as the third largest port in the United States in total tonnage (Long 2010; *The Waterways Journal Weekly* 2025; Walraven 1982). The growth of the area slowed in the 1930s during the Great Depression but began to rise rapidly again after World War II, particularly following the establishment of the Naval Air Station. Corpus Christi became the second largest port in Texas by 1969. By 2001, Corpus Christi's refining operations had a capacity of 673,00 barrels a day, accounting for 4 percent of the country's total capacity (Lessoff 2019).

Chapter 3: Background and Methods

BACKGROUND RESEARCH

Previous Investigations

Prior to fieldwork, the Texas Archeological Sites Atlas was examined for the existence of recorded archaeological sites and previous investigations around the area of the proposed project. Additionally, historic aerial photographs and USGS topographic maps were examined to determine whether structures may have been present within the proposed APE in the past.

There are three previously recorded archeological sites (41NU214, 41NU230, and 41NU335) in the vicinity of the proposed transfer station (Figure 5). Sites 41NU214 and 41NU230 are prehistoric locales that have produced lithic material, fired-clay nodules, and some shell, while site 41NU335 is a historic house site dating to the mid-twentieth century.

Site Probability and Cartographic Regression Analysis

As noted in Chapter 2, while the project area lies adjacent to a permanent water source (Oso Creek), the land is rather flat, clayey, and poorly drained, rising only slightly near the southern edges of the project area overlooking the creek. This proximity to the creek, as well as the slightly higher elevation, would have rendered the southernmost edges of the project area somewhat more attractive to prehistoric settlement than most of the remaining project area, particularly on the Victoria clays (VcB, 1-3 percent slopes) and gullied lands (Gv) north of the creek. Abbott and Pletka's (2016) Hybrid PALM (HPALM) map for the area reflects this (Figure 6), showing high potential areas only at the southern margins of the project area, adjacent to Oso Creek.

A search of available maps revealed only limited information about the project area prior to the 1920s. A county map dating to 1863 shows the early land claims within and around the project area (Figure 7), but the actual location of the project area in relation to Oso Creek (then "Salt Creek") is uncertain, as two different courses for the stream are depicted. It is unclear if the area was poorly mapped, or if the channel of Oso Creek was meandering significantly, but maps depicting the area vary considerably in the location and morphology of the channel between this time and the 1920s (Figures 8 to 10).

The project area appears to have been a part of the "Rincon del Oso", given to Captain Enrique Villareal by the Mexican government in 1831, just prior to Texas independence. This grant of approximately 44,000 ac included much of what is now Nueces County, and all of the current City of Corpus Christi. Villareal, an officer in the Mexican army during the war for Mexican independence, as well as the revolution in Texas and subsequent U.S.-Mexican War, had used the grant for raising cattle since at least 1810 (Nueces County Historical Commission [NCHC] 2025a).

Figure 5. Map showing the documented archeological sites within one kilometer of the project area. Site data from Texas Archeological Sites Atlas.

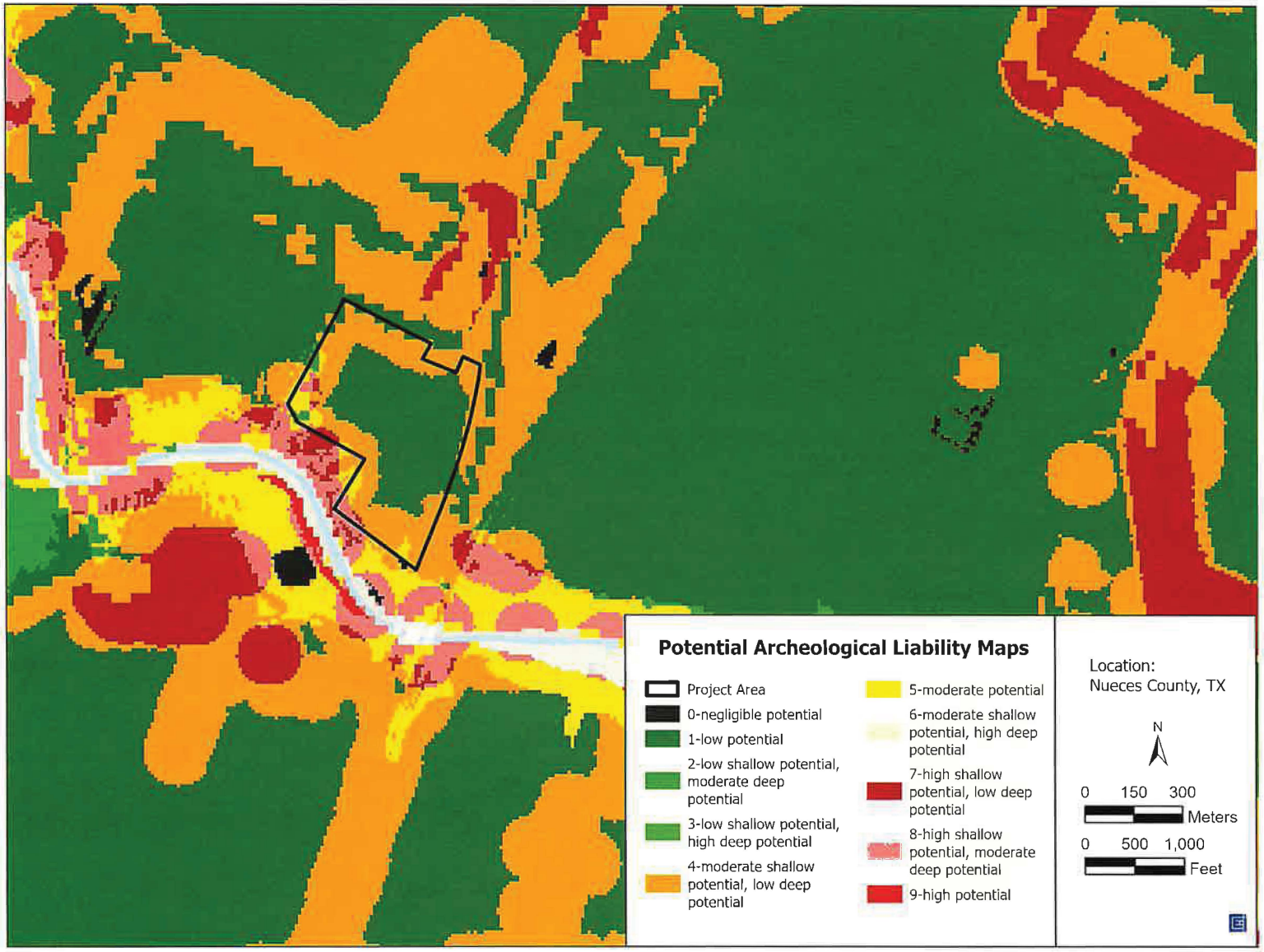

Figure 6. HPALM map of the project area, showing high and low probability areas and its surroundings (Abbott and Pletka 2016). Note that the highest probability areas are those nearest Oso Creek and the gully near the western edge (now a drainage canal).

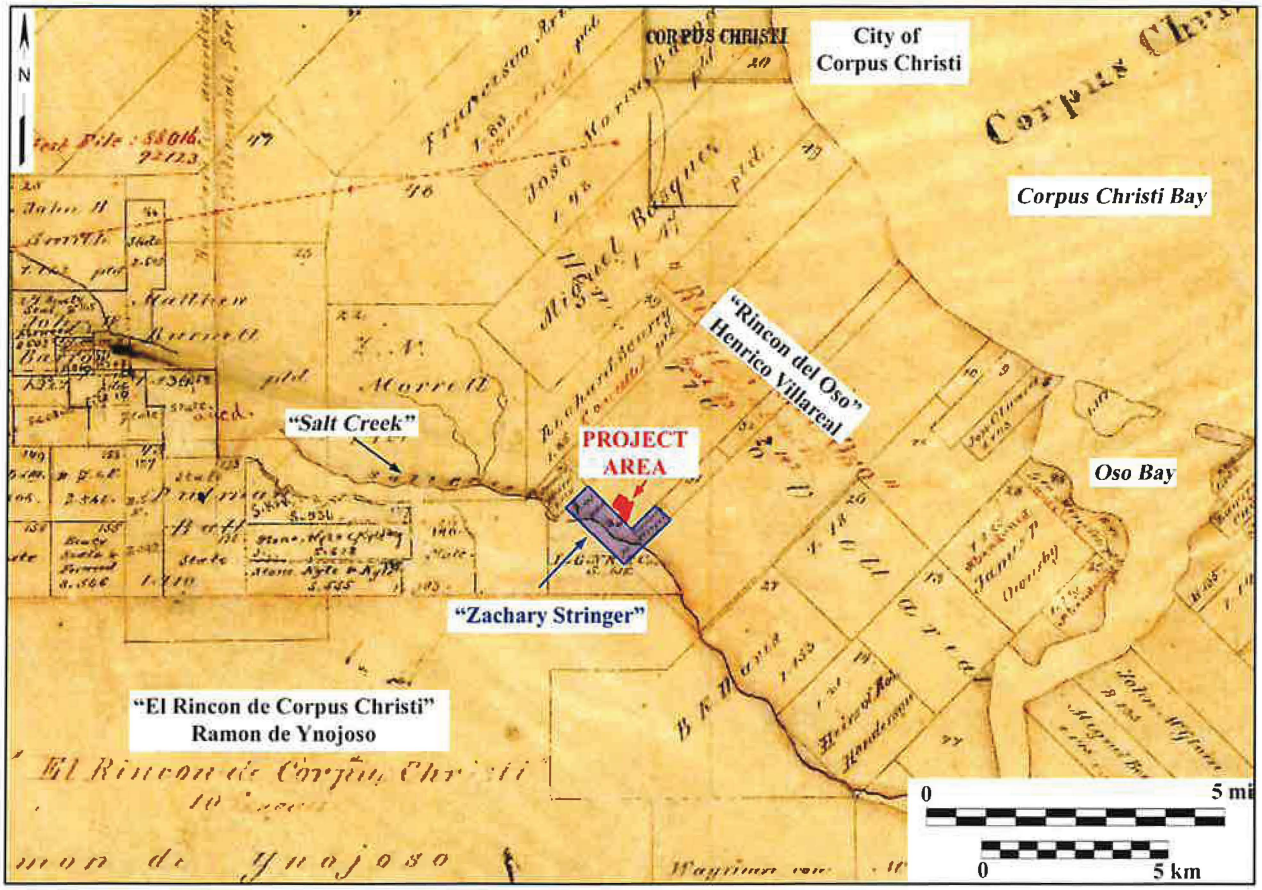

Figure 7. Detail of map of Nueces County from 1863 depicting the project area, which was part of Captain Enrique Villarreal's "Rincon del Oso," granted to him by the Mexican government in 1831. From TxGLO (1863).

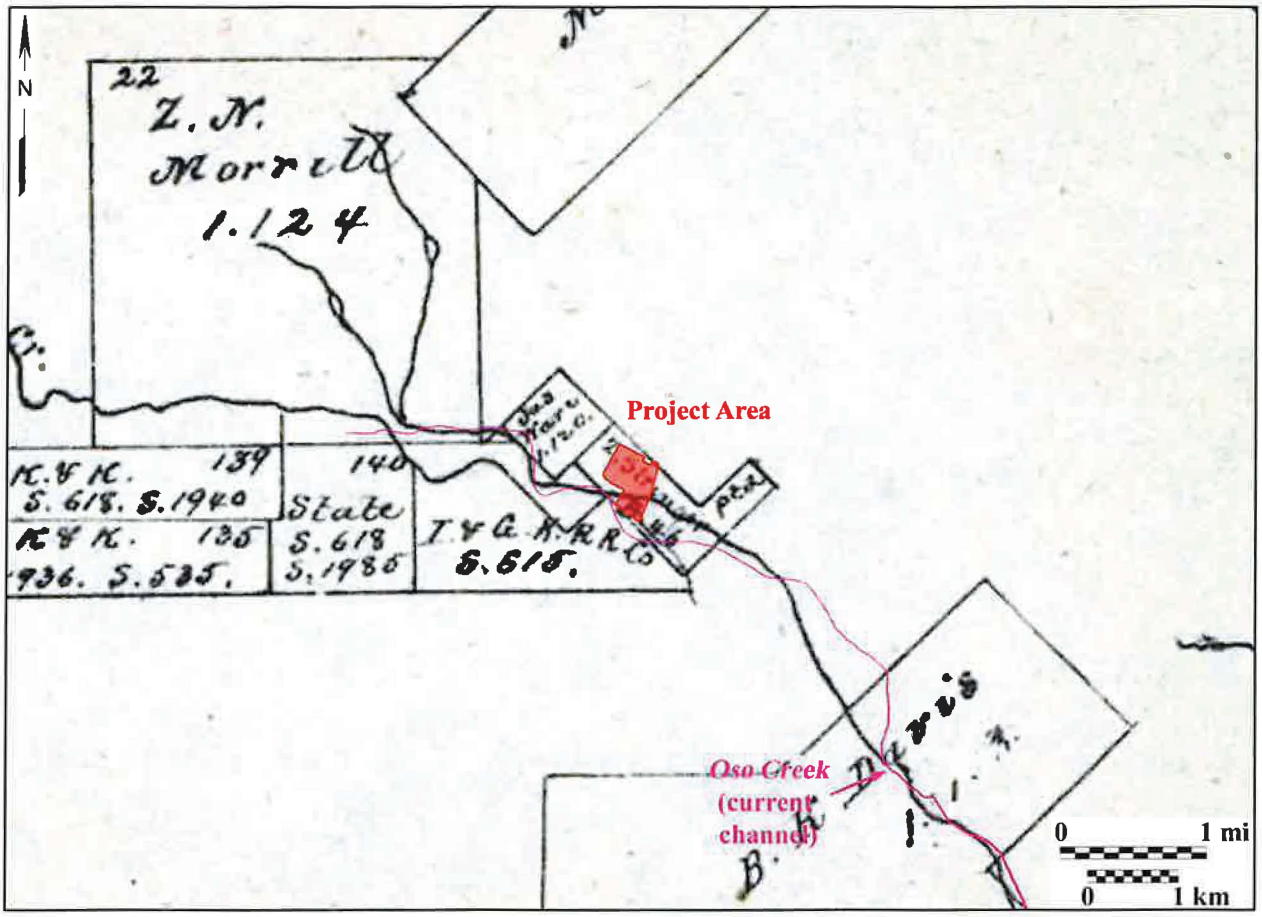

Figure 8 Detail of 1879 map of Nueces County. From TxGLO (1879). Note that two channels of Oso Creek are depicted, neither of which match the current course of the waterway very closely (purple line). Later maps place the project area just to the north of Zachary Stringer's claim.

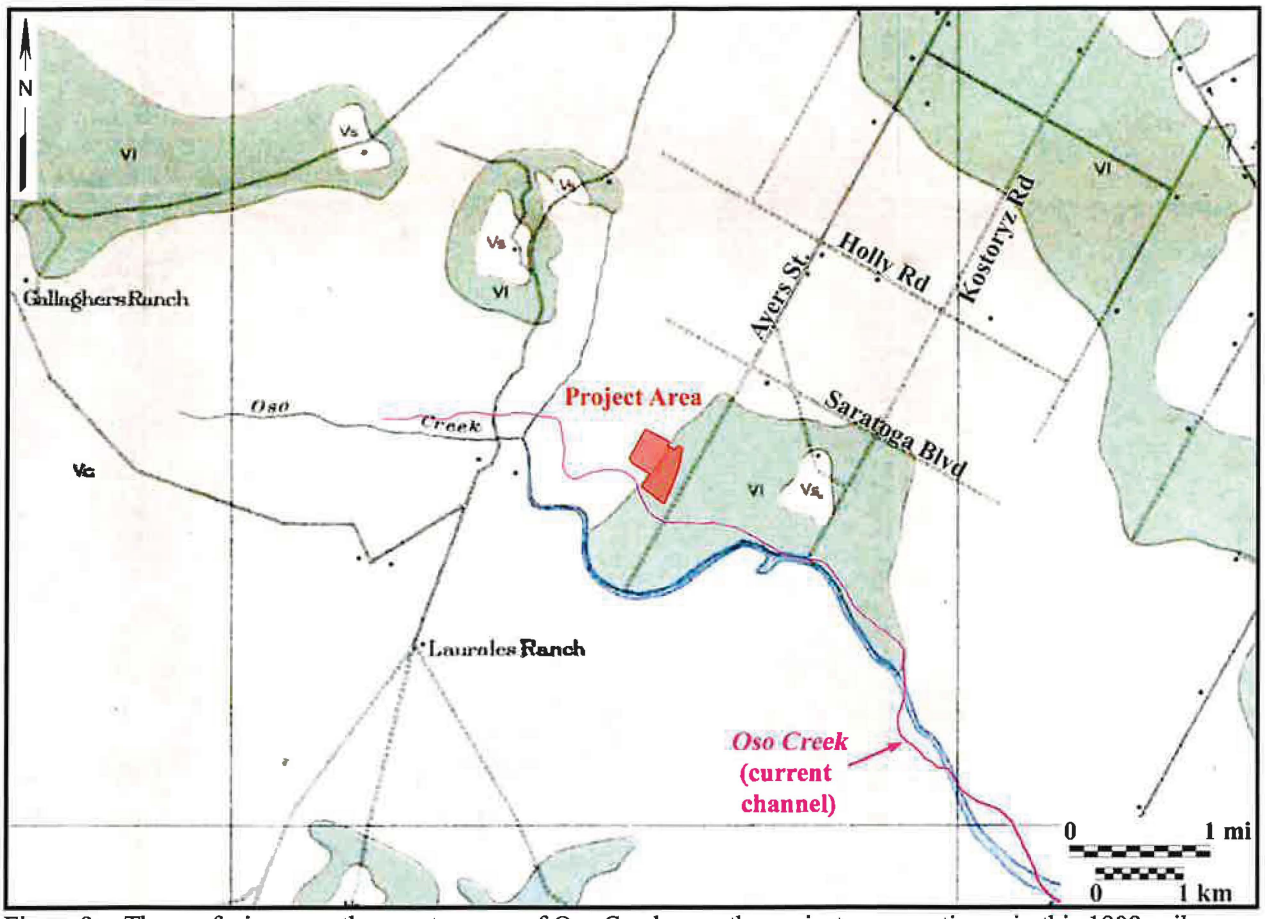

Figure 9. The confusion over the exact course of Oso Creek near the project area continues in this 1908 soils map for Nueces County. However, some development near the project area is shown at this time, as Ayers Street has been completed down to Oso Creek, and other recognizable roads have been laid out in the area. From U.S. Bureau of Soils (1908).

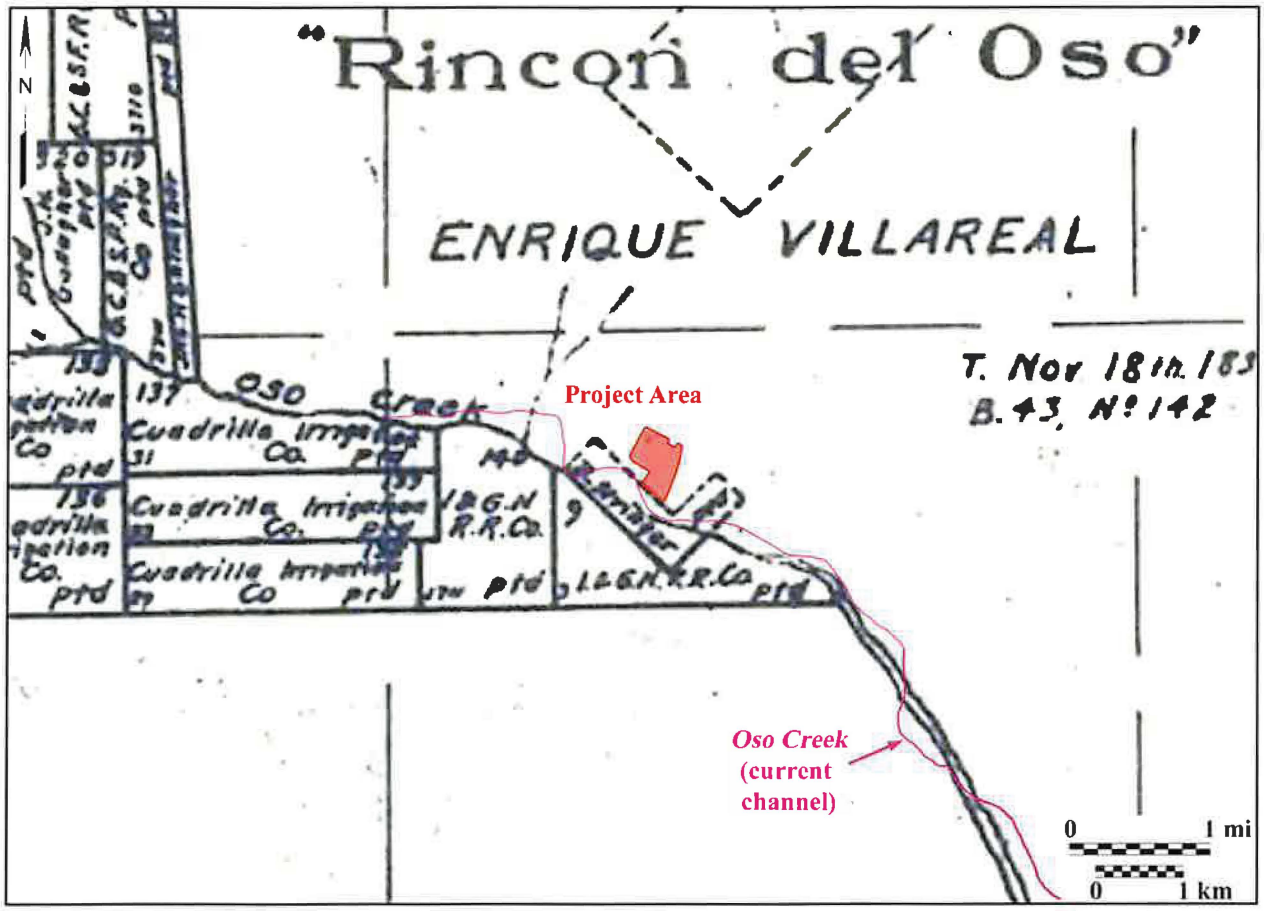

Figure 10. A 1913 depiction of property lines within Nueces County, overlaid on the project area. While the project area is probably correct in its relationship to the Zachary Stringer property, the depiction of Oso Creek is still at variance with the current channel of the creek, which seems to have been in a stable channel since at least the 1920s. From TxGLO (1913).

After Villareal died in 1846, the "Rincon del Oso" was purchased by Henry Lawrence Kinney, who owned the trading post that eventually grew into the City of Corpus Christi (NCHC 2025b).

The first detailed map of the project area that depicts the modern landscape was the *Oso Creek, Texas* (1:62,500 scale series) topographic quadrangle from the 1920s (USGS 1925). By this point, Ayers Street had been constructed near the eastern edge of the project area, complete with a bridge crossing Oso Creek (Figure 11). Oso Creek is shown as an intermittent drainage west of the bridge, but as a substantial tidal waterway to the east of it. No structures or development of any kind are shown within the project area on this quadrangle, or in the 1946 edition that succeeded it (USGS 1946). It should be noted, however, that Cabaniss Naval Auxiliary Station, built in 1941 just east of the project area (Freeman 2016), is not depicted on the 1946 quadrangle, so it seems unlikely that any features in this area were updated with that edition of the 1925 map.

By the publication of the 1951 *Oso Creek NW* (1:24,000 scale series) quadrangle, however, a complex of at least five structures was depicted near the southeastern corner of the project area (Figure 12), just west of Ayers Street (USGS 1951). One of these lay just within the project area, just east of a small pond. An aerial image from 1956 showed the same set of structures (Figure 13). A larger (presumably residential) structure lay near Ayers Street, accessible by a gravel or dirt driveway. Given the proximity of the building inside the project area to the pond, it was likely that the structure within the project area was an outbuilding related to agriculture or ranching, perhaps a barn, tractor shed, or cow shed. This building (and the pond) continued to be depicted within the project area until at least 1979 (USGS 1953, 1968, 1971, 1977; Texas General Land Office [TxGLO] 1956, 1961, 1979) (Figure 14).

FIELD METHODS

Field methods complied with or exceeded survey standards proposed by the Council of Texas Archaeologists and adopted by the Texas Historical Commission for the project area. Two CEI archaeologists conducted an intensive pedestrian survey across 100 percent of the proposed APE. The Principal Investigator was present 25 percent of the time. Surface visibility was minimal (15 to 20 percent) across the entirety of the 61.5-acre parcel. The APE was largely overgrown with dense grass and foliage (Figures 15, 16).

To supplement the surface examination and to investigate the possible presence of buried cultural materials, 54 shovel tests were excavated. Shovel testing efforts were concentrated along both the high and low probability areas within the APE (see Figure 3), with an emphasis on areas of high probability for the presence of cultural material. The remainder of the shovel tests were distributed evenly across the majority of the 61.5-acre parcel (see Figure 4). Shovel tests measured at least 30 cm in diameter and were excavated in 10-cm levels to a minimum depth of 80 cm. Clay subsoil was encountered at this depth across much of the project area. Due to the heavy presence of clay in the soil (Figure 17), the typical procedure of passing the soil through ¼-inch hardware cloth was not feasible, but all soil from the shovel tests was carefully examined and moderately screened for

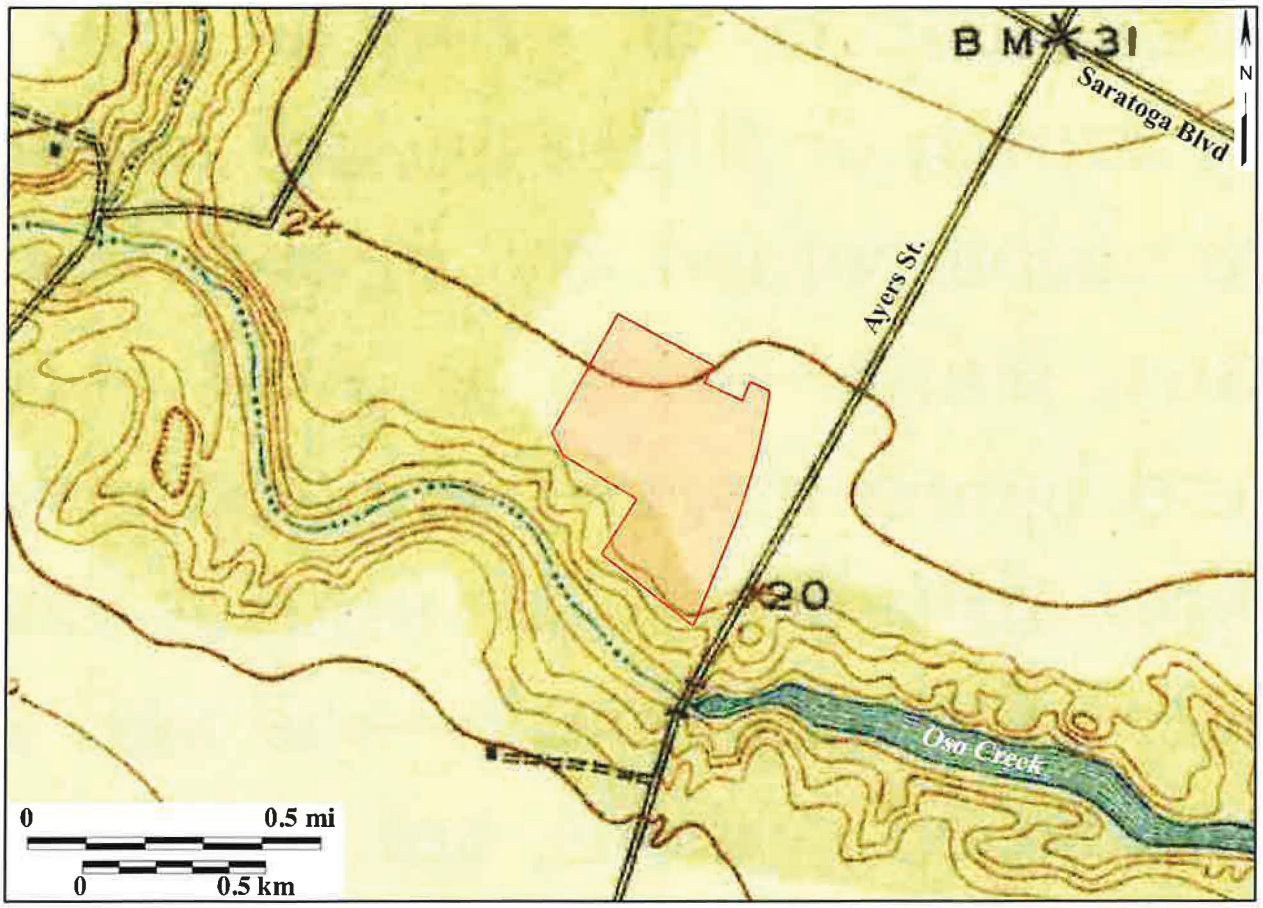

Figure 11. The modern course of Oso Creek near the project area has been consistently depicted in its current location since the publication of the 1925 *Oso Creek, Tx* (1:62,500 series) quadrangle (USGS 1925). While no development is depicted within the project area, Ayers Street has been extended past Oso Creek with a bridge.

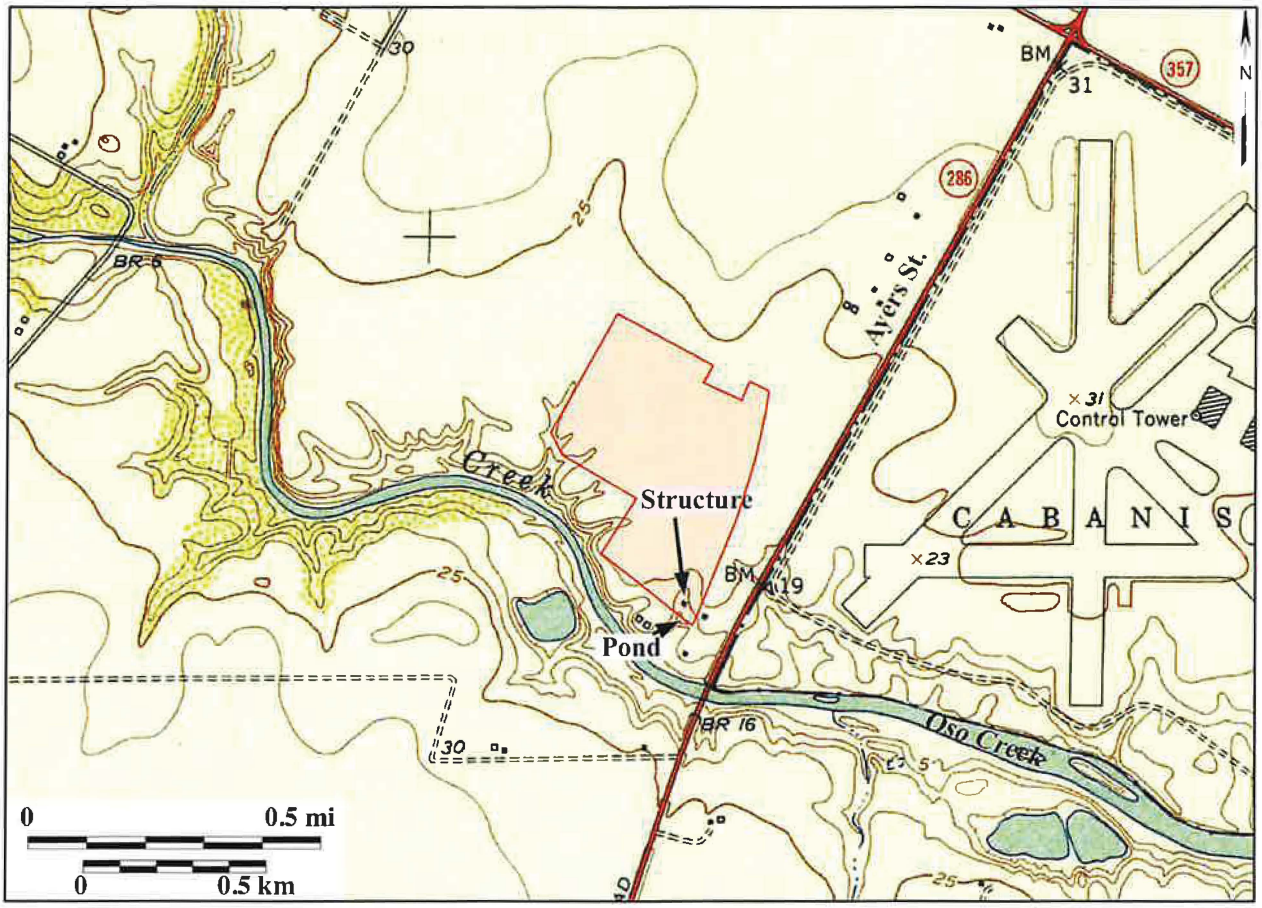

Figure 12. By the publication of the 1951 Oso Creek NW quadrangle (USGS 1951), several structures have been constructed near the southeast corner of the project area. At least one building is depicted within the project area, as well as an apparent cattle pond (shown here as a topographic depression). This structure evidently remained here into the modern era.

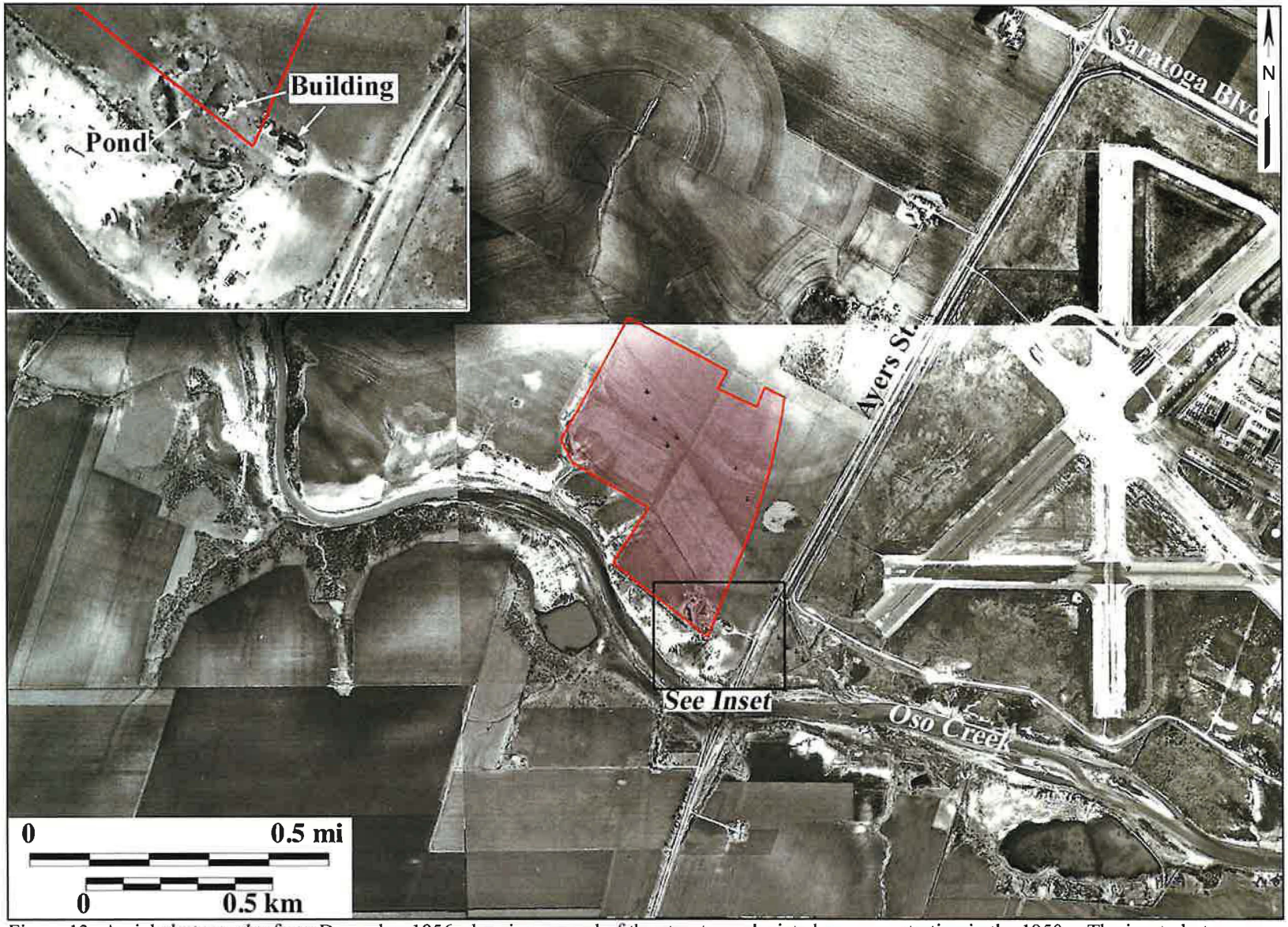

Figure 13. Aerial photography from December 1856, showing several of the structures depicted on maps starting in the 1950s. The inset photo, upper left, shows the building within the project area and the nearby pond. From TxGLO (1956),

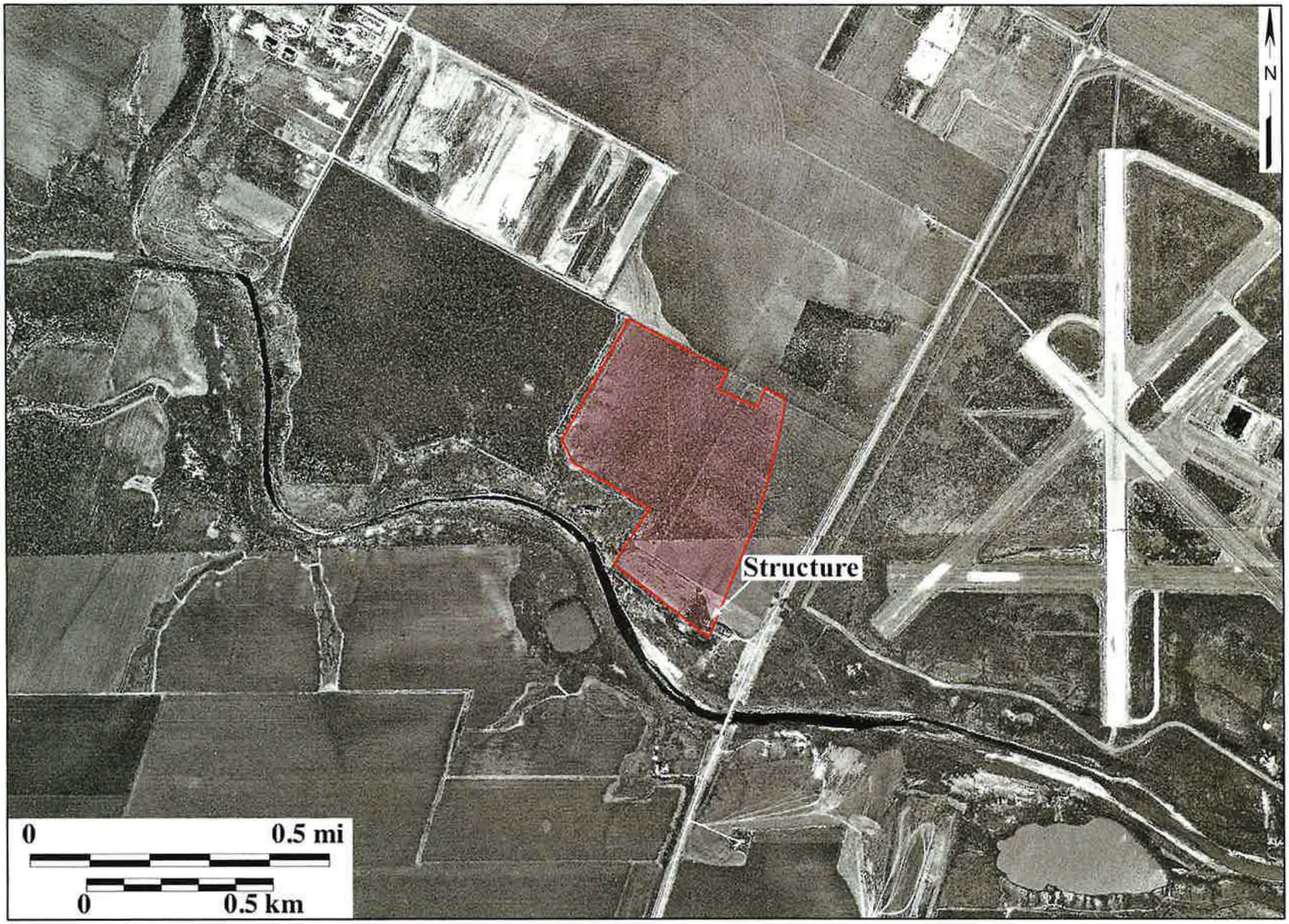

Figure 14. Aerial photography from December 1979, showing the structure near the southeast corner of the project area. From TxGLO (1979).

Figure 15. The project area, as seen from the southwest corner, facing east. Photograph taken May 27, 2025.

Figure 16. The project area, as seen from the northwest corner, facing east. Photograph taken May 27, 2025.

Figure 17. A typical shovel test (ST 07) from the project area, showing compact, dark gray (10YR 4/1) clay. Photograph taken May 2, 2025.

the presence of cultural materials. Each shovel test was documented on a shovel test form, and its location was recorded with a handheld Trimble Global Positioning System (GPS) device.

No artifacts were collected during this project, as it was devised as a non-collection survey. According to the Research Design, any diagnostic artifacts were to be mapped using the Trimble GPS, photographed in place, returned to their original location, and drawn if necessary to record details.

Chapter 4: Results and Recommendations

SURVEY RESULTS

The pedestrian survey and subsurface investigation of the proposed 61.5-acre solid waste transfer station yielded no artifacts during the excavation of 54 STs. No evidence of archaeological features was observed. Two planned STs located in low probability areas were not dug due to the presence of surface water (Figure 18). Due to problematic vegetation and physical inaccessibility, a third planned ST was terminated in the southeasternmost corner.

MANAGEMENT RECOMMENDATIONS

No STs proved positive for cultural material, and no archaeological sites or historic structures were identified in the course of the survey. Based on these results, CEI does not recommend any additional cultural resources investigations within the APE. However, if any adjustments are made to the current project construction plans, further field investigations may be warranted. In the unlikely event that archaeological deposits or features are encountered during construction, work should cease in the immediate vicinity of those remains and the Archeology Division of the THC should be contacted for further consultation.

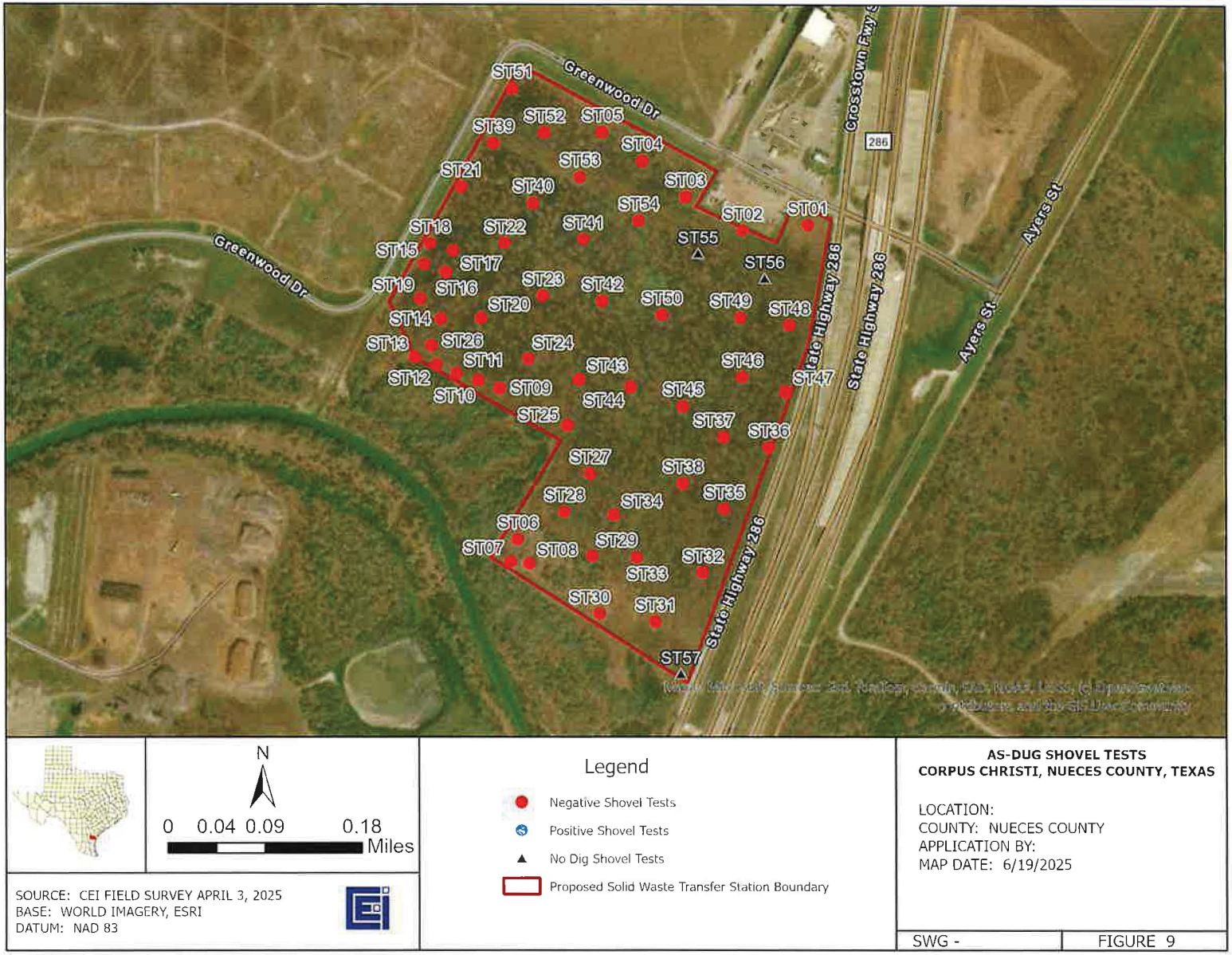

Figure 18. The locations of all shovel tests within the project area. Note that three of the planned shovel tests were not excavated due to standing water or inaccessibility.

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APPENDIX A: SHOVEL TEST LOG

ST #	TS	+/-	UTM Coordinates	Stratigraphy Depth (cm)	Munsell	Soil Texture	Artifacts by level (cm)	Description/ Comments	Excavator
ST01		-	N: 27.704935 E: -97.449569	80	10YR 3/2	Clayey Loam	None. ST was negative.	Soil had slight moisture retention after 60cmbd.	A Lopez
ST02		-	N: 27.704865 E: -97.450448	80	10YR 3/2	Clayey Loam	None. ST was negative.	No saturation.	A Lopez
ST03		-	N: 27.705265 E: -97.451211	80	10YR 3/2	Clayey Loam	None. ST was negative.	No Saturation.	A Lopez
ST04		-	N: 27.705689 E: -97.451792	80	10YR 3/2	Clayey Loam	None. ST was negative.	Compact.	Rolando Garza
ST05		-	N: 27.706026 E: -97.452331	80	10YR 3/2	Clayey Loam	None. ST was negative.	Compact.	Rolando Garza
ST06		-	N: 27.701178 E: -97.453476	80	10YR 4/1	Clay	None. ST was negative.	Higher elevation, disturbed area.	A Lopez
ST07		-	N: 27.700913 E: -97.453571	80	10YR 4/1	Dark gray clay. Soil is moist and compact.	None. ST was negative.	Compact.	Rolando Garza
ST08		-	N: 27.700888 E: -97.45332	80	10YR 4/1	Clayey Loam	None. ST was negative.	Compact after 40cmbd.	A Lopez
ST09		-	N: 27.702975 E: -97.453714	80	10YR 4/1	Clay	None. ST was negative.	Very compact below after 50cmbd.	A Lopez
ST10		-	N: 27.703072 E: -97.454001	65	10YR 3/1	Silty Clay	None. ST was negative.	Compact. Impenetrable after 65cmbd.	A Lopez
ST11		-	N: 27.703147 E: -97.454294	50	10YR 3/1	Dark gray and brown clay with silt.	None. ST was negative.	At just over 40 cm hit impenetrable soil.	Rolando Garza
ST12		-	N: 27.703252 E: -97.454564	55	10YR 3/1	Clayey Loam	None. ST was negative.	Start hitting impenetrable soil at 45 cm.	Rolando Garza
ST13		-	N: 27.703345 E: -97.454853	55	10YR 3/1	Silty Clay	None. ST was negative.	Compact, disturbed, impenetrable soil.	A Lopez
ST14		-	N: 27.703803 E: -97.454505	80	10YR 3/2	Silty Clay	None. ST was negative.	Compact.	Rolando Garza
ST15		-	N: 27.704458 E: -97.454726	65	10YR 3/1	Silty Clay	None. ST was negative.	Compact, impenetrable soil at 65.	A Lopez

ST #	TS	+/-	UTM Coordinates	Stratigraphy Depth (cm)	Munsell	Soil Texture	Artifacts by level (cm)	Description/ Comments	Excavator
ST16		-	N: 27.704360 E: -97.454432	60	10YR 3/1	Silty Clay	None. ST was negative.	Compact, impenetrable soil at 60cmbd.	A Lopez
ST17		-	N: 27.704619 E: -97.454334	70	10YR 3/1	Silty Clay	None. ST was negative.	Compact, impenetrable soil at 70cmbd.	A Lopez
ST18		-	N: 27.704708 E: -97.454646	70	10YR 3/1	Silty Clay	None. ST was negative.	Compact, impenetrable soil at 70cmbd	A Lopez
ST19		-	N: 27.704044 E: -97.454777	75	10YR 3/1	Clay	None. ST was negative.	Compact, disturbed, cloth bag for building material found at 50cmbd. 3cm layer of unknown sediment in matrix at same depth as material bag, possibly from bag.	A Lopez
ST20		-	N: 27.703812 E: -97.453960	65	10YR 3/1	Silty Clay	None. ST was negative.	Compact, impenetrable soil at 65cmbd.	A Lopez
ST21		-	N: 27.705384 E: -97.454224	80	10YR 3/1	Clay	None. ST was negative.	Compact.	A Lopez
ST22		-	N: 27.704707 E: -97.453646	70	10YR 3/1	Clay	None. ST was negative.	Compact, impenetrable soil at 70cmbd.	A Lopez
ST23		-	N: 27.704080 E: -97.453132	70	10YR 3/1	Clay	None. ST was negative.	Compact, impenetrable soil.	A Lopez
ST24		-	N: 27.703326 E: -97.453329	75	10YR 3/1	Clay	None. ST was negative.	Compact, impenetrable soil at 75 cmbd.	A Lopez
ST25		-	N: 27.702539 E: -97.452801	80	10YR 3/1	Clay	None. ST was negative.	Compact, soil had higher moisture content than other areas.	A Lopez
ST26		-	N: 27.703484 E: -97.454630	65	10YR 4/1	Silty Clay	None. ST was negative.	Compact, dry, impenetrable soil at 65 cmbd.	A Lopez
ST27		-	N: 27.701963 E: -97.452503	80	10YR 3/1	Clay	None. ST was negative.	Compact.	A Lopez
ST28		-	N: 27.701509 E: -97.452851	70	10YR 3/1	Clay	None. ST was negative.	Compact, impenetrable soil at 75 cmbd.	A Lopez
ST29		-	N: 27.700977 E: -97.452476	60	10YR 3/1	Clay	None. ST was negative.	Compact, impenetrable at 60cmbd.	A Lopez

ST #	TS	+/-	UTM Coordinates	Stratigraphy Depth (cm)	Munsell	Soil Texture	Artifacts by level (cm)	Description/ Comments	Excavator
ST30		-	N: 27.700285 E: -97.452380	70	10YR 2/1	Clay	None. ST was negative.	Compact, disturbed, ST falls within power pole easement, modern trash found at surface and within 30cmbd.	A Lopez
ST31		-	N: 27.700191 E: -97.451627	80	10YR 4/1	Clay	None. ST was negative.	Compact.	A Lopez
ST32		-	N: 27.700781 E: -97.450989	70	10YR 4/1	Clay	None. ST was negative.	Compact, impenetrable soil at 70cmbd.	A Lopez
ST33		-	N: 27.700958 E: -97.451875	70	10YR 4/1	Clay	None. ST was negative.	Compact, impenetrable soil at 70cmbd.	A Lopez
ST34		-	N: 27.701471 E: -97.452179	70	10YR 3/1	Clay	None. ST was negative.	Compact, impenetrable soil at 70cmbd.	A Lopez
ST35		-	N: 27.701541 E: -97.450701	80	10YR 3/1	Clay	None. ST was negative.	Compact.	A Lopez
ST36		-	N: 27.702277 E: -97.450096	80	10YR 3/1	Clay	None. ST was negative.	Compact.	A Lopez
ST37		-	N: 27.702399 E: -97.450703	70	10YR 3/1	Clay	None. ST was negative.	Compact, impenetrable soil at 70cmbd.	A Lopez
ST38		-	N: 27.701848 E: -97.451253	80	10YR 3/1	Clay	None. ST was negative.	Compact.	A Lopez
ST39		-	N: 27.705897 E: -97.453793	75	10YR 3/1	Clay	None. ST was negative.	Compact, impenetrable soil at 75cmbd.	A Lopez
ST40		-	N: 27.705194 E: -97.453266	75	10YR 3/1	Clay	None. ST was negative.	Compact, impenetrable soil at 75 cmbd.	A Lopez
ST41		-	N: 27.704755 E: -97.452583	75	10YR 3/1	Clay	None. ST was negative.	Compact, impenetrable soil at 75 cmbd.	A Lopez
ST42		-	N: 27.704015 E: -97.452336	70	10YR 4/1	Silty Clay	None. ST was negative.	Test plot near vegetation, more compact and drier soil. Impenetrable soil at 70cmbd.	A Lopez

ST #	TS	+/-	UTM Coordinates	Stratigraphy Depth (cm)	Munsell	Soil Texture	Artifacts by level (cm)	Description/ Comments	Excavator
ST43		-	N: 27.703079 E: -97.452644	70	10YR 4/1	Silty Clay	None. ST was negative.	Compact, close to heavy vegetation. Soil is more compact and drier.	A Lopez
ST44		-	N: 27.702990 E: -97.451950	70	10YR 4/1	Silty Clay	None. ST was negative.	Compact, impenetrable soil at 70cmbd.	A Lopez
ST45		-	N: 27.702763 E: -97.451251	70	10YR 4/1	Silty Clay	None. ST was negative.	Compact, impenetrable soil at 70cmbd.	A Lopez
ST46		-	N: 27.703107 E: -97.450452	70	10YR 3/1	Clay	None. ST was negative.	Compact, impenetrable soil at 70cmbd.	A Lopez
ST47		-	N: 27.702936 E: -97.449869	70	10YR 4/1	Clay	None. ST was negative.	Compact, impenetrable soil at 70 cmbd.	A Lopez
ST48		-	N: 27.703729 E: -97.449816	70	10YR 4/1	Clay	None. ST was negative.	Compact, impenetrable soil at 70cmbd.	A Lopez
ST49		-	N: 27.703820 E: -97.450474	70	10YR 4/1	Silty clay	None. ST was negative.	Compact, impenetrable soil at 70cmbd.	A Lopez
ST50		-	N: 27.703852 E: -97.451532	75	10YR 4/1	Silty Clay	None. ST was negative.	Compact, impenetrable soil at 75 cmbd, pockets of silt 40cmbd - 50cmbd, 10YR 7/2.	A Lopez
ST51		-	N: 27.706538 E: -97.453536	65	10YR 4/1	Clay	None. ST was negative.	Compact. Impenetrable soil at 65 cmbd.	A Lopez
ST52		-	N: 27.706019 E: -97.453110	70	10YR 3/1	Clay	None. ST was negative.	Compact. Impenetrable soil at 70cmbd.	A Lopez
ST53		-	N: 27.705499 E: -97.452633	50	10YR 3/1	Clay	None. ST was negative.	Compact. Impenetrable soil at 50cmbd.	A Lopez
ST54		-	N: 27.704983 E: -97.451843	55	10YR 3/1	Clay	None. ST was negative.	Compact. Impenetrable soil at 55cmbd.	A Lopez

Attachment No. 3

Redline/Strikeout Pages

TYPE V PERMIT APPLICATION

FOR:

J.C. ELLIOTT TRANSFER STATION
NUECES COUNTY, TEXAS
TCEQ PERMIT NO. MSW-2423

VOLUME I OF I

Prepared for:

City of Corpus Christi
P.O. Box 9277
Corpus Christi, TX 78469

Prepared by:

SCS ENGINEERS
Texas Board of Professional Engineers Registration No. F-3407
12651 Briar Forest Dr., Suite 205
Houston, TX 77077
(281) 293-8494

November 2024
Revision 1 – December 2024
Revision 2 – March 2025
Revision 3 – May 2025
Revision 4 – October 2025

FOR PERMITTING PURPOSES ONLY

PARTS I & II

TYPE V PERMIT APPLICATION

FOR

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Prepared for:

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P.O. Box 9277
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12651 Briar Forest Dr., Suite 205
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November 2024
Revision 1 – December 2024
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Revision 3 – October 2025

PARTS I & II

TYPE V PERMIT APPLICATION
J.C. ELLIOTT TRANSFER STATION
NUECES COUNTY, TEXAS
TCEQ PERMIT NO. MSW-2423

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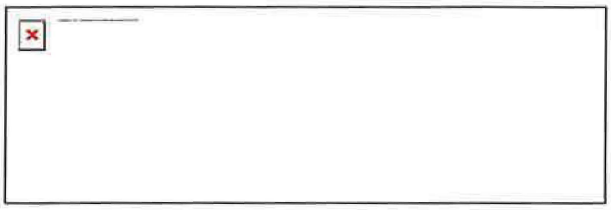
APPENDIX I/II-A.2

ARCHAEOLOGICAL / HISTORICAL REVIEW CORRESPONDENCE

---------- Forwarded message ---------
From: [redacted]>
Date: Mon, Sep 22, 2025 at 11:01 AM
Subject: Phase I Cultural Resources Survey at the Proposed Location of a Solid Waste Transfer Station in Corp
To: [redacted], [redacted]>



Re: Project Review under the Antiquities Code of Texas
THC Tracking #202600144
Date: 09/22/2025
Phase I Cultural Resources Survey at the Proposed Location of a Solid Waste Transfer Station in Corp (Permit 32329)
7001 Ayers St.

Description: Insufficient documentation: Needed more information in the environmental and pre-field sections.

Dear Rolando L. Garza:
Thank you for your submittal regarding the above-referenced project. This response represents the comments of the Executive Director of the Texas Historical Commission (THC), pursuant to review under the Antiquities Code of Texas.

The review staff, led by Caitlin Brashear and Tracy Lovingood, has completed its review and has made the following determinations based on the information submitted for review:

Above-Ground Resources

- No further review of potential effects to above-ground historic resources is required under the Antiquities Code of Texas. However, should this project ultimately include any federal involvement, additional consultation with THC/SHPO under Section 106 of the National Historic Preservation Act will be required.

Archeology Comments

- No effect on identified archeological sites or other cultural resources. However, if cultural materials are encountered during project activities, work should cease in the immediate area; work can continue where no cultural materials are present. Please contact the THC's Archeology Division at 512-463-6096 to consult on further actions that may be necessary to protect the cultural remains.
- This draft report is acceptable. Please submit of one bound and one unbound paper final report, a completed Abstracts in Texas Contract Archeology online form, a curation form, and complete and redacted tagged PDF copies of the final report for the above referenced permit. Archeological project area shapefiles are due with the submittal of the draft report; if this has not occurred, please submit the via the tab on eTrac. For questions on how to submit these please visit our video training series at: https://www.youtube.com/playlist?list=PLONbbv2pt4cog5t6mCqZVaEAx3d0MkgQC

We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this review process, and for your efforts to preserve the irreplaceable heritage of Texas. If the project changes, or if new historic properties are found, please contact the review staff. If you have any questions concerning our review or if we can be of further assistance, please email the following reviewers: [redacted]

This response has been sent through the electronic THC review and compliance system (eTRAC). Submitting your project via eTRAC eliminates mailing delays and allows you to check the status of the review, receive an electronic response, and generate reports on your submissions. For more information, visit http://thc.texas.gov/etrac-system.

Sincerely,

for Joseph Bell, State Historic Preservation Officer
Executive Director, Texas Historical Commission

Please do not respond to this email.

Phase I Cultural Resources Survey at the Proposed Location of a Solid Waste Transfer Station in Corpus Christi, Nueces County, Texas.

FINAL REPORT

ADDED

Prepared for:
Hanson Professional Services Inc.
4501 Gollihar Road
Corpus Christi, TX 78411

Prepared by:
Rolando L. Garza, Principal Investigator
Jared Pringle
Alex Lopez

Coastal Environments Inc.
525 S. Carancahua
Corpus Christi, Texas 78401

June 2025
TAC Permit #32329

Abstract

Coastal Environments, Inc., (CEI) was contracted by Hanson Professional Services Inc. to conduct a Phase I Cultural Resources Survey of a proposed solid waste transfer station in Corpus Christi, Texas, a project sponsored by the City of Corpus Christi. The proposed solid waste transfer station is along the southwestern boundary of the city on municipal property. The eastern boundary of the proposed transfer station runs along State Highway. (SH) 286 (Crosstown Expressway) just west of Cabaniss Naval Landing Airfield. It is situated between Greenwood Dr. to the north and west and Oso Creek to the south. The approximately 61.5-acre site is located on a relatively level plain that gradually slopes down to Oso Creek.

The investigation included archaeological survey, shovel testing, site recordation and eligibility assessment (as necessary), and report preparation in accordance with Texas Historical Commission (THC), Secretary of the Interior, and Council of Texas Archeologists (CTA) standards. However, no artifacts were found, and no archeological sites or historic structures were recorded as a result of this survey. No further cultural resources investigations are recommended.

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Chapter 1: Introduction

Coastal Environments, Inc., (CEI) was contracted by Hanson Professional Services Inc., to conduct a Phase I Cultural Resources Survey of a proposed solid waste transfer station in Corpus Christi, Texas, on behalf of the City of Corpus Christi. The survey took place May 1 through May 9, 2025. The proposed solid waste transfer station is along the southwestern boundary of the city on municipal property. The eastern boundary of the proposed transfer station runs along State Highway (SH) 286 (Crosstown Expressway) just west of the Naval Outlying Field Cabaniss. It is situated between Greenwood Dr. to the north and west and Oso Creek to the south (Figure 1). The approximate 61.5-acre site is located on a relatively level plain that gradually slopes down to Oso Creek near its southern end.

The proposed undertaking is on land owned by a political subdivision of the State (the City of Corpus Christi), and therefore falls under the jurisdiction of the Texas Historical Commission (THC) in compliance with the Antiquities Code of Texas (ACT) (Texas Natural Resource Code, Title 9, Chapter 191). In accordance with the state standards, a total of 57 Shovel Test Units (STs) was planned within the 61.5-acre Area of Potential Effect (APE). The shovel test survey focused on those portions of the landform that appeared to have the best potential for containing archeological sites, i.e., those areas identified as having a "high" probability for prehistoric archaeological sites according to the "Potential Archeological Probability Map" (PALM) for the Corpus Christi region (Abbott and Pletka 2016), as prepared by the Texas Department of Transportation for the Texas Historical Commission (Figure 2). Figure 3 shows the planned locations of STs across the project area in relation to high and moderate/low probability areas of the APE. There were 12 STs (yellow diamonds with black outline) planned in high-probability areas spaced at 30-meter (m) intervals from each other. Another 45 STs (light yellow diamonds) were spaced across the low and moderate probability areas indicated on the PALM map. All STs were to be a minimum of 30 centimeters (cm) in diameter and would be excavated to a minimum depth of 80 cm. Should cultural material be encountered in a shovel test, additional STs were to be excavated in a cruciform pattern at 15-m intervals until there were two negative STs excavated in each direction.

The locations for all survey STs were pre-plotted as shown on Figure 3, and their positions uploaded into a hand-held TDC Trimble GPS unit that guided the field team to each ST location. Should a ST need to be moved slightly because of the presence of an obstruction, such as a tree or pile of modern debris, its new location was to be recorded with the GPS unit. Similarly, all data obtained during the excavation of each ST was recorded on forms uploaded into the GPS unit. Such data included stratigraphic information (soil type and Munsell color), thickness of each stratigraphic unit, presence or absence of cultural remains, and a description of such remains.

CEI advocates for a no-collection policy for artifacts identified during a Phase I Cultural Resources Survey. Accordingly, if artifacts were found during field investigations, they would be counted and documented on the GPS unit. All diagnostic artifacts were to be photographed in the field and then returned to their original locations.

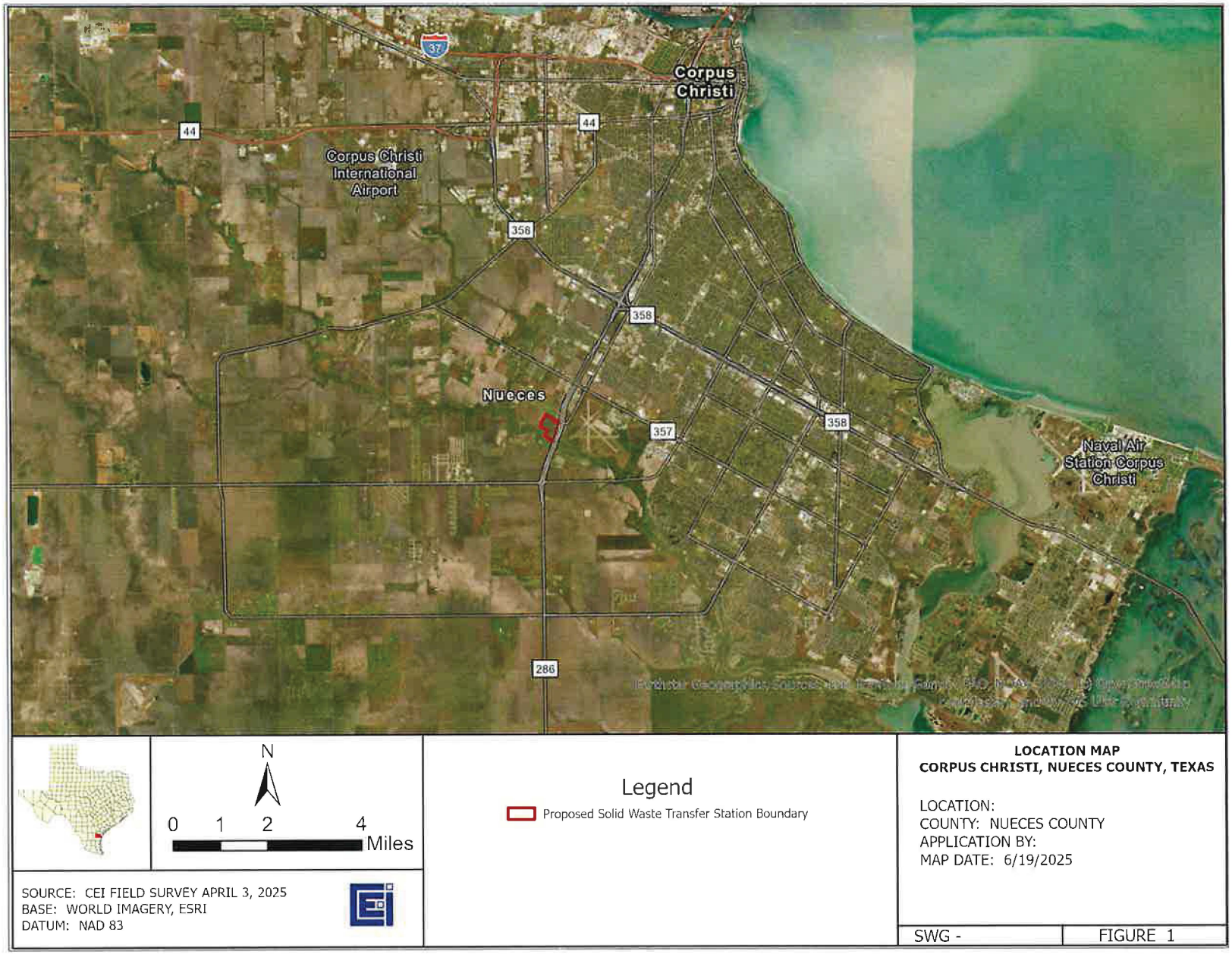

Figure 1. Map showing location of proposed Transfer Station in relation to Corpus Christi. Background aerial photograph from ESRI World Imagery (2025).

Personnel

Rolando L. Garza served as the Principal Investigator for this survey and was in the field 25 percent of the time (2 days). Mr. Garza was aided by Alex Lopez and Jared Pringle, two of CEI's Archeologist III Field Technicians.

Curation

Since this survey was designed as a "no-collection" project, only paperwork and other digital records will be curated. The Center for Archaeological Research at the University of Texas San Antonio will serve as the curatorial facility.

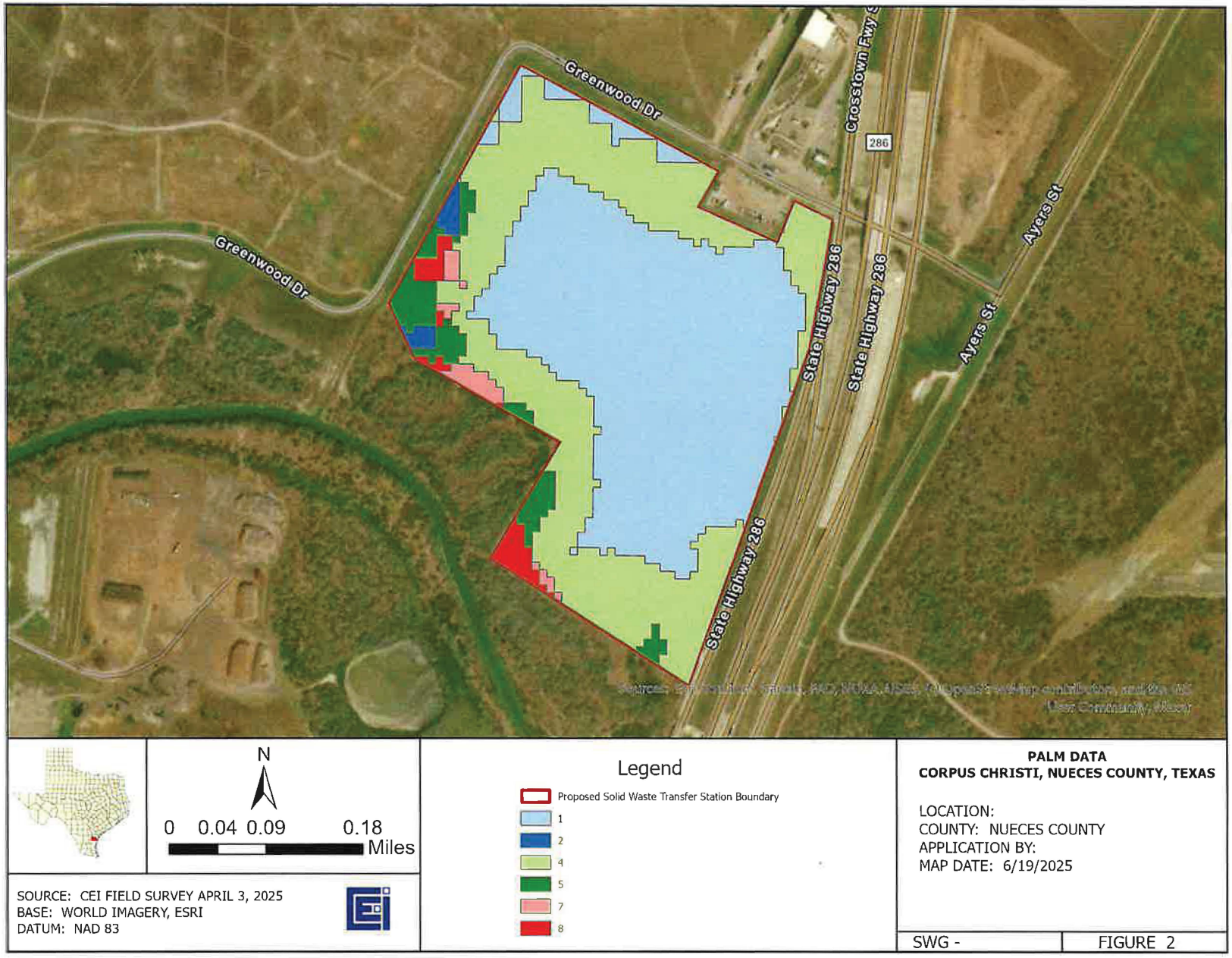

Figure 2. Potential Archeological Liability Map overlaid on the project area (0 being low and 8 being high). After Abbott and Pletka (2016).

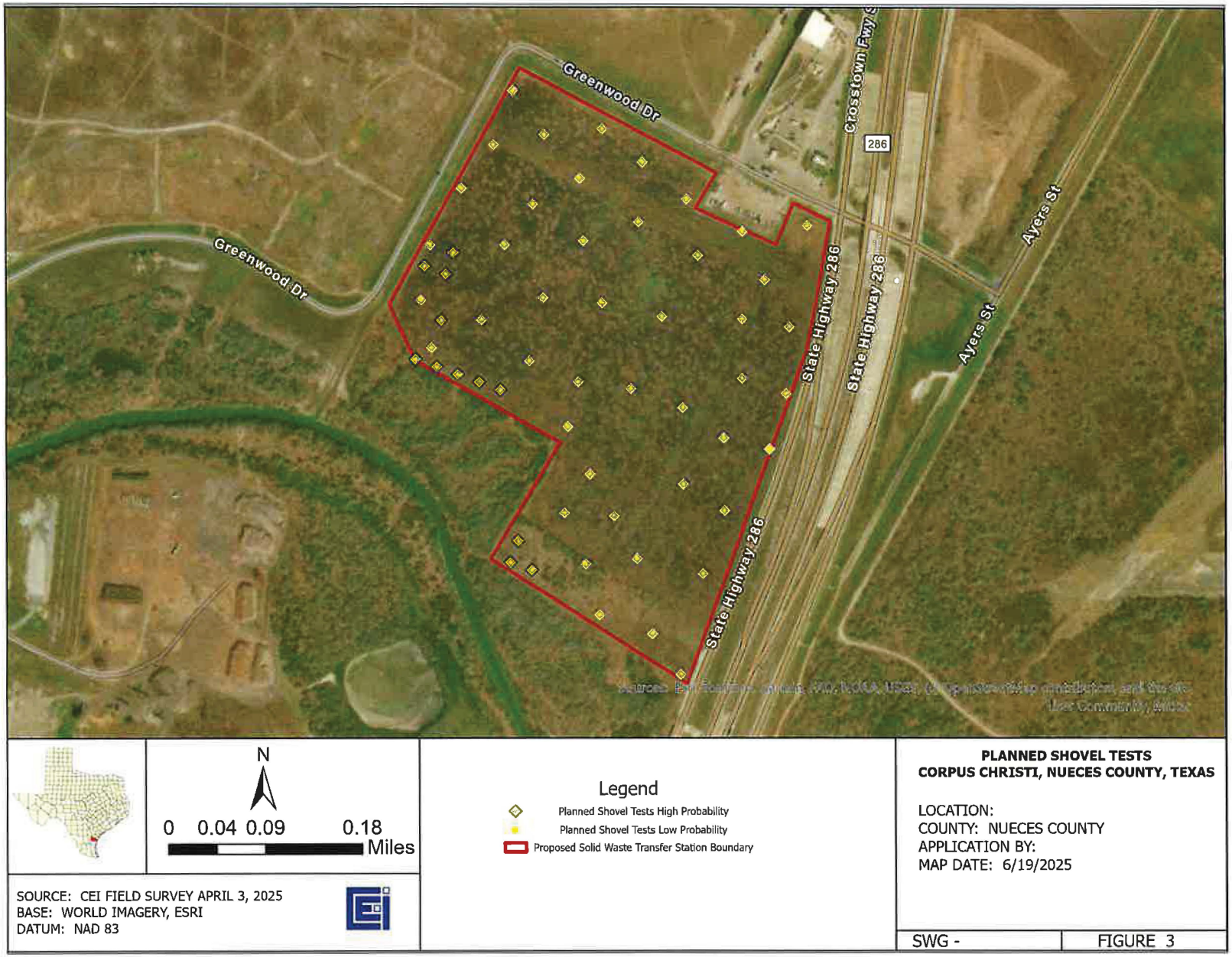

Figure 3. Planned ST locations in high and low probability areas.

Chapter 2: Natural and Cultural Setting

ENVIRONMENTAL SETTING

The project area is located within the Southern Subhumid Gulf Coastal Prairies ecoregion, composed of low, flat plains, and some stream terraces with sandy, silty, and clayey substrates (Griffiths et al. 2007). Vegetation is mainly prairie grasslands comprised of little bluestem, common curly mesquite, scattered live oak, and plains bristle. The land is used primarily for pasture and agriculture, with some industrial and oil and gas production. Crops include cotton, corn, grain and sorghum.

Hydrology and Topography

The major water sources impacting the project area are Oso Creek and its tributaries. Oso Creek is a perennial stream that flows roughly northwest to southeast toward Corpus Christi Bay. The creek lies just 40 m or so from the southern boundary of the project area, and represents the primary source of water and aquatic resources for any occupants of the project area. A minor, unnamed tributary of the creek lies 1,200 m to the northwest, draining developing areas at the southern margin of the city of Corpus Christi. A drainage canal occupies much of the northern and western margins of the project area, but this appears to be a relatively modern addition to the landscape.

The project area is relatively flat, rising slightly near the southern edge of the property near Oso Creek (NRCS 2025). Gullied areas occur in the slopes leading down to Oso Creek, which lies about 6 m (20 ft) below the level of the project area. It is likely that any prehistoric occupation would have occurred in the slightly higher areas near the creek. This would have given the occupants access to water and aquatic resources, while providing somewhat better drained soils.

Geology and Soils

Geologically, the project area is composed of Late Pleistocene delta sand, silt, and clay located within the Beaumont Formation, as well as some portions containing Middle Pleistocene sand, silt, and clay within the Lissie Formation (Griffiths et al. 2007). Soils are primarily composed of dark clayey Vertisols, common within the Beaumont Formation, and the annual precipitation is between 26-37 inches annually.

There are three soil types found within the APE. The NRCS Web Soil Survey for Nueces County (NRCS 2025) shows the project area containing VcA, - Victoria clay 0 to 1 percent slopes, VcB - Victoria clay 1 to 3 percent slopes, and Gv – Gullied land, saline (Figure 4, Table 1).

Victoria clay (VcA) - soils are comprised of flat linear features, with a 0 to 1 percent slope, and are composed of clayey fluviomarine deposits derived from igneous, metamorphic and sedimentary rock. These soils are well drained with medium runoff and no frequency of flooding. Typical shovel test profiles include clay from 0 to 80 inches (NRCS 2025).

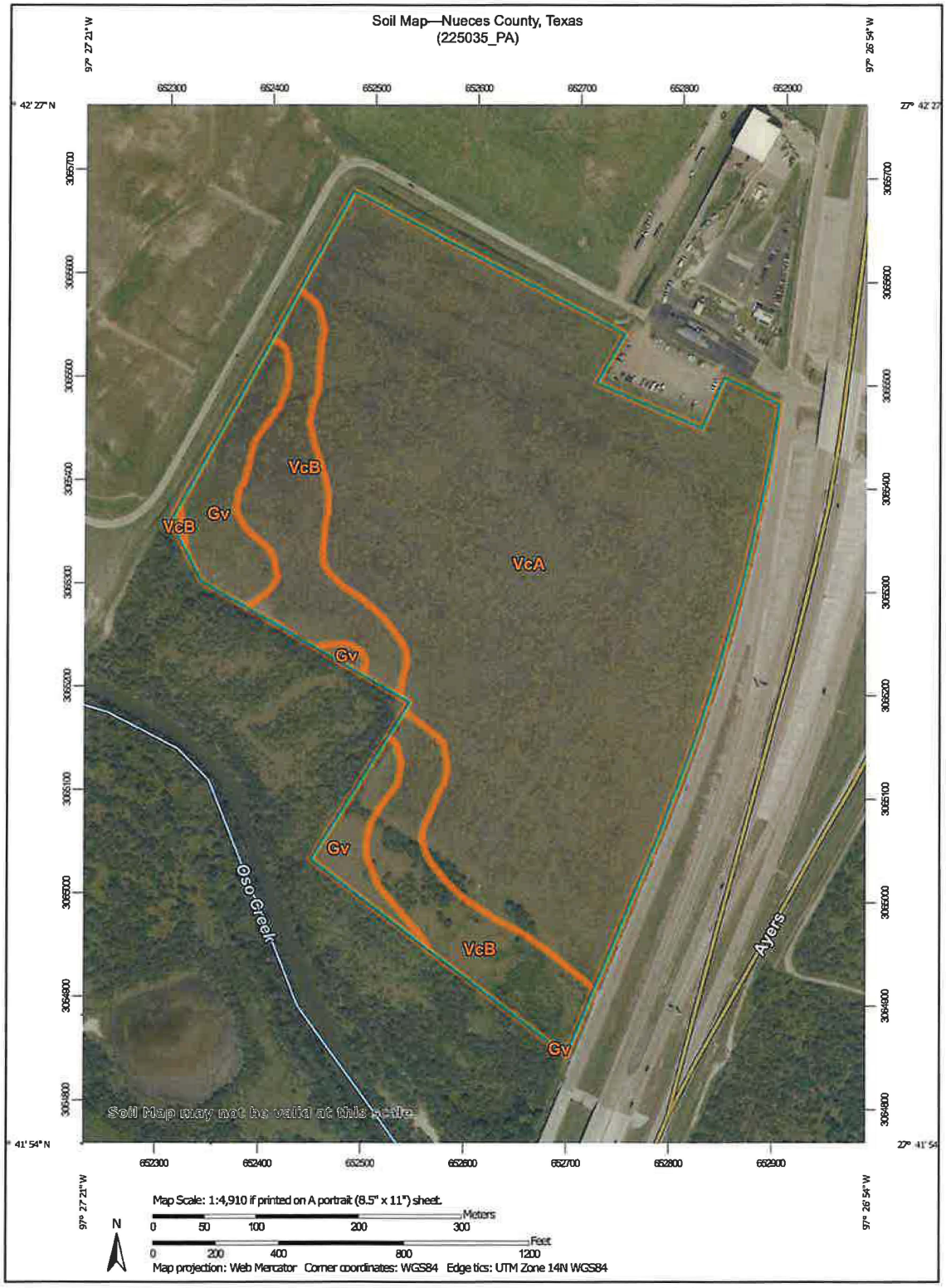

Figure 4. NRCS Soil Classification Map, Nueces County, TX. From NRCS (2025).

Table 1. Soil Map Units within the Project Area (from NRCS 2025).

Symbol	Map Unit Name	Acres	Percent
Gv	Gullied land, saline.	4.4	7.2%
VcA	Victoria clay, 0-1 % slopes	46.9	76.3%
VcB	Victoria clay, 1-3 % slopes	10.1	16.4%
	Total	**61.5**	**100%**

Victoria clay (VcB) - soils are flat, convex-linear features with a 1 to 3 percent slope and are composed of clayey fluviomarine deposits derived from igneous, metamorphic and sedimentary rock. This soil is well drained with high runoff and no frequency of flooding. Typical soil profiles include clay from 0 to 80 inches (NRCS 2025).

Gullied land (Gv) - soils are composed of gullied land and have a typical soil profile that includes clay from 0 to 80 inches (NRCS 2025).

Climate

The modern climate of Nueces County is defined as subtropical and is marked by hot summers and temperate winters. While summer temperature highs can range between an average of 91°F and 94°F, the average yearly high temperature is 82°F. The average yearly low is 63°F. Annual precipitation averages 31.76 inches (80.67 cm), with rainfall primarily occurring in September (U.S. Climate Data 2025).

Flora and Fauna

The project area is located within Griffiths et al.'s (2007) Southern Subhumid Gulf Coastal Prairies subregion of the Western Gulf Coastal Plain ecoregion, which occupies Texas' coastal and near-coastal counties. While the majority of the region has been cleared for agriculture or altered by pasturage and development, it was once dominated by grasslands, especially species such as yellow indiangrass (*Sorghastrum nutans*), little bluestem (*Schizachyrium scoparium*), and tall dropseed (*Sporobolus asper*). More minor constituents, such as silver bluestem (*Bothriochloa laguroides*), common curleymesquite (*Hilaria belangeri*), and plains bristlegrass (*Setaria leucopila, S. macrostachya*), were present as well. The narrow floodplain of Oso Creek, and the gulleys connected to it, are dominated by oaks (*Quercus* spp.), pecan (*Carya illinoensis*), and elm (*Ulmus* spp.).

In addition to rodents, such as pocket gophers, spotted ground squirrels, grasshopper mice, and rice and cotton rats, mammalian wildlife includes opossums, raccoons, coyotes, white-tailed deer, bobcats, jackrabbits, and cottontail rabbits. Coastal and migratory birds are common. Songbirds and wading birds include reddish egrets, roseate spoonbills, least grebes, bitterns and rails.

Predatory birds such as aplomado falcons have been released along Coastal Texas in an effort to re-establish the species (Texas Parks and Wildlife Department [TPWD] 2021).

CULTURAL SETTING

Prehistoric Overview

The project area is situated within the Central Texas Coast archaeological region (Ricklis 2004). This section of the Texas Gulf coastline features estuarine bays protected by barrier islands that have attracted human occupation since as early as the Paleoindian period (ca 13000 – 9000 B.P.). In this region, the Paleoindian period is underrepresented due to a lack of intact archaeological sites dating to that time, and very few artifacts found within isolated contexts (Ricklis 2004). This is likely the result of the evolving geography of the Central Texas coastal barrier island complex. During the Paleoindian period, the last glacial episode was in remission, thus causing the shoreline of the gulf coast to lay further out than it does today (Brown et al. 1976)

Archaic Period (ca. 7,500 to 950 B.P.)

The Early Archaic Period (ca. 7,500 to 4,200 14C years B.P.) on the Central Texas Coast is relatively well represented and has been confirmed based on radiocarbon dates on discrete stratigraphic components from several archaeological sites in the Nueces Bay area (Ricklis 2004). Many of these earliest sites reflect a heavy dependence on shellfish in the form of thin, but dense oyster and Rangia shell deposits within Holocene sediments atop the Beaumont Formation. Diagnostic lithic artifacts are scarce in these sites. However, the Buckeye Knoll site (41VT98), an Archaic cemetery south of Victoria, produced numerous diagnostic lithic artifacts, which indicate a far-reaching trade network across Texas and the southeastern U.S. (Ricklis et al. 2012). Although few artifacts are typically observed within Early Archaic shell lenses, various species of mollusk were likely exploited as an estuarine resource base. Faunal bone and fish otoliths are rare in Early Archaic contexts, indicating such resources were not yet rendered important food resources (Ricklis 2004). Subsequent Archaic sites on this portion of the coast yield more cultural information and indicate an increased exploitation of shellfish, as well as pelagic (fin) fish, deer, and reptiles. Such exploitation may point to a seasonal procurement strategy that relied heavily on shellfish during the winter and early spring when plant foods and game were scarce (Ricklis 2004). These sites tend to be situated on the eroded surface of the Beaumont Formation, indicating they may have been eroded during the Middle Holocene (Ricklis 2004).

Intriguingly, almost no archaeological sites conclusively dated to the Middle Archaic period (ca. 4,200 to 3,100 14C B.P.) have been found along this central portion of the Texas coast. Ricklis (2004) suggests this lack of evidence of human occupation of the area is related to a hypothesized reduction in exploitable resources available within the fragile estuarine ecological system of this portion of the coast. Environmental changes involving sea level high stands around 4,200 B.P. are

also likely to have resulted in the removal of alluvial deposits, including any archaeological deposits, in lower stream systems.

Sea levels stabilized at its modern elevation at ca. 3,000 B.P., which roughly corresponds with the beginning of the Late Archaic period in Texas (ca. 3,100 to 950 14C B.P.). Human occupation of the coastline intensified during this period, and archaeological sites are more abundant and larger than those dating to the Early Archaic (Ricklis 2004). Shellfish, fish, and game were important sources of food during this period, and Ricklis (2004) suggests a seasonal pattern of fall through early spring occupation of shoreline fishing camps and warm-season riverine hunting camps; this seasonal migration pattern is better documented for the Late Prehistoric period in the region but may have begun during the Late Archaic. Site 41NU2, a large prehistoric cemetery dating to the Late Archaic and later periods, is located at the mouth of Oso Creek.

Late Prehistoric (ca. 950 to 250 B.P.)

The beginning of the Late Prehistoric period coincides with the replacement (or at least supplementation) of the atlatl and dart with the bow and arrow, along with the more common use of ceramics, which are known in small quantities from Late Archaic assemblages (Ricklis 2004). The early portion of the Late Prehistoric period in this region (ca. 950 to 700 B.P.) is represented by sites yielding Fresno and Scallorn arrow points and plain, sandy-paste pottery. The later portion of the Late Prehistoric period on the central Texas coast (ca. 700 to 250 B.P.) is characterized by the emergence of a distinctive artifact assemblage including Perdiz arrow points and other specific types of lithic tools and Rockport pottery (Ricklis 2004). Fishing and the gathering of shellfish continued as subsistence activities but may have declined in importance as the peoples of the central Texas coast shifted their focus to bison hunting. Ricklis (2004) suggests seasonal migration patterns among the peoples of the central Texas coast during the latter part of the Late Archaic, based on evidence of occupation of fishing camps during the winter and early spring and a movement to prairie-riverine camps during the spring and summer months. Interestingly, the fishing camp sites are relatively larger but fewer in number than the hunting camp sites, suggesting a winter/early spring gathering of people at few large sites and a dispersal into smaller groups during the spring and summer (Riklis 2004).

Historic Overview

The historic period of the Corpus Christi Bay area begins in 1519 with the mapping of the gulf coast, between Veracruz and Pensacola, by Alonso Alvarez de Pineda. Several years later the survivors of the Panfilo de Narváez expedition, led by Alvar Nunez Cabeza de Vaca, were said to be the first Europeans to set foot in the area (Long 2010). Interest in the area increased in the 1680's, with the establishment of a colony in 1685 by Sieur de La Salle, and an expedition in 1689 by the Spanish under Alonso De Leon. The native tribes La Salle encountered were made up of the Cujane, Coapite, Copano, and Coco, but were collectively known as the Karankawa (Foster and Warren 1998). The Karankawa remained near the bay areas, where they hunted bison, in

addition to subsisting on small game, fish, and local vegetation such as cactus fruit and berries. Little is known of the native tribes along the Gulf Coast region at the time of European contact. However, archeological sites in this region dated to this period have contained imported European goods including metal objects, tools, and glass beads.

After multiple failed settlement attempts by European expeditions, the area was largely ignored during the 16th and 17th centuries. The Spanish were eager to expand their landholdings in Texas, and attempted to establish a colony, Villa de Vedoya, at the mouth of the Nueces River in 1749 (Long 2010). This effort ultimately failed due to lack of resources. Numerous attempts were made throughout the late 1700s to colonize the area, but all attempts proved unsuccessful. In 1839 Henry Lawrence Kinney established a trading post on the shore of Corpus Christi Bay. By 1842 a post office had been opened, and the settlement now known as "Corpus Christi", had become a small village and center of trade in the area (Long 2010). By 1846, the town had become the seat of the newly formed Nueces County. Growth was slow yet gradual. A yellow fever epidemic decimated the population in 1854, a dearth of fresh water, and the absence of a deepwater port conspired to retard the growth of the town into the latter portion of the nineteenth century.

At the early onset of the Civil War, Corpus Christi served as a hub of Confederate commerce. To skirt the Union blockade, small boats sailed between the barrier islands in the area transporting goods. In 1862, to halt trade in the city, small Union boat crews began attacking waterborne commerce, and several skirmishes with Confederate shore patrols took place. Union forces eventually seized Mustang Island and began shelling the city on two occasions. Earthworks erected by General Taylor in 1846 were used as protection by the Confederate battery protecting the town, and the first attack was thwarted with few Confederate casualties (Barr 1961). Union forces occupied the city in 1863, and it remained under Union occupation into the early 1870's.

During the postbellum period, the population of Nueces County rapidly increased, growing from 3,975 in 1870 to 21,955 by 1910, with much of the population located in the Corpus Christi area. By 1914, four railroad networks had expanded to the city, also contributing to rapid development and population growth. With the continued growth of the region and the city as an economic, trading, and shipping center, efforts were made to improve access to the ocean with dredging of the main sea channel in 1874 (Long 2010; Walraven 1982). In the aftermath of the 1919 hurricane, the county and state governments agreed that Corpus Christi needed both protection from hurricanes and a deepwater port, which would require the dredging of a sufficiently deep ship channel (Walraven 1982).

In September 1919, large areas of the burgeoning city were destroyed by a hurricane, with a death toll estimated between 350 to 400 people. It was the most catastrophic event to occur in the city's history at that time, with a recorded storm surge of 16 feet. City leaders were convinced that the only way to revive the decimated city was to construct a deepwater port, which opened in 1926 and immediately brought with it a growth in population (Long 2010). Oil and natural gas deposits were discovered in Nueces County in 1922, several major oilfields were developed, and the oil and natural gas industry became prominent in Corpus Christi and continues to dominate the area

today. Opened in 1926, the deepwater Port of Corpus Christi serves today as the third largest port in the United States in total tonnage (Long 2010; *The Waterways Journal Weekly* 2025; Walraven 1982). The growth of the area slowed in the 1930s during the Great Depression but began to rise rapidly again after World War II, particularly following the establishment of the Naval Air Station. Corpus Christi became the second largest port in Texas by 1969. By 2001, Corpus Christi's refining operations had a capacity of 673,00 barrels a day, accounting for 4 percent of the country's total capacity (Lessoff 2019).

Chapter 3: Background and Methods

BACKGROUND RESEARCH

Previous Investigations

Prior to fieldwork, the Texas Archeological Sites Atlas was examined for the existence of recorded archaeological sites and previous investigations around the area of the proposed project. Additionally, historic aerial photographs and USGS topographic maps were examined to determine whether structures may have been present within the proposed APE in the past.

There are three previously recorded archeological sites (41NU214, 41NU230, and 41NU335) in the vicinity of the proposed transfer station (Figure 5). Sites 41NU214 and 41NU230 are prehistoric locales that have produced lithic material, fired-clay nodules, and some shell, while site 41NU335 is a historic house site dating to the mid-twentieth century.

Site Probability and Cartographic Regression Analysis

As noted in Chapter 2, while the project area lies adjacent to a permanent water source (Oso Creek), the land is rather flat, clayey, and poorly drained, rising only slightly near the southern edges of the project area overlooking the creek. This proximity to the creek, as well as the slightly higher elevation, would have rendered the southernmost edges of the project area somewhat more attractive to prehistoric settlement than most of the remaining project area, particularly on the Victoria clays (VcB, 1-3 percent slopes) and gullied lands (Gv) north of the creek. Abbott and Pletka's (2016) Hybrid PALM (HPALM) map for the area reflects this (Figure 6), showing high potential areas only at the southern margins of the project area, adjacent to Oso Creek.

A search of available maps revealed only limited information about the project area prior to the 1920s. A county map dating to 1863 shows the early land claims within and around the project area (Figure 7), but the actual location of the project area in relation to Oso Creek (then "Salt Creek") is uncertain, as two different courses for the stream are depicted. It is unclear if the area was poorly mapped, or if the channel of Oso Creek was meandering significantly, but maps depicting the area vary considerably in the location and morphology of the channel between this time and the 1920s (Figures 8 to 10).

The project area appears to have been a part of the "Rincon del Oso", given to Captain Enrique Villareal by the Mexican government in 1831, just prior to Texas independence. This grant of approximately 44,000 ac included much of what is now Nueces County, and all of the current City of Corpus Christi. Villareal, an officer in the Mexican army during the war for Mexican independence, as well as the revolution in Texas and subsequent U.S.-Mexican War, had used the grant for raising cattle since at least 1810 (Nueces County Historical Commission [NCHC] 2025a).

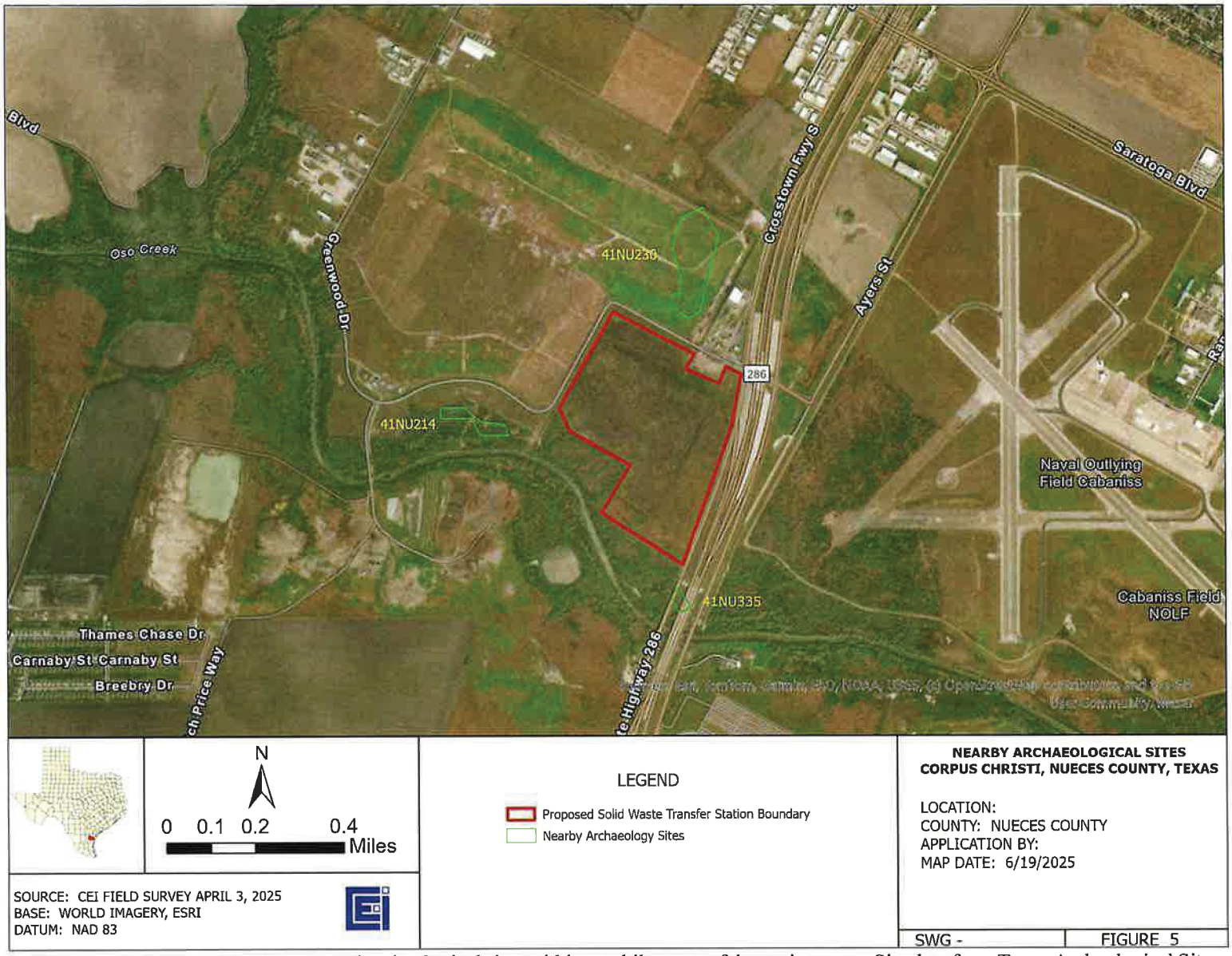

Figure 5. Map showing the documented archeological sites within one kilometer of the project area. Site data from Texas Archeological Sites Atlas.

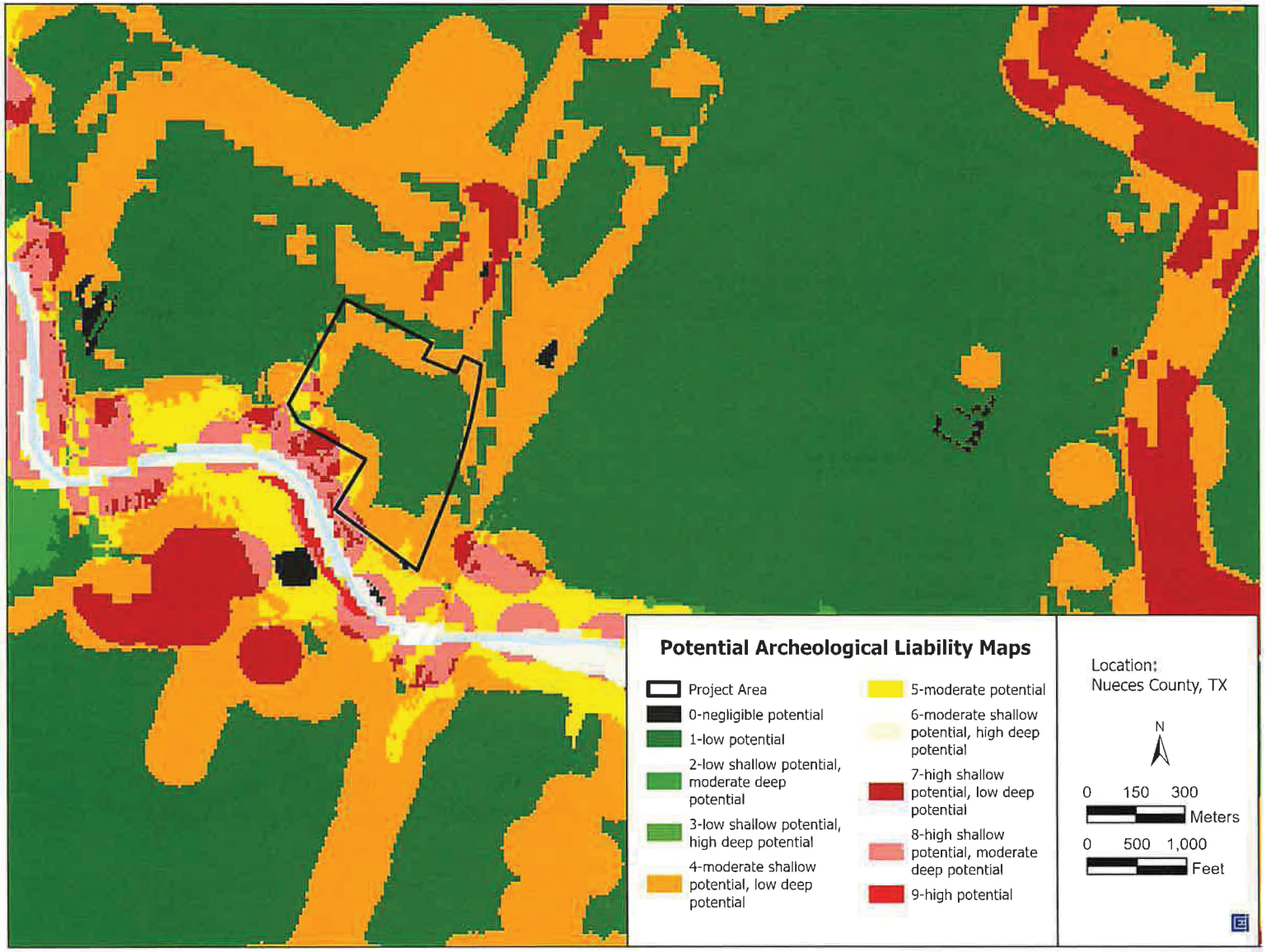

Figure 6. HPALM map of the project area, showing high and low probability areas and its surroundings (Abbott and Pletka 2016). Note that the highest probability areas are those nearest Oso Creek and the gully near the western edge (now a drainage canal).

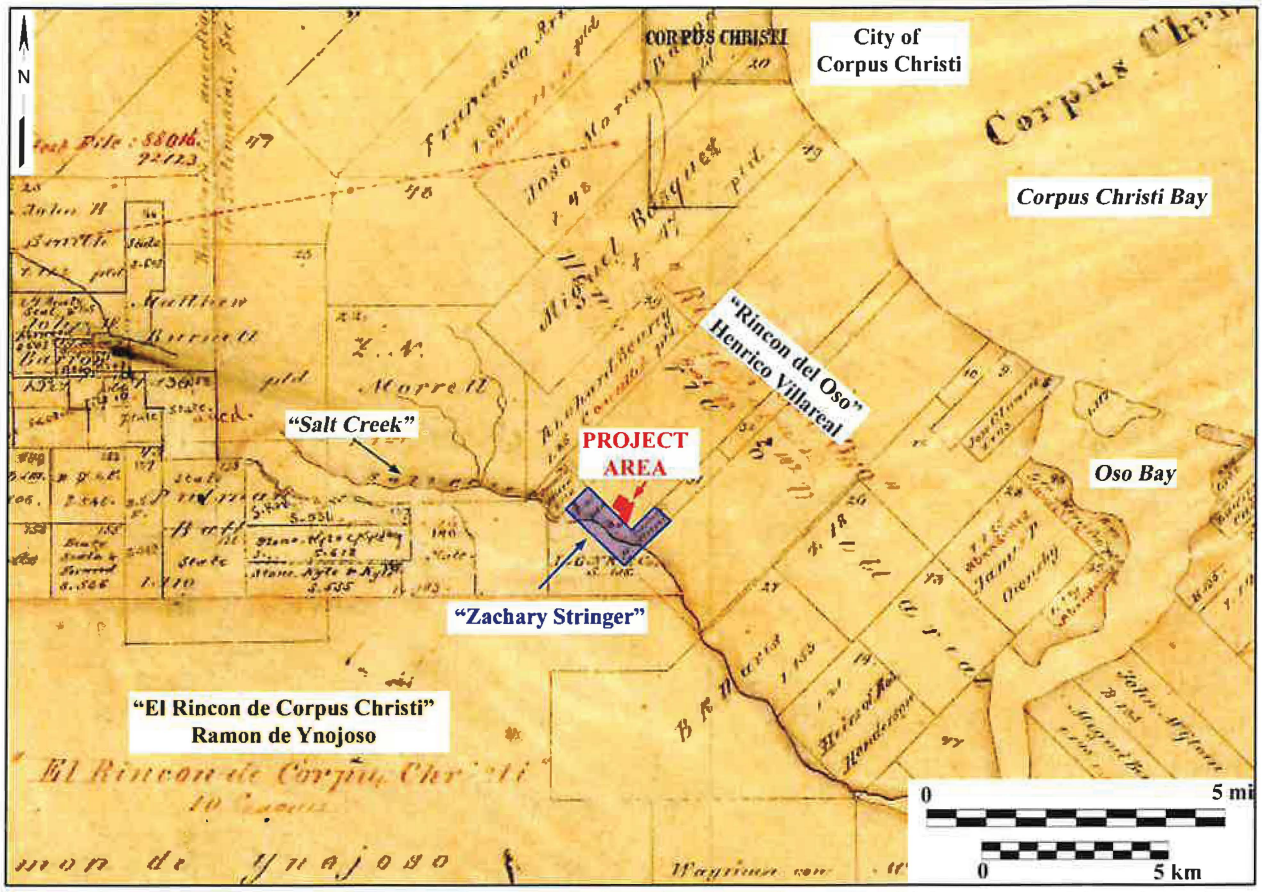

Figure 7. Detail of map of Nueces County from 1863 depicting the project area, which was part of Captain Enrique Villarreal's "Rincon del Oso," granted to him by the Mexican government in 1831. From TxGLO (1863).

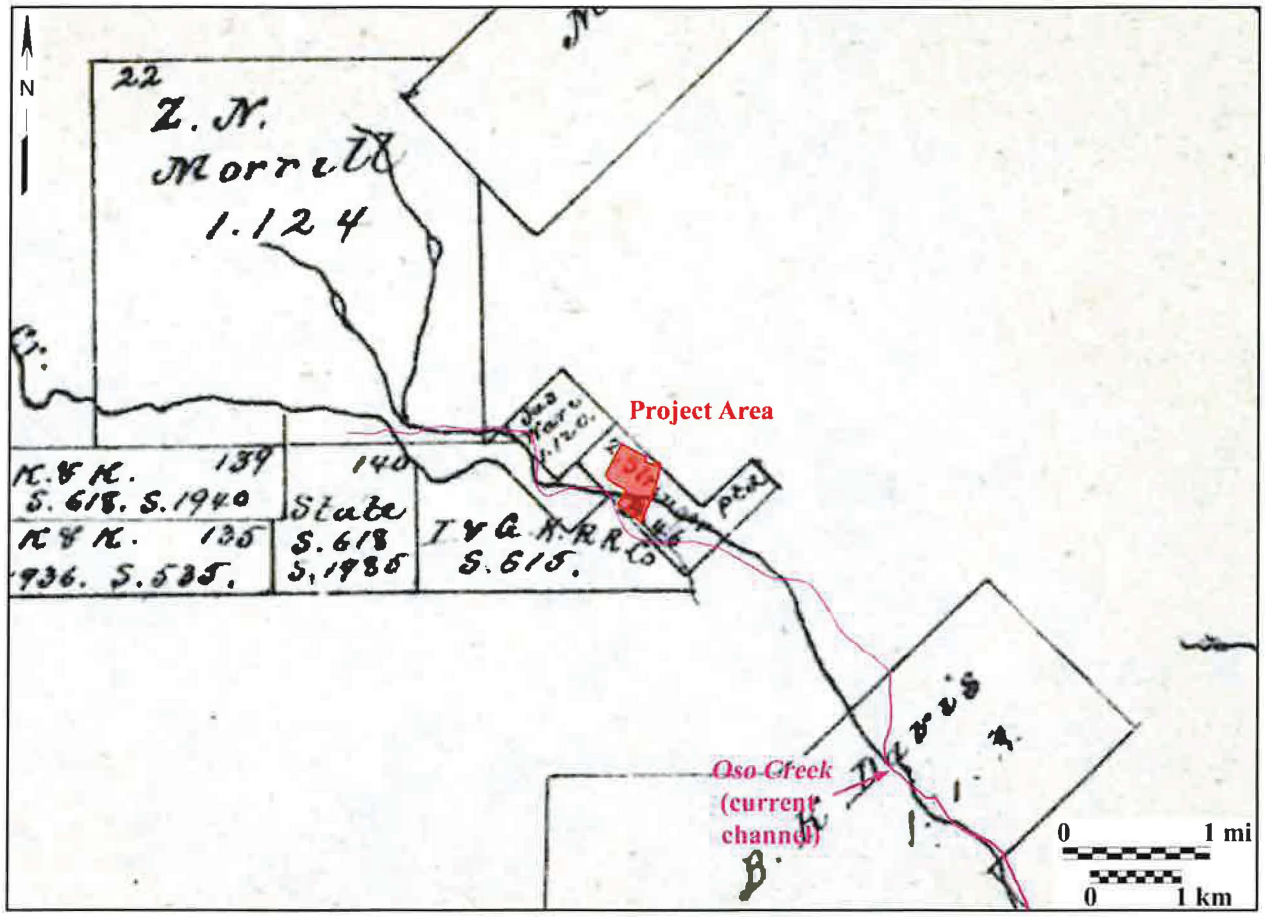

Figure 8 Detail of 1879 map of Nueces County. From TxGLO (1879). Note that two channels of Oso Creek are depicted, neither of which match the current course of the waterway very closely (purple line). Later maps place the project area just to the north of Zachary Stringer's claim.

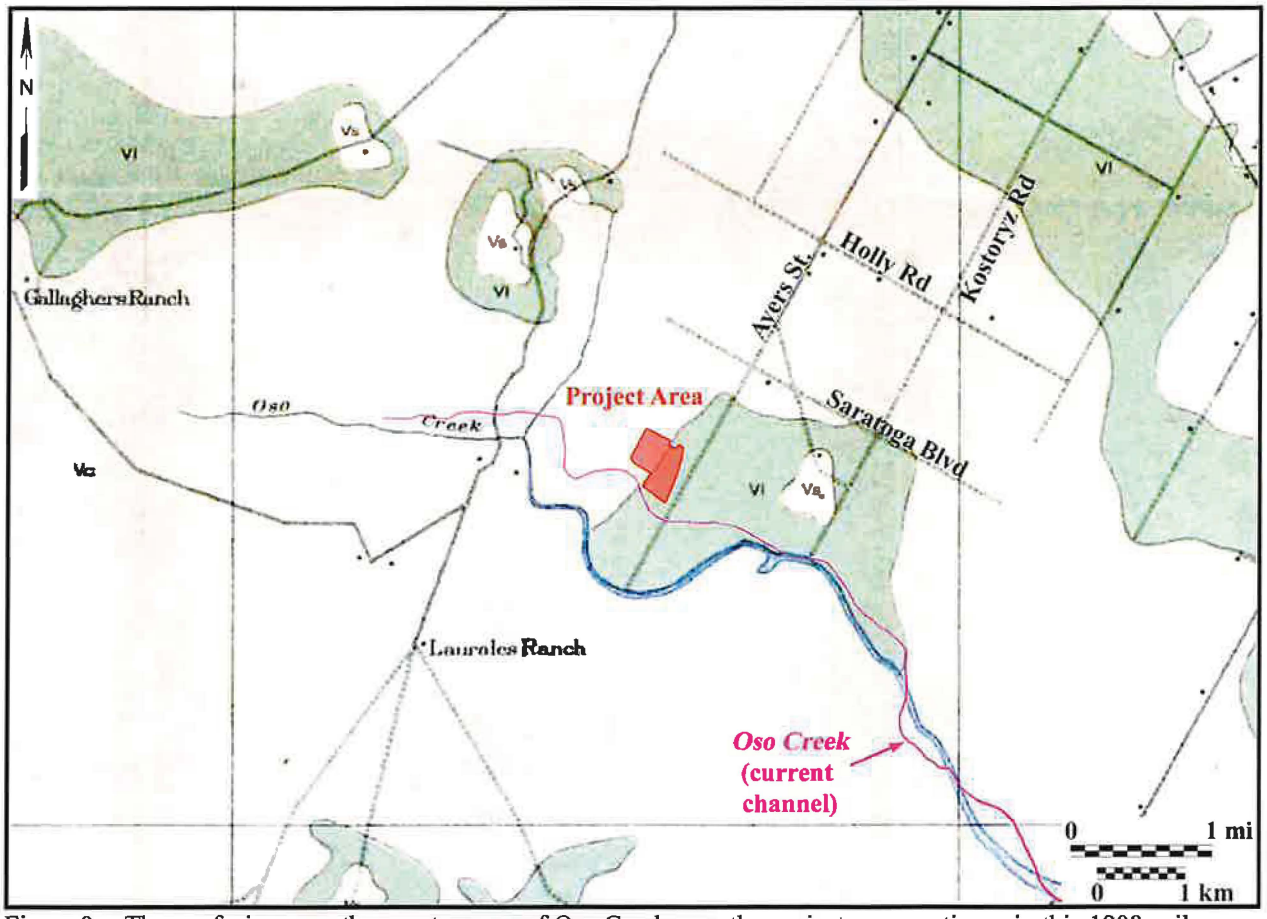

Figure 9. The confusion over the exact course of Oso Creek near the project area continues in this 1908 soils map for Nueces County. However, some development near the project area is shown at this time, as Ayers Street has been completed down to Oso Creek, and other recognizable roads have been laid out in the area. From U.S. Bureau of Soils (1908).

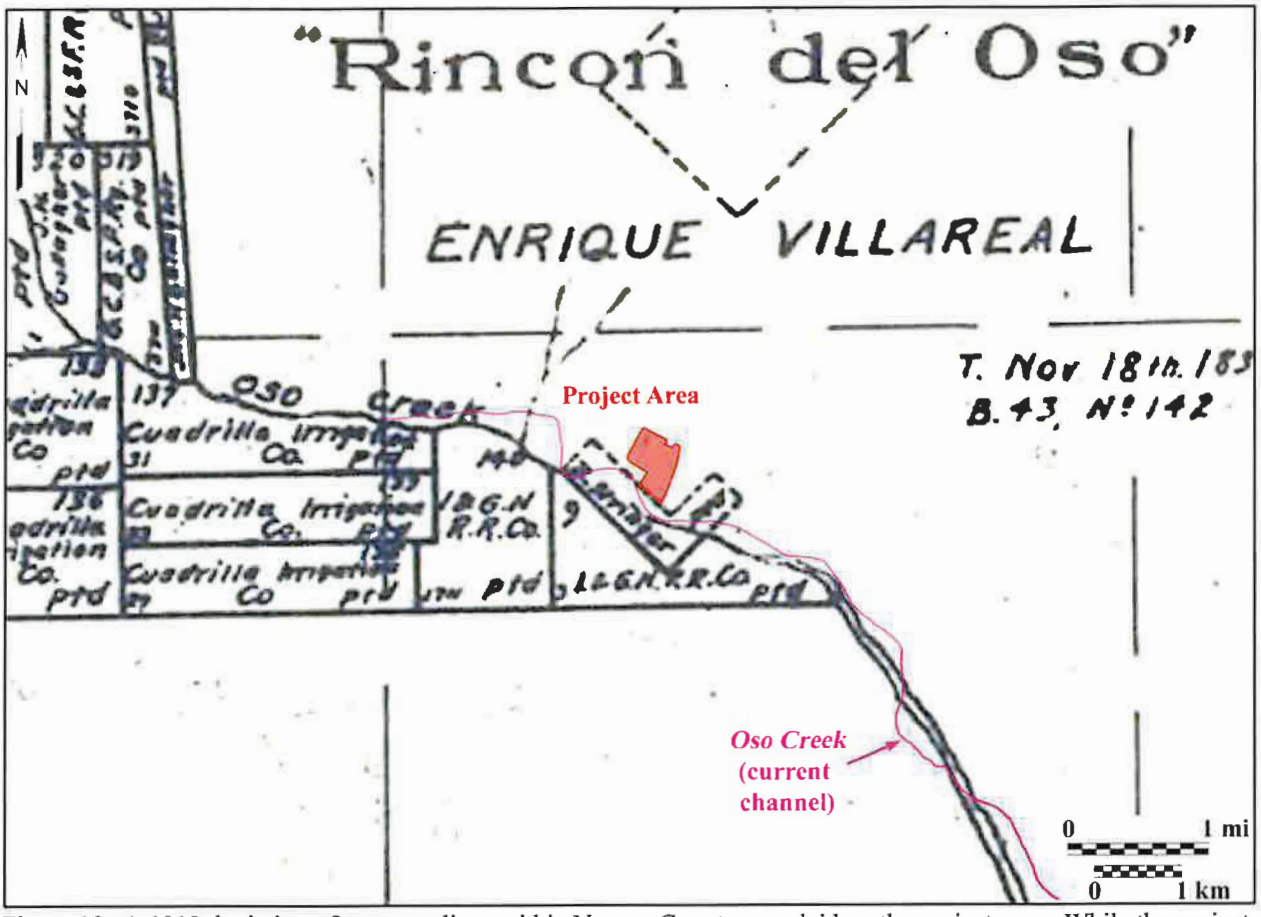

Figure 10. A 1913 depiction of property lines within Nueces County, overlaid on the project area. While the project area is probably correct in its relationship to the Zachary Stringer property, the depiction of Oso Creek is still at variance with the current channel of the creek, which seems to have been in a stable channel since at least the 1920s. From TxGLO (1913).

After Villareal died in 1846, the "Rincon del Oso" was purchased by Henry Lawrence Kinney, who owned the trading post that eventually grew into the City of Corpus Christi (NCHC 2025b).

The first detailed map of the project area that depicts the modern landscape was the *Oso Creek, Texas* (1:62,500 scale series) topographic quadrangle from the 1920s (USGS 1925). By this point, Ayers Street had been constructed near the eastern edge of the project area, complete with a bridge crossing Oso Creek (Figure 11). Oso Creek is shown as an intermittent drainage west of the bridge, but as a substantial tidal waterway to the east of it. No structures or development of any kind are shown within the project area on this quadrangle, or in the 1946 edition that succeeded it (USGS 1946). It should be noted, however, that Cabaniss Naval Auxiliary Station, built in 1941 just east of the project area (Freeman 2016), is not depicted on the 1946 quadrangle, so it seems unlikely that any features in this area were updated with that edition of the 1925 map.

By the publication of the 1951 *Oso Creek NW* (1:24,000 scale series) quadrangle, however, a complex of at least five structures was depicted near the southeastern corner of the project area (Figure 12), just west of Ayers Street (USGS 1951). One of these lay just within the project area, just east of a small pond. An aerial image from 1956 showed the same set of structures (Figure 13). A larger (presumably residential) structure lay near Ayers Street, accessible by a gravel or dirt driveway. Given the proximity of the building inside the project area to the pond, it was likely that the structure within the project area was an outbuilding related to agriculture or ranching, perhaps a barn, tractor shed, or cow shed. This building (and the pond) continued to be depicted within the project area until at least 1979 (USGS 1953, 1968, 1971, 1977; Texas General Land Office [TxGLO] 1956, 1961, 1979) (Figure 14).

FIELD METHODS

Field methods complied with or exceeded survey standards proposed by the Council of Texas Archaeologists and adopted by the Texas Historical Commission for the project area. Two CEI archaeologists conducted an intensive pedestrian survey across 100 percent of the proposed APE. The Principal Investigator was present 25 percent of the time. Surface visibility was minimal (15 to 20 percent) across the entirety of the 61.5-acre parcel. The APE was largely overgrown with dense grass and foliage (Figures 15, 16).

To supplement the surface examination and to investigate the possible presence of buried cultural materials, 54 shovel tests were excavated. Shovel testing efforts were concentrated along both the high and low probability areas within the APE (see Figure 3), with an emphasis on areas of high probability for the presence of cultural material. The remainder of the shovel tests were distributed evenly across the majority of the 61.5-acre parcel (see Figure 4). Shovel tests measured at least 30 cm in diameter and were excavated in 10-cm levels to a minimum depth of 80 cm. Clay subsoil was encountered at this depth across much of the project area. Due to the heavy presence of clay in the soil (Figure 17), the typical procedure of passing the soil through ¼-inch hardware cloth was not feasible, but all soil from the shovel tests was carefully examined and moderately screened for

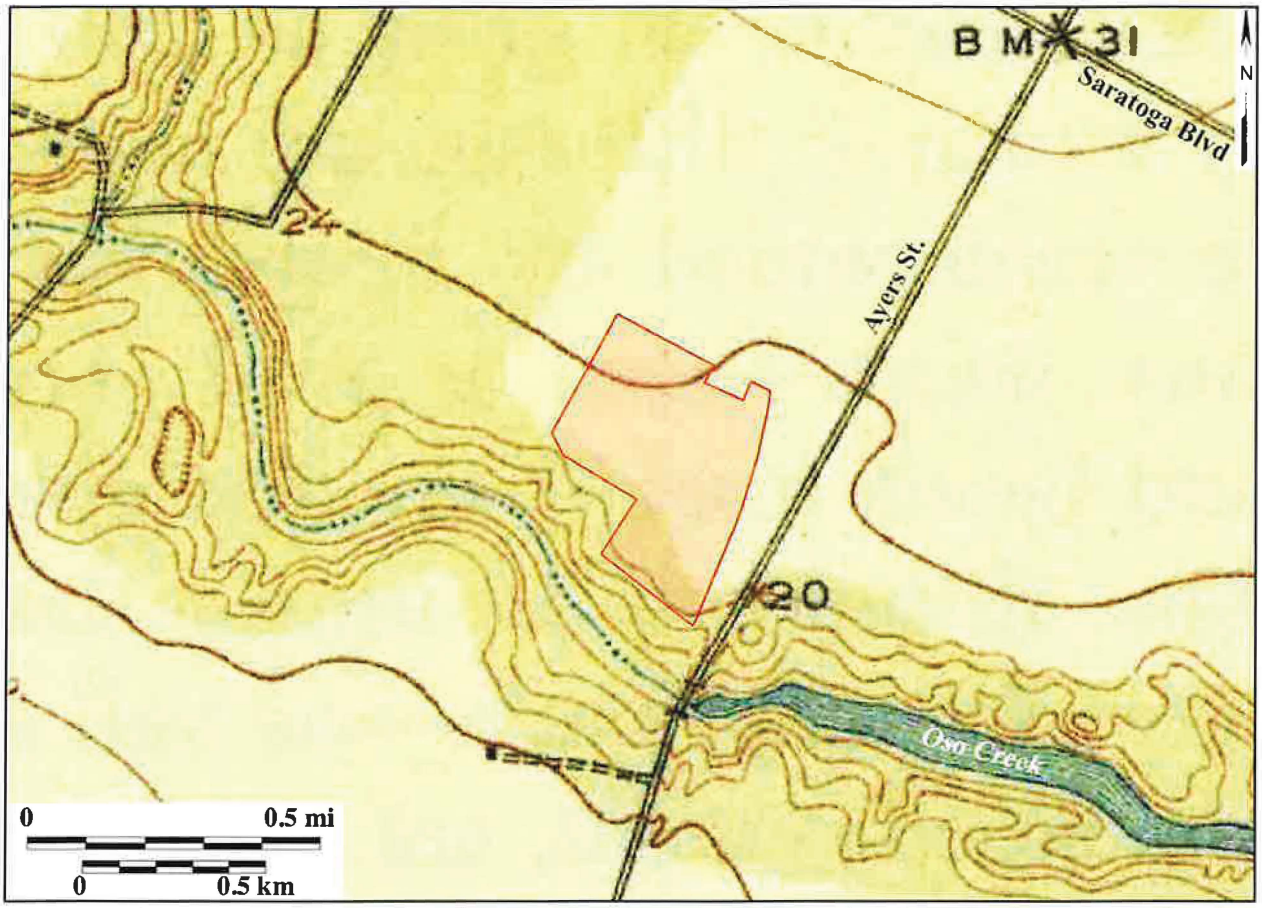

Figure 11. The modern course of Oso Creek near the project area has been consistently depicted in its current location since the publication of the 1925 *Oso Creek, Tx* (1:62,500 series) quadrangle (USGS 1925). While no development is depicted within the project area, Ayers Street has been extended past Oso Creek with a bridge.

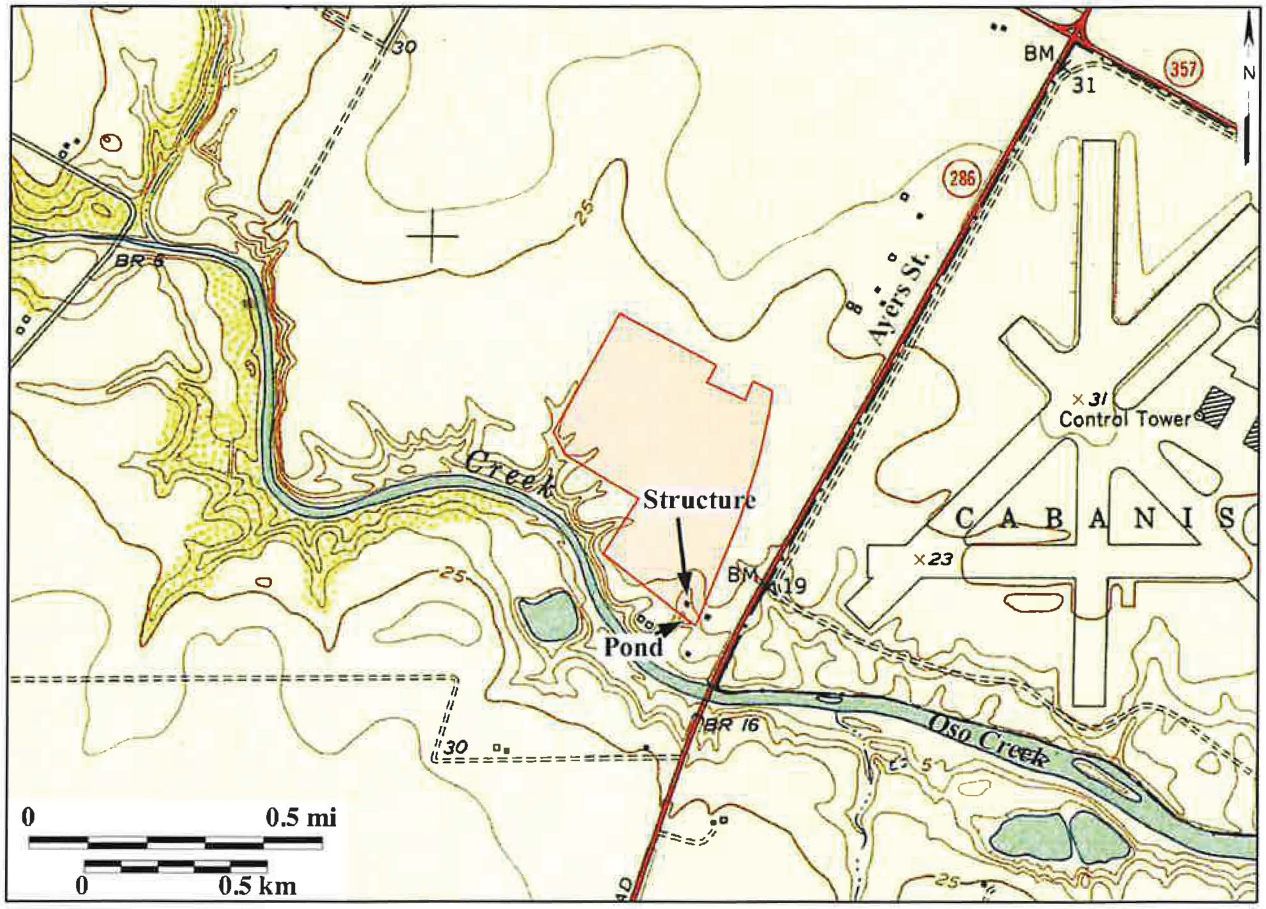

Figure 12. By the publication of the 1951 Oso Creek NW quadrangle (USGS 1951), several structures have been constructed near the southeast corner of the project area. At least one building is depicted within the project area, as well as an apparent cattle pond (shown here as a topographic depression). This structure evidently remained here into the modern era.

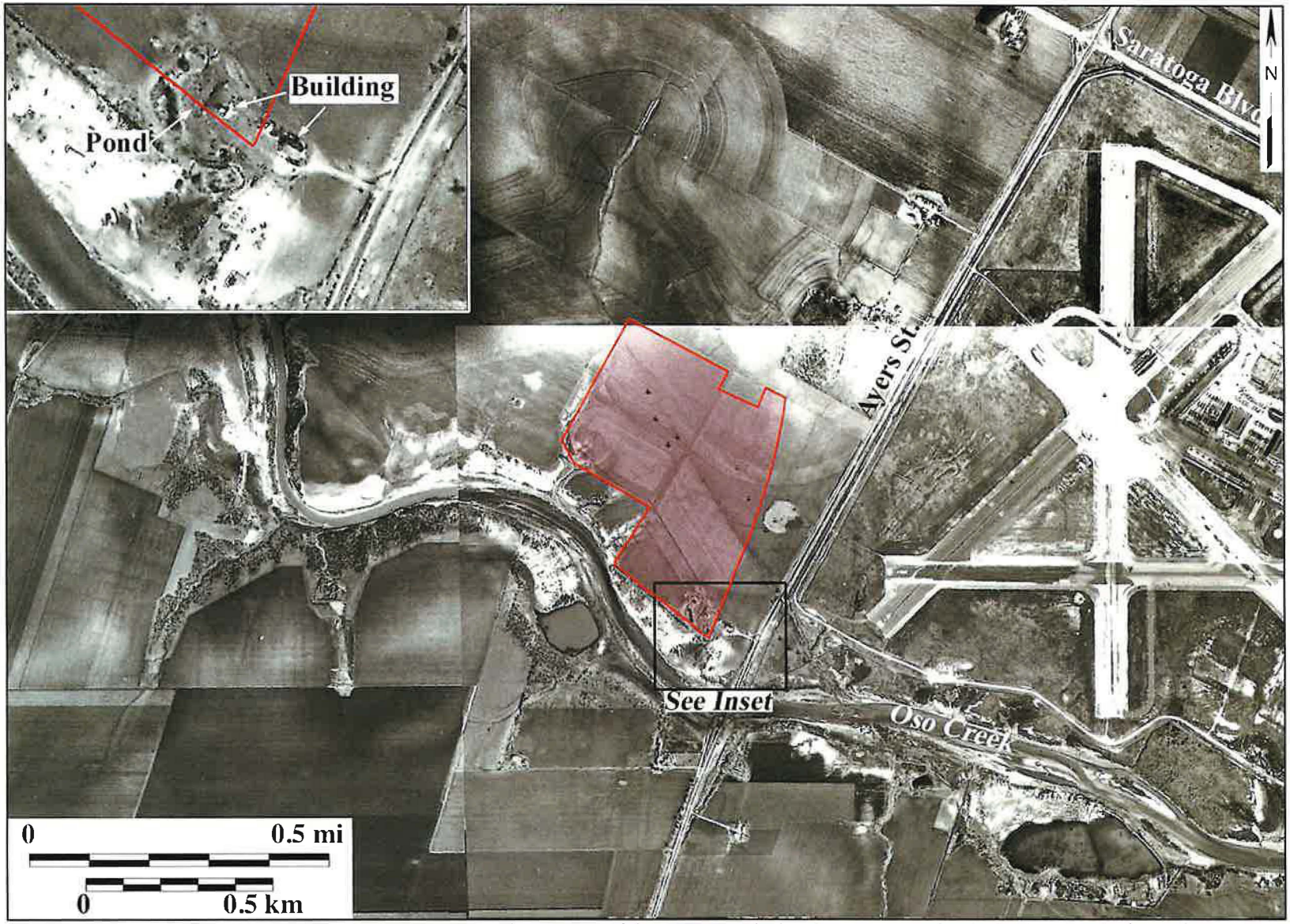

Figure 13. Aerial photography from December 1856, showing several of the structures depicted on maps starting in the 1950s. The inset photo, upper left, shows the building within the project area and the nearby pond. From TxGLO (1956),

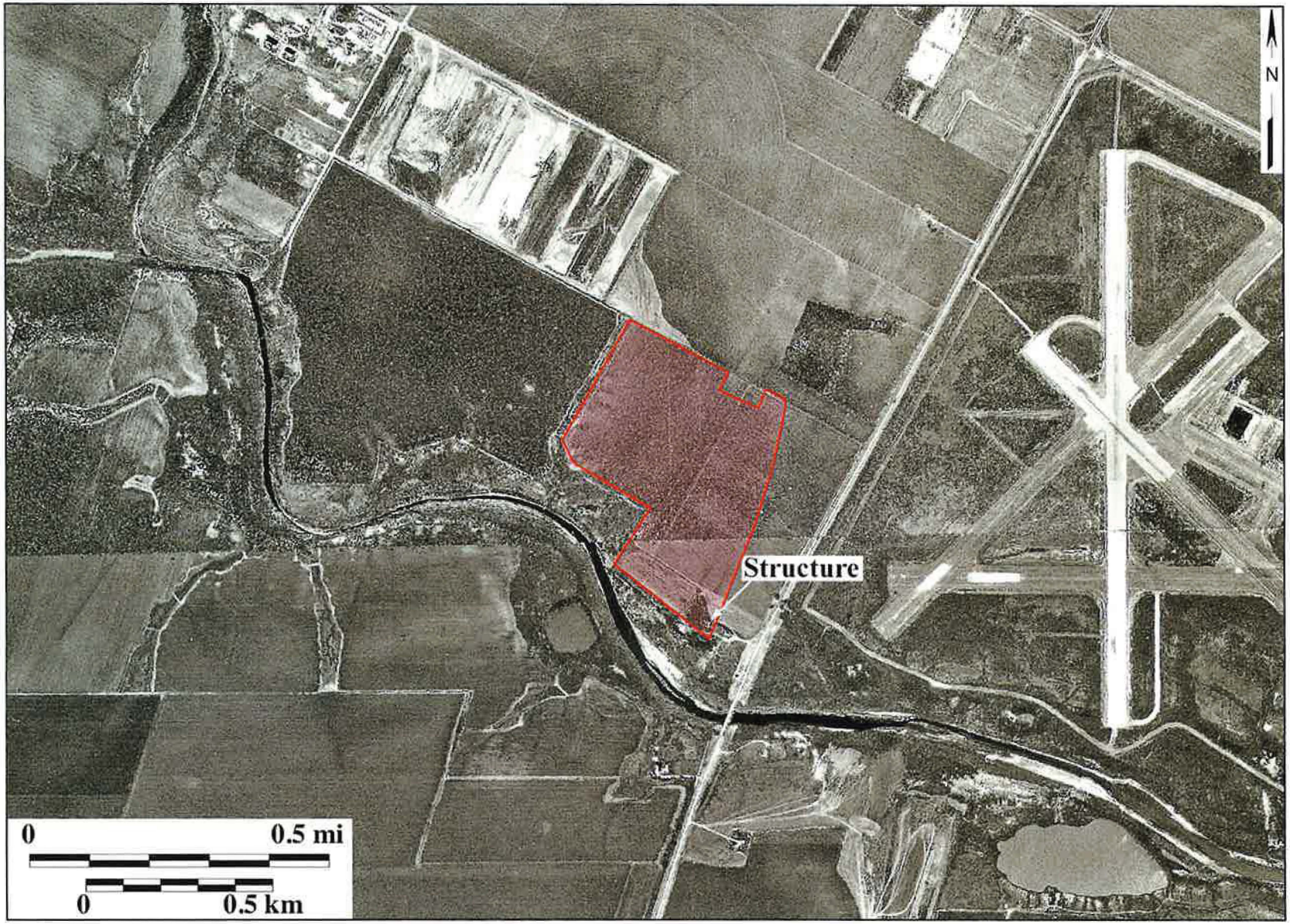

Figure 14. Aerial photography from December 1979, showing the structure near the southeast corner of the project area. From TxGLO (1979).

Figure 15. The project area, as seen from the southwest corner, facing east. Photograph taken May 27, 2025.

Figure 16. The project area, as seen from the northwest corner, facing east. Photograph taken May 27, 2025.

Figure 17. A typical shovel test (ST 07) from the project area, showing compact, dark gray (10YR 4/1) clay. Photograph taken May 2, 2025.

the presence of cultural materials. Each shovel test was documented on a shovel test form, and its location was recorded with a handheld Trimble Global Positioning System (GPS) device.

No artifacts were collected during this project, as it was devised as a non-collection survey. According to the Research Design, any diagnostic artifacts were to be mapped using the Trimble GPS, photographed in place, returned to their original location, and drawn if necessary to record details.

Chapter 4: Results and Recommendations

SURVEY RESULTS

The pedestrian survey and subsurface investigation of the proposed 61.5-acre solid waste transfer station yielded no artifacts during the excavation of 54 STs. No evidence of archaeological features was observed. Two planned STs located in low probability areas were not dug due to the presence of surface water (Figure 18). Due to problematic vegetation and physical inaccessibility, a third planned ST was terminated in the southeasternmost corner.

MANAGEMENT RECOMMENDATIONS

No STs proved positive for cultural material, and no archaeological sites or historic structures were identified in the course of the survey. Based on these results, CEI does not recommend any additional cultural resources investigations within the APE. However, if any adjustments are made to the current project construction plans, further field investigations may be warranted. In the unlikely event that archaeological deposits or features are encountered during construction, work should cease in the immediate vicinity of those remains and the Archeology Division of the THC should be contacted for further consultation.

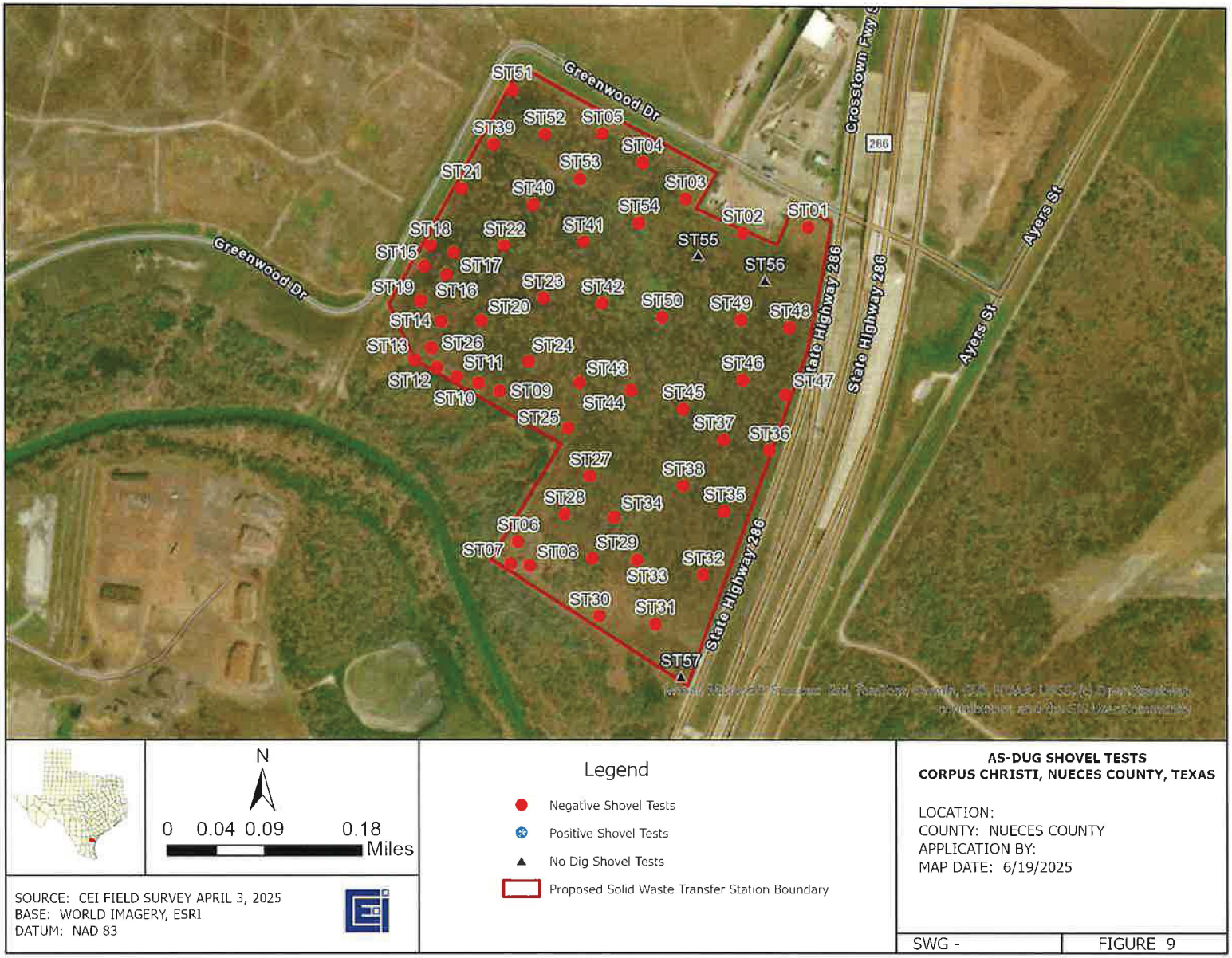

Figure 18. The locations of all shovel tests within the project area. Note that three of the planned shovel tests were not excavated due to standing water or inaccessibility.

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APPENDIX A: SHOVEL TEST LOG

ST #	TS	+/-	UTM Coordinates	Stratigraphy Depth (cm)	Munsell	Soil Texture	Artifacts by level (cm)	Description/ Comments	Excavator
ST01		-	N: 27.704935 E: -97.449569	80	10YR 3/2	Clayey Loam	None. ST was negative.	Soil had slight moisture retention after 60cmbd.	A Lopez
ST02		-	N: 27.704865 E: -97.450448	80	10YR 3/2	Clayey Loam	None. ST was negative.	No saturation.	A Lopez
ST03		-	N: 27.705265 E: -97.451211	80	10YR 3/2	Clayey Loam	None. ST was negative.	No Saturation.	A Lopez
ST04		-	N: 27.705689 E: -97.451792	80	10YR 3/2	Clayey Loam	None. ST was negative.	Compact.	Rolando Garza
ST05		-	N: 27.706026 E: -97.452331	80	10YR 3/2	Clayey Loam	None. ST was negative.	Compact.	Rolando Garza
ST06		-	N: 27.701178 E: -97.453476	80	10YR 4/1	Clay	None. ST was negative.	Higher elevation, disturbed area.	A Lopez
ST07		-	N: 27.700913 E: -97.453571	80	10YR 4/1	Dark gray clay. Soil is moist and compact.	None. ST was negative.	Compact.	Rolando Garza
ST08		-	N: 27.700888 E: -97.45332	80	10YR 4/1	Clayey Loam	None. ST was negative.	Compact after 40cmbd.	A Lopez
ST09		-	N: 27.702975 E: -97.453714	80	10YR 4/1	Clay	None. ST was negative.	Very compact below after 50cmbd.	A Lopez
ST10		-	N: 27.703072 E: -97.454001	65	10YR 3/1	Silty Clay	None. ST was negative.	Compact. Impenetrable after 65cmbd.	A Lopez
ST11		-	N: 27.703147 E: -97.454294	50	10YR 3/1	Dark gray and brown clay with silt.	None. ST was negative.	At just over 40 cm hit impenetrable soil.	Rolando Garza
ST12		-	N: 27.703252 E: -97.454564	55	10YR 3/1	Clayey Loam	None. ST was negative.	Start hitting impenetrable soil at 45 cm.	Rolando Garza
ST13		-	N: 27.703345 E: -97.454853	55	10YR 3/1	Silty Clay	None. ST was negative.	Compact, disturbed, impenetrable soil.	A Lopez
ST14		-	N: 27.703803 E: -97.454505	80	10YR 3/2	Silty Clay	None. ST was negative.	Compact.	Rolando Garza
ST15		-	N: 27.704458 E: -97.454726	65	10YR 3/1	Silty Clay	None. ST was negative.	Compact, impenetrable soil at 65.	A Lopez

ST #	TS	+/-	UTM Coordinates	Stratigraphy Depth (cm)	Munsell	Soil Texture	Artifacts by level (cm)	Description/ Comments	Excavator
ST16		-	N: 27.704360 E: -97.454432	60	10YR 3/1	Silty Clay	None. ST was negative.	Compact, impenetrable soil at 60cmbd.	A Lopez
ST17		-	N: 27.704619 E: -97.454334	70	10YR 3/1	Silty Clay	None. ST was negative.	Compact, impenetrable soil at 70cmbd.	A Lopez
ST18		-	N: 27.704708 E: -97.454646	70	10YR 3/1	Silty Clay	None. ST was negative.	Compact, impenetrable soil at 70cmbd	A Lopez
ST19		-	N: 27.704044 E: -97.454777	75	10YR 3/1	Clay	None. ST was negative.	Compact, disturbed, cloth bag for building material found at 50cmbd. 3cm layer of unknown sediment in matrix at same depth as material bag, possibly from bag.	A Lopez
ST20		-	N: 27.703812 E: -97.453960	65	10YR 3/1	Silty Clay	None. ST was negative.	Compact, impenetrable soil at 65cmbd.	A Lopez
ST21		-	N: 27.705384 E: -97.454224	80	10YR 3/1	Clay	None. ST was negative.	Compact.	A Lopez
ST22		-	N: 27.704707 E: -97.453646	70	10YR 3/1	Clay	None. ST was negative.	Compact, impenetrable soil at 70cmbd.	A Lopez
ST23		-	N: 27.704080 E: -97.453132	70	10YR 3/1	Clay	None. ST was negative.	Compact, impenetrable soil.	A Lopez
ST24		-	N: 27.703326 E: -97.453329	75	10YR 3/1	Clay	None. ST was negative.	Compact, impenetrable soil at 75 cmbd.	A Lopez
ST25		-	N: 27.702539 E: -97.452801	80	10YR 3/1	Clay	None. ST was negative.	Compact, soil had higher moisture content than other areas.	A Lopez
ST26		-	N: 27.703484 E: -97.454630	65	10YR 4/1	Silty Clay	None. ST was negative.	Compact, dry, impenetrable soil at 65 cmbd.	A Lopez
ST27		-	N: 27.701963 E: -97.452503	80	10YR 3/1	Clay	None. ST was negative.	Compact.	A Lopez
ST28		-	N: 27.701509 E: -97.452851	70	10YR 3/1	Clay	None. ST was negative.	Compact, impenetrable soil at 75 cmbd.	A Lopez
ST29		-	N: 27.700977 E: -97.452476	60	10YR 3/1	Clay	None. ST was negative.	Compact, impenetrable at 60cmbd.	A Lopez

ST #	TS	+/-	UTM Coordinates	Stratigraphy Depth (cm)	Munsell	Soil Texture	Artifacts by level (cm)	Description/ Comments	Excavator
ST30		-	N: 27.700285 E: -97.452380	70	10YR 2/1	Clay	None. ST was negative.	Compact, disturbed, ST falls within power pole easement, modern trash found at surface and within 30cmbd.	A Lopez
ST31		-	N: 27.700191 E: -97.451627	80	10YR 4/1	Clay	None. ST was negative.	Compact.	A Lopez
ST32		-	N: 27.700781 E: -97.450989	70	10YR 4/1	Clay	None. ST was negative.	Compact, impenetrable soil at 70cmbd.	A Lopez
ST33		-	N: 27.700958 E: -97.451875	70	10YR 4/1	Clay	None. ST was negative.	Compact, impenetrable soil at 70cmbd.	A Lopez
ST34		-	N: 27.701471 E: -97.452179	70	10YR 3/1	Clay	None. ST was negative.	Compact, impenetrable soil at 70cmbd.	A Lopez
ST35		-	N: 27.701541 E: -97.450701	80	10YR 3/1	Clay	None. ST was negative.	Compact.	A Lopez
ST36		-	N: 27.702277 E: -97.450096	80	10YR 3/1	Clay	None. ST was negative.	Compact.	A Lopez
ST37		-	N: 27.702399 E: -97.450703	70	10YR 3/1	Clay	None. ST was negative.	Compact, impenetrable soil at 70cmbd.	A Lopez
ST38		-	N: 27.701848 E: -97.451253	80	10YR 3/1	Clay	None. ST was negative.	Compact.	A Lopez
ST39		-	N: 27.705897 E: -97.453793	75	10YR 3/1	Clay	None. ST was negative.	Compact, impenetrable soil at 75cmbd.	A Lopez
ST40		-	N: 27.705194 E: -97.453266	75	10YR 3/1	Clay	None. ST was negative.	Compact, impenetrable soil at 75 cmbd.	A Lopez
ST41		-	N: 27.704755 E: -97.452583	75	10YR 3/1	Clay	None. ST was negative.	Compact, impenetrable soil at 75 cmbd.	A Lopez
ST42		-	N: 27.704015 E: -97.452336	70	10YR 4/1	Silty Clay	None. ST was negative.	Test plot near vegetation, more compact and drier soil. Impenetrable soil at 70cmbd.	A Lopez

ST #	TS	+/-	UTM Coordinates	Stratigraphy Depth (cm)	Munsell	Soil Texture	Artifacts by level (cm)	Description/ Comments	Excavator
ST43		-	N: 27.703079 E: -97.452644	70	10YR 4/1	Silty Clay	None. ST was negative.	Compact, close to heavy vegetation. Soil is more compact and drier.	A Lopez
ST44		-	N: 27.702990 E: -97.451950	70	10YR 4/1	Silty Clay	None. ST was negative.	Compact, impenetrable soil at 70cmbd.	A Lopez
ST45		-	N: 27.702763 E: -97.451251	70	10YR 4/1	Silty Clay	None. ST was negative.	Compact, impenetrable soil at 70cmbd.	A Lopez
ST46		-	N: 27.703107 E: -97.450452	70	10YR 3/1	Clay	None. ST was negative.	Compact, impenetrable soil at 70cmbd.	A Lopez
ST47		-	N: 27.702936 E: -97.449869	70	10YR 4/1	Clay	None. ST was negative.	Compact, impenetrable soil at 70 cmbd.	A Lopez
ST48		-	N: 27.703729 E: -97.449816	70	10YR 4/1	Clay	None. ST was negative.	Compact, impenetrable soil at 70cmbd.	A Lopez
ST49		-	N: 27.703820 E: -97.450474	70	10YR 4/1	Silty clay	None. ST was negative.	Compact, impenetrable soil at 70cmbd.	A Lopez
ST50		-	N: 27.703852 E: -97.451532	75	10YR 4/1	Silty Clay	None. ST was negative.	Compact, impenetrable soil at 75 cmbd, pockets of silt 40cmbd - 50cmbd, 10YR 7/2.	A Lopez
ST51		-	N: 27.706538 E: -97.453536	65	10YR 4/1	Clay	None. ST was negative.	Compact. Impenetrable soil at 65 cmbd.	A Lopez
ST52		-	N: 27.706019 E: -97.453110	70	10YR 3/1	Clay	None. ST was negative.	Compact. Impenetrable soil at 70cmbd.	A Lopez
ST53		-	N: 27.705499 E: -97.452633	50	10YR 3/1	Clay	None. ST was negative.	Compact. Impenetrable soil at 50cmbd.	A Lopez
ST54		-	N: 27.704983 E: -97.451843	55	10YR 3/1	Clay	None. ST was negative.	Compact. Impenetrable soil at 55cmbd.	A Lopez